Appendix Volume 3

2040 30HV PM Peak Hour Volume Figures – Bundle A

2040 Average Weekday NCHRP 765 Post Processing – Bundle A

2040 Average Weekday Post Processing Manual Adjustments – Bundle A

2040 Average Weekday Final PM Peak Hour Volumes – Bundle A

Seasonal Factors – Bundle A

2040 30HV Unbalanced PM Peak Hour Volumes – Bundle A

2040 30HV PM Peak Hour Balancing Adjustments – Bundle A

2040 30HV Final PM Peak Hour Volumes – Bundle A

2040 30HV PM Peak Hour Volume Figures – Bundle B

2040 Average Weekday NCHRP 765 Post Processing – Bundle B

2040 Average Weekday Post Processing Manual Adjustments – Bundle B

2040 Average Weekday Final PM Peak Hour Volumes – Bundle B

Seasonal Factors – Bundle B

2040 30HV Unbalanced PM Peak Hour Volumes – Bundle B

2040 30HV PM Peak Hour Balancing Adjustments – Bundle B

2040 30HV Final PM Peak Hour Volumes – Bundle B

2040 30HV PM Peak Hour Volume Figures – Bundle C

2040 Average Weekday NCHRP 765 Post Processing – Bundle C

2040 Average Weekday Post Processing Manual Adjustments – Bundle C

2040 Average Weekday Final PM Peak Hour Volumes – Bundle C

Seasonal Factors – Bundle C

2040 30HV Unbalanced PM Peak Hour Volumes – Bundle C

2040 30HV PM Peak Hour Balancing Adjustments – Bundle C

2040 30HV Final PM Peak Hour Volumes – Bundle C

Bicycle and Pedestrian Level of Traffic Stress (Future 2040 Build Bundle A Conditions)

Bicycle and Pedestrian Level of Traffic Stress (Future 2040 Build Bundle B Conditions)

Bicycle and Pedestrian Level of Traffic Stress (Future 2040 Build Bundle C Conditions)

HSM Future 2040 Build Bundle A Conditions Analysis

HSM Future 2040 Build Bundle B Conditions Analysis

HSM Future 2040 Build Bundle C Conditions Analysis

ISATe Future 2040 Build Bundle A Conditions Analysis

ISATe Future 2040 Build Bundle B Conditions Analysis

ISATe Future 2040 Build Bundle C Conditions Analysis

Synchro HCM reports (Future 2040 Build Bundle A Conditions)

Synchro HCM reports (Future 2040 Build Bundle B Conditions)

Synchro HCM reports (Future 2040 Build Bundle C Conditions)

Vistro HCM reports (Future 2040 Build Bundle A Conditions)

Vistro HCM reports (Future 2040 Build Bundle B Conditions)

Vistro HCM reports (Future 2040 Build Bundle C Conditions)

HCS reports (Future 2040 Build Bundle A Conditions)

HCS reports (Future 2040 Build Bundle B Conditions)

HCS reports (Future 2040 Build Bundle C Conditions)

US 97 Future 2040 Build Vissim Results Report

Vissim GEH reports (Future 2040 Build Bundle A Conditions)

Vissim GEH reports (Future 2040 Build Bundle B Conditions)

Vissim GEH reports (Future 2040 Build Bundle C Conditions)

Vissim Queue reports (Future 2040 Build Bundle A Conditions)

Vissim Queue reports (Future 2040 Build Bundle B Conditions)

Vissim Queue reports (Future 2040 Build Bundle C Conditions)

Vissim Queue plots (Future 2040 Build Bundle A Conditions)

Vissim Queue plots (Future 2040 Build Bundle B Conditions)

Vissim Queue plots (Future 2040 Build Bundle C Conditions)

Vissim Delay reports (Future 2040 Build Bundle A Conditions)

Vissim Delay reports (Future 2040 Build Bundle B Conditions)

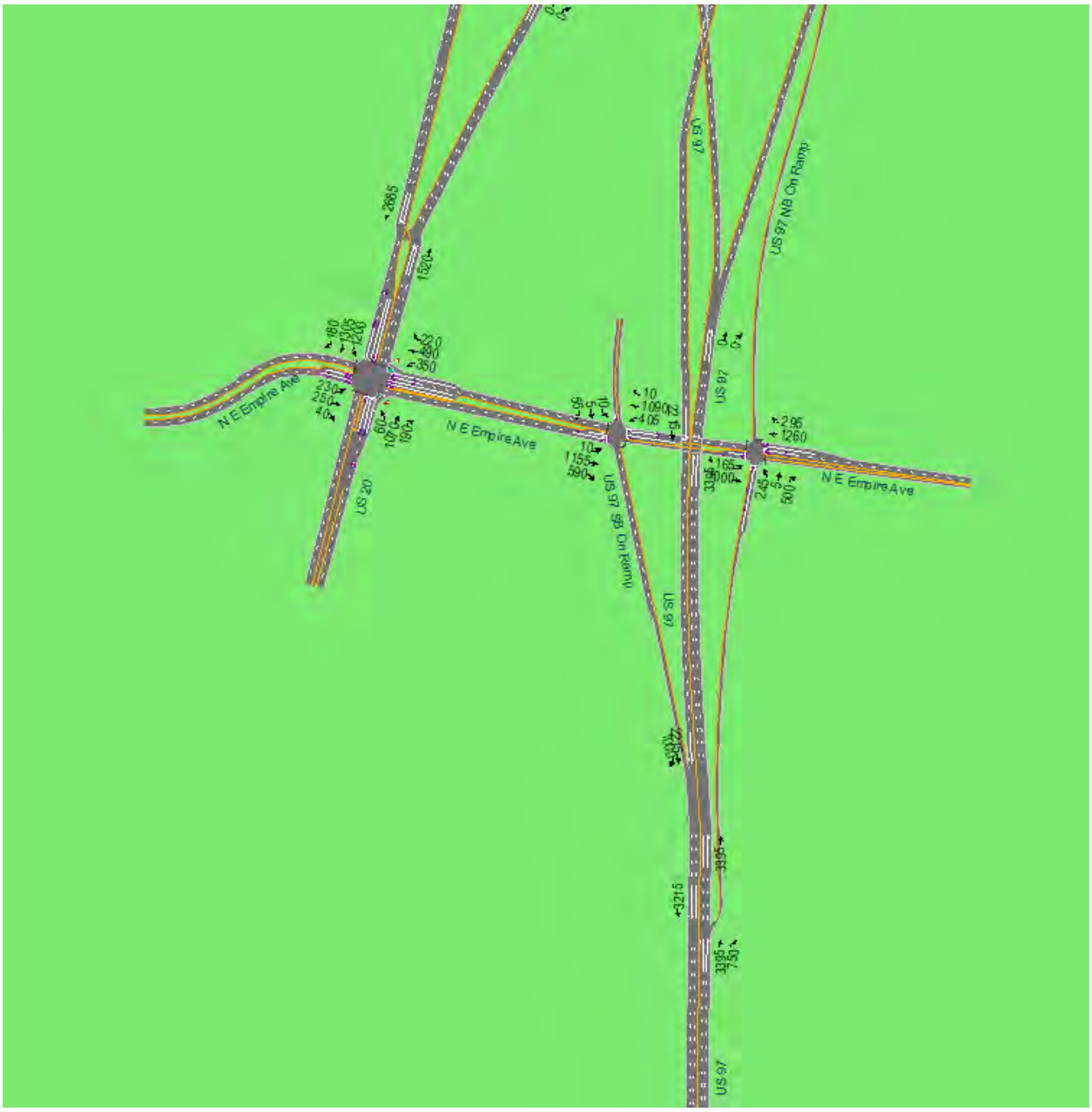
Vissim Delay reports (Future 2040 Build Bundle C Conditions)

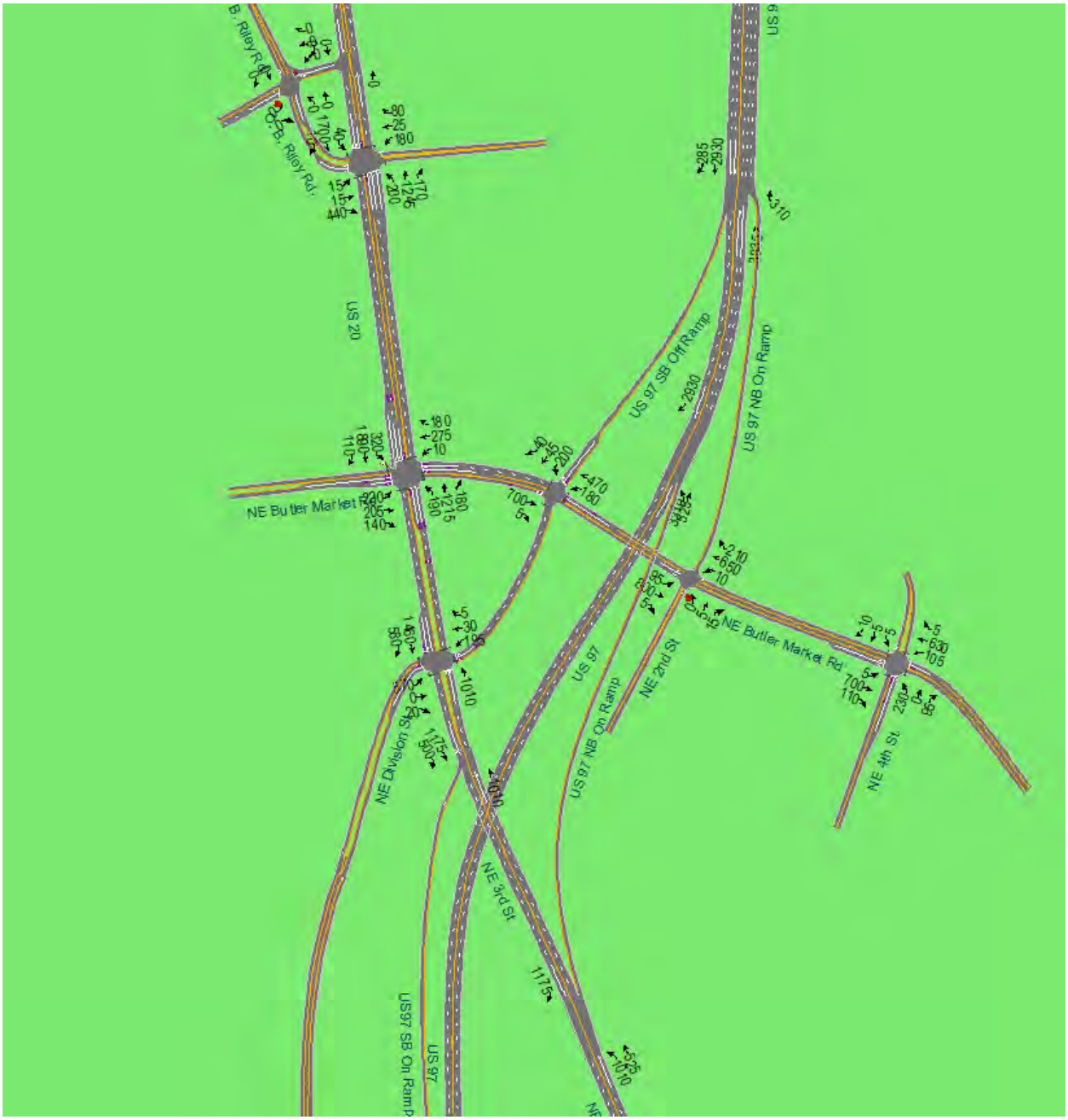
Vissim Travel Time Results (Future 2040 Build Bundle A Conditions)

Vissim Travel Time Results (Future 2040 Build Bundle B Conditions)

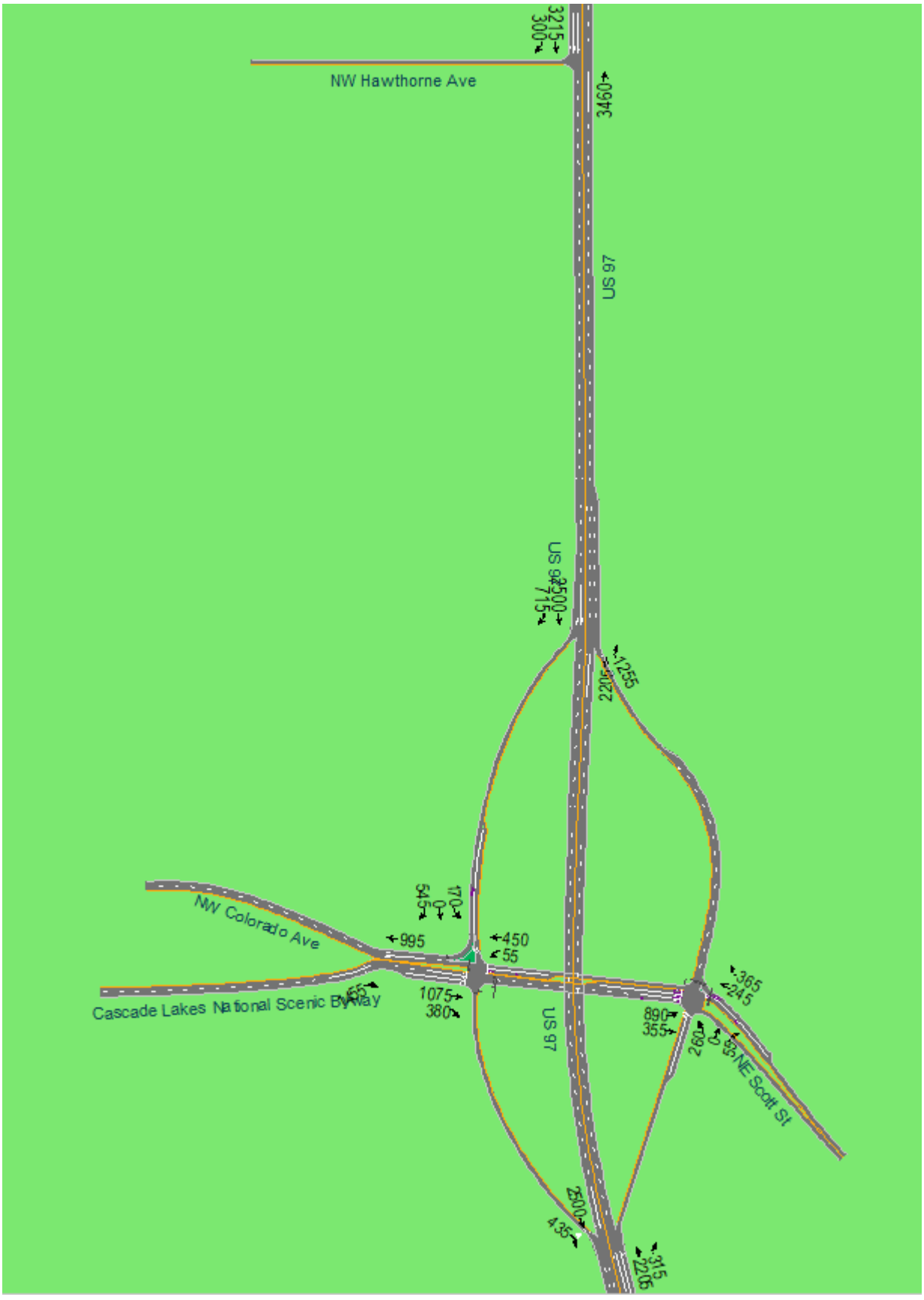
Vissim Travel Time Results (Future 2040 Build Bundle C Conditions)

2040 30HV PM Peak Hour Volume Figures – Bundle A


N E Empire Ave
N E Empire Ave
N E Empire Ave
US 20
US 97
US 97 SB On Ramp
US 97 NB On Ramp
US 97
US 97
US 97


US 20
NE Butler Market Rd
US 97 SB Off Ramp
US 97 NB On Ramp
NE 2nd St
US 97
NE 3rd St
NE Division St
NE 4th St
US97 SB On Ramp


NE Division St
US 97
NE Revere Ave
NE Revere Ave
NE Revere Ave
NW Wall St
NE 3rd St
NE 4th St


NW Hawthorne Ave
US 97
US 97
NW Colorado Ave
Cascade Lakes National Scenic Byway
US 97
NE Scott St


SW Reed Market Rd
Brookwood Blvd
SW Reed Market Rd
Silver lake
US-97 SB Off Ramp
US 97
SE 3rd St
SW Division St
US 97 NB Off Ramp
US 97
SW Reed Market Rd


Brookswood Blvd
Blakely Rd
Powers Rd
Powers Rd
Powers Rd
Powers Rd
Powers Rd
Parrell Rd
US 97
US 97
US 97
US 97
SE 3rd St
SE 3rd St
Badger Rd
Badger Rd
Badger Rd
60
615
450
115
85
190
60
65
5
5
470
120
50
5
30
85
245
115
10
555
70
95
25
90
315
120
15
80
60
20
320
180
175
70
615
10
95
375
120
65
65
335
10
0
0
0
0
2110
1600
95
980
30
30
20
75
75
15
15
20
460
35


Pinebrook Blvd
Pinebrook Blvd
US 97
US 97
US 97
SE 3rd St
Murphy Rd
Murphy Rd
Murphy Rd


US 97
Ponderosa
China Hat Rd


US 97 NB Off Ramp
US 97
US 97 On Ramp
US 97 NB On Ramp
US 97 SB Off Ramp
US 97
US 97
Baker
1736
935
1460
595
275
500
95
220
215
460
40
50
240
30
185
280
200
460
595
1460

2040 Average Weekday NCHRP 765 Post Processing – Bundle A

			Base Year 2018 (Average Weekday - 2 Hour)											
			Northbound			Southbound			Eastbound			Westbound		
N/S	E/W	#	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
Existing Intersections														
1 US 97 at Deschutes Pleasant Ridge		1	0	1579	128	0	1387	226	0	0	85	0	0	456
2 US97 at Cooley		2	40	1411	77	110	1501	44	185	143	15	185	69	58
3 US 97 at Robal		3	229	1491	14	21	1780	33	97	12	41	107	35	19
4 US 97 at Nels Anderson Pl		4	241	1723	39	0	1862	66	0	0	213	0	0	11
5 US 97 SB Ramp at Empire		5	0	0	0	5	2	17	4	752	418	328	425	6
6 US 97 NB Ramps at Empire		6	164	3	356	0	0	0	153	604	0	0	595	224
7 US20 at Empire		7	64	354	183	492	642	77	76	268	52	148	180	29
8 US20 at Butler Market		8	114	605	113	150	1044	60	95	154	81	309	148	73
9 SB off ramp at Butler Market		9	0	0	0	137	3	97	0	458	0	2	558	0
10 US97 NB On-Ramp at Butler Market		10	1	2	11	0	0	0	74	515	6	7	557	178
11 Bend Pkwy SB On-Ramp/Division at 3rd St		11	0	469	0	598	598	238	363	0	8	1	0	0
12 US97 SB Ramps at Revere		12	24	132	388	154	240	2	5	14	9	438	70	199
13 US97 NB Ramps at Revere		13	136	210	276	68	21	170	134	240	264	28	401	67
14 US97 at Lafayette		14	0	2377	0	0	2609	83	0	0	125	0	0	0
15 US97 at Hawthorne		15	0	2377	0	0	2475	259	0	0	223	0	0	0
16 US97 SB Ramps at Colorado		16	8	264	770	91	0	367	0	0	0	0	349	30
17 US97 NB Ramps at Colorado		17	0	0	0	17	0	199	644	0	218	180	0	381
18 US97 at Truman		18	0	1568	0	0	2351	183	0	0	80	0	0	0
19 Hwy 97 SB Ramps at Reed Market		19	0	0	0	679	0	150	0	710	52	0	457	62
20 US97 NB ramps at Reed Market		20	35	0	79	0	0	35	0	1292	97	0	449	27
21 US97 at Reed Ln		21	0	1076	55	0	1716	0	0	0	0	0	0	146
22 US97 SB Ramps at Powers		22	3	0	355	0	0	0	0	462	33	27	581	0
23 US 97 at Powers		23	0	828	21	0	1409	307	1	816	0	0	301	0
24 US 97 NB Ramps at Powers		24	0	0	0	1	0	28	193	644	0	0	273	138
25 US 97 at Badger		25	0	759	0	0	1088	0	0	0	0	0	0	0
26 US97 at Pinebrook		26	0	641	0	0	1042	0	0	0	0	0	0	0
28 US 97 at Ponderosa-China Hat		28	0	776	11	0	1409	130	0	0	18	0	0	110
29 US 97 SB Ramps at Baker		29	0	0	0	66	0	481	52	341	0	0	315	178
30 US 97 NB Ramps at Knott		30	44	1	95	0	0	0	247	160	0	0	449	17
40 US 97 Bus at OB Riley		40	69	569	130	35	929	5	7	8	189	131	11	58
41 NW Mt Washington Dr at Riverview Park		41	0	0	10	13	0	1	2	342	0	10	371	17
42 NE Butler Market Rd at NE 4th St		42	169	0	68	2	3	11	2	458	76	96	555	3
45 Harriman at Revere		45	0	1	9	29	0	0	0	0	0	18	0	35
46 NE 3rd St at NE Revere Ave		46	92	813	70	53	483	39	185	409	185	147	298	71
47 4th at Revere		47	61	217	45	110	133	220	44	301	89	25	243	62
48 Scott at Aune St		48	11	550	0	0	200	15	26	0	20	0	0	0
49 SW Brookswood at Reed Market		49	144	213	83	330	366	46	48	326	160	92	228	186
50 Silver Lake Blvd at Reed Market Rd		50	8	0	47	19	3	16	16	712	20	105	490	30
51 Division St at Reed Market Rd		51	0	0	37	6	0	16	81	698	593	4	501	291
52 3rd at Reed Market		52	227	493	222	110	655	124	91	533	62	175	295	78
53 Brookswood at Powers Rd		53	5	269	160	211	497	40	41	53	3	294	63	93
54 3rd at Powers		54	94	376	9	16	657	205	180	132	337	15	78	14
55 Parrell Rd at Powers Rd		55	35	140	0	0	185	57	66	0	105	0	0	0
56 Blakely at Badger		56	0	0	0	0	0	31	32	5	0	0	13	10
57 3rd St at Badger Rd		57	18	296	26	23	757	88	64	17	18	66	25	26
58 3rd St at Pinebrook		58	138	277	6	56	677	70	22	2	46	7	2	31
59 Murphy at SE 3rd St		59	38	162	38	209	334	150	170	155	8	115	139	151
60 Parrell Rd at China Hat Rd		60	0	0	0	72	0	9	6	5	0	0	101	37
61 US20 at 3rd St Ramp to NB US97		61	0	469	559	0	606	0	0	0	0	0	0	0
62 Blakely Rd at Powers Rd		62	17	1	60	18	2	9	4	387	30	102	433	33

South Leg In	North Leg Out	North Leg In	South Leg Out	West Leg In	East Leg Out	East Leg In	West Leg Out
NB_IN	NB_OUT	SB_IN	SB_OUT	EB_IN	EB_OUT	WB_IN	WB_OUT
1707	2035	1613	1472	85	128	456	226
1528	1654	1655	1701	343	330	312	153
1734	1607	1834	1928	150	47	161	297
2003	1734	1928	2075	213	39	11	307
0	10	24	748	1174	757	759	442
523	380	0	0	757	960	819	759
601	459	1211	842	396	943	357	321
832	773	1254	1434	330	417	530	322
0	0	237	5	458	595	560	655
14	254	0	13	595	526	742	558
469	832	1434	607	371	598	1	238
544	336	396	687	28	556	707	96
622	411	259	313	638	584	496	707
2377	2377	2692	2734	125	0	0	83
2377	2377	2734	2698	223	0	0	259
0	0	458	294	1042	861	379	724
216	1025	0	0	862	0	561	199
1568	1568	2534	2431	80	0	0	183
0	62	829	52	762	1389	519	607
114	27	35	97	1389	1371	476	519
1131	1222	1716	1716	0	55	146	0
358	0	0	60	495	817	608	584
849	829	1716	1409	817	837	301	608
0	331	29	0	837	645	411	301
759	759	1088	1088	0	0	0	0
641	641	1042	1042	0	0	0	0
787	886	1539	1427	18	11	110	130
0	230	547	0	393	407	493	796
140	265	0	0	407	255	466	493
768	634	969	1249	204	173	200	85
10	19	14	10	344	365	398	372
237	5	16	175	536	528	654	735
10	36	29	18	0	38	53	0
975	1069	575	815	779	532	516	429
323	323	463	247	434	456	330	524
561	576	215	220	46	0	0	26
440	447	742	618	534	739	506	418
55	46	38	128	748	778	625	514
37	372	22	597	1372	741	796	517
942	662	889	892	686	865	548	646
434	403	748	794	97	424	450	108
479	570	878	1009	649	157	107	377
175	206	242	290	171	0	0	92
0	42	31	0	37	5	23	44
340	386	868	841	99	66	117	131
421	330	803	730	70	64	40	210
238	483	693	457	333	402	405	327
0	43	81	0	11	77	138	110
1028	469	606	606	0	559	0	0
78	38	29	134	421	465	568	459

			2010 Base PM Model (2-hour)											
		Synchro	Northbound			Southbound			Eastbound			Westbound		
N/S	E/W	#	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
Study Intersections														
1 US 97 at Deschutes Pleasant Ridge	0	1	0	###	6	0	996	267	226	0	109	0	0	0
2 US97 at Cooley	0	2	99	###	0	148	###	19	67	145	223	211	28	75
3 US 97 at Robal	0	3	186	###	0	10	###	186	64	6	77	58	0	0
4 US 97 at Nels Anderson Pl	0	4	275	###	36	0	###	57	0	0	431	0	0	26
5 US 97 SB Ramp at Empire	0	5	0	0	0	0	0	0	0	926	277	253	386	0
6 US 97 NB Ramps at Empire	0	6	91	0	371	0	0	0	293	633	0	0	548	185
7 US20 at Empire	0	7	14	69	38	583	320	89	31	434	57	15	209	175
8 US20 at Butler Market	0	8	94	352	225	71	629	67	35	134	78	630	161	29
9 SB off ramp at Butler Market	0	9	0	0	0	99	0	308	0	393	0	0	331	0
10 US97 NB On-Ramp at Butler Market	0	10	2	1	1	0	0	0	152	340	1	0	330	76
11 Bend Pkwy SB On-Ramp/Division at 3rd S	0	11	0	286	0	633	653	51	384	0	0	0	0	0
12 US97 SB Ramps at Revere	0	12	0	11	458	5	441	0	0	0	0	103	0	220
13 US97 NB Ramps at Revere	0	13	71	248	374	52	13	75	127	14	323	0	177	38
14 US97 at Lafayette	0	14	0	###	0	0	###	132	0	0	335	0	0	0
15 US97 at Hawthorne	0	15	0	###	0	0	###	61	0	0	201	0	0	0
16 US97 SB Ramps at Colorado	0	16	13	205	595	54	0	476	0	0	0	0	213	0
17 US97 NB Ramps at Colorado	0	17	0	0	0	0	0	182	572	78	0	0	32	149
18 US97 at Truman	0	18	0	###	0	0	###	152	0	0	126	0	0	0
19 Hwy 97 SB Ramps at Reed Market	0	19	0	0	0	423	0	92	0	365	241	0	470	24
20 US97 NB ramps at Reed Market	0	20	142	0	187	0	0	0	0	746	42	0	494	0
21 US97 at Reed Ln	0	21	0	###	3	0	###	0	0	0	0	0	0	91
22 US97 SB Ramps at Powers	0	22	10	0	243	0	0	0	0	322	16	8	553	0
23 US 97 at Powers	0	23	0	844	1	0	###	185	0	565	0	0	375	0
24 US 97 NB Ramps at Powers	0	24	0	0	0	0	0	27	75	491	0	0	348	244
25 US 97 at Badger	0	25	0	783	0	0	###	265	0	0	18	0	0	63
26 US97 at Pinebrook	0	26	0	630	4	0	###	23	130	85	14	0	140	23
28 US 97 at Ponderosa-China Hat	0	28	27	634	40	143	###	2	38	0	7	49	0	55
29 US 97 SB Ramps at Baker	0	29	0	0	0	19	0	658	2	422	0	0	65	18
30 US 97 NB Ramps at Knott	0	30	7	0	20	0	0	0	370	71	0	0	77	12
40 US 97 Bus at OB Riley	0	40	163	212	0	94	435	13	6	31	249	0	36	59
41 NW Mt Washington Dr at Riverview Park		41	3	0	49	0	0	0	0	199	4	47	275	0
42 NE Butler Market Rd at NE 4th St	0	42	15	0	3	0	0	0	0	324	16	1	391	0
45 Harriman at Revere		45	0	0	0	0	0	0	0	0	0	0	0	0
46 NE 3rd St at NE Revere Ave	0	46	30	623	206	132	582	46	59	339	50	209	118	111
47 4th at Revere	0	47	22	23	1	37	19	272	430	221	26	0	143	26
48 Scott at Aune St		48	0	170	0	0	70	7	11	0	0	0	0	0
49 SW Brookswood at Reed Market	0	49	73	136	20	172	138	30	20	343	112	30	344	74
50 Silver Lake Blvd at Reed Market Rd	0	50	0	2	49	35	2	8	16	522	0	96	441	25
51 Division St at Reed Market Rd	0	51	0	0	35	0	0	0	25	447	460	15	352	244
52 3rd at Reed Market	0	52	290	443	285	57	692	95	185	298	0	381	227	25
53 Brookswood at Powers Rd	0	53	13	139	176	33	152	33	26	86	10	290	140	34
54 3rd at Powers	0	54	275	328	7	21	625	256	196	86	203	12	53	14
55 Parrell Rd at Powers Rd	0	55	25	34	0	0	37	59	78	0	45	0	0	0
56 Blakely at Badger		56	0	0	0	11	0	6	9	7	0	0	240	25
57 3rd St at Badger Rd	0	57	0	357	13	3	610	0	0	0	0	45	0	2
58 3rd St at Pinebrook	0	58	55	273	0	0	537	50	28	0	41	0	0	0
59 Murphy at SE 3rd St	0	59	24	77	41	130	45	74	47	55	3	51	53	115
60 Parrell Rd at China Hat Rd	0	60	0	0	0	7	0	46	96	87	0	0	58	3
61 US20 at 3rd St Ramp to NB US97		61	0	286	476	0	653	0	0	0	0	0	0	0
62 Blakely Rd at Powers Rd	0	62	19	2	38	38	2	16	16	262	17	71	429	62

Indicates 3-leg intersection

South Leg In	North Leg Out	North Leg In	South Leg Out	West Leg In	East Leg Out	East Leg In	West Leg Out
NB_IN	NB_OUT	SB_IN	SB_OUT	EB_IN	EB_OUT	WB_IN	WB_OUT
1262	1482	1263	1105	335	6	0	267
1309	1352	1190	1457	435	293	314	146
1431	1309	1616	1555	147	16	58	372
1716	1431	1554	1928	431	36	26	332
15	31	0	530	1203	926	639	386
462	478	0	0	926	1004	733	639
121	275	992	392	522	1055	399	312
671	416	767	1337	247	430	820	322
0	0	407	0	393	492	331	639
4	229	0	1	493	341	406	332
286	670	1337	653	384	633	0	51
469	231	446	544	0	463	323	0
693	413	140	336	464	440	215	323
1739	1739	1941	2144	335	0	0	132
1739	1739	2145	2285	201	0	0	61
0	0	530	205	813	649	213	702
182	721	0	0	650	78	181	214
1200	1200	1961	1935	126	0	0	152
0	24	515	241	606	788	494	562
329	0	0	42	788	933	494	636
1136	1224	1685	1685	0	3	91	0
253	0	0	24	338	565	561	563
845	844	1685	1500	565	566	375	560
0	319	27	0	566	491	592	375
783	846	1271	1024	18	0	63	265
634	783	1024	1015	229	89	163	163
701	727	1271	1182	45	183	104	29
0	20	677	0	424	441	83	723
27	382	0	0	441	91	89	84
375	277	542	684	286	125	95	212
52	0	0	51	203	248	322	278
18	0	0	17	340	327	392	406
0	0	0	0	0	0	0	0
859	793	760	841	448	677	438	194
46	479	328	45	677	259	169	437
170	181	77	70	11	0	0	7
229	230	340	280	475	535	448	447
51	43	45	98	538	606	562	449
35	269	0	475	932	482	611	352
1018	653	844	1073	483	640	633	612
328	199	218	452	122	295	464	186
610	538	902	840	485	114	79	584
59	112	96	82	123	0	0	84
0	34	17	0	16	18	265	246
370	359	613	655	0	16	47	0
328	301	587	578	69	0	0	105
142	239	249	99	105	226	219	151
0	99	53	0	183	94	61	104
762	286	653	653	0	476	0	0
59	80	56	90	295	338	562	464

			2040 PM Model (2-hour)											
			Northbound			Southbound			Eastbound			Westbound		
N/S	E/W	#	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
Study Intersections														
1 US 97 at Deschutes Pleasant Ridge	0	1	0	0	0	0	0	0	0	0	0	0	0	0
2 US97 at Cooley	0	2	0	0	0	0	0	0	0	0	0	0	0	0
3 US 97 at Robal	0	3	0	0	0	0	0	0	0	0	0	0	0	0
4 US 97 at Nels Anderson Pl	0	4	0	0	0	0	0	0	0	0	0	0	0	0
5 US 97 SB Ramp at Empire	0	5	0	0	0	31	13	0	19	1271	520	180	1160	25
6 US 97 NB Ramps at Empire	0	6	161	65	412	0	0	0	172	1130	0	0	1204	283
7 US20 at Empire	0	7	81	653	126	###	###	240	140	456	20	102	439	652
8 US20 at Butler Market	0	8	125	1029	254	130	###	181	103	278	126	242	215	54
9 SB off ramp at Butler Market	0	9	0	0	0	126	157	89	0	604	0	108	284	0
10 US97 NB On-Ramp at Butler Market	0	10	3	2	2	0	0	0	186	543	2	1	389	109
11 Bend Pkwy SB On-Ramp/Division at 3rd	0	11	0	805	0	359	###	423	423	0	0	158	107	0
12 US97 SB Ramps at Revere	0	12	0	107	744	0	302	0	0	0	0	505	0	247
13 US97 NB Ramps at Revere	0	13	45	188	272	84	1	426	368	43	333	2	282	55
14 US97 at Lafayette	0	14	0	2679	0	0	###	0	0	0	0	0	0	0
15 US97 at Hawthorne	0	15	0	2679	0	0	###	65	0	0	0	0	0	0
16 US97 SB Ramps at Colorado	0	16	0	0	0	99	0	679	0	844	362	3	299	0
17 US97 NB Ramps at Colorado	0	17	250	0	2	0	0	0	751	192	0	0	53	60
18 US97 at Truman	0	18	0	2120	0	0	###	0	0	0	0	0	0	0
19 Hwy 97 SB Ramps at Reed Market	0	19	0	0	0	685	0	213	0	934	302	0	845	122
20 US97 NB ramps at Reed Market	0	20	152	0	133	0	0	0	0	1414	205	362	815	0
21 US97 at Reed Ln	0	21	0	1360	0	0	###	0	0	0	0	0	0	0
22 US97 SB Ramps at Powers	0	22	0	0	0	0	0	0	0	0	0	0	0	0
23 US 97 at Powers	0	23	0	1360	0	0	###	0	0	611	0	0	717	0
24 US 97 NB Ramps at Powers	0	24	0	0	0	0	0	0	0	0	0	0	0	0
25 US 97 at Badger	0	25	0	1360	0	0	###	0	0	0	0	0	0	0
26 US97 at Pinebrook	0	26	0	1360	0	0	###	0	0	0	0	0	0	0
28 US 97 at Ponderosa-China Hat	0	28	0	1199	0	0	###	0	0	0	0	0	0	0
29 US 97 SB Ramps at Baker	0	29	0	0	0	5	0	565	23	455	0	0	211	27
30 US 97 NB Ramps at Knott	0	30	18	0	47	0	0	0	333	126	0	0	221	409
40 US 97 Bus at OB Riley	0	40	421	713	0	102	###	0	22	47	557	0	48	107
41 NW Mt Washington Dr at Riverview Park	0	41	14	0	89	0	0	0	0	417	13	80	442	0
42 NE Butler Market Rd at NE 4th St	0	42	91	0	19	0	0	0	0	510	35	9	408	0
45 Harriman at Revere	0	45	0	0	0	0	0	0	0	0	0	0	0	0
46 NE 3rd St at NE Revere Ave	0	46	49	983	350	255	###	45	55	306	58	304	250	175
47 4th at Revere	0	47	51	135	5	58	222	372	494	385	32	4	305	26
48 Scott at Aune St	0	48	2	91	0	0	176	18	21	0	0	0	0	0
49 SW Brookswood at Reed Market	0	49	243	256	48	327	407	37	56	707	310	137	575	182
50 Silver Lake Blvd at Reed Market Rd	0	50	0	4	61	89	4	25	14	1086	1	99	877	82
51 Division St at Reed Market Rd	0	51	0	0	41	0	0	0	32	760	755	0	1177	446
52 3rd at Reed Market	0	52	971	791	302	81	###	222	129	511	161	317	430	42
53 Brookswood at Powers Rd	0	53	23	241	215	299	289	81	38	100	10	314	114	200
54 3rd at Powers	0	54	199	619	43	55	804	452	311	91	204	47	59	42
55 Parrell Rd at Powers Rd	0	55	13	263	0	0	218	152	176	0	37	0	0	0
56 Blakely at Badger	0	56	0	0	0	0	0	5	6	0	0	0	0	0
57 3rd St at Badger Rd	0	57	0	615	23	10	807	0	0	0	0	42	0	11
58 3rd St at Pinebrook	0	58	0	509	0	0	782	0	0	0	0	0	0	0
59 Murphy at SE 3rd St	0	59	30	64	50	341	245	183	160	143	202	150	152	257
60 Parrell Rd at China Hat Rd	0	60	0	0	0	189	0	34	58	493	0	0	231	258
61 US20 at 3rd St Ramp to NB US97	0	61	0	805	357	0	###	0	0	0	0	0	0	0
62 Blakely Rd at Powers Rd	0	62	30	14	41	71	5	31	47	499	68	61	567	89

South Leg In	North Leg Out	North Leg In	South Leg Out	West Leg In	East Leg Out	East Leg In	West Leg Out
NB_IN	NB_OUT	SB_IN	SB_OUT	EB_IN	EB_OUT	WB_IN	WB_OUT
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	44	44	713	1810	1302	1365	1160
638	520	0	0	1302	1542	1487	1365
860	1445	2504	1158	616	1810	1193	760
1408	1186	1791	1848	507	662	511	521
0	0	372	265	604	730	392	373
7	297	0	3	731	545	499	392
805	1228	1848	1224	423	359	265	530
851	354	302	807	0	744	752	0
505	611	511	336	744	399	339	753
2679	2679	2624	2624	0	0	0	0
2679	2679	2625	2560	0	0	0	65
0	0	778	365	1206	943	302	978
252	811	0	0	943	194	113	303
2120	2120	2147	2147	0	0	0	0
0	122	898	302	1236	1619	967	1058
285	0	0	567	1619	1547	1177	967
1360	1360	1673	1673	0	0	0	0
0	0	0	0	0	0	0	0
1360	1360	1673	1673	611	611	717	717
0	0	0	0	0	0	0	0
1360	1360	1673	1673	0	0	0	0
1360	1360	1673	1673	0	0	0	0
1199	1199	1294	1294	0	0	0	0
0	50	570	0	478	460	238	776
65	742	0	0	459	173	630	239
1134	842	1256	1711	626	149	155	469
103	0	0	93	430	506	522	456
110	0	0	44	545	529	417	499
0	0	0	0	0	0	0	0
1382	1213	1304	1366	419	911	729	344
191	655	652	258	911	448	335	728
93	112	194	176	21	0	0	20
547	494	771	854	1073	1082	894	855
65	100	118	104	1101	1236	1058	902
41	478	0	755	1547	801	1623	1177
2064	962	1591	1766	801	894	789	1623
479	479	669	613	148	614	628	218
861	972	1311	1055	606	189	148	710
276	439	370	255	213	0	0	165
0	6	5	0	6	0	0	5
638	626	817	849	0	33	53	0
509	509	782	782	0	0	0	0
144	481	769	597	505	534	559	365
0	316	223	0	551	682	489	265
1162	805	1224	1224	0	357	0	0
85	150	107	134	614	611	717	628

			(2040 Model - 2010 Base Year Model)*22/30 years of growth												Difference							
			Northbound			Southbound			Eastbound			Westbound			South Leg In	North Leg Out	North Leg In	South Leg Out	West Leg In	East Leg Out	East Leg In	West Leg Out
N/S	E/W	#	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	Comment	NB_IN	NB_OUT	SB_IN	SB_OUT	EB_IN	EB_OUT	WB_IN	WB_OUT
Study Intersections																							
1 US 97 at Deschutes Ple	0	1														0	0	0	0	0	0	0	0
2 US97 at Cooley	0	2														0	0	0	0	0	0	0	0
3 US 97 at Robal	0	3														0	0	0	0	0	0	0	0
4 US 97 at Nels Anderson	0	4														0	0	0	0	0	0	0	0
5 US 97 SB Ramp at Emp	0	5	0	0	0	24	10	0	15	265	186	-56	593	19		0	34	34	140	465	288	557	593
6 US 97 NB Ramps at Em	0	6	54	50	31	0	0	0	-93	381	0	0	503	75		135	32	0	0	288	412	578	557
7 US20 at Empire	0	7	51	448	67	495	549	116	84	17	-28	67	176	366		567	897	1159	587	72	579	609	343
8 US20 at Butler Market	0	8	24	519	22	45	652	87	52	110	37	-297	41	19		565	590	785	392	199	178	-237	153
9 SB off ramp at Butler Ma	0	9	0	0	0	21	120	-168	0	162	0	83	-36	0		0	0	-27	203	162	182	47	-204
10 US97 NB On-Ramp at	0	10	1	1	1	0	0	0	26	156	1	1	45	25		2	52	0	2	182	156	71	46
11 Bend Pkwy SB On-Ran	0	11	0	398	0	-210	317	285	30	0	0	121	82	0		398	428	392	438	30	-210	203	367
12 US97 SB Ramps at Re	0	12	0	74	219	-4	-107	0	0	0	0	308	0	21		293	94	-110	202	0	215	329	0
13 US97 NB Ramps at Re	0	13	-20	-46	-78	25	-9	269	185	22	8	2	81	13		-144	152	284	0	215	-31	95	330
14 US97 at Lafayette	0	14	0	721	0	0	625	-101	0	0	-257	0	0	0		721	721	524	368	-257	0	0	-101
15 US97 at Hawthorne	0	15	0	721	0	0	365	3	0	0	-154	0	0	0		721	721	368	211	-154	0	0	3
16 US97 SB Ramps at Co	0	16	-10	-157	-456	35	0	156	0	647	278	2	66	0		0	0	248	160	393	294	89	276
17 US97 NB Ramps at Co	0	17	192	0	2	0	0	-140	137	87	0	0	16	-68		70	90	0	0	293	116	-68	89
18 US97 at Truman	0	18	0	705	0	0	259	-117	0	0	-97	0	0	0		705	705	143	163	-97	0	0	-117
19 Hwy 97 SB Ramps at R	0	19	0	0	0	201	0	93	0	436	47	0	288	75		0	75	294	47	483	637	363	380
20 US97 NB ramps at Ree	0	20	8	0	-41	0	0	0	0	512	125	278	246	0		-34	0	0	403	637	471	524	254
21 US97 at Reed Ln	0	21	0	174	-2	0	-9	0	0	0	0	0	0	-70		172	104	-9	-9	0	-2	-70	0
22 US97 SB Ramps at Po	0	22	-8	0	-186	0	0	0	0	-247	-12	-6	-424	0		-194	0	0	-18	-259	-433	-430	-432
23 US 97 at Powers	0	23	0	396	-1	0	133	-142	0	35	0	0	262	0		395	396	-9	133	35	35	262	120
24 US 97 NB Ramps at Pe	0	24	0	0	0	0	0	-21	-58	-376	0	0	-267	-187		0	-245	-21	0	-434	-376	-454	-288
25 US 97 at Badger	0	25	0	442	0	0	511	-203	0	0	-14	0	0	-48		442	394	308	498	-14	0	-48	-203
26 US97 at Pinebrook	0	26	0	560	-3	0	515	-18	-100	-65	-11	0	-107	-18		557	442	498	504	-176	-68	-125	-125
28 US 97 at Ponderosa-C	0	28	-21	433	-31	-110	129	-2	-29	0	-5	-38	0	-42		382	362	18	86	-35	-140	-80	-22
29 US 97 SB Ramps at Ba	0	29	0	0	0	-11	0	-71	16	25	0	0	112	7		0	23	-82	0	41	15	119	41
30 US 97 NB Ramps at Kl	0	30	8	0	21	0	0	0	-28	42	0	0	110	304		29	276	0	0	14	63	415	119
40 US 97 Bus at OB Riley	0	40	198	384	0	6	551	-10	12	12	236	0	9	37		582	433	547	787	261	18	46	197
41 NW Mt Washington Dr	0	41	8	0	31	0	0	0	0	167	7	25	128	0		39	0	0	32	174	198	153	136
42 NE Butler Market Rd a	0	42	58	0	12	0	0	0	0	143	15	6	13	0		71	0	0	21	157	155	19	71
45 Harriman at Revere	0	45	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0
46 NE 3rd St at NE Rever	0	46	15	276	110	94	324	-1	-3	-25	6	73	101	49		401	322	417	403	-22	179	223	115
47 4th at Revere	0	47	22	86	3	16	156	77	49	126	5	3	124	0		111	135	248	163	179	145	127	223
48 Scott at Aune St	0	48	1	-61	0	0	81	8	8	0	0	0	0	0		-59	-53	90	81	8	0	0	10
49 SW Brookswood at Re	0	49	130	92	21	119	206	5	28	279	152	82	177	83		244	202	330	440	458	419	342	313
50 Silver Lake Blvd at Ree	0	50	0	2	9	41	2	13	-2	432	1	2	334	44		11	44	56	4	431	483	380	347
51 Division St at Reed Ma	0	51	0	0	5	0	0	0	5	240	226	-12	633	155		5	160	0	215	472	245	776	633
52 3rd at Reed Market	0	52	522	267	13	18	457	97	-43	163	123	-49	156	13		802	237	573	531	244	195	120	775
53 Brookswood at Powers	0	53	8	78	30	204	105	37	9	11	0	18	-20	127		116	215	346	123	20	245	126	25
54 3rd at Powers	0	54	-58	223	28	26	137	150	88	4	1	27	5	21		192	333	314	165	93	58	53	97
55 Parrell Rd at Powers F	0	55	-9	176	0	0	139	71	75	0	-6	0	0	0		166	251	210	133	69	0	0	62
56 Blakely at Badger	0	56	0	0	0	-8	0	-1	-2	-5	0	0	-184	-19		0	-21	-9	0	-8	-14	-203	-185
57 3rd St at Badger Rd	0	57	0	198	8	5	151	0	0	0	0	-2	0	7		205	205	156	149	0	13	5	0
58 3rd St at Pinebrook	0	58	-42	181	0	0	188	-38	-21	0	-31	0	0	0		139	159	150	156	-53	0	0	-81
59 Murphy at SE 3rd St	0	59	5	-10	7	162	153	84	87	67	153	76	76	109		2	186	399	382	307	236	261	164
60 Parrell Rd at China Ha	0	60	0	0	0	140	0	-9	-29	311	0	0	133	196		0	166	130	0	282	451	328	123
61 US20 at 3rd St Ramp t	0	61	0	398	-91	0	438	0	0	0	0	0	0	0		307	398	438	438	0	-91	0	0
62 Blakely Rd at Powers F	0	62	8	9	2	25	2	12	24	182	39	-8	106	21		20	54	39	34	245	209	119	126

Growth Increment	***0.767***
Count Year	2017
Base Model	2010
Future Model	2040
Forecast Horizon	2040

			Difference Method (DIFF)								Annual Change							
N/S	E/W	#	NB_IN	NB_OUT	SB_IN	SB_OUT	EB_IN	EB_OUT	WB_IN	WB_OUT	NB_IN	NB_OUT	SB_IN	SB_OUT	EB_IN	EB_OUT	WB_IN	WB_OUT
Study Intersections																		
1 US 97 at Deschutes Pleasant Ridge		1	1707	2035	1613	1472	85	128	456	226	0%	0%	0%	0%	0%	0%	0%	0%
2 US97 at Cooley		2	1528	1654	1655	1701	343	330	312	153	0%	0%	0%	0%	0%	0%	0%	0%
3 US 97 at Robal		3	1734	1607	1834	1928	150	47	161	297	0%	0%	0%	0%	0%	0%	0%	0%
4 US 97 at Nels Anderson Pl		4	2003	1734	1928	2075	213	39	11	307	0%	0%	0%	0%	0%	0%	0%	0%
5 US 97 SB Ramp at Empire		5	0	44	58	888	1639	1045	1316	1035	0%	7%	4%	1%	1%	1%	2%	4%
6 US 97 NB Ramps at Empire		6	658	412	0	0	1045	1372	1397	1316	1%	0%	0%	0%	1%	2%	2%	2%
7 US20 at Empire		7	1168	1356	2370	1429	468	1522	966	664	3%	5%	3%	2%	1%	2%	4%	3%
8 US20 at Butler Market		8	1397	1363	2039	1826	529	595	293	475	2%	2%	2%	1%	2%	2%	-3%	2%
9 SB off ramp at Butler Market		9	0	0	210	208	620	777	607	451	0%	0%	-1%	18%	1%	1%	0%	-2%
10 US97 NB On-Ramp at Butler Market		10	16	306	0	15	777	682	813	604	1%	1%	0%	0%	1%	1%	0%	0%
11 Bend Pkwy SB On-Ramp/Division at 3rd St		11	867	1260	1826	1045	401	388	205	606	3%	2%	1%	2%	0%	-2%	24%	4%
12 US97 SB Ramps at Revere		12	837	430	286	889	28	771	1036	96	2%	1%	-1%	1%	0%	1%	2%	0%
13 US97 NB Ramps at Revere		13	478	563	543	313	853	553	591	1037	-1%	1%	3%	0%	1%	0%	1%	2%
14 US97 at Lafayette		14	3098	3098	3216	3102	-132	0	0	-18	1%	1%	1%	1%	0%	0%	0%	0%
15 US97 at Hawthorne		15	3098	3098	3102	2909	69	0	0	262	1%	1%	1%	0%	-5%	0%	0%	0%
16 US97 SB Ramps at Colorado		16	0	0	706	454	1435	1155	468	1000	0%	0%	2%	2%	1%	1%	1%	1%
17 US97 NB Ramps at Colorado		17	286	1115	0	0	1155	116	493	288	1%	0%	0%	0%	1%	#DIV/0!	-1%	2%
18 US97 at Truman		18	2273	2273	2677	2594	-17	0	0	66	2%	2%	0%	0%	0%	0%	0%	-4%
19 Hwy 97 SB Ramps at Reed Market		19	0	137	1123	99	1245	2026	882	987	0%	4%	1%	3%	2%	2%	2%	2%
20 US97 NB ramps at Reed Market		20	80	27	35	500	2026	1842	1000	773	-2%	0%	0%	7%	2%	1%	3%	2%
21 US97 at Reed Ln		21	1303	1326	1707	1707	0	53	76	0	1%	0%	0%	0%	0%	0%	-3%	0%
22 US97 SB Ramps at Powers		22	164	0	0	42	236	384	178	152	-3%	0%	0%	-2%	-3%	-3%	-5%	-6%
23 US 97 at Powers		23	1244	1225	1707	1542	852	872	563	728	2%	2%	0%	0%	0%	0%	3%	1%
24 US 97 NB Ramps at Powers		24	0	86	8	0	403	269	-43	14	0%	-6%	-5%	0%	-3%	-4%	0%	-13%
25 US 97 at Badger		25	1201	1153	1396	1586	-14	0	-48	-203	2%	2%	1%	2%	0%	0%	0%	0%
26 US97 at Pinebrook		26	1198	1083	1540	1546	-176	-68	-125	-125	3%	2%	2%	2%	0%	0%	0%	0%
28 US 97 at Ponderosa-China Hat		28	1169	1248	1557	1513	-17	-129	30	108	2%	2%	0%	0%	0%	0%	-5%	-1%
29 US 97 SB Ramps at Baker		29	0	253	465	0	434	422	612	837	0%	0%	-1%	0%	0%	0%	1%	0%
30 US 97 NB Ramps at Knott		30	169	541	0	0	421	318	881	612	1%	3%	0%	0%	0%	1%	3%	1%
40 US 97 Bus at OB Riley		40	1350	1067	1516	2036	465	191	246	282	2%	2%	2%	2%	4%	0%	1%	5%
41 NW Mt Washington Dr at Riverview Park		41	49	19	14	42	518	563	551	508	7%	0%	0%	6%	2%	2%	1%	1%
42 NE Butler Market Rd at NE 4th St		42	308	5	16	196	693	683	673	806	1%	0%	0%	0%	1%	1%	0%	0%
45 Harriman at Revere		45	10	36	29	18	0	38	53	0	0%	0%	0%	0%	0%	0%	0%	0%
46 NE 3rd St at NE Revere Ave		46	1376	1391	992	1218	757	711	739	544	2%	1%	2%	2%	0%	1%	2%	1%
47 4th at Revere		47	434	458	711	410	613	601	457	747	1%	2%	2%	2%	2%	1%	1%	2%
48 Scott at Aune St		48	502	523	305	301	54	0	0	36	0%	0%	2%	1%	1%	0%	0%	1%
49 SW Brookswood at Reed Market		49	684	649	1072	1058	992	1158	848	731	2%	2%	2%	2%	3%	2%	2%	2%
50 Silver Lake Blvd at Reed Market Rd		50	66	90	94	132	1179	1261	1005	861	1%	3%	4%	0%	2%	2%	2%	2%
51 Division St at Reed Market Rd		51	42	532	22	812	1844	986	1572	1150	1%	2%	0%	1%	1%	1%	3%	4%
52 3rd at Reed Market		52	1744	899	1462	1423	930	1060	668	1421	3%	1%	2%	2%	1%	1%	1%	3%
53 Brookswood at Powers Rd		53	550	618	1094	917	117	669	576	133	1%	2%	2%	1%	1%	2%	1%	1%
54 3rd at Powers		54	671	903	1192	1174	742	215	160	474	1%	2%	1%	1%	1%	1%	2%	1%
55 Parrell Rd at Powers Rd		55	341	457	452	423	240	0	0	154	3%	4%	3%	2%	1%	0%	0%	2%
56 Blakely at Badger		56	0	21	22	0	29	-9	-180	-141	0%	-3%	-2%	0%	-1%	0%	0%	0%
57 3rd St at Badger Rd		57	545	591	1024	990	99	79	122	131	2%	2%	1%	1%	0%	1%	0%	0%
58 3rd St at Pinebrook		58	560	489	953	886	17	64	40	130	1%	2%	1%	1%	-6%	0%	0%	-2%
59 Murphy at SE 3rd St		59	240	669	1092	839	640	638	666	491	0%	1%	2%	3%	3%	2%	2%	2%
60 Parrell Rd at China Hat Rd		60	0	209	211	0	293	528	466	233	0%	7%	4%	0%	15%	9%	5%	3%
61 US20 at 3rd St Ramp to NB US97		61	1335	867	1044	1044	0	468	0	0	1%	3%	2%	2%	0%	-1%	0%	0%
62 Blakely Rd at Powers Rd		62	98	92	68	168	666	674	687	585	1%	4%	4%	1%	2%	2%	1%	1%

			Ratio Method (RATIO)				0.77 Interpolated Model Increment Ratio (Do Not Edit)				Annual Change							
			South Leg	North Leg	North Le	South Le	West Leg In	East Leg Out	East Leg In	West Leg Out	South Leg In	North Leg Out	North Leg In	South Leg Out	West Leg In	East Leg Out	East Leg In	West Leg Out
			NB_IN	NB_OUT	SB_IN	SB_OUT	EB_IN	EB_OUT	WB_IN	WB_OUT	NB_IN	NB_OUT	SB_IN	SB_OUT	EB_IN	EB_OUT	WB_IN	WB_OUT
1 US 97 at Deschutes Pleasant Ri	0	1	1707	2035	1613	1472	85	128	456	226	0%	0%	0%	0%	0%	0%	0%	0%
2 US97 at Cooley	0	2	1528	1654	1655	1701	343	330	312	153	0%	0%	0%	0%	0%	0%	0%	0%
3 US 97 at Robal	0	3	1734	1607	1834	1928	150	47	161	297	0%	0%	0%	0%	0%	0%	0%	0%
4 US 97 at Nels Anderson Pl	0	4	2003	1734	1928	2075	213	39	11	307	0%	0%	0%	0%	0%	0%	0%	0%
5 US 97 SB Ramp at Empire	0	5	0	13	#DIV/0!	939	1606	983	1358	1028	0%	1%	#DIV/0!	1%	1%	1%	3%	4%
6 US 97 NB Ramps at Empire	0	6	670	405	0	0	983	1334	1409	1358	1%	0%	0%	0%	1%	1%	2%	3%
7 US20 at Empire	0	7	2703	1638	2463	1932	450	1426	827	635	7%	6%	3%	4%	1%	2%	4%	3%
8 US20 at Butler Market	0	8	1469	1726	2402	1838	573	580	369	466	3%	4%	3%	1%	2%	1%	-2%	2%
9 SB off ramp at Butler Market	0	9	0	0	221	#DIV/0!	637	805	638	434	0%	0%	0%	#DIV/0!	1%	1%	1%	-2%
10 US97 NB On-Ramp at Butler M	0	10	22	310	0	30	805	754	869	634	2%	1%	0%	4%	1%	2%	1%	1%
11 Bend Pkwy SB On-Ramp/Divisi	0	11	1037	1324	1838	983	400	387	#DIV/0!	1435	4%	2%	1%	2%	0%	-2%	#DIV/0!	8%
12 US97 SB Ramps at Revere	0	12	859	466	294	930	28	800	1351	96	2%	1%	-1%	1%	0%	2%	3%	0%
13 US97 NB Ramps at Revere	0	13	488	555	699	313	916	542	703	1353	-1%	1%	4%	0%	2%	0%	2%	3%
14 US97 at Lafayette	0	14	3311	3311	3392	3192	0	0	0	0	1%	1%	1%	1%	0%	0%	0%	0%
15 US97 at Hawthorne	0	15	3311	3311	3192	2944	0	0	0	272	1%	1%	1%	0%	0%	0%	0%	0%
16 US97 SB Ramps at Colorado	0	16	0	0	615	457	1410	1147	495	934	0%	0%	1%	2%	1%	1%	1%	1%
17 US97 NB Ramps at Colorado	0	17	277	1122	0	0	1147	0	391	260	1%	0%	0%	0%	1%	0%	-2%	1%
18 US97 at Truman	0	18	2426	2426	2716	2633	0	0	0	0	2%	2%	0%	0%	0%	0%	0%	0%
19 Hwy 97 SB Ramps at Reed Ma	0	19	0	216	1270	62	1316	2412	869	986	0%	6%	2%	1%	2%	2%	2%	2%
20 US97 NB ramps at Reed Marke	0	20	102	27	35	713	2412	2020	926	716	0%	0%	0%	9%	2%	2%	3%	1%
21 US97 at Reed Ln	0	21	1298	1325	1707	1707	0	0	0	0	1%	0%	0%	0%	0%	0%	0%	0%
22 US97 SB Ramps at Powers	0	22	0	0	0	0	0	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
23 US 97 at Powers	0	23	1223	1195	1707	1532	868	888	495	735	2%	2%	0%	0%	0%	0%	2%	1%
24 US 97 NB Ramps at Powers	0	24	0	0	0	0	0	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
25 US 97 at Badger	0	25	1159	1092	1343	1585	0	0	0	0	2%	2%	1%	2%	0%	0%	0%	0%
26 US97 at Pinebrook	0	26	1151	979	1518	1528	0	0	0	0	3%	2%	2%	2%	0%	0%	0%	0%
28 US 97 at Ponderosa-China Hat	0	28	1188	1300	1560	1530	0	0	0	0	2%	2%	0%	0%	0%	0%	0%	0%
29 US 97 SB Ramps at Baker	0	29	0	464	479	0	431	420	1106	840	0%	3%	-1%	0%	0%	0%	4%	0%
30 US 97 NB Ramps at Knott	0	30	275	441	0	0	420	417	2089	1099	3%	2%	0%	0%	0%	2%	7%	4%
40 US 97 Bus at OB Riley	0	40	1794	1487	1846	2523	372	198	291	156	4%	4%	3%	3%	3%	1%	2%	3%
41 NW Mt Washington Dr at River	0	41	17	19	14	16	612	631	576	544	2%	0%	0%	2%	3%	2%	2%	2%
42 NE Butler Market Rd at NE 4th	0	42	949	5	16	363	770	763	686	861	6%	0%	0%	3%	2%	2%	0%	1%
45 Harriman at Revere	0	45	10	36	29	18	0	38	53	0	0%	0%	0%	0%	0%	0%	0%	0%
46 NE 3rd St at NE Revere Ave	0	46	1404	1481	870	1182	740	668	763	666	2%	1%	2%	2%	0%	1%	2%	2%
47 4th at Revere	0	47	962	411	784	937	545	694	557	775	5%	1%	2%	6%	1%	2%	2%	2%
48 Scott at Aune St	0	48	353	399	437	446	75	0	0	58	-2%	-2%	3%	3%	2%	0%	0%	4%
49 SW Brookswood at Reed Mark	0	49	858	803	1390	1453	997	1268	859	687	3%	3%	3%	4%	3%	2%	2%	2%
50 Silver Lake Blvd at Reed Marke	0	50	66	88	80	134	1295	1344	1015	877	1%	3%	3%	0%	2%	2%	2%	2%
51 Division St at Reed Market Rd	0	51	42	578	22	852	2023	1094	1683	1304	1%	2%	0%	2%	2%	2%	3%	4%
52 3rd at Reed Market	0	52	1620	891	1445	1307	1011	1118	649	1364	2%	1%	2%	2%	2%	1%	1%	3%
53 Brookswood at Powers Rd	0	53	580	790	1767	1003	112	744	568	122	1%	3%	4%	1%	1%	2%	1%	1%
54 3rd at Powers	0	54	624	897	1169	1202	770	231	173	438	1%	2%	1%	1%	1%	2%	2%	1%
55 Parrell Rd at Powers Rd	0	55	571	587	681	692	261	0	0	154	5%	5%	5%	4%	2%	0%	0%	2%
56 Blakely at Badger	0	56	0	11	12	0	17	0	0	2	0%	-6%	-4%	0%	-3%	0%	0%	-12%
57 3rd St at Badger Rd	0	57	516	591	1082	1026	99	115	128	131	2%	2%	1%	1%	0%	2%	0%	0%
58 3rd St at Pinebrook	0	58	590	494	1001	920	0	64	40	0	1%	2%	1%	1%	0%	0%	0%	0%
59 Murphy at SE 3rd St	0	59	241	826	1645	1812	1110	777	831	643	0%	2%	4%	6%	5%	3%	3%	3%
60 Parrell Rd at China Hat Rd	0	60	0	105	244	0	26	352	681	225	0%	4%	5%	0%	4%	7%	7%	3%
61 US20 at 3rd St Ramp to NB US	0	61	1421	1037	981	981	0	448	0	0	1%	4%	2%	2%	0%	-1%	0%	0%
62 Blakely Rd at Powers Rd	0	62	103	62	48	182	738	732	685	579	1%	2%	2%	1%	2%	2%	1%	1%

Modified Ratio (Mratio)

			South Leg In	North Leg Out	North Leg In	South Leg Out	West Leg In	East Leg Out	East Leg In	West Leg Out
			NB_IN	NB_OUT	SB_IN	SB_OUT	EB_IN	EB_OUT	WB_IN	WB_OUT
1 US 97 at Deschutes Pleasant Ri	0	1	1707	2035	1613	1472	85	128	456	226
2 US97 at Cooley	0	2	1528	1654	1655	1701	343	330	312	153
3 US 97 at Robal	0	3	1734	1607	1834	1928	150	47	161	297
4 US 97 at Nels Anderson Pl	0	4	2003	1734	1928	2075	213	39	11	307
5 US 97 SB Ramp at Empire	0	5	0	20	#DIV/0!	929	1615	997	1339	1032
6 US 97 NB Ramps at Empire	0	6	667	406	0	0	997	1345	1404	1339
7 US20 at Empire	0	7	1509	1435	2416	1648	452	1459	906	650
8 US20 at Butler Market	0	8	1438	1526	2229	1835	554	585	369	468
9 SB off ramp at Butler Market	0	9	0	0	221	#DIV/0!	632	798	634	434
10 US97 NB On-Ramp at Butler M	0	10	20	309	0	21	798	732	861	630
11 Bend Pkwy SB On-Ramp/Divisi	0	11	944	1300	1835	1006	400	387	#DIV/0!	743
12 US97 SB Ramps at Revere	0	12	851	456	294	919	28	791	1201	96
13 US97 NB Ramps at Revere	0	13	488	557	601	313	897	542	670	1202
14 US97 at Lafayette	0	14	3251	3251	3356	3179	0	0	0	0
15 US97 at Hawthorne	0	15	3251	3251	3179	2941	0	0	0	271
16 US97 SB Ramps at Colorado	0	16	0	0	638	456	1416	1149	489	948
17 US97 NB Ramps at Colorado	0	17	279	1121	0	0	1149	58	391	266
18 US97 at Truman	0	18	2372	2372	2714	2630	0	0	0	0
19 Hwy 97 SB Ramps at Reed Ma	0	19	0	160	1219	68	1286	2249	874	986
20 US97 NB ramps at Reed Marke	0	20	102	27	35	529	2249	1963	962	731
21 US97 at Reed Ln	0	21	1299	1325	1707	1707	0	0	0	0
22 US97 SB Ramps at Powers	0	22	0	0	0	0	0	0	0	0
23 US 97 at Powers	0	23	1229	1204	1707	1533	867	887	522	734
24 US 97 NB Ramps at Powers	0	24	0	0	0	0	0	0	0	0
25 US 97 at Badger	0	25	1174	1111	1353	1585	0	0	0	0
26 US97 at Pinebrook	0	26	1171	1015	1525	1534	0	0	0	0
28 US 97 at Ponderosa-China Hat	0	28	1181	1284	1560	1528	0	0	0	0
29 US 97 SB Ramps at Baker	0	29	0	358	479	0	431	420	832	840
30 US 97 NB Ramps at Knott	0	30	223	481	0	0	420	379	1150	830
40 US 97 Bus at OB Riley	0	40	1540	1246	1689	2277	414	197	277	214
41 NW Mt Washington Dr at River	0	41	30	19	14	26	571	602	569	533
42 NE Butler Market Rd at NE 4th	0	42	468	5	16	276	746	739	685	853
45 Harriman at Revere	0	45	10	36	29	18	0	38	53	0
46 NE 3rd St at NE Revere Ave	0	46	1395	1456	911	1193	740	677	755	622
47 4th at Revere	0	47	611	421	754	549	559	662	516	766
48 Scott at Aune St	0	48	353	399	370	373	67	0	0	46
49 SW Brookswood at Reed Marke	0	49	773	735	1242	1226	995	1222	855	704
50 Silver Lake Blvd at Reed Marke	0	50	66	89	87	134	1246	1309	1011	871
51 Division St at Reed Market Rd	0	51	42	562	22	840	1965	1059	1625	1211
52 3rd at Reed Market	0	52	1672	893	1452	1344	985	1105	652	1394
53 Brookswood at Powers Rd	0	53	573	706	1379	985	113	711	569	123
54 3rd at Powers	0	54	635	899	1175	1197	765	226	168	443
55 Parrell Rd at Powers Rd	0	55	412	502	533	536	253	0	0	154
56 Blakely at Badger	0	56	0	11	12	0	17	0	0	2
57 3rd St at Badger Rd	0	57	526	591	1070	1020	99	100	128	131
58 3rd St at Pinebrook	0	58	581	492	991	913	0	64	40	0
59 Murphy at SE 3rd St	0	59	241	760	1325	1084	781	710	746	568
60 Parrell Rd at China Hat Rd	0	60	0	166	222	0	178	489	510	229
61 US20 at 3rd St Ramp to NB US	0	61	1397	944	1005	1005	0	448	0	0
62 Blakely Rd at Powers Rd	0	62	102	73	56	178	707	711	685	580
0	0	0	0	0	0	0	0	0	0	0

Annual Change

	South Leg In	North Leg Out	North Leg In	South Leg Out	West Leg In	East Leg Out	East Leg In	West Leg Out
	NB_IN	NB_OUT	SB_IN	SB_OUT	EB_IN	EB_OUT	WB_IN	WB_OUT
1 US 97 at Deschutes Pleasant Ri	0%	0%	0%	0%	0%	0%	0%	0%
2 US97 at Cooley	0%	0%	0%	0%	0%	0%	0%	0%
3 US 97 at Robal	0%	0%	0%	0%	0%	0%	0%	0%
4 US 97 at Nels Anderson Pl	0%	0%	0%	0%	0%	0%	0%	0%
5 US 97 SB Ramp at Empire	0%	3%	#DIV/0!		1%	1%	1%	3%
6 US 97 NB Ramps at Empire	1%	0%	0%	0%	0%	1%	1%	2%
7 US20 at Empire	4%	5%	3%	3%	1%	2%	4%	3%
8 US20 at Butler Market	2%	3%	3%	1%	2%	1%	-2%	2%
9 SB off ramp at Butler Market	0%	0%	0%	#DIV/0!	1%	1%	1%	-2%
10 US97 NB On-Ramp at Butler M	1%	1%	0%	2%	1%	1%	1%	1%
11 Bend Pkwy SB On-Ramp/Divisi	3%	2%	1%	2%	0%	-2%	#DIV/0!	5%
12 US97 SB Ramps at Revere	2%	1%	-1%	1%	0%	2%	2%	0%
13 US97 NB Ramps at Revere	-1%	1%	4%	0%	1%	0%	1%	2%
14 US97 at Lafayette	1%	1%	1%	1%	0%	0%	0%	0%
15 US97 at Hawthorne	1%	1%	1%	0%	0%	0%	0%	0%
16 US97 SB Ramps at Colorado	0%	0%	1%	2%	1%	1%	1%	1%
17 US97 NB Ramps at Colorado	1%	0%	0%	0%	1%	#DIV/0!	-2%	1%
18 US97 at Truman	2%	2%	0%	0%	0%	0%	0%	0%
19 Hwy 97 SB Ramps at Reed Ma	0%	4%	2%	1%	2%	2%	2%	2%
20 US97 NB ramps at Reed Marke	0%	0%	0%	8%	2%	2%	3%	2%
21 US97 at Reed Ln	1%	0%	0%	0%	0%	0%	0%	0%
22 US97 SB Ramps at Powers	0%	0%	0%	0%	0%	0%	0%	0%
23 US 97 at Powers	2%	2%	0%	0%	0%	0%	2%	1%
24 US 97 NB Ramps at Powers	0%	0%	0%	0%	0%	0%	0%	0%
25 US 97 at Badger	2%	2%	1%	2%	0%	0%	0%	0%
26 US97 at Pinebrook	3%	2%	2%	2%	0%	0%	0%	0%
28 US 97 at Ponderosa-China Hat	2%	2%	0%	0%	0%	0%	0%	0%
29 US 97 SB Ramps at Baker	0%	2%	-1%	0%	0%	0%	2%	0%
30 US 97 NB Ramps at Knott	2%	3%	0%	0%	0%	2%	4%	2%
40 US 97 Bus at OB Riley	3%	3%	2%	3%	3%	1%	1%	4%
41 NW Mt Washington Dr at River	5%	0%	0%	4%	2%	2%	2%	2%
42 NE Butler Market Rd at NE 4th	3%	0%	0%	2%	1%	1%	0%	1%
45 Harriman at Revere	0%	0%	0%	0%	0%	0%	0%	0%
46 NE 3rd St at NE Revere Ave	2%	1%	2%	2%	0%	1%	2%	2%
47 4th at Revere	3%	1%	2%	4%	1%	2%	2%	2%
48 Scott at Aune St	-2%	-2%	2%	2%	2%	0%	0%	2%
49 SW Brookswood at Reed Marke	2%	2%	2%	3%	3%	2%	2%	2%
50 Silver Lake Blvd at Reed Marke	1%	3%	4%	0%	2%	2%	2%	2%
51 Division St at Reed Market Rd	1%	2%	0%	1%	2%	2%	3%	4%
52 3rd at Reed Market	3%	1%	2%	2%	2%	1%	1%	3%
53 Brookswood at Powers Rd	1%	2%	3%	1%	1%	2%	1%	1%
54 3rd at Powers	1%	2%	1%	1%	1%	2%	2%	1%
55 Parrell Rd at Powers Rd	4%	4%	3%	3%	2%	0%	0%	2%
56 Blakely at Badger	0%	-6%	-4%	0%	-3%	0%	0%	-12%
57 3rd St at Badger Rd	2%	2%	1%	1%	0%	2%	0%	0%
58 3rd St at Pinebrook	1%	2%	1%	1%	0%	0%	0%	0%
59 Murphy at SE 3rd St	0%	2%	3%	4%	4%	3%	3%	2%
60 Parrell Rd at China Hat Rd	0%	6%	4%	0%	13%	8%	6%	3%
61 US20 at 3rd St Ramp to NB US	1%	3%	2%	2%	0%	-1%	0%	0%
62 Blakely Rd at Powers Rd	1%	3%	3%	1%	2%	2%	1%	1%
0	0%	0%	0%	0%	0%	0%	0%	0%

Average Method (RAF)

			South Leg In	North Leg Out	North Leg In	South Leg Out	West Leg In	East Leg Out	East Leg In	West Leg Out
			NB_IN	NB_OUT	SB_IN	SB_OUT	EB_IN	EB_OUT	WB_IN	WB_OUT
1 US 97 at Deschutes Pleasant Ri	0	1	1707	2035	1613	1472	85	128	456	226
2 US97 at Cooley	0	2	1528	1654	1655	1701	343	330	312	153
3 US 97 at Robal	0	3	1734	1607	1834	1928	150	47	161	297
4 US 97 at Nels Anderson Pl	0	4	2003	1734	1928	2075	213	39	11	307
5 US 97 SB Ramp at Empire	0	5	0	32	#DIV/0!	908	1627	1021	1327	1034
6 US 97 NB Ramps at Empire	0	6	663	409	0	0	1021	1359	1400	1327
7 US20 at Empire	0	7	1338	1395	2393	1539	460	1490	936	657
8 US20 at Butler Market	0	8	1417	1445	2134	1830	542	590	331	471
9 SB off ramp at Butler Market	0	9	0	0	216	#DIV/0!	626	788	620	442
10 US97 NB On-Ramp at Butler M	0	10	18	308	0	18	788	707	837	617
11 Bend Pkwy SB On-Ramp/Divisi	0	11	905	1280	1830	1026	400	388	#DIV/0!	675
12 US97 SB Ramps at Revere	0	12	844	443	290	904	28	781	1118	96
13 US97 NB Ramps at Revere	0	13	483	560	572	313	875	547	631	1119
14 US97 at Lafayette	0	14	3174	3174	3286	3141	-66	0	0	-9
15 US97 at Hawthorne	0	15	3174	3174	3140	2925	34	0	0	267
16 US97 SB Ramps at Colorado	0	16	0	0	672	455	1426	1152	478	974
17 US97 NB Ramps at Colorado	0	17	283	1118	0	0	1152	87	442	277
18 US97 at Truman	0	18	2323	2323	2695	2612	-8	0	0	33
19 Hwy 97 SB Ramps at Reed Ma	0	19	0	148	1171	83	1266	2137	878	987
20 US97 NB ramps at Reed Marke	0	20	91	27	35	514	2137	1902	981	752
21 US97 at Reed Ln	0	21	1301	1326	1707	1707	0	26	38	0
22 US97 SB Ramps at Powers	0	22	82	0	0	21	118	192	89	76
23 US 97 at Powers	0	23	1237	1214	1707	1537	859	879	542	731
24 US 97 NB Ramps at Powers	0	24	0	43	4	0	202	134	-21	7
25 US 97 at Badger	0	25	1187	1132	1375	1585	-7	0	-24	-102
26 US97 at Pinebrook	0	26	1185	1049	1532	1540	-88	-34	-62	-62
28 US 97 at Ponderosa-China Hat	0	28	1175	1266	1558	1521	-8	-65	15	54
29 US 97 SB Ramps at Baker	0	29	0	305	472	0	433	421	722	838
30 US 97 NB Ramps at Knott	0	30	196	511	0	0	420	348	1016	721
40 US 97 Bus at OB Riley	0	40	1445	1157	1603	2157	439	194	261	248
41 NW Mt Washington Dr at River	0	41	40	19	14	34	544	582	560	521
42 NE Butler Market Rd at NE 4th	0	42	388	5	16	236	720	711	679	830
45 Harriman at Revere	0	45	10	36	29	18	0	38	53	0
46 NE 3rd St at NE Revere Ave	0	46	1386	1423	952	1205	748	694	747	583
47 4th at Revere	0	47	523	439	733	480	586	632	487	757
48 Scott at Aune St	0	48	428	461	337	337	60	0	0	41
49 SW Brookswood at Reed Marke	0	49	728	692	1157	1142	994	1190	851	718
50 Silver Lake Blvd at Reed Marke	0	50	66	89	91	133	1213	1285	1008	866
51 Division St at Reed Market Rd	0	51	42	547	22	826	1904	1022	1598	1180
52 3rd at Reed Market	0	52	1708	896	1457	1384	957	1082	660	1408
53 Brookswood at Powers Rd	0	53	561	662	1236	951	115	690	572	128
54 3rd at Powers	0	54	653	901	1183	1186	754	220	164	458
55 Parrell Rd at Powers Rd	0	55	377	480	493	479	247	0	0	154
56 Blakely at Badger	0	56	0	16	17	0	23	-4	-90	-69
57 3rd St at Badger Rd	0	57	536	591	1047	1005	99	89	125	131
58 3rd St at Pinebrook	0	58	570	491	972	900	9	64	40	65
59 Murphy at SE 3rd St	0	59	240	715	1208	962	710	674	706	530
60 Parrell Rd at China Hat Rd	0	60	0	188	217	0	236	509	488	231
61 US20 at 3rd St Ramp to NB US	0	61	1366	905	1024	1024	0	458	0	0
62 Blakely Rd at Powers Rd	0	62	100	82	62	173	686	693	686	582

Annual Change

South Leg In	North Leg Out	North Leg In	South Leg Out	West Leg In	East Leg Out	East Leg In	West Leg Out
NB_IN	NB_OUT	SB_IN	SB_OUT	EB_IN	EB_OUT	WB_IN	WB_OUT
0%	0%	0%	0%	0%	0%	0%	0%
0%	0%	0%	0%	0%	0%	0%	0%
0%	0%	0%	0%	0%	0%	0%	0%
0%	0%	0%	0%	0%	0%	0%	0%
0%	5%	#DIV/0!		1%	1%	1%	2%	4%
1%	0%	0%	0%	0%	1%	2%	2%	2%
4%	5%	3%	3%	1%	2%	4%	3%
2%	3%	2%	1%	2%	2%	-2%	2%
0%	0%	0%	#DIV/0!	1%	1%	0%	-2%
1%	1%	0%	1%	1%	1%	1%	0%
3%	2%	1%	2%	0%	-2%	#DIV/0!	5%
2%	1%	-1%	1%	0%	1%	2%	0%
-1%	1%	4%	0%	1%	0%	1%	2%
1%	1%	1%	1%	0%	0%	0%	0%
1%	1%	1%	0%	-8%	0%	0%	0%
0%	0%	2%	2%	1%	1%	1%	1%
1%	0%	0%	0%	1%	#DIV/0!	-1%	1%
2%	2%	0%	0%	0%	0%	0%	-7%
0%	4%	2%	2%	2%	2%	2%	2%
-1%	0%	0%	8%	2%	1%	3%	2%
1%	0%	0%	0%	0%	-3%	-6%	0%
-6%	0%	0%	-5%	-6%	-6%	-8%	-8%
2%	2%	0%	0%	0%	0%	3%	1%
0%	-8%	-8%	0%	-6%	-7%	0%	-15%
2%	2%	1%	2%	0%	0%	0%	0%
3%	2%	2%	2%	0%	0%	0%	0%
2%	2%	0%	0%	0%	0%	-8%	-4%
0%	1%	-1%	0%	0%	0%	2%	0%
1%	3%	0%	0%	0%	1%	3%	2%
3%	3%	2%	2%	3%	1%	1%	5%
6%	0%	0%	5%	2%	2%	1%	1%
2%	0%	0%	1%	1%	1%	0%	1%
0%	0%	0%	0%	0%	0%	0%	0%
2%	1%	2%	2%	0%	1%	2%	1%
2%	1%	2%	3%	1%	1%	2%	2%
-1%	-1%	2%	2%	1%	0%	0%	2%
2%	2%	2%	3%	3%	2%	2%	2%
1%	3%	4%	0%	2%	2%	2%	2%
1%	2%	0%	1%	1%	1%	3%	4%
3%	1%	2%	2%	1%	1%	1%	3%
1%	2%	2%	1%	1%	2%	1%	1%
1%	2%	1%	1%	1%	1%	2%	1%
3%	4%	3%	2%	2%	0%	0%	2%
0%	-4%	-3%	0%	-2%	0%	0%	0%
2%	2%	1%	1%	0%	1%	0%	0%
1%	2%	1%	1%	-9%	0%	0%	-5%
0%	2%	2%	3%	3%	2%	2%	2%
0%	7%	4%	0%	14%	9%	6%	3%
1%	3%	2%	2%	0%	-1%	0%	0%
1%	3%	3%	1%	2%	2%	1%	1%

			Method Comparison (ABS ((GM - DM) / DM))								Selected Method							
			South Leg In	North Leg Out	North Leg In	South Leg Out	West Leg In	East Leg Out	East Leg In	West Leg Out	South Leg In	North Leg Out	North Leg In	South Leg Out	West Leg In	East Leg Out	East Leg In	West Leg Out
			NB_IN	NB_OUT	SB_IN	SB_OUT	EB_IN	EB_OUT	WB_IN	WB_OUT	NB_IN	NB_OUT	SB_IN	SB_OUT	EB_IN	EB_OUT	WB_IN	WB_OUT
1 US 97 at Deschutes Pleasant Ri	0	1	0%	0%	0%	0%	0%	0%	0%	0%	AVG	AVG	AVG	AVG	RATIO	DIFF	DIFF	AVG
2 US97 at Cooley	0	2	0%	0%	0%	0%	0%	0%	0%	0%	AVG	AVG	AVG	AVG	AVG	AVG	AVG	AVG
3 US 97 at Robal	0	3	0%	0%	0%	0%	0%	0%	0%	0%	AVG	AVG	AVG	AVG	AVG	DIFF	DIFF	AVG
4 US 97 at Nels Anderson Pl	0	4	0%	0%	0%	0%	0%	0%	0%	0%	AVG	AVG	AVG	AVG	RATIO	AVG	RATIO	AVG
5 US 97 SB Ramp at Empire	0	5		-70%	#DIV/0!	6%	-2%	-6%	3%	-1%	RATIO	MRATIO	DIFF	AVG	AVG	AVG	AVG	AVG
6 US 97 NB Ramps at Empire	0	6	2%	-2%			-6%	-3%	1%	3%	AVG	AVG	DIFF	DIFF	AVG	AVG	AVG	AVG
7 US20 at Empire	0	7	132%	21%	4%	35%	-4%	-6%	-14%	-4%	DIFF	AVG	AVG	AVG	AVG	AVG	AVG	AVG
8 US20 at Butler Market	0	8	5%	27%	18%	1%	8%	-2%	26%	-2%	AVG	AVG	AVG	AVG	AVG	AVG	RATIO	AVG
9 SB off ramp at Butler Market	0	9			5%	#DIV/0!	3%	4%	5%	-4%	DIFF	DIFF	RATIO	DIFF	AVG	AVG	AVG	AVG
10 US97 NB On-Ramp at Butler M	0	10	32%	1%		108%	4%	10%	7%	5%	DIFF	AVG	DIFF	DIFF	AVG	AVG	AVG	AVG
11 Bend Pkwy SB On-Ramp/Divisi	0	11	20%	5%	1%	-6%	0%	0%	#DIV/0!	137%	AVG	AVG	AVG	AVG	AVG	AVG	DIFF	AVG
12 US97 SB Ramps at Revere	0	12	3%	8%	3%	5%	0%	4%	30%	0%	AVG	AVG	RATIO	AVG	DIFF	AVG	AVG	DIFF
13 US97 NB Ramps at Revere	0	13	2%	-1%	29%	0%	7%	-2%	19%	30%	RATIO	AVG	AVG	AVG	AVG	AVG	DIFF	AVG
14 US97 at Lafayette	0	14	7%	7%	5%	3%	-100%			-100%	AVG	AVG	AVG	AVG	RATIO	DIFF	DIFF	RATIO
15 US97 at Hawthorne	0	15	7%	7%	3%	1%	-100%			4%	AVG	AVG	AVG	AVG	AVG	DIFF	DIFF	DIFF
16 US97 SB Ramps at Colorado	0	16			-13%	1%	-2%	-1%	6%	-7%	DIFF	DIFF	AVG	AVG	AVG	AVG	AVG	AVG
17 US97 NB Ramps at Colorado	0	17	-3%	1%			-1%	-100%	-21%	-10%	AVG	AVG	DIFF	DIFF	AVG	MRATIO	DIFF	AVG
18 US97 at Truman	0	18	7%	7%	1%	2%	-100%			-100%	AVG	AVG	AVG	AVG	RATIO	DIFF	DIFF	AVG
19 Hwy 97 SB Ramps at Reed Ma	0	19		57%	13%	-37%	6%	19%	-1%	0%	DIFF	AVG	AVG	MRATIO	AVG	AVG	AVG	AVG
20 US97 NB ramps at Reed Marke	0	20	27%	0%	0%	43%	19%	10%	-7%	-7%	RATIO	DIFF	DIFF	AVG	AVG	AVG	AVG	AVG
21 US97 at Reed Ln	0	21	0%	0%	0%	0%		-100%	-100%		AVG	AVG	AVG	AVG	DIFF	DIFF	DIFF	DIFF
22 US97 SB Ramps at Powers	0	22	-100%			-100%	-100%	-100%	-100%	-100%	AVG	DIFF	DIFF	DIFF	AVG	AVG	AVG	AVG
23 US 97 at Powers	0	23	-2%	-2%	0%	-1%	2%	2%	-12%	1%	AVG	AVG	AVG	AVG	AVG	AVG	AVG	AVG
24 US 97 NB Ramps at Powers	0	24		-100%	-100%		-100%	-100%	-100%	-100%	DIFF	AVG	AVG	DIFF	AVG	AVG	RATIO	AVG
25 US 97 at Badger	0	25	-4%	-5%	-4%	0%	-100%		-100%	-100%	AVG	AVG	AVG	AVG	RATIO	DIFF	RATIO	RATIO
26 US97 at Pinebrook	0	26	-4%	-10%	-1%	-1%	-100%	-100%	-100%	-100%	AVG	AVG	AVG	AVG	RATIO	RATIO	RATIO	RATIO
28 US 97 at Ponderosa-China Hat	0	28	2%	4%	0%	1%	-100%	-100%	-100%	-100%	AVG	AVG	AVG	AVG	RATIO	RATIO	AVG	DIFF
29 US 97 SB Ramps at Baker	0	29		84%	3%		-1%	0%	81%	0%	DIFF	DIFF	RATIO	DIFF	AVG	AVG	DIFF	AVG
30 US 97 NB Ramps at Knott	0	30	62%	-19%			0%	31%	137%	80%	DIFF	AVG	DIFF	DIFF	AVG	DIFF	DIFF	DIFF
40 US 97 Bus at OB Riley	0	40	33%	39%	22%	24%	-20%	3%	18%	-45%	AVG	AVG	AVG	AVG	AVG	AVG	AVG	MRATIO
41 NW Mt Washington Dr at River	0	41	-66%	0%	0%	-62%	18%	12%	5%	7%	MRATIO	DIFF	DIFF	MRATIO	AVG	AVG	AVG	AVG
42 NE Butler Market Rd at NE 4th	0	42	209%	0%	0%	85%	11%	12%	2%	7%	DIFF	DIFF	DIFF	DIFF	AVG	AVG	AVG	AVG
45 Harriman at Revere	0	45	0%	0%	0%	0%		0%	0%		DIFF	DIFF	DIFF	DIFF	DIFF	DIFF	DIFF	DIFF
46 NE 3rd St at NE Revere Ave	0	46	2%	6%	-12%	-3%	-2%	-6%	3%	22%	AVG	AVG	AVG	AVG	AVG	AVG	AVG	AVG
47 4th at Revere	0	47	122%	-10%	10%	129%	-11%	16%	22%	4%	DIFF	AVG	AVG	DIFF	AVG	AVG	AVG	AVG
48 Scott at Aune St	0	48	-30%	-24%	43%	48%	40%			60%	DIFF	DIFF	DIFF	DIFF	DIFF	DIFF	DIFF	DIFF
49 SW Brookswood at Reed Marke	0	49	25%	24%	30%	37%	0%	9%	1%	-6%	AVG	AVG	AVG	AVG	AVG	AVG	AVG	AVG
50 Silver Lake Blvd at Reed Marke	0	50	1%	-2%	-15%	1%	10%	7%	1%	2%	AVG	AVG	AVG	AVG	AVG	AVG	AVG	AVG
51 Division St at Reed Market Rd	0	51	0%	9%	0%	5%	10%	11%	7%	13%	AVG	AVG	DIFF	AVG	AVG	AVG	AVG	AVG
52 3rd at Reed Market	0	52	-7%	-1%	-1%	-8%	9%	5%	-3%	-4%	AVG	AVG	AVG	AVG	AVG	AVG	AVG	AVG
53 Brookswood at Powers Rd	0	53	6%	28%	62%	9%	-4%	11%	-1%	-8%	AVG	AVG	DIFF	AVG	AVG	AVG	AVG	AVG
54 3rd at Powers	0	54	-7%	-1%	-2%	2%	4%	8%	8%	-8%	AVG	AVG	AVG	AVG	AVG	AVG	AVG	AVG
55 Parrell Rd at Powers Rd	0	55	67%	29%	51%	64%	9%			0%	AVG	AVG	AVG	DIFF	AVG	DIFF	DIFF	AVG
56 Blakely at Badger	0	56		-46%	-44%		-41%	-100%	-100%	-102%	DIFF	AVG	DIFF	DIFF	DIFF	RATIO	RATIO	RATIO
57 3rd St at Badger Rd	0	57	-5%	0%	6%	4%	0%	45%	6%	0%	AVG	AVG	AVG	AVG	DIFF	DIFF	DIFF	DIFF
58 3rd St at Pinebrook	0	58	5%	1%	5%	4%	-100%	0%	0%	-100%	AVG	AVG	AVG	AVG	AVG	DIFF	DIFF	DIFF
59 Murphy at SE 3rd St	0	59	0%	24%	51%	116%	74%	22%	25%	31%	AVG	AVG	AVG	DIFF	AVG	AVG	AVG	AVG
60 Parrell Rd at China Hat Rd	0	60		-50%	15%		-91%	-33%	46%	-3%	DIFF	MRATIO	AVG	DIFF	MRATIO	MRATIO	AVG	AVG
61 US20 at 3rd St Ramp to NB US	0	61	6%	20%	-6%	-6%		-4%			AVG	AVG	AVG	AVG	DIFF	AVG	DIFF	DIFF
62 Blakely Rd at Powers Rd	0	62	5%	-33%	-30%	8%	11%	9%	0%	-1%	AVG	MRATIO	MRATIO	AVG	AVG	AVG	AVG	AVG

			Selected Growth								Growth Factor Check							
			South Leg In	North Leg Out	North Leg In	South Leg Out	West Leg In	East Leg Out	East Leg In	West Leg Out	South Leg In	North Leg Out	North Leg In	South Leg Out	West Leg In	East Leg Out	East Leg In	West Leg Out
			NB_IN	NB_OUT	SB_IN	SB_OUT	EB_IN	EB_OUT	WB_IN	WB_OUT	NB_IN	NB_OUT	SB_IN	SB_OUT	EB_IN	EB_OUT	WB_IN	WB_OUT
1 US 97 at Deschutes Pleasant Ri	0	1	1707	2035	1613	1472	85	128	456	226	0%	0%	0%	0%	0%	0%	0%	0%
2 US97 at Cooley	0	2	1528	1654	1655	1701	343	330	312	153	0%	0%	0%	0%	0%	0%	0%	0%
3 US 97 at Robal	0	3	1734	1607	1834	1928	150	47	161	297	0%	0%	0%	0%	0%	0%	0%	0%
4 US 97 at Nels Anderson Pl	0	4	2003	1734	1928	2075	213	39	11	307	0%	0%	0%	0%	0%	0%	0%	0%
5 US 97 SB Ramp at Empire	0	5	0	20	58	908	1627	1021	1327	1034	0%	103%	141%	21%	39%	35%	75%	134%
6 US 97 NB Ramps at Empire	0	6	663	409	0	0	1021	1359	1400	1327	27%	8%	0%	0%	35%	42%	71%	75%
7 US20 at Empire	0	7	1168	1395	2393	1539	460	1490	936	657	94%	204%	98%	83%	16%	58%	162%	105%
8 US20 at Butler Market	0	8	1417	1445	2134	1830	542	590	369	471	70%	87%	70%	28%	64%	41%	-30%	46%
9 SB off ramp at Butler Market	0	9	0	0	221	208	626	788	620	442	0%	0%	-7%	4065%	37%	32%	11%	-32%
10 US97 NB On-Ramp at Butler M	0	10	16	308	0	15	788	707	837	617	16%	21%	0%	12%	32%	34%	13%	11%
11 Bend Pkwy SB On-Ramp/Divisi	0	11	905	1280	1830	1026	400	388	205	675	93%	54%	28%	69%	8%	-35%	14512%	183%
12 US97 SB Ramps at Revere	0	12	844	443	294	904	28	781	1118	96	55%	32%	-26%	32%	0%	41%	58%	0%
13 US97 NB Ramps at Revere	0	13	488	560	572	313	875	547	591	1119	-22%	36%	121%	0%	37%	-6%	19%	58%
14 US97 at Lafayette	0	14	3174	3174	3286	3141	0	0	0	0	34%	34%	22%	15%	-100%	0%	0%	-100%
15 US97 at Hawthorne	0	15	3174	3174	3140	2925	34	0	0	262	34%	34%	15%	8%	-85%	0%	0%	1%
16 US97 SB Ramps at Colorado	0	16	0	0	672	455	1426	1152	478	974	0%	0%	47%	55%	37%	34%	26%	35%
17 US97 NB Ramps at Colorado	0	17	283	1118	0	0	1152	58	493	277	31%	9%	0%	0%	34%	0%	-12%	39%
18 US97 at Truman	0	18	2323	2323	2695	2612	0	0	0	33	48%	48%	6%	7%	-100%	0%	0%	-82%
19 Hwy 97 SB Ramps at Reed Ma	0	19	0	148	1171	68	1266	2137	878	987	0%	139%	41%	30%	66%	54%	69%	63%
20 US97 NB ramps at Reed Marke	0	20	102	27	35	514	2137	1902	981	752	-10%	0%	0%	430%	54%	39%	106%	45%
21 US97 at Reed Ln	0	21	1301	1326	1707	1707	0	53	76	0	15%	8%	-1%	-1%	0%	-4%	-48%	0%
22 US97 SB Ramps at Powers	0	22	82	0	0	42	118	192	89	76	-77%	0%	0%	-31%	-76%	-77%	-85%	-87%
23 US 97 at Powers	0	23	1237	1214	1707	1537	859	879	542	731	46%	46%	-1%	9%	5%	5%	80%	20%
24 US 97 NB Ramps at Powers	0	24	0	43	4	0	202	134	0	7	0%	-87%	-86%	0%	-76%	-79%	-100%	-98%
25 US 97 at Badger	0	25	1187	1132	1375	1585	0	0	0	0	56%	49%	26%	46%	0%	0%	0%	0%
26 US97 at Pinebrook	0	26	1185	1049	1532	1540	0	0	0	0	85%	64%	47%	48%	0%	0%	0%	0%
28 US 97 at Ponderosa-China Hat	0	28	1175	1266	1558	1521	0	0	15	108	49%	43%	1%	7%	-100%	-100%	-86%	-17%
29 US 97 SB Ramps at Baker	0	29	0	253	479	0	433	421	612	838	0%	10%	-12%	0%	10%	3%	24%	5%
30 US 97 NB Ramps at Knott	0	30	169	511	0	0	420	318	881	612	21%	93%	0%	0%	3%	25%	89%	24%
40 US 97 Bus at OB Riley	0	40	1445	1157	1603	2157	439	194	261	214	88%	82%	65%	73%	115%	12%	31%	151%
41 NW Mt Washington Dr at River	0	41	30	19	14	26	544	582	560	521	200%	0%	0%	156%	58%	60%	41%	40%
42 NE Butler Market Rd at NE 4th	0	42	308	5	16	196	720	711	679	830	30%	0%	0%	12%	34%	35%	4%	13%
45 Harriman at Revere	0	45	10	36	29	18	0	38	53	0	0%	0%	0%	0%	0%	0%	0%	0%
46 NE 3rd St at NE Revere Ave	0	46	1386	1423	952	1205	748	694	747	583	42%	33%	66%	48%	-4%	30%	45%	36%
47 4th at Revere	0	47	434	439	733	410	586	632	487	757	34%	36%	58%	66%	35%	38%	47%	44%
48 Scott at Aune St	0	48	502	523	305	301	54	0	0	36	-11%	-9%	42%	37%	17%	0%	0%	38%
49 SW Brookswood at Reed Marke	0	49	728	692	1157	1142	994	1190	851	718	66%	55%	56%	85%	86%	61%	68%	72%
50 Silver Lake Blvd at Reed Marke	0	50	66	89	91	133	1213	1285	1008	866	20%	94%	138%	4%	62%	65%	61%	68%
51 Division St at Reed Market Rd	0	51	42	547	22	826	1904	1022	1598	1180	13%	47%	0%	38%	39%	38%	101%	128%
52 3rd at Reed Market	0	52	1708	896	1457	1384	957	1082	660	1408	81%	35%	64%	55%	40%	25%	20%	118%
53 Brookswood at Powers Rd	0	53	561	662	1094	951	115	690	572	128	29%	64%	46%	20%	19%	63%	27%	18%
54 3rd at Powers	0	54	653	901	1183	1186	754	220	164	458	36%	58%	35%	17%	16%	40%	53%	22%
55 Parrell Rd at Powers Rd	0	55	377	480	493	423	247	0	0	154	115%	133%	104%	46%	44%	0%	0%	68%
56 Blakely at Badger	0	56	0	16	22	0	29	0	0	2	0%	-62%	-30%	0%	-21%	-100%	-100%	-95%
57 3rd St at Badger Rd	0	57	536	591	1047	1005	99	79	122	131	58%	53%	21%	19%	0%	20%	4%	0%
58 3rd St at Pinebrook	0	58	570	491	972	900	9	64	40	130	35%	49%	21%	23%	-88%	0%	0%	-38%
59 Murphy at SE 3rd St	0	59	240	715	1208	839	710	674	706	530	1%	48%	74%	84%	113%	68%	74%	62%
60 Parrell Rd at China Hat Rd	0	60	0	166	217	0	178	489	488	231	0%	287%	168%	0%	1520%	535%	254%	110%
61 US20 at 3rd St Ramp to NB US	0	61	1366	905	1024	1024	0	458	0	0	33%	93%	69%	69%	0%	-18%	0%	0%
62 Blakely Rd at Powers Rd	0	62	100	73	56	173	686	693	686	582	28%	92%	92%	29%	63%	49%	21%	27%

			NCHRP Balanced Ratio							Growth Factor Check							
			NCHRP Unbalanced OUT	NCHRP Unbalanced In	Out Ratio	In Ratio		Applied Ratio Out	Applied Ratio In	South Leg In NB_IN	North Leg Out NB_OUT	North Leg In SB_IN	South Leg Out SB_OUT	West Leg In EB_IN	East Leg Out EB_OUT	East Leg In WB_IN	West Leg Out WB_OUT
							Balance Metl	1=Balance to Ave (default), 2=Balance to In, 3=Balance to Out, 4 = No Balance									
1 US 97 at Deschutes Pleasant Ri	0	1	3861	3861	1.0000	1.0000	1	1.0000	1.0000	0%	0%	0%	0%	0%	0%	0%	0%
2 US97 at Cooley	0	2	3838	3838	1.0000	1.0000	1	1.0000	1.0000	0%	0%	0%	0%	0%	0%	0%	0%
3 US 97 at Robal	0	3	3879	3879	1.0000	1.0000	1	1.0000	1.0000	0%	0%	0%	0%	0%	0%	0%	0%
4 US 97 at Nels Anderson Pl	0	4	4155	4155	1.0000	1.0000	1	1.0000	1.0000	0%	0%	0%	0%	0%	0%	0%	0%
5 US 97 SB Ramp at Empire	0	5	2984	3012	1.0048	0.9953	1	0.9953	1.0048	0%	0%	0%	0%	0%	0%	0%	0%
6 US 97 NB Ramps at Empire	0	6	3095	3084	0.9983	1.0017	1	1.0017	0.9983	0%	0%	0%	0%	0%	0%	0%	0%
7 US20 at Empire	0	7	5082	4956	0.9877	1.0127	1	1.0127	0.9877	0%	0%	0%	0%	0%	0%	0%	0%
8 US20 at Butler Market	0	8	4336	4462	1.0145	0.9859	1	0.9859	1.0145	0%	0%	0%	0%	0%	0%	0%	0%
9 SB off ramp at Butler Market	0	9	1438	1467	1.0102	0.9900	1	0.9900	1.0102	0%	0%	0%	0%	0%	0%	0%	0%
10 US97 NB On-Ramp at Butler M	0	10	1647	1641	0.9983	1.0017	1	1.0017	0.9983	0%	0%	0%	0%	0%	0%	0%	0%
11 Bend Pkwy SB On-Ramp/Divisi	0	11	3368	3341	0.9960	1.0040	1	1.0040	0.9960	0%	0%	0%	0%	0%	0%	0%	0%
12 US97 SB Ramps at Revere	0	12	2224	2284	1.0134	0.9869	1	0.9869	1.0134	0%	0%	0%	0%	0%	0%	0%	0%
13 US97 NB Ramps at Revere	0	13	2539	2526	0.9974	1.0026	1	1.0026	0.9974	0%	0%	0%	0%	0%	0%	0%	0%
14 US97 at Lafayette	0	14	6315	6460	1.0115	0.9888	1	0.9888	1.0115	0%	0%	0%	0%	0%	0%	0%	0%
15 US97 at Hawthorne	0	15	6361	6349	0.9991	1.0009	1	1.0009	0.9991	0%	0%	0%	0%	0%	0%	0%	0%
16 US97 SB Ramps at Colorado	0	16	2581	2576	0.9990	1.0010	1	1.0010	0.9990	0%	0%	0%	0%	0%	0%	0%	0%
17 US97 NB Ramps at Colorado	0	17	1454	1927	1.1630	0.8771	1	0.8771	1.1630	0%	0%	0%	0%	0%	0%	0%	0%
18 US97 at Truman	0	18	4967	5018	1.0051	0.9950	1	0.9950	1.0051	0%	0%	0%	0%	0%	0%	0%	0%
19 Hwy 97 SB Ramps at Reed Ma	0	19	3340	3314	0.9961	1.0040	1	1.0040	0.9961	0%	0%	0%	0%	0%	0%	0%	0%
20 US97 NB ramps at Reed Marke	0	20	3195	3255	1.0094	0.9908	1	0.9908	1.0094	0%	0%	0%	0%	0%	0%	0%	0%
21 US97 at Reed Ln	0	21	3085	3084	0.9998	1.0002	1	1.0002	0.9998	0%	0%	0%	0%	0%	0%	0%	0%
22 US97 SB Ramps at Powers	0	22	310	289	0.9664	1.0360	1	1.0360	0.9664	0%	0%	0%	0%	0%	0%	0%	0%
23 US 97 at Powers	0	23	4362	4345	0.9981	1.0019	1	1.0019	0.9981	0%	0%	0%	0%	0%	0%	0%	0%
24 US 97 NB Ramps at Powers	0	24	184	206	1.0582	0.9479	1	0.9479	1.0582	0%	0%	0%	0%	0%	0%	0%	0%
25 US 97 at Badger	0	25	2717	2562	0.9715	1.0303	1	1.0303	0.9715	0%	0%	0%	0%	0%	0%	0%	0%
26 US97 at Pinebrook	0	26	2589	2717	1.0246	0.9766	1	0.9766	1.0246	0%	0%	0%	0%	0%	0%	0%	0%
28 US 97 at Ponderosa-China Hat	0	28	2894	2749	0.9749	1.0265	1	1.0265	0.9749	0%	0%	0%	0%	0%	0%	0%	0%
29 US 97 SB Ramps at Baker	0	29	1512	1524	1.0038	0.9962	1	0.9962	1.0038	0%	0%	0%	0%	0%	0%	0%	0%
30 US 97 NB Ramps at Knott	0	30	1441	1470	1.0103	0.9900	1	0.9900	1.0103	0%	0%	0%	0%	0%	0%	0%	0%
40 US 97 Bus at OB Riley	0	40	3721	3749	1.0037	0.9964	1	0.9964	1.0037	0%	0%	0%	0%	0%	0%	0%	0%
41 NW Mt Washington Dr at Rivery	0	41	1147	1148	1.0004	0.9996	1	0.9996	1.0004	0%	0%	0%	0%	0%	0%	0%	0%
42 NE Butler Market Rd at NE 4th	0	42	1741	1722	0.9947	1.0054	1	1.0054	0.9947	0%	0%	0%	0%	0%	0%	0%	0%
45 Harriman at Revere	0	45	92	92	1.0000	1.0000	1	1.0000	1.0000	0%	0%	0%	0%	0%	0%	0%	0%
46 NE 3rd St at NE Revere Ave	0	46	3906	3833	0.9906	1.0096	1	1.0096	0.9906	0%	0%	0%	0%	0%	0%	0%	0%
47 4th at Revere	0	47	2237	2240	1.0005	0.9995	1	0.9995	1.0005	0%	0%	0%	0%	0%	0%	0%	0%
48 Scott at Aune St	0	48	860	860	1.0000	1.0000	1	1.0000	1.0000	0%	0%	0%	0%	0%	0%	0%	0%
49 SW Brookswood at Reed Marke	0	49	3742	3731	0.9985	1.0015	1	1.0015	0.9985	0%	0%	0%	0%	0%	0%	0%	0%
50 Silver Lake Blvd at Reed Marke	0	50	2373	2377	1.0009	0.9991	1	0.9991	1.0009	0%	0%	0%	0%	0%	0%	0%	0%
51 Division St at Reed Market Rd	0	51	3575	3566	0.9988	1.0012	1	1.0012	0.9988	0%	0%	0%	0%	0%	0%	0%	0%
52 3rd at Reed Market	0	52	4769	4781	1.0013	0.9987	1	0.9987	1.0013	0%	0%	0%	0%	0%	0%	0%	0%
53 Brookswood at Powers Rd	0	53	2431	2342	0.9818	1.0189	1	1.0189	0.9818	0%	0%	0%	0%	0%	0%	0%	0%
54 3rd at Powers	0	54	2765	2754	0.9980	1.0020	1	1.0020	0.9980	0%	0%	0%	0%	0%	0%	0%	0%
55 Parrell Rd at Powers Rd	0	55	1056	1116	1.0282	0.9733	1	0.9733	1.0282	0%	0%	0%	0%	0%	0%	0%	0%
56 Blakely at Badger	0	56	18	51	1.9171	0.6764	1	0.6764	1.9171	0%	0%	0%	0%	0%	0%	0%	0%
57 3rd St at Badger Rd	0	57	1806	1804	0.9996	1.0004	1	1.0004	0.9996	0%	0%	0%	0%	0%	0%	0%	0%
58 3rd St at Pinebrook	0	58	1584	1591	1.0021	0.9980	1	0.9980	1.0021	0%	0%	0%	0%	0%	0%	0%	0%
59 Murphy at SE 3rd St	0	59	2757	2864	1.0195	0.9813	1	0.9813	1.0195	0%	0%	0%	0%	0%	0%	0%	0%
60 Parrell Rd at China Hat Rd	0	60	887	883	0.9976	1.0024	1	1.0024	0.9976	0%	0%	0%	0%	0%	0%	0%	0%
61 US20 at 3rd St Ramp to NB US	0	61	2388	2390	1.0005	0.9995	1	0.9995	1.0005	0%	0%	0%	0%	0%	0%	0%	0%
62 Blakely Rd at Powers Rd	0	62	1521	1528	1.0022	0.9978	1	0.9978	1.0022	0%	0%	0%	0%	0%	0%	0%	0%

		NCHRP Balanced South Leg In NB_IN	North Leg Out NB_OUT	North Leg In SB_IN	South Leg Out SB_OUT	West Leg In EB_IN	East Leg Out EB_OUT	East Leg In WB_IN	West Leg Out WB_OUT
1 US 97 at Deschutes Pleasant Ridge	1	1707	2035	1613	1472	85	128	456	226
2 US97 at Cooley	2	1528	1654	1655	1701	343	330	312	153
3 US 97 at Robal	3	1734	1607	1834	1928	150	47	161	297
4 US 97 at Nels Anderson Pl	4	2003	1734	1928	2075	213	39	11	307
5 US 97 SB Ramp at Empire	5	0	20	58	904	1635	1016	1334	1029
6 US 97 NB Ramps at Empire	6	661	410	0	0	1020	1361	1398	1330
7 US20 at Empire	7	1153	1413	2363	1558	454	1509	924	665
8 US20 at Butler Market	8	1438	1424	2165	1805	550	581	374	465
9 SB off ramp at Butler Market	9	0	0	223	206	632	780	627	438
10 US97 NB On-Ramp at Butler Market	10	16	308	0	15	786	708	836	618
11 Bend Pkwy SB On-Ramp/Division at 3rd St	11	902	1285	1823	1030	399	389	204	677
12 US97 SB Ramps at Revere	12	855	437	298	892	28	771	1133	95
13 US97 NB Ramps at Revere	13	487	561	571	314	873	549	590	1122
14 US97 at Lafayette	14	3211	3138	3323	3105	0	0	0	0
15 US97 at Hawthorne	15	3171	3177	3138	2928	34	0	0	262
16 US97 SB Ramps at Colorado	16	0	0	671	455	1424	1153	478	975
17 US97 NB Ramps at Colorado	17	329	981	0	0	1340	51	573	243
18 US97 at Truman	18	2334	2311	2709	2599	0	0	0	33
19 Hwy 97 SB Ramps at Reed Market	19	0	149	1166	68	1261	2146	874	991
20 US97 NB ramps at Reed Market	20	103	27	35	509	2157	1885	990	745
21 US97 at Reed Ln	21	1301	1326	1706	1707	0	53	76	0
22 US97 SB Ramps at Powers	22	79	0	0	43	114	199	86	79
23 US 97 at Powers	23	1234	1217	1703	1540	858	881	541	732
24 US 97 NB Ramps at Powers	24	0	41	4	0	213	127	0	6
25 US 97 at Badger	25	1154	1166	1335	1633	0	0	0	0
26 US97 at Pinebrook	26	1214	1025	1570	1504	0	0	0	0
28 US 97 at Ponderosa-China Hat	28	1146	1299	1519	1561	0	0	15	111
29 US 97 SB Ramps at Baker	29	0	252	481	0	434	419	614	835
30 US 97 NB Ramps at Knott	30	171	506	0	0	425	315	890	606
40 US 97 Bus at OB Riley	40	1450	1152	1609	2149	441	194	262	213
41 NW Mt Washington Dr at Riverview Park	41	30	19	14	26	545	582	560	520
42 NE Butler Market Rd at NE 4th St	42	306	5	16	197	716	715	676	834
45 Harriman at Revere	45	10	36	29	18	0	38	53	0
46 NE 3rd St at NE Revere Ave	46	1373	1437	943	1217	741	701	740	589
47 4th at Revere	47	434	439	733	410	586	631	487	756
48 Scott at Aune St	48	502	523	305	301	54	0	0	36
49 SW Brookswood at Reed Market	49	727	693	1155	1144	992	1192	850	719
50 Silver Lake Blvd at Reed Market Rd	50	66	89	91	133	1214	1284	1009	865
51 Division St at Reed Market Rd	51	42	548	22	827	1902	1023	1596	1182
52 3rd at Reed Market	52	1710	895	1459	1382	959	1081	661	1406
53 Brookswood at Powers Rd	53	551	674	1074	969	113	703	562	130
54 3rd at Powers	54	652	903	1181	1188	752	221	164	459
55 Parrell Rd at Powers Rd	55	387	467	507	411	254	0	0	150
56 Blakely at Badger	56	0	11	42	0	56	0	0	2
57 3rd St at Badger Rd	57	536	591	1047	1005	99	79	122	131
58 3rd St at Pinebrook	58	572	490	974	898	9	64	40	129
59 Murphy at SE 3rd St	59	245	701	1232	823	724	661	720	520
60 Parrell Rd at China Hat Rd	60	0	167	216	0	178	490	487	232
61 US20 at 3rd St Ramp to NB US97	61	1366	905	1025	1024	0	458	0	0
62 Blakely Rd at Powers Rd	62	100	73	56	173	688	691	687	581

	Growth Factor Check South Leg In NB_IN	North Leg Out NB_OUT	North Leg In SB_IN	South Leg Out SB_OUT	West Leg In EB_IN	East Leg Out EB_OUT	East Leg In WB_IN	West Leg Out WB_OUT
1 US 97 at Deschutes Pleasant Ridge	0%	0%	0%	0%	0%	0%	0%	0%
2 US97 at Cooley	0%	0%	0%	0%	0%	0%	0%	0%
3 US 97 at Robal	0%	0%	0%	0%	0%	0%	0%	0%
4 US 97 at Nels Anderson Pl	0%	0%	0%	0%	0%	0%	0%	0%
5 US 97 SB Ramp at Empire	0%	102%	142%	21%	39%	34%	76%	133%
6 US 97 NB Ramps at Empire	26%	8%	0%	0%	35%	42%	71%	75%
7 US20 at Empire	92%	208%	95%	85%	15%	60%	159%	107%
8 US20 at Butler Market	73%	84%	73%	26%	67%	39%	-29%	44%
9 SB off ramp at Butler Market	0%	0%	-6%	4023%	38%	31%	12%	-33%
10 US97 NB On-Ramp at Butler Market	16%	21%	0%	12%	32%	35%	13%	11%
11 Bend Pkwy SB On-Ramp/Division at 3rd St	92%	54%	27%	70%	7%	-35%	14454%	184%
12 US97 SB Ramps at Revere	57%	30%	-25%	30%	1%	39%	60%	-1%
13 US97 NB Ramps at Revere	-22%	37%	120%	0%	37%	-6%	19%	59%
14 US97 at Lafayette	35%	32%	23%	14%	-100%	0%	0%	-100%
15 US97 at Hawthorne	33%	34%	15%	9%	-85%	0%	0%	1%
16 US97 SB Ramps at Colorado	0%	0%	47%	55%	37%	34%	26%	35%
17 US97 NB Ramps at Colorado	52%	-4%	0%	0%	55%	0%	2%	22%
18 US97 at Truman	49%	47%	7%	7%	-100%	0%	0%	-82%
19 Hwy 97 SB Ramps at Reed Market	0%	140%	41%	31%	65%	54%	68%	63%
20 US97 NB ramps at Reed Market	-10%	-1%	1%	425%	55%	37%	108%	44%
21 US97 at Reed Ln	15%	8%	-1%	-1%	0%	-4%	-48%	0%
22 US97 SB Ramps at Powers	-78%	0%	0%	-28%	-77%	-76%	-86%	-86%
23 US 97 at Powers	45%	47%	-1%	9%	5%	5%	80%	20%
24 US 97 NB Ramps at Powers	0%	-88%	-85%	0%	-75%	-80%	-100%	-98%
25 US 97 at Badger	52%	54%	23%	50%	0%	0%	0%	0%
26 US97 at Pinebrook	89%	60%	51%	44%	0%	0%	0%	0%
28 US 97 at Ponderosa-China Hat	46%	47%	-1%	9%	-100%	-100%	-87%	-15%
29 US 97 SB Ramps at Baker	0%	10%	-12%	0%	11%	3%	25%	5%
30 US 97 NB Ramps at Knott	22%	91%	0%	0%	4%	23%	91%	23%
40 US 97 Bus at OB Riley	89%	82%	66%	72%	116%	12%	31%	150%
41 NW Mt Washington Dr at Riverview Park	200%	0%	0%	156%	58%	60%	41%	40%
42 NE Butler Market Rd at NE 4th St	29%	1%	-1%	12%	34%	35%	3%	13%
45 Harriman at Revere	0%	0%	0%	0%	0%	0%	0%	0%
46 NE 3rd St at NE Revere Ave	41%	34%	64%	49%	-5%	32%	43%	37%
47 4th at Revere	34%	36%	58%	66%	35%	38%	48%	44%
48 Scott at Aune St	-11%	-9%	42%	37%	17%	0%	0%	38%
49 SW Brookswood at Reed Market	65%	55%	56%	85%	86%	61%	68%	72%
50 Silver Lake Blvd at Reed Market Rd	20%	94%	138%	4%	62%	65%	61%	68%
51 Division St at Reed Market Rd	13%	47%	0%	38%	39%	38%	101%	129%
52 3rd at Reed Market	82%	35%	64%	55%	40%	25%	21%	118%
53 Brookswood at Powers Rd	27%	67%	44%	22%	16%	66%	25%	21%
54 3rd at Powers	36%	58%	35%	18%	16%	41%	53%	22%
55 Parrell Rd at Powers Rd	121%	127%	109%	42%	48%	0%	0%	63%
56 Blakely at Badger	0%	-75%	35%	0%	52%	-100%	-100%	-97%
57 3rd St at Badger Rd	58%	53%	21%	20%	0%	20%	4%	0%
58 3rd St at Pinebrook	36%	48%	21%	23%	-88%	0%	0%	-38%
59 Murphy at SE 3rd St	3%	45%	78%	80%	117%	65%	78%	59%
60 Parrell Rd at China Hat Rd	0%	288%	167%	0%	1516%	537%	253%	111%
61 US20 at 3rd St Ramp to NB US97	33%	93%	69%	69%	0%	-18%	0%	0%
62 Blakely Rd at Powers Rd	28%	92%	92%	29%	63%	49%	21%	27%

	Int	Intersection Turning Movement Counts											Intersection Turning Movment Counts -- Summed by Approach & Departure Legs								"Counts + Growth" Approach and Departure Leg Volumes								Forecasted ("Counts + Growth") Turning Movement Volumes Post-Furness									Summary Statistics for Error Checking			
		Number	SB-Rite	SB-Thru	SB-Left	WB-Rite	WB-Thru	WB-Left	NB-Rite	NB-Thru	NB-Left	EB-Rite	EB-Thru	EB-left	SB-Arr	SB-Dep	WB-Arr	WB-Dep	NB-Arr	NB-Dep	EB-Arr	EB-Dep	SB-Arr	SB-Dep	WB-Arr	WB-Dep	NB-Arr	NB-Dep	EB-Arr	EB-Dep	SB-Rite	SB-Thru	SB-Left	WB-Rite	WB-Thru	WB-Left	NB-Rite	NB-Thru	NB-Left	EB-Rite	EB-Thru	EB-left	Arr-Sum	Dep-Sum	Frn-Sum	Frn-Dif
1 US 97 at Deschutes Pleasant	0	1	226	1,387	-	456	-	-	128	1,579	-	85	-	-	1,613	1,472	456	226	1,707	2,035	85	128	1,613	1,472	456	226	1,707	2,035	85	128	226	1,387	-	456	-	-	128	1,579	-	85	-	-	3,861	3,861	3,861	-
2 US97 at Cooley	0	2	44	1,501	110	58	69	185	77	1,411	40	15	143	185	1,655	1,701	312	153	1,528	1,654	343	330	1,655	1,701	312	153	1,528	1,654	343	330	44	1,501	110	58	69	185	77	1,411	40	15	143	185	3,838	3,838	3,838	-
3 US 97 at Robal	0	3	33	1,780	21	19	35	107	14	1,491	229	41	12	97	1,834	1,928	161	297	1,734	1,607	150	47	1,834	1,928	161	297	1,734	1,607	150	47	33	1,780	21	19	35	107	14	1,491	229	41	12	97	3,879	3,879	3,879	-
4 US 97 at Nels Anderson Pl	0	4	66	1,862	-	11	-	-	39	1,723	241	213	-	-	1,928	2,075	11	307	2,003	1,734	213	39	1,928	2,075	11	307	2,003	1,734	213	39	66	1,862	-	11	-	-	39	1,723	241	213	-	-	4,155	4,155	4,155	-
5 US 97 SB Ramp at Empire	0	5	17	2	5	6	425	328	-	-	-	418	752	4	24	748	759	442	-	10	1,174	757	58	904	1,334	1,029	-	20	1,635	1,016	48	3	8	11	968	367	-	-	-	546	1,039	9	3,027	2,970	2,998	(0)
6 US 97 NB Ramps at Empire	0	6	-	-	-	224	595	-	356	3	164	-	604	153	-	-	819	759	523	380	757	960	-	-	1,398	1,330	661	410	1,020	1,361	-	-	-	266	1,116	-	450	2	222	-	886	147	3,079	3,100	3,090	0
7 US20 at Empire	0	7	77	642	492	29	180	148	183	354	64	52	268	76	1,211	842	357	321	601	459	396	943	2,363	1,558	924	665	1,153	1,413	454	1,509	161	1,174	1,081	201	433	314	169	965	55	37	225	205	4,895	5,146	5,020	(0)
8 US20 at Butler Market	0	8	60	1,044	150	73	148	309	113	605	114	81	154	95	1,254	1,434	530	322	832	773	330	417	2,165	1,805	374	465	1,438	1,424	550	581	175	1,636	288	88	135	140	107	1,128	168	87	203	245	4,527	4,275	4,401	(0)
9 SB off ramp at Butler Market	0	9	97	3	137	-	558	2	-	-	-	-	458	-	237	5	560	655	-	-	458	595	223	206	627	438	-	-	632	780	10	46	164	-	442	166	-	-	-	-	625	-	1,482	1,424	1,453	(0)
10 US97 NB On-Ramp at Butle	0	10	-	-	-	178	557	7	11	2	1	6	515	74	-	13	742	558	14	254	595	526	-	15	836	618	16	308	786	708	-	-	-	211	618	8	13	2	1	7	690	94	1,638	1,649	1,644	(0)
11 Bend Pkwy SB On-Ramp/Di	0	11	238	598	598	-	0	1	-	469	-	8	-	363	1,434	607	1	238	469	832	371	598	1,823	1,030	204	677	902	1,285	399	389	597	868	386	-	66	139	-	897	-	10	-	391	3,327	3,381	3,354	0
12 US97 SB Ramps at Revere	0	12	2	240	154	199	70	438	388	132	24	9	14	5	396	687	707	96	544	336	28	556	298	892	1,133	95	855	437	28	771	1	167	122	282	74	744	650	164	22	9	15	4	2,315	2,195	2,255	(0)
13 US97 NB Ramps at Revere	0	13	170	21	68	67	401	28	276	210	136	264	240	134	259	313	496	707	622	411	638	584	571	314	590	1,122	487	561	873	549	446	28	107	80	509	16	146	203	142	278	300	279	2,520	2,546	2,533	0
14 US97 at Lafayette	0	14	83	2,609	-	-	-	-	-	2,377	-	125	-	-	2,692	2,734	-	83	2,377	2,377	125	-	3,323	3,105	-	-	3,211	3,138	-	-	0	3,214	-	-	-	-	-	3,175	-	0	-	-	6,534	6,244	6,389	(0)
15 US97 at Hawthorne	0	15	259	2,475	-	-	-	-	-	2,377	-	223	-	-	2,734	2,698	-	259	2,377	2,377	223	-	3,138	2,928	-	262	3,171	3,177	-	-	260	2,904	-	-	-	-	-	3,174	-	0	-	-	6,309	6,367	6,338	(0)
16 US97 SB Ramps at Colorad	0	16	367	-	91	-	349	30	-	-	-	264	770	-	458	294	379	716	-	-	1,034	861	671	455	478	975	-	-	1,424	1,153	537	-	130	-	439	43	-	-	-	407	1,023	-	2,573	2,584	2,579	0
17 US97 NB Ramps at Colorad	0	17	-	-	-	381	180	-	17	-	199	-	218	644	-	-	561	379	216	1,025	862	235	-	-	573	243	329	981	1,340	51	-	-	-	364	85	-	8	-	250	-	63	988	2,242	1,275	1,758	0
18 US97 at Truman	0	18	183	2,351	-	-	-	-	-	1,568	-	80	-	-	2,534	2,431	-	183	1,568	1,568	80	-	2,709	2,599	-	-	2,334	2,311	-	-	0	2,654	-	-	-	-	-	2,323	-	0	-	-	5,043	4,909	4,976	0
19 Hwy 97 SB Ramps at Reed I	0	19	150	-	679	62	457	-	-	-	-	52	710	-	829	52	519	607	-	62	762	1,389	1,166	68	874	991	-	149	1,261	2,146	223	-	951	145	749	-	-	-	-	69	1,190	-	3,301	3,354	3,327	(0)
20 US97 NB ramps at Reed Ma	0	20	35	-	-	27	449	-	79	-	35	97	1,292	-	35	97	476	519	114	27	1,389	1,371	35	509	990	745	103	27	2,157	1,885	31	-	-	31	836	-	106	-	0	495	1,726	-	3,286	3,166	3,226	0
21 US97 at Reed Ln	0	21	-	1,716	-	146	-	-	55	1,076	-	-	-	-	1,716	1,716	146	-	1,131	1,222	-	55	1,706	1,707	-	-	1,301	1,326	-	-	-	1,707	-	0	-	-	0	1,313	-	-	-	-	3,007	3,033	3,020	(0)
22 US97 SB Ramps at Powers	0	22	-	-	-	-	581	27	355	-	3	33	462	-	-	60	608	584	358	-	495	817	-	43	86	79	79	-	114	199	-	-	-	-	73	19	85	-	0	21	101	-	279	321	300	0
23 US 97 at Powers	0	23	307	1,409	-	-	301	-	21	828	-	-	816	1	1,716	1,409	301	608	849	829	817	837	1,703	1,540	541	732	1,234	1,217	858	881	218	1,512	-	-	528	-	26	1,212	-	-	856	1	4,337	4,370	4,353	(0)
24 US 97 NB Ramps at Powers	0	24	28	-	1	138	273	-	-	-	-	-	644	193	29	-	411	301	-	331	837	645	4	-	-	6	-	41	213	127	5	-	0	0	0	-	-	-	-	-	144	46	218	175	196	(0)
25 US 97 at Badger	0	25	-	1,088	-	-	-	-	-	759	-	-	-	-	1,088	1,088	-	-	759	759	-	-	1,335	1,633	-	-	1,154	1,166	-	-	-	1,484	-	-	-	-	-	1,160	-	-	-	-	2,489	2,800	2,644	0
26 US97 at Pinebrook	0	26	-	1,042	-	-	-	-	-	641	-	-	-	-	1,042	1,042	-	-	641	641	-	-	1,570	1,504	-	-	1,214	1,025	-	-	-	1,537	-	-	-	-	-	1,119	-	-	-	-	2,784	2,529	2,656	0
28 US 97 at Ponderosa-China I	0	28	130	1,409	-	110	-	-	11	776	-	18	-	-	1,539	1,427	110	130	787	886	18	11	1,519	1,561	-	-	1,146	1,299	-	-	0	1,540	-	0	-	-	0	1,222	-	0	-	-	2,665	2,860	2,762	0
29 US 97 SB Ramps at Baker	0	29	481	-	66	178	315	-	-	-	-	-	341	52	547	-	493	796	-	230	393	407	481	-	614	835	-	252	434	419	430	-	55	204	404	-	-	-	-	-	372	54	1,530	1,507	1,518	(0)
30 US 97 NB Ramps at Knott	0	30	-	-	-	17	449	-	95	1	44	-	160	247	-	-	466	493	140	265	407	255	-	-	890	606	171	506	425	315	-	-	-	247	618	-	163	2	6	-	153	267	1,485	1,426	1,456	0
40 US 97 Bus at OB Riley	0	40	5	929	35	58	11	131	130	569	69	189	8	7	969	1,249	200	85	768	634	204	173	1,609	2,149	262	213	1,450	1,152	441	194	12	1,564	35	73	20	169	153	1,086	184	414	11	15	3,762	3,708	3,735	(0)
41 NW Mt Washington Dr at R	0	41	1	-	13	17	371	10	10	-	-	-	342	2	14	10	398	372	10	19	344	365	14	26	560	520	30	19	545	582	1	-	13	17	519	25	30	-	-	-	541	2	1,149	1,147	1,148	0
42 NE Butler Market Rd at NE	0	42	11	3	2	3	555	96	68	-	169	76	458	2	16	175	654	735	237	5	536	528	16	197	676	834	306	5	716	715	11	3	2	3	590	98	92	-	216	94	620	2	1,713	1,750	1,732	0
45 Harriman at Revere	0	45	-	-	29	35	-	18	9	1	-	-	-	-	29	18	53	-	10	36	-	38	29	18	53	-	10	36	-	38	-	-	29	35	-	18	9	1	-	-	-	-	92	92	92	-
46 NE 3rd St at NE Revere Ave	0	46	39	483	53	71	298	147	70	813	92	185	409	185	575	815	516	429	975	1,069	779	532	943	1,217	740	589	1,373	1,437	741	701	56	797	108	107	408	234	129	1,151	119	164	445	153	3,797	3,943	3,870	(0)
47 4th at Revere	0	47	220	133	110	62	243	25	45	217	61	89	301	44	463	247	330	524	323	323	434	456	733	410	487	756	434	439	586	631	333	229	166	89	351	41	61	291	83	136	400	58	2,241	2,236	2,239	(0)
48 Scott at Aune St	0	48	15	200	-	-	-	-	-	550	11	20	-	26	215	220	-	26	561	576	46	-	305	301	-	36	502	523	54	-	23	279	-	-	-	-	-	492	13	26	-	28	860	860	860	(0)
49 SW Brookswood at Reed M	0	49	46	366	330	186	228	92	83	213	144	160	326	48	742	618	506	418	440	447	534	739	1,155	1,144	850	719	727	693	992	1,192	72	624	481	287	393	172	135	333	252	328	578	82	3,725	3,748	3,736	(0)
50 Silver Lake Blvd at Reed Ma	0	50	16	3	19	30	490	105	47	-	8	20	712	16	38	128	625	514	55	46	748	778	91	133	1,009	865	66	89	1,214	1,284	39	5	47	59	827	111	57	-	10	20	1,171	30	2,380	2,371	2,375	0
51 Division St at Reed Market	0	51	16	-	6	291	501	4	37	-	-	593	698	81	22	597	796	517	37	372	1,372	741	22	827	1,596	1,182	42	548	1,902	1,023	18	-	4	444	1,155	7	42	-	-	821	977	103	3,562	3,579	3,571	(0)
52 3rd at Reed Market	0	52	124	655	110	78	295	175	222	493	227	62	533	91	889	892	548	646	942	662	686	865	1,459	1,382	661	1,406	1,710	895	959	1,081	290	1,068	117	53	441	175	303	726	665	122	686	127	4,788	4,763	4,775	(0)
53 Brookswood at Powers Rd	0	53	40	497	211	93	63	294	160	269	5	3	53	41	748	794	450	108	434	403	97	424	1,074	969	562	130	551	674	113	703	53	624	438	206	69	308	182	387	4	2	58	57	2,300	2,477	2,388	0
54 3rd at Powers	0	54	205	657	16	14	78	15	9	376	94	337	132	180	878	1,009	107	377	479	570	649	157	1,181	1,188	164	459	652	903	752	221	267	869	30	32	110	21	12	573	86	309	176	275	2,749	2,770	2,759	0
55 Parrell Rd at Powers Rd	0	55	57	185	-	-	-	-	-	140	35	105	-	66	242	290	-	92	175	206	171	-	507	411	-	150	387	467	254	-	126	354	-	-	-	-	-	335	32	81	-	159	1,148	1,028	1,088	0
56 Blakely at Badger	0	56	31	-	-	10	13	-	-	-	-	-	5	32	31	-	23	44	-	42	37	5	42	-	-	2	-	11	56	-	22	-	-	-	-	-	-	-	-	-	0	33	98	12	55	(0)
57 3rd St at Badger Rd	0	57	88	757	23	26	25	66	26	296	18	18	17	64	868	841	117	131	340	386	99	66	1,047	1,005	122	131	536	591	99	79	89	925	28	32	21	68	36	484	21	16	15	69	1,803	1,806	1,805	(0)
58 3rd St at Pinebrook	0	58	70	677	56	31	2	7	6	277	138	46	2	22	803	730	40	210	421	330	70	64	974	898	40	129	572	490	9	64	38	883	56	32	1	7	7	463	92	5	0	3	1,594	1,581	1,588	(0)
59 Murphy at SE 3rd St	0	59	150	334	209	151	139	115	38	162	38	8	155	170	693	457	405	327	238	483	333	402	1,232	823	720	520	245	701	724	661	253	615	319	228	245	221	39	154	43	20	330	347	2,920	2,706	2,813	0
60 Parrell Rd at China Hat Rd	0	60	12	-	69	37	101	-	-	-	-	-	5	6	81	-	138	113	-	43	11	74	216	-	487	232	-	167	178	490	0	-	243	185	258	-	-	-	-	-	200	0	881	889	885	(0)
61 US20 at 3rd St Ramp to NB	0	61	-	606	-	-	-	-	559	469	-	-	-	-	606	606	-	-	1,028	469	-	559	1,025	1,024	-	-	1,366	905	-	458	-	1,024	-	-	-	-	463	902	-	-	-	-	2,391	2,387	2,389	(0)
62 Blakely Rd at Powers Rd	0	62	9	2	18	33	433	102	60	1	17	30	387	4	29	134	568	459	78	38	421	465	56	173	687	581	100	73	688	691	19	4	32	59	527	116	72	2	24	52	607	10	1,531	1,518	1,524	0
																																									TOTAL	136,106	134,710	135,408	(0)

			2040 Initial Volumes											
			Northbound			Southbound			Eastbound			Westbound		
N/S	E/W	#	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
Study Intersections														
1 US 97 at Deschutes Pleasant Ridg	0	1	-	1,579	128	-	1,387	226	-	-	85	-	-	456
2 US97 at Cooley	0	2	40	1,411	77	110	1,501	44	185	143	15	185	69	58
3 US 97 at Robal	0	3	229	1,491	14	21	1,780	33	97	12	41	107	35	19
4 US 97 at Nels Anderson Pl	0	4	241	1,723	39	-	1,862	66	-	-	213	-	-	11
5 US 97 SB Ramp at Empire	0	5	-	-	-	8	3	48	9	1,039	546	367	968	11
6 US 97 NB Ramps at Empire	0	6	222	2	450	-	-	-	147	886	-	-	1,116	266
7 US20 at Empire	0	7	55	965	169	1,081	1,174	161	205	225	37	314	433	201
8 US20 at Butler Market	0	8	168	1,128	107	288	1,636	175	245	203	87	140	135	88
9 SB off ramp at Butler Market	0	9	-	-	-	164	46	10	-	625	-	166	442	-
10 US97 NB On-Ramp at Butler Mar	0	10	1	2	13	-	-	-	94	690	7	8	618	211
11 Bend Pkwy SB On-Ramp/Divisio	0	11	-	897	-	386	868	597	391	-	10	139	66	-
12 US97 SB Ramps at Revere	0	12	22	164	650	122	167	1	4	15	9	744	74	282
13 US97 NB Ramps at Revere	0	13	142	203	146	107	28	446	279	300	278	16	509	80
14 US97 at Lafayette	0	14	-	3,175	-	-	3,214	0	-	-	0	-	-	-
15 US97 at Hawthorne	0	15	-	3,174	-	-	2,904	260	-	-	0	-	-	-
16 US97 SB Ramps at Colorado	0	16	-	-	-	130	-	537	-	1,023	407	43	439	-
17 US97 NB Ramps at Colorado	0	17	250	-	8	-	-	-	988	63	-	-	85	364
18 US97 at Truman	0	18	-	2,323	-	-	2,654	0	-	-	0	-	-	-
19 Hwy 97 SB Ramps at Reed Mark	0	19	-	-	-	951	-	223	-	1,190	69	-	749	145
20 US97 NB ramps at Reed Market	0	20	0	-	106	-	-	31	-	1,726	495	-	836	31
21 US97 at Reed Ln	0	21	-	1,313	0	-	1,707	-	-	-	-	-	-	0
22 US97 SB Ramps at Powers	0	22	0	-	85	-	-	-	-	101	21	19	73	-
23 US 97 at Powers	0	23	-	1,212	26	-	1,512	218	1	856	-	-	528	-
24 US 97 NB Ramps at Powers	0	24	-	-	-	0	-	5	46	144	-	-	0	0
25 US 97 at Badger	0	25	-	1,160	-	-	1,484	-	-	-	-	-	-	-
26 US97 at Pinebrook	0	26	-	1,119	-	-	1,537	-	-	-	-	-	-	-
28 US 97 at Ponderosa-China Hat	0	28	-	1,222	0	-	1,540	0	-	-	0	-	-	0
29 US 97 SB Ramps at Baker	0	29	-	-	-	55	-	430	54	372	-	-	404	204
30 US 97 NB Ramps at Knott	0	30	6	2	163	-	-	-	267	153	-	-	618	247
40 US 97 Bus at OB Riley	0	40	184	1,086	153	35	1,564	12	15	11	414	169	20	73
41 NW Mt Washington Dr at Rivervie	0	41	-	-	30	13	-	1	2	541	-	25	519	17
42 NE Butler Market Rd at NE 4th S	0	42	216	-	92	2	3	11	2	620	94	98	590	3
45 Harriman at Revere	0	45	-	1	9	29	-	-	-	-	-	18	-	35
46 NE 3rd St at NE Revere Ave	0	46	119	1,151	129	108	797	56	153	445	164	234	408	107
47 4th at Revere	0	47	83	291	61	166	229	333	58	400	136	41	351	89
48 Scott at Aune St	0	48	13	492	-	-	279	23	28	-	26	-	-	-
49 SW Brookswood at Reed Market	0	49	252	333	135	481	624	72	82	578	328	172	393	287
50 Silver Lake Blvd at Reed Market	0	50	10	-	57	47	5	39	30	1,171	20	111	827	59
51 Division St at Reed Market Rd	0	51	-	-	42	4	-	18	103	977	821	7	1,155	444
52 3rd at Reed Market	0	52	665	726	303	117	1,068	290	127	686	122	175	441	53
53 Brookswood at Powers Rd	0	53	4	387	182	438	624	53	57	58	2	308	69	206
54 3rd at Powers	0	54	86	573	12	30	869	267	275	176	309	21	110	32
55 Parrell Rd at Powers Rd	0	55	32	335	-	-	354	126	159	-	81	-	-	-
56 Blakely at Badger	0	56	-	-	-	-	-	22	33	0	-	-	-	-
57 3rd St at Badger Rd	0	57	21	484	36	28	925	89	69	15	16	68	21	32
58 3rd St at Pinebrook	0	58	92	463	7	56	883	38	3	0	5	7	1	32
59 Murphy at SE 3rd St	0	59	43	154	39	319	615	253	347	330	20	221	245	228
60 Parrell Rd at China Hat Rd	0	60	-	-	-	243	-	0	0	200	-	-	258	185
61 US20 at 3rd St Ramp to NB US9	0	61	-	902	463	-	1,024	-	-	-	-	-	-	-
62 Blakely Rd at Powers Rd	0	62	24	2	72	32	4	19	10	607	52	116	527	59

Growth Check (2040 - 2018)												
Northbound			Southbound			Eastbound			Westbound		
NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	3	1	31	5	287	128	39	543	5
58	-1	94	0	0	0	-6	282	0	0	521	42
-9	611	-14	589	532	84	129	-43	-15	166	253	172
54	523	-6	138	592	115	150	49	6	-169	-13	15
0	0	0	27	43	-87	0	167	0	164	-116	0
0	0	2	0	0	0	20	175	1	1	61	33
0	428	0	-212	270	359	28	0	2	138	66	0
-2	32	262	-32	-73	-1	-1	1	0	306	4	83
6	-7	-130	39	7	276	145	60	14	-12	108	13
0	798	0	0	605	-83	0	0	-125	0	0	0
0	797	0	0	429	1	0	0	-223	0	0	0
-8	-264	-770	39	0	170	0	1,023	407	43	90	-30
250	0	8	-17	0	-199	344	63	-218	-180	85	-17
0	755	0	0	303	-183	0	0	-80	0	0	0
0	0	0	272	0	73	0	480	17	0	292	83
-35	0	27	0	0	-4	0	434	398	0	387	4
0	237	-55	0	-9	0	0	0	0	0	0	-146
-3	0	-270	0	0	0	0	-361	-12	-8	-508	0
0	384	5	0	103	-89	0	40	0	0	227	0
0	0	0	-1	0	-23	-147	-500	0	0	-273	-138
0	401	0	0	396	0	0	0	0	0	0	0
0	478	0	0	495	0	0	0	0	0	0	0
0	446	-11	0	131	-130	0	0	-18	0	0	-110
0	0	0	-11	0	-51	2	31	0	0	89	26
-38	1	68	0	0	0	20	-7	0	0	169	230
115	517	23	0	635	7	8	3	225	38	9	15
0	0	20	0	0	0	0	199	0	15	148	0
47	0	24	0	0	0	0	162	18	2	35	0
0	0	0	0	0	0	0	0	0	0	0	0
27	338	59	55	314	17	-32	36	-21	87	110	36
22	74	16	56	96	113	14	99	47	16	108	27
2	-58	0	0	79	8	2	0	6	0	0	0
108	120	52	151	258	26	34	252	168	80	165	101
2	0	10	28	2	23	14	459	0	6	337	29
0	0	5	-2	0	2	22	279	228	3	654	153
438	233	81	7	413	166	36	153	60	0	146	-25
-1	118	22	227	127	13	16	5	-1	14	6	113
-8	197	3	14	212	62	95	44	-28	6	32	18
-3	195	0	0	169	69	93	0	-24	0	0	0
0	0	0	0	0	-9	1	-5	0	0	-13	-10
3	188	10	5	168	1	5	-2	-2	2	-4	6
-46	186	1	0	206	-32	-19	-2	-41	0	-1	1
5	-8	1	110	281	103	177	175	12	106	106	77
0	0	0	171	0	-9	-6	195	0	0	157	148
0	433	-96	0	418	0	0	0	0	0	0	0
7	1	12	14	2	10	6	220	22	14	94	26

DKS

2040 Average Weekday Post Processing Manual Adjustments – Bundle A

			Adjustments											
			Northbound			Southbound			Eastbound			Westbound			
N/S	E/W	#	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	Comments
Study Intersections															
1 US 97 at Deschutes Pleasant Ridge	0	1	0	0	0	0	0	0	0	0	0	0	0	0	
2 US97 at Cooley	0	2	0	0	0	0	38	0	0	0	0	0	0	0	
3 US 97 at Robal	0	3	0	0	0	0	0	0	0	0	0	0	0	0	
4 US 97 at Nels Anderson Pl	0	4	0	61	0	0	18	0	0	0	0	0	0	0	
5 US 97 SB Ramp at Empire	0	5	0	0	0	0	0	0	0	0	-15	0	10	0	
6 US 97 NB Ramps at Empire	0	6	0	0	0	0	0	0	5	15	0	0	20	0	
7 US20 at Empire	0	7	0	0	0	0	0	0	0	0	0	0	0	0	
8 US20 at Butler Market	0	8	0	-38	53	-5	71	-77	-43	-13	38	-128	109	71	
9 SB off ramp at Butler Market	0	9	0	0	0	15	0	26	0	3	3	15	-18	0	
10 US97 NB On-Ramp at Butler Market	0	10	0	5	0	0	0	0	-8	31	0	0	-13	-20	
11 Bend Pkwy SB On-Ramp/Division at 3rd St	0	11	0	-897	880	-51	117	-76	145	8	0	-61	54	28	see synchro or visum for how these orientations match up
12 US97 SB Ramps at Revere	0	12	32	59	50	40	51	2	6	45	18	-54	51	-54	Modified to account for zone growth on EB leg since EB leg not in model
13 US97 NB Ramps at Revere	0	13	0	-5	0	-18	-3	10	0	33	26	0	-61	0	
14 US97 at Lafayette	0	14	0	-54	0	0	-44	0	0	0	0	0	0	0	
15 US97 at Hawthorne	0	15	0	-54	0	0	-5	8	0	0	0	0	0	0	
16 US97 SB Ramps at Colorado	0	16	0	0	0	26	0	-46	0	-23	-26	10	-10	0	No NB in Bundle A
17 US97 NB Ramps at Colorado	0	17	10	0	46	0	0	0	-186	291	0	0	140	-36	
18 US97 at Truman	0	18	0	-18	0	0	36	0	0	0	0	0	0	0	
19 Hwy 97 SB Ramps at Reed Market	0	19	0	0	0	-56	0	0	0	-66	26	0	12	-64	
20 US97 NB ramps at Reed Market	0	20	18	0	10	0	0	5	0	76	-273	0	-49	3	
21 US97 at Reed Ln	0	21	0	147	0	0	36	0	0	0	0	0	0	0	
22 US97 SB Ramps at Powers	0	22	0	0	0	0	0	0	0	-56	0	0	-168	0	No ramps in Bundle A
23 US 97 at Powers	0	23	0	250	-25	0	231	-217	0	-209	0	0	-115	0	Overcrossing, no turns
24 US 97 NB Ramps at Powers	0	24	0	0	0	0	0	0	0	-61	0	0	-31	0	No ramps in Bundle A
25 US 97 at Badger	0	25	0	299	0	0	261	0	0	0	0	0	0	0	
26 US97 at Pinebrook	0	26	0	340	0	0	210	0	0	0	0	0	0	0	
28 US 97 at Ponderosa-China Hat	0	28	0	484	0	0	870	0	0	421	0	0	322	0	EBT/WBT taken from model
29 US 97 SB Ramps at Baker	0	29	0	0	0	28	0	18	-3	41	0	0	40	-5	
30 US 97 NB Ramps at Knott	0	30	20	5	-13	0	0	0	20	61	0	0	-48	5	
40 US 97 Bus at OB Riley	0	40	8	14	5	3	-57	0	0	3	3	3	5	0	
41 NW Mt Washington Dr at Riverview Park	0	41	0	5	0	0	0	5	0	-28	0	0	0	0	
42 NE Butler Market Rd at NE 4th St	0	42	0	0	0	5	0	0	5	3	11	0	-11	0	
45 Harriman at Revere	0	45	0	0	10	33	0	0	0	0	0	28	0	56	
46 NE 3rd St at NE Revere Ave	0	46	-28	-20	8	51	0	-15	15	-46	-3	8	-56	26	
47 4th at Revere	0	47	-10	5	0	0	10	0	25	27	27	20	-33	0	
48 Scott at Aune St	0	48	10	105	0	0	97	-10	-23	0	-10	0	0	0	
49 SW Brookswood at Reed Market	0	49	0	-61	34	-48	-41	0	0	8	0	5	13	10	
50 Silver Lake Blvd at Reed Market Rd	0	50	10	0	-10	0	0	0	0	-43	20	0	-13	0	
51 Division St at Reed Market Rd	0	51	0	0	5	3	0	0	-10	-12	0	0	-356	275	
52 3rd at Reed Market	0	52	-28	84	-20	23	0	5	-18	0	66	18	-3	15	
53 Brookswood at Powers Rd	0	53	0	56	-64	-8	-46	0	-3	0	0	-128	0	-97	
54 3rd at Powers	0	54	-21	5	-12	-13	186	26	26	0	-140	-3	-56	41	
55 Parrell Rd at Powers Rd	0	55	28	-26	0	0	0	-36	-46	0	5	0	0	0	
56 Blakely at Badger	0	56	0	0	0	0	0	0	0	0	0	0	-10	0	
57 3rd St at Badger Rd	0	57	0	-51	0	0	0	0	0	0	0	0	0	0	
58 3rd St at Pinebrook	0	58	0	3	0	0	20	0	10	0	35	0	5	0	
59 Murphy at SE 3rd St	0	59	-26	100	-3	-41	-64	-84	-122	92	31	48	0	4	
60 Parrell Rd at China Hat Rd	0	60	0	0	0	-102	0	51	28	191	0	92	13	92	
61 US20 at 3rd St Ramp to NB US97	0	61	0	-900	-497	0	-928	0	0	1,079	0	0	880	497	
62 Blakely Rd at Powers Rd	0	62	64	23	0	-10	0	26	0	-70	15	-5	-303	20	

2040 Average Weekday Final PM Peak Hour Volumes – Bundle A

		Northbound			Southbound			Eastbound			Westbound		
		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
#	Intersection Name	2040 Average Weekday Post-Processing PM Peak Hour Volume											
1	1 US 97 at Deschutes Pleasant Ridge	0	0	0	0	0	0	0	0	0	0	0	0
2	2 US97 at Cooley	0	0	0	0	0	0	0	0	0	0	0	0
3	3 US 97 at Robal	0	0	0	0	0	0	0	0	0	0	0	0
4	4 US 97 at Nels Anderson Pl	0	0	0	0	0	0	0	0	0	0	0	0
5	5 US 97 SB Ramp at Empire	0	0	0	10	5	50	10	1040	530	365	980	10
6	6 US 97 NB Ramps at Empire	220	5	450	0	0	0	150	900	0	0	1135	265
7	7 US20 at Empire	55	965	170	1080	1175	160	205	225	35	315	435	200
8	8 US20 at Butler Market	170	1090	160	285	1705	100	200	190	125	10	245	160
9	9 SB off ramp at Butler Market	0	0	0	180	45	35	0	630	5	180	425	0
10	10 US97 NB On-Ramp at Butler Market	0	5	15	0	0	0	85	720	5	10	605	190
11	11 Bend Pkwy SB On-Ramp/Division at 3rd St	0	0	880	335	985	520	535	10	10	80	120	30
12	12 US97 SB Ramps at Revere	55	225	700	160	220	5	10	60	25	690	125	230
13	13 US97 NB Ramps at Revere	140	200	145	90	25	455	280	335	305	15	450	80
14	14 US97 at Lafayette	0	3120	0	0	3170	0	0	0	0	0	0	0
15	15 US97 at Hawthorne	0	3120	0	0	2900	270	0	0	0	0	0	0
16	16 US97 SB Ramps at Colorado	0	0	0	155	0	490	0	1000	380	55	430	0
17	17 US97 NB Ramps at Colorado	260	0	55	0	0	0	800	355	0	0	225	330
18	18 US97 at Truman	0	2305	0	0	2690	0	0	0	80	0	0	0
19	19 Hwy 97 SB Ramps at Reed Market	0	0	0	895	0	225	0	1125	95	0	760	80
20	20 US97 NB ramps at Reed Market	20	0	115	0	0	35	0	1800	220	0	785	35
21	21 US97 at Reed Ln	0	1460	0	0	1745	0	0	0	0	0	0	0
22	22 US97 SB Ramps at Powers	0	0	0	0	0	0	0	0	0	0	0	0
23	23 US 97 at Powers	0	1460	0	0	1745	0	0	645	0	0	415	0
24	24 US 97 NB Ramps at Powers	0	0	0	0	0	0	0	0	0	0	0	0
25	25 US 97 at Badger	0	1460	0	0	1745	0	0	0	0	0	0	0
26	26 US97 at Pinebrook	0	1460	0	0	1745	0	0	0	0	0	0	0
28	28 US 97 at Ponderosa-China Hat	0	1705	0	0	2410	0	0	420	0	0	320	0
29	29 US 97 SB Ramps at Baker	0	0	0	85	0	450	50	415	0	0	445	200
30	30 US 97 NB Ramps at Knott	25	5	150	0	0	0	285	215	0	0	570	250
40	40 US 97 Bus at OB Riley	190	1100	160	40	1505	10	15	15	415	170	25	75
41	41 NW Mt Washington Dr at Riverview Park	0	5	30	15	0	5	0	515	0	25	520	15
42	NE Butler Market Rd at NE 4th St	215	0	90	5	5	10	5	625	105	100	580	5
45	45 Harriman at Revere	0	0	20	60	0	0	0	0	0	45	0	90
46	NE 3rd St at NE Revere Ave	90	1130	135	160	795	40	170	400	160	240	350	135
47	4th at Revere	75	295	60	165	240	335	85	425	165	60	320	90
48	48 Scott at Aune St	25	595	0	0	375	15	5	0	15	0	0	0
49	SW Brookswood at Reed Market	250	270	170	435	585	70	80	585	330	175	405	295
50	Silver Lake Blvd at Reed Market Rd	20	0	45	45	5	40	30	1130	40	110	815	60
51	Division St at Reed Market Rd	0	0	45	5	0	20	95	965	820	5	800	720
52	3rd at Reed Market	635	810	285	140	1070	295	110	685	190	195	440	70
53	Brookswood at Powers Rd	5	445	120	430	580	55	55	60	5	180	70	110
54	3rd at Powers	65	580	10	15	1055	295	300	175	170	20	55	75
55	Parrell Rd at Powers Rd	60	310	0	0	355	90	115	0	85	0	0	0
56	56 Blakely at Badger	0	0	0	0	0	20	35	0	0	0	0	0
57	3rd St at Badger Rd	20	435	35	30	925	90	70	15	15	70	20	30
58	3rd St at Pinebrook	90	465	5	55	905	40	15	0	40	5	5	30
59	Murphy at SE 3rd St	15	255	35	280	550	170	225	420	50	270	245	230
60	Parrell Rd at China Hat Rd	50	0	140	0	0	0	0	390	30	275	270	0
61	61 US20 at 3rd St Ramp to NB US97	0	0	0	0	0	0	0	1080	0	0	880	495
62	62 Blakely Rd at Powers Rd	90	25	70	20	5	45	10	535	65	110	225	80

Seasonal Factors – Bundle A

		Northbound			Southbound			Eastbound			Westbound		
		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
#	Intersection Name	Seasonal Factors											
1	1 US 97 at Deschutes Pleasant Ridge	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
2	2 US97 at Cooley	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
3	3 US 97 at Robal	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
4	4 US 97 at Nels Anderson Pl	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
5	5 US 97 SB Ramp at Empire	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
6	6 US 97 NB Ramps at Empire	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
7	7 US20 at Empire	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
8	8 US20 at Butler Market	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
9	9 SB off ramp at Butler Market	1.00	1.00	1.00	1.11	1.00	1.11	1.00	1.11	1.00	1.00	1.11	1.00
10	10 US97 NB On-Ramp at Butler Market	1.00	1.11	1.11	1.00	1.00	1.00	1.11	1.11	1.11	1.11	1.11	1.11
11	11 Bend Pkwy SB On-Ramp/Division at 3rd St	1.00	1.11	1.00	1.11	1.11	1.11	1.11	1.00	1.11	1.00	1.00	1.11
12	12 US97 SB Ramps at Revere	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
13	13 US97 NB Ramps at Revere	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
14	14 US97 at Lafayette	1.00	1.11	1.00	1.00	1.11	1.11	1.00	1.00	1.11	1.00	1.00	1.00
15	15 US97 at Hawthorne	1.00	1.11	1.00	1.00	1.11	1.11	1.00	1.00	1.11	1.00	1.00	1.00
16	16 US97 SB Ramps at Colorado	1.11	1.11	1.11	1.11	1.00	1.11	1.00	1.00	1.00	1.00	1.11	1.11
17	17 US97 NB Ramps at Colorado	1.00	1.00	1.00	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
18	18 US97 at Truman	1.00	1.11	1.00	1.00	1.11	1.11	1.00	1.00	1.11	1.00	1.00	1.00
19	19 Hwy 97 SB Ramps at Reed Market	1.00	1.00	1.00	1.11	1.00	1.11	1.00	1.00	1.11	1.00	1.00	1.11
20	20 US97 NB ramps at Reed Market	1.30	1.00	1.30	1.00	1.00	1.11	1.00	1.00	1.11	1.00	1.00	1.11
21	21 US97 at Reed Ln	1.00	1.22	1.30	1.00	1.22	1.00	1.00	1.00	1.00	1.00	1.00	1.11
22	22 US97 SB Ramps at Powers	1.11	1.00	1.11	1.00	1.00	1.00	1.00	1.00	1.30	1.30	1.00	1.00
23	23 US 97 at Powers	1.00	1.30	1.30	1.00	1.24	1.11	1.00	1.00	1.00	1.00	1.00	1.00
24	24 US 97 NB Ramps at Powers	1.00	1.00	1.00	1.00	1.00	1.30	1.11	1.00	1.00	1.00	1.00	1.11
25	25 US 97 at Badger	1.00	1.31	1.00	1.00	1.31	1.00	1.00	1.00	1.00	1.00	1.00	1.00
26	26 US97 at Pinebrook	1.00	1.31	1.00	1.00	1.31	1.00	1.00	1.00	1.00	1.00	1.00	1.00
28	28 US 97 at Ponderosa-China Hat	1.00	1.30	1.11	1.00	1.28	1.11	1.00	1.00	1.11	1.00	1.00	1.06
29	29 US 97 SB Ramps at Baker	1.00	1.00	1.00	1.11	1.00	1.11	1.11	1.11	1.00	1.00	1.11	1.11
30	30 US 97 NB Ramps at Knott	1.11	1.11	1.11	1.00	1.00	1.00	1.11	1.11	1.00	1.00	1.11	1.11
40	40 US 97 Bus at OB Riley	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
41	41 NW Mt Washington Dr at Riverview Park	1.00	1.06	1.06	1.06	1.00	1.06	1.00	1.06	1.00	1.06	1.06	1.06
42	NE Butler Market Rd at NE 4th St	1.06	1.00	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
45	45 Harriman at Revere	1.00	1.00	1.06	1.06	1.00	1.00	1.00	1.00	1.00	1.06	1.00	1.06
46	NE 3rd St at NE Revere Ave	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
47	4th at Revere	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
48	48 Scott at Aune St	1.06	1.00	1.06	1.00	1.00	1.00	1.00	1.06	1.06	1.06	1.06	1.00
49	SW Brookswood at Reed Market	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
50	Silver Lake Blvd at Reed Market Rd	1.06	1.00	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
51	Division St at Reed Market Rd	1.00	1.00	1.06	1.06	1.00	1.06	1.06	1.06	1.06	1.06	1.06	1.06
52	3rd at Reed Market	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
53	Brookswood at Powers Rd	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
54	3rd at Powers	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
55	Parrell Rd at Powers Rd	1.06	1.06	1.00	1.00	1.06	1.06	1.06	1.00	1.06	1.00	1.00	1.00
56	56 Blakely at Badger	1.00	1.00	1.00	1.00	1.00	1.06	1.06	1.00	1.00	1.00	1.00	1.00
57	3rd St at Badger Rd	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
58	3rd St at Pinebrook	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.00	1.06	1.06	1.06	1.06
59	Murphy at SE 3rd St	1.06	1.06	1.06	1.06	1.30	1.06	1.06	1.06	1.30	1.30	1.06	1.06
60	Parrell Rd at China Hat Rd	1.00	1.00	1.00	1.06	1.00	1.06	1.06	1.06	1.00	1.00	1.06	1.06
61	61 US20 at 3rd St Ramp to NB US97	1.11	1.11	1.11	1.00	1.11	1.00	1.00	1.06	1.00	1.00	1.06	1.06
62	62 Blakely Rd at Powers Rd	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06

2040 30HV Unbalanced PM Peak Hour Volumes – Bundle A

		Northbound			Southbound			Eastbound			Westbound		
		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
#	Intersection Name	2040 30HV PM Peak Hour - Unbalanced											
1	1 US 97 at Deschutes Pleasant Ridge	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	2 US97 at Cooley	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	3 US 97 at Robal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	4 US 97 at Nels Anderson Pl	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	5 US 97 SB Ramp at Empire	0.00	0.00	0.00	11.10	5.55	55.50	11.10	1154.40	588.30	405.15	1087.80	11.10
6	6 US 97 NB Ramps at Empire	244.20	5.55	499.50	0.00	0.00	0.00	166.50	999.00	0.00	0.00	1259.85	294.15
7	7 US20 at Empire	61.13	1071.40	188.83	1200.00	1304.25	177.64	227.85	250.18	38.91	350.00	484.11	222.06
8	8 US20 at Butler Market	188.70	1209.90	177.60	316.35	1892.55	111.00	222.00	210.90	138.75	11.10	271.95	177.60
9	9 SB off ramp at Butler Market	0.00	0.00	0.00	199.80	45.00	38.85	0.00	699.30	5.00	180.00	471.75	0.00
10	10 US97 NB On-Ramp at Butler Market	0.00	5.55	16.65	0.00	0.00	0.00	94.35	799.20	5.55	11.10	671.55	210.90
11	11 Bend Pkwy SB On-Ramp/Division at 3rd St	0.00	0.00	880.00	371.85	1093.35	577.20	593.85	10.00	11.10	80.00	120.00	33.30
12	12 US97 SB Ramps at Revere	61.05	249.75	777.00	177.60	244.20	5.55	11.10	66.60	27.75	765.90	138.75	255.30
13	13 US97 NB Ramps at Revere	155.40	222.00	160.95	99.90	27.75	505.05	310.80	371.85	338.55	16.65	499.50	88.80
14	14 US97 at Lafayette	0.00	3463.20	0.00	0.00	3518.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	15 US97 at Hawthorne	0.00	3463.20	0.00	0.00	3219.00	299.70	0.00	0.00	0.00	0.00	0.00	0.00
16	16 US97 SB Ramps at Colorado	0.00	0.00	0.00	172.05	0.00	543.90	0.00	1000.00	380.00	55.00	477.30	0.00
17	17 US97 NB Ramps at Colorado	260.00	0.00	55.00	0.00	0.00	0.00	888.00	355.00	0.00	0.00	225.00	366.30
18	18 US97 at Truman	0.00	2558.55	0.00	0.00	2985.90	0.00	0.00	0.00	88.80	0.00	0.00	0.00
19	19 Hwy 97 SB Ramps at Reed Market	0.00	0.00	0.00	993.45	0.00	249.75	0.00	1125.00	105.45	0.00	760.00	88.80
20	20 US97 NB ramps at Reed Market	26.00	0.00	149.50	0.00	0.00	38.85	0.00	1800.00	244.20	0.00	785.00	38.85
21	21 US97 at Reed Ln	0.00	1777.28	0.00	0.00	2127.68	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	22 US97 SB Ramps at Powers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	23 US 97 at Powers	0.00	1895.46	0.00	0.00	2167.39	0.00	0.00	645.00	0.00	0.00	415.00	0.00
24	24 US 97 NB Ramps at Powers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	25 US 97 at Badger	0.00	1912.45	0.00	0.00	2286.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	26 US97 at Pinebrook	0.00	1912.45	0.00	0.00	2286.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	28 US 97 at Ponderosa-China Hat	0.00	2216.05	0.00	0.00	3095.83	0.00	0.00	420.00	0.00	0.00	320.00	0.00
29	29 US 97 SB Ramps at Baker	0.00	0.00	0.00	94.35	0.00	499.50	55.50	460.65	0.00	0.00	493.95	222.00
30	30 US 97 NB Ramps at Knott	27.75	5.55	166.50	0.00	0.00	0.00	316.35	238.65	0.00	0.00	632.70	277.50
40	40 US 97 Bus at OB Riley	201.40	1166.00	169.60	42.40	1595.30	10.60	15.90	15.90	439.90	180.20	26.50	79.50
41	41 NW Mt Washington Dr at Riverview Park	0.00	5.30	31.80	15.90	0.00	5.30	0.00	545.90	0.00	26.50	551.20	15.90
42	NE Butler Market Rd at NE 4th St	227.90	0.00	95.40	5.30	5.30	10.60	5.30	662.50	111.30	106.00	614.80	5.30
45	45 Harriman at Revere	0.00	0.00	21.20	63.60	0.00	0.00	0.00	0.00	0.00	47.70	0.00	95.40
46	NE 3rd St at NE Revere Ave	95.40	1197.80	143.10	169.60	842.70	42.40	180.20	424.00	169.60	254.40	371.00	143.10
47	4th at Revere	79.50	312.70	63.60	174.90	254.40	355.10	90.10	450.50	174.90	63.60	339.20	95.40
48	48 Scott at Aune St	26.50	595.00	0.00	0.00	375.00	15.00	5.00	0.00	15.90	0.00	0.00	0.00
49	SW Brookswood at Reed Market	265.00	286.20	180.20	461.10	620.10	74.20	84.80	620.10	349.80	185.50	429.30	312.70
50	Silver Lake Blvd at Reed Market Rd	21.20	0.00	47.70	47.70	5.30	42.40	31.80	1197.80	42.40	116.60	863.90	63.60
51	Division St at Reed Market Rd	0.00	0.00	47.70	5.30	0.00	21.20	100.70	1022.90	869.20	5.30	848.00	763.20
52	3rd at Reed Market	673.10	858.60	302.10	148.40	1134.20	312.70	116.60	726.10	201.40	206.70	466.40	74.20
53	Brookswood at Powers Rd	5.30	471.70	127.20	455.80	614.80	58.30	58.30	63.60	5.30	190.80	74.20	116.60
54	3rd at Powers	68.90	614.80	10.60	15.90	1118.30	312.70	318.00	185.50	180.20	21.20	58.30	79.50
55	Parrell Rd at Powers Rd	63.60	328.60	0.00	0.00	376.30	95.40	121.90	0.00	90.10	0.00	0.00	0.00
56	56 Blakely at Badger	0.00	0.00	0.00	0.00	0.00	21.20	37.10	0.00	0.00	0.00	0.00	0.00
57	3rd St at Badger Rd	21.20	461.10	37.10	31.80	980.50	95.40	74.20	15.90	15.90	74.20	21.20	31.80
58	3rd St at Pinebrook	95.40	492.90	5.30	58.30	959.30	42.40	15.90	0.00	42.40	5.30	5.30	31.80
59	Murphy at SE 3rd St	15.90	270.30	37.10	296.80	715.00	180.20	238.50	445.20	65.00	351.00	259.70	243.80
60	Parrell Rd at China Hat Rd	50.00	0.00	140.00	0.00	0.00	0.00	0.00	413.40	30.00	275.00	286.20	0.00
61	61 US20 at 3rd St Ramp to NB US97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1144.80	0.00	0.00	932.80	524.70
62	62 Blakely Rd at Powers Rd	95.40	26.50	74.20	21.20	5.30	47.70	10.60	567.10	68.90	116.60	238.50	84.80

2040 30HV PM Peak Hour Balancing Adjustments – Bundle A

		Northbound			Southbound			Eastbound			Westbound		
		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
#	Intersection Name	2040 30HV PM Peak Hour Balancing Adjustments											
1	1 US 97 at Deschutes Pleasant Ridge	0	0	0	0	0	0	0	0	0	0	0	0
2	2 US97 at Cooley	0	0	0	0	0	0	0	0	0	0	0	0
3	3 US 97 at Robal	0	0	0	0	0	0	0	0	0	0	0	0
4	4 US 97 at Nels Anderson Pl	0	0	0	0	1	0	0	0	0	0	0	0
5	5 US 97 SB Ramp at Empire	0	0	0	0	0	0	0	0	0	0	0	0
6	6 US 97 NB Ramps at Empire	0	0	0	0	0	0	0	0	0	0	0	0
7	7 US20 at Empire	0	0	0	0	0	0	0	0	0	0	5	0
8	8 US20 at Butler Market	0	5	0	5	-5	0	0	-5	0	1	5	0
9	9 SB off ramp at Butler Market	0	0	0	0	0	0	0	0	0	0	0	0
10	10 US97 NB On-Ramp at Butler Market	0	0	0	0	0	0	0	0	0	0	-20	0
11	11 Bend Pkwy SB On-Ramp/Division at 3rd St	0	0	100	0	-5	5	-25	0	0	-5	0	0
12	12 US97 SB Ramps at Revere	0	0	0	0	0	0	0	0	0	0	0	0
13	13 US97 NB Ramps at Revere	0	0	1	0	0	0	0	0	0	0	0	0
14	14 US97 at Lafayette	0	-5	0	0	-5	0	0	0	0	0	0	0
15	15 US97 at Hawthorne	0	-5	0	0	-5	0	0	0	1	0	0	0
16	16 US97 SB Ramps at Colorado	0	0	0	0	0	0	0	75	0	0	-25	0
17	17 US97 NB Ramps at Colorado	0	0	0	0	0	0	0	15	0	0	20	0
18	18 US97 at Truman	0	-40	0	0	-50	0	0	0	0	0	0	0
19	19 Hwy 97 SB Ramps at Reed Market	0	0	0	0	0	0	0	-10	43	0	-35	179
20	20 US97 NB ramps at Reed Market	5	0	-10	0	0	0	0	67	0	0	142	0
21	21 US97 at Reed Ln	0	-175	0	0	-20	0	0	0	0	0	0	0
22	22 US97 SB Ramps at Powers	0	0	0	0	0	0	0	0	1	1	0	0
23	23 US 97 at Powers	0	-295	0	0	-55	0	0	31	0	0	32	0
24	24 US 97 NB Ramps at Powers	0	0	0	0	0	0	0	1	0	0	0	0
25	25 US 97 at Badger	0	-310	0	0	-175	0	0	0	0	0	0	0
26	26 US97 at Pinebrook	0	-310	0	0	-175	0	0	0	0	0	0	0
28	28 US 97 at Ponderosa-China Hat	0	-355	0	0	-40	0	0	65	0	0	45	0
29	29 US 97 SB Ramps at Baker	0	0	0	0	0	0	0	0	0	0	0	0
30	30 US 97 NB Ramps at Knott	0	0	0	0	0	0	0	0	0	0	50	0
40	40 US 97 Bus at OB Riley	0	80	0	0	105	0	0	0	0	0	0	0
41	41 NW Mt Washington Dr at Riverview Park	0	0	5	0	0	0	0	31	0	0	31	0
42	NE Butler Market Rd at NE 4th St	0	0	0	0	0	0	0	35	0	0	21	0
45	45 Harriman at Revere	0	0	0	4	0	0	0	0	0	0	0	8
46	NE 3rd St at NE Revere Ave	-10	0	0	0	0	0	0	-25	0	0	0	0
47	4th at Revere	0	0	0	0	0	0	0	-25	0	0	5	0
48	48 Scott at Aune St	0	0	0	0	0	0	0	14	0	0	29	0
49	SW Brookswood at Reed Market	0	0	20	0	0	0	0	-25	0	-30	-15	-35
50	Silver Lake Blvd at Reed Market Rd	0	0	0	0	0	0	10	-35	99	0	-75	5
51	Division St at Reed Market Rd	0	0	10	5	0	0	0	10	0	0	95	-20
52	3rd at Reed Market	26	0	0	0	0	26	6	17	1	0	23	0
53	Brookswood at Powers Rd	0	0	-10	-5	0	0	0	0	0	0	10	0
54	3rd at Powers	0	0	1	0	0	0	0	-5	-5	0	0	0
55	Parrell Rd at Powers Rd	0	0	5	0	0	0	0	0	-5	0	0	0
56	56 Blakely at Badger	0	0	0	0	0	0	0	0	0	0	0	0
57	3rd St at Badger Rd	0	0	0	0	0	0	0	0	0	0	0	0
58	3rd St at Pinebrook	0	0	0	0	0	0	0	0	0	0	0	0
59	Murphy at SE 3rd St	0	0	0	0	20	15	0	0	0	0	0	0
60	Parrell Rd at China Hat Rd	0	0	0	0	0	0	0	40	0	0	30	0
61	61 US20 at 3rd St Ramp to NB US97	0	0	0	0	0	0	0	30	0	0	45	0
62	62 Blakely Rd at Powers Rd	0	0	15	10	0	0	0	-10	0	0	5	0

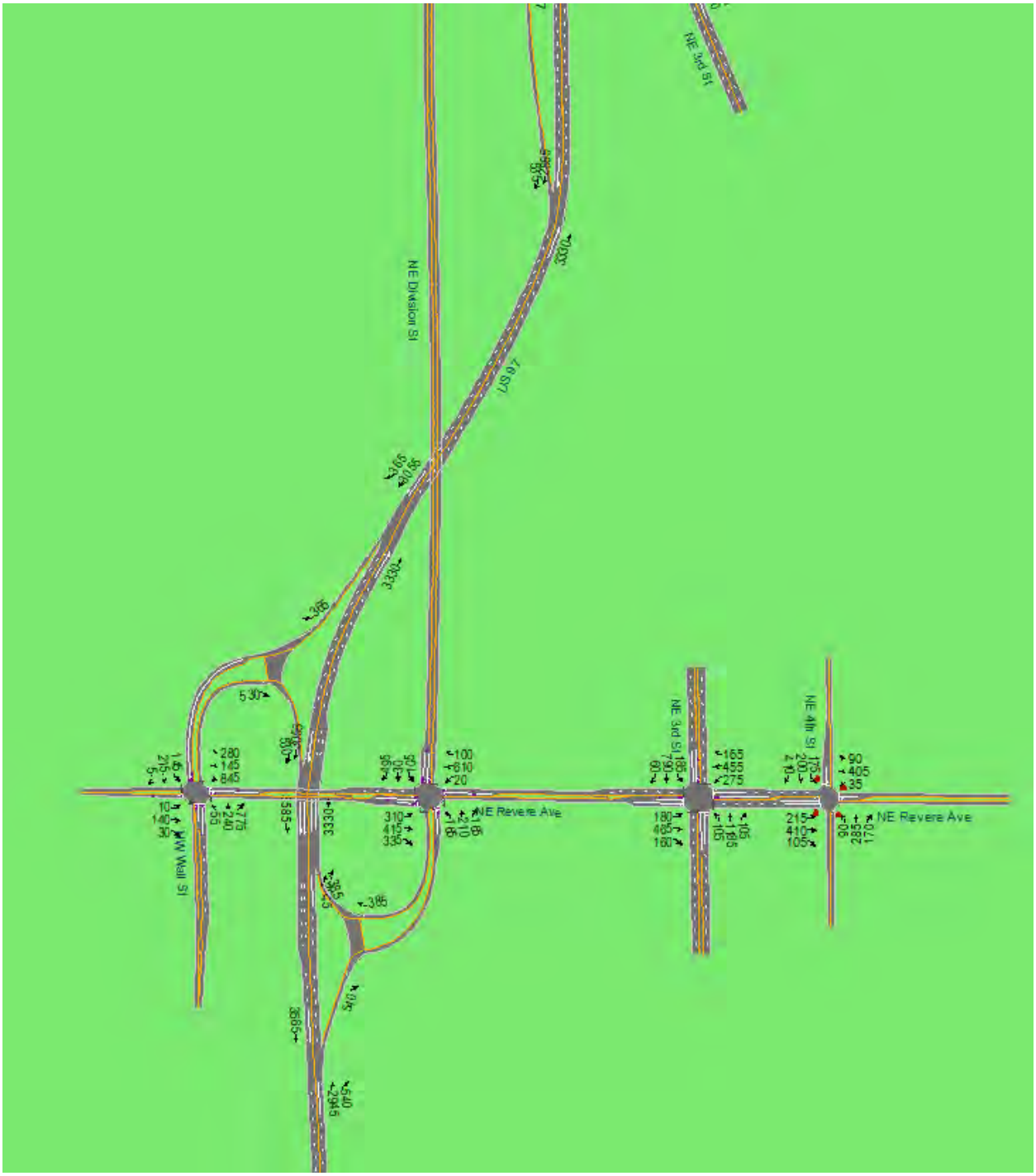
2040 30HV Final PM Peak Hour Volumes – Bundle A

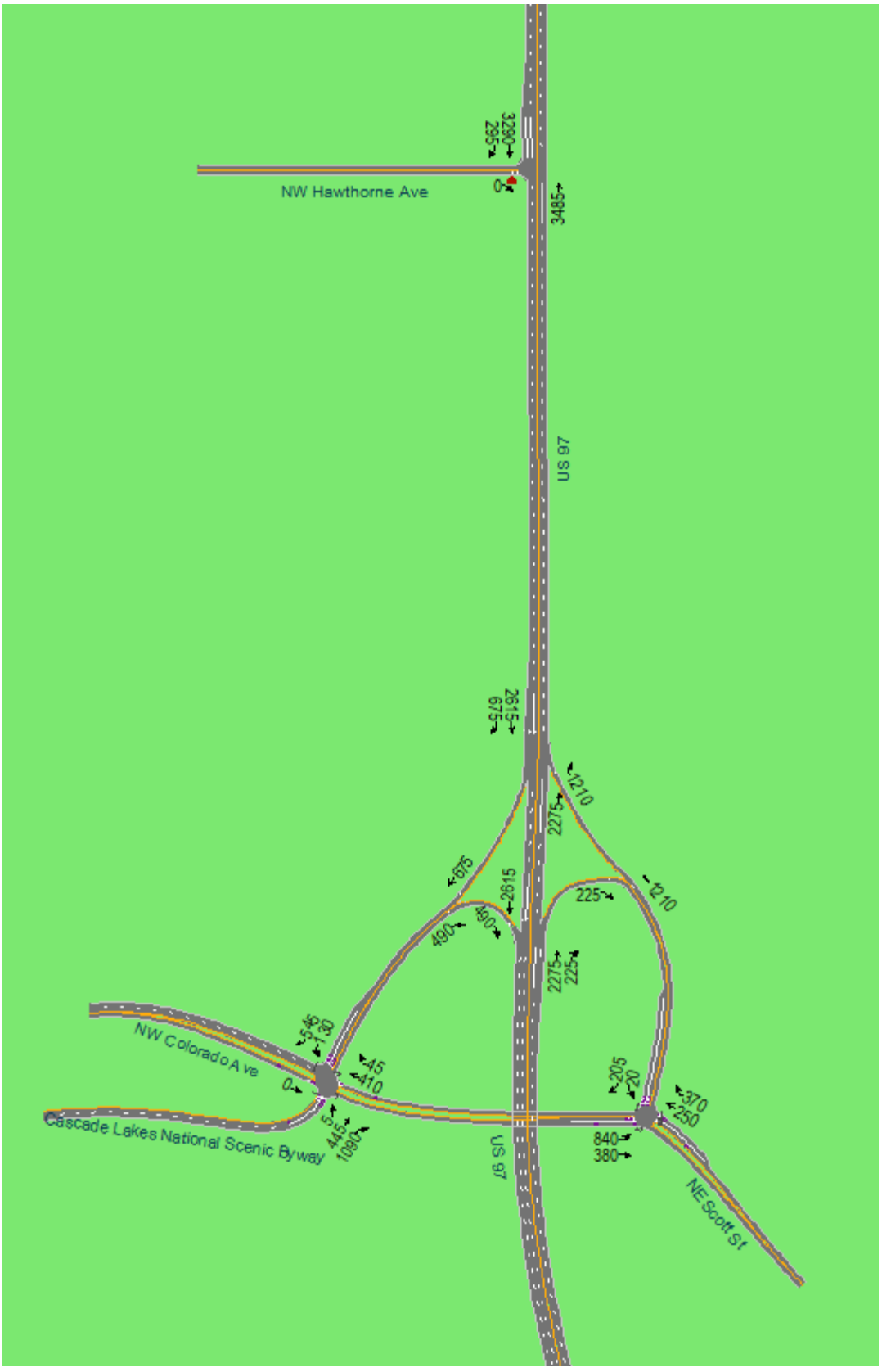
		Northbound			Southbound			Eastbound			Westbound		
		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
#	Intersection Name	2040 30HV PM Peak Hour - Balanced											
1	1 US 97 at Deschutes Pleasant Ridge	0	0	0	0	0	0	0	0	0	0	0	0
2	2 US97 at Cooley	0	0	0	0	0	0	0	0	0	0	0	0
3	3 US 97 at Robal	0	0	0	0	0	0	0	0	0	0	0	0
4	4 US 97 at Nels Anderson Pl	0	0	0	0	0	0	0	0	0	0	0	0
5	5 US 97 SB Ramp at Empire	0	0	0	10	5	55	10	1155	590	405	1090	10
6	6 US 97 NB Ramps at Empire	245	5	500	0	0	0	165	1000	0	0	1260	295
7	7 US20 at Empire	60	1070	190	1200	1305	180	230	250	40	350	490	220
8	8 US20 at Butler Market	190	1215	180	320	1890	110	220	205	140	10	275	180
9	9 SB off ramp at Butler Market	0	0	0	200	45	40	0	700	5	180	470	0
10	10 US97 NB On-Ramp at Butler Market	0	5	15	0	0	0	95	800	5	10	650	210
11	11 Bend Pkwy SB On-Ramp/Division at 3rd St	0	0	980	370	1090	580	570	10	10	75	120	35
12	12 US97 SB Ramps at Revere	60	250	775	180	245	5	10	65	30	765	140	255
13	13 US97 NB Ramps at Revere	155	220	160	100	30	505	310	370	340	15	500	90
14	14 US97 at Lafayette	0	3460	0	0	3515	0	0	0	0	0	0	0
15	15 US97 at Hawthorne	0	3460	0	0	3215	300	0	0	0	0	0	0
16	16 US97 SB Ramps at Colorado	0	0	0	170	0	545	0	1075	380	55	450	0
17	17 US97 NB Ramps at Colorado	260	0	55	0	0	0	890	370	0	0	245	365
18	18 US97 at Truman	0	2520	0	0	2935	0	0	0	90	0	0	0
19	19 Hwy 97 SB Ramps at Reed Market	0	0	0	995	0	250	0	1115	150	0	725	270
20	20 US97 NB ramps at Reed Market	30	0	140	0	0	40	0	1865	245	0	925	40
21	21 US97 at Reed Ln	0	1600	0	0	2110	0	0	0	0	0	0	0
22	22 US97 SB Ramps at Powers	0	0	0	0	0	0	0	0	0	0	0	0
23	23 US 97 at Powers	0	1600	0	0	2110	0	0	675	0	0	445	0
24	24 US 97 NB Ramps at Powers	0	0	0	0	0	0	0	0	0	0	0	0
25	25 US 97 at Badger	0	1600	0	0	2110	0	0	0	0	0	0	0
26	26 US97 at Pinebrook	0	1600	0	0	2110	0	0	0	0	0	0	0
28	28 US 97 at Ponderosa-China Hat	0	1860	0	0	3055	0	0	485	0	0	365	0
29	29 US 97 SB Ramps at Baker	0	0	0	95	0	500	55	460	0	0	495	220
30	30 US 97 NB Ramps at Knott	30	5	165	0	0	0	315	240	0	0	685	280
40	40 US 97 Bus at OB Riley	200	1245	170	40	1700	10	15	15	440	180	25	80
41	41 NW Mt Washington Dr at Riverview Park	0	5	35	15	0	5	0	575	0	25	580	15
42	NE Butler Market Rd at NE 4th St	230	0	95	5	5	10	5	700	110	105	635	5
45	45 Harriman at Revere	0	0	20	65	0	0	0	0	0	50	0	105
46	NE 3rd St at NE Revere Ave	85	1200	145	170	845	40	180	400	170	255	370	145
47	4th at Revere	80	315	65	175	255	355	90	425	175	65	345	95
48	48 Scott at Aune St	25	595	0	0	375	15	5	15	15	0	30	0
49	SW Brookswood at Reed Market	265	285	200	460	620	75	85	595	350	155	415	280
50	Silver Lake Blvd at Reed Market Rd	20	0	50	50	5	40	40	1165	140	115	790	70
51	Division St at Reed Market Rd	0	0	60	10	0	20	100	1035	870	5	945	745
52	3rd at Reed Market	700	860	300	150	1135	340	125	745	200	205	490	75
53	Brookswood at Powers Rd	5	470	115	450	615	60	60	65	5	190	85	115
54	3rd at Powers	70	615	10	15	1120	315	320	180	175	20	60	80
55	Parrell Rd at Powers Rd	65	330	5	0	375	95	120	0	85	0	0	0
56	56 Blakely at Badger	0	0	0	0	0	20	35	0	0	0	0	0
57	3rd St at Badger Rd	20	460	35	30	980	95	75	15	15	75	20	30
58	3rd St at Pinebrook	95	495	5	60	960	40	15	0	40	5	5	30
59	Murphy at SE 3rd St	15	270	35	295	735	195	240	445	65	350	260	245
60	Parrell Rd at China Hat Rd	50	0	140	0	0	0	0	455	30	275	315	0
61	61 US20 at 3rd St Ramp to NB US97	0	0	0	0	0	0	0	1175	0	0	980	525
62	62 Blakely Rd at Powers Rd	95	25	90	30	5	50	10	555	70	115	245	85

2040 30HV PM Peak Hour Volumes Figures – Bundle B


1985
0
180
1310
1195
230
500
355
N E Empire Ave
230
245
40
60
1075
190
US 20
N E Empire Ave
55
5
10
20
1115
425
15
1160
565
US 97 SB On Ramp
US 97
US 97 NB Off Ramp
US 97
0
0
265
1310
145
250
5
510
N E Empire Ave
3395
3160
3395
765


US 97
O. B. Riley Rd
O. B. Riley Rd.
US 20
NE Butler Market Rd
US 97 SB Off Ramp
US 97 NB On Ramp
NE 27th St
NE Division St
NE 4th St
NE 3rd St
US 97 SB On Ramp


NE 3rd St
NE Division St
US 97
NE Revere Ave
NW Wall St
NE 3rd St
NE 4th St
NE Revere Ave


NW Hawthorne Ave
US 97
NW Colorado Ave
Cascade Lakes National Scenic Byway
NE Scott St
3290
295
0
3485
2615
675
1210
2275
225
210
490
480
545
130
45
410
205
20
370
250
840
380
445
1090


SW Reed Market Rd
Brookswood Blvd
SW Reed Market Rd
silver lake
US 97
US 97
SW Division St
SE 3rd St
SW Reed Market Rd


Brookswood Blvd
Blakely Rd
US 97
SE 3rd St
Powers Rd
Powers Rd
Powers Rd
Powers Rd
Powers Rd
Parrell Rd
Badger Rd
Badger Rd
Badger Rd
US 97
US 97
SE 3rd St


Murphy Rd
Murphy Rd
Murphy Rd
US 97
Pinebrook Blvd
Pinebrook Blvd
SE 3rd St


US 97
Ponderosa
China Hat Rd
0
0
0
0
0
0
0
0
0
0
0
0
410
5
285
285
10
160


US 97 NB Off Ramp
US 97
US 97 On Ramp
US 97 SB Off Ramp
US 97
US 97 NB On Ramp
US 97
Baker
1735
755
195
500
95
220
490
280
595
1455
755
2250
55
350
60
2310
675
755
1455
595
1455
660
US 97

2040 Average Weekday NCHRP 765 Post Processing – Bundle B

			Base Year Count											
			Northbound			Southbound			Eastbound			Westbound		
N/S	E/W	#	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
Existing Intersections														
1 US 97 at Deschutes Pleasant Ridge		1	0	1579	128	0	1387	226	0	0	85	0	0	456
2 US97 at Cooley		2	40	1411	77	110	1501	44	185	143	15	185	69	58
3 US 97 at Robal		3	229	1491	14	21	1780	33	97	12	41	107	35	19
4 US 97 at Nels Anderson Pl		4	241	1723	39	0	1862	66	0	0	213	0	0	11
5 US 97 SB Ramp at Empire		5	0	0	0	5	2	17	4	752	418	328	425	6
6 US 97 NB Ramps at Empire		6	164	3	356	0	0	0	153	604	0	0	595	224
7 US20 at Empire		7	64	354	183	492	642	77	76	268	52	148	180	29
8 US20 at Butler Market		8	114	605	113	150	1044	60	95	154	81	309	148	73
9 SB off ramp at Butler Market		9	0	0	0	137	0	97	0	458	0	0	558	0
10 US97 NB On-Ramp at Butler Market		10	1	2	11	0	0	0	74	515	6	7	557	178
11 Bend Pkwy SB On-Ramp/Division at 3rd St		11	0	469	0	598	598	238	363	0	8	0	0	0
12 US97 SB Ramps at Revere		12	24	132	388	154	240	2	5	96	9	438	70	199
13 US97 NB Ramps at Revere		13	136	210	276	68	21	170	134	240	264	28	401	67
14 US97 at Lafayette		14	0	2377	0	0	2609	83	0	0	125	0	0	0
15 US97 at Hawthorne		15	0	2377	0	0	2475	259	0	0	223	0	0	0
16 US97 SB Ramps at Colorado		16	8	264	770	91	0	367	0	0	0	0	349	30
17 US97 NB Ramps at Colorado		17	0	0	0	17	0	199	644	217	0	0	180	381
18 US97 at Truman		18	0	1568	0	0	2351	183	0	0	80	0	0	0
19 Hwy 97 SB Ramps at Reed Market		19	0	0	0	0	0	150	0	710	52	0	457	0
20 US97 NB ramps at Reed Market		20	0	0	79	0	0	0	0	1292	0	0	449	291
21 US97 at Reed Ln		21	0	1076	55	0	1716	0	0	0	0	0	0	146
22 US97 SB Ramps at Powers		22	3	0	355	0	0	0	0	462	33	27	581	0
23 US 97 at Powers		23	0	828	21	0	1409	307	1	816	0	0	301	0
24 US 97 NB Ramps at Powers		24	0	0	0	1	0	28	193	644	0	0	273	138
25 US 97 at Badger		25	0	759	0	0	1088	0	0	0	0	0	0	0
26 US97 at Pinebrook		26	0	641	0	0	1836	0	0	0	0	0	0	0
28 US 97 at Ponderosa-China Hat		28	0	776	11	0	1409	130	0	0	18	0	0	110
29 US 97 SB Ramps at Baker		29	0	0	0	66	0	481	52	341	0	0	315	178
30 US 97 NB Ramps at Knott		30	44	1	95	0	0	0	247	160	0	0	449	17
40 US 97 Bus at OB Riley		40	69	569	130	35	929	5	7	8	189	131	11	58
41 NW Mt Washington Dr at Riverview Park		41	0	0	10	13	0	1	2	342	0	10	371	17
42 NE Butler Market Rd at NE 4th St		42	169	0	68	2	3	11	2	458	76	96	555	3
45 Harriman at Revere		45	0	1	9	29	0	0	0	0	0	18	0	35
46 NE 3rd St at NE Revere Ave		46	92	813	70	53	483	39	185	409	185	147	298	71
47 4th at Revere		47	61	217	45	110	133	220	154	301	89	25	243	62
48 Scott at Aune St		48	45	550	0	0	200	24	11	0	24	0	0	0
49 SW Brookswood at Reed Market		49	144	213	83	330	366	46	48	326	160	92	228	186
50 Silver Lake Blvd at Reed Market Rd		50	8	0	47	19	3	16	16	712	20	105	490	30
51 Division St at Reed Market Rd		51	0	0	37	0	0	0	0	698	593	4	792	0
52 3rd at Reed Market		52	227	493	222	110	655	124	91	533	62	175	295	78
53 Brookswood at Powers Rd		53	5	269	160	211	497	40	41	53	3	294	63	93
54 3rd at Powers		54	94	376	9	16	657	205	180	132	337	15	78	14
55 Parrell Rd at Powers Rd		55	35	140	0	0	185	57	66	0	105	0	0	0
56 Blakely at Badger		56	0	0	0	0	0	31	32	5	0	0	13	10
57 3rd St at Badger Rd		57	18	296	26	23	757	88	64	17	18	66	25	26
58 3rd St at Pinebrook		58	138	277	6	56	677	70	14	2	38	7	2	31
59 Murphy at SE 3rd St		59	38	162	38	209	334	150	170	155	8	115	139	151
60 Parrell Rd at China Hat Rd		60	0	0	0	72	0	9	6	5	0	0	101	37
61 US20 at 3rd St Ramp to NB US97		61	0	469	559	0	606	0	0	0	0	0	0	0
62 Blakely Rd at Powers Rd		62	17	1	60	18	2	9	4	387	30	102	433	33
XX Reed Market SPUI Intersection		XX	35			679			97	1233		62	980	
101 US 97 NB/SB Ramp to Hwy 20		101	0	2003	734	0	1640	435	0	0	0	0	0	0

South Leg In	North Leg Out	North Leg In	South Leg Out	West Leg In	East Leg Out	East Leg In	West Leg Out
NB_IN	NB_OUT	SB_IN	SB_OUT	EB_IN	EB_OUT	WB_IN	WB_OUT
1707	2035	1613	1472	85	128	456	226
1528	1654	1655	1701	343	330	312	153
1734	1607	1834	1928	150	47	161	297
2003	1734	1928	2075	213	39	11	307
0	10	24	748	1174	757	759	442
523	380	0	0	757	960	819	759
601	459	1211	842	396	943	357	321
832	773	1254	1434	330	417	530	322
0	0	234	0	458	595	558	655
14	254	0	13	595	526	742	558
469	832	1434	606	371	598	0	238
544	336	396	687	110	638	707	96
622	411	259	313	638	584	496	707
2377	2377	2692	2734	125	0	0	83
2377	2377	2734	2698	223	0	0	259
1042	294	458	0	0	861	379	724
0	1025	216	0	861	234	561	379
1568	1568	2534	2431	80	0	0	183
0	0	150	52	762	710	457	607
79	291	0	0	1292	1371	740	449
1131	1222	1716	1716	0	55	146	0
0	0	358	60	495	817	608	584
849	829	1716	1409	817	837	301	608
29	331	0	0	837	645	411	301
759	759	1088	1088	0	0	0	0
641	641	1836	1836	0	0	0	0
787	886	1539	1427	18	11	110	130
0	230	547	0	393	407	493	796
140	265	0	0	407	255	466	493
768	634	969	1249	204	173	200	85
10	19	14	10	344	365	398	372
237	5	16	175	536	528	654	735
10	36	29	18	0	38	53	0
975	1069	575	815	779	532	516	429
323	433	463	247	544	456	330	524
595	561	224	224	35	0	0	69
440	447	742	618	534	739	506	418
55	46	38	128	748	778	625	514
37	0	0	597	1291	735	796	792
942	662	889	892	686	865	548	646
434	403	748	794	97	424	450	108
479	570	878	1009	649	157	107	377
175	206	242	290	171	0	0	92
0	42	31	0	37	5	23	44
340	386	868	841	99	66	117	131
421	322	803	722	54	64	40	210
238	483	693	457	333	402	405	327
0	43	81	0	11	77	138	110
1028	469	606	606	0	559	0	0
78	38	29	134	421	465	568	459
35	97	679	62	1330	1912	1042	1015
2737	2003	2075	1640	0	734	0	435

			2010 Base PM Model (2-hour)											
		Synchro	Northbound			Southbound			Eastbound			Westbound		
N/S	E/W	#	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
Study Intersections														
1 US 97 at Deschutes Pleasant Ridge	0	1	0	1256	6	0	996	267	226	0	109	0	0	0
2 US97 at Cooley	0	2	99	1210	0	148	1023	19	67	145	223	211	28	75
3 US 97 at Robal	0	3	186	1245	0	10	1420	186	64	6	77	58	0	0
4 US 97 at Nels Anderson Pl	0	4	275	1405	36	0	1497	57	0	0	431	0	0	26
5 US 97 SB Ramp at Empire	0	5	0	0	0	0	0	0	0	926	277	253	386	0
6 US 97 NB Ramps at Empire	0	6	91	0	371	0	0	0	293	633	0	0	548	185
7 US20 at Empire	0	7	14	69	38	583	320	89	31	434	57	15	209	175
8 US20 at Butler Market	0	8	94	352	225	71	629	67	35	134	78	630	161	29
9 SB off ramp at Butler Market	0	9	0	0	0	99	0	308	0	393	0	0	331	0
10 US97 NB On-Ramp at Butler Market	0	10	2	1	1	0	0	0	152	340	1	0	330	76
11 Bend Pkwy SB On-Ramp/Division at 3rd St	0	11	0	286	0	633	653	51	384	0	0	0	0	0
12 US97 SB Ramps at Revere	0	12	0	11	458	5	441	0	0	0	0	103	0	220
13 US97 NB Ramps at Revere	0	13	71	248	374	52	13	75	127	14	323	0	177	38
14 US97 at Lafayette	0	14	0	1739	0	0	1809	132	0	0	335	0	0	0
15 US97 at Hawthorne	0	15	0	1739	0	0	2084	61	0	0	201	0	0	0
16 US97 SB Ramps at Colorado	0	16	13	205	595	54	0	476	0	0	0	0	213	0
17 US97 NB Ramps at Colorado	0	17	0	0	0	0	0	182	572	78	0	0	32	149
18 US97 at Truman	0	18	0	1200	0	0	1809	152	0	0	126	0	0	0
19 Hwy 97 SB Ramps at Reed Market	0	19	0	0	0	0	0	92	0	365	241	0	470	0
20 US97 NB ramps at Reed Market	0	20	0	0	187	0	0	0	0	746	0	0	494	244
21 US97 at Reed Ln	0	21	0	1133	3	0	1685	0	0	0	0	0	0	91
22 US97 SB Ramps at Powers	0	22	10	0	243	0	0	0	0	322	16	8	553	0
23 US 97 at Powers	0	23	0	844	1	0	1500	185	0	565	0	0	375	0
24 US 97 NB Ramps at Powers	0	24	0	0	0	0	0	27	75	491	0	0	348	244
25 US 97 at Badger	0	25	0	783	0	0	1006	265	0	0	18	0	0	63
26 US97 at Pinebrook	0	26	0	630	4	0	1001	23	130	85	14	0	140	23
28 US 97 at Ponderosa-China Hat	0	28	27	634	40	143	1126	2	38	0	7	49	0	55
29 US 97 SB Ramps at Baker	0	29	0	0	0	19	0	658	2	422	0	0	65	18
30 US 97 NB Ramps at Knott	0	30	7	0	20	0	0	0	370	71	0	0	77	12
40 US 97 Bus at OB Riley	0	40	163	212	0	94	435	13	6	31	249	0	36	59
41 NW Mt Washington Dr at Riverview Park		41	3	0	49	0	0	0	0	199	4	47	275	0
42 NE Butler Market Rd at NE 4th St	0	42	15	0	3	0	0	0	0	324	16	1	391	0
45 Harriman at Revere		45	0	0	0	0	0	0	0	0	0	0	0	0
46 NE 3rd St at NE Revere Ave	0	46	30	623	206	132	582	46	59	339	50	209	118	111
47 4th at Revere	0	47	22	23	1	37	19	272	430	221	26	0	143	26
48 Scott at Aune St		48	0	170	0	0	70	7	11	0	0	0	0	0
49 SW Brookswood at Reed Market	0	49	73	136	20	172	138	30	20	343	112	30	344	74
50 Silver Lake Blvd at Reed Market Rd	0	50	0	2	49	35	2	8	16	522	0	96	441	25
51 Division St at Reed Market Rd	0	51	0	0	35	0	0	0	25	447	460	15	352	0
52 3rd at Reed Market	0	52	290	443	285	57	692	95	185	298	0	381	227	25
53 Brookswood at Powers Rd	0	53	13	139	176	33	152	33	26	86	10	290	140	34
54 3rd at Powers	0	54	275	328	7	21	625	256	196	86	203	12	53	14
55 Parrell Rd at Powers Rd	0	55	25	34	0	0	37	59	78	0	45	0	0	0
56 Blakely at Badger		56	0	0	0	11	0	6	9	7	0	0	240	25
57 3rd St at Badger Rd	0	57	0	357	13	3	610	0	0	0	0	45	0	2
58 3rd St at Pinebrook	0	58	55	273	0	0	537	50	28	0	41	0	0	0
59 Murphy at SE 3rd St	0	59	24	77	41	130	45	74	47	55	3	51	53	115
60 Parrell Rd at China Hat Rd	0	60	0	0	0	7	0	46	96	87	0	0	58	3
61 US20 at 3rd St Ramp to NB US97		61	0	286	476	0	653	0	0	0	0	0	0	0
62 Blakely Rd at Powers Rd	0	62	19	2	38	38	2	16	16	262	17	71	429	62
XX Reed Market SPUI Intersection		XX	142			423			42	323		24	470	
101 US 97 NB/SB Ramp to Hwy 20		101	0	1715	388	0	1400	528	0	0	0	0	0	0

Indicates 3-leg intersection

South Leg In	North Leg Out	North Leg In	South Leg Out	West Leg In	East Leg Out	East Leg In	West Leg Out
NB_IN	NB_OUT	SB_IN	SB_OUT	EB_IN	EB_OUT	WB_IN	WB_OUT
1262	1482	1263	1105	335	6	0	267
1309	1352	1190	1457	435	293	314	146
1431	1309	1616	1555	147	16	58	372
1716	1431	1554	1928	431	36	26	332
15	31	0	530	1203	926	639	386
462	478	0	0	926	1004	733	639
121	275	992	392	522	1055	399	312
671	416	767	1337	247	430	820	322
0	0	407	0	393	492	331	639
4	229	0	1	493	341	406	332
286	670	1337	653	384	633	0	51
469	231	446	544	0	463	323	0
693	413	140	336	464	440	215	323
1739	1739	1941	2144	335	0	0	132
1739	1739	2145	2285	201	0	0	61
813	205	530	0	0	649	213	702
0	721	182	0	650	78	181	214
1200	1200	1961	1935	126	0	0	152
0	0	92	241	606	365	470	562
187	244	0	0	746	933	738	494
1136	1224	1685	1685	0	3	91	0
0	0	253	24	338	565	561	563
845	844	1685	1500	565	566	375	560
27	319	0	0	566	491	592	375
783	846	1271	1024	18	0	63	265
634	783	1024	1015	229	89	163	163
701	727	1271	1182	45	183	104	29
0	20	677	0	424	441	83	723
27	382	0	0	441	91	89	84
375	277	542	684	286	125	95	212
52	0	0	51	203	248	322	278
18	0	0	17	340	327	392	406
0	0	0	0	0	0	0	0
859	793	760	841	448	677	438	194
46	479	328	45	677	259	169	437
170	181	77	70	11	0	0	7
229	230	340	280	475	535	448	447
51	43	45	98	538	606	562	449
35	269	0	475	932	482	367	352
1018	653	844	1073	483	640	633	612
328	199	218	452	122	295	464	186
610	538	902	840	485	114	79	584
59	112	96	82	123	0	0	84
0	34	17	0	16	18	265	246
370	359	613	655	0	16	47	0
328	301	587	578	69	0	0	105
142	239	249	99	105	226	219	151
0	99	53	0	183	94	61	104
762	286	653	653	0	476	0	0
59	80	56	90	295	338	562	464
142	42	423	24	365	746	494	612
2103	1715	1928	1400	0	388	0	528

			2040 PM Model (1-hour)											
			Northbound			Southbound			Eastbound			Westbound		
N/S	E/W	#	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
Study Intersections														
1 US 97 at Deschutes Pleasant Ridge	0	1	0	0	0	0	0	0	0	0	0	0	0	0
2 US97 at Cooley	0	2	0	0	0	0	0	0	0	0	0	0	0	0
3 US 97 at Robal	0	3	0	0	0	0	0	0	0	0	0	0	0	0
4 US 97 at Nels Anderson Pl	0	4	0	0	0	0	0	0	0	0	0	0	0	0
5 US 97 SB Ramp at Empire	0	5	0	0	0	31	14	0	19	1278	510	199	1175	26
6 US 97 NB Ramps at Empire	0	6	164	12	403	0	0	0	165	1144	0	0	1235	274
7 US20 at Empire	0	7	82	658	124	1223	1035	244	142	460	19	116	439	653
8 US20 at Butler Market	0	8	121	1039	251	115	1494	190	103	273	112	493	209	51
9 SB off ramp at Butler Market	0	9	0	0	0	118	0	237	0	580	0	0	375	0
10 US97 NB On-Ramp at Butler Market	0	10	3	2	2	0	0	0	182	514	2	1	372	116
11 Bend Pkwy SB On-Ramp/Division at	0	11	0	809	0	471	1180	448	602	0	0	0	0	0
12 US97 SB Ramps at Revere	0	12	0	104	786	3	258	0	0	0	0	618	0	267
13 US97 NB Ramps at Revere	0	13	58	183	293	87	1	452	372	87	331	2	376	58
14 US97 at Lafayette	0	14	0	2713	0	0	2715	0	0	0	0	0	0	0
15 US97 at Hawthorne	0	15	0	2713	0	0	2655	59	0	0	0	0	0	0
16 US97 SB Ramps at Colorado	0	16	22	371	889	51	0	671	0	0	0	0	250	0
17 US97 NB Ramps at Colorado	0	17	0	0	0	0	0	161	764	176	0	0	89	52
18 US97 at Truman	0	18	0	2058	0	0	2305	0	0	0	0	0	0	0
19 US 97 SB Ramps at Reed Market	0	19	0	0	0	0	0	166	0	1028	203	0	911	0
20 US97 NB ramps at Reed Market	0	20	0	0	139	0	0	0	0	1233	0	0	855	408
21 US97 at Reed Ln	0	21	0	1781	0	0	2073	0	0	0	0	0	0	0
22 US97 SB Ramps at Powers	0	22	0	0	0	297	0	411	0	660	138	20	621	0
23 US 97 at Powers	0	23	0	0	0	0	0	0	0	0	0	0	0	0
24 US 97 NB Ramps at Powers	0	24	16	0	0	0	0	0	210	747	0	0	625	295
25 US 97 at Badger	0	25	0	1292	0	0	1524	0	0	0	0	0	0	0
26 US97 at Pinebrook	0	26	0	1292	0	0	1524	0	0	0	0	0	0	0
28 US 97 at Ponderosa-China Hat	0	28	0	1236	0	0	1332	0	0	0	0	0	0	0
29 US 97 SB Ramps at Baker	0	29	0	0	0	5	0	600	17	522	0	0	233	29
30 US 97 NB Ramps at Knott	0	30	13	0	49	0	0	0	378	149	0	0	249	398
40 US 97 Bus at OB Riley	0	40	425	716	0	100	1163	0	21	47	553	0	48	107
41 NW Mt Washington Dr at Riverview Park		41	14	0	90	0	0	0	0	399	13	80	440	0
42 NE Butler Market Rd at NE 4th St	0	42	97	0	20	0	0	0	0	481	35	9	392	0
45 Harriman at Revere		45												
46 NE 3rd St at NE Revere Ave	0	46	40	906	448	271	945	48	58	369	57	305	347	265
47 4th at Revere	0	47	113	50	4	54	128	475	591	451	46	5	329	25
48 Scott at Aune St		48	2	125	0	0	162	13	16	0	0	0	0	0
49 SW Brookswood at Reed Market	0	49	242	245	54	306	406	38	33	703	332	92	587	214
50 Silver Lake Blvd at Reed Market Rd	0	50	0	4	62	98	4	16	10	1071	1	101	889	87
51 Division St at Reed Market Rd	0	51	0	0	40	0	0	28	0	681	691	0	1235	0
52 3rd at Reed Market	0	52	605	836	304	94	1226	215	189	515	17	316	414	49
53 Brookswood at Powers Rd	0	53	14	231	334	314	278	54	34	103	9	500	149	206
54 3rd at Powers	0	54	443	477	43	56	696	334	222	134	386	43	123	46
55 Parrell Rd at Powers Rd	0	55	39	185	0	0	161	190	193	0	63	0	0	0
56 Blakely at Badger		56	0	0	0	0	0	6	7	0	0	0	0	0
57 3rd St at Badger Rd	0	57	0	669	24	7	874	0	0	0	0	32	0	5
58 3rd St at Pinebrook	0	58	0	552	0	0	832	0	0	0	0	0	0	0
59 Murphy at SE 3rd St	0	59	34	58	53	385	231	185	160	146	123	148	152	279
60 Parrell Rd at China Hat Rd	0	60	0	0	0	187	0	6	3	464	0	0	165	297
61 US20 at 3rd St Ramp to NB US97		61	0	809	358	0	1180	0	0	0	0	0	0	0
62 Blakely Rd at Powers Rd	0	62	26	5	56	75	3	30	38	668	45	125	799	108
XX Reed Market SPUI Intersection		XX	212			425			220	808		156	699	
101 US 97 NB/SB Ramp to Hwy 20	0	##	0	631	523	0	0	1134	0	0	0	0	0	0

South Leg In	North Leg Out	North Leg In	South Leg Out	West Leg In	East Leg Out	East Leg In	West Leg Out
NB_IN	NB_OUT	SB_IN	SB_OUT	EB_IN	EB_OUT	WB_IN	WB_OUT
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
45	78	45	723	1807	1309	1400	1175
579	451	0	0	1309	1547	1509	1399
864	1453	2502	1170	621	1807	1208	765
1411	1193	1799	2099	488	639	753	520
0	0	355	0	580	698	375	612
7	300	0	3	698	516	489	375
809	1411	2099	1180	602	471	0	448
890	371	261	876	0	789	885	0
534	613	540	334	790	467	436	886
2713	2713	2715	2715	0	0	0	0
2713	2713	2714	2655	0	0	0	59
1282	371	722	0	0	940	250	943
0	816	161	0	940	176	141	250
2058	2058	2305	2305	0	0	0	0
0	0	166	203	1231	1028	911	1077
139	408	0	0	1233	1372	1263	855
1781	1781	2073	2073	0	0	0	0
0	0	708	158	798	957	641	1032
0	0	0	0	0	0	0	0
16	505	0	0	957	747	920	641
1292	1292	1524	1524	0	0	0	0
1292	1292	1524	1524	0	0	0	0
1236	1236	1332	1332	0	0	0	0
0	46	605	0	539	527	262	833
62	776	0	0	527	198	647	262
1141	844	1263	1716	621	147	155	473
104	0	0	93	412	489	520	454
117	0	0	44	516	501	401	489
0	0	0	0	0	0	0	0
1394	1229	1264	1307	484	1088	917	435
167	666	657	179	1088	509	359	917
127	141	175	162	16	0	0	15
541	492	750	830	1068	1063	893	867
66	101	118	106	1082	1231	1077	905
40	0	28	691	1372	721	1235	1263
1745	1074	1535	1559	721	913	779	1234
579	471	646	787	146	751	855	217
963	745	1086	1125	742	233	212	900
224	378	351	224	256	0	0	229
0	7	6	0	7	0	0	6
693	674	881	906	0	31	37	0
552	552	832	832	0	0	0	0
145	497	801	502	429	584	579	371
0	300	193	0	467	651	462	171
1167	809	1180	1180	0	358	0	0
87	151	108	173	751	799	1032	855
212	220	425	156	1028	1233	855	911
1154	631	1134	0	0	523	0	1134

			(2040 Model - 2010 Base Year Model)*22/30 years of growth												Difference							
			Northbound			Southbound			Eastbound			Westbound				South Leg In	North Leg Out	North Leg In	South Leg Out	West Leg In	East Leg Out	East Leg In	West Leg Out
N/S	E/W	#	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	Comment	NB_IN	NB_OUT	SB_IN	SB_OUT	EB_IN	EB_OUT	WB_IN	WB_OUT
Study Intersections																							
1 US 97 at Deschutes Pleasant Ridge	0	1	0	-963	-5	0	-764	-205	-173	0	-84	0	0	0		-968	-1136	-968	-847	-257	-5	0	-205
2 US97 at Cooley	0	2	-76	-928	0	-113	-784	-15	-51	-111	-171	-162	-21	-58		-1004	-1037	-912	-1117	-334	-225	-241	-112
3 US 97 at Robal	0	3	-143	-955	0	-8	-1089	-143	-49	-5	-59	-44	0	0		-1097	-1004	-1239	-1192	-113	-12	-44	-285
4 US 97 at Nels Anderson Pl	0	4	-211	-1077	-28	0	-1148	-44	0	0	-330	0	0	-20		-1316	-1097	-1191	-1478	-330	-28	-20	-255
5 US 97 SB Ramp at Empire	0	5	0	0	0	24	11	0	15	270	179	-41	605	20		0	35	35	148	463	294	583	605
6 US 97 NB Ramps at Empire	0	6	56	9	25	0	0	0	-98	392	0	0	527	68		90	-21	0	0	294	416	595	583
7 US20 at Empire	0	7	52	452	66	491	548	119	85	20	-29	77	176	366		570	903	1158	596	76	577	620	347
8 US20 at Butler Market	0	8	21	527	20	34	663	94	52	107	26	-105	37	17		567	596	791	584	185	160	-51	152
9 SB off ramp at Butler Market	0	9	0	0	0	15	0	-54	0	143	0	0	34	0		0	0	-40	0	143	158	34	-21
10 US97 NB On-Ramp at Butler Marke	0	10	1	1	1	0	0	0	23	133	1	1	32	31		2	54	0	2	157	134	64	33
11 Bend Pkwy SB On-Ramp/Division a	0	11	0	401	0	-124	404	304	167	0	0	0	0	0		401	568	584	404	167	-124	0	304
12 US97 SB Ramps at Revere	0	12	0	71	251	-2	-140	0	0	0	0	395	0	36		323	107	-142	255	0	250	431	0
13 US97 NB Ramps at Revere	0	13	-10	-50	-62	27	-9	289	188	56	6	2	153	15		-122	153	307	-2	250	21	169	432
14 US97 at Lafayette	0	14	0	747	0	0	695	-101	0	0	-257	0	0	0		747	747	593	438	-257	0	0	-101
15 US97 at Hawthorne	0	15	0	747	0	0	438	-2	0	0	-154	0	0	0		747	747	436	284	-154	0	0	-2
16 US97 SB Ramps at Colorado	0	16	7	127	225	-2	0	150	0	0	0	0	28	0		360	127	147	0	0	223	28	185
17 US97 NB Ramps at Colorado	0	17	0	0	0	0	0	-16	147	75	0	0	44	-74		0	73	-16	0	222	75	-31	28
18 US97 at Truman	0	18	0	658	0	0	380	-117	0	0	-97	0	0	0		658	658	264	284	-97	0	0	-117
19 Hwy 97 SB Ramps at Reed Market	0	19	0	0	0	0	0	57	0	508	-29	0	338	0		0	0	57	-29	479	508	338	395
20 US97 NB ramps at Reed Market	0	20	0	0	-37	0	0	0	0	373	0	0	277	126		-37	126	0	0	373	337	403	277
21 US97 at Reed Ln	0	21	0	497	-2	0	297	0	0	0	0	0	0	-70		495	427	297	297	0	-2	-70	0
22 US97 SB Ramps at Powers	0	22	-8	0	-186	228	0	315	0	259	94	9	52	0		0	0	455	134	460	392	80	469
23 US 97 at Powers	0	23	0	-647	-1	0	-1150	-142	0	-433	0	0	-288	0		-648	-647	-1292	-1150	-433	-434	-288	-429
24 US 97 NB Ramps at Powers	0	24	12	0	0	0	0	-21	104	196	0	0	212	39		-11	186	0	0	391	256	328	266
25 US 97 at Badger	0	25	0	390	0	0	397	-203	0	0	-14	0	0	-48		390	342	194	383	-14	0	-48	-203
26 US97 at Pinebrook	0	26	0	508	-3	0	401	-18	-100	-65	-11	0	-107	-18		504	390	383	390	-176	-68	-125	-125
28 US 97 at Ponderosa-China Hat	0	28	-21	462	-31	-110	158	-2	-29	0	-5	-38	0	-42		410	390	47	115	-35	-140	-80	-22
29 US 97 SB Ramps at Baker	0	29	0	0	0	-11	0	-44	12	77	0	0	129	8		0	20	-55	0	88	66	137	84
30 US 97 NB Ramps at Knott	0	30	5	0	22	0	0	0	6	60	0	0	132	296		27	302	0	0	66	82	428	136
40 US 97 Bus at OB Riley	0	40	201	386	0	5	558	-10	12	12	233	0	9	37		587	435	553	791	257	17	46	200
41 NW Mt Washington Dr at Riverview	0	41	8	0	31	0	0	0	0	153	7	25	127	0		40	0	0	32	160	185	152	135
42 NE Butler Market Rd at NE 4th St	0	42	63	0	13	0	0	0	0	120	15	6	1	0		76	0	0	21	135	133	7	64
45 Harriman at Revere	0	45	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0
46 NE 3rd St at NE Revere Ave	0	46	8	217	186	107	278	2	-1	23	5	74	176	118		410	334	386	357	28	315	367	185
47 4th at Revere	0	47	70	21	2	13	84	156	123	176	15	4	143	-1		93	143	252	103	315	192	145	368
48 Scott at Aune St	0	48	1	-35	0	0	71	5	4	0	0	0	0	0		-33	-31	75	71	4	0	0	6
49 SW Brookswood at Reed Market	0	49	130	84	26	103	205	6	10	276	169	48	186	107		239	201	314	422	455	405	341	322
50 Silver Lake Blvd at Reed Market Rd	0	50	0	2	10	48	2	6	-5	421	1	4	343	48		11	44	56	6	417	479	395	350
51 Division St at Reed Market Rd	0	51	0	0	4	0	0	21	-19	179	177	-12	677	-187		4	-206	21	166	337	183	478	698
52 3rd at Reed Market	0	52	242	301	15	28	409	92	3	166	13	-50	143	18		557	323	530	373	182	209	112	477
53 Brookswood at Powers Rd	0	53	1	71	121	215	97	16	6	13	-1	161	7	132		192	209	328	257	18	350	300	24
54 3rd at Powers	0	54	129	114	28	27	54	60	20	37	140	24	54	25		271	159	141	219	197	91	102	242
55 Parrell Rd at Powers Rd	0	55	11	116	0	0	95	100	88	0	14	0	0	0		127	204	196	109	102	0	0	111
56 Blakely at Badger	0	56	0	0	0	-8	0	0	-2	-5	0	0	-184	-19		0	-21	-8	0	-7	-14	-203	-184
57 3rd St at Badger Rd	0	57	0	239	8	3	202	0	0	0	0	-10	0	2		248	242	205	192	0	12	-8	0
58 3rd St at Pinebrook	0	58	-42	214	0	0	226	-38	-21	0	-31	0	0	0		172	192	188	195	-53	0	0	-81
59 Murphy at SE 3rd St	0	59	8	-15	9	196	143	85	87	70	92	74	76	126		2	198	423	309	248	274	276	169
60 Parrell Rd at China Hat Rd	0	60	0	0	0	138	0	-31	-71	289	0	0	82	225		0	154	107	0	218	427	307	51
61 US20 at 3rd St Ramp to NB US97	0	61	0	401	-90	0	404	0	0	0	0	0	0	0		311	401	404	404	0	-90	0	0
62 Blakely Rd at Powers Rd	0	62	5	2	14	28	1	11	17	311	21	41	284	35		21	54	40	64	350	353	360	300
XX Reed Market SPUI Intersection	0	XX	54	0	0	2	0	0	136	372	0	101	176	0		54	136	2	101	508	373	277	229
101 US 97 NB/SB Ramp to Hwy 20	0	101	0	-831	104	0	-1073	465	0	0	0	0	0	0		-728	-831	-609	-1073	0	104	0	465

Growth Increment	***0.767***
Count Year	2017
Base Model	2010
Future Model	2040
Forecast Horizon	2040

			Difference Method (DIFF)								Annual Change							
N/S	E/W	#	NB_IN	NB_OUT	SB_IN	SB_OUT	EB_IN	EB_OUT	WB_IN	WB_OUT	NB_IN	NB_OUT	SB_IN	SB_OUT	EB_IN	EB_OUT	WB_IN	WB_OUT
Study Intersections																		
1 US 97 at Deschutes Pleasant Ridge		1	739	899	645	625	-172	123	456	21		-4%	-3%	-4%	-4%	0%	0%	0%	-10%
2 US97 at Cooley		2	524	617	743	584	10	105	71	41		-5%	-4%	-3%	-5%	-14%	-5%	-6%	-6%
3 US 97 at Robal		3	637	603	595	736	37	35	117	12		-4%	-4%	-5%	-4%	-6%	-1%	-1%	-13%
4 US 97 at Nels Anderson Pl		4	687	637	737	597	-117	11	-9	52		-5%	-4%	-4%	-5%	0%	-5%	0%	-7%
5 US 97 SB Ramp at Empire		5	0	45	59	896	1637	1051	1342	1047		0%	7%	4%	1%	1%	1%	3%	4%
6 US 97 NB Ramps at Empire		6	613	359	0	0	1051	1376	1414	1342		1%	0%	0%	0%	1%	2%	2%	3%
7 US20 at Empire		7	1171	1362	2369	1438	472	1520	977	668		3%	5%	3%	2%	1%	2%	4%	3%
8 US20 at Butler Market		8	1399	1369	2045	2018	515	577	479	474		2%	3%	2%	1%	2%	1%	0%	2%
9 SB off ramp at Butler Market		9	0	0	194	0	601	753	592	634		0%	0%	-1%	0%	1%	1%	0%	0%
10 US97 NB On-Ramp at Butler Market		10	16	308	0	15	752	660	806	591		1%	1%	0%	0%	1%	1%	0%	0%
11 Bend Pkwy SB On-Ramp/Division at 3rd St		11	870	1400	2018	1010	538	474	0	542		3%	2%	1%	2%	2%	-1%	0%	4%
12 US97 SB Ramps at Revere		12	867	443	254	942	110	888	1138	96		2%	1%	-2%	1%	0%	1%	2%	0%
13 US97 NB Ramps at Revere		13	500	564	566	311	888	605	665	1139		-1%	1%	3%	0%	1%	0%	1%	2%
14 US97 at Lafayette		14	3124	3124	3285	3172	-132	0	0	-18		1%	1%	1%	1%	0%	0%	0%	0%
15 US97 at Hawthorne		15	3124	3124	3170	2982	69	0	0	257		1%	1%	1%	0%	-5%	0%	0%	0%
16 US97 SB Ramps at Colorado		16	1402	421	605	0	0	1084	407	909		1%	2%	1%	0%	0%	1%	0%	1%
17 US97 NB Ramps at Colorado		17	0	1098	200	0	1083	309	530	407		0%	0%	0%	0%	1%	1%	0%	0%
18 US97 at Truman		18	2226	2226	2798	2715	-17	0	0	66		2%	2%	0%	0%	0%	0%	0%	-4%
19 Hwy 97 SB Ramps at Reed Market		19	0	0	207	23	1241	1218	795	1002		0%	0%	1%	-4%	2%	2%	2%	2%
20 US97 NB ramps at Reed Market		20	42	417	0	0	1665	1708	1143	726		-3%	2%	0%	0%	1%	1%	2%	2%
21 US97 at Reed Ln		21	1626	1649	2013	2013	0	53	76	0		2%	1%	1%	1%	0%	0%	-3%	0%
22 US97 SB Ramps at Powers		22	0	0	813	194	955	1209	688	1053		0%	0%	4%	5%	3%	2%	1%	3%
23 US 97 at Powers		23	201	182	424	259	384	403	14	179		-6%	-6%	-6%	-7%	-3%	-3%	-13%	-5%
24 US 97 NB Ramps at Powers		24	18	517	0	0	1228	901	739	567		-2%	2%	0%	0%	2%	1%	3%	3%
25 US 97 at Badger		25	1149	1101	1282	1471	-14	0	-48	-203		2%	2%	1%	1%	0%	0%	0%	0%
26 US97 at Pinebrook		26	1145	1031	2219	2226	-176	-68	-125	-125		3%	2%	1%	1%	0%	0%	0%	0%
28 US 97 at Ponderosa-China Hat		28	1197	1276	1586	1542	-17	-129	30	108		2%	2%	0%	0%	0%	0%	-5%	-1%
29 US 97 SB Ramps at Baker		29	0	250	492	0	481	473	630	880		0%	0%	0%	0%	1%	1%	1%	0%
30 US 97 NB Ramps at Knott		30	167	567	0	0	473	337	894	629		1%	3%	0%	0%	1%	1%	3%	1%
40 US 97 Bus at OB Riley		40	1355	1069	1522	2040	461	190	246	285		3%	2%	2%	2%	4%	0%	1%	5%
41 NW Mt Washington Dr at Riverview Park		41	50	19	14	42	504	550	550	507		7%	0%	0%	6%	2%	2%	1%	1%
42 NE Butler Market Rd at NE 4th St		42	313	5	16	196	671	661	661	799		1%	0%	0%	0%	1%	1%	0%	0%
45 Harriman at Revere		45	10	36	29	18	0	38	53	0		0%	0%	0%	0%	0%	0%	0%	0%
46 NE 3rd St at NE Revere Ave		46	1385	1403	961	1172	807	847	883	614		2%	1%	2%	2%	0%	2%	2%	2%
47 4th at Revere		47	416	576	715	350	859	648	475	892		1%	1%	2%	2%	2%	2%	2%	2%
48 Scott at Aune St		48	562	530	299	295	39	0	0	75		0%	0%	1%	1%	0%	0%	0%	0%
49 SW Brookswood at Reed Market		49	679	648	1056	1040	989	1144	847	740		2%	2%	2%	2%	3%	2%	2%	3%
50 Silver Lake Blvd at Reed Market Rd		50	66	90	94	134	1165	1257	1020	864		1%	3%	4%	0%	2%	2%	2%	2%
51 Division St at Reed Market Rd		51	41	-206	21	763	1628	918	1274	1490		0%	0%	#DIV/0!	1%	1%	1%	2%	3%
52 3rd at Reed Market		52	1499	985	1419	1265	868	1074	660	1123		2%	2%	2%	2%	1%	1%	1%	2%
53 Brookswood at Powers Rd		53	626	612	1076	1051	115	774	750	132		2%	2%	2%	1%	1%	3%	2%	1%
54 3rd at Powers		54	750	729	1019	1228	846	248	209	619		2%	1%	1%	1%	1%	2%	3%	2%
55 Parrell Rd at Powers Rd		55	302	410	438	399	273	0	0	203		2%	3%	3%	1%	2%	0%	0%	4%
56 Blakely at Badger		56	0	21	23	0	30	-9	-180	-140		0%	-3%	-1%	0%	-1%	0%	0%	0%
57 3rd St at Badger Rd		57	588	628	1073	1033	99	78	109	131		2%	2%	1%	1%	0%	1%	0%	0%
58 3rd St at Pinebrook		58	593	514	991	917	1	64	40	130		1%	2%	1%	1%	-16%	0%	0%	-2%
59 Murphy at SE 3rd St		59	240	681	1116	766	581	676	681	496		0%	2%	2%	2%	2%	2%	2%	2%
60 Parrell Rd at China Hat Rd		60	0	197	188	0	229	504	445	161		0%	7%	4%	0%	14%	9%	5%	2%
61 US20 at 3rd St Ramp to NB US97		61	1339	870	1010	1010	0	469	0	0		1%	3%	2%	2%	0%	-1%	0%	0%
62 Blakely Rd at Powers Rd		62	99	92	69	198	771	818	928	759		1%	4%	4%	2%	3%	2%	2%	2%
XX Reed Market SPUI Intersection		XX	89	233	681	163	1838	2285	1319	1244		4%	4%	0%	4%	1%	1%	1%	1%
101 US 97 NB/SB Ramp to Hwy 2	0	101	2009	1172	1466	567	0	838	0	900		-1%	-2%	-1%	-5%	0%	1%	0%	3%

			Ratio Method (RATIO)				0.77 Interpolated Model Increment Ratio (Do Not Edit)				Annual Change							
			South Leg	North Leg	North Le	South Le	West Leg In	East Leg Out	East Leg In	West Leg Out	South Leg In	North Leg Out	North Leg In	South Leg Out	West Leg In	East Leg Out	East Leg In	West Leg Out
			NB_IN	NB_OUT	SB_IN	SB_OUT	EB_IN	EB_OUT	WB_IN	WB_OUT	NB_IN	NB_OUT	SB_IN	SB_OUT	EB_IN	EB_OUT	WB_IN	WB_OUT
1 US 97 at Deschutes Pleasant Ri	0	1	0	0	0	0	0	0	456	0	0%	0%	0%	0%	0%	0%	0%	0%
2 US97 at Cooley	0	2	0	0	0	0	0	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
3 US 97 at Robal	0	3	0	0	0	0	0	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
4 US 97 at Nels Anderson Pl	0	4	0	0	0	0	0	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
5 US 97 SB Ramp at Empire	0	5	0	20	#DIV/0!	949	1604	987	1385	1038	0%	3%	#DIV/0!	1%	1%	1%	3%	4%
6 US 97 NB Ramps at Empire	0	6	622	363	0	0	987	1337	1425	1384	1%	0%	0%	0%	1%	1%	2%	3%
7 US20 at Empire	0	7	2713	1645	2461	1947	452	1425	835	638	7%	6%	3%	4%	1%	2%	4%	3%
8 US20 at Butler Market	0	8	1471	1734	2411	2026	556	565	496	465	3%	4%	3%	2%	2%	1%	0%	2%
9 SB off ramp at Butler Market	0	9	0	0	211	0	617	778	614	634	0%	0%	0%	0%	1%	1%	0%	0%
10 US97 NB On-Ramp at Butler M	0	10	22	312	0	30	777	723	856	613	2%	1%	0%	4%	1%	1%	1%	0%
11 Bend Pkwy SB On-Ramp/Divisi	0	11	1041	1473	2026	954	524	477	0	1259	4%	3%	2%	2%	2%	-1%	0%	8%
12 US97 SB Ramps at Revere	0	12	889	483	263	990	110	960	1531	96	2%	2%	-2%	2%	0%	2%	3%	0%
13 US97 NB Ramps at Revere	0	13	509	556	729	312	959	611	853	1532	-1%	1%	5%	0%	2%	0%	2%	3%
14 US97 at Lafayette	0	14	3343	3343	3482	3277	0	0	0	0	1%	1%	1%	1%	0%	0%	0%	0%
15 US97 at Hawthorne	0	15	3343	3343	3274	3027	0	0	0	252	1%	1%	1%	1%	0%	0%	0%	0%
16 US97 SB Ramps at Colorado	0	16	1477	463	580	0	0	1144	428	908	2%	2%	1%	0%	0%	1%	1%	1%
17 US97 NB Ramps at Colorado	0	17	0	1127	197	0	1142	437	463	427	0%	0%	0%	0%	1%	3%	-1%	1%
18 US97 at Truman	0	18	2371	2371	2868	2780	0	0	0	0	2%	2%	1%	1%	0%	0%	0%	0%
19 Hwy 97 SB Ramps at Reed Ma	0	19	0	0	236	46	1312	1570	759	999	0%	0%	2%	-1%	2%	4%	2%	2%
20 US97 NB ramps at Reed Marke	0	20	63	432	0	0	1899	1843	1117	684	-1%	2%	0%	0%	2%	1%	2%	2%
21 US97 at Reed Ln	0	21	1597	1629	2011	2011	0	0	0	0	2%	1%	1%	1%	0%	0%	0%	0%
22 US97 SB Ramps at Powers	0	22	0	0	788	254	956	1224	673	929	0%	0%	3%	6%	3%	2%	0%	2%
23 US 97 at Powers	0	23	0	0	0	0	0	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
24 US 97 NB Ramps at Powers	0	24	19	471	0	0	1252	890	576	454	-2%	2%	0%	0%	2%	1%	1%	2%
25 US 97 at Badger	0	25	1114	1050	1250	1476	0	0	0	0	2%	1%	1%	1%	0%	0%	0%	0%
26 US97 at Pinebrook	0	26	1106	941	2490	2507	0	0	0	0	2%	2%	1%	1%	0%	0%	0%	0%
28 US 97 at Ponderosa-China Hat	0	28	1216	1331	1595	1564	0	0	0	0	2%	2%	0%	0%	0%	0%	0%	0%
29 US 97 SB Ramps at Baker	0	29	0	436	502	0	472	467	1190	887	0%	3%	0%	0%	1%	1%	4%	0%
30 US 97 NB Ramps at Knott	0	30	265	456	0	0	467	463	2132	1179	3%	2%	0%	0%	1%	3%	7%	4%
40 US 97 Bus at OB Riley	0	40	1802	1490	1854	2528	370	196	291	157	4%	4%	3%	3%	3%	1%	2%	3%
41 NW Mt Washington Dr at River	0	41	17	19	14	16	592	614	575	542	2%	0%	0%	2%	2%	2%	2%	2%
42 NE Butler Market Rd at NE 4th	0	42	995	5	16	363	738	732	665	848	6%	0%	0%	3%	1%	1%	0%	1%
45 Harriman at Revere	0	45	10	36	29	18	0	38	53	0	0%	0%	0%	0%	0%	0%	0%	0%
46 NE 3rd St at NE Revere Ave	0	46	1413	1496	849	1143	827	765	909	797	2%	1%	2%	1%	0%	2%	2%	3%
47 4th at Revere	0	47	868	557	789	708	783	765	587	925	4%	1%	2%	5%	2%	2%	3%	3%
48 Scott at Aune St	0	48	476	463	420	426	47	0	0	123	-1%	-1%	3%	3%	1%	0%	0%	3%
49 SW Brookswood at Reed Mark	0	49	851	801	1361	1422	994	1251	859	695	3%	3%	3%	4%	3%	2%	2%	2%
50 Silver Lake Blvd at Reed Marke	0	50	67	89	80	136	1278	1340	1029	880	1%	3%	3%	0%	2%	2%	2%	2%
51 Division St at Reed Market Rd	0	51	41	0	#DIV/0!	796	1737	1001	2018	2109	0%	0%	#DIV/0!	1%	1%	1%	4%	4%
52 3rd at Reed Market	0	52	1424	969	1406	1188	933	1136	643	1106	2%	2%	2%	1%	1%	1%	1%	2%
53 Brookswood at Powers Rd	0	53	671	780	1720	1215	111	868	719	122	2%	3%	4%	2%	1%	3%	2%	1%
54 3rd at Powers	0	54	680	732	1012	1262	899	272	228	525	2%	1%	1%	1%	1%	2%	3%	1%
55 Parrell Rd at Powers Rd	0	55	487	523	654	627	300	0	0	198	5%	4%	4%	3%	2%	0%	0%	3%
56 Blakely at Badger	0	56	0	13	14	0	20	0	0	3	0%	-5%	-3%	0%	-3%	0%	0%	-12%
57 3rd St at Badger Rd	0	57	550	626	1146	1078	99	110	97	131	2%	2%	1%	1%	0%	2%	-1%	0%
58 3rd St at Pinebrook	0	58	627	513	1049	955	0	64	40	0	2%	2%	1%	1%	0%	0%	0%	0%
59 Murphy at SE 3rd St	0	59	242	847	1697	1587	980	832	853	651	0%	2%	4%	6%	5%	3%	3%	3%
60 Parrell Rd at China Hat Rd	0	60	0	101	218	0	23	339	652	161	0%	4%	4%	0%	3%	7%	7%	2%
61 US20 at 3rd St Ramp to NB US	0	61	1425	1041	954	954	0	449	0	0	1%	4%	2%	2%	0%	-1%	0%	0%
62 Blakely Rd at Powers Rd	0	62	105	62	48	221	862	899	905	733	1%	2%	2%	2%	3%	3%	2%	2%
XX Reed Market SPUI Intersection		XX	48	345	681	260	2942	2811	1587	1377	1%	6%	0%	6%	4%	2%	2%	1%
101 US 97 NB/SB Ramp to Hwy 2	0	101	1728	931	1381	0	0	923	0	782	-2%	-3%	-2%	0%	0%	1%	0%	3%

Modified Ratio (Mratio)

			South Leg NB_IN	North Leg NB_OUT	North Le SB_IN	South Le SB_OUT	West Leg In EB_IN	East Leg Out EB_OUT	East Leg In WB_IN	West Leg Out WB_OUT
1 US 97 at Deschutes Pleasant Ri	0	1	0	0	0	0	0	0	456	0
2 US97 at Cooley	0	2	0	0	0	0	0	0	0	0
3 US 97 at Robal	0	3	0	0	0	0	0	0	0	0
4 US 97 at Nels Anderson Pl	0	4	0	0	0	0	0	0	0	0
5 US 97 SB Ramp at Empire	0	5	0	33	#DIV/0!	938	1613	1002	1366	1043
6 US 97 NB Ramps at Empire	0	6	620	363	0	0	1002	1348	1420	1365
7 US20 at Empire	0	7	1512	1441	2414	1658	455	1457	916	653
8 US20 at Butler Market	0	8	1440	1531	2235	2024	539	568	496	468
9 SB off ramp at Butler Market	0	9	0	0	211	0	613	772	612	634
10 US97 NB On-Ramp at Butler M	0	10	20	312	0	21	771	706	849	611
11 Bend Pkwy SB On-Ramp/Divisi	0	11	947	1441	2024	974	528	477	0	678
12 US97 SB Ramps at Revere	0	12	880	471	263	975	110	936	1319	96
13 US97 NB Ramps at Revere	0	13	509	558	624	312	935	611	774	1320
14 US97 at Lafayette	0	14	3280	3280	3437	3259	0	0	0	0
15 US97 at Hawthorne	0	15	3280	3280	3257	3022	0	0	0	252
16 US97 SB Ramps at Colorado	0	16	1455	448	586	0	0	1129	426	908
17 US97 NB Ramps at Colorado	0	17	0	1124	197	0	1128	378	463	425
18 US97 at Truman	0	18	2322	2322	2860	2772	0	0	0	0
19 Hwy 97 SB Ramps at Reed Ma	0	19	0	0	225	46	1282	1378	773	1000
20 US97 NB ramps at Reed Marke	0	20	63	427	0	0	1824	1808	1126	698
21 US97 at Reed Ln	0	21	1605	1634	2012	2012	0	0	0	0
22 US97 SB Ramps at Powers	0	22	0	0	802	208	956	1219	675	975
23 US 97 at Powers	0	23	0	0	0	0	0	0	0	0
24 US 97 NB Ramps at Powers	0	24	19	484	0	0	1244	893	623	492
25 US 97 at Badger	0	25	1125	1064	1255	1475	0	0	0	0
26 US97 at Pinebrook	0	26	1123	970	2419	2432	0	0	0	0
28 US 97 at Ponderosa-China Hat	0	28	1209	1313	1595	1562	0	0	0	0
29 US 97 SB Ramps at Baker	0	29	0	348	502	0	474	467	862	887
30 US 97 NB Ramps at Knott	0	30	219	503	0	0	467	406	1164	859
40 US 97 Bus at OB Riley	0	40	1546	1248	1695	2281	411	195	277	216
41 NW Mt Washington Dr at River	0	41	31	19	14	26	555	588	567	531
42 NE Butler Market Rd at NE 4th	0	42	475	5	16	276	720	713	665	841
45 Harriman at Revere	0	45	10	36	29	18	0	38	53	0
46 NE 3rd St at NE Revere Ave	0	46	1405	1469	885	1151	825	790	898	712
47 4th at Revere	0	47	584	562	758	475	806	718	538	911
48 Scott at Aune St	0	48	476	463	364	364	45	0	0	102
49 SW Brookswood at Reed Marke	0	49	768	733	1222	1206	991	1207	854	713
50 Silver Lake Blvd at Reed Marke	0	50	67	89	87	136	1231	1305	1025	873
51 Division St at Reed Market Rd	0	51	41	0	#DIV/0!	787	1709	979	1568	1723
52 3rd at Reed Market	0	52	1449	974	1411	1207	916	1121	645	1113
53 Brookswood at Powers Rd	0	53	655	699	1356	1158	112	820	731	123
54 3rd at Powers	0	54	700	731	1013	1255	884	262	218	552
55 Parrell Rd at Powers Rd	0	55	368	455	518	504	288	0	0	201
56 Blakely at Badger	0	56	0	13	14	0	20	0	0	3
57 3rd St at Badger Rd	0	57	564	626	1129	1069	99	97	97	131
58 3rd St at Pinebrook	0	58	616	513	1035	945	0	64	40	0
59 Murphy at SE 3rd St	0	59	242	775	1353	1002	717	752	763	574
60 Parrell Rd at China Hat Rd	0	60	0	156	199	0	128	467	489	161
61 US20 at 3rd St Ramp to NB US	0	61	1401	947	974	974	0	449	0	0
62 Blakely Rd at Powers Rd	0	62	104	74	56	212	815	860	914	743
XX Reed Market SPUI Intersection	0	XX	58	265	681	186	2337	2643	1495	1342
101 US 97 NB/SB Ramp to Hwy 2	0	101	1728	931	1381	0	0	905	0	834

Annual Change

South Leg In NB_IN	North Leg Out NB_OUT	North Leg In SB_IN	South Leg Out SB_OUT	West Leg In EB_IN	East Leg Out EB_OUT	East Leg In WB_IN	West Leg Out WB_OUT
0%	0%	0%	0%	0%	0%	0%	0%
0%	0%	0%	0%	0%	0%	0%	0%
0%	0%	0%	0%	0%	0%	0%	0%
0%	0%	0%	0%	0%	0%	0%	0%
0%	5%	#DIV/0!	1%	1%	1%	3%	4%
1%	0%	0%	0%	1%	1%	2%	3%
4%	5%	3%	3%	1%	2%	4%	3%
2%	3%	3%	2%	2%	1%	0%	2%
0%	0%	0%	0%	1%	1%	0%	0%
1%	1%	0%	2%	1%	1%	1%	0%
3%	2%	2%	2%	2%	-1%	0%	5%
2%	1%	-2%	2%	0%	2%	3%	0%
-1%	1%	4%	0%	2%	0%	2%	3%
1%	1%	1%	1%	0%	0%	0%	0%
1%	1%	1%	0%	0%	0%	0%	0%
1%	2%	1%	0%	0%	1%	1%	1%
0%	0%	0%	0%	1%	2%	-1%	0%
2%	2%	1%	1%	0%	0%	0%	0%
0%	0%	2%	-1%	2%	3%	2%	2%
-1%	2%	0%	0%	2%	1%	2%	2%
2%	1%	1%	1%	0%	0%	0%	0%
0%	0%	4%	6%	3%	2%	0%	2%
0%	0%	0%	0%	0%	0%	0%	0%
-2%	2%	0%	0%	2%	1%	2%	2%
2%	1%	1%	1%	0%	0%	0%	0%
2%	2%	1%	1%	0%	0%	0%	0%
2%	2%	0%	0%	0%	0%	0%	0%
0%	2%	0%	0%	1%	1%	2%	0%
2%	3%	0%	0%	1%	2%	4%	2%
3%	3%	2%	3%	3%	1%	1%	4%
5%	0%	0%	4%	2%	2%	2%	2%
3%	0%	0%	2%	1%	1%	0%	1%
0%	0%	0%	0%	0%	0%	0%	0%
2%	1%	2%	2%	0%	2%	2%	2%
3%	1%	2%	3%	2%	2%	2%	2%
-1%	-1%	2%	2%	1%	0%	0%	2%
2%	2%	2%	3%	3%	2%	2%	2%
1%	3%	4%	0%	2%	2%	2%	2%
0%	0%	#DIV/0!	1%	1%	1%	3%	3%
2%	2%	2%	1%	1%	1%	1%	2%
2%	2%	3%	2%	1%	3%	2%	1%
2%	1%	1%	1%	1%	2%	3%	2%
3%	4%	3%	2%	2%	0%	0%	3%
0%	-5%	-3%	0%	-3%	0%	0%	-12%
2%	2%	1%	1%	0%	2%	-1%	0%
2%	2%	1%	1%	0%	0%	0%	0%
0%	2%	3%	3%	3%	3%	3%	2%
0%	6%	4%	0%	11%	8%	6%	2%
1%	3%	2%	2%	0%	-1%	0%	0%
1%	3%	3%	2%	3%	3%	2%	2%
2%	4%	0%	5%	2%	1%	2%	1%
-2%	-3%	-2%	0%	0%	1%	0%	3%

			Average Method (RAF)								Annual Change							
			South Leg In	North Leg Out	North Leg In	South Leg Out	West Leg In	East Leg Out	East Leg In	West Leg Out	South Leg In	North Leg Out	North Leg In	South Leg Out	West Leg In	East Leg Out	East Leg In	West Leg Out
			NB_IN	NB_OUT	SB_IN	SB_OUT	EB_IN	EB_OUT	WB_IN	WB_OUT	NB_IN	NB_OUT	SB_IN	SB_OUT	EB_IN	EB_OUT	WB_IN	WB_OUT
1 US 97 at Deschutes Pleasant Ri	0	1	370	449	322	312	-86	62	456	11	-6%	-6%	-7%	-7%	0%	-3%	0%	-12%
2 US97 at Cooley	0	2	262	309	371	292	5	53	36	21	-7%	-7%	-6%	-7%	-17%	-8%	-9%	-8%
3 US 97 at Robal	0	3	318	302	298	368	19	17	58	6	-7%	-7%	-8%	-7%	-9%	-4%	-4%	-16%
4 US 97 at Nels Anderson Pl	0	4	344	318	368	298	-59	6	-4	26	-7%	-7%	-7%	-8%	0%	-8%	0%	-10%
5 US 97 SB Ramp at Empire	0	5	0	39	#DIV/0!	917	1625	1026	1354	1045	0%	6%	#DIV/0!	1%	1%	1%	3%	4%
6 US 97 NB Ramps at Empire	0	6	617	361	0	0	1026	1362	1417	1353	1%	0%	0%	0%	1%	2%	2%	3%
7 US20 at Empire	0	7	1341	1402	2391	1548	463	1488	947	661	4%	5%	3%	3%	1%	2%	4%	3%
8 US20 at Butler Market	0	8	1420	1450	2140	2021	527	573	488	471	2%	3%	2%	2%	2%	1%	0%	2%
9 SB off ramp at Butler Market	0	9	0	0	202	0	607	763	602	634	0%	0%	-1%	0%	1%	1%	0%	0%
10 US97 NB On-Ramp at Butler M	0	10	18	310	0	18	762	683	827	601	1%	1%	0%	1%	1%	1%	0%	0%
11 Bend Pkwy SB On-Ramp/Divisi	0	11	908	1421	2021	992	533	475	0	610	3%	2%	2%	2%	2%	-1%	0%	4%
12 US97 SB Ramps at Revere	0	12	874	457	258	958	110	912	1229	96	2%	1%	-2%	1%	0%	2%	2%	0%
13 US97 NB Ramps at Revere	0	13	505	561	595	312	912	608	720	1229	-1%	1%	4%	0%	2%	0%	2%	2%
14 US97 at Lafayette	0	14	3202	3202	3361	3215	-66	0	0	-9	1%	1%	1%	1%	0%	0%	0%	0%
15 US97 at Hawthorne	0	15	3202	3202	3214	3002	34	0	0	255	1%	1%	1%	0%	-8%	0%	0%	0%
16 US97 SB Ramps at Colorado	0	16	1428	435	595	0	0	1107	417	908	1%	2%	1%	0%	0%	1%	0%	1%
17 US97 NB Ramps at Colorado	0	17	0	1111	198	0	1106	343	497	416	0%	0%	0%	0%	1%	2%	-1%	0%
18 US97 at Truman	0	18	2274	2274	2829	2743	-8	0	0	33	2%	2%	0%	1%	0%	0%	0%	-7%
19 Hwy 97 SB Ramps at Reed Ma	0	19	0	0	216	34	1262	1298	784	1001	0%	0%	2%	-2%	2%	3%	2%	2%
20 US97 NB ramps at Reed Marke	0	20	53	422	0	0	1745	1758	1134	712	-2%	2%	0%	0%	1%	1%	2%	2%
21 US97 at Reed Ln	0	21	1615	1642	2013	2013	0	26	38	0	2%	1%	1%	1%	0%	-3%	-6%	0%
22 US97 SB Ramps at Powers	0	22	0	0	807	201	955	1214	681	1014	0%	0%	4%	5%	3%	2%	0%	2%
23 US 97 at Powers	0	23	101	91	212	130	192	202	7	89	-9%	-9%	-9%	-10%	-6%	-6%	-15%	-8%
24 US 97 NB Ramps at Powers	0	24	19	501	0	0	1236	897	681	530	-2%	2%	0%	0%	2%	1%	2%	2%
25 US 97 at Badger	0	25	1137	1083	1268	1473	-7	0	-24	-102	2%	2%	1%	1%	0%	0%	0%	0%
26 US97 at Pinebrook	0	26	1134	1001	2319	2329	-88	-34	-62	-62	3%	2%	1%	1%	0%	0%	0%	0%
28 US 97 at Ponderosa-China Hat	0	28	1203	1294	1590	1552	-8	-65	15	54	2%	2%	0%	0%	0%	0%	-8%	-4%
29 US 97 SB Ramps at Baker	0	29	0	299	497	0	478	470	746	883	0%	1%	0%	0%	1%	1%	2%	0%
30 US 97 NB Ramps at Knott	0	30	193	535	0	0	470	372	1029	744	1%	3%	0%	0%	1%	2%	4%	2%
40 US 97 Bus at OB Riley	0	40	1451	1158	1608	2161	436	193	261	251	3%	3%	2%	2%	3%	0%	1%	5%
41 NW Mt Washington Dr at River	0	41	40	19	14	34	530	569	558	519	6%	0%	0%	5%	2%	2%	1%	1%
42 NE Butler Market Rd at NE 4th	0	42	394	5	16	236	695	687	663	820	2%	0%	0%	1%	1%	1%	0%	0%
45 Harriman at Revere	0	45	10	36	29	18	0	38	53	0	0%	0%	0%	0%	0%	0%	0%	0%
46 NE 3rd St at NE Revere Ave	0	46	1395	1436	923	1162	816	819	891	663	2%	1%	2%	2%	0%	2%	2%	2%
47 4th at Revere	0	47	500	569	737	412	833	683	507	901	2%	1%	2%	2%	2%	2%	2%	2%
48 Scott at Aune St	0	48	519	497	331	329	42	0	0	88	-1%	-1%	2%	2%	1%	0%	0%	1%
49 SW Brookswood at Reed Marke	0	49	724	691	1139	1123	990	1175	851	726	2%	2%	2%	3%	3%	2%	2%	2%
50 Silver Lake Blvd at Reed Marke	0	50	67	90	91	135	1198	1281	1023	868	1%	3%	4%	0%	2%	2%	2%	2%
51 Division St at Reed Market Rd	0	51	41	-103	#DIV/0!	775	1669	949	1421	1607	0%	0%	#DIV/0!	1%	1%	1%	3%	3%
52 3rd at Reed Market	0	52	1474	980	1415	1236	892	1098	653	1118	2%	2%	2%	1%	1%	1%	1%	2%
53 Brookswood at Powers Rd	0	53	641	655	1216	1104	114	797	740	127	2%	2%	2%	1%	1%	3%	2%	1%
54 3rd at Powers	0	54	725	730	1016	1241	865	255	213	586	2%	1%	1%	1%	1%	2%	3%	2%
55 Parrell Rd at Powers Rd	0	55	335	432	478	452	281	0	0	202	3%	3%	3%	2%	2%	0%	0%	3%
56 Blakely at Badger	0	56	0	17	18	0	25	-4	-90	-69	0%	-4%	-2%	0%	-2%	0%	0%	0%
57 3rd St at Badger Rd	0	57	576	627	1101	1051	99	87	103	131	2%	2%	1%	1%	0%	1%	-1%	0%
58 3rd St at Pinebrook	0	58	604	514	1013	931	1	64	40	65	2%	2%	1%	1%	-18%	0%	0%	-5%
59 Murphy at SE 3rd St	0	59	241	728	1235	884	649	714	722	535	0%	2%	3%	3%	3%	3%	3%	2%
60 Parrell Rd at China Hat Rd	0	60	0	176	194	0	178	485	467	161	0%	6%	4%	0%	13%	8%	5%	2%
61 US20 at 3rd St Ramp to NB US	0	61	1370	908	992	992	0	459	0	0	1%	3%	2%	2%	0%	-1%	0%	0%
62 Blakely Rd at Powers Rd	0	62	102	83	63	205	793	839	921	751	1%	3%	3%	2%	3%	3%	2%	2%
XX Reed Market SPUI Intersection	0	XX	74	249	681	175	2088	2464	1407	1293	3%	4%	0%	5%	2%	1%	1%	1%
101 US 97 NB/SB Ramp to Hwy 2	0	101	1869	1051	1424	283	0	871	0	867	-2%	-3%	-2%	-7%	0%	1%	0%	3%

			Method Comparison (ABS ((GM - DM) / DM))								Selected Method							
			South Leg NB_IN	North Leg NB_OUT	North Leg SB_IN	South Leg SB_OUT	West Leg In EB_IN	East Leg Out EB_OUT	East Leg In WB_IN	West Leg Out WB_OUT	South Leg In NB_IN	North Leg Out NB_OUT	North Leg In SB_IN	South Leg Out SB_OUT	West Leg In EB_IN	East Leg Out EB_OUT	East Leg In WB_IN	West Leg Out WB_OUT
1 US 97 at Deschutes Pleasant Ri	0	1	-100%	-100%	-100%	-100%	-100%	-100%	0%	-100%	AVG	AVG	AVG	AVG	RATIO	DIFF	DIFF	AVG
2 US97 at Cooley	0	2	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	AVG	AVG	AVG	AVG	AVG	AVG	AVG	AVG
3 US 97 at Robal	0	3	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	AVG	AVG	AVG	AVG	AVG	DIFF	DIFF	AVG
4 US 97 at Nels Anderson Pl	0	4	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	AVG	AVG	AVG	AVG	RATIO	AVG	RATIO	AVG
5 US 97 SB Ramp at Empire	0	5		-54%	#DIV/0!	6%	-2%	-6%	3%	-1%	MRATIO	MRATIO	DIFF	AVG	AVG	AVG	AVG	AVG
6 US 97 NB Ramps at Empire	0	6	1%	1%			-6%	-3%	1%	3%	AVG	RATIO	DIFF	DIFF	AVG	AVG	AVG	AVG
7 US20 at Empire	0	7	132%	21%	4%	35%	-4%	-6%	-15%	-4%	DIFF	AVG	AVG	AVG	AVG	AVG	AVG	AVG
8 US20 at Butler Market	0	8	5%	27%	18%	0%	8%	-2%	4%	-2%	AVG	AVG	AVG	AVG	AVG	AVG	RATIO	AVG
9 SB off ramp at Butler Market	0	9			9%		3%	3%	4%	0%	DIFF	DIFF	RATIO	DIFF	AVG	AVG	AVG	AVG
10 US97 NB On-Ramp at Butler M	0	10	32%	1%		108%	3%	9%	6%	4%	DIFF	AVG	DIFF	DIFF	AVG	AVG	AVG	AVG
11 Bend Pkwy SB On-Ramp/Divisi	0	11	20%	5%	0%	-6%	-3%	1%		132%	AVG	AVG	AVG	AVG	AVG	AVG	DIFF	AVG
12 US97 SB Ramps at Revere	0	12	3%	9%	3%	5%	0%	8%	35%	0%	AVG	AVG	RATIO	AVG	DIFF	AVG	AVG	DIFF
13 US97 NB Ramps at Revere	0	13	2%	-1%	29%	0%	8%	1%	28%	35%	RATIO	AVG	AVG	RATIO	AVG	AVG	AVG	AVG
14 US97 at Lafayette	0	14	7%	7%	6%	3%	-100%			-100%	AVG	AVG	AVG	AVG	RATIO	DIFF	DIFF	RATIO
15 US97 at Hawthorne	0	15	7%	7%	3%	2%	-100%			-2%	AVG	AVG	AVG	AVG	AVG	DIFF	DIFF	DIFF
16 US97 SB Ramps at Colorado	0	16	5%	10%	-4%			6%	5%	0%	AVG	AVG	AVG	DIFF	DIFF	AVG	AVG	AVG
17 US97 NB Ramps at Colorado	0	17		3%	-2%		5%	41%	-13%	5%	DIFF	AVG	AVG	DIFF	AVG	DIFF	DIFF	AVG
18 US97 at Truman	0	18	7%	7%	3%	2%	-100%			-100%	AVG	AVG	AVG	AVG	RATIO	DIFF	DIFF	AVG
19 Hwy 97 SB Ramps at Reed Ma	0	19			14%	99%	6%	29%	-5%	0%	DIFF	DIFF	AVG	RATIO	AVG	AVG	AVG	AVG
20 US97 NB ramps at Reed Marke	0	20	49%	4%			14%	8%	-2%	-6%	RATIO	AVG	DIFF	DIFF	AVG	AVG	AVG	AVG
21 US97 at Reed Ln	0	21	-2%	-1%	0%	0%		-100%	-100%		AVG	AVG	AVG	AVG	DIFF	DIFF	DIFF	DIFF
22 US97 SB Ramps at Powers	0	22			-3%	31%	0%	1%	-2%	-12%	DIFF	DIFF	AVG	AVG	AVG	AVG	AVG	AVG
23 US 97 at Powers	0	23	-100%	-100%	-100%	-100%	-100%	-100%	-100%	-100%	AVG	AVG	AVG	AVG	AVG	AVG	AVG	AVG
24 US 97 NB Ramps at Powers	0	24	8%	-9%			2%	-1%	-22%	-20%	AVG	AVG	DIFF	DIFF	AVG	AVG	AVG	AVG
25 US 97 at Badger	0	25	-3%	-5%	-2%	0%	-100%		-100%	-100%	AVG	AVG	AVG	AVG	RATIO	DIFF	RATIO	RATIO
26 US97 at Pinebrook	0	26	-3%	-9%	12%	13%	-100%	-100%	-100%	-100%	AVG	AVG	AVG	AVG	RATIO	RATIO	RATIO	RATIO
28 US 97 at Ponderosa-China Hat	0	28	2%	4%	1%	1%	-100%	-100%	-100%	-100%	AVG	AVG	AVG	AVG	RATIO	RATIO	AVG	DIFF
29 US 97 SB Ramps at Baker	0	29		74%	2%		-2%	-1%	89%	1%	DIFF	DIFF	RATIO	DIFF	AVG	AVG	DIFF	AVG
30 US 97 NB Ramps at Knott	0	30	59%	-20%			-1%	37%	139%	87%	DIFF	AVG	DIFF	DIFF	AVG	DIFF	DIFF	DIFF
40 US 97 Bus at OB Riley	0	40	33%	39%	22%	24%	-20%	3%	18%	-45%	AVG	AVG	AVG	AVG	AVG	AVG	AVG	MRATIO
41 NW Mt Washington Dr at River	0	41	-66%	0%	0%	-62%	17%	12%	5%	7%	MRATIO	DIFF	DIFF	MRATIO	AVG	AVG	AVG	AVG
42 NE Butler Market Rd at NE 4th	0	42	218%	0%	0%	85%	10%	11%	1%	6%	DIFF	DIFF	DIFF	DIFF	AVG	AVG	AVG	AVG
45 Harriman at Revere	0	45	0%	0%	0%	0%		0%	0%		DIFF	DIFF	DIFF	DIFF	DIFF	DIFF	DIFF	DIFF
46 NE 3rd St at NE Revere Ave	0	46	2%	7%	-12%	-3%	2%	-10%	3%	30%	AVG	AVG	AVG	AVG	AVG	AVG	AVG	AVG
47 4th at Revere	0	47	109%	-3%	10%	103%	-9%	18%	24%	4%	DIFF	AVG	AVG	DIFF	AVG	AVG	AVG	AVG
48 Scott at Aune St	0	48	-15%	-13%	41%	45%	20%			63%	DIFF	DIFF	DIFF	DIFF	DIFF	DIFF	DIFF	DIFF
49 SW Brookswood at Reed Marke	0	49	25%	24%	29%	37%	1%	9%	1%	-6%	AVG	AVG	AVG	AVG	AVG	AVG	AVG	AVG
50 Silver Lake Blvd at Reed Marke	0	50	1%	-2%	-15%	1%	10%	7%	1%	2%	AVG	AVG	AVG	AVG	AVG	AVG	AVG	AVG
51 Division St at Reed Market Rd	0	51	0%	-100%	#DIV/0!	4%	7%	9%	58%	42%	AVG	RATIO	DIFF	AVG	AVG	AVG	AVG	AVG
52 3rd at Reed Market	0	52	-5%	-2%	-1%	-6%	7%	6%	-3%	-2%	AVG	AVG	AVG	AVG	AVG	AVG	AVG	AVG
53 Brookswood at Powers Rd	0	53	7%	28%	60%	16%	-4%	12%	-4%	-8%	AVG	AVG	DIFF	AVG	AVG	AVG	AVG	AVG
54 3rd at Powers	0	54	-9%	0%	-1%	3%	6%	9%	9%	-15%	AVG	AVG	AVG	AVG	AVG	AVG	AVG	AVG
55 Parrell Rd at Powers Rd	0	55	61%	28%	49%	57%	10%			-2%	AVG	AVG	AVG	DIFF	AVG	DIFF	DIFF	AVG
56 Blakely at Badger	0	56		-41%	-38%		-35%	-100%	-100%	-102%	DIFF	AVG	DIFF	DIFF	DIFF	RATIO	RATIO	RATIO
57 3rd St at Badger Rd	0	57	-6%	0%	7%	4%	0%	41%	-11%	0%	AVG	AVG	AVG	AVG	DIFF	DIFF	DIFF	DIFF
58 3rd St at Pinebrook	0	58	6%	0%	6%	4%	-100%	0%	0%	-100%	AVG	AVG	AVG	AVG	AVG	DIFF	DIFF	DIFF
59 Murphy at SE 3rd St	0	59	1%	24%	52%	107%	69%	23%	25%	31%	AVG	AVG	AVG	DIFF	AVG	AVG	AVG	AVG
60 Parrell Rd at China Hat Rd	0	60		-49%	16%		-90%	-33%	46%	0%	DIFF	MRATIO	AVG	DIFF	MRATIO	MRATIO	AVG	AVG
61 US20 at 3rd St Ramp to NB US	0	61	6%	20%	-6%	-6%		-4%			AVG	AVG	AVG	AVG	DIFF	AVG	DIFF	DIFF
62 Blakely Rd at Powers Rd	0	62	6%	-33%	-30%	12%	12%	10%	-3%	-3%	AVG	MRATIO	MRATIO	AVG	AVG	AVG	AVG	AVG
XX Reed Market SPUI Intersection	0	XX	-46%	48%	0%	60%	60%	23%	20%	11%	MRATIO	AVG	AVG	AVG	DIFF	DIFF	AVG	AVG
101 US 97 NB/SB Ramp to Hwy 2(	0	101	-14%	-21%	-6%	-100%		10%		-13%	AVG	AVG	AVG	AVG	DIFF	AVG	DIFF	AVG

			Selected Growth							
			South Leg In	North Leg Out	North Leg In	South Leg Out	West Leg In	East Leg Out	East Leg In	West Leg Out
			NB_IN	NB_OUT	SB_IN	SB_OUT	EB_IN	EB_OUT	WB_IN	WB_OUT
1 US 97 at Deschutes Pleasant Ri	0	1	370	449	322	312	0	123	456	11
2 US97 at Cooley	0	2	262	309	371	292	5	53	36	21
3 US 97 at Robal	0	3	318	302	298	368	19	35	117	6
4 US 97 at Nels Anderson Pl	0	4	344	318	368	298	0	6	0	26
5 US 97 SB Ramp at Empire	0	5	0	33	59	917	1625	1026	1354	1045
6 US 97 NB Ramps at Empire	0	6	617	363	0	0	1026	1362	1417	1353
7 US20 at Empire	0	7	1171	1402	2391	1548	463	1488	947	661
8 US20 at Butler Market	0	8	1420	1450	2140	2021	527	573	496	471
9 SB off ramp at Butler Market	0	9	0	0	211	0	607	763	602	634
10 US97 NB On-Ramp at Butler M	0	10	16	310	0	15	762	683	827	601
11 Bend Pkwy SB On-Ramp/Divisi	0	11	908	1421	2021	992	533	475	0	610
12 US97 SB Ramps at Revere	0	12	874	457	263	958	110	912	1229	96
13 US97 NB Ramps at Revere	0	13	509	561	595	312	912	608	720	1229
14 US97 at Lafayette	0	14	3202	3202	3361	3215	0	0	0	0
15 US97 at Hawthorne	0	15	3202	3202	3214	3002	34	0	0	257
16 US97 SB Ramps at Colorado	0	16	1428	435	595	0	0	1107	417	908
17 US97 NB Ramps at Colorado	0	17	0	1111	198	0	1106	309	530	416
18 US97 at Truman	0	18	2274	2274	2829	2743	0	0	0	33
19 Hwy 97 SB Ramps at Reed Ma	0	19	0	0	216	46	1262	1298	784	1001
20 US97 NB ramps at Reed Marke	0	20	63	422	0	0	1745	1758	1134	712
21 US97 at Reed Ln	0	21	1615	1642	2013	2013	0	53	76	0
22 US97 SB Ramps at Powers	0	22	0	0	807	201	955	1214	681	1014
23 US 97 at Powers	0	23	101	91	212	130	192	202	7	89
24 US 97 NB Ramps at Powers	0	24	19	501	0	0	1236	897	681	530
25 US 97 at Badger	0	25	1137	1083	1268	1473	0	0	0	0
26 US97 at Pinebrook	0	26	1134	1001	2319	2329	0	0	0	0
28 US 97 at Ponderosa-China Hat	0	28	1203	1294	1590	1552	0	0	15	108
29 US 97 SB Ramps at Baker	0	29	0	250	502	0	478	470	630	883
30 US 97 NB Ramps at Knott	0	30	167	535	0	0	470	337	894	629
40 US 97 Bus at OB Riley	0	40	1451	1158	1608	2161	436	193	261	216
41 NW Mt Washington Dr at River	0	41	31	19	14	26	530	569	558	519
42 NE Butler Market Rd at NE 4th	0	42	313	5	16	196	695	687	663	820
45 Harriman at Revere	0	45	10	36	29	18	0	38	53	0
46 NE 3rd St at NE Revere Ave	0	46	1395	1436	923	1162	816	819	891	663
47 4th at Revere	0	47	416	569	737	350	833	683	507	901
48 Scott at Aune St	0	48	562	530	299	295	39	0	0	75
49 SW Brookswood at Reed Marke	0	49	724	691	1139	1123	990	1175	851	726
50 Silver Lake Blvd at Reed Marke	0	50	67	90	91	135	1198	1281	1023	868
51 Division St at Reed Market Rd	0	51	41	0	21	775	1669	949	1421	1607
52 3rd at Reed Market	0	52	1474	980	1415	1236	892	1098	653	1118
53 Brookswood at Powers Rd	0	53	641	655	1076	1104	114	797	740	127
54 3rd at Powers	0	54	725	730	1016	1241	865	255	213	586
55 Parrell Rd at Powers Rd	0	55	335	432	478	399	281	0	0	202
56 Blakely at Badger	0	56	0	17	23	0	30	0	0	3
57 3rd St at Badger Rd	0	57	576	627	1101	1051	99	78	109	131
58 3rd St at Pinebrook	0	58	604	514	1013	931	1	64	40	130
59 Murphy at SE 3rd St	0	59	241	728	1235	766	649	714	722	535
60 Parrell Rd at China Hat Rd	0	60	0	156	194	0	128	467	467	161
61 US20 at 3rd St Ramp to NB US	0	61	1370	908	992	992	0	459	0	0
62 Blakely Rd at Powers Rd	0	62	102	74	56	205	793	839	921	751
XX Reed Market SPUI Intersection	0	XX	58	249	681	175	1838	2285	1407	1293
101 US 97 NB/SB Ramp to Hwy 2	0	101	1869	1051	1424	283	0	871	0	867

	Growth Factor Check							
	South Leg In	North Leg Out	North Leg In	South Leg Out	West Leg In	East Leg Out	East Leg In	West Leg Out
	NB_IN	NB_OUT	SB_IN	SB_OUT	EB_IN	EB_OUT	WB_IN	WB_OUT
1 US 97 at Deschutes Pleasant Ri		-78%	-80%	-79%	-100%	-4%	0%	-95%
2 US97 at Cooley		-83%	-81%	-78%	-83%	-99%	-84%	-89%	-87%
3 US 97 at Robal		-82%	-81%	-84%	-81%	-88%	-26%	-28%	-98%
4 US 97 at Nels Anderson Pl		-83%	-82%	-81%	-86%	-100%	-85%	-100%	-91%
5 US 97 SB Ramp at Empire		0%	226%	144%	23%	38%	36%	78%	136%
6 US 97 NB Ramps at Empire		18%	-4%	0%	0%	36%	42%	73%	78%
7 US20 at Empire		95%	205%	97%	84%	17%	58%	165%	106%
8 US20 at Butler Market		71%	88%	71%	41%	60%	37%	-6%	46%
9 SB off ramp at Butler Market		0%	0%	-10%	0%	33%	28%	8%	-3%
10 US97 NB On-Ramp at Butler M		16%	22%	0%	12%	28%	30%	12%	8%
11 Bend Pkwy SB On-Ramp/Divisi		94%	71%	41%	64%	44%	-21%	0%	156%
12 US97 SB Ramps at Revere		61%	36%	-34%	39%	0%	43%	74%	0%
13 US97 NB Ramps at Revere		-18%	37%	130%	0%	43%	4%	45%	74%
14 US97 at Lafayette		35%	35%	25%	18%	-100%	0%	0%	-100%
15 US97 at Hawthorne		35%	35%	18%	11%	-85%	0%	0%	-1%
16 US97 SB Ramps at Colorado		37%	48%	30%	0%	0%	29%	10%	25%
17 US97 NB Ramps at Colorado		0%	8%	-8%	0%	28%	32%	-5%	10%
18 US97 at Truman		45%	45%	12%	13%	-100%	0%	0%	-82%
19 Hwy 97 SB Ramps at Reed Ma		0%	0%	44%	-12%	66%	83%	72%	65%
20 US97 NB ramps at Reed Marke		-20%	45%	0%	0%	35%	28%	53%	59%
21 US97 at Reed Ln		43%	34%	17%	17%	0%	-4%	-48%	0%
22 US97 SB Ramps at Powers		0%	0%	126%	235%	93%	49%	12%	74%
23 US 97 at Powers		-88%	-89%	-88%	-91%	-77%	-76%	-98%	-85%
24 US 97 NB Ramps at Powers		-35%	51%	0%	0%	48%	39%	66%	76%
25 US 97 at Badger		50%	43%	17%	35%	0%	0%	0%	0%
26 US97 at Pinebrook		77%	56%	26%	27%	0%	0%	0%	0%
28 US 97 at Ponderosa-China Hat		53%	46%	3%	9%	-100%	-100%	-86%	-17%
29 US 97 SB Ramps at Baker		0%	9%	-8%	0%	22%	16%	28%	11%
30 US 97 NB Ramps at Knott		19%	102%	0%	0%	16%	32%	92%	28%
40 US 97 Bus at OB Riley		89%	83%	66%	73%	114%	11%	31%	154%
41 NW Mt Washington Dr at River		206%	0%	0%	156%	54%	56%	40%	39%
42 NE Butler Market Rd at NE 4th		32%	0%	0%	12%	30%	30%	1%	12%
45 Harriman at Revere		0%	0%	0%	0%	0%	0%	0%	0%
46 NE 3rd St at NE Revere Ave		43%	34%	61%	43%	5%	54%	73%	55%
47 4th at Revere		29%	31%	59%	41%	53%	50%	54%	72%
48 Scott at Aune St		-6%	-5%	34%	31%	11%	0%	0%	9%
49 SW Brookswood at Reed Marke		64%	54%	54%	82%	85%	59%	68%	74%
50 Silver Lake Blvd at Reed Marke		21%	96%	138%	5%	60%	65%	64%	69%
51 Division St at Reed Market Rd		11%	0%	0%	30%	29%	29%	79%	103%
52 3rd at Reed Market		57%	48%	59%	39%	30%	27%	19%	73%
53 Brookswood at Powers Rd		48%	63%	44%	39%	17%	88%	64%	18%
54 3rd at Powers		51%	28%	16%	23%	33%	62%	99%	55%
55 Parrell Rd at Powers Rd		91%	110%	97%	38%	64%	0%	0%	120%
56 Blakely at Badger		0%	-60%	-27%	0%	-19%	-100%	-100%	-94%
57 3rd St at Badger Rd		69%	62%	27%	25%	0%	17%	-7%	0%
58 3rd St at Pinebrook		44%	60%	26%	29%	-99%	0%	0%	-38%
59 Murphy at SE 3rd St		1%	51%	78%	68%	95%	78%	78%	64%
60 Parrell Rd at China Hat Rd		0%	262%	139%	0%	1065%	506%	239%	47%
61 US20 at 3rd St Ramp to NB US		33%	94%	64%	64%	0%	-18%	0%	0%
62 Blakely Rd at Powers Rd		30%	94%	94%	53%	88%	81%	62%	64%
XX Reed Market SPUI Intersection		67%	157%	0%	182%	38%	20%	35%	27%
101 US 97 NB/SB Ramp to Hwy 2		-32%	-48%	-31%	-83%	0%	19%	0%	99%

			NCHRP Balanced Ratio							Growth Factor Check							
			NCHRP Unbalanced OUT	NCHRP Unbalanced In	Out Ratio	In Ratio		Applied Ratio Out	Applied Ratio In	South Leg In NB_IN	North Leg Out NB_OUT	North Leg In SB_IN	South Leg Out SB_OUT	West Leg In EB_IN	East Leg Out EB_OUT	East Leg In WB_IN	West Leg Out WB_OUT
							Balance Meth	1=Balance to Ave (default), 2=Balance to In, 3=Balance to Out, 4 = No Balance									
1 US 97 at Deschutes Pleasant Ri	0	1	896	1148	1.1408	0.8902	1	0.8902	1.1408	0%	0%	0%	0%	0%	0%	0%	0%
2 US97 at Cooley	0	2	674	674	1.0000	1.0000	1	1.0000	1.0000	0%	0%	0%	0%	0%	0%	0%	0%
3 US 97 at Robal	0	3	710	751	1.0288	0.9728	1	0.9728	1.0288	0%	0%	0%	0%	0%	0%	0%	0%
4 US 97 at Nels Anderson Pl	0	4	649	712	1.0487	0.9556	1	0.9556	1.0487	0%	0%	0%	0%	0%	0%	0%	0%
5 US 97 SB Ramp at Empire	0	5	3021	3037	1.0028	0.9972	1	0.9972	1.0028	0%	0%	0%	0%	0%	0%	0%	0%
6 US 97 NB Ramps at Empire	0	6	3079	3060	0.9969	1.0031	1	1.0031	0.9969	0%	0%	0%	0%	0%	0%	0%	0%
7 US20 at Empire	0	7	5099	4972	0.9876	1.0127	1	1.0127	0.9876	0%	0%	0%	0%	0%	0%	0%	0%
8 US20 at Butler Market	0	8	4515	4583	1.0076	0.9925	1	0.9925	1.0076	0%	0%	0%	0%	0%	0%	0%	0%
9 SB off ramp at Butler Market	0	9	1396	1420	1.0084	0.9918	1	0.9918	1.0084	0%	0%	0%	0%	0%	0%	0%	0%
10 US97 NB On-Ramp at Butler M	0	10	1608	1605	0.9990	1.0010	1	1.0010	0.9990	0%	0%	0%	0%	0%	0%	0%	0%
11 Bend Pkwy SB On-Ramp/Divisi	0	11	3498	3463	0.9949	1.0051	1	1.0051	0.9949	0%	0%	0%	0%	0%	0%	0%	0%
12 US97 SB Ramps at Revere	0	12	2423	2475	1.0106	0.9896	1	0.9896	1.0106	0%	0%	0%	0%	0%	0%	0%	0%
13 US97 NB Ramps at Revere	0	13	2710	2736	1.0047	0.9954	1	0.9954	1.0047	0%	0%	0%	0%	0%	0%	0%	0%
14 US97 at Lafayette	0	14	6417	6563	1.0114	0.9889	1	0.9889	1.0114	0%	0%	0%	0%	0%	0%	0%	0%
15 US97 at Hawthorne	0	15	6461	6450	0.9991	1.0009	1	1.0009	0.9991	0%	0%	0%	0%	0%	0%	0%	0%
16 US97 SB Ramps at Colorado	0	16	2450	2440	0.9982	1.0019	1	1.0019	0.9982	0%	0%	0%	0%	0%	0%	0%	0%
17 US97 NB Ramps at Colorado	0	17	1836	1834	0.9995	1.0005	1	1.0005	0.9995	0%	0%	0%	0%	0%	0%	0%	0%
18 US97 at Truman	0	18	5050	5103	1.0052	0.9949	1	0.9949	1.0052	0%	0%	0%	0%	0%	0%	0%	0%
19 Hwy 97 SB Ramps at Reed Ma	0	19	2345	2262	0.9824	1.0183	1	1.0183	0.9824	0%	0%	0%	0%	0%	0%	0%	0%
20 US97 NB ramps at Reed Marke	0	20	2892	2942	1.0087	0.9914	1	0.9914	1.0087	0%	0%	0%	0%	0%	0%	0%	0%
21 US97 at Reed Ln	0	21	3707	3704	0.9996	1.0004	1	1.0004	0.9996	0%	0%	0%	0%	0%	0%	0%	0%
22 US97 SB Ramps at Powers	0	22	2429	2444	1.0031	0.9970	1	0.9970	1.0031	0%	0%	0%	0%	0%	0%	0%	0%
23 US 97 at Powers	0	23	511	511	1.0000	1.0000	1	1.0000	1.0000	0%	0%	0%	0%	0%	0%	0%	0%
24 US 97 NB Ramps at Powers	0	24	1927	1936	1.0022	0.9978	1	0.9978	1.0022	0%	0%	0%	0%	0%	0%	0%	0%
25 US 97 at Badger	0	25	2556	2406	0.9707	1.0312	1	1.0312	0.9707	0%	0%	0%	0%	0%	0%	0%	0%
26 US97 at Pinebrook	0	26	3330	3453	1.0186	0.9821	1	0.9821	1.0186	0%	0%	0%	0%	0%	0%	0%	0%
28 US 97 at Ponderosa-China Hat	0	28	2954	2809	0.9754	1.0259	1	1.0259	0.9754	0%	0%	0%	0%	0%	0%	0%	0%
29 US 97 SB Ramps at Baker	0	29	1604	1610	1.0019	0.9981	1	0.9981	1.0019	0%	0%	0%	0%	0%	0%	0%	0%
30 US 97 NB Ramps at Knott	0	30	1501	1531	1.0098	0.9904	1	0.9904	1.0098	0%	0%	0%	0%	0%	0%	0%	0%
40 US 97 Bus at OB Riley	0	40	3728	3756	1.0038	0.9962	1	0.9962	1.0038	0%	0%	0%	0%	0%	0%	0%	0%
41 NW Mt Washington Dr at Rivery	0	41	1132	1133	1.0001	0.9999	1	0.9999	1.0001	0%	0%	0%	0%	0%	0%	0%	0%
42 NE Butler Market Rd at NE 4th	0	42	1708	1687	0.9941	1.0060	1	1.0060	0.9941	0%	0%	0%	0%	0%	0%	0%	0%
45 Harriman at Revere	0	45	92	92	1.0000	1.0000	1	1.0000	1.0000	0%	0%	0%	0%	0%	0%	0%	0%
46 NE 3rd St at NE Revere Ave	0	46	4080	4025	0.9933	1.0068	1	1.0068	0.9933	0%	0%	0%	0%	0%	0%	0%	0%
47 4th at Revere	0	47	2503	2492	0.9979	1.0021	1	1.0021	0.9979	0%	0%	0%	0%	0%	0%	0%	0%
48 Scott at Aune St	0	48	900	900	1.0000	1.0000	1	1.0000	1.0000	0%	0%	0%	0%	0%	0%	0%	0%
49 SW Brookswood at Reed Marke	0	49	3715	3703	0.9984	1.0016	1	1.0016	0.9984	0%	0%	0%	0%	0%	0%	0%	0%
50 Silver Lake Blvd at Reed Marke	0	50	2374	2378	1.0008	0.9992	1	0.9992	1.0008	0%	0%	0%	0%	0%	0%	0%	0%
51 Division St at Reed Market Rd	0	51	3330	3152	0.9732	1.0283	1	1.0283	0.9732	0%	0%	0%	0%	0%	0%	0%	0%
52 3rd at Reed Market	0	52	4431	4434	1.0003	0.9997	1	0.9997	1.0003	0%	0%	0%	0%	0%	0%	0%	0%
53 Brookswood at Powers Rd	0	53	2683	2571	0.9790	1.0219	1	1.0219	0.9790	0%	0%	0%	0%	0%	0%	0%	0%
54 3rd at Powers	0	54	2812	2820	1.0014	0.9986	1	0.9986	1.0014	0%	0%	0%	0%	0%	0%	0%	0%
55 Parrell Rd at Powers Rd	0	55	1033	1093	1.0289	0.9727	1	0.9727	1.0289	0%	0%	0%	0%	0%	0%	0%	0%
56 Blakely at Badger	0	56	19	53	1.8536	0.6847	1	0.6847	1.8536	0%	0%	0%	0%	0%	0%	0%	0%
57 3rd St at Badger Rd	0	57	1886	1885	0.9997	1.0003	1	1.0003	0.9997	0%	0%	0%	0%	0%	0%	0%	0%
58 3rd St at Pinebrook	0	58	1638	1658	1.0060	0.9941	1	0.9941	1.0060	0%	0%	0%	0%	0%	0%	0%	0%
59 Murphy at SE 3rd St	0	59	2743	2847	1.0189	0.9817	1	0.9817	1.0189	0%	0%	0%	0%	0%	0%	0%	0%
60 Parrell Rd at China Hat Rd	0	60	784	789	1.0035	0.9965	1	0.9965	1.0035	0%	0%	0%	0%	0%	0%	0%	0%
61 US20 at 3rd St Ramp to NB US	0	61	2360	2362	1.0005	0.9995	1	0.9995	1.0005	0%	0%	0%	0%	0%	0%	0%	0%
62 Blakely Rd at Powers Rd	0	62	1869	1872	1.0008	0.9992	1	0.9992	1.0008	0%	0%	0%	0%	0%	0%	0%	0%
XX Reed Market SPUI Intersection	0	XX	4002	3985	0.9978	1.0023	1	1.0023	0.9978	0%	0%	0%	0%	0%	0%	0%	0%
101 US 97 NB/SB Ramp to Hwy 2(	0	101	3073	3292	1.0357	0.9667	1	0.9667	1.0357	0%	0%	0%	0%	0%	0%	0%	0%

NCHRP Balanced

			South Leg In NB_IN	North Leg Out NB_OUT	North Leg In SB_IN	South Leg Out SB_OUT	West Leg In EB_IN	East Leg Out EB_OUT	East Leg In WB_IN	West Leg Out WB_OUT
1 US 97 at Deschutes Pleasant Ridge		1	422	400	368	278	0	110	520	9
2 US97 at Cooley		2	262	309	371	292	5	53	36	21
3 US 97 at Robal		3	328	294	306	358	19	34	120	6
4 US 97 at Nels Anderson Pl		4	360	304	386	285	0	5	0	25
5 US 97 SB Ramp at Empire		5	0	32	59	914	1629	1023	1358	1042
6 US 97 NB Ramps at Empire		6	615	365	0	0	1023	1367	1413	1358
7 US20 at Empire		7	1156	1419	2362	1568	458	1507	935	669
8 US20 at Butler Market		8	1430	1439	2157	2006	531	568	500	467
9 SB off ramp at Butler Market		9	0	0	212	0	612	756	607	629
10 US97 NB On-Ramp at Butler Market		10	16	310	0	15	761	684	827	601
11 Bend Pkwy SB On-Ramp/Division at 3rd St		11	904	1428	2011	997	530	478	0	613
12 US97 SB Ramps at Revere		12	883	452	265	948	111	902	1242	95
13 US97 NB Ramps at Revere		13	512	559	597	310	916	605	723	1224
14 US97 at Lafayette		14	3238	3166	3400	3180	0	0	0	0
15 US97 at Hawthorne		15	3199	3204	3211	3004	34	0	0	258
16 US97 SB Ramps at Colorado		16	1426	435	594	0	0	1109	416	910
17 US97 NB Ramps at Colorado		17	0	1112	198	0	1105	309	530	416
18 US97 at Truman		18	2286	2262	2844	2729	0	0	0	33
19 Hwy 97 SB Ramps at Reed Market		19	0	0	212	46	1239	1322	770	1019
20 US97 NB ramps at Reed Market		20	63	418	0	0	1760	1743	1144	706
21 US97 at Reed Ln		21	1615	1642	2012	2013	0	53	76	0
22 US97 SB Ramps at Powers		22	0	0	810	201	958	1210	684	1011
23 US 97 at Powers		23	101	91	212	130	192	202	7	89
24 US 97 NB Ramps at Powers		24	19	500	0	0	1239	895	682	528
25 US 97 at Badger		25	1104	1116	1231	1519	0	0	0	0
26 US97 at Pinebrook		26	1155	983	2362	2287	0	0	0	0
28 US 97 at Ponderosa-China Hat		28	1174	1328	1551	1592	0	0	15	111
29 US 97 SB Ramps at Baker		29	0	249	503	0	478	469	631	882
30 US 97 NB Ramps at Knott		30	168	530	0	0	475	334	903	623
40 US 97 Bus at OB Riley		40	1456	1154	1615	2153	437	192	262	215
41 NW Mt Washington Dr at Riverview Park		41	31	19	14	26	530	569	559	519
42 NE Butler Market Rd at NE 4th St		42	311	5	16	197	691	691	659	825
45 Harriman at Revere		45	10	36	29	18	0	38	53	0
46 NE 3rd St at NE Revere Ave		46	1385	1446	917	1170	811	824	885	668
47 4th at Revere		47	415	570	735	350	831	684	506	903
48 Scott at Aune St		48	562	530	299	295	39	0	0	75
49 SW Brookswood at Reed Market		49	722	692	1138	1124	988	1177	849	727
50 Silver Lake Blvd at Reed Market Rd		50	67	90	91	135	1199	1280	1023	868
51 Division St at Reed Market Rd		51	40	0	21	797	1624	975	1383	1652
52 3rd at Reed Market		52	1475	979	1415	1235	892	1097	653	1118
53 Brookswood at Powers Rd		53	627	669	1054	1129	111	814	725	130
54 3rd at Powers		54	726	729	1018	1240	866	255	214	585
55 Parrell Rd at Powers Rd		55	344	420	491	388	289	0	0	197
56 Blakely at Badger		56	0	12	42	0	56	0	0	2
57 3rd St at Badger Rd		57	576	627	1101	1051	99	78	109	131
58 3rd St at Pinebrook		58	608	511	1019	926	1	64	40	129
59 Murphy at SE 3rd St		59	246	715	1258	752	661	701	736	525
60 Parrell Rd at China Hat Rd		60	0	155	195	0	129	465	469	161
61 US20 at 3rd St Ramp to NB US97		61	1371	908	993	992	0	459	0	0
62 Blakely Rd at Powers Rd		62	102	74	56	205	794	839	922	750
101 US 97 NB/SB Ramp to Hwy 2(	0	101	58	250	679	175	1834	2291	1404	1296
101 US 97 NB/SB Ramp to Hwy 2(	0	101	1935	1016	1475	274	0	842	0	838

Growth Factor Check

South Leg In NB_IN	North Leg Out NB_OUT	North Leg In SB_IN	South Leg Out SB_OUT	West Leg In EB_IN	East Leg Out EB_OUT	East Leg In WB_IN	West Leg Out WB_OUT
-75%	-80%	-77%	-81%	-100%	-14%	14%	-96%
-83%	-81%	-78%	-83%	-99%	-84%	-89%	-87%
-81%	-82%	-83%	-81%	-87%	-28%	-26%	-98%
-82%	-82%	-80%	-86%	-100%	-86%	-100%	-92%
0%	225%	144%	22%	39%	35%	79%	136%
18%	-4%	0%	0%	35%	42%	72%	79%
92%	209%	95%	86%	16%	60%	162%	108%
72%	86%	72%	40%	61%	36%	-6%	45%
0%	0%	-9%	0%	34%	27%	9%	-4%
16%	22%	0%	12%	28%	30%	11%	8%
93%	72%	40%	65%	43%	-20%	0%	158%
62%	35%	-33%	38%	1%	41%	76%	-1%
-18%	36%	131%	-1%	44%	4%	46%	73%
36%	33%	26%	16%	-100%	0%	0%	-100%
35%	35%	17%	11%	-85%	0%	0%	-1%
37%	48%	30%	0%	0%	29%	10%	26%
0%	8%	-8%	0%	28%	32%	-6%	10%
46%	44%	12%	12%	-100%	0%	0%	-82%
0%	0%	41%	-11%	63%	86%	69%	68%
-20%	44%	0%	0%	36%	27%	55%	57%
43%	34%	17%	17%	0%	-4%	-48%	0%
0%	0%	126%	234%	94%	48%	12%	73%
-88%	-89%	-88%	-91%	-77%	-76%	-98%	-85%
-35%	51%	0%	0%	48%	39%	66%	76%
45%	47%	13%	40%	0%	0%	0%	0%
80%	53%	29%	25%	0%	0%	0%	0%
49%	50%	1%	12%	-100%	-100%	-87%	-15%
0%	8%	-8%	0%	22%	15%	28%	11%
20%	100%	0%	0%	17%	31%	94%	26%
90%	82%	67%	72%	114%	11%	31%	153%
206%	0%	0%	156%	54%	56%	40%	39%
31%	1%	-1%	12%	29%	31%	1%	12%
0%	0%	0%	0%	0%	0%	0%	0%
42%	35%	60%	44%	4%	55%	71%	56%
28%	32%	59%	42%	53%	50%	53%	72%
-6%	-5%	34%	31%	11%	0%	0%	9%
64%	55%	53%	82%	85%	59%	68%	74%
21%	95%	138%	5%	60%	65%	64%	69%
8%	0%	0%	33%	26%	33%	74%	109%
57%	48%	59%	38%	30%	27%	19%	73%
45%	66%	41%	42%	15%	92%	61%	20%
52%	28%	16%	23%	34%	62%	100%	55%
97%	104%	103%	34%	69%	0%	0%	114%
0%	-72%	35%	0%	51%	-100%	-100%	-96%
69%	62%	27%	25%	0%	17%	-7%	0%
44%	59%	27%	28%	-99%	-1%	1%	-39%
3%	48%	82%	65%	99%	74%	82%	61%
0%	261%	140%	0%	1070%	504%	240%	46%
33%	94%	64%	64%	0%	-18%	0%	0%
30%	94%	94%	53%	88%	80%	62%	63%
67%	157%	0%	183%	38%	20%	35%	28%
-29%	-49%	-29%	-83%	0%	15%	0%	93%

		Int	Intersection Turning Movement Counts											Intersection Turning Movment Counts -- Summed by Approach & Departure Legs								"Counts + Growth" Approach and Departure Leg Volumes								Forecasted ("Counts + Growth") Turning Movement Volumes Post-Furness								Summary Statistics for Error Checking			
		Number	SB-Rite	SB-Thru	SB-Left	WB-Rite	WB-Thru	WB-Left	NB-Rite	NB-Thru	NB-Left	EB-Rite	EB-Thru	EB-left	SB-Arr	SB-Dep	WB-Arr	WB-Dep	NB-Arr	NB-Dep	EB-Arr	EB-Dep	SB-Arr	SB-Dep	WB-Arr	WB-Dep	NB-Arr	NB-Dep	EB-Arr	EB-Dep	SB-Rite	SB-Thru	SB-Left	WB-Rite	WB-Thru	WB-Left	NB-Rite	NB-Thru	NB-Left	EB-Rite	EB-Thru	EB-left	Arr-Sum	Dep-Sum	Frn-Sum	Frn-Dif
1 US 97 at Deschutes Pleasant	0	1	226	1,387	-	456	-	-	128	1,579	-	85	-	-	1,613	1,472	456	226	1,707	2,035	85	128	368	278	520	9	422	400	-	110	11	317	-	401	-	-	156	169	-	0	-	-	1,310	797	1,054	0
2 US97 at Cooley	0	2	44	1,501	110	58	69	185	77	1,411	40	15	143	185	1,655	1,701	312	153	1,528	1,654	343	330	371	292	36	21	262	309	5	53	16	294	51	27	4	5	2	268	1	0	0	4	674	674	674	0
3 US 97 at Robal	0	3	33	1,780	21	19	35	107	14	1,491	229	41	12	97	1,834	1,928	161	297	1,734	1,607	150	47	306	358	120	6	328	294	19	34	0	276	14	12	3	98	16	291	3	4	6	7	773	691	732	(0)
4 US 97 at Nels Anderson Pl	0	4	66	1,862	-	11	-	-	39	1,723	241	213	-	-	1,928	2,075	11	307	2,003	1,734	213	39	386	285	-	25	360	304	-	5	25	322	-	0	-	-	6	327	3	0	-	-	747	620	683	0
5 US 97 SB Ramp at Empire	0	5	17	2	5	6	425	328	-	-	-	418	752	4	24	748	759	442	-	10	1,174	757	59	914	1,358	1,042	-	32	1,629	1,023	48	3	8	19	972	390	-	-	-	529	1,046	14	3,046	3,012	3,029	0
6 US 97 NB Ramps at Empire	0	6	-	-	-	224	595	-	356	3	164	-	604	153	-	-	819	759	523	380	757	960	-	-	1,413	1,358	615	365	1,023	1,367	-	-	-	239	1,161	-	421	2	205	-	915	127	3,050	3,089	3,069	(0)
7 US20 at Empire	0	7	77	642	492	29	180	148	183	354	64	52	268	76	1,211	842	357	321	601	459	396	943	2,362	1,568	935	669	1,156	1,419	458	1,507	160	1,178	1,077	203	437	319	169	968	56	37	226	207	4,910	5,164	5,037	0
8 US20 at Butler Market	0	8	60	1,044	150	73	148	309	113	605	114	81	154	95	1,254	1,434	530	322	832	773	330	417	2,157	2,006	500	467	1,430	1,439	531	568	134	1,718	244	96	158	238	128	1,128	180	110	206	209	4,618	4,481	4,550	(0)
9 SB off ramp at Butler Market	0	9	97	-	137	-	558	-	-	-	-	-	458	-	234	-	558	655	-	-	458	595	212	-	607	629	-	-	612	756	60	-	150	-	589	-	-	-	-	-	610	-	1,432	1,385	1,408	0
10 US97 NB On-Ramp at Butle	0	10	-	-	-	178	557	7	11	2	1	6	515	74	-	13	742	558	14	254	595	526	-	15	827	601	16	310	761	684	-	-	-	212	604	8	13	2	1	7	666	94	1,604	1,610	1,607	0
11 Bend Pkwy SB On-Ramp/Di	0	11	238	598	598	-	-	-	-	469	-	8	-	363	1,434	606	-	238	469	832	371	598	2,011	997	-	613	904	1,428	530	478	600	968	476	-	-	-	-	904	-	12	-	521	3,445	3,516	3,481	(0)
12 US97 SB Ramps at Revere	0	12	2	240	154	199	70	438	388	132	24	9	96	5	396	687	707	96	544	336	110	638	265	948	1,242	95	883	452	111	902	1	145	115	303	77	825	696	157	20	8	99	3	2,501	2,398	2,450	(0)
13 US97 NB Ramps at Revere	0	13	170	21	68	67	401	28	276	210	136	264	240	134	259	313	496	707	622	411	638	584	597	310	723	1,224	512	559	916	605	456	26	115	91	616	18	162	196	148	274	339	280	2,748	2,698	2,723	0
14 US97 at Lafayette	0	14	83	2,609	-	-	-	-	-	2,377	-	125	-	-	2,692	2,734	-	83	2,377	2,377	125	-	3,400	3,180	-	-	3,238	3,166	-	-	0	3,290	-	-	-	-	-	3,202	-	0	-	-	6,638	6,346	6,492	(0)
15 US97 at Hawthorne	0	15	259	2,475	-	-	-	-	-	2,377	-	223	-	-	2,734	2,698	-	259	3,199	3,204	-	-	3,211	3,004	-	258	3,199	3,204	-	-	256	2,981	-	-	-	-	-	3,202	-	0	-	-	6,410	6,467	6,438	(0)
16 US97 SB Ramps at Coloradc	0	16	367	-	91	30	349	-	770	264	8	-	-	-	458	-	379	724	1,042	294	-	861	594	-	416	910	1,426	435	-	1,109	490	-	113	37	390	-	1,005	399	11	-	-	-	2,436	2,454	2,445	(0)
17 US97 NB Ramps at Colorad	0	17	199	-	17	381	180	-	-	-	-	-	217	644	216	-	561	379	-	1,025	861	234	198	-	530	416	-	1,112	1,105	309	191	-	13	318	216	-	-	-	-	-	299	798	1,833	1,837	1,835	0
18 US97 at Truman	0	18	183	2,351	-	-	-	-	-	1,568	-	80	-	-	2,534	2,431	-	183	1,568	1,568	80	-	2,844	2,729	-	-	2,286	2,262	-	-	0	2,786	-	-	-	-	-	2,274	-	0	-	-	5,129	4,991	5,060	0
19 Hwy 97 SB Ramps at Reed I	0	19	150	-	-	-	457	-	-	-	-	52	710	-	150	52	457	607	-	-	762	710	212	46	770	1,019	-	-	1,239	1,322	216	-	-	-	785	-	-	-	-	44	1,260	-	2,222	2,387	2,305	0
20 US97 NB ramps at Reed Ma	0	20	-	-	-	291	449	-	79	-	-	-	1,292	-	-	-	740	449	79	291	1,292	1,371	-	-	1,144	706	63	418	1,760	1,743	-	-	-	423	711	-	63	-	-	-	1,720	-	2,968	2,867	2,917	(0)
21 US97 at Reed Ln	0	21	-	1,716	-	146	-	-	55	1,076	-	-	-	-	1,716	1,716	146	-	1,131	1,222	-	55	2,012	2,013	-	-	1,615	1,642	-	-	-	2,013	-	0	-	-	0	1,628	-	-	-	-	3,627	3,656	3,641	(0)
22 US97 SB Ramps at Powers	0	22	3	-	355	-	581	27	-	-	-	33	462	-	358	60	608	584	-	-	495	817	810	201	684	1,011	-	-	958	1,210	300	-	504	-	696	1	-	-	-	205	730	-	2,452	2,422	2,437	0
23 US 97 at Powers	0	23	307	1,409	-	-	301	-	21	828	-	-	816	1	1,716	1,409	301	608	849	829	817	837	212	130	7	89	101	91	192	202	82	130	-	-	7	-	5	93	-	-	194	0	511	511	511	0
24 US 97 NB Ramps at Powers	0	24	-	-	1	138	273	-	-	-	28	-	644	193	1	-	411	301	28	331	837	645	-	-	682	528	19	500	1,239	895	-	-	0	167	512	-	-	-	19	-	899	334	1,940	1,923	1,931	(0)
25 US 97 at Badger	0	25	-	1,088	-	-	-	-	-	759	-	-	-	-	1,088	1,088	-	-	759	759	-	-	1,231	1,519	-	-	1,104	1,116	-	-	-	1,375	-	-	-	-	-	1,110	-	-	-	-	2,335	2,635	2,485	0
26 US97 at Pinebrook	0	26	-	1,836	-	-	-	-	-	641	-	-	-	-	1,836	1,836	-	-	641	641	-	-	2,362	2,287	-	-	1,155	983	-	-	-	2,325	-	-	-	-	-	1,069	-	-	-	-	3,518	3,270	3,394	0
28 US 97 at Ponderosa-China H	0	28	130	1,409	-	110	-	-	11	776	-	18	-	-	1,539	1,427	110	130	787	886	18	11	1,551	1,592	-	-	1,174	1,328	-	-	0	1,572	-	0	-	-	0	1,251	-	0	-	-	2,725	2,920	2,822	(0)
29 US 97 SB Ramps at Baker	0	29	481	-	66	178	315	-	-	-	-	-	341	52	547	-	493	796	-	230	393	407	503	-	631	882	-	249	478	469	450	-	59	200	427	-	-	-	-	-	416	55	1,613	1,601	1,607	0
30 US 97 NB Ramps at Knott	0	30	-	-	-	17	449	-	95	1	44	-	160	247	-	-	466	493	140	265	407	255	-	-	903	623	168	530	475	334	-	-	-	241	637	-	160	2	6	-	174	296	1,546	1,487	1,516	0
40 US 97 Bus at OB Riley	0	40	5	929	35	58	11	131	130	569	69	189	8	7	969	1,249	200	85	768	634	204	173	1,615	2,153	262	215	1,456	1,154	437	192	12	1,570	34	73	20	169	152	1,089	186	411	10	15	3,771	3,713	3,742	0
41 NW Mt Washington Dr at R	0	41	1	-	13	17	371	10	10	-	-	-	342	2	14	10	398	372	10	19	344	365	14	26	559	519	31	19	530	569	1	-	13	17	517	25	30	-	-	-	527	2	1,133	1,132	1,133	(0)
42 NE Butler Market Rd at NE	0	42	11	3	2	3	555	96	68	-	169	76	458	2	16	175	654	735	237	5	536	528	16	197	659	825	311	5	691	691	11	3	2	3	576	98	93	-	221	93	597	2	1,677	1,718	1,698	(0)
45 Harriman at Revere	0	45	-	-	29	35	-	18	9	1	-	-	-	-	29	18	53	-	10	36	-	38	29	18	53	-	10	36	-	38	-	-	29	35	-	18	9	1	-	-	-	92	92	92	-
46 NE 3rd St at NE Revere Ave	0	46	39	483	53	71	298	147	70	813	92	185	409	185	575	815	516	429	975	1,069	779	532	917	1,170	885	668	1,385	1,446	811	824	56	746	126	130	494	262	148	1,141	117	150	528	154	3,998	4,108	4,053	0
47 4th at Revere	0	47	220	133	110	62	243	25	45	217	61	89	301	154	463	247	330	524	323	433	544	456	735	350	506	903	415	570	831	684	386	189	166	83	403	34	59	265	94	130	466	223	2,487	2,508	2,497	0
48 Scott at Aune St	0	48	24	200	-	-	-	-	-	550	45	24	-	11	224	224	-	69	595	561	35	-	299	295	-	75	562	530	39	-	29	268	-	-	-	-	-	518	46	28	-	11	900	900	900	0
49 SW Brookswood at Reed M	0	49	46	366	330	186	228	92	83	213	144	160	326	48	742	618	506	418	440	447	534	739	1,138	1,124	849	727	722	692	988	1,177	73	611	473	286	398	169	133	331	253	325	575	82	3,698	3,721	3,709	0
50 Silver Lake Blvd at Reed Ma	0	50	16	3	19	30	490	105	47	-	8	20	712	16	38	128	625	514	55	46	748	778	91	135	1,023	868	67	90	1,199	1,280	38	5	47	60	834	113	58	-	10	20	1,162	30	2,380	2,372	2,376	0
51 Division St at Reed Market	0	51	-	-	-	-	792	4	37	-	-	593	698	-	-	597	796	792	37	-	1,291	735	21	797	1,383	1,652	40	-	1,624	975	-	-	-	-	1,517	0	41	-	-	772	904	-	3,068	3,424	3,236	(10)
52 3rd at Reed Market	0	52	124	655	110	78	295	175	222	493	227	62	533	91	889	892	548	646	942	662	686	865	1,415	1,235	653	1,118	1,475	979	892	1,097	258	991	157	85	408	171	291	756	436	82	664	134	4,435	4,430	4,432	0
53 Brookswood at Powers Rd	0	53	40	497	211	93	63	294	160	269	5	3	53	41	748	794	450	108	434	403	97	424	1,054	1,129	725	130	627	669	111	814	40	616	445	212	81	464	267	385	4	2	69	45	2,517	2,742	2,629	(0)
54 3rd at Powers	0	54	205	657	16	14	78	15	9	376	94	337	132	180	878	1,009	107	377	479	570	649	157	1,018	1,240	214	585	726	729	866	255	259	748	22	23	161	29	18	522	168	450	214	204	2,824	2,808	2,816	0
55 Parrell Rd at Powers Rd	0	55	57	185	-	-	-	-	-	140	35	105	-	66	242	290	-	92	175	206	171	-	491	388	-	197	344	420	289	-	160	305	-	-	-	-	-	278	48	106	-	168		1,125	1,005	1,065	(0)
56 Blakely at Badger	0	56	31	-	-	10	13	-	-	-	-	-	5	32	31	-	23	44	-	42	37	5	42	-	-	2	-	12	56	-	22	-	-	-	-	-	-	-	-	0	34		98	13	55	(0)
57 3rd St at Badger Rd	0	57	88	757	23	26	25	66	26	296	18	18	17	64	868	841	117	131	340	386	99	66	1,101	1,051	109	131	576	627	99	78	91	977	27	30	18	62	36	522	22	16	14	70		1,885	1,887	1,886	0
58 3rd St at Pinebrook	0	58	70	677	56	31	2	7	6	277	138	38	2	14	803	722	40	210	421	322	54	64	1,019	926	40	129	608	511	1	64	37	922	56	32	1	7	8	492	94	0	0	0		1,668	1,629	1,648	0
59 Murphy at SE 3rd St	0	59	150	334	209	151	139	115	38	162	38	8	155	170	693	457	405	327	238	483	333	402	1,258	752	736	525	246	715	661	701	262	568	383	266	246	198	40	159	38	15	305	318		2,901	2,693	2,797	(0)
60 Parrell Rd at China Hat Rd	0	60	19	-	62	37	101	-	-	-	-	-	5	6	81	-	138	120	-	43	11	67	195	-	469	161	-	155	129	465	0	-	237	193	200	-	-	-	-	-	157	0		792	781	787	(0)
61 US20 at 3rd St Ramp to NB	0	61	-	606	-	-	-	-	559	469	-	-	-	-	606	606	-	-	1,028	469	-	559	993	992	-	-	1,371	908	-	459	-	992	-	-	-	-	464	905	-	-	-	-	2,363	2,358	2,361	0
62 Blakely Rd at Powers Rd	0	62	9	2	18	33	433	102	60	1	17	30	387	4	29	134	568	459	78	38	421	465	56	205	922	750	102	74	794	839	17	3	35	63	709	152	79	2	22	50	729	9		1,873	1,867	1,870	(0)
XX Reed Market SPUI Intersec	0	XX	-	-	679	-	980	62	-	-	35	-	1,233	97	679	62	1,042	1,015	35	97	1,330	1,912	679	175	1,404	1,296	58	250	1,834	2,291	-	-	683	-	1,236	173	-	-	58	-	1,597	247		3,976	4,011	3,994	0
101 US 97 NB/SB Ramp to Hwy	0	101	435	1,640	-	-	-	-	734	2,003	-	-	-	-	2,075	1,640	-	435	2,737	2,003	-	734	1,475	274	-	838	1,935	1,016	-	842	975	319	-	-	-	-	860	1,037	-	-	-	-		3,410	2,970	3,190	(0)
																																									TOTAL	131,827	130,791	131,298	(10)

			2040 Initial Volumes											
			Northbound			Southbound			Eastbound			Westbound		
N/S	E/W	#	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
Study Intersections														
1 US 97 at Deschutes Pleasant F	0	1	-	169	156	-	317	11	-	-	0	-	-	401
2 US97 at Cooley	0	2	1	268	2	51	294	16	4	0	0	5	4	27
3 US 97 at Robal	0	3	3	291	16	14	276	0	7	6	4	98	3	12
4 US 97 at Nels Anderson Pl	0	4	3	327	6	-	322	25	-	-	0	-	-	0
5 US 97 SB Ramp at Empire	0	5	-	-	-	8	3	48	14	1,046	529	390	972	19
6 US 97 NB Ramps at Empire	0	6	205	2	421	-	-	-	127	915	-	-	1,161	239
7 US20 at Empire	0	7	56	968	169	1,077	1,178	160	207	226	37	319	437	203
8 US20 at Butler Market	0	8	180	1,128	128	244	1,718	134	209	206	110	238	158	96
9 SB off ramp at Butler Market	0	9	-	-	-	150	-	60	-	610	-	-	589	-
10 US97 NB On-Ramp at Butler	0	10	1	2	13	-	-	-	94	666	7	8	604	212
11 Bend Pkwy SB On-Ramp/Divi	0	11	-	904	-	476	968	600	521	-	12	-	-	-
12 US97 SB Ramps at Revere	0	12	20	157	696	115	145	1	3	99	8	825	77	303
13 US97 NB Ramps at Revere	0	13	148	196	162	115	26	456	280	339	274	18	616	91
14 US97 at Lafayette	0	14	-	3,202	-	-	3,290	0	-	-	0	-	-	-
15 US97 at Hawthorne	0	15	-	3,202	-	-	2,981	256	-	-	0	-	-	-
16 US97 SB Ramps at Colorado	0	16	11	399	1,005	113	-	490	-	-	-	-	390	37
17 US97 NB Ramps at Colorado	0	17	-	-	-	13	-	191	798	299	-	-	216	318
18 US97 at Truman	0	18	-	2,274	-	-	2,786	0	-	-	0	-	-	-
19 Hwy 97 SB Ramps at Reed M	0	19	-	-	-	-	-	216	-	1,260	44	-	785	-
20 US97 NB ramps at Reed Marl	0	20	-	-	63	-	-	-	-	1,720	-	-	711	423
21 US97 at Reed Ln	0	21	-	1,628	0	-	2,013	-	-	-	-	-	-	0
22 US97 SB Ramps at Powers	0	22	-	-	-	504	-	300	-	730	205	1	696	-
23 US 97 at Powers	0	23	-	93	5	-	130	82	0	194	-	-	7	-
24 US 97 NB Ramps at Powers	0	24	19	-	-	0	-	-	334	899	-	-	512	167
25 US 97 at Badger	0	25	-	1,110	-	-	1,375	-	-	-	-	-	-	-
26 US97 at Pinebrook	0	26	-	1,069	-	-	2,325	-	-	-	-	-	-	-
28 US 97 at Ponderosa-China Ha	0	28	-	1,251	0	-	1,572	0	-	-	0	-	-	0
29 US 97 SB Ramps at Baker	0	29	-	-	-	59	-	450	55	416	-	-	427	200
30 US 97 NB Ramps at Knott	0	30	6	2	160	-	-	-	296	174	-	-	637	241
40 US 97 Bus at OB Riley	0	40	186	1,089	152	34	1,570	12	15	10	411	169	20	73
41 NW Mt Washington Dr at Rive	0	41	-	-	30	13	-	1	2	527	-	25	517	17
42 NE Butler Market Rd at NE 4t	0	42	221	-	93	2	3	11	2	597	93	98	576	3
45 Harriman at Revere	0	45	-	1	9	29	-	-	-	-	-	18	-	35
46 NE 3rd St at NE Revere Ave	0	46	117	1,141	148	126	746	56	154	528	150	262	494	130
47 4th at Revere	0	47	94	265	59	166	189	386	223	466	130	34	403	83
48 Scott at Aune St	0	48	46	518	-	-	268	29	11	-	28	-	-	-
49 SW Brookswood at Reed Mar	0	49	253	331	133	473	611	73	82	575	325	169	398	286
50 Silver Lake Blvd at Reed Mark	0	50	10	-	58	47	5	38	30	1,162	20	113	834	60
51 Division St at Reed Market Rc	0	51	-	-	41	-	-	-	-	904	772	0	1,517	-
52 3rd at Reed Market	0	52	436	756	291	157	991	258	134	664	82	171	408	85
53 Brookswood at Powers Rd	0	53	4	385	267	445	616	40	45	69	2	464	81	212
54 3rd at Powers	0	54	168	522	18	22	748	259	204	214	450	29	161	23
55 Parrell Rd at Powers Rd	0	55	48	278	-	-	305	160	168	-	106	-	-	-
56 Blakely at Badger	0	56	-	-	-	-	-	22	34	0	-	-	-	-
57 3rd St at Badger Rd	0	57	22	522	36	27	977	91	70	14	16	62	18	30
58 3rd St at Pinebrook	0	58	94	492	8	56	922	37	0	0	0	7	1	32
59 Murphy at SE 3rd St	0	59	38	159	40	383	568	262	318	305	15	198	246	266
60 Parrell Rd at China Hat Rd	0	60	-	-	-	237	-	0	0	157	-	-	200	193
61 US20 at 3rd St Ramp to NB U	0	61	-	905	464	-	992	-	-	-	-	-	-	-
62 Blakely Rd at Powers Rd	0	62	22	2	79	35	3	17	9	729	50	152	709	63
XX Reed Market SPUI Intersectic	0	XX	58	-	-	683	-	-	247	1,597	-	173	1,236	-
101 US 97 NB/SB Ramp to Hwy	0	101	-	1,037	860	-	319	975	-	-	-	-	-	-

Growth Check (2040 - 2018)												
Northbound			Southbound			Eastbound			Westbound		
NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
0	-1,410	28	0	-1,070	-215	0	0	-85	0	0	-55
-39	-1,143	-75	-59	-1,207	-28	-181	-143	-15	-180	-65	-31
-226	-1,200	2	-7	-1,504	-33	-90	-6	-37	-9	-32	-7
-238	-1,396	-33	0	-1,540	-41	0	0	-213	0	0	-11
0	0	0	3	1	31	10	294	111	62	547	13
41	-1	65	0	0	0	-26	311	0	0	566	15
-8	614	-14	585	536	83	131	-42	-15	171	257	174
66	523	15	94	674	74	114	52	29	-71	10	23
0	0	0	13	0	-37	0	152	0	0	31	0
0	0	2	0	0	0	20	151	1	1	47	34
0	435	0	-122	370	362	158	0	4	0	0	0
-4	25	308	-39	-95	-1	-2	3	-1	387	7	104
12	-14	-114	47	5	286	146	99	10	-10	215	24
0	825	0	0	681	-83	0	0	-125	0	0	0
0	825	0	0	506	-3	0	0	-223	0	0	0
3	135	235	22	0	123	0	0	0	0	41	7
0	0	0	-4	0	-8	154	82	0	0	36	-63
0	706	0	0	435	-183	0	0	-80	0	0	0
0	0	0	0	0	66	0	550	-8	0	328	0
0	0	-16	0	0	0	0	428	0	0	262	132
0	552	-55	0	297	0	0	0	0	0	0	-146
-3	0	-355	504	0	300	0	268	172	-26	115	0
0	-735	-16	0	-1,279	-225	-1	-622	0	0	-294	0
19	0	0	-1	0	-28	141	255	0	0	239	29
0	351	0	0	287	0	0	0	0	0	0	0
0	428	0	0	489	0	0	0	0	0	0	0
0	475	-11	0	163	-130	0	0	-18	0	0	-110
0	0	0	-7	0	-31	3	75	0	0	112	22
-38	1	65	0	0	0	49	14	0	0	188	224
117	520	22	-1	641	7	8	2	222	38	9	15
0	0	20	0	0	0	0	185	0	15	146	0
52	0	25	0	0	0	0	139	17	2	21	0
0	0	0	0	0	0	0	0	0	0	0	0
25	328	78	73	263	17	-31	119	-35	115	196	59
33	48	14	56	56	166	69	165	41	9	160	21
1	-32	0	0	68	5	0	0	4	0	0	0
109	118	50	143	245	27	34	249	165	77	170	100
2	0	11	28	2	22	14	450	0	8	344	30
0	0	4	0	0	0	0	206	179	-4	725	0
209	263	69	47	336	134	43	131	20	-4	113	7
-1	116	107	234	119	0	4	16	-1	170	18	119
74	146	9	6	91	54	24	82	113	14	83	9
13	138	0	0	120	103	102	0	1	0	0	0
0	0	0	0	0	-9	2	-5	0	0	-13	-10
4	226	10	4	220	3	6	-3	-2	-4	-7	4
-44	215	2	0	245	-33	-14	-2	-38	0	-1	1
0	-3	2	174	234	112	148	150	7	83	107	115
0	0	0	165	0	-9	-6	152	0	0	99	156
0	436	-95	0	386	0	0	0	0	0	0	0
5	1	19	17	1	8	5	342	20	50	276	30
23	0	0	4	0	0	150	364	0	111	256	0
0	-966	126	0	-1,321	540	0	0	0	0	0	0

DKS

2040 Average Weekday Post Processing Manual Adjustments – Bundle B

			Adjustments												
			Northbound			Southbound			Eastbound			Westbound			
N/S	E/W	#	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	Comments
Study Intersections															
1 US 97 at Deschutes Pleasant Ridge	0	1	0	0	0	0	0	0	0	0	0	0	0	0	
2 US97 at Cooley	0	2	0	0	0	0	38	0	0	0	0	0	0	0	
3 US 97 at Robal	0	3	0	0	0	0	0	0	0	0	0	0	0	0	
4 US 97 at Nels Anderson Pl	0	4	0	61	0	0	18	0	0	0	0	0	0	0	
5 US 97 SB Ramp at Empire	0	5	0	0	0	0	0	0	0	0	-20	-5	0	0	
6 US 97 NB Ramps at Empire	0	6	20	0	41	0	0	0	5	10	0	0	20	0	
7 US20 at Empire	0	7	0	0	0	0	0	0	0	0	0	0	0	0	
8 US20 at Butler Market	0	8	5	-28	8	0	-3	5	0	-15	0	20	-3	0	
9 SB off ramp at Butler Market	0	9	0	0	0	26	0	10	0	8	0	0	-2	0	
10 US97 NB On-Ramp at Butler Market	0	10	0	0	0	0	0	0	-8	33	0	0	-18	-20	
11 Bend Pkwy SB On-Ramp/Division at 3r	0	11	0	0	0	-5	79	-36	18	0	0	0	882	0	
12 US97 SB Ramps at Revere	0	12	32	59	5	15	51	2	6	20	18	-59	51	-54	Modified to account for zone growth on EB leg since EB leg not in model
13 US97 NB Ramps at Revere	0	13	0	-5	-10	-18	-3	-10	0	33	26	0	-69	0	
14 US97 at Lafayette	0	14	0	-56	0	0	-54	0	0	0	0	0	0	0	
15 US97 at Hawthorne	0	15	0	-59	0	0	-10	8	0	0	0	0	0	0	
16 US97 SB Ramps at Colorado	0	16	-5	0	3	3	0	0	0	0	0	0	-3	3	
17 US97 NB Ramps at Colorado	0	17	0	0	0	5	0	-8	-41	66	0	0	31	15	
18 US97 at Truman	0	18	0	-26	0	0	18	0	0	0	0	0	0	0	
19 Hwy 97 SB Ramps at Reed Market	0	19	0	0	0	0	0	-20	0	-339	3	0	18	0	
20 US97 NB ramps at Reed Market	0	20	0	0	0	0	0	0	0	-143	0	0	60	8	
21 US97 at Reed Ln	0	21	0	-122	0	0	46	0	0	0	0	0	0	0	
22 US97 SB Ramps at Powers	0	22	0	0	0	-179	0	20	0	-122	-94	33	-244	0	
23 US 97 at Powers	0	23	0	0	0	0	0	0	0	0	0	0	0	0	
24 US 97 NB Ramps at Powers	0	24	18	0	31	0	0	0	-115	-183	0	0	-61	-66	
25 US 97 at Badger	0	25	0	448	0	0	163	0	0	0	0	0	0	0	
26 US97 at Pinebrook	0	26	0	492	0	0	99	0	0	0	0	0	0	0	
28 US 97 at Ponderosa-China Hat	0	28	0	5	0	0	97	0	0	354	0	0	235	0	
29 US 97 SB Ramps at Baker	0	29	0	0	0	26	0	0	0	46	0	0	15	0	
30 US 97 NB Ramps at Knott	0	30	23	0	-15	0	0	0	20	56	0	0	-26	38	
40 US 97 Bus at OB Riley	0	40	8	-36	5	3	-62	0	0	3	3	3	5	0	
41 NW Mt Washington Dr at Riverview Pai	0	41	0	0	0	0	0	0	0	-23	0	0	-5	10	
42 NE Butler Market Rd at NE 4th St	0	42	0	0	0	0	0	0	0	0	28	0	-23	0	
45 Harriman at Revere	0	45	0	0	10	33	0	0	0	0	0	28	0	56	
46 NE 3rd St at NE Revere Ave	0	46	-13	-20	-48	51	0	0	15	-46	-3	0	-56	23	
47 4th at Revere	0	47	-10	5	102	0	0	0	0	-41	13	0	-23	0	
48 Scott at Aune St	0	48	10	99	0	0	89	-8	-10	0	-8	0	0	0	
49 SW Brookswood at Reed Market	0	49	0	-61	41	-33	-41	0	0	-33	0	5	3	26	
50 Silver Lake Blvd at Reed Market Rd	0	50	0	0	5	0	0	30	0	-78	20	0	3	0	
51 Division St at Reed Market Rd	0	51	0	0	5	0	0	0	5	-10	-10	5	-327	5	
52 3rd at Reed Market	0	52	-28	36	0	0	23	10	-28	26	-8	28	13	0	
53 Brookswood at Powers Rd	0	53	0	-15	-87	0	-54	0	-3	0	0	-130	0	-23	
54 3rd at Powers	0	54	-13	0	0	-8	173	5	11	-15	-119	0	-16	10	
55 Parrell Rd at Powers Rd	0	55	13	-15	0	0	0	-11	-41	0	5	0	0	0	
56 Blakely at Badger	0	56	0	0	0	0	0	0	0	0	0	0	-10	0	
57 3rd St at Badger Rd	0	57	0	-51	0	0	0	0	0	0	0	0	0	0	
58 3rd St at Pinebrook	0	58	0	-102	0	0	0	0	0	0	0	0	0	0	
59 Murphy at SE 3rd St	0	59	-26	-18	15	-84	84	-84	-122	77	48	48	0	-61	
60 Parrell Rd at China Hat Rd	0	60	0	0	0	-77	0	0	0	191	0	0	41	92	
61 US20 at 3rd St Ramp to NB US97	0	61	0	0	0	0	0	0	0	1056	0	0	882	497	
62 Blakely Rd at Powers Rd	0	62	-3	3	-3	-10	0	26	0	-108	15	-5	-168	20	
XX Reed Market SPUI Intersection	0	XX	-13	0	0	3	0	0	-15	-207	0	-84	128	0	

2040 Average Weekday Final PM Peak Hour Volumes – Bundle B

		Northbound			Southbound			Eastbound			Westbound		
		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
#	Intersection Name	2040 Average Weekday Post-Processed PM Peak Hour Volume											
1	1 US 97 at Deschutes Pleasant Ridge	0	0	0	0	0	0	0	0	0	0	0	0
2	2 US97 at Cooley	0	0	0	0	0	0	0	0	0	0	0	0
3	3 US 97 at Robal	0	0	0	0	0	0	0	0	0	0	0	0
4	4 US 97 at Nels Anderson Pl	0	0	0	0	0	0	0	0	0	0	0	0
5	5 US 97 SB Ramp at Empire	0	0	0	10	5	50	15	1045	510	385	970	20
6	6 US 97 NB Ramps at Empire	225	5	460	0	0	0	130	925	0	0	1180	240
7	7 US20 at Empire	55	970	170	1075	1180	160	205	225	35	320	435	205
8	8 US20 at Butler Market	185	1100	135	245	1715	140	210	190	110	260	155	95
9	9 SB off ramp at Butler Market	0	0	0	175	0	70	0	615	0	0	585	0
10	10 US97 NB On-Ramp at Butler Market	0	0	15	0	0	0	85	700	5	10	585	190
11	11 Bend Pkwy SB On-Ramp/Division at 3rd St	0	0	0	470	1045	565	540	0	10	0	880	0
12	12 US97 SB Ramps at Revere	50	215	700	130	195	5	10	120	25	765	130	250
13	13 US97 NB Ramps at Revere	150	190	150	95	25	445	280	370	300	20	550	90
14	14 US97 at Lafayette	0	3145	0	0	3235	0	0	0	0	0	0	0
15	15 US97 at Hawthorne	0	3145	0	0	2970	265	0	0	0	0	0	0
16	16 US97 SB Ramps at Colorado	5	400	1005	115	0	490	0	0	0	0	390	40
17	17 US97 NB Ramps at Colorado	0	0	0	20	0	185	755	365	0	0	245	335
18	18 US97 at Truman	0	2250	0	0	2805	0	0	0	0	0	0	0
19	19 Hwy 97 SB Ramps at Reed Market	0	0	0	0	0	195	0	920	45	0	805	0
20	20 US97 NB ramps at Reed Market	45	0	65	685	0	195	230	920	45	90	770	430
21	21 US97 at Reed Ln	0	1505	0	0	2060	0	0	0	0	0	0	0
22	22 US97 SB Ramps at Powers	0	0	0	325	0	320	0	610	110	35	450	0
23	23 US 97 at Powers	0	0	0	0	0	0	0	0	0	0	0	0
24	24 US 97 NB Ramps at Powers	35	0	30	0	0	0	220	715	0	0	450	100
25	25 US 97 at Badger	0	1560	0	0	1540	0	0	0	0	0	0	0
26	26 US97 at Pinebrook	0	1560	0	0	2425	0	0	0	0	0	0	0
28	28 US 97 at Ponderosa-China Hat	0	1255	0	0	1670	0	0	355	0	0	235	0
29	29 US 97 SB Ramps at Baker	0	0	0	85	0	450	55	460	0	0	440	200
30	30 US 97 NB Ramps at Knott	30	0	145	0	0	0	315	230	0	0	610	280
40	40 US 97 Bus at OB Riley	195	1055	155	35	1510	10	15	15	415	170	25	75
41	41 NW Mt Washington Dr at Riverview Park	0	0	30	15	0	0	0	505	0	25	510	25
42	NE Butler Market Rd at NE 4th St	220	0	95	0	5	10	0	595	120	100	555	5
45	45 Harriman at Revere	0	0	20	60	0	0	0	0	0	45	0	90
46	NE 3rd St at NE Revere Ave	105	1120	100	175	745	55	170	485	150	260	440	155
47	4th at Revere	85	270	160	165	190	385	225	425	145	35	380	85
48	48 Scott at Aune St	55	615	0	0	355	20	10	0	20	0	0	0
49	SW Brookswood at Reed Market	255	270	175	440	570	75	80	540	325	175	400	310
50	Silver Lake Blvd at Reed Market Rd	10	0	65	45	5	70	30	1085	40	115	835	60
51	Division St at Reed Market Rd	0	0	45	0	0	0	5	895	760	5	1190	5
52	3rd at Reed Market	410	790	290	155	1015	270	105	690	75	200	420	85
53	Brookswood at Powers Rd	5	370	180	445	560	40	45	70	5	335	80	190
54	3rd at Powers	155	520	20	15	920	265	215	200	330	30	145	35
55	Parrell Rd at Powers Rd	60	265	0	0	305	150	125	0	110	0	0	0
56	56 Blakely at Badger	0	0	0	0	0	20	35	0	0	0	0	0
57	3rd St at Badger Rd	20	470	35	25	975	90	70	15	15	60	20	30
58	3rd St at Pinebrook	95	390	10	55	920	35	15	0	40	5	0	30
59	Murphy at SE 3rd St	10	140	55	300	650	180	195	380	65	245	245	205
60	Parrell Rd at China Hat Rd	10	0	160	0	0	0	0	350	5	285	240	0
61	61 US20 at 3rd St Ramp to NB US97	0	0	0	0	0	0	0	1055	0	0	880	495
62	62 Blakely Rd at Powers Rd	20	5	75	25	5	45	10	620	65	145	540	85
63	Reed Market SPUI	45	0	0	685	0	0	230	1390	0	90	1365	0
64	US 97 N/SB Ramp to Hwy 20	0	1035	860	0	320	975	0	0	0	0	0	0

Seasonal Factors – Bundle B

		Northbound			Southbound			Eastbound			Westbound		
		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
#	Intersection Name	Seasonal Factors											
1	1 US 97 at Deschutes Pleasant Ridge	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
2	2 US97 at Cooley	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
3	3 US 97 at Robal	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
4	4 US 97 at Nels Anderson Pl	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
5	5 US 97 SB Ramp at Empire	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
6	6 US 97 NB Ramps at Empire	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
7	7 US20 at Empire	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
8	8 US20 at Butler Market	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
9	9 SB off ramp at Butler Market	1.00	1.00	1.00	1.11	1.00	1.11	1.00	1.11	1.00	1.00	1.11	1.00
10	10 US97 NB On-Ramp at Butler Market	1.00	1.11	1.11	1.00	1.00	1.00	1.11	1.11	1.11	1.11	1.11	1.11
11	11 Bend Pkwy SB On-Ramp/Division at 3rd St	1.00	1.11	1.00	1.11	1.11	1.11	1.11	1.00	1.11	1.00	1.00	1.11
12	12 US97 SB Ramps at Revere	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
13	13 US97 NB Ramps at Revere	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
14	14 US97 at Lafayette	1.00	1.11	1.00	1.00	1.11	1.11	1.00	1.00	1.11	1.00	1.00	1.00
15	15 US97 at Hawthorne	1.00	1.11	1.00	1.00	1.11	1.11	1.00	1.00	1.11	1.00	1.00	1.00
16	16 US97 SB Ramps at Colorado	1.11	1.11	1.11	1.11	1.00	1.11	1.00	1.00	1.00	1.00	1.11	1.11
17	17 US97 NB Ramps at Colorado	1.00	1.00	1.00	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
18	18 US97 at Truman	1.00	1.11	1.00	1.00	1.11	1.11	1.00	1.00	1.11	1.00	1.00	1.00
19	19 Hwy 97 SB Ramps at Reed Market	1.00	1.00	1.00	1.11	1.00	1.11	1.00	1.00	1.11	1.00	1.00	1.11
20	20 US97 NB ramps at Reed Market	1.30	1.00	1.30	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
21	21 US97 at Reed Ln	1.00	1.22	1.30	1.00	1.22	1.00	1.00	1.00	1.00	1.00	1.00	1.11
22	22 US97 SB Ramps at Powers	1.11	1.00	1.11	1.00	1.00	1.00	1.00	1.00	1.30	1.30	1.00	1.00
23	23 US 97 at Powers	1.00	1.30	1.30	1.00	1.24	1.11	1.00	1.00	1.00	1.00	1.00	1.00
24	24 US 97 NB Ramps at Powers	1.00	1.00	1.00	1.00	1.00	1.30	1.11	1.00	1.00	1.00	1.00	1.11
25	25 US 97 at Badger	1.00	1.31	1.00	1.00	1.31	1.00	1.00	1.00	1.00	1.00	1.00	1.00
26	26 US97 at Pinebrook	1.00	1.31	1.00	1.00	1.31	1.00	1.00	1.00	1.00	1.00	1.00	1.00
28	28 US 97 at Ponderosa-China Hat	1.00	1.30	1.11	1.00	1.28	1.11	1.00	1.00	1.11	1.00	1.00	1.06
29	29 US 97 SB Ramps at Baker	1.00	1.00	1.00	1.11	1.00	1.11	1.11	1.11	1.00	1.00	1.11	1.11
30	30 US 97 NB Ramps at Knott	1.11	1.11	1.11	1.00	1.00	1.00	1.11	1.11	1.00	1.00	1.11	1.11
40	40 US 97 Bus at OB Riley	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
41	41 NW Mt Washington Dr at Riverview Park	1.00	1.06	1.06	1.06	1.00	1.06	1.00	1.06	1.00	1.06	1.06	1.06
42	NE Butler Market Rd at NE 4th St	1.06	1.00	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
45	45 Harriman at Revere	1.00	1.00	1.06	1.06	1.00	1.00	1.00	1.00	1.00	1.06	1.00	1.06
46	NE 3rd St at NE Revere Ave	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
47	4th at Revere	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
48	48 Scott at Aune St	1.06	1.00	1.06	1.00	1.00	1.00	1.00	1.06	1.06	1.06	1.06	1.00
49	SW Brookswood at Reed Market	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
50	Silver Lake Blvd at Reed Market Rd	1.06	1.00	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
51	Division St at Reed Market Rd	1.00	1.00	1.06	1.06	1.00	1.06	1.06	1.06	1.06	1.06	1.06	1.06
52	3rd at Reed Market	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
53	Brookswood at Powers Rd	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
54	3rd at Powers	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
55	Parrell Rd at Powers Rd	1.06	1.06	1.00	1.00	1.06	1.06	1.06	1.00	1.06	1.00	1.00	1.00
56	56 Blakely at Badger	1.00	1.00	1.00	1.00	1.00	1.06	1.06	1.00	1.00	1.00	1.00	1.00
57	3rd St at Badger Rd	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
58	3rd St at Pinebrook	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.00	1.06	1.06	1.06	1.06
59	Murphy at SE 3rd St	1.06	1.06	1.06	1.06	1.30	1.06	1.06	1.06	1.30	1.30	1.06	1.06
60	Parrell Rd at China Hat Rd	1.00	1.00	1.00	1.06	1.00	1.06	1.06	1.06	1.00	1.00	1.06	1.06
61	61 US20 at 3rd St Ramp to NB US97	1.11	1.11	1.11	1.00	1.11	1.00	1.00	1.06	1.00	1.00	1.06	1.06
62	62 Blakely Rd at Powers Rd	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06

2040 30HV Unbalanced PM Peak Hour Volumes – Bundle B

		Northbound			Southbound			Eastbound			Westbound		
		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
#	Intersection Name	2040 30HV PM Peak Hour - Unbalanced											
1	1 US 97 at Deschutes Pleasant Ridge	0	0	0	0	0	0	0	0	0	0	0	0
2	2 US97 at Cooley	0	0	0	0	0	0	0	0	0	0	0	0
3	3 US 97 at Robal	0	0	0	0	0	0	0	0	0	0	0	0
4	4 US 97 at Nels Anderson Pl	0	0	0	0	0	0	0	0	0	0	0	0
5	5 US 97 SB Ramp at Empire	0	0	0	11	6	56	17	1160	566	427	1077	22
6	6 US 97 NB Ramps at Empire	250	6	511	0	0	0	144	1027	0	0	1310	266
7	7 US20 at Empire	61	1077	189	1194	1310	178	228	250	39	356	484	228
8	8 US20 at Butler Market	205	1221	150	272	1904	155	233	211	122	289	172	105
9	9 SB off ramp at Butler Market	0	0	0	194	0	78	0	683	0	0	649	0
10	10 US97 NB On-Ramp at Butler Market	0	0	17	0	0	0	94	777	6	11	649	211
11	11 Bend Pkwy SB On-Ramp/Division at 3rd St	0	0	0	522	1160	627	599	0	11	0	880	0
12	12 US97 SB Ramps at Revere	56	239	777	144	216	6	11	133	28	849	144	278
13	13 US97 NB Ramps at Revere	167	211	167	105	28	494	311	411	333	22	611	100
14	14 US97 at Lafayette	0	3491	0	0	3591	0	0	0	0	0	0	0
15	15 US97 at Hawthorne	0	3491	0	0	3297	294	0	0	0	0	0	0
16	16 US97 SB Ramps at Colorado	6	444	1116	128	0	544	0	0	0	0	433	44
17	17 US97 NB Ramps at Colorado	0	0	0	22	0	205	838	365	0	0	245	372
18	18 US97 at Truman	0	2498	0	0	3114	0	0	0	0	0	0	0
19	19 Hwy 97 SB Ramps at Reed Market	0	0	0	0	0	216	0	920	50	0	805	0
20	20 US97 NB ramps at Reed Market	59	0	85	760	0	216	255	920	50	100	770	477
21	21 US97 at Reed Ln	0	1832	0	0	2512	0	0	0	0	0	0	0
22	22 US97 SB Ramps at Powers	0	0	0	325	0	320	0	610	143	46	450	0
23	23 US 97 at Powers	0	0	0	0	0	0	0	0	0	0	0	0
24	24 US 97 NB Ramps at Powers	35	0	30	0	0	0	244	715	0	0	450	111
25	25 US 97 at Badger	0	2043	0	0	2018	0	0	0	0	0	0	0
26	26 US97 at Pinebrook	0	2043	0	0	3178	0	0	0	0	0	0	0
28	28 US 97 at Ponderosa-China Hat	0	1631	0	0	2145	0	0	355	0	0	235	0
29	29 US 97 SB Ramps at Baker	0	0	0	94	0	500	61	511	0	0	488	222
30	30 US 97 NB Ramps at Knott	33	0	161	0	0	0	350	255	0	0	677	311
40	40 US 97 Bus at OB Riley	207	1118	164	37	1601	11	16	16	440	180	27	80
41	41 NW Mt Washington Dr at Riverview Park	0	0	32	16	0	0	0	535	0	27	541	27
42	NE Butler Market Rd at NE 4th St	233	0	101	0	5	11	0	631	127	106	588	5
45	45 Harriman at Revere	0	0	21	64	0	0	0	0	0	48	0	95
46	NE 3rd St at NE Revere Ave	111	1187	106	186	790	58	180	514	159	276	466	164
47	4th at Revere	90	286	170	175	201	408	239	451	154	37	403	90
48	48 Scott at Aune St	58	615	0	0	355	20	10	0	21	0	0	0
49	SW Brookswood at Reed Market	270	286	186	466	604	80	85	572	345	186	424	329
50	Silver Lake Blvd at Reed Market Rd	11	0	69	48	5	74	32	1150	42	122	885	64
51	Division St at Reed Market Rd	0	0	48	0	0	0	5	949	806	5	1261	5
52	3rd at Reed Market	435	837	307	164	1076	286	111	731	80	212	445	90
53	Brookswood at Powers Rd	5	392	191	472	594	42	48	74	5	355	85	201
54	3rd at Powers	164	551	21	16	975	281	228	212	350	32	154	37
55	Parrell Rd at Powers Rd	64	281	0	0	323	159	133	0	117	0	0	0
56	56 Blakely at Badger	0	0	0	0	0	21	37	0	0	0	0	0
57	3rd St at Badger Rd	21	498	37	27	1034	95	74	16	16	64	21	32
58	3rd St at Pinebrook	101	413	11	58	975	37	16	0	42	5	0	32
59	Murphy at SE 3rd St	11	148	58	318	845	191	207	403	85	319	260	217
60	Parrell Rd at China Hat Rd	10	0	160	0	0	0	0	371	5	285	254	0
61	61 US20 at 3rd St Ramp to NB US97	0	0	0	0	0	0	0	1118	0	0	933	525
62	62 Blakely Rd at Powers Rd	21	5	80	27	5	48	11	657	69	154	572	90

2040 30HV PM Peak Hour Balancing Adjustments – Bundle B

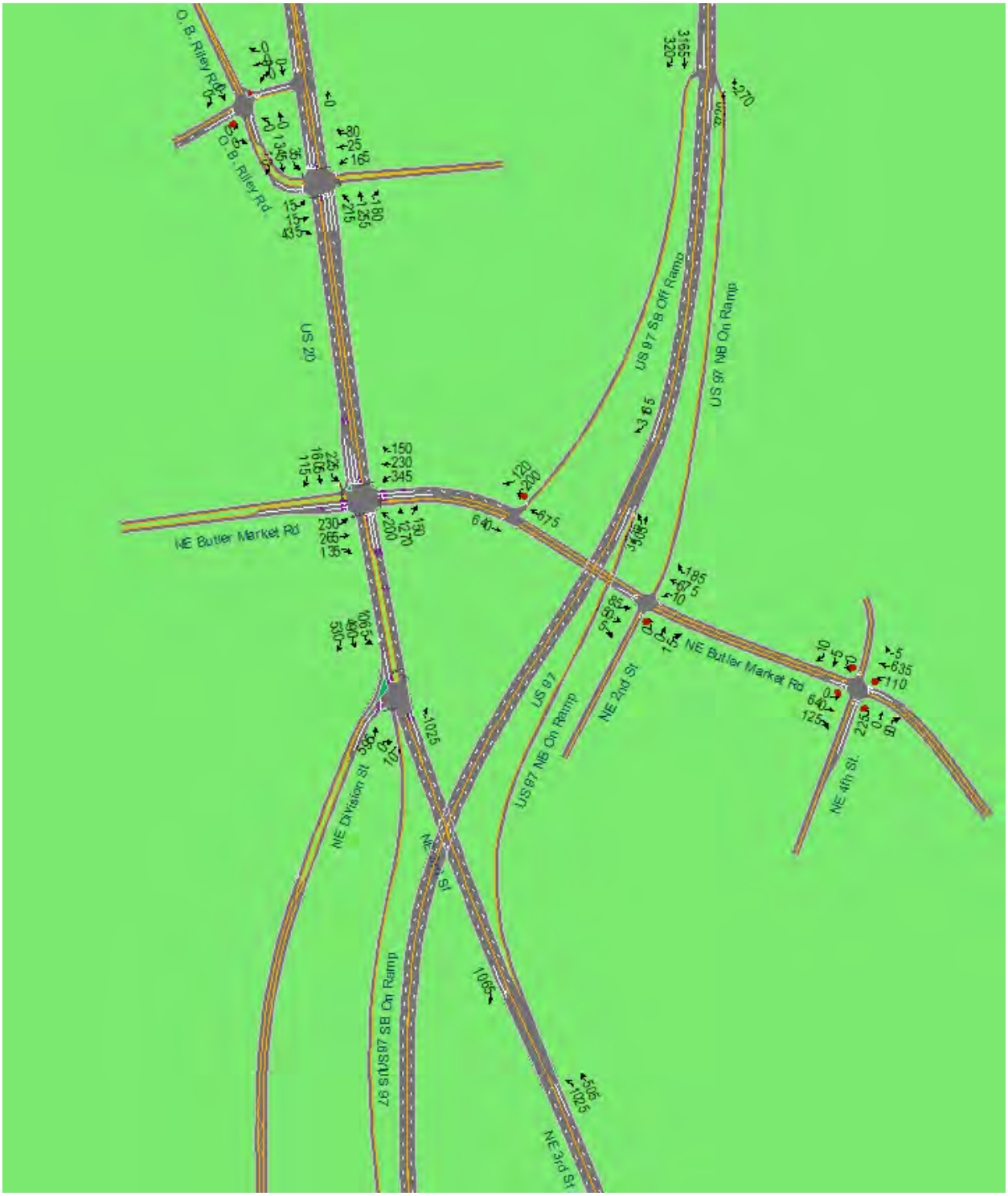
		Northbound			Southbound			Eastbound			Westbound		
		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
#	Intersection Name	2040 30HV PM Peak Hour Balancing Adjustments											
1	1 US 97 at Deschutes Pleasant Ridge	0	0	0	0	0	0	0	0	0	0	0	0
2	2 US97 at Cooley	0	0	0	0	0	0	0	0	0	0	0	0
3	3 US 97 at Robal	0	0	0	0	0	0	0	0	0	0	0	0
4	4 US 97 at Nels Anderson Pl	0	0	0	0	1	0	0	0	0	0	0	0
5	5 US 97 SB Ramp at Empire	0	0	0	0	0	0	0	0	0	0	40	0
6	6 US 97 NB Ramps at Empire	0	0	0	0	0	0	0	0	0	0	0	0
7	7 US20 at Empire	0	0	0	0	0	0	0	-5	0	0	15	0
8	8 US20 at Butler Market	0	0	5	5	-5	0	0	45	0	1	70	50
9	9 SB off ramp at Butler Market	0	0	0	0	0	0	0	0	0	0	0	0
10	10 US97 NB On-Ramp at Butler Market	0	0	0	0	0	0	0	5	0	0	0	0
11	11 Bend Pkwy SB On-Ramp/Division at 3rd St	0	0	100	0	0	5	0	5	0	0	0	0
12	12 US97 SB Ramps at Revere	0	0	0	0	0	0	0	5	0	-5	0	0
13	13 US97 NB Ramps at Revere	0	0	1	0	0	0	0	5	0	0	0	0
14	14 US97 at Lafayette	0	-5	0	0	-5	0	0	0	0	0	0	0
15	15 US97 at Hawthorne	0	-5	0	0	-5	0	0	0	1	0	0	0
16	16 US97 SB Ramps at Colorado	0	0	-25	0	0	0	0	0	0	0	-25	0
17	17 US97 NB Ramps at Colorado	0	0	0	0	0	0	0	15	0	0	5	0
18	18 US97 at Truman	0	0	0	0	-10	0	0	0	0	0	0	0
19	19 Hwy 97 SB Ramps at Reed Market	0	0	0	0	0	-215	0	-920	-48	0	-805	0
20	20 US97 NB ramps at Reed Market	5	0	-10	0	0	0	0	42	0	0	-3	0
21	21 US97 at Reed Ln	0	80	0	0	-230	0	0	0	0	0	0	0
22	22 US97 SB Ramps at Powers	0	0	0	0	0	0	0	30	24	24	7	0
23	23 US 97 at Powers	0	0	0	0	0	0	0	0	0	0	1	0
24	24 US 97 NB Ramps at Powers	0	0	0	0	0	0	0	7	0	0	38	0
25	25 US 97 at Badger	0	-425	0	0	-150	0	0	0	0	0	0	0
26	26 US97 at Pinebrook	0	-425	0	0	-1310	0	0	0	0	0	0	0
28	28 US 97 at Ponderosa-China Hat	0	-215	0	0	425	0	0	60	0	0	60	0
29	29 US 97 SB Ramps at Baker	0	0	0	0	0	0	0	0	0	0	0	0
30	30 US 97 NB Ramps at Knott	0	0	0	0	0	0	0	0	0	0	0	0
40	40 US 97 Bus at OB Riley	0	120	0	0	110	0	0	0	0	0	0	0
41	41 NW Mt Washington Dr at Riverview Park	0	0	5	0	0	0	0	31	0	0	31	0
42	NE Butler Market Rd at NE 4th St	0	0	0	0	0	0	0	35	0	0	36	0
45	45 Harriman at Revere	0	0	0	4	0	0	0	0	0	0	0	8
46	NE 3rd St at NE Revere Ave	-5	0	0	0	0	0	0	-50	0	0	-10	0
47	4th at Revere	0	0	0	0	0	0	-25	-40	-50	0	0	0
48	48 Scott at Aune St	0	0	0	0	0	0	0	14	0	0	29	0
49	SW Brookswood at Reed Market	0	0	20	0	0	0	0	-25	0	0	5	0
50	Silver Lake Blvd at Reed Market Rd	0	0	0	0	0	0	0	-5	0	0	-25	0
51	Division St at Reed Market Rd	0	0	0	0	0	0	0	35	0	0	80	0
52	3rd at Reed Market	26	0	0	0	0	26	21	52	26	0	23	0
53	Brookswood at Powers Rd	0	0	0	0	0	0	0	25	0	-20	0	-20
54	3rd at Powers	0	0	1	5	0	0	0	-5	-35	0	0	0
55	Parrell Rd at Powers Rd	0	0	0	0	0	-5	0	0	-5	0	0	0
56	56 Blakely at Badger	0	0	0	0	0	0	0	0	0	0	0	0
57	3rd St at Badger Rd	0	0	0	0	0	0	0	0	0	0	0	0
58	3rd St at Pinebrook	0	0	0	0	0	0	0	0	0	0	0	0
59	Murphy at SE 3rd St	0	0	0	0	20	15	0	0	0	0	0	0
60	Parrell Rd at China Hat Rd	0	0	0	0	0	0	0	40	0	0	30	0
61	61 US20 at 3rd St Ramp to NB US97	0	0	0	0	0	0	0	25	0	0	45	0
62	62 Blakely Rd at Powers Rd	0	0	10	10	0	0	0	25	0	0	-40	0

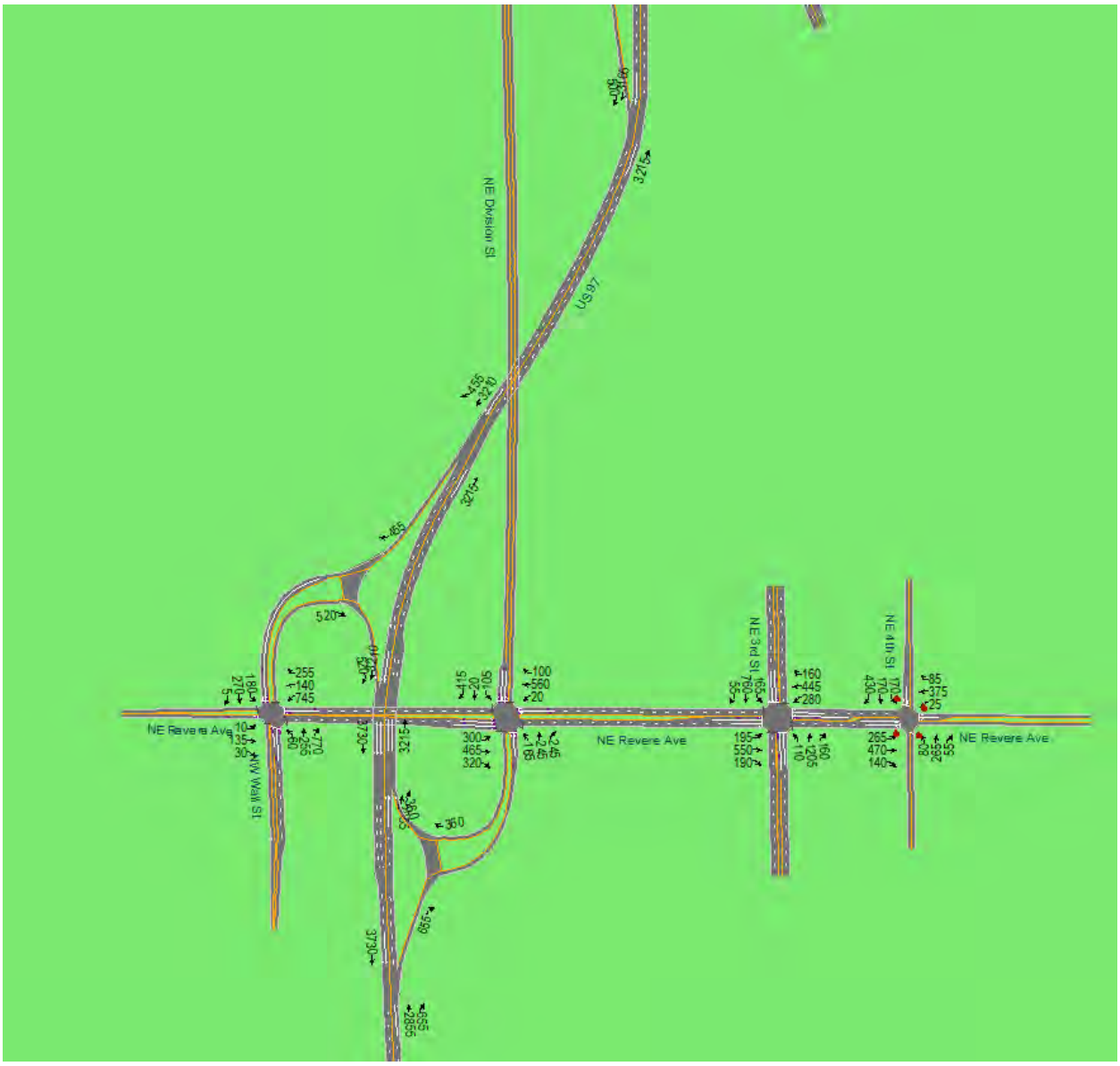
2040 30HV Final PM Peak Hour Volumes – Bundle B

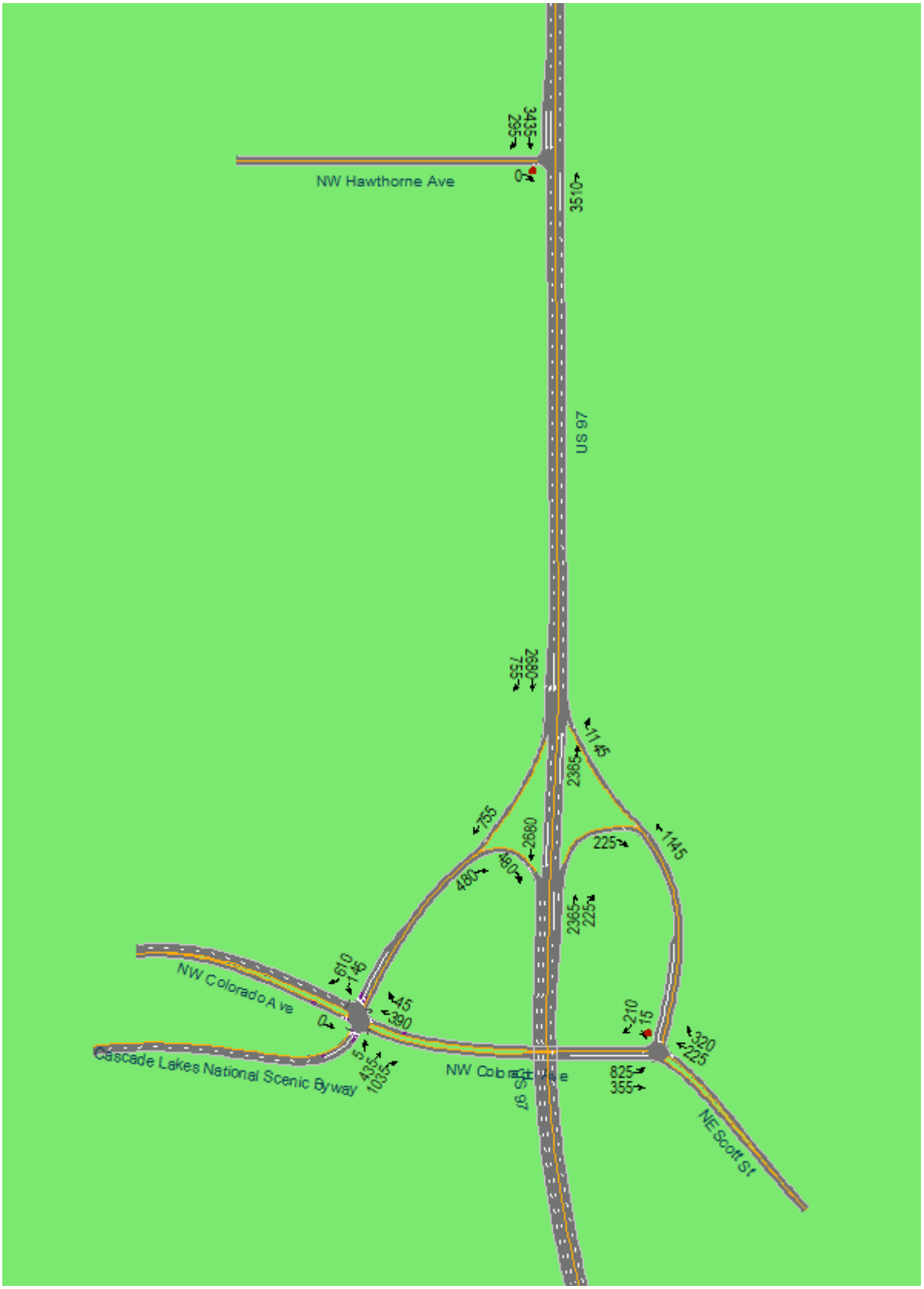
		Northbound			Southbound			Eastbound			Westbound		
		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
#	Intersection Name	2040 30HV PM Peak Hour - Balanced											
1	1 US 97 at Deschutes Pleasant Ridge	0	0	0	0	0	0	0	0	0	0	0	0
2	2 US97 at Cooley	0	0	0	0	0	0	0	0	0	0	0	0
3	3 US 97 at Robal	0	0	0	0	0	0	0	0	0	0	0	0
4	4 US 97 at Nels Anderson Pl	0	0	0	0	0	0	0	0	0	0	0	0
5	5 US 97 SB Ramp at Empire	0	0	0	10	5	55	15	1160	565	425	1115	20
6	6 US 97 NB Ramps at Empire	250	5	510	0	0	0	145	1025	0	0	1310	265
7	7 US20 at Empire	60	1075	190	1195	1310	180	230	245	40	355	500	230
8	8 US20 at Butler Market	205	1220	155	275	1900	155	235	255	120	290	240	155
9	9 SB off ramp at Butler Market	0	0	0	195	0	80	0	685	0	0	650	0
10	10 US97 NB On-Ramp at Butler Market	0	0	15	0	0	0	95	780	5	10	650	210
11	11 Bend Pkwy SB On-Ramp/Division at 3rd St	0	0	100	520	1160	630	600	5	10	0	880	0
12	12 US97 SB Ramps at Revere	55	240	775	145	215	5	10	140	30	845	145	280
13	13 US97 NB Ramps at Revere	165	210	165	105	30	495	310	415	335	20	610	100
14	14 US97 at Lafayette	0	3485	0	0	3585	0	0	0	0	0	0	0
15	15 US97 at Hawthorne	0	3485	0	0	3290	295	0	0	0	0	0	0
16	16 US97 SB Ramps at Colorado	5	445	1090	130	0	545	0	0	0	0	410	45
17	17 US97 NB Ramps at Colorado	0	0	0	20	0	205	840	380	0	0	250	370
18	18 US97 at Truman	0	2500	0	0	3105	0	0	0	0	0	0	0
19	19 Hwy 97 SB Ramps at Reed Market	0	0	0	0	0	0	0	0	0	0	0	0
20	20 US97 NB ramps at Reed Market	65	0	75	760	0	215	255	960	50	100	765	475
21	21 US97 at Reed Ln	0	1910	0	0	2280	0	0	0	0	0	0	0
22	22 US97 SB Ramps at Powers	0	0	0	325	0	320	0	640	165	70	455	0
23	23 US 97 at Powers	0	0	0	0	0	0	0	0	0	0	0	0
24	24 US 97 NB Ramps at Powers	35	0	30	0	0	0	245	720	0	0	490	110
25	25 US 97 at Badger	0	1620	0	0	1870	0	0	0	0	0	0	0
26	26 US97 at Pinebrook	0	1620	0	0	1870	0	0	0	0	0	0	0
28	28 US 97 at Ponderosa-China Hat	0	1415	0	0	2570	0	0	415	0	0	295	0
29	29 US 97 SB Ramps at Baker	0	0	0	95	0	500	60	510	0	0	490	220
30	30 US 97 NB Ramps at Knott	35	0	160	0	0	0	350	255	0	0	675	310
40	40 US 97 Bus at OB Riley	205	1240	165	35	1710	10	15	15	440	180	25	80
41	41 NW Mt Washington Dr at Riverview Park	0	0	35	15	0	0	0	565	0	25	570	25
42	NE Butler Market Rd at NE 4th St	235	0	100	0	5	10	0	665	125	105	625	5
45	45 Harriman at Revere	0	0	20	65	0	0	0	0	0	50	0	105
46	NE 3rd St at NE Revere Ave	105	1185	105	185	790	60	180	465	160	275	455	165
47	4th at Revere	90	285	170	175	200	410	215	410	105	35	405	90
48	48 Scott at Aune St	60	615	0	0	355	20	10	15	20	0	30	0
49	SW Brookswood at Reed Market	270	285	205	465	605	80	85	545	345	185	430	330
50	Silver Lake Blvd at Reed Market Rd	10	0	70	50	5	75	30	1145	40	120	860	65
51	Division St at Reed Market Rd	0	0	50	0	0	0	5	985	805	5	1340	5
52	3rd at Reed Market	460	835	305	165	1075	310	135	785	105	210	470	90
53	Brookswood at Powers Rd	5	390	190	470	595	40	50	100	5	335	85	180
54	3rd at Powers	165	550	20	20	975	280	230	205	315	30	155	35
55	Parrell Rd at Powers Rd	65	280	0	0	325	155	135	0	110	0	0	0
56	56 Blakely at Badger	0	0	0	0	0	20	35	0	0	0	0	0
57	3rd St at Badger Rd	20	500	35	25	1035	95	75	15	15	65	20	30
58	3rd St at Pinebrook	100	415	10	60	975	35	15	0	40	5	0	30
59	Murphy at SE 3rd St	10	150	60	320	865	205	205	405	85	320	260	215
60	Parrell Rd at China Hat Rd	10	0	160	0	0	0	0	410	5	285	285	0
61	61 US20 at 3rd St Ramp to NB US97	0	0	0	0	0	0	0	1145	0	0	980	525
62	62 Blakely Rd at Powers Rd	20	5	90	35	5	50	10	680	70	155	530	90

2040 30HV Final PM Peak Hour Volume Figures – Bundle C


N E Empire Ave
N E Empire Ave
N E Empire Ave
US 20
US 97
US 97 NB On Ramp
US 97 SB On Ramp
US 97 NB Off Ramp
135
1030
965
100
390
300
115
270
45
120
1040
560
1255
20
0
5
5
895
410
5
1255
555
420
1115
210
1050
195
515
3275
3485
3275
715

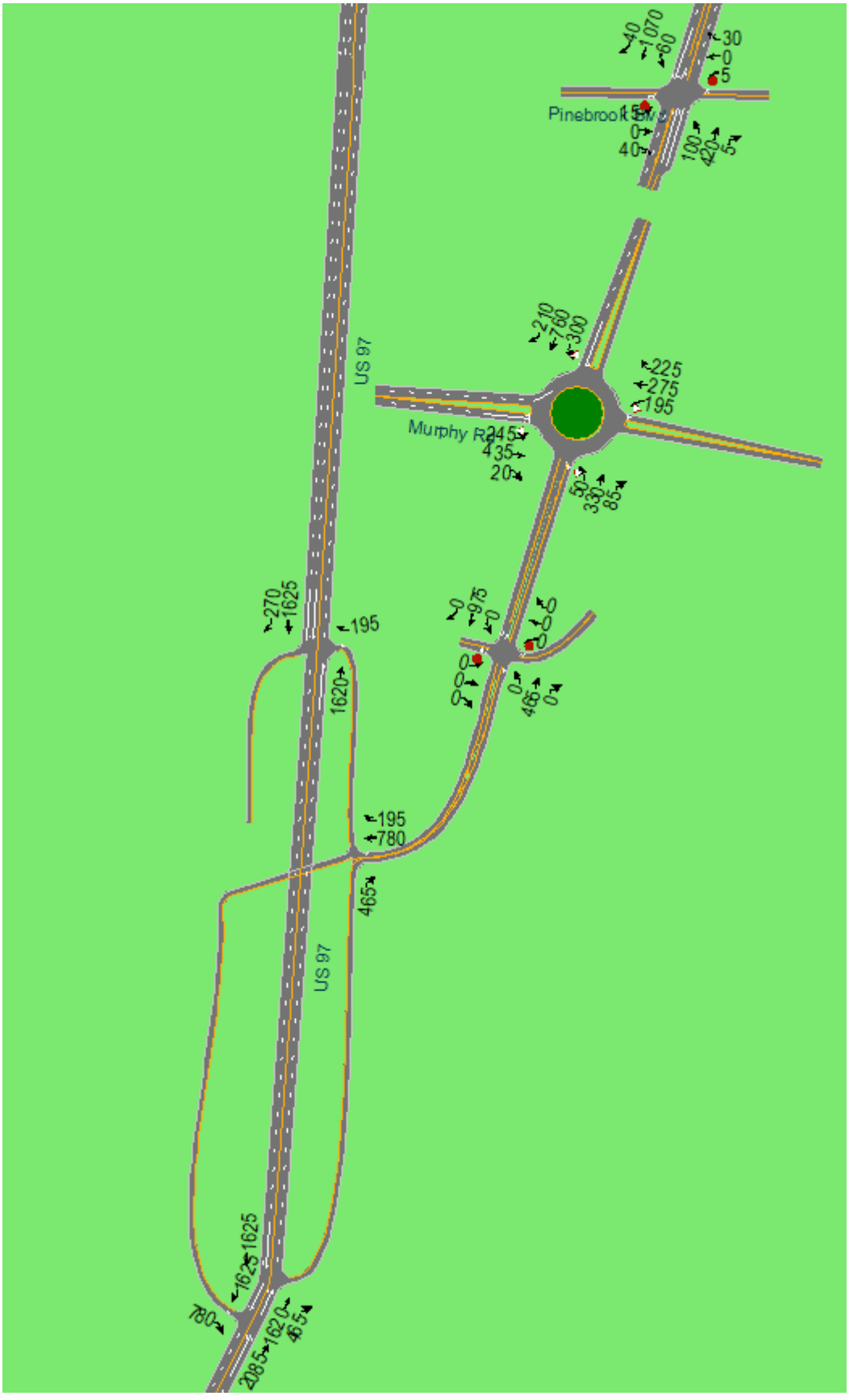

O. B. Riley Rd
O. B. Riley Rd
US 20
NE Butler Market Rd
US 97 SB Off Ramp
US 97 NB On Ramp
US 97
US97 NB On Ramp
NE 2nd St
NE Butler Market Rd
NE 4th St
NE Division St
NE 1st St
US97 SB On Ramp
NE 3rd St

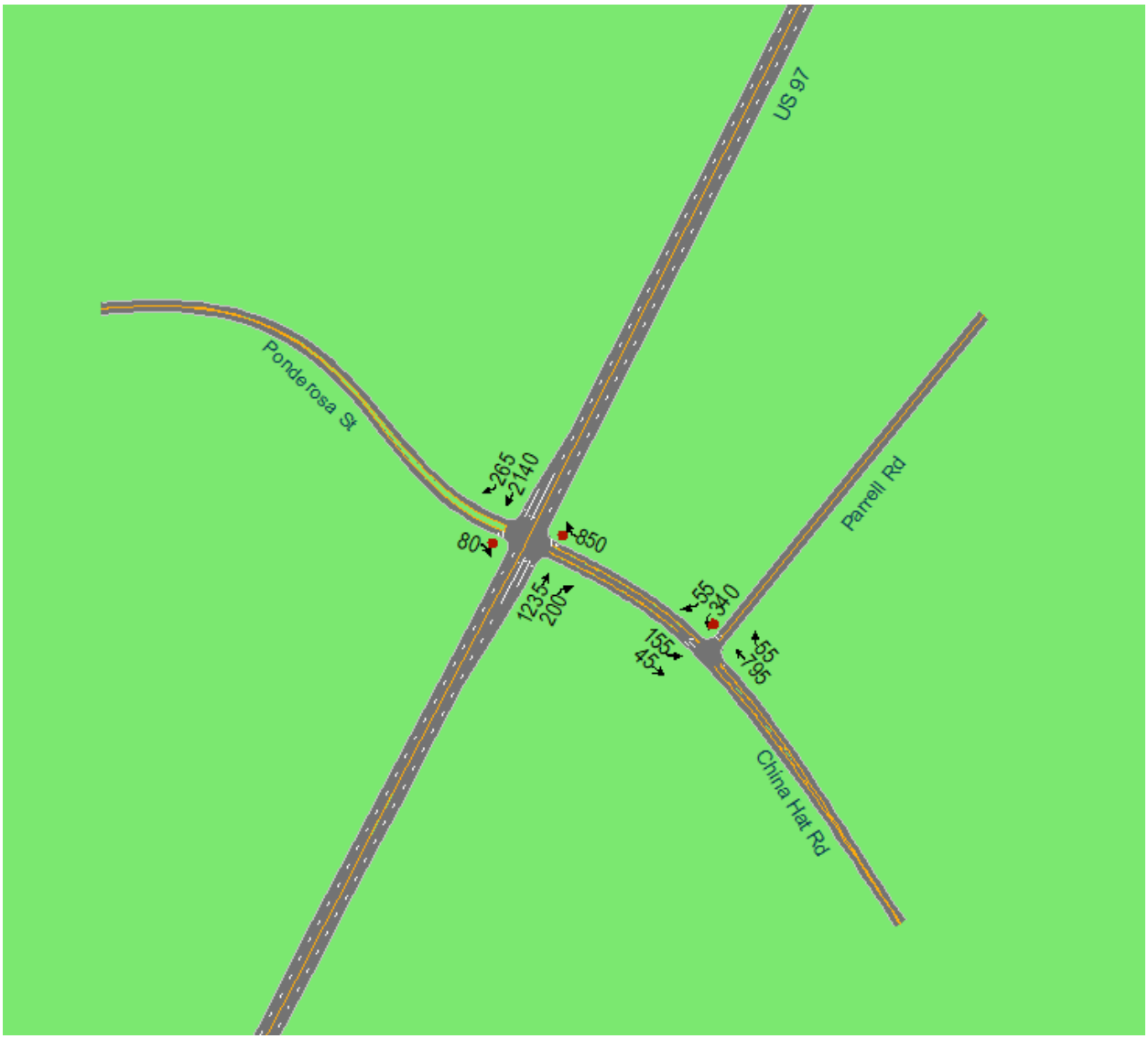

NE Division St
US97
NE Revere Ave
NE 3rd St
NE 4th St
1st Way
5
270
180
255
140
745
10
35
30
520
415
20
90
100
560
20
300
465
320
195
550
190
160
445
280
265
470
140
85
375
25
55
360
3730
3215
3275
3215
3215
3215


NW Hawthorne Ave
US 97
NW Colorado Ave
Cascade Lakes National Scenic Byway
NW Colorado Ave
US 97
NE Scott St


SW Reed Market Rd
Brookswood Blvd
SW Reed Market Rd
Silver lake
US 97
SW Division St
SE 3rd St
SW Reed Market Rd


Brookswood Blvd
Blakely Rd
Powers Rd
Powers Rd
Powers Rd
Powers Rd
SE 3rd St
Parrell Rd
US 97
Badger Rd
50
600
420
175
85
315
50
75
5
5
380
190
50
5
25
85
490
145
10
605
70
35
5
65
715
65
645
50
5
370
375
1780
115
1815
370
2155
2525
320
1705
55
410
1015
1760
55
55
0
110
355
210
860
210
1020
15
35
140
30
245
230
385
115
550
10
155
365
145
110
50
265
100
1125
30
30
15
70
75
15
15
20
45
35


US 97
Murphy Rd
Pinebrook Blvd
US 97


US 97
Ponderosa St
Parrell Rd
China Hat Rd
265
2140
80
850
1235
200
55
340
155
457
55
795


1125
185
1735
US 97 NB Off Ramp
US 97
Baker Rd
485
420
515
240
250
490
270
755
270
1465
1125
US 97 On Ramp
US 97 NB On Ramp
US 97
US 97 SB Off Ramp
1125
1465
310
1435
US 97
290
435
35
0
150
20
705

2040 Average Weekday NCHRP 765 Post Processing – Bundle C

			Base Year Count											
			Northbound			Southbound			Eastbound			Westbound		
N/S	E/W	#	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
Existing Intersections														
1 US 97 at Deschutes Pleasant Ridge		1	0	1579	128	0	1387	226	0	0	85	0	0	456
2 US97 at Cooley		2	40	1411	77	110	1501	44	185	143	15	185	69	58
3 US 97 at Robal		3	229	1491	14	21	1780	33	97	12	41	107	35	19
4 US 97 at Nels Anderson Pl		4	241	1723	39	0	1862	66	0	0	213	0	0	11
5 US 97 SB Ramp at Empire		5	0	0	0	5	2	17	4	752	418	328	425	6
6 US 97 NB Ramps at Empire		6	164	3	356	0	0	0	153	604	0	0	595	224
7 US20 at Empire		7	64	354	183	492	642	77	76	268	52	148	180	29
8 US20 at Butler Market		8	114	605	113	150	1044	60	95	154	81	309	148	73
9 SB off ramp at Butler Market		9	0	0	0	137	0	97	0	458	0	0	558	0
10 US97 NB On-Ramp at Butler Market		10	1	2	11	0	0	0	74	515	6	7	557	178
11 Bend Pkwy SB On-Ramp/Division at 3rd St		11	0	469	0	598	598	238	363	0	8	0	0	0
12 US97 SB Ramps at Revere		12	24	132	388	154	240	2	5	96	9	438	70	199
13 US97 NB Ramps at Revere		13	136	210	276	68	21	170	134	240	264	28	401	67
14 US97 at Lafayette		14	0	2377	0	0	2609	83	0	0	125	0	0	0
15 US97 at Hawthorne		15	0	2377	0	0	2475	259	0	0	223	0	0	0
16 US97 SB Ramps at Colorado		16	8	264	770	91	0	367	0	0	0	0	349	30
17 US97 NB Ramps at Colorado		17	0	0	0	17	0	199	644	217	0	0	180	381
18 US97 at Truman		18	0	1568	0	0	2351	183	0	0	80	0	0	0
19 Hwy 97 SB Ramps at Reed Market		19	0	0	0	679	0	150	0	710	52	0	457	62
20 US97 NB ramps at Reed Market		20	35	0	79	0	0	35	0	1292	97	0	449	27
21 US97 at Reed Ln		21	0	1076	55	0	1716	0	0	0	0	0	0	146
22 US97 SB Ramps at Powers		22	3	0	355	0	0	0	0	462	33	27	581	0
23 US 97 at Powers		23	0	828	21	0	1409	307	1	816	0	0	301	0
24 US 97 NB Ramps at Powers		24	0	0	0	1	0	28	193	644	0	0	273	138
25 US 97 at Badger		25	0	759	12	0	1088	23	0	0	5	0	0	90
26 US97 at Pinebrook		26	0	641	25	0	1042	51	0	0	5	0	0	130
28 US 97 at Ponderosa-China Hat		28	0	776	11	0	1409	130	0	0	18	0	0	110
29 US 97 SB Ramps at Baker		29	0	0	0	66	0	481	52	341	0	0	315	178
30 US 97 NB Ramps at Knott		30	44	1	95	0	0	0	247	160	0	0	449	17
40 US 97 Bus at OB Riley		40	69	569	130	35	929	5	7	8	189	131	11	58
41 NW Mt Washington Dr at Riverview Park		41	0	0	10	13	0	1	2	342	0	10	371	17
42 NE Butler Market Rd at NE 4th St		42	169	0	68	2	3	11	2	458	76	96	555	3
45 Harriman at Revere		45	0	1	9	29	0	0	0	0	0	18	0	35
46 NE 3rd St at NE Revere Ave		46	92	813	70	53	483	39	185	409	185	147	298	71
47 4th at Revere		47	61	217	45	110	133	220	154	301	89	25	243	62
48 Scott at Aune St		48	45	550	0	0	200	24	11	0	24	0	0	0
49 SW Brookswood at Reed Market		49	144	213	83	330	366	46	48	326	160	92	228	186
50 Silver Lake Blvd at Reed Market Rd		50	8	0	47	19	3	16	16	712	20	105	490	30
51 Division St at Reed Market Rd		51	0	0	37	6	0	16	81	698	593	4	501	291
52 3rd at Reed Market		52	227	493	222	110	655	124	91	533	62	175	295	78
53 Brookswood at Powers Rd		53	5	269	160	211	497	40	41	53	3	294	63	93
54 3rd at Powers		54	94	376	9	16	657	205	180	132	337	15	78	14
55 Parrell Rd at Powers Rd		55	35	140	0	0	185	57	66	0	105	0	0	0
56 Blakely at Badger		56	0	0	0	0	0	31	32	5	0	0	13	10
57 3rd St at Badger Rd		57	18	296	26	23	757	88	64	17	18	66	25	26
58 3rd St at Pinebrook		58	138	277	6	56	677	70	14	2	38	7	2	31
59 Murphy at SE 3rd St		59	38	162	38	209	334	150	170	155	8	115	139	151
60 Parrell Rd at China Hat Rd		60	0	0	0	72	0	9	6	5	0	0	101	37
61 US20 at 3rd St Ramp to NB US97		61	0	469	559	0	606	0	0	0	0	0	0	0
62 Blakely Rd at Powers Rd		62	17	1	60	18	2	9	4	387	30	102	433	33
101 US 97 NB/SB Ramp to Hwy 20		101	0	2003	734	0	1640	435	0	0	0	0	0	0

South Leg In	North Leg Out	North Leg In	South Leg Out	West Leg In	East Leg Out	East Leg In	West Leg Out
NB_IN	NB_OUT	SB_IN	SB_OUT	EB_IN	EB_OUT	WB_IN	WB_OUT
1707	2035	1613	1472	85	128	456	226
1528	1654	1655	1701	343	330	312	153
1734	1607	1834	1928	150	47	161	297
2003	1734	1928	2075	213	39	11	307
0	10	24	748	1174	757	759	442
523	380	0	0	757	960	819	759
601	459	1211	842	396	943	357	321
832	773	1254	1434	330	417	530	322
0	0	234	0	458	595	558	655
14	254	0	13	595	526	742	558
469	832	1434	606	371	598	0	238
544	336	396	687	110	638	707	96
622	411	259	313	638	584	496	707
2377	2377	2692	2734	125	0	0	83
2377	2377	2734	2698	223	0	0	259
1042	294	458	0	0	861	379	724
0	1025	216	0	861	234	561	379
1568	1568	2534	2431	80	0	0	183
0	62	829	52	762	1389	519	607
114	27	35	97	1389	1371	476	519
1131	1222	1716	1716	0	55	146	0
358	0	0	60	495	817	608	584
849	829	1716	1409	817	837	301	608
0	331	29	0	837	645	411	301
771	849	1111	1093	5	12	90	23
666	771	1093	1047	5	25	130	51
787	886	1539	1427	18	11	110	130
0	230	547	0	393	407	493	796
140	265	0	0	407	255	466	493
768	634	969	1249	204	173	200	85
10	19	14	10	344	365	398	372
237	5	16	175	536	528	654	735
10	36	29	18	0	38	53	0
975	1069	575	815	779	532	516	429
323	433	463	247	544	456	330	524
595	561	224	224	35	0	0	69
440	447	742	618	534	739	506	418
55	46	38	128	748	778	625	514
37	372	22	597	1372	741	796	517
942	662	889	892	686	865	548	646
434	403	748	794	97	424	450	108
479	570	878	1009	649	157	107	377
175	206	242	290	171	0	0	92
0	42	31	0	37	5	23	44
340	386	868	841	99	66	117	131
421	322	803	722	54	64	40	210
238	483	693	457	333	402	405	327
0	43	81	0	11	77	138	110
1028	469	606	606	0	559	0	0
78	38	29	134	421	465	568	459
2737	2003	2075	1640	0	734	0	435

			2010 Base PM Model (1-hour)											
		Synchro	Northbound			Southbound			Eastbound			Westbound		
N/S	E/W	#	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
Study Intersections														
1 US 97 at Deschutes Pleasant Ridge	0	1	0	1256	6	0	996	267	226	0	109	0	0	0
2 US97 at Cooley	0	2	99	1210	0	148	1023	19	67	145	223	211	28	75
3 US 97 at Robal	0	3	186	1245	0	10	1420	186	64	6	77	58	0	0
4 US 97 at Nels Anderson Pl	0	4	275	1405	36	0	1497	57	0	0	431	0	0	26
5 US 97 SB Ramp at Empire	0	5	0	0	0	0	0	0	0	926	277	253	386	0
6 US 97 NB Ramps at Empire	0	6	91	0	371	0	0	0	293	633	0	0	548	185
7 US20 at Empire	0	7	14	69	38	583	320	89	31	434	57	15	209	175
8 US20 at Butler Market	0	8	94	352	225	71	629	67	35	134	78	630	161	29
9 SB off ramp at Butler Market	0	9	0	0	0	99	0	308	0	393	0	0	331	0
10 US97 NB On-Ramp at Butler Market	0	10	2	1	1	0	0	0	152	340	1	0	330	76
11 Bend Pkwy SB On-Ramp/Division at 3rd St	0	11	0	286	0	633	653	51	384	0	0	0	0	0
12 US97 SB Ramps at Revere	0	12	0	11	458	5	441	0	0	0	0	103	0	220
13 US97 NB Ramps at Revere	0	13	71	248	374	52	13	75	127	14	323	0	177	38
14 US97 at Lafayette	0	14	0	1739	0	0	1809	132	0	0	335	0	0	0
15 US97 at Hawthorne	0	15	0	1739	0	0	2084	61	0	0	201	0	0	0
16 US97 SB Ramps at Colorado	0	16	13	205	595	54	0	476	0	0	0	0	213	0
17 US97 NB Ramps at Colorado	0	17	0	0	0	0	0	182	572	78	0	0	32	149
18 US97 at Truman	0	18	0	1200	0	0	1809	152	0	0	126	0	0	0
19 Hwy 97 SB Ramps at Reed Market	0	19	0	0	0	423	0	92	0	365	241	0	470	24
20 US97 NB ramps at Reed Market	0	20	142	0	187	0	0	0	0	746	42	0	494	0
21 US97 at Reed Ln	0	21	0	1133	3	0	1685	0	0	0	0	0	0	91
22 US97 SB Ramps at Powers	0	22	10	0	243	0	0	0	0	322	16	8	553	0
23 US 97 at Powers	0	23	0	844	1	0	1500	185	0	565	0	0	375	0
24 US 97 NB Ramps at Powers	0	24	0	0	0	0	0	27	75	491	0	0	348	244
25 US 97 at Badger	0	25	0	783	0	0	1006	265	0	0	18	0	0	63
26 US97 at Pinebrook	0	26	0	630	4	0	1001	23	130	85	14	0	140	23
28 US 97 at Ponderosa-China Hat	0	28	27	634	40	143	1126	2	38	0	7	49	0	55
29 US 97 SB Ramps at Baker	0	29	0	0	0	19	0	658	2	422	0	0	65	18
30 US 97 NB Ramps at Knott	0	30	7	0	20	0	0	0	370	71	0	0	77	12
40 US 97 Bus at OB Riley	0	40	163	212	0	94	435	13	6	31	249	0	36	59
41 NW Mt Washington Dr at Riverview Park		41	3	0	49	0	0	0	0	199	4	47	275	0
42 NE Butler Market Rd at NE 4th St	0	42	15	0	3	0	0	0	0	324	16	1	391	0
45 Harriman at Revere		45	0	0	0	0	0	0	0	0	0	0	0	0
46 NE 3rd St at NE Revere Ave	0	46	30	623	206	132	582	46	59	339	50	209	118	111
47 4th at Revere	0	47	22	23	1	37	19	272	430	221	26	0	143	26
48 Scott at Aune St		48	0	170	0	0	70	7	11	0	0	0	0	0
49 SW Brookswood at Reed Market	0	49	73	136	20	172	138	30	20	343	112	30	344	74
50 Silver Lake Blvd at Reed Market Rd	0	50	0	2	49	35	2	8	16	522	0	96	441	25
51 Division St at Reed Market Rd	0	51	0	0	35	0	0	0	25	447	460	15	352	244
52 3rd at Reed Market	0	52	290	443	285	57	692	95	185	298	0	381	227	25
53 Brookswood at Powers Rd	0	53	13	139	176	33	152	33	26	86	10	290	140	34
54 3rd at Powers	0	54	275	328	7	21	625	256	196	86	203	12	53	14
55 Parrell Rd at Powers Rd	0	55	25	34	0	0	37	59	78	0	45	0	0	0
56 Blakely at Badger		56	0	0	0	11	0	6	9	7	0	0	240	25
57 3rd St at Badger Rd	0	57	0	357	13	3	610	0	0	0	0	45	0	2
58 3rd St at Pinebrook	0	58	55	273	0	0	537	50	28	0	41	0	0	0
59 Murphy at SE 3rd St	0	59	24	77	41	130	45	74	47	55	3	51	53	115
60 Parrell Rd at China Hat Rd	0	60	0	0	0	7	0	46	96	87	0	0	58	3
61 US20 at 3rd St Ramp to NB US97		61	0	286	476	0	653	0	0	0	0	0	0	0
62 Blakely Rd at Powers Rd	0	62	19	2	38	38	2	16	16	262	17	71	429	62
101 US 97 NB/SB Ramp to Hwy 20		101	0	1715	388	0	1400	528	0	0	0	0	0	0

Indicates 3-leg intersection

South Leg In	North Leg Out	North Leg In	South Leg Out	West Leg In	East Leg Out	East Leg In	West Leg Out
NB_IN	NB_OUT	SB_IN	SB_OUT	EB_IN	EB_OUT	WB_IN	WB_OUT
1262	1482	1263	1105	335	6	0	267
1309	1352	1190	1457	435	293	314	146
1431	1309	1616	1555	147	16	58	372
1716	1431	1554	1928	431	36	26	332
15	31	0	530	1203	926	639	386
462	478	0	0	926	1004	733	639
121	275	992	392	522	1055	399	312
671	416	767	1337	247	430	820	322
0	0	407	0	393	492	331	639
4	229	0	1	493	341	406	332
286	670	1337	653	384	633	0	51
469	231	446	544	0	463	323	0
693	413	140	336	464	440	215	323
1739	1739	1941	2144	335	0	0	132
1739	1739	2145	2285	201	0	0	61
813	205	530	0	0	649	213	702
0	721	182	0	650	78	181	214
1200	1200	1961	1935	126	0	0	152
0	24	515	241	606	788	494	562
329	0	0	42	788	933	494	636
1136	1224	1685	1685	0	3	91	0
253	0	0	24	338	565	561	563
845	844	1685	1500	565	566	375	560
0	319	27	0	566	491	592	375
783	846	1271	1024	18	0	63	265
634	783	1024	1015	229	89	163	163
701	727	1271	1182	45	183	104	29
0	20	677	0	424	441	83	723
27	382	0	0	441	91	89	84
375	277	542	684	286	125	95	212
52	0	0	51	203	248	322	278
18	0	0	17	340	327	392	406
0	0	0	0	0	0	0	0
859	793	760	841	448	677	438	194
46	479	328	45	677	259	169	437
170	181	77	70	11	0	0	7
229	230	340	280	475	535	448	447
51	43	45	98	538	606	562	449
35	269	0	475	932	482	611	352
1018	653	844	1073	483	640	633	612
328	199	218	452	122	295	464	186
610	538	902	840	485	114	79	584
59	112	96	82	123	0	0	84
0	34	17	0	16	18	265	246
370	359	613	655	0	16	47	0
328	301	587	578	69	0	0	105
142	239	249	99	105	226	219	151
0	99	53	0	183	94	61	104
762	286	653	653	0	476	0	0
59	80	56	90	295	338	562	464
2103	1715	1928	1400	0	388	0	528

			2040 PM Model (1-hour)											
			Northbound			Southbound			Eastbound			Westbound		
N/S	E/W	#	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
Study Intersections														
1 US 97 at Deschutes Pleasant Ridge	0	1	0	2008	141	0	1734	446	0	0	123	0	0	378
2 US97 at Cooley	0	2	126	1848	181	312	1501	197	174	366	214	379	362	252
3 US 97 at Robal	0	3	245	1927	109	39	1927	281	163	61	341	171	87	65
4 US 97 at Nels Anderson Pl	0	4	232	2281	0	0	2357	82	0	0	396	0	0	0
5 US 97 SB Ramp at Empire	0	5	0	0	0	0	0	0	0	1394	408	258	900	0
6 US 97 NB Ramps at Empire	0	6	146	15	438	0	0	0	194	1200	0	0	1012	535
7 US20 at Empire	0	7	95	669	172	1174	638	111	74	423	16	118	435	348
8 US20 at Butler Market	0	8	126	1120	244	95	1145	134	111	271	132	590	252	56
9 SB off ramp at Butler Market	0	9	0	0	0	84	0	335	0	559	0	0	402	0
10 US97 NB On-Ramp at Butler Market	0	10	3	2	2	0	0	0	169	472	2	1	399	71
11 Bend Pkwy SB On-Ramp/Division at 3rd	0	11	0	871	0	431	1093	344	620	0	0	0	0	0
12 US97 SB Ramps at Revere	0	12	0	94	805	6	360	0	0	0	0	478	0	271
13 US97 NB Ramps at Revere	0	13	70	208	364	85	0	349	366	132	313	2	330	56
14 US97 at Lafayette	0	14	0	2746	0	0	2870	0	0	0	0	0	0	0
15 US97 at Hawthorne	0	15	0	2746	0	0	2788	82	0	0	0	0	0	0
16 US97 SB Ramps at Colorado	0	16	22	359	860	78	0	741	0	0	0	0	249	0
17 US97 NB Ramps at Colorado	0	17	0	0	0	0	0	168	754	184	0	0	81	41
18 US97 at Truman	0	18	0	2120	0	0	2329	0	0	0	0	0	0	0
19 Hwy 97 SB Ramps at Reed Market	0	19	0	0	0	436	0	178	0	988	268	0	943	100
20 US97 NB ramps at Reed Market	0	20	190	0	251	0	0	0	0	1207	216	0	1043	0
21 US97 at Reed Ln	0	21	0	1865	0	0	2084	0	0	0	0	0	0	0
22 US97 SB Ramps at Powers	0	22	219	0	329	0	0	0	0	658	35	16	675	0
23 US 97 at Powers	0	23	0	1437	0	0	1901	183	0	987	0	0	508	0
24 US 97 NB Ramps at Powers	0	24	0	0	0	0	0	38	203	784	0	0	470	264
25 US 97 at Badger	0	25	0	1437	0	0	1405	0	0	0	0	0	0	0
26 US97 at Pinebrook	0	26	0	1437	0	0	1405	0	0	0	0	0	0	0
28 US 97 at Ponderosa-China Hat	0	28	0	815	67	0	1572	0	0	0	48	0	0	771
29 US 97 SB Ramps at Baker	0	29	0	0	0	270	0	561	3	478	0	0	279	31
30 US 97 NB Ramps at Knott	0	30	13	0	43	0	0	0	407	342	0	0	297	9
40 US 97 Bus at OB Riley	0	40	444	792	0	122	749	0	30	48	549	0	47	98
41 NW Mt Washington Dr at Riverview Park		41	14	0	91	0	0	0	0	423	13	80	433	0
42 NE Butler Market Rd at NE 4th St	0	42	73	0	21	0	0	0	0	430	45	10	398	0
45 Harriman at Revere		45												
46 NE 3rd St at NE Revere Ave	0	46	45	954	413	229	913	42	60	472	62	341	299	249
47 4th at Revere	0	47	71	45	5	55	66	517	619	450	45	3	300	13
48 Scott at Aune St		48	2	106	0	0	169	15	16	0	0	0	0	0
49 SW Brookswood at Reed Market	0	49	202	241	54	325	379	42	41	704	317	91	615	221
50 Silver Lake Blvd at Reed Market Rd	0	50	0	3	70	99	4	15	14	1087	1	111	925	85
51 Division St at Reed Market Rd	0	51	0	0	36	0	0	0	22	737	699	0	853	463
52 3rd at Reed Market	0	52	723	715	292	87	1252	185	243	525	4	318	408	51
53 Brookswood at Powers Rd	0	53	15	249	295	284	255	56	37	104	9	476	149	132
54 3rd at Powers	0	54	341	497	72	56	726	276	202	135	442	47	100	46
55 Parrell Rd at Powers Rd	0	55	34	113	0	0	210	171	222	0	64	0	0	0
56 Blakely at Badger		56	0	0	0	0	0	6	7	0	0	0	0	0
57 3rd St at Badger Rd	0	57	0	657	24	9	976	0	0	0	0	33	0	4
58 3rd St at Pinebrook	0	58	0	559	0	0	943	0	0	0	0	0	0	0
59 Murphy at SE 3rd St	0	59	106	186	0	490	241	182	178	229	105	104	176	135
60 Parrell Rd at China Hat Rd	0	60	0	0	0	415	0	31	64	3	0	0	740	41
61 US20 at 3rd St Ramp to NB US97		61	0	871	331	0	1093	0	0	0	0	0	0	0
62 Blakely Rd at Powers Rd	0	62	26	5	50	74	4	31	41	569	73	87	700	106
101 US 97 NB/SB Ramp to Hwy 20	0	101	0	2513	625	0	2193	560	0	0	0	0	0	0

South Leg In	North Leg Out	North Leg In	South Leg Out	West Leg In	East Leg Out	East Leg In	West Leg Out
NB_IN	NB_OUT	SB_IN	SB_OUT	EB_IN	EB_OUT	WB_IN	WB_OUT
2149	2386	2180	1857	123	141	378	446
2155	2274	2010	2094	754	859	993	685
2281	2155	2247	2439	565	209	323	613
2513	2281	2439	2753	396	0	0	314
45	78	0	666	1802	1394	1158	900
599	744	0	0	1394	1638	1547	1158
936	1091	1923	772	513	1769	901	641
1490	1287	1374	1867	514	610	898	512
0	0	419	0	559	643	402	737
7	242	0	3	643	474	471	402
871	1491	1868	1093	620	431	0	344
899	365	366	838	0	811	749	0
642	630	434	315	811	581	388	749
2746	2746	2870	2870	0	0	0	0
2746	2746	2870	2788	0	0	0	82
1241	359	819	0	0	938	249	1012
0	795	168	0	938	184	122	249
2120	2120	2329	2329	0	0	0	0
0	100	614	268	1256	1424	1043	1121
441	0	0	216	1423	1458	1043	1233
1865	1865	2084	2084	0	0	0	0
548	0	0	51	693	987	691	894
1437	1437	2084	1901	987	987	508	691
0	467	38	0	987	784	734	508
1437	1437	1405	1405	0	0	0	0
1437	1437	1405	1405	0	0	0	0
882	1586	1572	1620	48	67	771	0
0	34	831	0	481	748	310	840
56	416	0	0	749	385	306	310
1236	920	871	1298	627	170	145	491
105	0	0	93	436	514	513	447
94	0	0	55	475	451	408	471
0	0	0	0	0	0	0	0
1412	1263	1184	1316	594	1114	889	386
121	677	638	114	1114	510	316	888
108	122	184	169	16	0	0	17
497	503	746	787	1062	1083	927	859
73	102	118	116	1102	1256	1121	940
36	485	0	699	1458	773	1316	853
1730	1009	1524	1574	772	904	777	1316
559	418	595	740	150	683	757	220
910	745	1058	1215	779	263	193	717
147	335	381	274	286	0	0	205
0	7	6	0	7	0	0	6
681	661	985	1009	0	33	37	0
559	559	943	943	0	0	0	0
292	499	913	450	512	719	415	464
0	105	446	0	67	418	781	771
1202	871	1093	1093	0	331	0	0
81	152	109	164	683	693	893	757
3138	2513	2753	2193	0	625	0	560

			(2040 Model - 2010 Base Year Model)*22/30 years of growth												
			Northbound			Southbound			Eastbound			Westbound			
N/S	E/W	#	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	Comment
Study Intersections															
1 US 97 at Deschutes Ple	0	1	0	577	104	0	566	137	-173	0	11	0	0	290	
2 US97 at Cooley	0	2	21	489	139	126	366	136	82	169	-7	129	256	136	
3 US 97 at Robal	0	3	45	523	84	22	389	73	76	42	202	87	67	50	
4 US 97 at Nels Anderson	0	4	-33	672	-28	0	659	19	0	0	-27	0	0	-20	
5 US 97 SB Ramp at Emp	0	5	0	0	0	0	0	0	0	359	100	4	394	0	
6 US 97 NB Ramps at Em	0	6	42	12	51	0	0	0	-76	435	0	0	356	268	
7 US20 at Empire	0	7	62	460	103	453	244	17	33	-8	-31	79	173	133	
8 US20 at Butler Market	0	8	25	589	15	18	396	51	58	105	41	-31	70	21	
9 SB off ramp at Butler Ma	0	9	0	0	0	-12	0	21	0	127	0	0	54	0	
10 US97 NB On-Ramp at	0	10	1	1	1	0	0	0	13	101	1	1	53	-4	
11 Bend Pkwy SB On-Ran	0	11	0	449	0	-155	337	225	181	0	0	0	0	0	
12 US97 SB Ramps at Re	0	12	0	64	266	1	-62	0	0	0	0	288	0	39	
13 US97 NB Ramps at Re	0	13	-1	-31	-8	25	-10	210	183	90	-8	2	117	14	
14 US97 at Lafayette	0	14	0	772	0	0	813	-101	0	0	-257	0	0	0	
15 US97 at Hawthorne	0	15	0	772	0	0	540	16	0	0	-154	0	0	0	
16 US97 SB Ramps at Co	0	16	7	118	203	18	0	203	0	0	0	0	28	0	
17 US97 NB Ramps at Co	0	17	0	0	0	0	0	-11	140	81	0	0	38	-83	
18 US97 at Truman	0	18	0	705	0	0	399	-117	0	0	-97	0	0	0	
19 Hwy 97 SB Ramps at R	0	19	0	0	0	10	0	66	0	478	21	0	363	58	
20 US97 NB ramps at Ree	0	20	37	0	49	0	0	0	0	353	133	0	421	0	
21 US97 at Reed Ln	0	21	0	561	-2	0	306	0	0	0	0	0	0	-70	
22 US97 SB Ramps at Po	0	22	160	0	66	0	0	0	0	258	15	6	94	0	
23 US 97 at Powers	0	23	0	455	-1	0	307	-2	0	324	0	0	102	0	
24 US 97 NB Ramps at Po	0	24	0	0	0	0	0	8	98	225	0	0	94	15	
25 US 97 at Badger	0	25	0	501	0	0	306	-203	0	0	-14	0	0	-48	
26 US97 at Pinebrook	0	26	0	619	-3	0	310	-18	-100	-65	-11	0	-107	-18	
28 US 97 at Ponderosa-C	0	28	-21	139	21	-110	342	-2	-29	0	31	-38	0	549	
29 US 97 SB Ramps at Ba	0	29	0	0	0	192	0	-74	1	43	0	0	164	10	
30 US 97 NB Ramps at Kn	0	30	5	0	18	0	0	0	28	208	0	0	169	-2	
40 US 97 Bus at OB Riley	0	40	215	445	0	21	241	-10	18	13	230	0	8	30	
41 NW Mt Washington Dr	0	41	8	0	32	0	0	0	0	172	7	25	121	0	
42 NE Butler Market Rd a	0	42	44	0	14	0	0	0	0	81	22	7	5	0	
45 Harriman at Revere	0	45	0	0	0	0	0	0	0	0	0	0	0	0	
46 NE 3rd St at NE Rever	0	46	12	254	159	74	254	-3	1	102	9	101	139	106	
47 4th at Revere	0	47	38	17	3	14	36	188	145	176	15	2	120	-10	
48 Scott at Aune St	0	48	1	-49	0	0	76	6	4	0	0	0	0	0	
49 SW Brookswood at Re	0	49	99	81	26	117	185	9	16	277	157	47	208	113	
50 Silver Lake Blvd at Ree	0	50	0	1	16	49	2	5	-2	433	1	12	371	46	
51 Division St at Reed Ma	0	51	0	0	1	0	0	0	-2	222	183	-11	384	168	
52 3rd at Reed Market	0	52	332	209	5	23	429	69	44	174	3	-48	139	20	
53 Brookswood at Powers	0	53	2	84	91	192	79	18	8	14	-1	143	7	75	
54 3rd at Powers	0	54	51	130	50	27	77	15	5	38	183	27	36	25	
55 Parrell Rd at Powers R	0	55	7	61	0	0	133	86	110	0	15	0	0	0	
56 Blakely at Badger	0	56	0	0	0	-8	0	0	-2	-5	0	0	-184	-19	
57 3rd St at Badger Rd	0	57	0	230	8	5	281	0	0	0	0	-9	0	2	
58 3rd St at Pinebrook	0	58	-42	219	0	0	311	-38	-21	0	-31	0	0	0	
59 Murphy at SE 3rd St	0	59	63	84	-31	276	150	83	100	133	78	41	94	15	
60 Parrell Rd at China Ha	0	60	0	0	0	313	0	-12	-25	-64	0	0	523	29	
61 US20 at 3rd St Ramp t	0	61	0	449	-111	0	337	0	0	0	0	0	0	0	
62 Blakely Rd at Powers R	0	62	5	2	9	28	2	12	19	235	43	12	208	34	
101 US 97 NB/SB Ramp t	0	101	0	612	182	0	608	25	0	0	0	0	0	0	

Difference

South Leg In	North Leg Out	North Leg In	South Leg Out	West Leg In	East Leg Out	East Leg In	West Leg Out
NB_IN	NB_OUT	SB_IN	SB_OUT	EB_IN	EB_OUT	WB_IN	WB_OUT
680	693	703	577	-163	104	290	137
649	707	629	488	245	434	521	413
652	649	484	678	320	148	203	185
611	652	679	633	-27	-28	-20	-14
0	0	0	104	459	359	398	394
105	204	0	0	359	486	624	398
625	626	714	291	-7	547	385	252
628	668	465	406	205	138	60	146
0	0	9	0	127	116	54	75
2	10	0	2	115	102	50	54
449	629	407	337	181	-155	0	225
330	103	-61	225	0	267	327	0
-39	166	226	-16	266	108	133	327
772	772	712	557	-257	0	0	-101
772	772	556	386	-154	0	0	16
328	118	222	0	0	222	28	238
0	57	-11	0	221	81	-45	27
705	705	282	302	-97	0	0	-117
0	58	76	21	498	488	421	429
86	0	0	133	487	403	421	458
559	491	306	306	0	-2	-70	0
226	0	0	21	272	324	100	254
454	455	306	307	324	323	102	100
0	113	8	0	323	225	109	102
501	453	103	292	-14	0	-48	-203
616	501	292	299	-176	-68	-125	-125
139	659	231	336	2	-89	511	-22
0	11	118	0	44	235	174	90
22	26	0	0	236	225	166	173
660	493	252	471	261	35	38	214
41	0	0	32	179	204	146	130
58	0	0	29	104	95	12	50
0	0	0	0	0	0	0	0
424	360	325	364	112	335	346	147
58	152	238	53	335	192	112	346
-48	-45	82	76	4	0	0	8
205	209	311	389	450	420	367	316
17	45	56	14	432	498	429	376
1	166	0	172	403	223	541	384
546	273	521	384	222	202	110	540
177	168	289	221	21	297	225	26
230	159	120	288	225	114	87	102
67	171	219	147	125	0	0	93
0	-21	-8	0	-7	-14	-203	-184
238	232	285	271	0	13	-8	0
177	198	273	280	-53	0	0	-81
115	199	509	269	312	378	150	240
0	5	301	0	-89	248	552	511
337	449	337	337	0	-111	0	0
17	55	41	57	297	272	254	225
794	612	633	608	0	182	0	25

Growth Increment	***0.767***
Count Year	2017
Base Model	2010
Future Model	2040
Forecast Horizon	2040

			Difference Method (DIFF)							
N/S	E/W	#	NB_IN	NB_OUT	SB_IN	SB_OUT	EB_IN	EB_OUT	WB_IN	WB_OUT
Study Intersections										
1 US 97 at Deschutes Pleasant Ridge		1	2387	2728	2316	2049	-78	232	746	363
2 US97 at Cooley		2	2177	2361	2284	2189	588	764	833	566
3 US 97 at Robal		3	2386	2256	2318	2606	470	195	364	482
4 US 97 at Nels Anderson Pl		4	2614	2386	2607	2708	186	11	-9	293
5 US 97 SB Ramp at Empire		5	0	10	24	852	1633	1116	1157	836
6 US 97 NB Ramps at Empire		6	628	584	0	0	1116	1446	1443	1157
7 US20 at Empire		7	1226	1085	1925	1133	389	1490	742	573
8 US20 at Butler Market		8	1460	1441	1719	1840	535	555	590	468
9 SB off ramp at Butler Market		9	0	0	243	0	585	711	612	730
10 US97 NB On-Ramp at Butler Market		10	16	264	0	15	710	628	792	612
11 Bend Pkwy SB On-Ramp/Division at 3rd St		11	918	1461	1841	943	552	443	0	463
12 US97 SB Ramps at Revere		12	874	439	335	912	110	905	1034	96
13 US97 NB Ramps at Revere		13	583	577	485	297	904	692	629	1034
14 US97 at Lafayette		14	3149	3149	3404	3291	-132	0	0	-18
15 US97 at Hawthorne		15	3149	3149	3290	3084	69	0	0	275
16 US97 SB Ramps at Colorado		16	1370	412	680	0	0	1083	407	962
17 US97 NB Ramps at Colorado		17	0	1082	205	0	1082	315	516	406
18 US97 at Truman		18	2273	2273	2816	2733	-17	0	0	66
19 Hwy 97 SB Ramps at Reed Market		19	0	120	905	73	1260	1877	940	1036
20 US97 NB ramps at Reed Market		20	200	27	35	230	1876	1774	897	977
21 US97 at Reed Ln		21	1690	1713	2022	2022	0	53	76	0
22 US97 SB Ramps at Powers		22	584	0	0	81	767	1141	708	838
23 US 97 at Powers		23	1303	1284	2022	1716	1141	1160	403	708
24 US 97 NB Ramps at Powers		24	0	444	37	0	1160	870	520	403
25 US 97 at Badger		25	1272	1302	1214	1385	-9	12	42	-180
26 US97 at Pinebrook		26	1282	1272	1385	1346	-171	-43	5	-74
28 US 97 at Ponderosa-China Hat		28	926	1545	1770	1763	20	-78	621	108
29 US 97 SB Ramps at Baker		29	0	241	665	0	437	642	667	886
30 US 97 NB Ramps at Knott		30	162	291	0	0	643	480	632	666
40 US 97 Bus at OB Riley		40	1428	1127	1221	1720	465	208	238	299
41 NW Mt Washington Dr at Riverview Park		41	51	19	14	42	523	569	544	502
42 NE Butler Market Rd at NE 4th St		42	295	5	16	204	640	623	666	785
45 Harriman at Revere		45	10	36	29	18	0	38	53	0
46 NE 3rd St at NE Revere Ave		46	1399	1429	900	1179	891	867	862	576
47 4th at Revere		47	381	585	701	300	879	648	442	870
48 Scott at Aune St		48	547	516	306	300	39	0	0	77
49 SW Brookswood at Reed Market		49	645	656	1053	1007	984	1159	873	734
50 Silver Lake Blvd at Reed Market Rd		50	72	91	94	142	1180	1276	1054	890
51 Division St at Reed Market Rd		51	38	538	22	769	1775	964	1337	901
52 3rd at Reed Market		52	1488	935	1410	1276	908	1067	658	1186
53 Brookswood at Powers Rd		53	611	571	1037	1015	118	721	675	134
54 3rd at Powers		54	709	729	998	1297	874	271	194	479
55 Parrell Rd at Powers Rd		55	242	377	461	437	296	0	0	185
56 Blakely at Badger		56	0	21	23	0	30	-9	-180	-140
57 3rd St at Badger Rd		57	578	618	1153	1112	99	79	109	131
58 3rd St at Pinebrook		58	598	520	1076	1002	1	64	40	130
59 Murphy at SE 3rd St		59	353	682	1202	726	645	780	555	567
60 Parrell Rd at China Hat Rd		60	0	48	382	0	-78	325	690	621
61 US20 at 3rd St Ramp to NB US97		61	1365	918	943	943	0	448	0	0
62 Blakely Rd at Powers Rd		62	95	93	70	191	718	737	822	684
101 US 97 NB/SB Ramp to Hwy 20		101	3531	2615	2708	2248	0	916	0	460

	Annual Change							
NB_IN	NB_OUT	SB_IN	SB_OUT	EB_IN	EB_OUT	WB_IN	WB_OUT
1%	1%	2%	1%	0%	3%	2%	2%
2%	2%	1%	1%	2%	4%	4%	6%
1%	1%	1%	1%	5%	6%	4%	2%
1%	1%	1%	1%	-1%	-5%	0%	0%
0%	0%	0%	1%	1%	2%	2%	3%
1%	2%	0%	0%	2%	2%	2%	2%
3%	4%	2%	1%	0%	2%	3%	3%
2%	3%	1%	1%	2%	1%	0%	2%
0%	0%	0%	0%	1%	1%	0%	0%
1%	0%	0%	0%	1%	1%	0%	0%
3%	2%	1%	2%	2%	-1%	0%	3%
2%	1%	-1%	1%	0%	2%	2%	0%
0%	1%	3%	0%	2%	1%	1%	2%
1%	1%	1%	1%	0%	0%	0%	0%
1%	1%	1%	1%	-5%	0%	0%	0%
1%	1%	2%	0%	0%	1%	0%	1%
0%	0%	0%	0%	1%	1%	0%	0%
2%	2%	0%	1%	0%	0%	0%	-4%
0%	3%	0%	1%	2%	1%	3%	2%
2%	0%	0%	4%	1%	1%	3%	3%
2%	1%	1%	1%	0%	0%	-3%	0%
2%	0%	0%	1%	2%	1%	1%	2%
2%	2%	1%	1%	1%	1%	1%	1%
0%	1%	1%	0%	1%	1%	1%	1%
2%	2%	0%	1%	0%	0%	-3%	0%
3%	2%	1%	1%	0%	0%	-13%	0%
1%	2%	1%	1%	1%	0%	8%	-1%
0%	0%	1%	0%	0%	2%	1%	0%
1%	0%	0%	0%	2%	3%	1%	1%
3%	3%	1%	1%	4%	1%	1%	6%
7%	0%	0%	6%	2%	2%	1%	1%
1%	0%	0%	1%	1%	1%	0%	0%
0%	0%	0%	0%	0%	0%	0%	0%
2%	1%	2%	2%	1%	2%	2%	1%
1%	1%	2%	1%	2%	2%	1%	2%
0%	0%	1%	1%	0%	0%	0%	0%
2%	2%	2%	2%	3%	2%	2%	2%
1%	3%	4%	0%	2%	2%	2%	2%
0%	2%	0%	1%	1%	1%	2%	2%
2%	2%	2%	2%	1%	1%	1%	3%
1%	2%	1%	1%	1%	2%	2%	1%
2%	1%	1%	1%	1%	2%	3%	1%
1%	3%	3%	2%	2%	0%	0%	3%
0%	-3%	-1%	0%	-1%	0%	0%	0%
2%	2%	1%	1%	0%	1%	0%	0%
2%	2%	1%	1%	-16%	0%	0%	-2%
2%	2%	2%	2%	3%	3%	1%	2%
0%	0%	7%	0%	0%	6%	7%	8%
1%	3%	2%	2%	0%	-1%	0%	0%
1%	4%	4%	2%	2%	2%	2%	2%
1%	1%	1%	1%	0%	1%	0%	0%

			Ratio Method (RATIO)				0.77 Interpolated Model Increment Ratio (Do Not Edit)				Annual Change							
			South Leg	North Leg	North Le	South Le	West Leg In	East Leg Out	East Leg In	West Leg Out	South Leg In	North Leg Out	North Leg In	South Leg Out	West Leg In	East Leg Out	East Leg In	West Leg Out
			NB_IN	NB_OUT	SB_IN	SB_OUT	EB_IN	EB_OUT	WB_IN	WB_OUT	NB_IN	NB_OUT	SB_IN	SB_OUT	EB_IN	EB_OUT	WB_IN	WB_OUT
1 US 97 at Deschutes Pleasant Ri	0	1	2567	2932	2451	2192	39	1440	#DIV/0!	335	2%	2%	2%	2%	-3%	11%	#DIV/0!	2%
2 US97 at Cooley	0	2	2239	2464	2474	2246	523	753	754	500	2%	2%	2%	1%	2%	4%	4%	5%
3 US 97 at Robal	0	3	2479	2355	2361	2723	421	337	601	436	2%	2%	1%	2%	5%	9%	6%	2%
4 US 97 at Nels Anderson Pl	0	4	2683	2479	2724	2727	200	0	0	294	1%	2%	2%	1%	0%	0%	0%	0%
5 US 97 SB Ramp at Empire	0	5	0	10	24	891	1600	1036	1197	846	0%	0%	0%	1%	1%	1%	2%	3%
6 US 97 NB Ramps at Empire	0	6	638	533	0	0	1036	1397	1452	1197	1%	1%	0%	0%	1%	2%	3%	2%
7 US20 at Empire	0	7	2884	1320	2012	1416	391	1402	667	557	7%	5%	2%	2%	0%	2%	3%	2%
8 US20 at Butler Market	0	8	1534	1837	1961	1852	579	545	568	459	3%	4%	2%	1%	2%	1%	0%	2%
9 SB off ramp at Butler Market	0	9	0	0	239	0	600	731	648	731	0%	0%	0%	0%	1%	1%	1%	0%
10 US97 NB On-Ramp at Butler M	0	10	22	265	0	30	729	677	831	646	2%	0%	0%	4%	1%	1%	0%	1%
11 Bend Pkwy SB On-Ramp/Divisi	0	11	1101	1536	1853	899	536	445	0	1028	4%	3%	1%	2%	2%	-1%	0%	7%
12 US97 SB Ramps at Revere	0	12	896	477	340	957	110	981	1347	96	2%	2%	-1%	1%	0%	2%	3%	0%
13 US97 NB Ramps at Revere	0	13	587	568	617	298	979	723	780	1347	0%	1%	4%	0%	2%	1%	2%	3%
14 US97 at Lafayette	0	14	3374	3374	3633	3419	0	0	0	0	2%	2%	1%	1%	0%	0%	0%	0%
15 US97 at Hawthorne	0	15	3374	3374	3418	3143	0	0	0	325	2%	2%	1%	1%	0%	0%	0%	1%
16 US97 SB Ramps at Colorado	0	16	1441	452	639	0	0	1142	427	958	1%	2%	1%	0%	0%	1%	1%	1%
17 US97 NB Ramps at Colorado	0	17	0	1105	203	0	1141	452	415	426	0%	0%	0%	0%	1%	3%	-1%	1%
18 US97 at Truman	0	18	2426	2426	2891	2802	0	0	0	0	2%	2%	1%	1%	0%	0%	0%	0%
19 Hwy 97 SB Ramps at Reed Ma	0	19	0	185	949	56	1332	2186	920	1031	0%	5%	1%	0%	2%	2%	3%	2%
20 US97 NB ramps at Reed Marke	0	20	143	27	35	340	2185	1931	844	862	1%	0%	0%	6%	2%	1%	3%	2%
21 US97 at Reed Ln	0	21	1654	1688	2020	2020	0	0	0	0	2%	1%	1%	1%	0%	0%	0%	0%
22 US97 SB Ramps at Powers	0	22	647	0	0	107	858	1253	713	832	3%	0%	0%	3%	2%	2%	1%	2%
23 US 97 at Powers	0	23	1276	1247	2020	1690	1253	1282	380	714	2%	2%	1%	1%	2%	2%	1%	1%
24 US 97 NB Ramps at Powers	0	24	0	443	38	0	1282	923	485	380	0%	1%	1%	0%	2%	2%	1%	1%
25 US 97 at Badger	0	25	1228	1274	1200	1393	0	12	0	0	2%	2%	0%	1%	0%	0%	0%	0%
26 US97 at Pinebrook	0	26	1247	1228	1393	1343	0	0	0	0	3%	2%	1%	1%	0%	0%	0%	0%
28 US 97 at Ponderosa-China Hat	0	28	939	1611	1811	1817	19	5	511	0	1%	3%	1%	1%	0%	-3%	7%	0%
29 US 97 SB Ramps at Baker	0	29	0	345	640	0	433	610	1354	893	0%	2%	1%	0%	0%	2%	4%	1%
30 US 97 NB Ramps at Knott	0	30	245	283	0	0	611	771	1201	1342	2%	0%	0%	0%	2%	5%	4%	4%
40 US 97 Bus at OB Riley	0	40	1916	1591	1394	2041	372	219	277	162	4%	4%	2%	2%	3%	1%	1%	3%
41 NW Mt Washington Dr at River	0	41	17	19	14	16	618	638	569	535	2%	0%	0%	2%	3%	2%	2%	2%
42 NE Butler Market Rd at NE 4th	0	42	842	5	16	430	693	676	674	824	6%	0%	0%	4%	1%	1%	0%	0%
45 Harriman at Revere	0	45	10	36	29	18	0	38	53	0	0%	0%	0%	0%	0%	0%	0%	0%
46 NE 3rd St at NE Revere Ave	0	46	1427	1527	808	1149	967	779	888	727	2%	2%	1%	2%	1%	2%	2%	2%
47 4th at Revere	0	47	678	565	771	501	797	767	532	902	3%	1%	2%	3%	2%	2%	2%	2%
48 Scott at Aune St	0	48	420	415	437	440	47	0	0	135	-2%	-1%	3%	3%	1%	0%	0%	3%
49 SW Brookswood at Reed Marke	0	49	797	814	1355	1365	990	1269	884	690	3%	3%	3%	4%	3%	2%	2%	2%
50 Silver Lake Blvd at Reed Marke	0	50	72	89	80	145	1296	1360	1061	906	1%	3%	3%	1%	2%	2%	2%	2%
51 Division St at Reed Market Rd	0	51	38	585	22	803	1934	1064	1434	1019	0%	2%	0%	1%	2%	2%	3%	3%
52 3rd at Reed Market	0	52	1415	924	1398	1197	983	1127	641	1162	2%	1%	2%	1%	2%	1%	1%	3%
53 Brookswood at Powers Rd	0	53	653	712	1615	1159	114	807	655	123	2%	3%	3%	2%	1%	3%	2%	1%
54 3rd at Powers	0	54	651	732	992	1339	933	298	212	441	1%	1%	1%	1%	2%	3%	3%	1%
55 Parrell Rd at Powers Rd	0	55	352	477	696	731	327	0	0	182	3%	4%	5%	4%	3%	0%	0%	3%
56 Blakely at Badger	0	56	0	13	14	0	20	0	0	3	0%	-5%	-3%	0%	-3%	0%	0%	-12%
57 3rd St at Badger Rd	0	57	543	616	1249	1171	99	115	97	131	2%	2%	2%	1%	0%	2%	-1%	0%
58 3rd St at Pinebrook	0	58	634	518	1155	1051	0	64	40	0	2%	2%	2%	2%	0%	0%	0%	0%
59 Murphy at SE 3rd St	0	59	414	849	1876	1459	1122	976	661	773	2%	2%	4%	5%	5%	4%	2%	4%
60 Parrell Rd at China Hat Rd	0	60	0	45	415	0	5	242	975	511	0%	0%	7%	0%	-3%	5%	9%	7%
61 US20 at 3rd St Ramp to NB US	0	61	1458	1101	899	899	0	423	0	0	2%	4%	2%	2%	0%	-1%	0%	0%
62 Blakely Rd at Powers Rd	0	62	99	62	48	212	801	806	810	668	1%	2%	2%	2%	3%	2%	2%	2%
101 US 97 NB/SB Ramp to Hwy 20		101	3720	2685	2727	2314	0	1058	0	455	1%	1%	1%	2%	0%	2%	0%	0%

Modified Ratio (Mratio)

			South Leg	North Leg	North Le	South Le	West Leg In	East Leg Out	East Leg In	West Leg Out
			NB_IN	NB_OUT	SB_IN	SB_OUT	EB_IN	EB_OUT	WB_IN	WB_OUT
1 US 97 at Deschutes Pleasant Ri	0	1	2507	2869	2405	2145	39	339	#DIV/0!	344
2 US97 at Cooley	0	2	2219	2430	2411	2232	545	759	800	546
3 US 97 at Robal	0	3	2451	2323	2352	2688	453	215	428	450
4 US 97 at Nels Anderson Pl	0	4	2666	2451	2690	2722	200	0	0	294
5 US 97 SB Ramp at Empire	0	5	0	10	24	885	1609	1057	1183	841
6 US 97 NB Ramps at Empire	0	6	636	548	0	0	1057	1412	1448	1183
7 US20 at Empire	0	7	1571	1167	1977	1301	391	1431	702	564
8 US20 at Butler Market	0	8	1500	1608	1874	1850	560	548	570	462
9 SB off ramp at Butler Market	0	9	0	0	239	0	597	727	643	731
10 US97 NB On-Ramp at Butler M	0	10	20	265	0	21	726	666	827	641
11 Bend Pkwy SB On-Ramp/Divisi	0	11	996	1502	1850	914	541	445	0	594
12 US97 SB Ramps at Revere	0	12	887	466	340	944	110	954	1198	96
13 US97 NB Ramps at Revere	0	13	587	571	540	298	953	717	725	1198
14 US97 at Lafayette	0	14	3307	3307	3574	3393	0	0	0	0
15 US97 at Hawthorne	0	15	3307	3307	3392	3134	0	0	0	315
16 US97 SB Ramps at Colorado	0	16	1421	438	651	0	0	1127	425	959
17 US97 NB Ramps at Colorado	0	17	0	1103	203	0	1126	386	415	423
18 US97 at Truman	0	18	2372	2372	2882	2793	0	0	0	0
19 Hwy 97 SB Ramps at Reed Ma	0	19	0	142	943	58	1302	2073	929	1033
20 US97 NB ramps at Reed Marke	0	20	154	27	35	262	2072	1885	867	908
21 US97 at Reed Ln	0	21	1665	1695	2020	2020	0	0	0	0
22 US97 SB Ramps at Powers	0	22	619	0	0	95	820	1214	713	834
23 US 97 at Powers	0	23	1285	1259	2020	1694	1214	1240	385	713
24 US 97 NB Ramps at Powers	0	24	0	444	38	0	1240	907	490	385
25 US 97 at Badger	0	25	1245	1284	1201	1391	0	12	0	0
26 US97 at Pinebrook	0	26	1263	1245	1391	1344	0	0	0	0
28 US 97 at Ponderosa-China Hat	0	28	936	1581	1805	1805	19	5	598	0
29 US 97 SB Ramps at Baker	0	29	0	310	644	0	433	621	917	892
30 US 97 NB Ramps at Knott	0	30	209	283	0	0	622	576	853	914
40 US 97 Bus at OB Riley	0	40	1624	1312	1341	1916	414	217	266	227
41 NW Mt Washington Dr at River	0	41	31	19	14	26	576	609	561	525
42 NE Butler Market Rd at NE 4th	0	42	449	5	16	296	681	664	674	819
45 Harriman at Revere	0	45	10	36	29	18	0	38	53	0
46 NE 3rd St at NE Revere Ave	0	46	1418	1498	834	1158	952	807	877	665
47 4th at Revere	0	47	522	569	743	399	823	719	498	889
48 Scott at Aune St	0	48	420	415	373	371	45	0	0	106
49 SW Brookswood at Reed Marke	0	49	729	743	1219	1169	987	1223	879	707
50 Silver Lake Blvd at Reed Marke	0	50	72	90	87	145	1247	1324	1058	899
51 Division St at Reed Market Rd	0	51	38	567	22	794	1888	1034	1391	961
52 3rd at Reed Market	0	52	1439	927	1403	1217	960	1113	644	1172
53 Brookswood at Powers Rd	0	53	639	651	1305	1113	114	766	661	124
54 3rd at Powers	0	54	666	731	993	1329	915	285	203	447
55 Parrell Rd at Powers Rd	0	55	297	420	542	554	312	0	0	184
56 Blakely at Badger	0	56	0	13	14	0	20	0	0	3
57 3rd St at Badger Rd	0	57	556	617	1220	1155	99	100	97	131
58 3rd St at Pinebrook	0	58	622	518	1131	1035	0	64	40	0
59 Murphy at SE 3rd St	0	59	388	777	1451	956	787	861	620	654
60 Parrell Rd at China Hat Rd	0	60	0	45	389	0	5	299	730	598
61 US20 at 3rd St Ramp to NB US	0	61	1431	996	914	914	0	423	0	0
62 Blakely Rd at Powers Rd	0	62	98	74	57	204	762	777	814	673
101 US 97 NB/SB Ramp to Hwy 20		101	0	0	0	0	0	0	0	0

Annual Change

South Leg In	North Leg Out	North Leg In	South Leg Out	West Leg In	East Leg Out	East Leg In	West Leg Out
NB_IN	NB_OUT	SB_IN	SB_OUT	EB_IN	EB_OUT	WB_IN	WB_OUT
2%	2%	2%	2%	-3%	4%	#DIV/0!	2%
2%	2%	2%	1%	2%	4%	4%	6%
2%	2%	1%	1%	5%	7%	4%	2%
1%	2%	1%	1%	0%	0%	0%	0%
0%	0%	0%	1%	1%	1%	2%	3%
1%	2%	0%	0%	1%	2%	3%	2%
4%	4%	2%	2%	0%	2%	3%	2%
3%	3%	2%	1%	2%	1%	0%	2%
0%	0%	0%	0%	1%	1%	1%	0%
1%	0%	0%	2%	1%	1%	0%	1%
3%	3%	1%	2%	2%	-1%	0%	4%
2%	1%	-1%	1%	0%	2%	2%	0%
0%	1%	3%	0%	2%	1%	2%	2%
1%	1%	1%	1%	0%	0%	0%	0%
1%	1%	1%	1%	0%	0%	0%	1%
1%	2%	2%	0%	0%	1%	0%	1%
0%	0%	0%	0%	1%	2%	-1%	0%
2%	2%	1%	1%	0%	0%	0%	0%
0%	4%	1%	0%	2%	2%	3%	2%
1%	0%	0%	4%	2%	1%	3%	2%
2%	1%	1%	1%	0%	0%	0%	0%
2%	0%	0%	2%	2%	2%	1%	2%
2%	2%	1%	1%	2%	2%	1%	1%
0%	1%	1%	0%	2%	1%	1%	1%
2%	2%	0%	1%	0%	0%	0%	0%
3%	2%	1%	1%	0%	0%	0%	0%
1%	3%	1%	1%	0%	-3%	8%	0%
0%	1%	1%	0%	0%	2%	3%	0%
2%	0%	0%	0%	2%	4%	3%	3%
3%	3%	1%	2%	3%	1%	1%	4%
5%	0%	0%	4%	2%	2%	2%	2%
3%	0%	0%	2%	1%	1%	0%	0%
0%	0%	0%	0%	0%	0%	0%	0%
2%	1%	2%	2%	1%	2%	2%	2%
2%	1%	2%	2%	2%	2%	2%	2%
-2%	-1%	2%	2%	1%	0%	0%	2%
2%	2%	2%	3%	3%	2%	2%	2%
1%	3%	4%	1%	2%	2%	2%	2%
0%	2%	0%	1%	1%	1%	2%	3%
2%	1%	2%	1%	1%	1%	1%	3%
2%	2%	2%	1%	1%	3%	2%	1%
1%	1%	1%	1%	2%	3%	3%	1%
2%	3%	4%	3%	3%	0%	0%	3%
0%	-5%	-3%	0%	-3%	0%	0%	-12%
2%	2%	1%	1%	0%	2%	-1%	0%
2%	2%	1%	2%	0%	0%	0%	0%
2%	2%	3%	3%	4%	3%	2%	3%
0%	0%	7%	0%	-3%	6%	8%	8%
1%	3%	2%	2%	0%	-1%	0%	0%
1%	3%	3%	2%	3%	2%	2%	2%
0%	0%	0%	0%	0%	0%	0%	0%

			Average Method (RAF)								Annual Change							
			South Leg In	North Leg Out	North Leg In	South Leg Out	West Leg In	East Leg Out	East Leg In	West Leg Out	South Leg In	North Leg Out	North Leg In	South Leg Out	West Leg In	East Leg Out	East Leg In	West Leg Out
			NB_IN	NB_OUT	SB_IN	SB_OUT	EB_IN	EB_OUT	WB_IN	WB_OUT	NB_IN	NB_OUT	SB_IN	SB_OUT	EB_IN	EB_OUT	WB_IN	WB_OUT
1 US 97 at Deschutes Pleasant Ri	0	1	2447	2799	2360	2097	-19	285	#DIV/0!	354	2%	1%	2%	2%	0%	4%	#DIV/0!	2%
2 US97 at Cooley	0	2	2198	2396	2347	2211	566	761	816	556	2%	2%	2%	1%	2%	4%	4%	6%
3 US 97 at Robal	0	3	2418	2290	2335	2647	462	205	396	466	1%	2%	1%	1%	5%	7%	4%	2%
4 US 97 at Nels Anderson Pl	0	4	2640	2418	2648	2715	193	6	-4	294	1%	1%	1%	1%	0%	-8%	0%	0%
5 US 97 SB Ramp at Empire	0	5	0	10	24	869	1621	1087	1170	839	0%	0%	0%	1%	1%	2%	2%	3%
6 US 97 NB Ramps at Empire	0	6	632	566	0	0	1087	1429	1446	1170	1%	2%	0%	0%	2%	2%	3%	2%
7 US20 at Empire	0	7	1399	1126	1951	1217	390	1461	722	569	4%	4%	2%	2%	0%	2%	3%	3%
8 US20 at Butler Market	0	8	1480	1524	1797	1845	547	551	580	465	3%	3%	2%	1%	2%	1%	0%	2%
9 SB off ramp at Butler Market	0	9	0	0	241	0	591	719	628	730	0%	0%	0%	0%	1%	1%	1%	0%
10 US97 NB On-Ramp at Butler M	0	10	18	264	0	18	718	647	810	627	1%	0%	0%	1%	1%	1%	0%	1%
11 Bend Pkwy SB On-Ramp/Divisi	0	11	957	1482	1846	929	546	444	0	528	3%	3%	1%	2%	2%	-1%	0%	4%
12 US97 SB Ramps at Revere	0	12	880	452	337	928	110	929	1116	96	2%	1%	-1%	1%	0%	2%	2%	0%
13 US97 NB Ramps at Revere	0	13	585	574	512	298	928	704	677	1116	0%	1%	3%	0%	2%	1%	1%	2%
14 US97 at Lafayette	0	14	3228	3228	3489	3342	-66	0	0	-9	1%	1%	1%	1%	0%	0%	0%	0%
15 US97 at Hawthorne	0	15	3228	3228	3341	3109	34	0	0	295	1%	1%	1%	1%	-8%	0%	0%	1%
16 US97 SB Ramps at Colorado	0	16	1396	425	665	0	0	1105	416	960	1%	2%	2%	0%	0%	1%	0%	1%
17 US97 NB Ramps at Colorado	0	17	0	1092	204	0	1104	351	465	415	0%	0%	0%	0%	1%	2%	-1%	0%
18 US97 at Truman	0	18	2323	2323	2849	2763	-8	0	0	33	2%	2%	1%	1%	0%	0%	0%	-7%
19 Hwy 97 SB Ramps at Reed Ma	0	19	0	131	924	65	1281	1975	934	1034	0%	3%	0%	1%	2%	2%	3%	2%
20 US97 NB ramps at Reed Marke	0	20	177	27	35	246	1974	1829	882	942	2%	0%	0%	4%	2%	1%	3%	3%
21 US97 at Reed Ln	0	21	1678	1704	2021	2021	0	26	38	0	2%	1%	1%	1%	0%	-3%	-6%	0%
22 US97 SB Ramps at Powers	0	22	602	0	0	88	793	1177	710	836	2%	0%	0%	2%	2%	2%	1%	2%
23 US 97 at Powers	0	23	1294	1271	2021	1705	1177	1200	394	711	2%	2%	1%	1%	2%	2%	1%	1%
24 US 97 NB Ramps at Powers	0	24	0	444	38	0	1200	888	505	394	0%	1%	1%	0%	2%	1%	1%	1%
25 US 97 at Badger	0	25	1258	1293	1207	1388	-4	12	21	-90	2%	2%	0%	1%	0%	0%	-6%	0%
26 US97 at Pinebrook	0	26	1272	1258	1388	1345	-85	-22	3	-37	3%	2%	1%	1%	0%	0%	-16%	0%
28 US 97 at Ponderosa-China Hat	0	28	931	1563	1787	1784	20	-36	609	54	1%	2%	1%	1%	0%	0%	8%	-4%
29 US 97 SB Ramps at Baker	0	29	0	276	654	0	435	632	792	889	0%	1%	1%	0%	0%	2%	2%	0%
30 US 97 NB Ramps at Knott	0	30	186	287	0	0	632	528	743	790	1%	0%	0%	0%	2%	3%	2%	2%
40 US 97 Bus at OB Riley	0	40	1526	1219	1281	1818	440	212	252	263	3%	3%	1%	2%	3%	1%	1%	5%
41 NW Mt Washington Dr at River	0	41	41	19	14	34	549	589	553	513	6%	0%	0%	5%	2%	2%	1%	1%
42 NE Butler Market Rd at NE 4th	0	42	372	5	16	250	660	644	670	802	2%	0%	0%	2%	1%	1%	0%	0%
45 Harriman at Revere	0	45	10	36	29	18	0	38	53	0	0%	0%	0%	0%	0%	0%	0%	0%
46 NE 3rd St at NE Revere Ave	0	46	1409	1464	867	1168	922	837	869	621	2%	1%	2%	2%	1%	2%	2%	2%
47 4th at Revere	0	47	451	577	722	349	851	684	470	879	1%	1%	2%	2%	2%	2%	2%	2%
48 Scott at Aune St	0	48	484	465	340	336	42	0	0	92	-1%	-1%	2%	2%	1%	0%	0%	1%
49 SW Brookswood at Reed Marke	0	49	687	700	1136	1088	986	1191	876	720	2%	2%	2%	2%	3%	2%	2%	2%
50 Silver Lake Blvd at Reed Marke	0	50	72	91	91	143	1214	1300	1056	895	1%	3%	4%	0%	2%	2%	2%	2%
51 Division St at Reed Market Rd	0	51	38	553	22	782	1831	999	1364	931	0%	2%	0%	1%	1%	1%	2%	3%
52 3rd at Reed Market	0	52	1463	931	1407	1246	934	1090	651	1179	2%	1%	2%	1%	1%	1%	1%	3%
53 Brookswood at Powers Rd	0	53	625	611	1171	1064	116	744	668	129	2%	2%	2%	1%	1%	2%	2%	1%
54 3rd at Powers	0	54	688	730	995	1313	895	278	199	463	2%	1%	1%	1%	1%	3%	3%	1%
55 Parrell Rd at Powers Rd	0	55	270	399	501	496	304	0	0	184	2%	3%	3%	2%	3%	0%	0%	3%
56 Blakely at Badger	0	56	0	17	18	0	25	-4	-90	-69	0%	-4%	-2%	0%	-2%	0%	0%	0%
57 3rd St at Badger Rd	0	57	567	617	1186	1134	99	89	103	131	2%	2%	1%	1%	0%	1%	-1%	0%
58 3rd St at Pinebrook	0	58	610	519	1103	1019	1	64	40	65	2%	2%	1%	2%	-18%	0%	0%	-5%
59 Murphy at SE 3rd St	0	59	371	730	1327	841	716	821	588	611	2%	2%	3%	3%	3%	3%	2%	3%
60 Parrell Rd at China Hat Rd	0	60	0	46	385	0	-36	312	710	609	0%	0%	7%	0%	0%	6%	7%	8%
61 US20 at 3rd St Ramp to NB US	0	61	1398	957	929	929	0	435	0	0	1%	3%	2%	2%	0%	-1%	0%	0%
62 Blakely Rd at Powers Rd	0	62	97	84	63	198	740	757	818	678	1%	3%	3%	2%	2%	2%	2%	2%
101 US 97 NB/SB Ramp to Hwy 20		101	1765	1307	1354	1124	0	458	0	230	-2%	-2%	-2%	-2%	0%	-2%	0%	-3%

			Method Comparison (ABS ((GM - DM) / DM))								Selected Method							
			South Leg NB_IN	North Leg NB_OUT	North Le SB_IN	South Le SB_OUT	West Leg In EB_IN	East Leg Out EB_OUT	East Leg In WB_IN	West Leg Out WB_OUT	South Leg In NB_IN	North Leg Out NB_OUT	North Leg In SB_IN	South Leg Out SB_OUT	West Leg In EB_IN	East Leg Out EB_OUT	East Leg In WB_IN	West Leg Out WB_OUT
1 US 97 at Deschutes Pleasant Ri	0	1	8%	7%	6%	7%	-151%	522%	#DIV/0!	-8%	AVG	AVG	AVG	AVG	RATIO	DIFF	DIFF	AVG
2 US97 at Cooley	0	2	3%	4%	8%	3%	-11%	-1%	-9%	-12%	AVG	AVG	AVG	AVG	AVG	AVG	AVG	AVG
3 US 97 at Robal	0	3	4%	4%	2%	4%	-10%	73%	65%	-10%	AVG	AVG	AVG	AVG	AVG	AVG	AVG	AVG
4 US 97 at Nels Anderson Pl	0	4	3%	4%	5%	1%	7%	-100%	-100%	0%	AVG	AVG	AVG	AVG	RATIO	AVG	RATIO	RATIO
5 US 97 SB Ramp at Empire	0	5		0%	0%	5%	-2%	-7%	3%	1%	MRATIO	MRATIO	DIFF	AVG	AVG	AVG	AVG	AVG
6 US 97 NB Ramps at Empire	0	6	2%	-9%			-7%	-3%	1%	3%	AVG	AVG	DIFF	DIFF	AVG	AVG	AVG	AVG
7 US20 at Empire	0	7	135%	22%	5%	25%	0%	-6%	-10%	-3%	AVG	AVG	AVG	AVG	RATIO	AVG	AVG	AVG
8 US20 at Butler Market	0	8	5%	28%	14%	1%	8%	-2%	-4%	-2%	AVG	AVG	AVG	AVG	AVG	AVG	AVG	AVG
9 SB off ramp at Butler Market	0	9			-2%		3%	3%	6%	0%	DIFF	DIFF	AVG	DIFF	AVG	AVG	AVG	AVG
10 US97 NB On-Ramp at Butler M	0	10	32%	0%		108%	3%	8%	5%	6%	DIFF	AVG	DIFF	DIFF	AVG	AVG	AVG	AVG
11 Bend Pkwy SB On-Ramp/Divisi	0	11	20%	5%	1%	-5%	-3%	1%		122%	AVG	AVG	AVG	AVG	AVG	AVG	DIFF	AVG
12 US97 SB Ramps at Revere	0	12	3%	9%	2%	5%	0%	8%	30%	0%	AVG	AVG	RATIO	AVG	DIFF	AVG	AVG	DIFF
13 US97 NB Ramps at Revere	0	13	1%	-2%	27%	0%	8%	4%	24%	30%	RATIO	AVG	AVG	RATIO	AVG	AVG	AVG	AVG
14 US97 at Lafayette	0	14	7%	7%	7%	4%	-100%			-100%	AVG	AVG	AVG	AVG	RATIO	DIFF	DIFF	RATIO
15 US97 at Hawthorne	0	15	7%	7%	4%	2%	-100%			18%	AVG	AVG	AVG	AVG	AVG	DIFF	DIFF	DIFF
16 US97 SB Ramps at Colorado	0	16	5%	10%	-6%			5%	5%	0%	AVG	AVG	AVG	DIFF	DIFF	AVG	AVG	AVG
17 US97 NB Ramps at Colorado	0	17		2%	-1%		5%	43%	-20%	5%	DIFF	AVG	AVG	DIFF	AVG	DIFF	DIFF	AVG
18 US97 at Truman	0	18	7%	7%	3%	3%	-100%			-100%	AVG	AVG	AVG	AVG	RATIO	DIFF	DIFF	AVG
19 Hwy 97 SB Ramps at Reed Ma	0	19		54%	5%	-22%	6%	17%	-2%	0%	DIFF	AVG	AVG	MRATIO	AVG	AVG	AVG	AVG
20 US97 NB ramps at Reed Marke	0	20	-29%	0%	0%	48%	16%	9%	-6%	-12%	MRATIO	DIFF	DIFF	AVG	AVG	AVG	AVG	AVG
21 US97 at Reed Ln	0	21	-2%	-2%	0%	0%		-100%	-100%		AVG	AVG	AVG	AVG	DIFF	DIFF	DIFF	DIFF
22 US97 SB Ramps at Powers	0	22	11%			33%	12%	10%	1%	-1%	AVG	DIFF	DIFF	AVG	AVG	AVG	AVG	AVG
23 US 97 at Powers	0	23	-2%	-3%	0%	-2%	10%	11%	-6%	1%	AVG	AVG	AVG	AVG	AVG	AVG	AVG	AVG
24 US 97 NB Ramps at Powers	0	24		0%	1%		11%	6%	-7%	-6%	DIFF	AVG	AVG	DIFF	AVG	AVG	AVG	AVG
25 US 97 at Badger	0	25	-3%	-2%	-1%	1%	-100%	0%	-100%	-100%	AVG	AVG	AVG	AVG	RATIO	DIFF	AVG	RATIO
26 US97 at Pinebrook	0	26	-3%	-3%	1%	0%	-100%	-100%	-100%	-100%	AVG	AVG	AVG	AVG	RATIO	RATIO	AVG	RATIO
28 US 97 at Ponderosa-China Hat	0	28	1%	4%	2%	3%	-7%	-107%	-18%	-100%	AVG	AVG	AVG	AVG	MRATIO	RATIO	MRATIO	DIFF
29 US 97 SB Ramps at Baker	0	29		44%	-4%		-1%	-5%	103%	1%	DIFF	DIFF	AVG	DIFF	AVG	AVG	DIFF	AVG
30 US 97 NB Ramps at Knott	0	30	51%	-3%			-5%	60%	90%	101%	DIFF	AVG	DIFF	DIFF	AVG	AVG	DIFF	DIFF
40 US 97 Bus at OB Riley	0	40	34%	41%	14%	19%	-20%	6%	16%	-46%	AVG	AVG	AVG	AVG	AVG	AVG	AVG	MRATIO
41 NW Mt Washington Dr at River	0	41	-66%	0%	0%	-62%	18%	12%	4%	7%	MRATIO	DIFF	DIFF	MRATIO	AVG	AVG	AVG	AVG
42 NE Butler Market Rd at NE 4th	0	42	185%	0%	0%	111%	8%	8%	1%	5%	DIFF	DIFF	DIFF	DIFF	AVG	AVG	AVG	AVG
45 Harriman at Revere	0	45	0%	0%	0%	0%		0%	0%		DIFF	DIFF	DIFF	DIFF	DIFF	DIFF	DIFF	DIFF
46 NE 3rd St at NE Revere Ave	0	46	2%	7%	-10%	-3%	9%	-10%	3%	26%	AVG	AVG	AVG	AVG	AVG	AVG	AVG	AVG
47 4th at Revere	0	47	78%	-3%	10%	67%	-9%	18%	20%	4%	DIFF	AVG	AVG	DIFF	AVG	AVG	AVG	AVG
48 Scott at Aune St	0	48	-23%	-20%	43%	47%	20%			76%	DIFF	DIFF	DIFF	DIFF	DIFF	DIFF	DIFF	DIFF
49 SW Brookswood at Reed Marke	0	49	23%	24%	29%	36%	1%	9%	1%	-6%	AVG	AVG	AVG	AVG	AVG	AVG	AVG	AVG
50 Silver Lake Blvd at Reed Marke	0	50	1%	-2%	-15%	3%	10%	7%	1%	2%	AVG	AVG	AVG	AVG	AVG	AVG	AVG	AVG
51 Division St at Reed Market Rd	0	51	0%	9%	0%	4%	9%	10%	7%	13%	AVG	AVG	DIFF	AVG	AVG	AVG	AVG	AVG
52 3rd at Reed Market	0	52	-5%	-1%	-1%	-6%	8%	6%	-3%	-2%	AVG	AVG	AVG	AVG	AVG	AVG	AVG	AVG
53 Brookswood at Powers Rd	0	53	7%	25%	56%	14%	-4%	12%	-3%	-8%	AVG	AVG	DIFF	AVG	AVG	AVG	AVG	AVG
54 3rd at Powers	0	54	-8%	0%	-1%	3%	7%	10%	9%	-8%	AVG	AVG	AVG	AVG	AVG	AVG	AVG	AVG
55 Parrell Rd at Powers Rd	0	55	45%	27%	51%	67%	10%			-1%	DIFF	AVG	AVG	DIFF	AVG	DIFF	DIFF	AVG
56 Blakely at Badger	0	56		-41%	-38%		-35%	-100%	-100%	-102%	DIFF	AVG	DIFF	DIFF	DIFF	RATIO	RATIO	RATIO
57 3rd St at Badger Rd	0	57	-6%	0%	8%	5%	0%	45%	-11%	0%	AVG	AVG	AVG	AVG	DIFF	DIFF	DIFF	DIFF
58 3rd St at Pinebrook	0	58	6%	0%	7%	5%	-100%	0%	0%	-100%	AVG	AVG	AVG	AVG	AVG	DIFF	DIFF	DIFF
59 Murphy at SE 3rd St	0	59	17%	24%	56%	101%	74%	25%	19%	36%	AVG	AVG	AVG	DIFF	AVG	AVG	AVG	AVG
60 Parrell Rd at China Hat Rd	0	60		-5%	8%		-107%	-26%	41%	-18%	DIFF	MRATIO	AVG	DIFF	RATIO	MRATIO	AVG	MRATIO
61 US20 at 3rd St Ramp to NB US	0	61	7%	20%	-5%	-5%		-6%			AVG	AVG	AVG	AVG	DIFF	AVG	DIFF	DIFF
62 Blakely Rd at Powers Rd	0	62	5%	-33%	-31%	11%	12%	9%	-1%	-2%	AVG	MRATIO	MRATIO	AVG	AVG	AVG	AVG	AVG
101 US 97 NB/SB Ramp to Hwy 20		101	5%	3%	1%	3%		16%		-1%	AVG	AVG	AVG	AVG	DIFF	AVG	DIFF	AVG

			Selected Growth								Growth Factor Check							
			South Leg In	North Leg Out	North Leg In	South Leg Out	West Leg In	East Leg Out	East Leg In	West Leg Out	South Leg In	North Leg Out	North Leg In	South Leg Out	West Leg In	East Leg Out	East Leg In	West Leg Out
			NB_IN	NB_OUT	SB_IN	SB_OUT	EB_IN	EB_OUT	WB_IN	WB_OUT	NB_IN	NB_OUT	SB_IN	SB_OUT	EB_IN	EB_OUT	WB_IN	WB_OUT
1 US 97 at Deschutes Pleasant Ri	0	1	2447	2799	2360	2097	39	232	746	354	43%	38%	46%	42%	-54%	81%	64%	56%
2 US97 at Cooley	0	2	2198	2396	2347	2211	566	761	816	556	44%	45%	42%	30%	65%	131%	162%	264%
3 US 97 at Robal	0	3	2418	2290	2335	2647	462	205	396	466	39%	42%	27%	37%	208%	336%	146%	57%
4 US 97 at Nels Anderson Pl	0	4	2640	2418	2648	2715	200	6	0	294	32%	39%	37%	31%	-6%	-85%	-100%	-4%
5 US 97 SB Ramp at Empire	0	5	0	10	24	869	1621	1087	1170	839	0%	0%	0%	16%	38%	44%	54%	90%
6 US 97 NB Ramps at Empire	0	6	632	566	0	0	1087	1429	1446	1170	21%	49%	0%	0%	44%	49%	77%	54%
7 US20 at Empire	0	7	1399	1126	1951	1217	391	1461	722	569	133%	145%	61%	45%	-1%	55%	102%	77%
8 US20 at Butler Market	0	8	1480	1524	1797	1845	547	551	580	465	78%	97%	43%	29%	66%	32%	9%	44%
9 SB off ramp at Butler Market	0	9	0	0	241	0	591	719	628	730	0%	0%	3%	0%	29%	21%	12%	12%
10 US97 NB On-Ramp at Butler M	0	10	16	264	0	15	718	647	810	627	16%	4%	0%	12%	21%	23%	9%	12%
11 Bend Pkwy SB On-Ramp/Divisi	0	11	957	1482	1846	929	546	444	0	528	104%	78%	29%	53%	47%	-26%	0%	122%
12 US97 SB Ramps at Revere	0	12	880	452	340	928	110	929	1116	96	62%	35%	-14%	35%	0%	46%	58%	0%
13 US97 NB Ramps at Revere	0	13	587	574	512	298	928	704	677	1116	-6%	40%	98%	-5%	46%	21%	36%	58%
14 US97 at Lafayette	0	14	3228	3228	3489	3342	0	0	0	0	36%	36%	30%	22%	-100%	0%	0%	-100%
15 US97 at Hawthorne	0	15	3228	3228	3341	3109	34	0	0	275	36%	36%	22%	15%	-85%	0%	0%	6%
16 US97 SB Ramps at Colorado	0	16	1396	425	665	0	0	1105	416	960	34%	45%	45%	0%	0%	28%	10%	33%
17 US97 NB Ramps at Colorado	0	17	0	1092	204	0	1104	315	516	415	0%	7%	-5%	0%	28%	35%	-8%	9%
18 US97 at Truman	0	18	2323	2323	2849	2763	0	0	0	33	48%	48%	12%	14%	-100%	0%	0%	-82%
19 Hwy 97 SB Ramps at Reed Ma	0	19	0	131	924	58	1281	1975	934	1034	0%	112%	11%	11%	68%	42%	80%	70%
20 US97 NB ramps at Reed Marke	0	20	154	27	35	246	1974	1829	882	942	35%	0%	0%	154%	42%	33%	85%	82%
21 US97 at Reed Ln	0	21	1678	1704	2021	2021	0	53	76	0	48%	39%	18%	18%	0%	-4%	-48%	0%
22 US97 SB Ramps at Powers	0	22	602	0	0	88	793	1177	710	836	68%	0%	0%	47%	60%	44%	17%	43%
23 US 97 at Powers	0	23	1294	1271	2021	1705	1177	1200	394	711	52%	53%	18%	21%	44%	43%	31%	17%
24 US 97 NB Ramps at Powers	0	24	0	444	38	0	1200	888	505	394	0%	34%	29%	0%	43%	38%	23%	31%
25 US 97 at Badger	0	25	1258	1293	1207	1388	0	12	21	0	63%	52%	9%	27%	-100%	0%	-77%	-100%
26 US97 at Pinebrook	0	26	1272	1258	1388	1345	0	0	3	0	91%	63%	27%	28%	-100%	-100%	-98%	-100%
28 US 97 at Ponderosa-China Hat	0	28	931	1563	1787	1784	19	5	598	108	18%	76%	16%	25%	5%	-54%	443%	-17%
29 US 97 SB Ramps at Baker	0	29	0	241	654	0	435	632	667	889	0%	5%	20%	0%	11%	55%	35%	12%
30 US 97 NB Ramps at Knott	0	30	162	287	0	0	632	528	632	666	16%	8%	0%	0%	55%	107%	36%	35%
40 US 97 Bus at OB Riley	0	40	1526	1219	1281	1818	440	212	252	227	99%	92%	32%	46%	116%	23%	26%	167%
41 NW Mt Washington Dr at River	0	41	31	19	14	26	549	589	553	513	211%	0%	0%	156%	60%	61%	39%	38%
42 NE Butler Market Rd at NE 4th	0	42	295	5	16	204	660	644	670	802	25%	0%	0%	17%	23%	22%	2%	9%
45 Harriman at Revere	0	45	10	36	29	18	0	38	53	0	0%	0%	0%	0%	0%	0%	0%	0%
46 NE 3rd St at NE Revere Ave	0	46	1409	1464	867	1168	922	837	869	621	44%	37%	51%	43%	18%	57%	68%	45%
47 4th at Revere	0	47	381	577	722	300	851	684	470	879	18%	33%	56%	21%	56%	50%	43%	68%
48 Scott at Aune St	0	48	547	516	306	300	39	0	0	77	-8%	-8%	37%	34%	11%	0%	0%	11%
49 SW Brookswood at Reed Marke	0	49	687	700	1136	1088	986	1191	876	720	56%	57%	53%	76%	85%	61%	73%	72%
50 Silver Lake Blvd at Reed Marke	0	50	72	91	91	143	1214	1300	1056	895	31%	97%	138%	12%	62%	67%	69%	74%
51 Division St at Reed Market Rd	0	51	38	553	22	782	1831	999	1364	931	2%	49%	0%	31%	33%	35%	71%	80%
52 3rd at Reed Market	0	52	1463	931	1407	1246	934	1090	651	1179	55%	41%	58%	40%	36%	26%	19%	83%
53 Brookswood at Powers Rd	0	53	625	611	1037	1064	116	744	668	129	44%	52%	39%	34%	20%	75%	48%	20%
54 3rd at Powers	0	54	688	730	995	1313	895	278	199	463	44%	28%	13%	30%	38%	77%	86%	23%
55 Parrell Rd at Powers Rd	0	55	242	399	501	437	304	0	0	184	39%	93%	107%	51%	78%	0%	0%	100%
56 Blakely at Badger	0	56	0	17	23	0	30	0	0	3	0%	-60%	-27%	0%	-19%	-100%	-100%	-94%
57 3rd St at Badger Rd	0	57	567	617	1186	1134	99	79	109	131	67%	60%	37%	35%	0%	20%	-7%	0%
58 3rd St at Pinebrook	0	58	610	519	1103	1019	1	64	40	130	45%	61%	37%	41%	-99%	0%	0%	-38%
59 Murphy at SE 3rd St	0	59	371	730	1327	726	716	821	588	611	56%	51%	91%	59%	115%	104%	45%	87%
60 Parrell Rd at China Hat Rd	0	60	0	45	385	0	5	299	710	598	0%	5%	376%	0%	-54%	288%	415%	443%
61 US20 at 3rd St Ramp to NB US	0	61	1398	957	929	929	0	435	0	0	36%	104%	53%	53%	0%	-22%	0%	0%
62 Blakely Rd at Powers Rd	0	62	97	74	57	198	740	757	818	678	24%	95%	96%	47%	76%	63%	44%	48%
101 US 97 NB/SB Ramp to Hwy 20		101	1765	1307	1354	1124	0	458	0	230	-36%	-35%	-35%	-31%	0%	-38%	0%	-47%

			NCHRP Balanced Ratio							Growth Factor Check							
			NCHRP Unbalanced OUT	NCHRP Unbalanced In	Out Ratio	In Ratio		Applied Ratio Out	Applied Ratio In	South Leg In NB_IN	North Leg Out NB_OUT	North Leg In SB_IN	South Leg Out SB_OUT	West Leg In EB_IN	East Leg Out EB_OUT	East Leg In WB_IN	West Leg Out WB_OUT	
							Balance Method	1=Balance to Ave (default), 2=Balance to In, 3=Balance to Out, 4 = No Balance										
1 US 97 at Deschutes Pleasant Ridge	0	1	5481	5593	1.0102	0.9900	1	0.9900	1.0102	0%	0%	0%	0%	0%	0%	0%	0%	0%
2 US97 at Cooley	0	2	5924	5928	1.0003	0.9997	1	0.9997	1.0003	0%	0%	0%	0%	0%	0%	0%	0%	0%
3 US 97 at Robal	0	3	5608	5611	1.0003	0.9997	1	0.9997	1.0003	0%	0%	0%	0%	0%	0%	0%	0%	0%
4 US 97 at Nels Anderson Pl	0	4	5433	5488	1.0050	0.9950	1	0.9950	1.0050	0%	0%	0%	0%	0%	0%	0%	0%	0%
5 US 97 SB Ramp at Empire	0	5	2804	2815	1.0020	0.9980	1	0.9980	1.0020	0%	0%	0%	0%	0%	0%	0%	0%	0%
6 US 97 NB Ramps at Empire	0	6	3165	3164	0.9999	1.0001	1	1.0001	0.9999	0%	0%	0%	0%	0%	0%	0%	0%	0%
7 US20 at Empire	0	7	4372	4462	1.0103	0.9899	1	0.9899	1.0103	0%	0%	0%	0%	0%	0%	0%	0%	0%
8 US20 at Butler Market	0	8	4385	4403	1.0021	0.9979	1	0.9979	1.0021	0%	0%	0%	0%	0%	0%	0%	0%	0%
9 SB off ramp at Butler Market	0	9	1449	1460	1.0036	0.9964	1	0.9964	1.0036	0%	0%	0%	0%	0%	0%	0%	0%	0%
10 US97 NB On-Ramp at Butler M	0	10	1553	1544	0.9971	1.0029	1	1.0029	0.9971	0%	0%	0%	0%	0%	0%	0%	0%	0%
11 Bend Pkwy SB On-Ramp/Divis	0	11	3383	3349	0.9950	1.0051	1	1.0051	0.9950	0%	0%	0%	0%	0%	0%	0%	0%	0%
12 US97 SB Ramps at Revere	0	12	2406	2447	1.0084	0.9917	1	0.9917	1.0084	0%	0%	0%	0%	0%	0%	0%	0%	0%
13 US97 NB Ramps at Revere	0	13	2693	2704	1.0022	0.9978	1	0.9978	1.0022	0%	0%	0%	0%	0%	0%	0%	0%	0%
14 US97 at Lafayette	0	14	6570	6717	1.0112	0.9890	1	0.9890	1.0112	0%	0%	0%	0%	0%	0%	0%	0%	0%
15 US97 at Hawthorne	0	15	6612	6604	0.9994	1.0006	1	1.0006	0.9994	0%	0%	0%	0%	0%	0%	0%	0%	0%
16 US97 SB Ramps at Colorado	0	16	2490	2477	0.9973	1.0028	1	1.0028	0.9973	0%	0%	0%	0%	0%	0%	0%	0%	0%
17 US97 NB Ramps at Colorado	0	17	1822	1824	1.0004	0.9996	1	0.9996	1.0004	0%	0%	0%	0%	0%	0%	0%	0%	0%
18 US97 at Truman	0	18	5119	5172	1.0052	0.9949	1	0.9949	1.0052	0%	0%	0%	0%	0%	0%	0%	0%	0%
19 Hwy 97 SB Ramps at Reed Ma	0	19	3198	3139	0.9908	1.0093	1	1.0093	0.9908	0%	0%	0%	0%	0%	0%	0%	0%	0%
20 US97 NB ramps at Reed Marke	0	20	3045	3045	1.0001	0.9999	1	0.9999	1.0001	0%	0%	0%	0%	0%	0%	0%	0%	0%
21 US97 at Reed Ln	0	21	3778	3775	0.9996	1.0004	1	1.0004	0.9996	0%	0%	0%	0%	0%	0%	0%	0%	0%
22 US97 SB Ramps at Powers	0	22	2101	2105	1.0010	0.9990	1	0.9990	1.0010	0%	0%	0%	0%	0%	0%	0%	0%	0%
23 US 97 at Powers	0	23	4887	4886	0.9999	1.0001	1	1.0001	0.9999	0%	0%	0%	0%	0%	0%	0%	0%	0%
24 US 97 NB Ramps at Powers	0	24	1726	1742	1.0046	0.9954	1	0.9954	1.0046	0%	0%	0%	0%	0%	0%	0%	0%	0%
25 US 97 at Badger	0	25	2693	2487	0.9617	1.0415	1	1.0415	0.9617	0%	0%	0%	0%	0%	0%	0%	0%	0%
26 US97 at Pinebrook	0	26	2603	2663	1.0115	0.9888	1	0.9888	1.0115	0%	0%	0%	0%	0%	0%	0%	0%	0%
28 US 97 at Ponderosa-China Hat	0	28	3460	3335	0.9820	1.0187	1	1.0187	0.9820	0%	0%	0%	0%	0%	0%	0%	0%	0%
29 US 97 SB Ramps at Baker	0	29	1761	1756	0.9986	1.0014	1	1.0014	0.9986	0%	0%	0%	0%	0%	0%	0%	0%	0%
30 US 97 NB Ramps at Knott	0	30	1482	1427	0.9815	1.0192	1	1.0192	0.9815	0%	0%	0%	0%	0%	0%	0%	0%	0%
40 US 97 Bus at OB Riley	0	40	3476	3499	1.0033	0.9967	1	0.9967	1.0033	0%	0%	0%	0%	0%	0%	0%	0%	0%
41 NW Mt Washington Dr at River	0	41	1147	1147	1.0003	0.9997	1	0.9997	1.0003	0%	0%	0%	0%	0%	0%	0%	0%	0%
42 NE Butler Market Rd at NE 4th	0	42	1655	1642	0.9960	1.0041	1	1.0041	0.9960	0%	0%	0%	0%	0%	0%	0%	0%	0%
45 Harriman at Revere	0	45	92	92	1.0000	1.0000	1	1.0000	1.0000	0%	0%	0%	0%	0%	0%	0%	0%	0%
46 NE 3rd St at NE Revere Ave	0	46	4090	4067	0.9972	1.0028	1	1.0028	0.9972	0%	0%	0%	0%	0%	0%	0%	0%	0%
47 4th at Revere	0	47	2440	2424	0.9968	1.0033	1	1.0033	0.9968	0%	0%	0%	0%	0%	0%	0%	0%	0%
48 Scott at Aune St	0	48	892	892	1.0000	1.0000	1	1.0000	1.0000	0%	0%	0%	0%	0%	0%	0%	0%	0%
49 SW Brookswood at Reed Marke	0	49	3699	3685	0.9981	1.0019	1	1.0019	0.9981	0%	0%	0%	0%	0%	0%	0%	0%	0%
50 Silver Lake Blvd at Reed Marke	0	50	2429	2432	1.0006	0.9994	1	0.9994	1.0006	0%	0%	0%	0%	0%	0%	0%	0%	0%
51 Division St at Reed Market Rd	0	51	3264	3255	0.9986	1.0014	1	1.0014	0.9986	0%	0%	0%	0%	0%	0%	0%	0%	0%
52 3rd at Reed Market	0	52	4447	4455	1.0009	0.9991	1	0.9991	1.0009	0%	0%	0%	0%	0%	0%	0%	0%	0%
53 Brookswood at Powers Rd	0	53	2548	2446	0.9801	1.0208	1	1.0208	0.9801	0%	0%	0%	0%	0%	0%	0%	0%	0%
54 3rd at Powers	0	54	2783	2777	0.9988	1.0012	1	1.0012	0.9988	0%	0%	0%	0%	0%	0%	0%	0%	0%
55 Parrell Rd at Powers Rd	0	55	1020	1048	1.0137	0.9867	1	0.9867	1.0137	0%	0%	0%	0%	0%	0%	0%	0%	0%
56 Blakely at Badger	0	56	19	53	1.8536	0.6847	1	0.6847	1.8536	0%	0%	0%	0%	0%	0%	0%	0%	0%
57 3rd St at Badger Rd	0	57	1961	1962	1.0003	0.9997	1	0.9997	1.0003	0%	0%	0%	0%	0%	0%	0%	0%	0%
58 3rd St at Pinebrook	0	58	1731	1754	1.0065	0.9936	1	0.9936	1.0065	0%	0%	0%	0%	0%	0%	0%	0%	0%
59 Murphy at SE 3rd St	0	59	2887	3001	1.0197	0.9811	1	0.9811	1.0197	0%	0%	0%	0%	0%	0%	0%	0%	0%
60 Parrell Rd at China Hat Rd	0	60	941	1101	1.0846	0.9277	1	0.9277	1.0846	0%	0%	0%	0%	0%	0%	0%	0%	0%
61 US20 at 3rd St Ramp to NB US	0	61	2321	2327	1.0013	0.9987	1	0.9987	1.0013	0%	0%	0%	0%	0%	0%	0%	0%	0%
62 Blakely Rd at Powers Rd	0	62	1707	1711	1.0013	0.9987	1	0.9987	1.0013	0%	0%	0%	0%	0%	0%	0%	0%	0%
101 US 97 NB/SB Ramp to Hwy 20		101	3119	3119	1.0000	1.0000	2	1.0000	1.0000	0%	0%	0%	0%	0%	0%	0%	0%	0%

NCHRP Balanced

		South Leg In NB_IN	North Leg Out NB_OUT	North Leg In SB_IN	South Leg Out SB_OUT	West Leg In EB_IN	East Leg Out EB_OUT	East Leg In WB_IN	West Leg Out WB_OUT
1 US 97 at Deschutes Pleasant Ridge	1	2472	2771	2385	2076	40	229	753	350
2 US97 at Cooley	2	2199	2395	2348	2210	567	761	817	556
3 US 97 at Robal	3	2419	2289	2335	2646	462	205	396	466
4 US 97 at Nels Anderson Pl	4	2653	2406	2661	2701	201	6	0	293
5 US 97 SB Ramp at Empire	5	0	10	24	867	1624	1084	1172	837
6 US 97 NB Ramps at Empire	6	632	566	0	0	1086	1429	1445	1170
7 US20 at Empire	7	1413	1114	1971	1205	395	1446	729	563
8 US20 at Butler Market	8	1483	1521	1800	1841	548	550	581	464
9 SB off ramp at Butler Market	9	0	0	242	0	593	716	630	728
10 US97 NB On-Ramp at Butler Market	10	16	265	0	15	716	649	807	628
11 Bend Pkwy SB On-Ramp/Division at 3rd St	11	952	1489	1837	933	544	447	0	531
12 US97 SB Ramps at Revere	12	888	449	343	921	111	922	1125	95
13 US97 NB Ramps at Revere	13	588	573	514	297	930	703	678	1114
14 US97 at Lafayette	14	3264	3193	3528	3305	0	0	0	0
15 US97 at Hawthorne	15	3226	3230	3339	3111	34	0	0	275
16 US97 SB Ramps at Colorado	16	1392	426	663	0	0	1108	415	963
17 US97 NB Ramps at Colorado	17	0	1092	204	0	1104	315	516	414
18 US97 at Truman	18	2335	2311	2864	2749	0	0	0	33
19 Hwy 97 SB Ramps at Reed Market	19	0	132	916	58	1269	1993	926	1044
20 US97 NB ramps at Reed Market	20	154	27	35	246	1974	1829	882	942
21 US97 at Reed Ln	21	1677	1705	2020	2022	0	53	76	0
22 US97 SB Ramps at Powers	22	602	0	0	88	794	1176	711	835
23 US 97 at Powers	23	1294	1272	2021	1706	1177	1200	394	711
24 US 97 NB Ramps at Powers	24	0	442	38	0	1205	884	507	392
25 US 97 at Badger	25	1210	1347	1161	1446	0	12	20	0
26 US97 at Pinebrook	26	1287	1244	1404	1330	0	0	3	0
28 US 97 at Ponderosa-China Hat	28	914	1592	1755	1817	19	5	587	110
29 US 97 SB Ramps at Baker	29	0	241	653	0	434	633	666	890
30 US 97 NB Ramps at Knott	30	159	293	0	0	621	539	621	679
40 US 97 Bus at OB Riley	40	1531	1215	1286	1812	441	211	253	226
41 NW Mt Washington Dr at Riverview Park	41	31	19	14	26	549	589	553	513
42 NE Butler Market Rd at NE 4th St	42	294	5	16	205	657	646	667	805
45 Harriman at Revere	45	10	36	29	18	0	38	53	0
46 NE 3rd St at NE Revere Ave	46	1405	1468	865	1172	919	839	867	622
47 4th at Revere	47	379	579	719	301	848	686	469	882
48 Scott at Aune St	48	547	516	306	300	39	0	0	77
49 SW Brookswood at Reed Market	49	686	701	1134	1090	984	1193	875	722
50 Silver Lake Blvd at Reed Market Rd	50	72	91	91	143	1214	1300	1056	894
51 Division St at Reed Market Rd	51	38	553	22	783	1829	1000	1362	932
52 3rd at Reed Market	52	1465	930	1408	1245	935	1089	652	1178
53 Brookswood at Powers Rd	53	613	623	1016	1086	114	759	655	132
54 3rd at Powers	54	687	731	994	1314	894	279	199	463
55 Parrell Rd at Powers Rd	55	246	393	508	431	308	0	0	182
56 Blakely at Badger	56	0	12	42	0	56	0	0	2
57 3rd St at Badger Rd	57	567	617	1187	1133	99	79	109	131
58 3rd St at Pinebrook	58	614	516	1111	1012	1	64	40	129
59 Murphy at SE 3rd St	59	378	716	1353	712	730	805	599	599
60 Parrell Rd at China Hat Rd	60	0	42	418	0	6	277	770	554
61 US20 at 3rd St Ramp to NB US97	61	1400	955	930	927	0	435	0	0
62 Blakely Rd at Powers Rd	62	97	74	57	197	741	756	819	677
101 US 97 NB/SB Ramp to Hwy 20	101	1765	1307	1354	1124	0	458	0	230

Growth Factor Check

South Leg In NB_IN	North Leg Out NB_OUT	North Leg In SB_IN	South Leg Out SB_OUT	West Leg In EB_IN	East Leg Out EB_OUT	East Leg In WB_IN	West Leg Out WB_OUT
45%	36%	48%	41%	-53%	79%	65%	55%
44%	45%	42%	30%	65%	131%	162%	263%
40%	42%	27%	37%	208%	336%	146%	57%
32%	39%	38%	30%	-6%	-85%	-100%	-5%
0%	0%	0%	16%	38%	43%	54%	89%
21%	49%	0%	0%	44%	49%	76%	54%
135%	143%	63%	43%	0%	53%	104%	75%
78%	97%	44%	28%	66%	32%	10%	44%
0%	0%	3%	0%	29%	20%	13%	11%
16%	4%	0%	12%	20%	23%	9%	13%
103%	79%	28%	54%	47%	-25%	0%	123%
63%	33%	-13%	34%	1%	44%	59%	-1%
-5%	39%	98%	-5%	46%	20%	37%	57%
37%	34%	31%	21%	-100%	0%	0%	-100%
36%	36%	22%	15%	-85%	0%	0%	6%
34%	45%	45%	0%	0%	29%	9%	33%
0%	7%	-5%	0%	28%	35%	-8%	9%
49%	47%	13%	13%	-100%	0%	0%	-82%
0%	113%	10%	12%	67%	44%	78%	72%
35%	0%	0%	154%	42%	33%	85%	82%
48%	40%	18%	18%	0%	-4%	-48%	0%
68%	0%	0%	47%	60%	44%	17%	43%
52%	53%	18%	21%	44%	43%	31%	17%
0%	34%	30%	0%	44%	37%	23%	30%
57%	59%	4%	32%	-100%	4%	-78%	-100%
93%	61%	28%	27%	-100%	-100%	-98%	-100%
16%	80%	14%	27%	4%	-53%	433%	-16%
0%	5%	19%	0%	11%	55%	35%	12%
14%	10%	0%	0%	52%	111%	33%	38%
99%	92%	33%	45%	116%	22%	26%	166%
211%	0%	0%	156%	60%	61%	39%	38%
24%	0%	0%	17%	23%	22%	2%	10%
0%	0%	0%	0%	0%	0%	0%	0%
44%	37%	50%	44%	18%	58%	68%	45%
17%	34%	55%	22%	56%	50%	42%	68%
-8%	-8%	37%	34%	11%	0%	0%	11%
56%	57%	53%	76%	84%	61%	73%	73%
31%	97%	138%	12%	62%	67%	69%	74%
2%	49%	0%	31%	33%	35%	71%	80%
55%	41%	58%	40%	36%	26%	19%	82%
41%	55%	36%	37%	18%	79%	45%	22%
43%	28%	13%	30%	38%	77%	86%	23%
40%	91%	110%	49%	80%	0%	0%	97%
0%	-72%	35%	0%	51%	-100%	-100%	-96%
67%	60%	37%	35%	0%	20%	-7%	0%
46%	60%	38%	40%	-99%	-1%	1%	-39%
59%	48%	95%	56%	119%	100%	48%	83%
0%	-3%	416%	0%	-50%	260%	458%	404%
36%	104%	53%	53%	0%	-22%	0%	0%
24%	95%	96%	47%	76%	63%	44%	48%
-36%	-35%	-35%	-31%	0%	-38%	0%	-47%

		Int	Intersection Turning Movement Counts											Intersection Turning Movment Counts -- Summed by Approach & Departure Legs								"Counts + Growth" Approach and Departure Leg Volumes								Forecasted ("Counts + Growth") Turning Movement Volumes Post-Furness										Summary Statistics for Error Checking			
		Number	SB-Rite	SB-Thru	SB-Left	WB-Rite	WB-Thru	WB-Left	NB-Rite	NB-Thru	NB-Left	EB-Rite	EB-Thru	EB-left	SB-Arr	SB-Dep	WB-Arr	WB-Dep	NB-Arr	NB-Dep	EB-Arr	EB-Dep	SB-Arr	SB-Dep	WB-Arr	WB-Dep	NB-Arr	NB-Dep	EB-Arr	EB-Dep	SB-Rite	SB-Thru	SB-Left	WB-Rite	WB-Thru	WB-Left	NB-Rite	NB-Thru	NB-Left	EB-Rite	EB-Thru	EB-left	Arr-Sum	Dep-Sum	Frn-Sum	Frn-Dif
1 US 97 at Deschutes Pleasant	0	1	226	1,387	-	456	-	-	128	1,579	-	85	-	-	1,613	1,472	456	226	1,707	2,035	85	128	2,385	2,076	753	350	2,472	2,771	40	229	350	2,035	-	727	-	-	238	2,148	-	40	-	-	5,650	5,426	5,538	0
2 US97 at Cooley	0	2	44	1,501	110	58	69	185	77	1,411	40	15	143	185	1,655	1,701	312	153	1,528	1,654	343	330	2,348	2,210	817	556	2,199	2,395	567	761	144	1,882	272	140	301	366	169	1,955	116	17	309	255	5,930	5,922	5,926	0
3 US 97 at Robal	0	3	33	1,780	21	19	35	107	14	1,491	229	41	12	97	1,834	1,928	161	297	1,734	1,607	150	47	2,335	2,646	396	466	2,419	2,289	462	205	44	2,245	76	44	88	259	54	2,005	337	116	74	266	5,612	5,606	5,609	0
4 US 97 at Nels Anderson Pl	0	4	66	1,862	-	11	-	-	39	1,723	241	213	-	-	1,928	2,075	11	307	2,003	1,734	213	39	2,661	2,701	-	293	2,653	2,406	201	6	91	2,537	-	0	-	-	6	2,424	204	198	-	-	5,515	5,406	5,461	(0)
5 US 97 SB Ramp at Empire	0	5	17	2	5	6	425	328	-	-	-	418	752	4	24	748	759	442	-	10	1,174	757	24	867	1,172	837	-	10	1,624	1,084	19	1	4	6	807	371	-	-	-	499	1,098	4	2,820	2,798	2,809	0
6 US 97 NB Ramps at Empire	0	6	-	-	-	224	595	-	356	3	164	-	604	153	-	-	819	759	523	380	757	960	-	-	1,445	1,170	632	566	1,086	1,429	-	-	-	382	1,025	-	466	3	175	-	925	189	3,164	3,165	3,165	(0)
7 US20 at Empire	0	7	77	642	492	29	180	148	183	354	64	52	268	76	1,211	842	357	321	601	459	396	943	1,971	1,205	729	563	1,413	1,114	395	1,446	120	931	872	88	350	270	356	933	108	38	246	105	4,508	4,328	4,418	0
8 US20 at Butler Market	0	8	60	1,044	150	73	148	309	113	605	114	81	154	95	1,254	1,434	530	322	832	773	330	417	1,800	1,841	581	464	1,483	1,521	548	550	100	1,460	198	108	174	301	145	1,182	185	121	217	204	4,413	4,376	4,394	(0)
9 SB off ramp at Butler Market	0	9	97	-	137	-	558	-	-	-	-	-	458	-	234	-	558	655	-	-	458	595	242	-	630	728	-	-	593	716	100	-	145	-	628	-	-	-	-	-	582	-	1,465	1,444	1,455	0
10 US97 NB On-Ramp at Butle	0	10	-	-	-	178	557	7	11	2	1	6	515	74	-	13	742	558	14	254	595	526	-	15	807	628	16	265	716	649	-	-	-	184	621	8	13	2	1	7	632	81	1,539	1,557	1,548	0
11 Bend Pkwy SB On-Ramp/Di	0	11	238	598	598	-	-	-	-	469	-	8	-	363	1,434	606	-	238	469	832	371	598	1,837	933	-	531	952	1,489	544	447	519	904	444	-	-	-	-	952	-	12	-	535	3,332	3,400	3,366	(0)
12 US97 SB Ramps at Revere	0	12	2	240	154	199	70	438	388	132	24	9	96	5	396	687	707	96	544	336	110	638	343	921	1,125	95	888	449	111	922	1	194	144	283	74	740	685	172	23	8	99	4	2,467	2,386	2,427	0
13 US97 NB Ramps at Revere	0	13	170	21	68	67	401	28	276	210	136	264	240	134	259	313	496	707	622	411	638	584	514	297	678	1,114	588	573	930	703	378	23	114	91	575	18	218	217	151	264	380	270	2,710	2,687	2,698	(0)
14 US97 at Lafayette	0	14	83	2,609	-	-	-	-	-	2,377	-	125	-	-	2,692	2,734	-	83	2,377	2,377	125	-	3,528	3,305	-	-	3,264	3,193	-	-	0	3,417	-	-	-	-	-	3,229	-	0	-	-	6,793	6,498	6,645	(0)
15 US97 at Hawthorne	0	15	259	2,475	-	-	-	-	-	2,377	-	223	-	-	2,734	2,698	-	259	2,377	2,377	223	-	3,339	3,111	-	-	3,226	3,230	-	-	0	3,225	-	-	-	-	-	3,228	-	0	-	-	6,565	6,341	6,453	(0)
16 US97 SB Ramps at Coloradc	0	16	367	-	91	30	349	-	770	264	8	-	-	-	458	-	379	724	1,042	294	-	861	663	-	415	963	1,392	426	-	1,108	548	-	124	35	388	-	987	390	11	-	-	-	2,470	2,497	2,484	(0)
17 US97 NB Ramps at Colorad	0	17	199	-	17	381	180	-	-	-	-	-	217	644	216	-	561	379	-	1,025	861	234	204	-	516	414	-	1,092	1,104	315	196	-	13	308	211	-	-	-	-	-	305	790	1,825	1,822	1,823	(0)
18 US97 at Truman	0	18	183	2,351	-	-	-	-	-	1,568	-	80	-	-	2,534	2,431	-	183	1,568	1,568	80	-	2,864	2,749	-	-	2,335	2,311	-	-	0	2,806	-	-	-	-	-	2,323	-	0	-	-	5,198	5,060	5,129	(0)
19 Hwy 97 SB Ramps at Reed I	0	19	150	-	679	62	457	-	-	-	-	52	710	-	829	52	519	607	-	62	762	1,389	916	58	926	1,044	-	132	1,269	1,993	190	-	746	129	824	-	-	-	-	59	1,220	-	3,111	3,228	3,169	0
20 US97 NB ramps at Reed Ma	0	20	35	-	-	27	449	-	79	-	35	97	1,292	-	35	97	476	519	114	27	1,389	1,371	35	246	882	942	154	27	1,974	1,829	35	-	-	27	853	-	100	-	54	245	1,730	-	3,046	3,044	3,045	0
21 US97 at Reed Ln	0	21	-	1,716	-	146	-	-	55	1,076	-	-	-	-	1,716	1,716	146	-	1,131	1,222	-	55	2,020	2,022	-	-	1,677	1,705	-	-	-	2,021	-	0	-	-	0	1,691	-	-	-	-	3,697	3,727	3,712	(0)
22 US97 SB Ramps at Powers	0	22	-	-	-	-	581	27	355	-	3	33	462	-	-	60	608	584	358	-	495	817	-	88	711	835	602	-	794	1,176	-	-	-	-	730	3	511	-	83	87	690	-	2,107	2,099	2,103	(0)
23 US 97 at Powers	0	23	307	1,409	-	-	301	-	21	828	-	-	816	1	1,716	1,409	301	608	849	829	817	837	2,021	1,706	394	711	1,294	1,272	1,177	1,200	337	1,693	-	-	385	-	31	1,266	-	-	1,172	2	4,885	4,888	4,887	0
24 US 97 NB Ramps at Powers	0	24	28	-	1	138	273	-	-	-	-	-	644	193	29	-	411	301	-	331	837	645	38	-	507	392	-	442	1,205	884	37	-	1	174	345	-	-	-	-	-	907	271	1,750	1,718	1,734	0
25 US 97 at Badger	0	25	23	1,088	-	90	-	-	12	759	-	5	-	-	1,111	1,093	90	23	771	849	5	12	1,161	1,446	-	-	1,210	1,347	-	-	0	1,303	-	0	-	-	0	1,278	-	0	-	-	2,371	2,792	2,582	(0)
26 US97 at Pinebrook	0	26	51	1,042	-	130	-	-	25	641	-	5	-	-	1,093	1,047	130	51	666	771	5	25	1,404	1,330	-	-	1,287	1,244	-	-	0	1,367	-	0	-	-	0	1,266	-	0	-	-	2,691	2,574	2,633	(0)
28 US 97 at Ponderosa-China H	0	28	130	1,409	-	110	-	-	11	776	-	18	-	-	1,539	1,427	110	130	787	886	18	11	1,755	1,817	587	110	914	1,592	19	5	105	1,726	-	606	-	-	5	939	-	19	-	-	3,275	3,525	3,400	0
29 US 97 SB Ramps at Baker	0	29	481	-	66	178	315	-	-	-	-	-	341	52	547	-	493	796	-	230	393	407	653	-	666	890	-	241	434	633	464	-	190	225	433	-	-	-	-	-	428	19	1,754	1,764	1,759	(0)
30 US 97 NB Ramps at Knott	0	30	-	-	-	17	449	-	95	1	44	-	160	247	-	-	466	493	140	265	407	255	-	-	621	679	159	293	621	539	-	-	-	20	624	-	135	1	30	-	384	261	1,401	1,510	1,455	0
40 US 97 Bus at OB Riley	0	40	5	929	35	58	11	131	130	569	69	189	8	7	969	1,249	200	85	768	634	204	173	1,286	1,812	253	226	1,531	1,215	441	211	11	1,244	32	77	22	155	170	1,141	196	411	13	16	3,511	3,465	3,488	(0)
41 NW Mt Washington Dr at R	0	41	1	-	13	17	371	10	10	-	-	-	342	2	14	10	398	372	10	19	344	365	14	26	553	513	31	19	549	589	1	-	13	17	512	25	31	-	-	-	546	2	1,148	1,146	1,147	(0)
42 NE Butler Market Rd at NE	0	42	11	3	2	3	555	96	68	-	169	76	458	2	16	175	654	735	237	5	536	528	16	205	667	805	294	5	657	646	11	3	2	3	574	104	86	-	209	95	560	2	1,635	1,662	1,648	0
45 Harriman at Revere	0	45	-	-	29	35	-	18	9	1	-	-	-	-	29	18	53	-	10	36	-	38	29	18	53	-	10	36	-	38	-	-	29	35	-	18	9	1	-	-	-	-	92	92	92	-
46 NE 3rd St at NE Revere Ave	0	46	39	483	53	71	298	147	70	813	92	185	409	185	575	815	516	429	975	1,069	779	532	865	1,172	867	622	1,405	1,468	919	839	50	713	106	125	466	266	139	1,155	116	188	573	182	4,055	4,101	4,078	(0)
47 4th at Revere	0	47	220	133	110	62	243	25	45	217	61	89	301	154	463	247	330	524	323	433	544	456	719	301	469	882	379	579	848	686	403	160	162	78	376	25	51	247	86	116	478	249	2,416	2,447	2,432	0
48 Scott at Aune St	0	48	24	200	-	-	-	-	-	550	45	24	-	11	224	224	-	69	595	561	35	-	306	300	-	77	547	516	39	-	30	273	-	-	-	-	-	503	46	28	-	11	892	892	892	(0)
49 SW Brookswood at Reed M	0	49	46	366	330	186	228	92	83	213	144	160	326	48	742	618	506	418	440	447	534	739	1,134	1,090	875	722	686	701	984	1,193	73	594	484	301	407	169	128	319	238	314	582	83	3,678	3,706	3,692	(0)
50 Silver Lake Blvd at Reed Ma	0	50	16	3	19	30	490	105	47	-	8	20	712	16	38	128	625	514	55	46	748	778	91	143	1,056	894	72	91	1,214	1,300	38	5	47	61	859	120	63	-	10	21	1,176	30	2,433	2,428	2,430	(0)
51 Division St at Reed Market	0	51	16	-	6	291	501	4	37	-	-	593	698	81	22	597	796	517	37	372	1,372	741	22	783	1,362	932	38	553	1,829	1,000	17	-	5	445	913	6	38	-	-	775	952	108	3,250	3,269	3,260	(0)
52 3rd at Reed Market	0	52	124	655	110	78	295	175	222	493	227	62	533	91	889	892	548	646	942	662	686	865	1,408	1,245	652	1,178	1,465	930	935	1,089	268	989	146	76	421	168	280	719	469	91	686	136	4,459	4,443	4,451	0
53 Brookswood at Powers Rd	0	53	40	497	211	93	63	294	160	269	5	3	53	41	748	794	450	108	434	403	97	424	1,016	1,086	655	132	613	623	114	759	43	616	401	177	79	426	259	375	5	3	70	46		2,398	2,601	2,499	0
54 3rd at Powers	0	54	205	657	16	14	78	15	9	376	94	337	132	180	878	1,009	107	377	479	570	649	157	994	1,314	199	463	687	731	894	279	199	787	24	25	139	32	19	519	131	470	231	203		2,773	2,787	2,780	(0)
55 Parrell Rd at Powers Rd	0	55	57	185	-	-	-	-	-	140	35	105	-	66	242	290	-	92	175	206	171	-	508	431	-	182	246	393	308	-	158	335	-	-	-	-	-	211	29	110	-	191		1,062	1,006	1,034	0
56 Blakely at Badger	0	56	31	-	-	10	13	-	-	-	-	-	5	32	31	-	23	44	-	42	37	5	42	-	-	2	-	12	56	-	22	-	-	-	-	-	-	-	-	0	34		98	13	55	(0)
57 3rd St at Badger Rd	0	57	88	757	23	26	25	66	26	296	18	18	17	64	868	841	117	131	340	386	99	66	1,187	1,133	109	131	567	617	99	79	93	1,058	29	29	17	63	36	514	21	17	14	69		1,963	1,960	1,961	0
58 3rd St at Pinebrook	0	58	70	677	56	31	2	7	6	277	138	38	2	14	803	722	40	210	421	322	54	64	1,111	1,012	40	129	614	516	1	64	38	1,010	57	32	1	7	7	498	93	0	0	0		1,765	1,720	1,743	(0)
59 Murphy at SE 3rd St	0	59	150	334	209	151	139	115	38	162	38	8	155	170	693	457	405	327	238	483	333	402	1,353	712	599	599	378	716	730	805	319	571	412	190	234	153	66	227	71	16	359	327		3,060	2,832	2,946	(0)
60 Parrell Rd at China Hat Rd	0	60	9	-	72	37	101	-	-	-	-	-	5	6	81	-	138	110	-	43	11	77	418	-	770	554	-	42	6	277	39	-	323	49	618	-	-	442	954	-	-	4	0		1,194	873	1,034	(0)
61 US20 at 3rd St Ramp to NB	0	61	-	606	-	-	-	-	559	469	-	-	-	-	606	606	-	-	1,028	469	-	559	930	927	-	-	1,400	955	-	435	-	929	-	-	-	-	-	-	-	-	-	-		2,329	2,318	2,324	(0)
62 Blakely Rd at Powers Rd	0	62	9	2	18	33	433	102	60	1	17	30	387	4	29	134	568	459	78	38	421	465	57	197	819	677	97	74	741	756	18	4	34	62	628	142	73	2	21	51	665	9		1,714	1,705	1,709	0
101 US 97 NB/SB Ramp to Hwy	0	101	435	1,640	-	-	-	-	734	2,003	-	-	-	-	2,075	1,640	-	435	2,737	2,003	-	734	1,354	1,124	-	230	1,765	1,307	-	458	233	1,121	-	-	-	-	459	1,306	-	-	-	-		3,119	3,119	3,119	(0)
																																									TOTAL	151,107	150,175	150,641	0

			2040 Initial Volumes											
			Northbound			Southbound			Eastbound			Westbound		
N/S	E/W	#	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
Study Intersections														
1 US 97 at Deschutes Plea	0	1	-	2,148	238	-	2,035	350	-	-	40	-	-	727
2 US97 at Cooley	0	2	116	1,955	169	272	1,882	144	255	309	17	366	301	140
3 US 97 at Robal	0	3	337	2,005	54	76	2,245	44	266	74	116	259	88	44
4 US 97 at Nels Anderson	0	4	204	2,424	6	-	2,537	91	-	-	198	-	-	0
5 US 97 SB Ramp at Empi	0	5	-	-	-	4	1	19	4	1,098	499	371	807	6
6 US 97 NB Ramps at Emp	0	6	175	3	466	-	-	-	189	925	-	-	1,025	382
7 US20 at Empire	0	7	108	933	356	872	931	120	105	246	38	270	350	88
8 US20 at Butler Market	0	8	185	1,182	145	198	1,460	100	204	217	121	301	174	108
9 SB off ramp at Butler Ma	0	9	-	-	-	145	-	100	-	582	-	-	628	-
10 US97 NB On-Ramp at E	0	10	1	2	13	-	-	-	81	632	7	8	621	184
11 Bend Pkwy SB On-Ram	0	11	-	952	-	444	904	519	535	-	12	-	-	-
12 US97 SB Ramps at Rev	0	12	23	172	685	144	194	1	4	99	8	740	74	283
13 US97 NB Ramps at Rev	0	13	151	217	218	114	23	378	270	380	264	18	575	91
14 US97 at Lafayette	0	14	-	3,229	-	-	3,417	0	-	-	0	-	-	-
15 US97 at Hawthorne	0	15	-	3,228	-	-	3,225	0	-	-	0	-	-	-
16 US97 SB Ramps at Col	0	16	11	390	987	124	-	548	-	-	-	-	388	35
17 US97 NB Ramps at Col	0	17	-	-	-	13	-	196	790	305	-	-	211	308
18 US97 at Truman	0	18	-	2,323	-	-	2,806	0	-	-	0	-	-	-
19 Hwy 97 SB Ramps at R	0	19	-	-	-	746	-	190	-	1,220	59	-	824	129
20 US97 NB ramps at Ree	0	20	54	-	100	-	-	35	-	1,730	245	-	853	27
21 US97 at Reed Ln	0	21	-	1,691	0	-	2,021	-	-	-	-	-	-	0
22 US97 SB Ramps at Pov	0	22	83	-	511	-	-	-	-	690	87	3	730	-
23 US 97 at Powers	0	23	-	1,266	31	-	1,693	337	2	1,172	-	-	385	-
24 US 97 NB Ramps at Po	0	24	-	-	-	1	-	37	271	907	-	-	345	174
25 US 97 at Badger	0	25	-	1,278	0	-	1,303	0	-	-	0	-	-	0
26 US97 at Pinebrook	0	26	-	1,266	0	-	1,367	0	-	-	0	-	-	0
28 US 97 at Ponderosa-Ch	0	28	-	939	5	-	1,726	105	-	-	19	-	-	606
29 US 97 SB Ramps at Ba	0	29	-	-	-	190	-	464	19	428	-	-	433	225
30 US 97 NB Ramps at Kn	0	30	30	1	135	-	-	-	261	384	-	-	624	20
40 US 97 Bus at OB Riley	0	40	196	1,141	170	32	1,244	11	16	13	411	155	22	77
41 NW Mt Washington Dr a	0	41	-	-	31	13	-	1	2	546	-	25	512	17
42 NE Butler Market Rd at	0	42	209	-	86	2	3	11	2	560	95	104	574	3
45 Harriman at Revere	0	45	-	1	9	29	-	-	-	-	-	18	-	35
46 NE 3rd St at NE Revere	0	46	116	1,155	139	106	713	50	182	573	188	266	466	125
47 4th at Revere	0	47	86	247	51	162	160	403	249	478	116	25	376	78
48 Scott at Aune St	0	48	46	503	-	-	273	30	11	-	28	-	-	-
49 SW Brookswood at Ree	0	49	238	319	128	484	594	73	83	582	314	169	407	301
50 Silver Lake Blvd at Ree	0	50	10	-	63	47	5	38	30	1,176	21	120	859	61
51 Division St at Reed Mar	0	51	-	-	38	5	-	17	108	952	775	6	913	445
52 3rd at Reed Market	0	52	469	719	280	146	989	268	136	686	91	168	421	76
53 Brookswood at Powers	0	53	5	375	259	401	616	43	46	70	3	426	79	177
54 3rd at Powers	0	54	131	519	19	24	787	199	203	231	470	32	139	25
55 Parrell Rd at Powers R	0	55	29	211	-	-	335	158	191	-	110	-	-	-
56 Blakely at Badger	0	56	-	-	-	-	-	22	34	0	-	-	-	-
57 3rd St at Badger Rd	0	57	21	514	36	29	1,058	93	69	14	17	63	17	29
58 3rd St at Pinebrook	0	58	93	498	7	57	1,010	38	0	0	0	7	1	32
59 Murphy at SE 3rd St	0	59	71	227	66	412	571	319	327	359	16	153	234	190
60 Parrell Rd at China Hat	0	60	-	-	-	323	-	39	0	4	-	-	618	49
61 US20 at 3rd St Ramp to	0	61	-	954	442	-	929	-	-	-	-	-	-	-
62 Blakely Rd at Powers R	0	62	21	2	73	34	4	18	9	665	51	142	628	62
101 US 97 NB/SB Ramp to	0	101	-	1,306	459	-	1,121	233	-	-	-	-	-	-

Growth Check (2040 - 2018)												
Northbound			Southbound			Eastbound			Westbound		
NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
0	569	110	0	648	124	0	0	-45	0	0	271
76	544	92	162	381	100	70	166	2	181	232	82
108	514	40	55	465	11	169	62	75	152	53	25
-37	701	-33	0	675	25	0	0	-15	0	0	-11
0	0	0	-1	-1	2	0	346	81	43	382	0
11	0	110	0	0	0	36	321	0	0	430	158
44	579	173	380	289	43	29	-22	-14	122	170	59
71	577	32	48	416	40	109	63	40	-8	26	35
0	0	0	8	0	3	0	124	0	0	70	0
0	0	2	0	0	0	7	117	1	1	64	6
0	483	0	-154	306	281	172	0	4	0	0	0
-1	40	297	-10	-46	-1	-1	3	-1	302	4	84
15	7	-58	46	2	208	136	140	0	-10	174	24
0	852	0	0	808	-83	0	0	-125	0	0	0
0	851	0	0	750	-259	0	0	-223	0	0	0
3	126	217	33	0	181	0	0	0	0	39	5
0	0	0	-4	0	-3	146	88	0	0	31	-73
0	755	0	0	455	-183	0	0	-80	0	0	0
0	0	0	67	0	40	0	510	7	0	367	67
19	0	21	0	0	0	0	438	148	0	404	0
0	615	-55	0	305	0	0	0	0	0	0	-146
80	0	156	0	0	0	0	228	54	-24	149	0
0	438	10	0	284	30	1	356	0	0	84	0
0	0	0	0	0	9	78	263	0	0	72	36
0	519	-12	0	215	-23	0	0	-5	0	0	-90
0	625	-25	0	325	-51	0	0	-5	0	0	-130
0	163	-6	0	317	-25	0	0	1	0	0	496
0	0	0	124	0	-17	-33	87	0	0	118	47
-14	0	40	0	0	0	14	224	0	0	175	3
127	572	40	-3	315	6	9	5	222	24	11	19
0	0	21	0	0	0	0	204	0	15	141	0
40	0	18	0	0	0	0	102	19	8	19	0
0	0	0	0	0	0	0	0	0	0	0	0
24	342	69	53	230	11	-3	164	3	119	168	54
25	30	6	52	27	183	95	177	27	0	133	16
1	-47	0	0	73	6	0	0	4	0	0	0
94	106	45	154	228	27	35	256	154	77	179	115
2	0	16	28	2	22	14	464	1	15	369	31
0	0	1	-1	0	1	27	254	182	2	412	154
242	226	58	36	334	144	45	153	29	-7	126	-2
0	106	99	190	119	3	5	17	0	132	16	84
37	143	10	8	130	-6	23	99	133	17	61	11
-6	71	0	0	150	101	125	0	5	0	0	0
0	0	0	0	0	-9	2	-5	0	0	-13	-10
3	218	10	6	301	5	5	-3	-1	-3	-8	3
-45	221	1	1	333	-32	-14	-2	-38	0	-1	1
33	65	28	203	237	169	157	204	8	38	95	39
0	0	0	251	0	30	-6	-1	0	0	517	12
0	485	-117	0	323	0	0	0	0	0	0	0
4	1	13	16	2	9	5	278	21	40	195	29
0	-697	-275	0	-519	-202	0	0	0	0	0	0

DKS

2040 Weekday Post-Processing Manual Adjustments – Bundle C

			Adjustments												
			Northbound			Southbound			Eastbound			Westbound			
N/S	E/W	#	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	Comments
Study Intersections															
1 US 97 at Deschutes Pleasant Ridge	0	1	0	0	0	0	0	0	0	0	0	0	0	0	
2 US97 at Cooley	0	2	0	30	0	0	5	0	0	0	0	0	0	0	
3 US 97 at Robal	0	3	0	0	0	0	-50	0	0	0	0	0	0	0	
4 US 97 at Nels Anderson Pl	0	4	0	5	5	0	-20	0	0	0	0	0	0	0	
5 US 97 SB Ramp at Empire	0	5	0	0	0	0	0	0	0	30	0	0	0	0	
6 US 97 NB Ramps at Empire	0	6	0	0	0	0	0	0	0	20	0	0	-20	0	
7 US20 at Empire	0	7	0	0	150	0	0	0	0	0	0	0	0	0	
8 US20 at Butler Market	0	8	-5	-38	-8	0	-13	5	0	25	0	8	33	25	
9 SB off ramp at Butler Market	0	9	0	0	0	36	0	13	0	-8	0	0	-20	0	
10 US97 NB On-Ramp at Butler Market	0	10	0	0	0	0	0	0	-8	43	0	0	-13	-20	
11 Bend Pkwy SB On-Ramp/Division at 3rd S	0	11	0	-893	0	-5	60	-46	0	0	0	0	0	923	
12 US97 SB Ramps at Revere	0	12	32	59	10	15	48	2	6	20	18	-66	51	-54	Modified to account for zone growth on EB leg since EB leg not in model
13 US97 NB Ramps at Revere	0	13	0	5	0	-18	-3	-5	0	33	26	0	-69	0	
14 US97 at Lafayette	0	14	0	-66	0	0	-71	0	0	0	0	0	0	0	
15 US97 at Hawthorne	0	15	0	-64	0	0	-125	263	0	0	0	0	0	0	
16 US97 SB Ramps at Colorado	0	16	-5	0	-30	5	0	0	0	0	0	0	-13	3	
17 US97 NB Ramps at Colorado	0	17	0	0	0	0	0	-5	-46	35	105	87	15	-20	
18 US97 at Truman	0	18	0	-36	0	0	20	0	0	0	0	0	0	0	
19 Hwy 97 SB Ramps at Reed Market	0	19	0	0	0	-48	0	13	0	-59	10	0	-15	-66	
20 US97 NB ramps at Reed Market	0	20	-26	0	48	0	0	0	0	-94	-20	0	-46	5	
21 US97 at Reed Ln	0	21	0	8	0	0	48	0	0	0	0	0	0	0	
22 US97 SB Ramps at Powers	0	22	-77	0	-173	0	0	0	0	-43	-66	26	-51	0	
23 US 97 at Powers	0	23	0	168	0	0	38	0	0	-191	0	0	-8	0	
24 US 97 NB Ramps at Powers	0	24	0	0	0	0	0	0	-82	-84	0	0	-5	-74	
25 US 97 at Badger	0	25	0	263	0	0	156	0	0	0	0	0	0	0	
26 US97 at Pinebrook	0	26	0	311	0	0	94	0	0	0	0	0	0	0	
28 US 97 at Ponderosa-China Hat	0	28	0	124	46	0	13	133	0	0	51	0	0	155	
29 US 97 SB Ramps at Baker	0	29	0	0	0	26	0	0	0	5	0	0	8	0	
30 US 97 NB Ramps at Knott	0	30	0	0	0	0	0	0	0	5	0	0	10	0	
40 US 97 Bus at OB Riley	0	40	8	-29	0	3	-56	0	0	3	0	3	5	0	
41 NW Mt Washington Dr at Riverview Park	0	41	0	0	0	0	0	0	0	-26	0	0	-5	0	
42 NE Butler Market Rd at NE 4th St	0	42	0	0	0	0	0	0	0	10	26	0	-8	0	
45 Harriman at Revere	0	45	0	0	10	33	0	0	0	0	0	28	0	56	
46 NE 3rd St at NE Revere Ave	0	46	-13	-20	13	51	0	0	5	-51	-5	0	-46	23	
47 4th at Revere	0	47	-10	5	0	0	0	0	0	-31	13	0	-23	0	
48 Scott at Aune St	0	48	10	102	0	0	87	-8	-5	0	-8	0	0	0	
49 SW Brookswood at Reed Market	0	49	0	-61	46	-43	-41	0	0	-5	0	5	-7	10	
50 Silver Lake Blvd at Reed Market Rd	0	50	0	0	0	0	0	0	0	-43	20	0	-25	0	
51 Division St at Reed Market Rd	0	51	0	0	5	0	0	0	-10	-31	-8	0	-88	0	
52 3rd at Reed Market	0	52	-28	36	0	0	23	-3	-28	10	0	28	0	0	
53 Brookswood at Powers Rd	0	53	0	-15	-82	0	-51	0	-3	0	0	-120	0	-13	
54 3rd at Powers	0	54	-21	0	-10	-8	173	0	26	-13	-99	0	-11	10	
55 Parrell Rd at Powers Rd	0	55	15	-15	0	0	0	-6	-56	0	0	0	0	0	
56 Blakely at Badger	0	56	0	0	0	0	0	0	0	0	0	0	-10	0	
57 3rd St at Badger Rd	0	57	0	-51	0	0	0	0	0	0	0	0	0	0	
58 3rd St at Pinebrook	0	58	0	-102	0	0	0	0	0	0	0	0	0	0	
59 Murphy at SE 3rd St	0	59	-26	-13	0	-128	74	-117	-97	51	0	-3	26	20	
60 Parrell Rd at China Hat Rd	0	60	0	0	0	-3	0	0	46	0	0	0	102	3	
61 US20 at 3rd St Ramp to NB US97	0	61	0	-900	-497	0	-928	0	0	977	0	0	923	477	
62 Blakely Rd at Powers Rd	0	62	13	3	-15	-10	0	26	0	-85	15	-5	-158	20	
101 US 97 NB/SB Ramp to Hwy 20	0	101	0	-5	0	0	0	0	0	0	0	0	0	0	

2040 Average Weekday Final PM Peak Hour Volumes – Bundle C

		Northbound			Southbound			Eastbound			Westbound		
		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
#	Intersection Name	2040 Average Weekday Post-Processed PM Peak Hour Volume											
1	1 US 97 at Deschutes Pleasant Ridge	0	2150	240	0	2035	350	0	0	40	0	0	725
2	2 US97 at Cooley	115	1985	170	270	1885	145	255	310	15	365	300	140
3	3 US 97 at Robal	335	2005	55	75	2195	45	265	75	115	260	90	45
4	4 US 97 at Nels Anderson Pl	205	2430	10	0	2515	90	0	0	200	0	0	10
5	5 US 97 SB Ramp at Empire	0	0	0	5	0	20	5	1130	500	370	805	5
6	6 US 97 NB Ramps at Empire	175	5	465	0	0	0	190	945	0	0	1005	380
7	7 US20 at Empire	110	935	505	870	930	120	105	245	40	270	350	90
8	8 US20 at Butler Market	180	1145	135	200	1450	105	205	240	120	310	205	135
9	9 SB off ramp at Butler Market	0	0	0	180	0	110	0	575	0	0	610	0
10	10 US97 NB On-Ramp at Butler Market	0	0	15	0	0	0	75	675	5	10	610	165
11	11 Bend Pkwy SB On-Ramp/Division at 3rd St	0	0	0	440	965	475	535	0	10	0	0	925
12	12 US97 SB Ramps at Revere	55	230	695	160	245	5	10	120	25	675	125	230
13	13 US97 NB Ramps at Revere	150	220	220	95	20	375	270	415	290	20	505	90
14	14 US97 at Lafayette	0	3160	0	0	3345	0	0	0	0	0	0	0
15	15 US97 at Hawthorne	0	3165	0	0	3100	265	0	0	0	0	0	0
16	16 US97 SB Ramps at Colorado	5	390	955	130	0	550	0	0	0	0	375	40
17	17 US97 NB Ramps at Colorado	0	0	0	15	0	190	745	340	105	85	225	290
18	18 US97 at Truman	0	2285	0	0	2825	0	0	0	0	0	0	0
19	19 Hwy 97 SB Ramps at Reed Market	0	0	0	700	0	205	0	1160	70	0	810	65
20	20 US97 NB ramps at Reed Market	30	0	150	0	0	35	0	1635	225	0	810	30
21	21 US97 at Reed Ln	0	1700	0	0	2070	0	0	0	0	0	0	0
22	22 US97 SB Ramps at Powers	5	0	335	0	0	0	0	645	20	30	680	0
23	23 US 97 at Powers	0	1435	30	0	1730	335	0	980	0	0	375	0
24	24 US 97 NB Ramps at Powers	0	0	0	0	0	35	190	820	0	0	340	100
25	25 US 97 at Badger	0	1540	0	0	1460	0	0	0	0	0	0	0
26	26 US97 at Pinebrook	0	1575	0	0	1460	0	0	0	0	0	0	0
28	28 US 97 at Ponderosa-China Hat	0	1060	50	0	1740	240	0	0	70	0	0	760
29	29 US 97 SB Ramps at Baker	0	0	0	215	0	465	20	435	0	0	440	225
30	30 US 97 NB Ramps at Knott	30	0	135	0	0	0	260	390	0	0	635	20
40	40 US 97 Bus at OB Riley	205	1110	170	35	1190	10	15	15	410	155	25	75
41	41 NW Mt Washington Dr at Riverview Park	0	0	30	15	0	0	0	520	0	25	505	15
42	NE Butler Market Rd at NE 4th St	210	0	85	0	5	10	0	570	120	105	565	5
45	45 Harriman at Revere	0	0	20	60	0	0	0	0	0	45	0	90
46	NE 3rd St at NE Revere Ave	105	1135	150	155	715	50	185	520	180	265	420	150
47	4th at Revere	75	250	50	160	160	405	250	445	130	25	355	80
48	48 Scott at Aune St	55	605	0	0	360	25	5	0	20	0	0	0
49	SW Brookswood at Reed Market	240	260	175	440	555	75	85	575	315	175	400	310
50	Silver Lake Blvd at Reed Market Rd	10	0	65	45	5	40	30	1135	40	120	835	60
51	Division St at Reed Market Rd	0	0	45	5	0	15	100	920	765	5	825	445
52	3rd at Reed Market	440	755	280	145	1010	265	105	695	90	195	420	75
53	Brookswood at Powers Rd	5	360	175	400	565	45	45	70	5	305	80	165
54	3rd at Powers	110	520	10	15	960	200	230	220	370	30	130	35
55	Parrell Rd at Powers Rd	45	195	0	0	335	150	135	0	110	0	0	0
56	56 Blakely at Badger	0	0	0	0	0	20	35	0	0	0	0	0
57	3rd St at Badger Rd	20	465	35	30	1060	95	70	15	15	65	15	30
58	3rd St at Pinebrook	95	395	5	55	1010	40	15	0	40	5	0	30
59	Murphy at SE 3rd St	45	215	65	285	645	200	230	410	15	150	260	210
60	Parrell Rd at China Hat Rd	0	0	0	320	0	40	45	5	0	0	720	50
61	61 US20 at 3rd St Ramp to NB US97	0	0	0	0	0	0	0	975	0	0	925	475
62	62 Blakely Rd at Powers Rd	35	5	60	25	5	45	10	580	65	135	470	80

Seasonal Factors – Bundle C

		Northbound			Southbound			Eastbound			Westbound		
		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
#	Intersection Name	Seasonal Factors											
1	1 US 97 at Deschutes Pleasant Ridge	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
2	2 US97 at Cooley	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
3	3 US 97 at Robal	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
4	4 US 97 at Nels Anderson Pl	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
5	5 US 97 SB Ramp at Empire	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
6	6 US 97 NB Ramps at Empire	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
7	7 US20 at Empire	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
8	8 US20 at Butler Market	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
9	9 SB off ramp at Butler Market	1.00	1.00	1.00	1.11	1.00	1.11	1.00	1.11	1.00	1.00	1.11	1.00
10	10 US97 NB On-Ramp at Butler Market	1.00	1.11	1.11	1.00	1.00	1.00	1.11	1.11	1.11	1.11	1.11	1.11
11	11 Bend Pkwy SB On-Ramp/Division at 3rd St	1.00	1.11	1.00	1.11	1.11	1.11	1.11	1.00	1.11	1.00	1.00	1.11
12	12 US97 SB Ramps at Revere	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
13	13 US97 NB Ramps at Revere	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
14	14 US97 at Lafayette	1.00	1.11	1.00	1.00	1.11	1.11	1.00	1.00	1.11	1.00	1.00	1.00
15	15 US97 at Hawthorne	1.00	1.11	1.00	1.00	1.11	1.11	1.00	1.00	1.11	1.00	1.00	1.00
16	16 US97 SB Ramps at Colorado	1.11	1.11	1.11	1.11	1.00	1.11	1.00	1.00	1.00	1.00	1.11	1.11
17	17 US97 NB Ramps at Colorado	1.00	1.00	1.00	1.11	1.00	1.11	1.11	1.00	1.11	1.11	1.00	1.11
18	18 US97 at Truman	1.00	1.11	1.00	1.00	1.11	1.11	1.00	1.00	1.11	1.00	1.00	1.00
19	19 Hwy 97 SB Ramps at Reed Market	1.00	1.00	1.00	1.11	1.00	1.11	1.00	1.00	1.11	1.00	1.00	1.11
20	20 US97 NB ramps at Reed Market	1.30	1.00	1.30	1.00	1.00	1.11	1.00	1.00	1.11	1.00	1.00	1.11
21	21 US97 at Reed Ln	1.00	1.22	1.30	1.00	1.22	1.00	1.00	1.00	1.00	1.00	1.00	1.11
22	22 US97 SB Ramps at Powers	1.11	1.00	1.11	1.00	1.00	1.00	1.00	1.00	1.30	1.30	1.00	1.00
23	23 US 97 at Powers	1.00	1.30	1.30	1.00	1.24	1.11	1.00	1.00	1.00	1.00	1.00	1.00
24	24 US 97 NB Ramps at Powers	1.00	1.00	1.00	1.00	1.00	1.30	1.11	1.00	1.00	1.00	1.00	1.11
25	25 US 97 at Badger	1.00	1.31	1.00	1.00	1.31	1.00	1.00	1.00	1.00	1.00	1.00	1.00
26	26 US97 at Pinebrook	1.00	1.31	1.00	1.00	1.31	1.00	1.00	1.00	1.00	1.00	1.00	1.00
28	28 US 97 at Ponderosa-China Hat	1.00	1.30	1.11	1.00	1.28	1.11	1.00	1.00	1.11	1.00	1.00	1.06
29	29 US 97 SB Ramps at Baker	1.00	1.00	1.00	1.11	1.00	1.11	1.11	1.11	1.00	1.00	1.11	1.11
30	30 US 97 NB Ramps at Knott	1.11	1.11	1.11	1.00	1.00	1.00	1.11	1.11	1.00	1.00	1.11	1.11
40	40 US 97 Bus at OB Riley	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
41	41 NW Mt Washington Dr at Riverview Park	1.00	1.06	1.06	1.06	1.00	1.06	1.00	1.06	1.00	1.06	1.06	1.06
42	NE Butler Market Rd at NE 4th St	1.06	1.00	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
45	45 Harriman at Revere	1.00	1.00	1.06	1.06	1.00	1.00	1.00	1.00	1.00	1.06	1.00	1.06
46	NE 3rd St at NE Revere Ave	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
47	4th at Revere	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
48	48 Scott at Aune St	1.06	1.00	1.06	1.00	1.00	1.00	1.00	1.06	1.06	1.06	1.06	1.00
49	SW Brookswood at Reed Market	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
50	Silver Lake Blvd at Reed Market Rd	1.06	1.00	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
51	Division St at Reed Market Rd	1.00	1.00	1.06	1.06	1.00	1.06	1.06	1.06	1.06	1.06	1.06	1.06
52	3rd at Reed Market	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
53	Brookswood at Powers Rd	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
54	3rd at Powers	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
55	Parrell Rd at Powers Rd	1.06	1.06	1.00	1.00	1.06	1.06	1.06	1.00	1.06	1.00	1.00	1.00
56	56 Blakely at Badger	1.00	1.00	1.00	1.00	1.00	1.06	1.06	1.00	1.00	1.00	1.00	1.00
57	3rd St at Badger Rd	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
58	3rd St at Pinebrook	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.00	1.06	1.06	1.06	1.06
59	Murphy at SE 3rd St	1.06	1.06	1.06	1.06	1.30	1.06	1.06	1.06	1.30	1.30	1.06	1.06
60	Parrell Rd at China Hat Rd	1.00	1.00	1.00	1.06	1.00	1.06	1.06	1.06	1.00	1.00	1.06	1.06
61	61 US20 at 3rd St Ramp to NB US97	1.11	1.11	1.11	1.00	1.11	1.00	1.00	1.06	1.00	1.00	1.06	1.06
62	62 Blakely Rd at Powers Rd	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06

2040 30HV Unbalanced PM Peak Hour Volumes – Bundle C

		Northbound			Southbound			Eastbound			Westbound		
		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
#	Intersection Name	2040 30HV PM Peak Hour - Unbalanced											
1	1 US 97 at Deschutes Pleasant Ridge	0	2387	266	0	2259	389	0	0	44	0	0	805
2	2 US97 at Cooley	128	2203	189	300	2092	161	283	344	17	405	333	155
3	3 US 97 at Robal	372	2226	61	83	2436	50	294	83	128	289	100	50
4	4 US 97 at Nels Anderson Pl	228	2697	11	0	2792	100	0	0	222	0	0	11
5	5 US 97 SB Ramp at Empire	0	0	0	6	0	22	6	1254	555	411	894	6
6	6 US 97 NB Ramps at Empire	194	6	516	0	0	0	211	1049	0	0	1116	422
7	7 US20 at Empire	122	1038	561	967	1032	133	117	272	44	300	390	100
8	8 US20 at Butler Market	200	1271	150	222	1610	117	228	266	133	344	228	150
9	9 SB off ramp at Butler Market	0	0	0	200	0	122	0	638	0	0	677	0
10	10 US97 NB On-Ramp at Butler Market	0	0	17	0	0	0	83	749	6	11	677	183
11	11 Bend Pkwy SB On-Ramp/Division at 3rd St	0	0	0	488	1071	527	594	0	11	0	0	1027
12	12 US97 SB Ramps at Revere	61	255	771	178	272	6	11	133	28	749	139	255
13	13 US97 NB Ramps at Revere	167	244	244	105	22	416	300	461	322	22	561	100
14	14 US97 at Lafayette	0	3508	0	0	3713	0	0	0	0	0	0	0
15	15 US97 at Hawthorne	0	3513	0	0	3441	294	0	0	0	0	0	0
16	16 US97 SB Ramps at Colorado	6	433	1060	144	0	611	0	0	0	0	416	44
17	17 US97 NB Ramps at Colorado	0	0	0	17	0	211	827	340	117	94	225	322
18	18 US97 at Truman	0	2536	0	0	3136	0	0	0	0	0	0	0
19	19 Hwy 97 SB Ramps at Reed Market	0	0	0	777	0	228	0	1160	78	0	810	72
20	20 US97 NB ramps at Reed Market	39	0	195	0	0	39	0	1635	250	0	810	33
21	21 US97 at Reed Ln	0	2069	0	0	2524	0	0	0	0	0	0	0
22	22 US97 SB Ramps at Powers	6	0	372	0	0	0	0	645	26	39	680	0
23	23 US 97 at Powers	0	1863	39	0	2149	372	0	980	0	0	375	0
24	24 US 97 NB Ramps at Powers	0	0	0	0	0	46	211	820	0	0	340	111
25	25 US 97 at Badger	0	2017	0	0	1913	0	0	0	0	0	0	0
26	26 US97 at Pinebrook	0	2063	0	0	1913	0	0	0	0	0	0	0
28	28 US 97 at Ponderosa-China Hat	0	1378	56	0	2235	266	0	0	78	0	0	806
29	29 US 97 SB Ramps at Baker	0	0	0	239	0	516	22	483	0	0	488	250
30	30 US 97 NB Ramps at Knott	33	0	150	0	0	0	289	433	0	0	705	22
40	40 US 97 Bus at OB Riley	217	1177	180	37	1261	11	16	16	435	164	27	80
41	41 NW Mt Washington Dr at Riverview Park	0	0	32	16	0	0	0	551	0	27	535	16
42	NE Butler Market Rd at NE 4th St	223	0	90	0	5	11	0	604	127	111	599	5
45	45 Harriman at Revere	0	0	21	64	0	0	0	0	0	48	0	95
46	NE 3rd St at NE Revere Ave	111	1203	159	164	758	53	196	551	191	281	445	159
47	4th at Revere	80	265	53	170	170	429	265	472	138	27	376	85
48	48 Scott at Aune St	58	605	0	0	360	25	5	0	21	0	0	0
49	SW Brookswood at Reed Market	254	276	186	466	588	80	90	610	334	186	424	329
50	Silver Lake Blvd at Reed Market Rd	11	0	69	48	5	42	32	1203	42	127	885	64
51	Division St at Reed Market Rd	0	0	48	5	0	16	106	975	811	5	875	472
52	3rd at Reed Market	466	800	297	154	1071	281	111	737	95	207	445	80
53	Brookswood at Powers Rd	5	382	186	424	599	48	48	74	5	323	85	175
54	3rd at Powers	117	551	11	16	1018	212	244	233	392	32	138	37
55	Parrell Rd at Powers Rd	48	207	0	0	355	159	143	0	117	0	0	0
56	56 Blakely at Badger	0	0	0	0	0	21	37	0	0	0	0	0
57	3rd St at Badger Rd	21	493	37	32	1124	101	74	16	16	69	16	32
58	3rd St at Pinebrook	101	419	5	58	1071	42	16	0	42	5	0	32
59	Murphy at SE 3rd St	48	228	69	302	839	212	244	435	20	195	276	223
60	Parrell Rd at China Hat Rd	0	0	0	339	0	42	48	5	0	0	763	53
61	61 US20 at 3rd St Ramp to NB US97	0	0	0	0	0	0	0	1034	0	0	981	504
62	62 Blakely Rd at Powers Rd	37	5	64	27	5	48	11	615	69	143	498	85

2040 30HV PM Peak Hour Balancing Adjustments – Bundle C

		Northbound			Southbound			Eastbound			Westbound		
		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
#	Intersection Name	2040 30HV PM Peak Hour Balancing Adjustments											
1	1 US 97 at Deschutes Pleasant Ridge	0	0	0	0	0	0	0	0	0	0	0	0
2	2 US97 at Cooley	0	-5	0	0	0	0	0	0	0	0	0	0
3	3 US 97 at Robal	0	0	0	0	-5	0	0	0	0	0	0	-5
4	4 US 97 at Nels Anderson Pl	0	0	0	0	1	-5	0	0	0	0	0	0
5	5 US 97 SB Ramp at Empire	0	0	0	0	0	0	0	0	0	0	0	0
6	6 US 97 NB Ramps at Empire	0	0	0	0	0	0	0	0	0	0	0	0
7	7 US20 at Empire	0	0	0	0	0	0	0	0	0	0	0	0
8	8 US20 at Butler Market	0	0	0	5	-5	0	0	0	0	1	0	0
9	9 SB off ramp at Butler Market	0	0	0	0	0	0	0	0	0	0	0	0
10	10 US97 NB On-Ramp at Butler Market	0	0	0	0	0	0	0	0	0	0	0	0
11	11 Bend Pkwy SB On-Ramp/Division at 3rd St	0	0	0	0	-5	5	0	0	0	0	0	0
12	12 US97 SB Ramps at Revere	0	0	0	0	0	0	0	0	0	-5	0	0
13	13 US97 NB Ramps at Revere	0	0	1	0	0	0	0	5	0	0	0	0
14	14 US97 at Lafayette	0	0	0	0	15	0	0	0	0	0	0	0
15	15 US97 at Hawthorne	0	-5	0	0	-5	0	0	0	1	0	0	0
16	16 US97 SB Ramps at Colorado	0	0	-25	0	0	0	0	0	0	0	-25	0
17	17 US97 NB Ramps at Colorado	0	0	0	0	0	0	0	15	0	0	0	0
18	18 US97 at Truman	0	55	0	0	25	0	0	0	0	0	0	0
19	19 Hwy 97 SB Ramps at Reed Market	0	0	0	0	0	0	0	10	43	0	-40	179
20	20 US97 NB ramps at Reed Market	5	0	-10	0	0	0	0	62	0	0	127	0
21	21 US97 at Reed Ln	0	-45	0	0	-15	0	0	0	0	0	0	0
22	22 US97 SB Ramps at Powers	0	0	0	0	0	0	0	0	24	24	37	0
23	23 US 97 at Powers	0	-105	17	0	5	0	0	36	0	0	37	0
24	24 US 97 NB Ramps at Powers	0	0	0	0	0	8	0	42	0	0	13	0
25	25 US 97 at Badger	0	-200	0	0	-20	0	0	0	0	0	0	0
26	26 US97 at Pinebrook	0	-250	0	0	-20	0	0	0	0	0	0	0
28	28 US 97 at Ponderosa-China Hat	0	-145	145	0	-25	0	0	0	0	0	0	45
29	29 US 97 SB Ramps at Baker	0	0	0	0	0	0	0	0	0	0	0	0
30	30 US 97 NB Ramps at Knott	0	0	0	0	0	0	0	0	0	0	0	0
40	40 US 97 Bus at OB Riley	0	80	0	0	85	0	0	0	0	0	0	0
41	41 NW Mt Washington Dr at Riverview Park	0	0	5	0	0	0	0	31	0	0	31	0
42	NE Butler Market Rd at NE 4th St	0	0	0	0	0	0	0	35	0	0	36	0
45	45 Harriman at Revere	0	0	0	4	0	0	0	0	0	0	0	8
46	NE 3rd St at NE Revere Ave	0	0	0	0	0	0	0	0	0	0	0	0
47	4th at Revere	0	0	0	0	0	0	0	0	0	0	0	0
48	48 Scott at Aune St	0	0	0	0	0	0	0	14	0	0	29	0
49	SW Brookswood at Reed Market	0	0	20	0	0	0	0	-25	0	-30	-25	-35
50	Silver Lake Blvd at Reed Market Rd	0	0	0	0	0	0	0	-35	0	0	-75	0
51	Division St at Reed Market Rd	0	0	0	0	0	0	0	-10	0	0	80	0
52	3rd at Reed Market	26	0	0	0	0	26	21	52	26	0	23	0
53	Brookswood at Powers Rd	0	0	-10	-5	0	0	0	0	0	0	0	0
54	3rd at Powers	0	0	1	0	0	0	0	-5	-5	0	0	0
55	Parrell Rd at Powers Rd	0	0	0	0	0	-5	0	0	-5	0	0	0
56	56 Blakely at Badger	0	0	0	0	0	0	0	0	0	0	0	0
57	3rd St at Badger Rd	0	0	0	0	0	0	0	0	0	0	0	0
58	3rd St at Pinebrook	0	0	0	0	0	0	0	0	0	0	0	0
59	Murphy at SE 3rd St	0	0	0	0	20	15	0	0	0	0	0	0
60	Parrell Rd at China Hat Rd	0	0	0	0	0	12	105	40	0	0	30	0
61	61 US20 at 3rd St Ramp to NB US97	0	0	0	0	0	0	0	30	0	0	45	0
62	62 Blakely Rd at Powers Rd	0	0	0	0	0	0	0	-10	0	0	-10	0

2040 30HV Final PM Peak Hour Volumes – Bundle C

		Northbound			Southbound			Eastbound			Westbound		
		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
#	Intersection Name	2040 30HV PM Peak Hour - Balanced											
1	1 US 97 at Deschutes Pleasant Ridge	0	2385	265	0	2260	390	0	0	45	0	0	805
2	2 US97 at Cooley	130	2200	190	300	2090	160	285	345	15	405	335	155
3	3 US 97 at Robal	370	2225	60	85	2430	50	295	85	130	290	100	45
4	4 US 97 at Nels Anderson Pl	230	2695	10	0	2795	95	0	0	220	0	0	10
5	5 US 97 SB Ramp at Empire	0	0	0	5	0	20	5	1255	555	410	895	5
6	6 US 97 NB Ramps at Empire	195	5	515	0	0	0	210	1050	0	0	1115	420
7	7 US20 at Empire	120	1040	560	965	1030	135	115	270	45	300	390	100
8	8 US20 at Butler Market	200	1270	150	225	1605	115	230	265	135	345	230	150
9	9 SB off ramp at Butler Market	0	0	0	200	0	120	0	640	0	0	675	0
10	10 US97 NB On-Ramp at Butler Market	0	0	15	0	0	0	85	750	5	10	675	185
11	11 Bend Pkwy SB On-Ramp/Division at 3rd St	0	0	0	490	1065	530	595	0	10	0	0	1025
12	12 US97 SB Ramps at Revere	60	255	770	180	270	5	10	135	30	745	140	255
13	13 US97 NB Ramps at Revere	165	245	245	105	20	415	300	465	320	20	560	100
14	14 US97 at Lafayette	0	3510	0	0	3730	0	0	0	0	0	0	0
15	15 US97 at Hawthorne	0	3510	0	0	3435	295	0	0	0	0	0	0
16	16 US97 SB Ramps at Colorado	5	435	1035	145	0	610	0	0	0	0	390	45
17	17 US97 NB Ramps at Colorado	0	0	0	15	0	210	825	355	115	95	225	320
18	18 US97 at Truman	0	2590	0	0	3160	0	0	0	0	0	0	0
19	19 Hwy 97 SB Ramps at Reed Market	0	0	0	775	0	230	0	1170	120	0	770	250
20	20 US97 NB ramps at Reed Market	45	0	185	0	0	40	0	1695	250	0	935	35
21	21 US97 at Reed Ln	0	2025	0	0	2510	0	0	0	0	0	0	0
22	22 US97 SB Ramps at Powers	5	0	370	0	0	0	0	645	50	65	715	0
23	23 US 97 at Powers	0	1760	55	0	2155	370	0	1015	0	0	410	0
24	24 US 97 NB Ramps at Powers	0	0	0	0	0	55	210	860	0	0	355	110
25	25 US 97 at Badger	0	1815	0	0	1895	0	0	0	0	0	0	0
26	26 US97 at Pinebrook	0	1815	0	0	1895	0	0	0	0	0	0	0
28	28 US 97 at Ponderosa-China Hat	0	1235	200	0	2210	265	0	0	80	0	0	850
29	29 US 97 SB Ramps at Baker	0	0	0	240	0	515	20	485	0	0	490	250
30	30 US 97 NB Ramps at Knott	35	0	150	0	0	0	290	435	0	0	705	20
40	40 US 97 Bus at OB Riley	215	1255	180	35	1345	10	15	15	435	165	25	80
41	41 NW Mt Washington Dr at Riverview Park	0	0	35	15	0	0	0	580	0	25	565	15
42	NE Butler Market Rd at NE 4th St	225	0	90	0	5	10	0	640	125	110	635	5
45	45 Harriman at Revere	0	0	20	65	0	0	0	0	0	50	0	105
46	NE 3rd St at NE Revere Ave	110	1205	160	165	760	55	195	550	190	280	445	160
47	4th at Revere	80	265	55	170	170	430	265	470	140	25	375	85
48	48 Scott at Aune St	60	605	0	0	360	25	5	15	20	0	30	0
49	SW Brookswood at Reed Market	255	275	205	465	590	80	90	585	335	155	400	295
50	Silver Lake Blvd at Reed Market Rd	10	0	70	50	5	40	30	1170	40	125	810	65
51	Division St at Reed Market Rd	0	0	50	5	0	15	105	965	810	5	955	470
52	3rd at Reed Market	490	800	295	155	1070	305	135	790	120	205	470	80
53	Brookswood at Powers Rd	5	380	175	420	600	50	50	75	5	325	85	175
54	3rd at Powers	115	550	10	15	1020	210	245	230	385	30	140	35
55	Parrell Rd at Powers Rd	50	205	0	0	355	155	145	0	110	0	0	0
56	56 Blakely at Badger	0	0	0	0	0	20	35	0	0	0	0	0
57	3rd St at Badger Rd	20	495	35	30	1125	100	75	15	15	70	15	30
58	3rd St at Pinebrook	100	420	5	60	1070	40	15	0	40	5	0	30
59	Murphy at SE 3rd St	50	230	70	300	860	225	245	435	20	195	275	225
60	Parrell Rd at China Hat Rd	0	0	0	340	0	55	155	45	0	0	795	55
61	61 US20 at 3rd St Ramp to NB US97	0	0	0	0	0	0	0	1065	0	0	1025	505
62	62 Blakely Rd at Powers Rd	35	5	65	25	5	50	10	605	70	145	490	85

Bicycle and Pedestrian Level of Traffic Stress (Future 2040 Build Bundle A Conditions)

US 97 CROSSING LEVEL OF TRAFFIC STRESS ANALYSIS - BUNDLE A

			General				Pedestrian															Bicycle
Roadway	Intersection		Crossing Lanes (major)	Prevailing Speed	Signal	ADT (arterial only)	Sidewalk	Sidewalk Condition	Sidewalk Width (ft)	Illumination	Buffer Type	Total Travel Lanes (minor)	Total Buffering Width	Ped LTS (segment, land use criteria)	Signal LTS Crossing Reductions	Median Refuge	Crosswalk Enhancement	Crosswalk Enhancement Points	ADA Compliant	One Way	Ped LTS (max of crossing, segment)	Bike LTS (crossing)
ODOT Roadways	Street Name	Intersection #	#	mph	Y/N	Column1	Y/N	Y/N22	Y/N23	Y/N24	Y/N4	Y/N53	Y/N52	Y/N7	Y/N9	Y/N	Y/N	#	Y/N	Y/N10	#3	#
US 97	Cooley Rd. North	1																				
US 97	Cooley Rd. South	1																				
US 97	Robal Rd.	2																				
US97	Empire Blvd. SB Ramp Terminal	3	2	35	Y	Y		Good	6	Y	No buffer	4	6	3	Permissive right turns	N	Y - marked crosswalk and illumination	Y	N		2	1
US 97	Empire Blvd. NB Ramp Terminal	4	2	35	Y	Y		Good	5	Y	No buffer	4	6	3	Permissive turns, limited crosswalks	N	Y - marked crosswalk and illumination	Y	N		2	1
US 97	Butler Market Rd. SB Ramp Terminal	5	2	35	Y	Y		Good	6	Y	No buffer	4	6	3	Permissive turns	N	Y - marked crosswalk and illumination	Y	N		2	1
US 97	Butler Market Rd. NB Ramp Terminal	6	2	35	N	15250	Y	Good	5	Y	No buffer	3	5	3		N	N	Y	N		4	2
US 97	3rd St. SB Ramp Terminal	7	4	45	Y	Y		Good	6	Y	No buffer	4	4	4	Non-standard geometry, freeflow RT, limited crosswalks, per	N		N	N		3	1
US 97	3rd St. NB Ramp Terminal	8	1	45	N	Y		Good	6	Y	No buffer	4	4	4		N	N	N	Y		4	3
US 97	Revere Ave. SB Ramp Terminal	9	4	30	Y	Y		Good	6	Y	Solid	3	8	2	Permissive turns	N	Y - marked crosswalk and illum	1	Y	N	2	1
US 97	Revere Ave. NB Ramp Terminal	10	4	30	Y	Y		Good	6	Y	Solid	3	8	2	Permissive turns	N	Y - marked crosswalk and illum	1	Y	N	2	1
US 97	Colorado Ave. SB Ramp Terminal	11	4	35	Y	Y		Good	6	Y	No buffer	3	6	2	Permissive turns	N	Y - marked crosswalk and illum	1	Y		2	1
US 97	Colorado Ave. NB Ramp Terminal	12	4	35	Y	Y		Good	6	Y	No buffer	3	6	3	Permissive turns	N	Y - marked crosswalk and lighting	Y	N		2	1
US 97	Reed Market Rd. SB Ramp Terminal	13	3	35	Y	Y		Good	6	Y	No buffer	4	6	2	Permissive turns, limited crosswalks	N	Y - marked crosswalk and illumination	Y			2	1
US 97	Reed Market Rd. NB Ramp Terminal	14	3	35	Y	Y		Good	7	Y	No buffer	4	6	2	Permissive turns	N	Y - marked crosswalk and lighting	Y	N		2	1
US 97	Reed Lane At-Grade	15																				
US 97	Powers Rd. SB Jug Handle	16																				
US 97	Powers Rd. At-Grade	17	2	30	N	Y		Good	6	Y	Solid	2	8	2		Y	Y - crosswalk and illumination	1	Y		N/A	N/A
US 97	Powers Rd. NB Jug Handle	18																				
US 97	Badger Rd. At-Grade	19																				
US 97	Pinebrook Blvd. At-Grade	20																				
US 97	Murphy Rd. Roundabout	21	1	35	N	Y		Good	6	Y	Landscaped	2	8	2		Y		Y			2	2
US 97	Baker Rd. SB Ramp Terminal	22	4	35	Y	N									Permissive turns	N	Y - marked crosswalk and lighting	Y	N		2	1
US 97	Baker Rd. NB Ramp Terminal	23	2	35	Y	N									Permissive turns	N	Y - marked crosswalk and lighting	Y	N		2	1

US 97 SEGMENT LEVEL OF TRAFFIC STRESS ANALYSIS - BUNDLE A

		General							Bicycle							Pedestrian						
Roadway	Segment	Lane Per Direction	Posted Speed	Shoulder	Shoulder Width	Illumination Presence	Parking Permitted	Parking Width	Bike Lane	Bike Lane Width	Bike Lane Buffer	Frequent Blockage	Bicycle LTS	Notes	Sidewalk Condition	Sidewalk Width	Buffer Type	Buffer Width	General Land Use	Pedestrian LTS	Notes3
ODOT Roadways	By Milepoint or Streets	#	mph			Y/N	Y/N	ft	Y/N or Type	Range	Y/N or Type	Y/N	#		fut-exist l, fair, poor, very p	ft	see APM	ft		#	
US 97	Cooley Rd. North to Cooley Rd. South	2	45	Y	8		N	N/A	N	N/A	N	N	4		good	7	shoulder	6	3/4	4	Based on land use; curb tight
US 97	Cooley Rd. to Robal Rd.	2	45	Y	8		N	N/A	N	N/A	N	N	4		good	7	shoulder	6	3/4	4	Based on land use; curb tight
US 97	Robal Rd. to Nels Anderson Pl.	2	45	Y	8		N	N/A	N	N/A	N	N	4		good	7	shoulder	6	3/4	4	Based on land use; curb tight
US 97	Nels Anderson Pl. to just south of Revere Ave.	2	45	Y	8		N	N/A	Y	>7'	N	N	3		N/A	N/A	N/A	N/A	3/4	4	Based on land use
US 97	Just south of Revere Ave. to Lafayette Ave.	2	45	Y	8		N	N/A	Y	>7'	N	N	3		good	7	shoulder	6	3/4	4	Based on land use; curb tight
US 97	Lafayette Ave. to Hawthorne Ave.	2	45	Y	8		N	N/A	Y	>7'	N	N	3		good	7	planter	5	3/4	3	Based on land use
US 97	Hawthorne Ave. to Lake Pl.	2	45	Y	8		N	N/A	Y	>7'	N	N	3		good	7	planter	9	3/4	3	Based on land use
US 97	Lake Pl. to Willow Ln.	2	45	Y	8		N	N/A	Y	>7'	N	N	3		N/A	N/A	N/A	N/A	3/4	4	Based on land use
US 97	Willow Ln. to Truman Ave.	2	45	Y	8		N	N/A	Y	>7'	N	N	3		good	7	shoulder	6	3/4	4	Based on land use; curb tight
US 97	Truman Ave. to Reed Market Rd.	2	45	Y	8		N	N/A	Y	>7'	N	N	3		good	7	planter	5	3/4	3	Based on land use
US 97	Reed Market Rd. to Reed Ln.	2	45	Y	8		N	N/A	Y	>7'	N	N	3		good	7	planter	5	3/4	3	Based on land use
US 97	Reed Ln. to Powers Rd.	2	45	Y	8		N	N/A	Y	>7'	N	N	3		good	7	planter	5	3/4	3	Based on land use
US 97	Powers Rd. to Badger Rd.	2	45	Y	8		N	N/A	Y	>7'	N	N	3		good	7	planter	5	3/4	3	Based on land use
US 97	Badger Rd. to Pinebrook Blvd.	2	45	Y	8		N	N/A	Y	>7'	N	N	3		good	7	planter	5	3/4	3	Based on land use
US 97	Pinebrook Blvd. to Murphy Rd.	2	45	Y	8		N	N/A	Y	>7'	N	N	3		good	7	shoulder	6	3/4	4	Based on land use; curb tight
US 97	Romaine Village Wy. to Romaine Village Wy.	2	45	Y	8		N	N/A	N	N/A	N	N	4		good	12	N/A	40 min	2	2	Shared Use Path detached from US 97 but connects
US 97	Murphy Rd. to Baker Rd.	2	55-65	Y	8		N	N/A	N	N/A	N	N	4		N/A	N/A	N/A	N/A	2	4	Based on land use; no sidewalk

Bicycle and Pedestrian Level of Traffic Stress (Future 2040 Build Bundle B Conditions)

US 97 CROSSING LEVEL OF TRAFFIC STRESS ANALYSIS - BUNDLE B

			General			Pedestrian														Bicycle
Roadway	Intersection		Crossing Lanes (major)	Prevailing Speed	Signal	Sidewalk	Sidewalk Condition	Sidewalk Width (ft)	Illumination	Buffer Type	Total Travel Lanes (minor)	Total Buffering Width	Ped LTS (segment, land use criteria)	Signal LTS Crossing Reductions	Median Refuge	Crosswalk Enhancement	Crosswalk Enhancement Points	ADA Compliant	One Way	Ped LTS (max of crossing, segment)	Bike LTS (crossing)
ODOT Roadways	Street Name	Intersection #	#	mph	Y/N	Y/N	Y/N22	Y/N23	Y/N24	Y/N4	Y/N53	Y/N52	Y/N7	Y/N9	Y/N	Y/N	#	Y/N	Y/N10	#3	#
US 97	Cooley Rd. North	1																			
US 97	Cooley Rd. South	1																			
US 97	Robal Rd.	2																			
US97	Empire Blvd. SB Ramp Terminal	3	2	35	Y	Y	Good	6	Y	No buffer	4	6	3		N	Y - marked crosswalk and illumination	Y	N		2	1
US 97	Empire Blvd. NB Ramp Terminal	4	2	35	Y	Y	Good	5	Y	No buffer	4	6	3	Permissive turns, limited crosswalks	N	Y - marked crosswalk and illumination	Y	N		2	1
US 97	Butler Market Rd. SB Ramp Terminal	5	1	35	N	Y	Good	6	Y	No buffer	4	6	3		N	Y - marked crosswalk and illum	0.5	Y		2	2
US 97	Butler Market Rd. NB Ramp Terminal	6	2	35	N	Y	Good	5	Y	No buffer	3	5	3		N	N	Y	N		3	2
US 97	3rd St. SB Ramp Terminal	7	4	45	Y	Y	Good	6	Y	No buffer	4	4	4	Non-standard geometry, freeflow RT, limited crosswalks	N		N	N		3	1
US 97	3rd St. NB Ramp Terminal	8	1	45	N	Y	Good	6	Y	No buffer	4	4	4		N	N	N	Y		4	3
US 97	Revere Ave. SB Ramp Terminal	9	4	30	Y	Y	Good	6	Y	No buffer	4	6	2	Permissive turns	N	Y - marked crosswalk and illum	1	Y	N	2	1
US 97	Revere Ave. NB Ramp Terminal	10	4	30	Y	Y	Good	5	Y	No buffer	4	6	2	Permissive turns	N	Y - marked crosswalk and illum	1	Y	N	2	1
US 97	Colorado Ave. SB Ramp Terminal	11	3	35	Y	Y	Good	6	Y	No buffer	3	6	2	Permissive turns	N	Y - marked crosswalk and illum	1	Y		2	1
US 97	Colorado Ave. NB Ramp Terminal	12	3	35	Y	Y	Good	6	Y	No buffer	3	6	3	Permissive turns	N	Y - marked crosswalk and illumination	Y	N		2	1
US 97	Reed Market Rd. SB Ramp Terminal	13	3	35	Y	Y	Good	7	Y	No buffer	4	6	2	Permisive right turns	N	Y - marked crosswalk and illumination	Y			3	1
US 97	Reed Market Rd. NB Ramp Terminal	14	3	35	Y	Y	Good	7	Y	No buffer	4	6	2	Permisive right turns	N	Y - marked crosswalk and illumination	Y	N		3	1
US 97	Reed Lane At-Grade	15																	N/A		
US 97	Powers Rd. SB Ramp	16	3	30	Y	Y	Good	6	Y	No buffer	3	6	2	Permissive right turns	N	Y - marked crosswalk and illumination	Y	N		2	1
US 97	Powers Rd. At-Grade	17																	N/A		
US 97	Powers Rd. NB Ramp	18	3	30	Y	Y	Good	6	Y	No buffer	3	6	2	Permissive right turns	N	Y - marked crosswalk and illumination	Y	N		2	1
US 97	Badger Rd. At-Grade	19																	N/A		
US 97	Pinebrook Blvd. At-Grade	20																	N/A		
US 97	Murphy Rd. Roundabout	21	1	35	N	Y	Good	6	Y	Landscaped	2	8	2		Y		Y			2	2
US 97	Baker Rd. SB Ramp Terminal	22	2	35	N	Y	Good	6	Y	No buffer	2	8	2		Y	Y - Lighting	0.5	Y	N	2	2
US 97	Baker Rd. NB Ramp Terminal	23	2	35	N	Y	Good	6	Y	No buffer	2	8	2		Y	Y - Lighting	0.5	Y	N	2	2

US 97 SEGMENT LEVEL OF TRAFFIC STRESS ANALYSIS - BUNDLE B

		General							Bicycle						Pedestrian						
Roadway	Segment	Lane Per Direction	Posted Speed	Shoulder	Shoulder Width	Illumination Presence	Parking Permitted	Parking Width	Bike Lane	Bike Lane Width	Bike Lane Buffer	Frequent Blockage	Bicycle LTS	Notes	Sidewalk Condition	Sidewalk Width	Buffer Type	Buffer Width	General Land Use	Pedestrian LTS	Notes3
ODOT Roadways	By Milepoint or Streets	#	mph			Y/N	Y/N	ft	Y/N or Type	Range	Y/N or Type	Y/N	#	fut-exist	good, fair, poor, very poor	ft	see APM	ft		#	
US 97	Cooley Rd. North to Cooley Rd. South	2	45	Y	8		N	N/A	N	N/A	N	N	4		good	7	shoulder	6	3/4	4	Based on land use; curb tight
US 97	Cooley Rd. to Robal Rd.	2	45	Y	8		N	N/A	N	N/A	N	N	4		good	7	shoulder	6	3/4	4	Based on land use; curb tight
US 97	Robal Rd. to Nels Anderson Pl.	2	45	Y	8		N	N/A	N	N/A	N	N	4		good	7	shoulder	6	3/4	4	Based on land use; curb tight
US 97	Nels Anderson Pl. to just south of Revere Ave.	2	45	Y	8		N	N/A	Y	>7'	N	N	3		N/A	N/A	N/A	N/A	3/4	4	Based on land use
US 97	Just south of Revere Ave. to Lafayette Ave.	2	45	Y	8		N	N/A	Y	>7'	N	N	3		good	7	shoulder	6	3/4	4	Based on land use; curb tight
US 97	Lafayette Ave. to Hawthorne Ave.	2	45	Y	8		N	N/A	Y	>7'	N	N	3		good	7	planter	5	3/4	3	Based on land use
US 97	Hawthorne Ave. to Lake Pl.	2	45	Y	8		N	N/A	Y	>7'	N	N	3		good	7	planter	9	3/4	3	Based on land use
US 97	Lake Pl. to Willow Ln.	2	45	Y	8		N	N/A	Y	>7'	N	N	3		N/A	N/A	N/A	N/A	3/4	4	Based on land use
US 97	Willow Ln. to Truman Ave.	2	45	Y	8		N	N/A	Y	>7'	N	N	3		good	7	shoulder	6	3/4	4	Based on land use; curb tight
US 97	Truman Ave. to Reed Market Rd.	2	45	Y	8		N	N/A	Y	>7'	N	N	3		good	7	planter	5	3/4	3	Based on land use
US 97	Reed Market Rd. to Reed Ln.	2	45	Y	8		N	N/A	Y	>7'	N	N	3		good	7	planter	5	3/4	3	Based on land use
US 97	Reed Ln. to Powers Rd.	2	45	Y	8		N	N/A	Y	>7'	N	N	3		good	7	planter	5	3/4	3	Based on land use
US 97	Powers Rd. to Badger Rd.	2	45	Y	8		N	N/A	Y	>7'	N	N	3		good	7	planter	5	3/4	3	Based on land use
US 97	Badger Rd. to Pinebrook Blvd.	2	45	Y	8		N	N/A	Y	>7'	N	N	3		good	7	planter	5	3/4	3	Based on land use
US 97	Pinebrook Blvd. to Murphy Rd.	2	45	Y	8		N	N/A	Y	>7'	N	N	3		good	7	shoulder	6	3/4	4	Based on land use; curb tight
US 97	Romaine Village Wy. to Romaine Village Wy.	2	45	Y	8		N	N/A	N	N/A	N	N	4		good	12	N/A	40 min	2	2	Shared Use Path detached from US 97 but connects
US 97	Murphy Rd. to Baker Rd.	2	55-65	Y	8		N	N/A	N	N/A	N	N	4		N/A	N/A	N/A	N/A	2	4	Based on land use; no sidewalk

Bicycle and Pedestrian Level of Traffic Stress (Future 2040 Build Bundle C Conditions)

US 97 CROSSING LEVEL OF TRAFFIC STRESS ANALYSIS - BUNDLE C

			General			Pedestrian																Bicycle
Roadway	Intersection		Crossing Lanes (major)	Prevailing Speed	Signal	Sidewalk	Sidewalk on both Sides	Sidewalk Condition (ACTUAL)	Sidewalk Width (ft)	Illumination	Buffer Type	Total Travel Lanes (minor)	Total Buffering Width	Ped LTS (segment, land use criteria)	Signal LTS Crossing Reductions	Median Refuge	Crosswalk Enhancement	Crosswalk Enhancement Points	ADA Compliant	One Way	Ped LTS (max of crossing, segment)	Bike LTS (crossing)
ODOT Roadways	Street Name	Intersection #	#	mph	Y/N	Y/N	Y/N2	Y/N22	Y/N23	Y/N24	Y/N4	Y/N53	Y/N52	Y/N7	Y/N9	Y/N	Y/N	#	Y/N	Y/N10	#3	#
US 97	Cooley Rd. North	1	5	45	Y	Y - major	N	Good	6	Y	Landscaped	4	6	3	Channelized RT, limited crosswalks	N	Y - marked crosswalk and illumination		Y	N	2	1
US 97	Cooley Rd. South	1	5	45	Y	Y - major	N	Good	6	Y	Landscaped	4	6	2	Channelized RT, limited crosswalks	N	Y - marked crosswalk and illumination		Y	N	2	1
US 97	Robal Rd.	2	6	45	Y	Y	Y	Good	4	Y	No buffer	5	0	3	Permissive turns, limited crosswalks	N	Y - marked crosswalk and illumination		Y	N	2	1
US97	Empire Blvd. SB Ramp Terminal	3	2	35	Y	Y	Y	Good	6	Y	No buffer	4	6	3		N	Y - marked crosswalk and illumination	1	Y	N	2	1
US 97	Empire Blvd. NB Ramp Terminal	4	6	35	Y	Y	Y	Good	5	Y	No buffer	4	6	3	Permissive turns, limited crosswalks	N	Y - marked crosswalk and illumination		Y	N	2	1
US 97	Butler Market Rd. SB Ramp Terminal	5	1	35	N	Y	Y	Good	6	Y	No buffer	4	6	3		N	Y - illuminated	0.5	Y	Y	3	2
US 97	Butler Market Rd. NB Ramp Terminal	6	2	35	N	Y	Y	Good	5	Y	No buffer	3	5	3		N	Y - illuminated	0.5	Y	N	3	2
US 97	3rd St. SB Ramp Terminal	7	4	45	Y	Y	Y	Good	6	Y	No buffer	4	4	4	Non-standard geometry, freeflow RT, limited crosswalks	N	Y - marked crosswalk and illumination		N	N	3	1
US 97	3rd St. NB Ramp Terminal	8	1	45	N	Y	Y	Good	6	Y	No buffer	4	4	4		N	N		N	Y	4	3
US 97	Revere Ave. SB Ramp Terminal	9	4	30	Y	Y	N	Good	6	Y	No buffer	4	6	2	Permissive turns	N	Y - marked crosswalk and illumination		1 Y	N	2	1
US 97	Revere Ave. NB Ramp Terminal	10	4	30	Y	Y	Y	Good	5	Y	No buffer	4	6	2	Permissive turns	N	Y - marked crosswalk and illumination		1 Y	N	2	1
US 97	Colorado Ave. SB Ramp Terminal	11	3	35	Y	Y	Y	Good	6	Y	No buffer	3	6	2	Permissive turns	N	Y - marked crosswalk and illumination		1 Y		2	1
US 97	Colorado Ave. NB Ramp Terminal	12	3	35	N	Y	Y	Good	6	Y	No buffer	3	6	3		N	Y - Lighting		0.5 Y	N	4	2
US 97	Reed Market Rd. SB Ramp Terminal	13	3	35	Y	Y	Y	Good	6	Y	No buffer	4	6	2	Permissive turns, limited crosswalks	N	Y - marked crosswalk and illumination	0.5??	Y		3	1
US 97	Reed Market Rd. NB Ramp Terminal	14	3	35	N	Y	Y	Good	7	Y	No buffer	4	6	2		N	N		Y	N	4	3
US 97	Reed Lane At-Grade	15	4	45	N	Y	Y	Good	6	Y	No buffer	4	0	3		Y	Y - Lighting, RRFB		1.5 Y	N	3	2
US 97	Powers Rd. SB Jug Handle	16	2	30	N	Y	N	Good	6	Y	No buffer	3	6	2		N	Y - Lighting		Y	N	3	2
US 97	Powers Rd. At-Grade	17	4	45	Y	Y	Y	Good	6	Y	No buffer	3	6	2		Y	Y - crosswalk and illumination		1 Y		2	1
US 97	Powers Rd. NB Jug Handle	18	2	30	N	Y	Y	Good	6	Y	No buffer	3	6	2		N	Y - Lighting		Y	N	3	2
US 97	Badger Rd. At-Grade	19	4	45	N	Y	N	Fair	6	Y	No buffer	3	6	2		Y	Y - Lighting, RRFB		1.5 Y	N	NA	2
US 97	Pinebrook Blvd. At-Grade	20	4	45	Y	Y	N	Good	6	Y	No buffer	3	0	2	Permissive turns, limited crosswalks	Y	Y - RRFB		1 Y		NA	2
US 97	Murphy Rd. Roundabout	21	1	35	N	Y	Y	Good	6	Y	Landscaped	2	8	2		Y			Y		2	2
US 97	Baker Rd. SB Ramp Terminal	22	4	35	N	N										N	Y - Lighting		0.5 N	N	4	3
US 97	Baker Rd. NB Ramp Terminal	23	2	35	N	N										N	Y - Lighting		0.5 N	N	4	2

US 97 SEGMENT LEVEL OF TRAFFIC STRESS ANALYSIS - BUNDLE C

		General							Bicycle						Pedestrian						
Roadway	**Segment**	**Lane Per Direction**	**Posted Speed**	**Shoulder**	**Shoulder Width**	**Illumination Presence**	**Parking Permitted**	**Parking Width**	**Bike Lane**	**Bike Lane Width**	**Bike Lane Buffer**	**Frequent Blockage**	**Bicycle LTS**	**Notes**	**Sidewalk Condition**	**Sidewalk Width**	**Buffer Type**	**Buffer Width**	**General Land Use**	**Pedestrian LTS**	**Notes3**
ODOT Roadways	By Milepoint or Streets	#	mph			Y/N	Y/N	ft	Y/N or Type	Range	Y/N or Type	Y/N	#	fut-exist	good, fair, poor, very poor	ft	see APM	ft		#	
US 97	Cooley Rd. North to Cooley Rd. South	2	45	Y	6		N	N/A	Y	6'	N	N	4		good	7	shoulder	6	3/4	4	Based on land use; curb tight
US 97	Cooley Rd. to Robal Rd.	2	45	Y	6		N	N/A	Y	6'	N	N	4		good	7	shoulder	6	3/4	4	Based on land use; curb tight
US 97	Robal Rd. to Nels Anderson Pl.	2	45	Y	6		N	N/A	Y	6'	N	N	4		good	7	shoulder	6	3/4	4	Based on land use; curb tight
US 97	Nels Anderson Pl. to just south of Revere Ave.	2	45	Y	6		N	N/A	Y	6'	N	N	4		N/A	N/A	N/A	N/A	3/4	4	Based on land use
US 97	Just south of Revere Ave. to Lafayette Ave.	2	45	Y	6		N	N/A	Y	6'	N	N	4		good	7	shoulder	6	3/4	4	Based on land use; curb tight
US 97	Lafayette Ave. to Hawthorne Ave.	2	45	Y	6		N	N/A	Y	6'	N	N	4		good	7	planter	5	3/4	3	Based on land use
US 97	Hawthorne Ave. to Lake Pl.	2	45	Y	6		N	N/A	Y	6'	N	N	4		good	7	planter	9	3/4	3	Based on land use
US 97	Lake Pl. to Willow Ln.	2	45	Y	6		N	N/A	Y	6'	N	N	4		N/A	N/A	N/A	N/A	3/4	4	Based on land use
US 97	Willow Ln. to Truman Ave.	2	45	Y	6		N	N/A	Y	6'	N	N	4		good	7	shoulder	6	3/4	4	Based on land use; curb tight
US 97	Truman Ave. to Reed Market Rd.	2	45	Y	6		N	N/A	Y	6'	N	N	4		good	7	planter	5	3/4	3	Based on land use
US 97	Reed Market Rd. to Reed Ln.	2	45	Y	6		N	N/A	Y	6'	N	N	4		good	7	planter	5	3/4	3	Based on land use
US 97	Reed Ln. to Powers Rd.	2	45	Y	6		N	N/A	Y	6'	N	N	4		good	7	planter	5	3/4	3	Based on land use
US 97	Powers Rd. to Badger Rd.	2	45	Y	6		N	N/A	Y	6'	N	N	4		good	7	planter	5	3/4	3	Based on land use
US 97	Badger Rd. to Pinebrook Blvd.	2	45	Y	6		N	N/A	Y	6'	N	N	4		good	7	planter	5	3/4	3	Based on land use
US 97	Pinebrook Blvd. to Murphy Rd.	2	45	Y	6		N	N/A	Y	6'	N	N	4		good	7	shoulder	6	3/4	4	Based on land use; curb tight
US 97	Romaine Village Wy. to Romaine Village Wy.	2	45	Y	6		N	N/A	N	6'	N	N	4		good	12	N/A	40 min	2	4	Shared Use Path detached from US 97 but connects
US 97	Murphy Rd. to Baker Rd.	2	55-65	Y	4-8		N	N/A	N	6'	N	N	4		N/A	N/A	N/A	N/A	2	4	Based on land use; no sidewalk

DKS

HSM (Future 2040 Build Bundle A) Conditions Analysis

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments

General Information		Location Information	
Analyst	AMD	Roadway	US 97
Agency or Company	DKS	Roadway Section	**Clausen to Robal**
Date Performed	09/20/18	Jurisdiction	Bend, OR
		Analysis Year	2040

Input Data		Base Conditions	Site Conditions
Roadway type (2U, 3T, 4U, 4D, ST)		--	4D
Length of segment, L (mi)		--	**0.7**
AADT (veh/day)	$AADT_{MAX}$ = 66,000 (veh/day)	--	**43,330**
Type of on-street parking (none/parallel/angle)		None	None
Proportion of curb length with on-street parking		--	0
Median width (ft) - for divided only		15	15
Lighting (present / not present)		Not Present	Present
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	0
Minor commercial driveways (number)		--	0
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	0
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	10
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	30
Calibration Factor, Cr		1.00	0.64

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.00	1.00	0.94	1.00	0.94

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-12.34	1.36	1.32	6.194	1.000	6.194	0.94	0.64	3.734
Fatal and Injury (FI)	-12.76	1.28	1.31	1.732	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.265	1.644	0.94	0.64	0.991
Property Damage Only (PDO)	-12.81	1.38	1.34	4.792	$(5)_{TOTAL}-(5)_{FI}$ = 0.735	4.549	0.94	0.64	2.742

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	$(9)_{FI}$ from Worksheet 1C	from Table 12-4	$(9)_{PDO}$ from Worksheet 1C	$(9)_{TOTAL}$ from Worksheet 1C
Total	1.000	0.991	1.000	2.742	3.734
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.783	0.776	0.646	1.772	2.548
Head-on collision	0.006	0.006	0.000	0.000	0.006
Angle collision	0.019	0.019	0.008	0.022	0.041
Sideswipe, same direction	0.038	0.038	0.142	0.389	0.427
Sideswipe, opposite direction	0.013	0.013	0.004	0.011	0.024
Other multiple-vehicle collision	0.140	0.139	0.200	0.548	0.687

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brsv}**	**Proportion of Total Crashes**	**Adjusted N_{brsv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brsv}**
	from Table 12-5		from Table 12-5	from Equation 12-13		$(4)_{TOTAL}*(5)$	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-5.05	0.47	0.86	0.678	1.000	0.678	0.94	0.64	0.409
Fatal and Injury (FI)	-8.71	0.66	0.28	0.133	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.193	0.131	0.94	0.64	0.079
Property Damage Only (PDO)	-5.04	0.45	1.06	0.553	$(5)_{TOTAL}-(5)_{FI}$ = 0.807	0.547	0.94	0.64	0.330

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	$(9)_{FI}$ from Worksheet 1E	from Table 12-6	$(9)_{PDO}$ from Worksheet 1E	$(9)_{TOTAL}$ from Worksheet 1E
Total	1.000	0.079	1.000	0.330	0.409
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with animal	0.000	0.000	0.077	0.025	0.025
Collision with fixed object	0.400	0.032	0.846	0.279	0.311
Collision with other object	0.000	0.000	0.000	0.000	0.000
Other single-vehicle collision	0.600	0.047	0.077	0.025	0.073

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15,000)^t$	from Table 12-7
Major commercial	0	0.033	1.106	0.000	--
Minor commercial	0	0.011	1.106	0.000	
Major industrial/institutional	0	0.036	1.106	0.000	
Minor industrial/institutional	0	0.005	1.106	0.000	
Major residential	0	0.018	1.106	0.000	
Minor residential	0	0.003	1.106	0.000	
Other	0	0.005	1.106	0.000	
Total	--	--	--	0.000	1.39

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	0.000	1.000	0.000	0.94	0.64	0.000
Fatal and injury (FI)	--	0.284	0.000	0.94	0.64	0.000
Property damage only (PDO)	--	0.716	0.000	0.94	0.64	0.000

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	3.734	0.409	0.000	4.142	0.013	0.64	0.034
Fatal and injury (FI)	--	--	--	--	--	0.64	0.034

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	3.734	0.409	0.000	4.142	0.009	0.64	0.024
Fatal and injury (FI)	--	--	--	--	--	0.64	0.024

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	(5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	(6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	0.776	1.772	2.548
Head-on collisions (from Worksheet 1D)	0.006	0.000	0.006
Angle collisions (from Worksheet 1D)	0.019	0.022	0.041
Sideswipe, same direction (from Worksheet 1D)	0.038	0.389	0.427
Sideswipe, opposite direction (from Worksheet 1D)	0.013	0.011	0.024
Driveway-related collisions (from Worksheet 1H)	0.000	0.000	0.000
Other multiple-vehicle collision (from Worksheet 1D)	0.139	0.548	0.687
Subtotal	0.990	2.742	3.733
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.000	0.025	0.025
Collision with fixed object (from Worksheet 1F)	0.032	0.279	0.311
Collision with other object (from Worksheet 1F)	0.000	0.000	0.000
Other single-vehicle collision (from Worksheet 1F)	0.047	0.025	0.073
Collision with pedestrian (from Worksheet 1I)	0.034	0.000	0.034
Collision with bicycle (from Worksheet 1J)	0.024	0.000	0.024
Subtotal	0.137	0.330	0.467
Total	1.128	3.072	4.200

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	4.2	0.70	6.0
Fatal and injury (FI)	1.1	0.70	1.6
Property damage only (PDO)	3.1	0.70	4.4

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments

General Information		Location Information	
Analyst	RLS	Roadway	US 97
Agency or Company	DKS	Roadway Section	**Robal to NB Empire On Ramp**
Date Performed	07/24/18	Jurisdiction	Bend, OR
		Analysis Year	2040

Input Data		Base Conditions	Site Conditions
Roadway type (2U, 3T, 4U, 4D, ST)		--	4D
Length of segment, L (mi)		--	**0.6**
AADT (veh/day)	$AADT_{MAX}$ = 66,000 (veh/day)	--	**50,590**
Type of on-street parking (none/parallel/angle)		None	None
Proportion of curb length with on-street parking		--	0
Median width (ft) - for divided only		15	15
Lighting (present / not present)		Not Present	Present
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	**0**
Minor commercial driveways (number)		--	0
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	0
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	10
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	30
Calibration Factor, Cr		1.00	0.64

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.00	1.00	0.94	1.00	0.94

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-12.34	1.36	1.32	6.554	1.000	6.554	0.94	0.64	3.951
Fatal and Injury (FI)	-12.76	1.28	1.31	1.810	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.262	1.720	0.94	0.64	1.037
Property Damage Only (PDO)	-12.81	1.38	1.34	5.087	$(5)_{TOTAL}-(5)_{FI}$ = 0.738	4.834	0.94	0.64	2.914

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	$(9)_{FI}$ from Worksheet 1C	from Table 12-4	$(9)_{PDO}$ from Worksheet 1C	$(9)_{TOTAL}$ from Worksheet 1C
Total	1.000	1.037	1.000	2.914	3.951
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.783	0.812	0.646	1.882	2.694
Head-on collision	0.006	0.006	0.000	0.000	0.006
Angle collision	0.019	0.020	0.008	0.023	0.043
Sideswipe, same direction	0.038	0.039	0.142	0.414	0.453
Sideswipe, opposite direction	0.013	0.013	0.004	0.012	0.025
Other multiple-vehicle collision	0.140	0.145	0.200	0.583	0.728

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brsv}**	**Proportion of Total Crashes**	**Adjusted N_{brsv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brsv}**
	from Table 12-5		from Table 12-5	from Equation 12-13		$(4)_{TOTAL}*(5)$	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-5.05	0.47	0.86	0.625	1.000	0.625	0.94	0.64	0.377
Fatal and Injury (FI)	-8.71	0.66	0.28	0.126	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.199	0.124	0.94	0.64	0.075
Property Damage Only (PDO)	-5.04	0.45	1.06	0.508	$(5)_{TOTAL}-(5)_{FI}$ = 0.801	0.501	0.94	0.64	0.302

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	$(9)_{FI}$ from Worksheet 1E	from Table 12-6	$(9)_{PDO}$ from Worksheet 1E	$(9)_{TOTAL}$ from Worksheet 1E
Total	1.000	0.075	1.000	0.302	0.377
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with animal	0.000	0.000	0.077	0.023	0.023
Collision with fixed object	0.400	0.030	0.846	0.255	0.285
Collision with other object	0.000	0.000	0.000	0.000	0.000
Other single-vehicle collision	0.600	0.045	0.077	0.023	0.068

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15,000)^t$	from Table 12-7
Major commercial	0	0.033	1.106	0.000	--
Minor commercial	0	0.011	1.106	0.000	
Major industrial/institutional	0	0.036	1.106	0.000	
Minor industrial/institutional	0	0.005	1.106	0.000	
Major residential	0	0.018	1.106	0.000	
Minor residential	0	0.003	1.106	0.000	
Other	0	0.005	1.106	0.000	
Total	--	--	--	0.000	1.39

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	0.000	1.000	0.000	0.94	0.64	0.000
Fatal and injury (FI)	--	0.284	0.000	0.94	0.64	0.000
Property damage only (PDO)	--	0.716	0.000	0.94	0.64	0.000

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	3.951	0.377	0.000	4.328	0.013	0.64	0.036
Fatal and injury (FI)	--	--	--	--	--	0.64	0.036

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	3.951	0.377	0.000	4.328	0.009	0.64	0.025
Fatal and injury (FI)	--	--	--	--	--	0.64	0.025

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	(5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	(6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	0.812	1.882	2.694
Head-on collisions (from Worksheet 1D)	0.006	0.000	0.006
Angle collisions (from Worksheet 1D)	0.020	0.023	0.043
Sideswipe, same direction (from Worksheet 1D)	0.039	0.414	0.453
Sideswipe, opposite direction (from Worksheet 1D)	0.013	0.012	0.025
Driveway-related collisions (from Worksheet 1H)	0.000	0.000	0.000
Other multiple-vehicle collision (from Worksheet 1D)	0.145	0.583	0.728
Subtotal	1.036	2.914	3.950
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.000	0.023	0.023
Collision with fixed object (from Worksheet 1F)	0.030	0.255	0.285
Collision with other object (from Worksheet 1F)	0.000	0.000	0.000
Other single-vehicle collision (from Worksheet 1F)	0.045	0.023	0.068
Collision with pedestrian (from Worksheet 1I)	0.036	0.000	0.036
Collision with bicycle (from Worksheet 1J)	0.025	0.000	0.025
Subtotal	0.136	0.302	0.438
Total	1.172	3.216	4.388

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	4.4	0.60	7.3
Fatal and injury (FI)	1.2	0.60	2.0
Property damage only (PDO)	3.2	0.60	5.4

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments

General Information		Location Information	
Analyst	RLS	Roadway	US 97
Agency or Company	DKS	Roadway Section	Empire Ramp to Butler Market Ramp
Date Performed	07/24/18	Jurisdiction	Bend, OR
		Analysis Year	2017

Input Data		Base Conditions	Site Conditions
Roadway type (2U, 3T, 4U, 4D, ST)		--	4D
Length of segment, L (mi)		--	0.16
AADT (veh/day)	$AADT_{MAX}$ = 66,000 (veh/day)	--	**66,000**
Type of on-street parking (none/parallel/angle)		None	None
Proportion of curb length with on-street parking		--	0
Median width (ft) - for divided only		15	90
Lighting (present / not present)		Not Present	**Present**
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	0
Minor commercial driveways (number)		--	0
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	0
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	9
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	20
Calibration Factor, Cr		1.00	0.64

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.00	0.93	0.94	1.00	0.88

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-12.34	1.36	1.32	2.509	1.000	2.509	0.88	0.64	1.407
Fatal and Injury (FI)	-12.76	1.28	1.31	0.678	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.257	0.646	0.88	0.64	0.362
Property Damage Only (PDO)	-12.81	1.38	1.34	1.958	$(5)_{TOTAL}-(5)_{FI}$ = 0.743	1.863	0.88	0.64	1.045

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	$(9)_{FI}$ from Worksheet 1C	from Table 12-4	$(9)_{PDO}$ from Worksheet 1C	$(9)_{TOTAL}$ from Worksheet 1C
Total	1.000	0.362	1.000	1.045	1.407
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.783	0.283	0.646	0.675	0.958
Head-on collision	0.006	0.002	0.000	0.000	0.002
Angle collision	0.019	0.007	0.008	0.008	0.015
Sideswipe, same direction	0.038	0.014	0.142	0.148	0.162
Sideswipe, opposite direction	0.013	0.005	0.004	0.004	0.009
Other multiple-vehicle collision	0.140	0.051	0.200	0.209	0.260

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brsv}**	**Proportion of Total Crashes**	**Adjusted N_{brsv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brsv}**
	from Table 12-5		from Table 12-5	from Equation 12-13		$(4)_{TOTAL}*(5)$	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-5.05	0.47	0.86	0.189	1.000	0.189	0.88	0.64	0.106
Fatal and Injury (FI)	-8.71	0.66	0.28	0.040	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.208	0.039	0.88	0.64	0.022
Property Damage Only (PDO)	-5.04	0.45	1.06	0.153	$(5)_{TOTAL}-(5)_{FI}$ = 0.792	0.150	0.88	0.64	0.084

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	$(9)_{FI}$ from Worksheet 1E	from Table 12-6	$(9)_{PDO}$ from Worksheet 1E	$(9)_{TOTAL}$ from Worksheet 1E
Total	1.000	0.022	1.000	0.084	0.106
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with animal	0.000	0.000	0.077	0.006	0.006
Collision with fixed object	0.400	0.009	0.846	0.071	0.080
Collision with other object	0.000	0.000	0.000	0.000	0.000
Other single-vehicle collision	0.600	0.013	0.077	0.006	0.020

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15,000)^t$	from Table 12-7
Major commercial	0	0.033	1.106	0.000	--
Minor commercial	0	0.011	1.106	0.000	
Major industrial/institutional	0	0.036	1.106	0.000	
Minor industrial/institutional	0	0.005	1.106	0.000	
Major residential	0	0.018	1.106	0.000	
Minor residential	0	0.003	1.106	0.000	
Other	0	0.005	1.106	0.000	
Total	--	--	--	0.000	1.39

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	0.000	1.000	0.000	0.88	0.64	0.000
Fatal and injury (FI)	--	0.284	0.000	0.88	0.64	0.000
Property damage only (PDO)	--	0.716	0.000	0.88	0.64	0.000

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	1.407	0.106	0.000	1.513	0.013	0.64	0.013
Fatal and injury (FI)	--	--	--	--	--	0.64	0.013

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	1.407	0.106	0.000	1.513	0.009	0.64	0.009
Fatal and injury (FI)	--	--	--	--	--	0.64	0.009

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	(5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	(6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	0.283	0.675	0.958
Head-on collisions (from Worksheet 1D)	0.002	0.000	0.002
Angle collisions (from Worksheet 1D)	0.007	0.008	0.015
Sideswipe, same direction (from Worksheet 1D)	0.014	0.148	0.162
Sideswipe, opposite direction (from Worksheet 1D)	0.005	0.004	0.009
Driveway-related collisions (from Worksheet 1H)	0.000	0.000	0.000
Other multiple-vehicle collision (from Worksheet 1D)	0.051	0.209	0.260
Subtotal	0.362	1.045	1.406
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.000	0.006	0.006
Collision with fixed object (from Worksheet 1F)	0.009	0.071	0.080
Collision with other object (from Worksheet 1F)	0.000	0.000	0.000
Other single-vehicle collision (from Worksheet 1F)	0.013	0.006	0.020
Collision with pedestrian (from Worksheet 1I)	0.013	0.000	0.013
Collision with bicycle (from Worksheet 1J)	0.009	0.000	0.009
Subtotal	0.043	0.084	0.127
Total	0.405	1.129	1.533

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	1.5	0.16	9.6
Fatal and injury (FI)	0.4	0.16	2.5
Property damage only (PDO)	1.1	0.16	7.1

Worksheet 2A -- General Information and Input Data for Urban and Suburban Arterial Intersections

General Information		Location Information	
Analyst	RLS	Roadway	US 97
Agency or Company	DKS	Intersection	**US 97/Cooley north**
Date Performed	07/24/18	Jurisdiction	Bend, OR
		Analysis Year	2040

Input Data		Base Conditions	Site Conditions
Intersection type (3ST, 3SG, 4ST, 4SG)		--	**3SG**
AADT $_{major}$ (veh/day)	$AADT_{MAX}$ = 58,100 (veh/day)	--	**58,100**
AADT $_{minor}$ (veh/day)	$AADT_{MAX}$ = 16,400 (veh/day)	--	**10,350**
Intersection lighting (present/not present)		Not Present	**Present**
Calibration factor, C_i		1.00	0.73
Data for unsignalized intersections only:		--	--
Number of major-road approaches with left-turn lanes (0,1,2)		0	0
Number of major-road approaches with right-turn lanes (0,1,2)		0	0
Data for signalized intersections only:		--	--
Number of approaches with left-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	**2**
Number of approaches with right-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	**2**
Number of approaches with left-turn signal phasing [for 3SG, use maximum value of 3]		--	**2**
Type of left-turn signal phasing for Leg #1		Permissive	Protected
Type of left-turn signal phasing for Leg #2		--	**Permissive**
Type of left-turn signal phasing for Leg #3		--	**Not Applicable**
Type of left-turn signal phasing for Leg #4 (if applicable)		--	**Not Applicable**
Number of approaches with right-turn-on-red prohibited [for 3SG, use maximum value of 3]		0	0
Intersection red light cameras (present/not present)		Not Present	Not Present
Sum of all pedestrian crossing volumes (PedVol) -- Signalized intersections only			5
Maximum number of lanes crossed by a pedestrian (n_{lanesx})		--	**6**
Number of bus stops within 300 m (1,000 ft) of the intersection		0	0
Schools within 300 m (1,000 ft) of the intersection (present/not present)		Not Present	Not Present
Number of alcohol sales establishments within 300 m (1,000 ft) of the intersection		0	0

Worksheet 2B -- Crash Modification Factors for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)	(7)
CMF for Left-Turn Lanes	CMF for Left-Turn Signal Phasing	CMF for Right-Turn Lanes	CMF for Right Turn on Red	CMF for Lighting	CMF for Red Light Cameras	Combined CMF
CMF 1i	*CMF 2i*	*CMF 3i*	*CMF 4i*	*CMF 5i*	*CMF 6i*	*CMF $_{COMB}$*
from Table 12-24	from Table 12-25	from Table 12-26	from Equation 12-35	from Equation 12-36	from Equation 12-37	(1)*(2)*(3)*(4)*(5)*(6)
0.86	0.94	0.92	1.00	0.94	1.00	0.70

Worksheet 2C -- Multiple-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1)	(2)			(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**			**Overdispersion Parameter, k**	**Initial N_{bimv}**	**Proportion of Total Crashes**	**Adjusted N_{bimv}**	**Combined CMFs**	**Calibration Factor, C_i**	**Predicted N_{bimv}**
	from Table 12-10			from Table 12-10	from Equation 12-21		$(4)_{TOTAL}$*(5)	(7) from Worksheet 2B		(6)*(7)*(8)
	a	b	c							
Total	-12.13	1.11	0.26	0.33	11.591	1.000	11.591	0.70	0.73	5.921
Fatal and Injury (FI)	-11.58	1.02	0.17	0.30	3.257	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.298	3.451	0.70	0.73	1.763
Property Damage Only (PDO)	-13.24	1.14	0.30	0.36	7.684	$(5)_{TOTAL}-(5)_{FI}$ = 0.702	8.140	0.70	0.73	4.158

Worksheet 2D -- Multiple-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{bimv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{bimv\ (PDO)}$ (crashes/year)**	**Predicted N $_{bimv\ (TOTAL)}$ (crashes/year)**
	from Table 12-11	$(9)_{FI}$ from Worksheet 2C	from Table 12-11	$(9)_{PDO}$ from Worksheet 2C	$(9)_{PDO}$ from Worksheet 2C
Total	1.000	1.763	1.000	4.158	5.921
		(2)*$(3)_{FI}$		(4)*$(5)_{PDO}$	(3)+(5)
Rear-end collision	0.580	1.022	0.530	2.204	3.226
Head-on collision	0.005	0.009	0.000	0.000	0.009
Angle collision	0.060	0.106	0.055	0.229	0.334
Sideswipe	0.011	0.019	0.013	0.054	0.073
Other multiple-vehicle collision	0.343	0.605	0.402	1.672	2.276

Worksheet 2E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1)	(2)			(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**			**Overdispersion Parameter, k**	**Initial N_{bisv}**	**Proportion of Total Crashes**	**Adjusted N_{bimv}**	**Combined CMFs**	**Calibration Factor, C_i**	**Predicted N_{bisv}**
	from Table 12-12			from Table 12-12	from Eqn. 12-24; (FI) from Eqn. 12-24 or 12-27		$(4)_{TOTAL}$*(5)	(7) from Worksheet 2B		(6)*(7)*(8)
	a	b	c							
Total	-9.02	0.42	0.40	0.36	0.489	1.000	0.489	0.70	0.73	0.250
Fatal and Injury (FI)	-9.75	0.27	0.51	0.24	0.126	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.273	0.133	0.70	0.73	0.068
Property Damage Only (PDO)	-9.08	0.45	0.33	0.53	0.335	$(5)_{TOTAL}-(5)_{FI}$ = 0.727	0.356	0.70	0.73	0.182

Worksheet 2F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{bisv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{bisv\ (PDO)}$ (crashes/year)**	**Predicted N $_{bisv\ (TOTAL)}$ (crashes/year)**
	from Table 12-13	$(9)_{FI}$ from Worksheet 2E	from Table 12-13	$(9)_{PDO}$ from Worksheet 2E	$(9)_{PDO}$ from Worksheet 2E
Total	1.000	0.068	1.000	0.182	0.250
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with parked vehicle	0.000	0.000	0.000	0.000	0.000
Collision with animal	0.000	0.000	0.000	0.000	0.000
Collision with fixed object	0.115	0.008	0.875	0.159	0.167
Collision with other object	0.000	0.000	0.125	0.023	0.023
Other single-vehicle collision	0.769	0.052	0.000	0.000	0.052
Single-vehicle noncollision	0.115	0.008	0.000	0.000	0.008

Worksheet 2G -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Stop-Controlled Intersections

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Predicted N_{bimv}**	**Predicted N_{bisv}**	**Predicted N_{bi}**	**f_{pedi}**	**Calibration factor, C_i**	**Predicted N_{pedi}**
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-16		(4)*(5)*(6)
Total	--	--	--	--	0.73	--
Fatal and injury (FI)	--	--	--	--	0.73	--

Worksheet 2H -- Crash Modification Factors for Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections

(1)	(2)	(3)	(4)
CMF for Bus Stops	CMF for Schools	CMF for Alcohol Sales Establishments	Combined CMF
CMF_{1p}	CMF_{2p}	CMF_{3p}	
from Table 12-28	from Table 12-29	from Table 12-30	(1)*(2)*(3)
1.00	1.00	1.00	1.00

Worksheet 2I -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections

(1)	(2)					(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**SPF Coefficients**					**Overdispersion Parameter, k**	**$N_{pedbase}$**	**Combined CMF**	**Calibration factor, C_i**	**Predicted N_{pedi}**
	from Table 12-14						from Equation 12-29	(4) from Worksheet 2H		(4)*(5)*(6)
	a	b	c	d	e					
Total	-6.60	0.05	0.24	0.41	0.09	0.52	0.005	1.00	0.73	0.004
Fatal and Injury (FI)	--	--	--	--	--	--	--	--	0.73	0.004

Worksheet 2J -- Vehicle-Bicycle Collisions for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Predicted N_{bimv}**	**Predicted N_{bisv}**	**Predicted N_{bi}**	**f_{bikei}**	**Calibration factor, C_i**	**Predicted N_{bikei}**
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-17		(4)*(5)*(6)
Total	5.921	0.250	6.171	0.011	0.73	0.050
Fatal and injury (FI)	--	--	--	--	0.73	0.050

Worksheet 2K -- Crash Severity Distribution for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)
	Fatal and injury (FI)	**Property damage only (PDO)**	**Total**
Collision type	(3) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J	(5) from Worksheet 2D and 2F	(6) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 2D)	1.022	2.204	3.226
Head-on collisions (from Worksheet 2D)	0.009	0.000	0.009
Angle collisions (from Worksheet 2D)	0.106	0.229	0.334
Sideswipe (from Worksheet 2D)	0.019	0.054	0.073
Other multiple-vehicle collision (from Worksheet 2D)	0.605	1.672	2.276
Subtotal	1.761	4.158	5.919
SINGLE-VEHICLE			
Collision with parked vehicle (from Worksheet 2F)	0.000	0.000	0.000
Collision with animal (from Worksheet 2F)	0.000	0.000	0.000
Collision with fixed object (from Worksheet 2F)	0.008	0.159	0.167
Collision with other object (from Worksheet 2F)	0.000	0.023	0.023
Other single-vehicle collision (from Worksheet 2F)	0.052	0.000	0.052
Single-vehicle noncollision (from Worksheet 2F)	0.008	0.000	0.008
Collision with pedestrian (from Worksheet 2G or 2I)	0.004	0.000	0.004
Collision with bicycle (from Worksheet 2J)	0.050	0.000	0.050
Subtotal	0.121	0.182	0.303
Total	1.882	4.340	6.222

Worksheet 2L -- Summary Results for Urban and Suburban Arterial Intersections

(1)	(2)
Crash severity level	**Predicted average crash frequency, $N_{predicted\ int}$ (crashes/year)**
	(Total) from Worksheet 2K
Total	6.2
Fatal and injury (FI)	1.9
Property damage only (PDO)	4.3

Worksheet 3A -- Predicted Crashes by Severity and Site Type and Observed Crashes Using the Site-Specific EB Method for Urban and Suburban Arterials

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Collision type / Site type	**Predicted average crash frequency (crashes/year)**			**Observed crashes, $N_{observed}$** (crashes/year)	**Overdispersion Parameter, k**	**Weighted adjustment, w**	**Expected average crash frequency,**
	$N_{predicted}$ (TOTAL)	$N_{predicted}$ (FI)	$N_{predicted}$ (PDO)			Equation A-5 from Part C Appendix	Equation A-4 from Part C Appendix
ROADWAY SEGMENTS							
Multiple-vehicle nondriveway							
Segment 1	3.734	0.991	2.742		1.320	0.169	0.630
Segment 2	3.951	1.037	2.914		1.320	0.161	0.636
Segment 3	1.407	0.362	1.045		1.320	0.350	0.492
Single-vehicle							
Segment 1	0.409	0.079	0.330		0.860	0.740	0.302
Segment 2	0.377	0.075	0.302		0.860	0.755	0.285
Segment 3	0.106	0.022	0.084		0.860	0.917	0.097
Multiple-vehicle driveway-related							
Segment 1	0.000	0.000	0.000		1.390	1.000	0.000
Segment 2	0.000	0.000	0.000		1.390	1.000	0.000
Segment 3	0.000	0.000	0.000		1.390	1.000	0.000
INTERSECTIONS							
Multiple-vehicle							
Intersection 1	5.919	1.761	4.158		0.330	0.339	2.004
Single-vehicle							
Intersection 1	0.250	0.068	0.182		0.360	0.917	0.229
COMBINED (sum of column)	16.152	4.395	11.756	0.0	--	--	4.675

Worksheet 3B -- Predicted Pedestrian and Bicycle Crashes for Urban and Suburban Arterials

(1)	(2)	(3)
Site Type	**N_{ped}**	**N_{bike}**
ROADWAY SEGMENTS		
Segment 1	0.034	0.024
Segment 2	0.036	0.025
Segment 3	0.013	0.009
INTERSECTIONS		
Intersection 1	0.004	0.050
COMBINED (sum of column)	0.087	0.107

Worksheet 3C -- Site-Specific EB Method Summary Results for Urban and Suburban Arterials

(1)	(2)	(3)	(4)	(5)	(6)
Crash severity level	**$N_{predicted}$**	**N_{ped}**	**N_{bike}**	$N_{expected\ (VEHICLE)}$	$N_{expected}$
Total	$(2)_{COMB}$ from Worksheet 3A	$(2)_{COMB}$ from Worksheet 3B	$(3)_{COMB}$ from Worksheet 3B	$(8)_{COMB}$ Worksheet 3A	(3)+(4)+(5)
	16.2	0.1	0.1	4.7	4.9
Fatal and injury (FI)	$(3)_{COMB}$ from Worksheet 3A	$(2)_{COMB}$ from Worksheet 3B	$(3)_{COMB}$ from Worksheet 3B	$(5)_{TOTAL} * (2)_{FI} / (2)_{TOTAL}$	(3)+(4)+(5)
	4.4	0.1	0.1	1.3	1.5
Property damage only (PDO)	$(4)_{COMB}$ from Worksheet 3A	--	--	$(5)_{TOTAL} * (2)_{PDO} / (2)_{TOTAL}$	(3)+(4)+(5)
	11.8	0.0	0.0	3.4	3.4

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments

General Information		Location Information	
Analyst	RLS	Roadway	US 97
Agency or Company	DKS	Roadway Section	Butler Market Ramp to Revere Ramp
Date Performed	07/24/18	Jurisdiction	Bend, OR
		Analysis Year	2040

Input Data		Base Conditions	Site Conditions
Roadway type (2U, 3T, 4U, 4D, ST)		--	4D
Length of segment, L (mi)		--	0.15
AADT (veh/day)	$AADT_{MAX}$ = 66,000 (veh/day)	--	**66,000**
Type of on-street parking (none/parallel/angle)		None	None
Proportion of curb length with on-street parking		--	0
Median width (ft) - for divided only		15	15
Lighting (present / not present)		Not Present	Present
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	0
Minor commercial driveways (number)		--	0
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	0
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	0
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	30
Calibration Factor, Cr		1.00	0.64

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.00	1.00	0.94	1.00	0.94

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-12.34	1.36	1.32	2.352	1.000	2.352	0.94	0.64	1.418
Fatal and Injury (FI)	-12.76	1.28	1.31	0.636	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.257	0.605	0.94	0.64	0.365
Property Damage Only (PDO)	-12.81	1.38	1.34	1.835	$(5)_{TOTAL}-(5)_{FI}$ = 0.743	1.747	0.94	0.64	1.053

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	$(9)_{FI}$ from Worksheet 1C	from Table 12-4	$(9)_{PDO}$ from Worksheet 1C	$(9)_{TOTAL}$ from Worksheet 1C
Total	1.000	0.365	1.000	1.053	1.418
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.783	0.286	0.646	0.680	0.966
Head-on collision	0.006	0.002	0.000	0.000	0.002
Angle collision	0.019	0.007	0.008	0.008	0.015
Sideswipe, same direction	0.038	0.014	0.142	0.150	0.163
Sideswipe, opposite direction	0.013	0.005	0.004	0.004	0.009
Other multiple-vehicle collision	0.140	0.051	0.200	0.211	0.262

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brsv}**	**Proportion of Total Crashes**	**Adjusted N_{brsv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brsv}**
	from Table 12-5		from Table 12-5	from Equation 12-13		$(4)_{TOTAL}*(5)$	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-5.05	0.47	0.86	0.177	1.000	0.177	0.94	0.64	0.107
Fatal and Injury (FI)	-8.71	0.66	0.28	0.038	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.208	0.037	0.94	0.64	0.022
Property Damage Only (PDO)	-5.04	0.45	1.06	0.143	$(5)_{TOTAL}-(5)_{FI}$ = 0.792	0.140	0.94	0.64	0.085

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	$(9)_{FI}$ from Worksheet 1E	from Table 12-6	$(9)_{PDO}$ from Worksheet 1E	$(9)_{TOTAL}$ from Worksheet 1E
Total	1.000	0.022	1.000	0.085	0.107
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with animal	0.000	0.000	0.077	0.007	0.007
Collision with fixed object	0.400	0.009	0.846	0.072	0.080
Collision with other object	0.000	0.000	0.000	0.000	0.000
Other single-vehicle collision	0.600	0.013	0.077	0.007	0.020

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15,000)^t$	from Table 12-7
Major commercial	0	0.033	1.106	0.000	--
Minor commercial	0	0.011	1.106	0.000	
Major industrial/institutional	0	0.036	1.106	0.000	
Minor industrial/institutional	0	0.005	1.106	0.000	
Major residential	0	0.018	1.106	0.000	
Minor residential	0	0.003	1.106	0.000	
Other	0	0.005	1.106	0.000	
Total	--	--	--	0.000	1.39

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	0.000	1.000	0.000	0.94	0.64	0.000
Fatal and injury (FI)	--	0.284	0.000	0.94	0.64	0.000
Property damage only (PDO)	--	0.716	0.000	0.94	0.64	0.000

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	1.418	0.107	0.000	1.525	0.013	0.64	0.013
Fatal and injury (FI)	--	--	--	--	--	0.64	0.013

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	1.418	0.107	0.000	1.525	0.009	0.64	0.009
Fatal and injury (FI)	--	--	--	--	--	0.64	0.009

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	(5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	(6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	0.286	0.680	0.966
Head-on collisions (from Worksheet 1D)	0.002	0.000	0.002
Angle collisions (from Worksheet 1D)	0.007	0.008	0.015
Sideswipe, same direction (from Worksheet 1D)	0.014	0.150	0.163
Sideswipe, opposite direction (from Worksheet 1D)	0.005	0.004	0.009
Driveway-related collisions (from Worksheet 1H)	0.000	0.000	0.000
Other multiple-vehicle collision (from Worksheet 1D)	0.051	0.211	0.262
Subtotal	0.365	1.053	1.418
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.000	0.007	0.007
Collision with fixed object (from Worksheet 1F)	0.009	0.072	0.080
Collision with other object (from Worksheet 1F)	0.000	0.000	0.000
Other single-vehicle collision (from Worksheet 1F)	0.013	0.007	0.020
Collision with pedestrian (from Worksheet 1I)	0.013	0.000	0.013
Collision with bicycle (from Worksheet 1J)	0.009	0.000	0.009
Subtotal	0.044	0.085	0.128
Total	0.408	1.138	1.546

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	1.5	0.15	10.3
Fatal and injury (FI)	0.4	0.15	2.7
Property damage only (PDO)	1.1	0.15	7.6

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments

General Information		Location Information	
Analyst	RLS	Roadway	US 97
Agency or Company	DKS	Roadway Section	Revere Ramp to Lafayette
Date Performed	07/24/18	Jurisdiction	Bend, OR
		Analysis Year	2040

Input Data		Base Conditions	Site Conditions
Roadway type (2U, 3T, 4U, 4D, ST)		--	4D
Length of segment, L (mi)		--	0.22
AADT (veh/day)	$AADT_{MAX}$ = 66,000 (veh/day)	--	**66,000**
Type of on-street parking (none/parallel/angle)		None	None
Proportion of curb length with on-street parking		--	0
Median width (ft) - for divided only		15	15
Lighting (present / not present)		Not Present	Present
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	0
Minor commercial driveways (number)		--	0
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	0
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	14
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	15
Calibration Factor, Cr		1.00	0.64

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.00	1.00	0.94	1.00	0.94

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-12.34	1.36	1.32	3.450	1.000	3.450	0.94	0.64	2.080
Fatal and Injury (FI)	-12.76	1.28	1.31	0.933	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.257	0.888	0.94	0.64	0.535
Property Damage Only (PDO)	-12.81	1.38	1.34	2.692	$(5)_{TOTAL}-(5)_{FI}$ = 0.743	2.562	0.94	0.64	1.545

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	$(9)_{FI}$ from Worksheet 1C	from Table 12-4	$(9)_{PDO}$ from Worksheet 1C	$(9)_{TOTAL}$ from Worksheet 1C
Total	1.000	0.535	1.000	1.545	2.080
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.783	0.419	0.646	0.998	1.417
Head-on collision	0.006	0.003	0.000	0.000	0.003
Angle collision	0.019	0.010	0.008	0.012	0.023
Sideswipe, same direction	0.038	0.020	0.142	0.219	0.240
Sideswipe, opposite direction	0.013	0.007	0.004	0.006	0.013
Other multiple-vehicle collision	0.140	0.075	0.200	0.309	0.384

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brsv}**	**Proportion of Total Crashes**	**Adjusted N_{brsv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brsv}**
	from Table 12-5		from Table 12-5	from Equation 12-13		$(4)_{TOTAL}*(5)$	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-5.05	0.47	0.86	0.260	1.000	0.260	0.94	0.64	0.157
Fatal and Injury (FI)	-8.71	0.66	0.28	0.055	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.208	0.054	0.94	0.64	0.032
Property Damage Only (PDO)	-5.04	0.45	1.06	0.210	$(5)_{TOTAL}-(5)_{FI}$ = 0.792	0.206	0.94	0.64	0.124

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	$(9)_{FI}$ from Worksheet 1E	from Table 12-6	$(9)_{PDO}$ from Worksheet 1E	$(9)_{TOTAL}$ from Worksheet 1E
Total	1.000	0.032	1.000	0.124	0.157
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with animal	0.000	0.000	0.077	0.010	0.010
Collision with fixed object	0.400	0.013	0.846	0.105	0.118
Collision with other object	0.000	0.000	0.000	0.000	0.000
Other single-vehicle collision	0.600	0.019	0.077	0.010	0.029

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15,000)^t$	from Table 12-7
Major commercial	0	0.033	1.106	0.000	
Minor commercial	0	0.011	1.106	0.000	
Major industrial/institutional	0	0.036	1.106	0.000	
Minor industrial/institutional	0	0.005	1.106	0.000	--
Major residential	0	0.018	1.106	0.000	
Minor residential	0	0.003	1.106	0.000	
Other	0	0.005	1.106	0.000	
Total	--	--	--	0.000	1.39

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	0.000	1.000	0.000	0.94	0.64	0.000
Fatal and injury (FI)	--	0.284	0.000	0.94	0.64	0.000
Property damage only (PDO)	--	0.716	0.000	0.94	0.64	0.000

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	2.080	0.157	0.000	2.236	0.013	0.64	0.019
Fatal and injury (FI)	--	--	--	--	--	0.64	0.019

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	2.080	0.157	0.000	2.236	0.009	0.64	0.013
Fatal and injury (FI)	--	--	--	--	--	0.64	0.013

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	(5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	(6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	0.419	0.998	1.417
Head-on collisions (from Worksheet 1D)	0.003	0.000	0.003
Angle collisions (from Worksheet 1D)	0.010	0.012	0.023
Sideswipe, same direction (from Worksheet 1D)	0.020	0.219	0.240
Sideswipe, opposite direction (from Worksheet 1D)	0.007	0.006	0.013
Driveway-related collisions (from Worksheet 1H)	0.000	0.000	0.000
Other multiple-vehicle collision (from Worksheet 1D)	0.075	0.309	0.384
Subtotal	0.535	1.545	2.079
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.000	0.010	0.010
Collision with fixed object (from Worksheet 1F)	0.013	0.105	0.118
Collision with other object (from Worksheet 1F)	0.000	0.000	0.000
Other single-vehicle collision (from Worksheet 1F)	0.019	0.010	0.029
Collision with pedestrian (from Worksheet 1I)	0.019	0.000	0.019
Collision with bicycle (from Worksheet 1J)	0.013	0.000	0.013
Subtotal	0.064	0.124	0.188
Total	0.599	1.669	2.267

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	2.3	0.22	10.3
Fatal and injury (FI)	0.6	0.22	2.7
Property damage only (PDO)	1.7	0.22	7.6

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments

General Information		Location Information	
Analyst	RLS	Roadway	US 97
Agency or Company	DKS	Roadway Section	Lafayette to Hawthorne
Date Performed	07/24/18	Jurisdiction	Bend, OR
		Analysis Year	2040

Input Data		Base Conditions	Site Conditions
Roadway type (2U, 3T, 4U, 4D, ST)		--	4D
Length of segment, L (mi)		--	0.27
AADT (veh/day)	$AADT_{MAX}$ = 66,000 (veh/day)	--	**66,000**
Type of on-street parking (none/parallel/angle)		None	None
Proportion of curb length with on-street parking		--	0
Median width (ft) - for divided only		15	20
Lighting (present / not present)		Not Present	Present
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	0
Minor commercial driveways (number)		--	0
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	0
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	28
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	5
Calibration Factor, Cr		1.00	0.64

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.10	0.99	0.94	1.00	1.02

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-12.34	1.36	1.32	4.234	1.000	4.234	1.02	0.64	2.774
Fatal and Injury (FI)	-12.76	1.28	1.31	1.145	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.257	1.090	1.02	0.64	0.714
Property Damage Only (PDO)	-12.81	1.38	1.34	3.304	$(5)_{TOTAL}-(5)_{FI}$ = 0.743	3.144	1.02	0.64	2.060

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	$(9)_{FI}$ from Worksheet 1C	from Table 12-4	$(9)_{PDO}$ from Worksheet 1C	$(9)_{TOTAL}$ from Worksheet 1C
Total	1.000	0.714	1.000	2.060	2.774
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.783	0.559	0.646	1.331	1.890
Head-on collision	0.006	0.004	0.000	0.000	0.004
Angle collision	0.019	0.014	0.008	0.016	0.030
Sideswipe, same direction	0.038	0.027	0.142	0.293	0.320
Sideswipe, opposite direction	0.013	0.009	0.004	0.008	0.018
Other multiple-vehicle collision	0.140	0.100	0.200	0.412	0.512

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brsv}**	**Proportion of Total Crashes**	**Adjusted N_{brsv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brsv}**
	from Table 12-5		from Table 12-5	from Equation 12-13		$(4)_{TOTAL}*(5)$	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-5.05	0.47	0.86	0.319	1.000	0.319	1.02	0.64	0.209
Fatal and Injury (FI)	-8.71	0.66	0.28	0.068	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.208	0.066	1.02	0.64	0.043
Property Damage Only (PDO)	-5.04	0.45	1.06	0.258	$(5)_{TOTAL}-(5)_{FI}$ = 0.792	0.253	1.02	0.64	0.165

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	$(9)_{FI}$ from Worksheet 1E	from Table 12-6	$(9)_{PDO}$ from Worksheet 1E	$(9)_{TOTAL}$ from Worksheet 1E
Total	1.000	0.043	1.000	0.165	0.209
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with animal	0.000	0.000	0.077	0.013	0.013
Collision with fixed object	0.400	0.017	0.846	0.140	0.157
Collision with other object	0.000	0.000	0.000	0.000	0.000
Other single-vehicle collision	0.600	0.026	0.077	0.013	0.039

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15,000)^t$	from Table 12-7
Major commercial	0	0.033	1.106	0.000	--
Minor commercial	0	0.011	1.106	0.000	
Major industrial/institutional	0	0.036	1.106	0.000	
Minor industrial/institutional	0	0.005	1.106	0.000	
Major residential	0	0.018	1.106	0.000	
Minor residential	0	0.003	1.106	0.000	
Other	0	0.005	1.106	0.000	
Total	--	--	--	0.000	1.39

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	0.000	1.000	0.000	1.02	0.64	0.000
Fatal and injury (FI)	--	0.284	0.000	1.02	0.64	0.000
Property damage only (PDO)	--	0.716	0.000	1.02	0.64	0.000

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	2.774	0.209	0.000	2.983	0.013	0.64	0.025
Fatal and injury (FI)	--	--	--	--	--	0.64	0.025

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	2.774	0.209	0.000	2.983	0.009	0.64	0.017
Fatal and injury (FI)	--	--	--	--	--	0.64	0.017

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	(5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	(6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	0.559	1.331	1.890
Head-on collisions (from Worksheet 1D)	0.004	0.000	0.004
Angle collisions (from Worksheet 1D)	0.014	0.016	0.030
Sideswipe, same direction (from Worksheet 1D)	0.027	0.293	0.320
Sideswipe, opposite direction (from Worksheet 1D)	0.009	0.008	0.018
Driveway-related collisions (from Worksheet 1H)	0.000	0.000	0.000
Other multiple-vehicle collision (from Worksheet 1D)	0.100	0.412	0.512
Subtotal	0.713	2.060	2.773
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.000	0.013	0.013
Collision with fixed object (from Worksheet 1F)	0.017	0.140	0.157
Collision with other object (from Worksheet 1F)	0.000	0.000	0.000
Other single-vehicle collision (from Worksheet 1F)	0.026	0.013	0.039
Collision with pedestrian (from Worksheet 1I)	0.025	0.000	0.025
Collision with bicycle (from Worksheet 1J)	0.017	0.000	0.017
Subtotal	0.085	0.165	0.251
Total	0.799	2.226	3.024

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	3.0	0.27	11.2
Fatal and injury (FI)	0.8	0.27	3.0
Property damage only (PDO)	2.2	0.27	8.2

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments

General Information		Location Information	
Analyst	RLS	Roadway	US 97
Agency or Company	DKS	Roadway Section	Hawthorne to Colorado Ramp
Date Performed	07/24/18	Jurisdiction	Bend, OR
		Analysis Year	2040

Input Data		Base Conditions	Site Conditions
Roadway type (2U, 3T, 4U, 4D, ST)		--	4D
Length of segment, L (mi)		--	0.18
AADT (veh/day)	$AADT_{MAX}$ = 66,000 (veh/day)	--	**66,000**
Type of on-street parking (none/parallel/angle)		None	None
Proportion of curb length with on-street parking		--	0
Median width (ft) - for divided only		15	20
Lighting (present / not present)		Not Present	Present
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	0
Minor commercial driveways (number)		--	0
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	0
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	22
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	5
Calibration Factor, Cr		1.00	0.64

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.07	0.99	0.94	1.00	1.00

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-12.34	1.36	1.32	2.823	1.000	2.823	1.00	0.64	1.801
Fatal and Injury (FI)	-12.76	1.28	1.31	0.763	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.257	0.726	1.00	0.64	0.464
Property Damage Only (PDO)	-12.81	1.38	1.34	2.203	$(5)_{TOTAL}-(5)_{FI}$ = 0.743	2.096	1.00	0.64	1.338

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	$(9)_{FI}$ from Worksheet 1C	from Table 12-4	$(9)_{PDO}$ from Worksheet 1C	$(9)_{TOTAL}$ from Worksheet 1C
Total	1.000	0.464	1.000	1.338	1.801
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.783	0.363	0.646	0.864	1.227
Head-on collision	0.006	0.003	0.000	0.000	0.003
Angle collision	0.019	0.009	0.008	0.011	0.020
Sideswipe, same direction	0.038	0.018	0.142	0.190	0.208
Sideswipe, opposite direction	0.013	0.006	0.004	0.005	0.011
Other multiple-vehicle collision	0.140	0.065	0.200	0.268	0.332

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brsv}**	**Proportion of Total Crashes**	**Adjusted N_{brsv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brsv}**
	from Table 12-5		from Table 12-5	from Equation 12-13		$(4)_{TOTAL}*(5)$	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-5.05	0.47	0.86	0.212	1.000	0.212	1.00	0.64	0.136
Fatal and Injury (FI)	-8.71	0.66	0.28	0.045	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.208	0.044	1.00	0.64	0.028
Property Damage Only (PDO)	-5.04	0.45	1.06	0.172	$(5)_{TOTAL}-(5)_{FI}$ = 0.792	0.168	1.00	0.64	0.107

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	$(9)_{FI}$ from Worksheet 1E	from Table 12-6	$(9)_{PDO}$ from Worksheet 1E	$(9)_{TOTAL}$ from Worksheet 1E
Total	1.000	0.028	1.000	0.107	0.136
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with animal	0.000	0.000	0.077	0.008	0.008
Collision with fixed object	0.400	0.011	0.846	0.091	0.102
Collision with other object	0.000	0.000	0.000	0.000	0.000
Other single-vehicle collision	0.600	0.017	0.077	0.008	0.025

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15,000)^t$	from Table 12-7
Major commercial	0	0.033	1.106	0.000	--
Minor commercial	0	0.011	1.106	0.000	
Major industrial/institutional	0	0.036	1.106	0.000	
Minor industrial/institutional	0	0.005	1.106	0.000	
Major residential	0	0.018	1.106	0.000	
Minor residential	0	0.003	1.106	0.000	
Other	0	0.005	1.106	0.000	
Total	--	--	--	0.000	1.39

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	0.000	1.000	0.000	1.00	0.64	0.000
Fatal and injury (FI)	--	0.284	0.000	1.00	0.64	0.000
Property damage only (PDO)	--	0.716	0.000	1.00	0.64	0.000

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	1.801	0.136	0.000	1.937	0.013	0.64	0.016
Fatal and injury (FI)	--	--	--	--	--	0.64	0.016

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	1.801	0.136	0.000	1.937	0.009	0.64	0.011
Fatal and injury (FI)	--	--	--	--	--	0.64	0.011

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	(5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	(6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	0.363	0.864	1.227
Head-on collisions (from Worksheet 1D)	0.003	0.000	0.003
Angle collisions (from Worksheet 1D)	0.009	0.011	0.020
Sideswipe, same direction (from Worksheet 1D)	0.018	0.190	0.208
Sideswipe, opposite direction (from Worksheet 1D)	0.006	0.005	0.011
Driveway-related collisions (from Worksheet 1H)	0.000	0.000	0.000
Other multiple-vehicle collision (from Worksheet 1D)	0.065	0.268	0.332
Subtotal	0.463	1.338	1.801
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.000	0.008	0.008
Collision with fixed object (from Worksheet 1F)	0.011	0.091	0.102
Collision with other object (from Worksheet 1F)	0.000	0.000	0.000
Other single-vehicle collision (from Worksheet 1F)	0.017	0.008	0.025
Collision with pedestrian (from Worksheet 1I)	0.016	0.000	0.016
Collision with bicycle (from Worksheet 1J)	0.011	0.000	0.011
Subtotal	0.055	0.107	0.163
Total	0.518	1.445	1.963

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	2.0	0.18	10.9
Fatal and injury (FI)	0.5	0.18	2.9
Property damage only (PDO)	1.4	0.18	8.0

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments

General Information		Location Information	
Analyst	RLS	Roadway	US 97
Agency or Company	DKS	Roadway Section	Colorado Ramp to Truman
Date Performed	07/24/18	Jurisdiction	Bend, OR
		Analysis Year	2040

Input Data		Base Conditions	Site Conditions
Roadway type (2U, 3T, 4U, 4D, ST)		--	4D
Length of segment, L (mi)		--	0.33
AADT (veh/day)	$AADT_{MAX}$ = 66,000 (veh/day)	--	**62,620**
Type of on-street parking (none/parallel/angle)		None	None
Proportion of curb length with on-street parking		--	0
Median width (ft) - for divided only		15	10
Lighting (present / not present)		Not Present	Present
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	0
Minor commercial driveways (number)		--	0
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	0
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	29
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	15
Calibration Factor, Cr		1.00	0.64

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.03	1.01	0.94	1.00	0.98

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-12.34	1.36	1.32	4.818	1.000	4.818	0.98	0.64	3.035
Fatal and Injury (FI)	-12.76	1.28	1.31	1.308	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.258	1.245	0.98	0.64	0.784
Property Damage Only (PDO)	-12.81	1.38	1.34	3.755	$(5)_{TOTAL}-(5)_{FI}$ = 0.742	3.573	0.98	0.64	2.251

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	$(9)_{FI}$ from Worksheet 1C	from Table 12-4	$(9)_{PDO}$ from Worksheet 1C	$(9)_{TOTAL}$ from Worksheet 1C
Total	1.000	0.784	1.000	2.251	3.035
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.783	0.614	0.646	1.454	2.068
Head-on collision	0.006	0.005	0.000	0.000	0.005
Angle collision	0.019	0.015	0.008	0.018	0.033
Sideswipe, same direction	0.038	0.030	0.142	0.320	0.349
Sideswipe, opposite direction	0.013	0.010	0.004	0.009	0.019
Other multiple-vehicle collision	0.140	0.110	0.200	0.450	0.560

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brsv}**	**Proportion of Total Crashes**	**Adjusted N_{brsv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brsv}**
	from Table 12-5		from Table 12-5	from Equation 12-13		$(4)_{TOTAL}*(5)$	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-5.05	0.47	0.86	0.380	1.000	0.380	0.98	0.64	0.239
Fatal and Injury (FI)	-8.71	0.66	0.28	0.080	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.206	0.078	0.98	0.64	0.049
Property Damage Only (PDO)	-5.04	0.45	1.06	0.308	$(5)_{TOTAL}-(5)_{FI}$ = 0.794	0.302	0.98	0.64	0.190

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	$(9)_{FI}$ from Worksheet 1E	from Table 12-6	$(9)_{PDO}$ from Worksheet 1E	$(9)_{TOTAL}$ from Worksheet 1E
Total	1.000	0.049	1.000	0.190	0.239
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with animal	0.000	0.000	0.077	0.015	0.015
Collision with fixed object	0.400	0.020	0.846	0.161	0.181
Collision with other object	0.000	0.000	0.000	0.000	0.000
Other single-vehicle collision	0.600	0.030	0.077	0.015	0.044

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15,000)^t$	from Table 12-7
Major commercial	0	0.033	1.106	0.000	
Minor commercial	0	0.011	1.106	0.000	
Major industrial/institutional	0	0.036	1.106	0.000	
Minor industrial/institutional	0	0.005	1.106	0.000	--
Major residential	0	0.018	1.106	0.000	
Minor residential	0	0.003	1.106	0.000	
Other	0	0.005	1.106	0.000	
Total	--	--	--	0.000	1.39

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	0.000	1.000	0.000	0.98	0.64	0.000
Fatal and injury (FI)	--	0.284	0.000	0.98	0.64	0.000
Property damage only (PDO)	--	0.716	0.000	0.98	0.64	0.000

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	3.035	0.239	0.000	3.274	0.013	0.64	0.027
Fatal and injury (FI)	--	--	--	--	--	0.64	0.027

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	3.035	0.239	0.000	3.274	0.009	0.64	0.019
Fatal and injury (FI)	--	--	--	--	--	0.64	0.019

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	(5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	(6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	0.614	1.454	2.068
Head-on collisions (from Worksheet 1D)	0.005	0.000	0.005
Angle collisions (from Worksheet 1D)	0.015	0.018	0.033
Sideswipe, same direction (from Worksheet 1D)	0.030	0.320	0.349
Sideswipe, opposite direction (from Worksheet 1D)	0.010	0.009	0.019
Driveway-related collisions (from Worksheet 1H)	0.000	0.000	0.000
Other multiple-vehicle collision (from Worksheet 1D)	0.110	0.450	0.560
Subtotal	0.783	2.251	3.034
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.000	0.015	0.015
Collision with fixed object (from Worksheet 1F)	0.020	0.161	0.181
Collision with other object (from Worksheet 1F)	0.000	0.000	0.000
Other single-vehicle collision (from Worksheet 1F)	0.030	0.015	0.044
Collision with pedestrian (from Worksheet 1I)	0.027	0.000	0.027
Collision with bicycle (from Worksheet 1J)	0.019	0.000	0.019
Subtotal	0.095	0.190	0.285
Total	0.879	2.441	3.320

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	3.3	0.33	10.1
Fatal and injury (FI)	0.9	0.33	2.7
Property damage only (PDO)	2.4	0.33	7.4

Worksheet 2A -- General Information and Input Data for Urban and Suburban Arterial Intersections

General Information		Location Information	
Analyst	RLS	Roadway	US 97
Agency or Company	DKS	Intersection	Hawthorne/US 97
Date Performed	07/24/18	Jurisdiction	Bend, OR
		Analysis Year	2040

Input Data		Base Conditions	Site Conditions
Intersection type (3ST, 3SG, 4ST, 4SG)		--	3ST
AADT $_{major}$ (veh/day)	$AADT_{MAX}$ = 45,700 (veh/day)	--	**45,700**
AADT $_{minor}$ (veh/day)	$AADT_{MAX}$ = 9,300 (veh/day)	--	**7,320**
Intersection lighting (present/not present)		Not Present	Present
Calibration factor, C_i		1.00	0.35
Data for unsignalized intersections only:		--	--
Number of major-road approaches with left-turn lanes (0,1,2)		0	0
Number of major-road approaches with right-turn lanes (0,1,2)		0	1
Data for signalized intersections only:		--	--
Number of approaches with left-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	0
Number of approaches with right-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	0
Number of approaches with left-turn signal phasing [for 3SG, use maximum value of 3]		--	
Type of left-turn signal phasing for Leg #1		Permissive	
Type of left-turn signal phasing for Leg #2		--	
Type of left-turn signal phasing for Leg #3		--	
Type of left-turn signal phasing for Leg #4 (if applicable)		--	
Number of approaches with right-turn-on-red prohibited [for 3SG, use maximum value of 3]		0	0
Intersection red light cameras (present/not present)		Not Present	Not Present
Sum of all pedestrian crossing volumes (PedVol) -- Signalized intersections only			
Maximum number of lanes crossed by a pedestrian (n_{lanesx})		--	
Number of bus stops within 300 m (1,000 ft) of the intersection		0	0
Schools within 300 m (1,000 ft) of the intersection (present/not present)		Not Present	Not Present
Number of alcohol sales establishments within 300 m (1,000 ft) of the intersection		0	0

Worksheet 2B -- Crash Modification Factors for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)	(7)
CMF for Left-Turn Lanes	CMF for Left-Turn Signal Phasing	CMF for Right-Turn Lanes	CMF for Right Turn on Red	CMF for Lighting	CMF for Red Light Cameras	Combined CMF
CMF 1i	*CMF 2i*	*CMF 3i*	*CMF 4i*	*CMF 5i*	*CMF 6i*	*CMF $_{COMB}$*
from Table 12-24	from Table 12-25	from Table 12-26	from Equation 12-35	from Equation 12-36	from Equation 12-37	(1)*(2)*(3)*(4)*(5)*(6)
1.00	1.00	0.86	1.00	0.88	1.00	0.76

Worksheet 2C -- Multiple-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1)	(2)			(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**			**Overdispersion Parameter, k**	**Initial N_{bimv}**	**Proportion of Total Crashes**	**Adjusted N_{bimv}**	**Combined CMFs**	**Calibration Factor, C_i**	**Predicted N_{bimv}**
	from Table 12-10			from Table 12-10	from Equation 12-21		$(4)_{TOTAL}$*(5)	(7) from Worksheet 2B		(6)*(7)*(8)
	a	b	c							
Total	-13.36	1.11	0.41	0.80	9.011	1.000	9.011	0.76	0.35	2.382
Fatal and Injury (FI)	-14.01	1.16	0.30	0.69	3.023	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.283	2.553	0.76	0.35	0.675
Property Damage Only (PDO)	-15.38	1.20	0.51	0.77	7.645	$(5)_{TOTAL}-(5)_{FI}$ = 0.717	6.458	0.76	0.35	1.707

Worksheet 2D -- Multiple-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{bimv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{bimv\ (PDO)}$ (crashes/year)**	**Predicted N $_{bimv\ (TOTAL)}$ (crashes/year)**
	from Table 12-11	$(9)_{FI}$ from Worksheet 2C	from Table 12-11	$(9)_{PDO}$ from Worksheet 2C	$(9)_{PDO}$ from Worksheet 2C
Total	1.000	0.675	1.000	1.707	2.382
		(2)*$(3)_{FI}$		(4)*$(5)_{PDO}$	(3)+(5)
Rear-end collision	0.186	0.126	0.181	0.309	0.434
Head-on collision	0.004	0.003	0.000	0.000	0.003
Angle collision	0.078	0.053	0.056	0.096	0.148
Sideswipe	0.008	0.005	0.016	0.027	0.033
Other multiple-vehicle collision	0.725	0.489	0.746	1.273	1.762

Worksheet 2E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1)	(2)			(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**			**Overdispersion Parameter, k**	**Initial N_{bisv}**	**Proportion of Total Crashes**	**Adjusted N_{bimv}**	**Combined CMFs**	**Calibration Factor, C_i**	**Predicted N_{bisv}**
	from Table 12-12			from Table 12-12	from Eqn. 12-24; (FI) from Eqn. 12-24 or 12-27		$(4)_{TOTAL}$*(5)	(7) from Worksheet 2B		(6)*(7)*(8)
	a	b	c							
Total	-6.81	0.16	0.51	1.14	0.574	1.000	0.574	0.76	0.35	0.152
Fatal and Injury (FI)	--	--	--	--	0.178	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.280	0.161	0.76	0.35	0.043
Property Damage Only (PDO)	-8.36	0.25	0.55	1.29	0.457	$(5)_{TOTAL}-(5)_{FI}$ = 0.720	0.413	0.76	0.35	0.109

Worksheet 2F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{bisv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{bisv\ (PDO)}$ (crashes/year)**	**Predicted N $_{bisv\ (TOTAL)}$ (crashes/year)**
	from Table 12-13	$(9)_{FI}$ from Worksheet 2E	from Table 12-13	$(9)_{PDO}$ from Worksheet 2E	$(9)_{PDO}$ from Worksheet 2E
Total	1.000	0.043	1.000	0.109	0.152
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with parked vehicle	0.000	0.000	0.000	0.000	0.000
Collision with animal	0.000	0.000	0.000	0.000	0.000
Collision with fixed object	0.077	0.003	1.000	0.109	0.112
Collision with other object	0.000	0.000	0.000	0.000	0.000
Other single-vehicle collision	0.923	0.039	0.000	0.000	0.039
Single-vehicle noncollision	0.000	0.000	0.000	0.000	0.000

Worksheet 2G -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Stop-Controlled Intersections

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Predicted N_{bimv}**	**Predicted N_{bisv}**	**Predicted N_{bi}**	**f_{pedi}**	**Calibration factor, C_i**	**Predicted N_{pedi}**
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-16		(4)*(5)*(6)
Total	2.382	0.152	2.533	0.021	0.35	0.019
Fatal and injury (FI)	--	--	--	--	0.35	0.019

Worksheet 2H -- Crash Modification Factors for Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections

(1)	(2)	(3)	(4)
CMF for Bus Stops	CMF for Schools	CMF for Alcohol Sales Establishments	Combined CMF
CMF_{1p}	CMF_{2p}	CMF_{3p}	
from Table 12-28	from Table 12-29	from Table 12-30	(1)*(2)*(3)
--	--	--	--

Worksheet 2I -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections

(1)	(2)					(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**SPF Coefficients**					**Overdispersion Parameter, k**	**$N_{pedbase}$**	**Combined CMF**	**Calibration factor, C_i**	**Predicted N_{pedi}**
	from Table 12-14						from Equation 12-29	(4) from Worksheet 2H		(4)*(5)*(6)
	a	b	c	d	e					
Total	--	--	--	--	--	--	--	--	0.35	--
Fatal and Injury (FI)	--	--	--	--	--	--	--	--	0.35	--

Worksheet 2J -- Vehicle-Bicycle Collisions for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Predicted N_{bimv}**	**Predicted N_{bisv}**	**Predicted N_{bi}**	**f_{bikei}**	**Calibration factor, C_i**	**Predicted N_{bikei}**
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-17		(4)*(5)*(6)
Total	2.382	0.152	2.533	0.016	0.35	0.014
Fatal and injury (FI)	--	--	--	--	0.35	0.014

Worksheet 2K -- Crash Severity Distribution for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)
	Fatal and injury (FI)	**Property damage only (PDO)**	**Total**
Collision type	(3) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J	(5) from Worksheet 2D and 2F	(6) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 2D)	0.126	0.309	0.434
Head-on collisions (from Worksheet 2D)	0.003	0.000	0.003
Angle collisions (from Worksheet 2D)	0.053	0.096	0.148
Sideswipe (from Worksheet 2D)	0.005	0.027	0.033
Other multiple-vehicle collision (from Worksheet 2D)	0.489	1.273	1.762
Subtotal	0.676	1.705	2.380
SINGLE-VEHICLE			
Collision with parked vehicle (from Worksheet 2F)	0.000	0.000	0.000
Collision with animal (from Worksheet 2F)	0.000	0.000	0.000
Collision with fixed object (from Worksheet 2F)	0.003	0.109	0.112
Collision with other object (from Worksheet 2F)	0.000	0.000	0.000
Other single-vehicle collision (from Worksheet 2F)	0.039	0.000	0.039
Single-vehicle noncollision (from Worksheet 2F)	0.000	0.000	0.000
Collision with pedestrian (from Worksheet 2G or 2I)	0.019	0.000	0.019
Collision with bicycle (from Worksheet 2J)	0.014	0.000	0.014
Subtotal	0.075	0.109	0.185
Total	0.751	1.814	2.565

Worksheet 2L -- Summary Results for Urban and Suburban Arterial Intersections

(1)	(2)
Crash severity level	**Predicted average crash frequency, $N_{predicted\ int}$ (crashes/year)**
	(Total) from Worksheet 2K
Total	2.6
Fatal and injury (FI)	0.8
Property damage only (PDO)	1.8

Worksheet 2A -- General Information and Input Data for Urban and Suburban Arterial Intersections

General Information		Location Information	
Analyst	RLS	Roadway	US 97
Agency or Company	DKS	Intersection	Truman/US 97 DNA
Date Performed	07/24/18	Jurisdiction	Bend, OR
		Analysis Year	2040

Input Data		Base Conditions	Site Conditions
Intersection type (3ST, 3SG, 4ST, 4SG)		--	3ST
AADT $_{major}$ (veh/day)	$AADT_{MAX}$ = 45,700 (veh/day)	--	**45,700**
AADT $_{minor}$ (veh/day)	$AADT_{MAX}$ = 9,300 (veh/day)	--	**4,150**
Intersection lighting (present/not present)		Not Present	Not Present
Calibration factor, C_i		1.00	0.35
Data for unsignalized intersections only:		--	--
Number of major-road approaches with left-turn lanes (0,1,2)		0	0
Number of major-road approaches with right-turn lanes (0,1,2)		0	0
Data for signalized intersections only:		--	--
Number of approaches with left-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	0
Number of approaches with right-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	0
Number of approaches with left-turn signal phasing [for 3SG, use maximum value of 3]		--	
Type of left-turn signal phasing for Leg #1		Permissive	
Type of left-turn signal phasing for Leg #2		--	
Type of left-turn signal phasing for Leg #3		--	
Type of left-turn signal phasing for Leg #4 (if applicable)		--	
Number of approaches with right-turn-on-red prohibited [for 3SG, use maximum value of 3]		0	0
Intersection red light cameras (present/not present)		Not Present	Not Present
Sum of all pedestrian crossing volumes (PedVol) -- Signalized intersections only			
Maximum number of lanes crossed by a pedestrian (n_{lanesx})		--	
Number of bus stops within 300 m (1,000 ft) of the intersection		0	
Schools within 300 m (1,000 ft) of the intersection (present/not present)		Not Present	Not Present
Number of alcohol sales establishments within 300 m (1,000 ft) of the intersection		0	0

Worksheet 2B -- Crash Modification Factors for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)	(7)
CMF for Left-Turn Lanes	CMF for Left-Turn Signal Phasing	CMF for Right-Turn Lanes	CMF for Right Turn on Red	CMF for Lighting	CMF for Red Light Cameras	Combined CMF
CMF 1i	*CMF 2i*	*CMF 3i*	*CMF 4i*	*CMF 5i*	*CMF 6i*	*CMF $_{COMB}$*
from Table 12-24	from Table 12-25	from Table 12-26	from Equation 12-35	from Equation 12-36	from Equation 12-37	(1)*(2)*(3)*(4)*(5)*(6)
1.00	1.00	1.00	1.00	1.00	1.00	1.00

Worksheet 2C -- Multiple-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1)	(2)			(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**			**Overdispersion Parameter, k**	**Initial N_{bimv}**	**Proportion of Total Crashes**	**Adjusted N_{bimv}**	**Combined CMFs**	**Calibration Factor, C_i**	**Predicted N_{bimv}**
	from Table 12-10			from Table 12-10	from Equation 12-21		$(4)_{TOTAL}$*(5)	(7) from Worksheet 2B		(6)*(7)*(8)
	a	b	c							
Total	-13.36	1.11	0.41	0.80	7.141	1.000	7.141	1.00	0.35	2.499
Fatal and Injury (FI)	-14.01	1.16	0.30	0.69	2.549	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.308	2.201	1.00	0.35	0.770
Property Damage Only (PDO)	-15.38	1.20	0.51	0.77	5.723	$(5)_{TOTAL}-(5)_{FI}$ = 0.692	4.940	1.00	0.35	1.729

Worksheet 2D -- Multiple-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{bimv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{bimv\ (PDO)}$ (crashes/year)**	**Predicted N $_{bimv\ (TOTAL)}$ (crashes/year)**
	from Table 12-11	$(9)_{FI}$ from Worksheet 2C	from Table 12-11	$(9)_{PDO}$ from Worksheet 2C	$(9)_{PDO}$ from Worksheet 2C
Total	1.000	0.770	1.000	1.729	2.499
		(2)*$(3)_{FI}$		(4)*$(5)_{PDO}$	(3)+(5)
Rear-end collision	0.186	0.143	0.181	0.313	0.456
Head-on collision	0.004	0.003	0.000	0.000	0.003
Angle collision	0.078	0.060	0.056	0.097	0.157
Sideswipe	0.008	0.006	0.016	0.028	0.034
Other multiple-vehicle collision	0.725	0.558	0.746	1.290	1.848

Worksheet 2E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1)	(2)			(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**			**Overdispersion Parameter, k**	**Initial N_{bisv}**	**Proportion of Total Crashes**	**Adjusted N_{bimv}**	**Combined CMFs**	**Calibration Factor, C_i**	**Predicted N_{bisv}**
	from Table 12-12			from Table 12-12	from Eqn. 12-24; (FI) from Eqn. 12-24 or 12-27		$(4)_{TOTAL}$*(5)	(7) from Worksheet 2B		(6)*(7)*(8)
	a	b	c							
Total	-6.81	0.16	0.51	1.14	0.430	1.000	0.430	1.00	0.35	0.150
Fatal and Injury (FI)	--	--	--	--	0.133	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.285	0.122	1.00	0.35	0.043
Property Damage Only (PDO)	-8.36	0.25	0.55	1.29	0.334	$(5)_{TOTAL}-(5)_{FI}$ = 0.715	0.307	1.00	0.35	0.108

Worksheet 2F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{bisv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{bisv\ (PDO)}$ (crashes/year)**	**Predicted N $_{bisv\ (TOTAL)}$ (crashes/year)**
	from Table 12-13	(9)$_{FI}$ from Worksheet 2E	from Table 12-13	(9)$_{PDO}$ from Worksheet 2E	(9)$_{PDO}$ from Worksheet 2E
Total	1.000	0.043	1.000	0.108	0.150
		(2)*(3)$_{FI}$		(4)*(5)$_{PDO}$	(3)+(5)
Collision with parked vehicle	0.000	0.000	0.000	0.000	0.000
Collision with animal	0.000	0.000	0.000	0.000	0.000
Collision with fixed object	0.077	0.003	1.000	0.108	0.111
Collision with other object	0.000	0.000	0.000	0.000	0.000
Other single-vehicle collision	0.923	0.040	0.000	0.000	0.040
Single-vehicle noncollision	0.000	0.000	0.000	0.000	0.000

Worksheet 2G -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Stop-Controlled Intersections

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Predicted N_{bimv}**	**Predicted N_{bisv}**	**Predicted N_{bi}**	**f_{pedi}**	**Calibration factor, C_i**	**Predicted N_{pedi}**
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-16		(4)*(5)*(6)
Total	2.499	0.150	2.650	0.021	0.35	0.019
Fatal and injury (FI)	--	--	--	--	0.35	0.019

Worksheet 2H -- Crash Modification Factors for Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections

(1)	(2)	(3)	(4)
CMF for Bus Stops	CMF for Schools	CMF for Alcohol Sales Establishments	Combined CMF
CMF_{1p}	CMF_{2p}	CMF_{3p}	
from Table 12-28	from Table 12-29	from Table 12-30	(1)*(2)*(3)
--	--	--	--

Worksheet 2I -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections

(1)	(2)					(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**SPF Coefficients**					**Overdispersion Parameter, k**	**$N_{pedbase}$**	**Combined CMF**	**Calibration factor, C_i**	**Predicted N_{pedi}**
	from Table 12-14						from Equation 12-29	(4) from Worksheet 2H		(4)*(5)*(6)
	a	b	c	d	e					
Total	--	--	--	--	--	--	--	--	0.35	--
Fatal and Injury (FI)	--	--	--	--	--	--	--	--	0.35	--

Worksheet 2J -- Vehicle-Bicycle Collisions for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Predicted N_{bimv}**	**Predicted N_{bisv}**	**Predicted N_{bi}**	**f_{bikei}**	**Calibration factor, C_i**	**Predicted N_{bikei}**
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-17		(4)*(5)*(6)
Total	2.499	0.150	2.650	0.016	0.35	0.015
Fatal and injury (FI)	--	--	--	--	0.35	0.015

Worksheet 2K -- Crash Severity Distribution for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J	(5) from Worksheet 2D and 2F	(6) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 2D)	0.143	0.313	0.456
Head-on collisions (from Worksheet 2D)	0.003	0.000	0.003
Angle collisions (from Worksheet 2D)	0.060	0.097	0.157
Sideswipe (from Worksheet 2D)	0.006	0.028	0.034
Other multiple-vehicle collision (from Worksheet 2D)	0.558	1.290	1.848
Subtotal	0.771	1.727	2.498
SINGLE-VEHICLE			
Collision with parked vehicle (from Worksheet 2F)	0.000	0.000	0.000
Collision with animal (from Worksheet 2F)	0.000	0.000	0.000
Collision with fixed object (from Worksheet 2F)	0.003	0.108	0.111
Collision with other object (from Worksheet 2F)	0.000	0.000	0.000
Other single-vehicle collision (from Worksheet 2F)	0.040	0.000	0.040
Single-vehicle noncollision (from Worksheet 2F)	0.000	0.000	0.000
Collision with pedestrian (from Worksheet 2G or 2I)	0.019	0.000	0.019
Collision with bicycle (from Worksheet 2J)	0.015	0.000	0.015
Subtotal	0.077	0.108	0.185
Total	0.848	1.835	2.683

Worksheet 2L -- Summary Results for Urban and Suburban Arterial Intersections

(1)	(2)
Crash severity level	**Predicted average crash frequency, $N_{predicted\ int}$ (crashes/year)**
	(Total) from Worksheet 2K
Total	2.7
Fatal and injury (FI)	0.8
Property damage only (PDO)	1.8

Worksheet 2A -- General Information and Input Data for Urban and Suburban Arterial Intersections

General Information		Location Information	
Analyst	RLS	Roadway	US 97
Agency or Company	DKS	Intersection	Reed Ln/US 97 DNA
Date Performed	07/24/18	Jurisdiction	Bend, OR
		Analysis Year	2040

Input Data		Base Conditions	Site Conditions
Intersection type (3ST, 3SG, 4ST, 4SG)		--	3ST
AADT $_{major}$ (veh/day)	$AADT_{MAX}$ = 45,700 (veh/day)	--	**45,700**
AADT $_{minor}$ (veh/day)	$AADT_{MAX}$ = 9,300 (veh/day)	--	**3,220**
Intersection lighting (present/not present)		Not Present	Present
Calibration factor, C_i		1.00	0.35
Data for unsignalized intersections only:		--	--
Number of major-road approaches with left-turn lanes (0,1,2)		0	0
Number of major-road approaches with right-turn lanes (0,1,2)		0	0
Data for signalized intersections only:		--	--
Number of approaches with left-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	0
Number of approaches with right-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	0
Number of approaches with left-turn signal phasing [for 3SG, use maximum value of 3]		--	
Type of left-turn signal phasing for Leg #1		Permissive	
Type of left-turn signal phasing for Leg #2		--	
Type of left-turn signal phasing for Leg #3		--	
Type of left-turn signal phasing for Leg #4 (if applicable)		--	
Number of approaches with right-turn-on-red prohibited [for 3SG, use maximum value of 3]		0	0
Intersection red light cameras (present/not present)		Not Present	Not Present
Sum of all pedestrian crossing volumes (PedVol) -- Signalized intersections only			
Maximum number of lanes crossed by a pedestrian (n_{lanesx})		--	
Number of bus stops within 300 m (1,000 ft) of the intersection		0	0
Schools within 300 m (1,000 ft) of the intersection (present/not present)		Not Present	Not Present
Number of alcohol sales establishments within 300 m (1,000 ft) of the intersection		0	0

Worksheet 2B -- Crash Modification Factors for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)	(7)
CMF for Left-Turn Lanes	CMF for Left-Turn Signal Phasing	CMF for Right-Turn Lanes	CMF for Right Turn on Red	CMF for Lighting	CMF for Red Light Cameras	Combined CMF
CMF 1i	*CMF 2i*	*CMF 3i*	*CMF 4i*	*CMF 5i*	*CMF 6i*	*CMF $_{COMB}$*
from Table 12-24	from Table 12-25	from Table 12-26	from Equation 12-35	from Equation 12-36	from Equation 12-37	(1)*(2)*(3)*(4)*(5)*(6)
1.00	1.00	1.00	1.00	0.88	1.00	0.88

Worksheet 2C -- Multiple-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1)	(2)			(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**			**Overdispersion Parameter, k**	**Initial N_{bimv}**	**Proportion of Total Crashes**	**Adjusted N_{bimv}**	**Combined CMFs**	**Calibration Factor, C_i**	**Predicted N_{bimv}**
	from Table 12-10			from Table 12-10	from Equation 12-21		$(4)_{TOTAL}$*(5)	(7) from Worksheet 2B		(6)*(7)*(8)
	a	b	c							
Total	-13.36	1.11	0.41	0.80	6.435	1.000	6.435	0.88	0.35	1.978
Fatal and Injury (FI)	-14.01	1.16	0.30	0.69	2.363	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.320	2.057	0.88	0.35	0.632
Property Damage Only (PDO)	-15.38	1.20	0.51	0.77	5.029	$(5)_{TOTAL}-(5)_{FI}$ = 0.680	4.378	0.88	0.35	1.345

Worksheet 2D -- Multiple-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{bimv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{bimv\ (PDO)}$ (crashes/year)**	**Predicted N $_{bimv\ (TOTAL)}$ (crashes/year)**
	from Table 12-11	$(9)_{FI}$ from Worksheet 2C	from Table 12-11	$(9)_{PDO}$ from Worksheet 2C	$(9)_{PDO}$ from Worksheet 2C
Total	1.000	0.632	1.000	1.345	1.978
		(2)*$(3)_{FI}$		(4)*$(5)_{PDO}$	(3)+(5)
Rear-end collision	0.186	0.118	0.181	0.244	0.361
Head-on collision	0.004	0.003	0.000	0.000	0.003
Angle collision	0.078	0.049	0.056	0.075	0.125
Sideswipe	0.008	0.005	0.016	0.022	0.027
Other multiple-vehicle collision	0.725	0.458	0.746	1.004	1.462

Worksheet 2E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1)	(2)			(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**			**Overdispersion Parameter, k**	**Initial N_{bisv}**	**Proportion of Total Crashes**	**Adjusted N_{bimv}**	**Combined CMFs**	**Calibration Factor, C_i**	**Predicted N_{bisv}**
	from Table 12-12			from Table 12-12	from Eqn. 12-24; (FI) from Eqn. 12-24 or 12-27		$(4)_{TOTAL}$*(5)	(7) from Worksheet 2B		(6)*(7)*(8)
	a	b	c							
Total	-6.81	0.16	0.51	1.14	0.378	1.000	0.378	0.88	0.35	0.116
Fatal and Injury (FI)	--	--	--	--	0.117	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.287	0.108	0.88	0.35	0.033
Property Damage Only (PDO)	-8.36	0.25	0.55	1.29	0.291	$(5)_{TOTAL}-(5)_{FI}$ = 0.713	0.269	0.88	0.35	0.083

Worksheet 2F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{bisv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{bisv\ (PDO)}$ (crashes/year)**	**Predicted N $_{bisv\ (TOTAL)}$ (crashes/year)**
	from Table 12-13	(9)$_{FI}$ from Worksheet 2E	from Table 12-13	(9)$_{PDO}$ from Worksheet 2E	(9)$_{PDO}$ from Worksheet 2E
Total	1.000	0.033	1.000	0.083	0.116
		(2)*(3)$_{FI}$		(4)*(5)$_{PDO}$	(3)+(5)
Collision with parked vehicle	0.000	0.000	0.000	0.000	0.000
Collision with animal	0.000	0.000	0.000	0.000	0.000
Collision with fixed object	0.077	0.003	1.000	0.083	0.085
Collision with other object	0.000	0.000	0.000	0.000	0.000
Other single-vehicle collision	0.923	0.031	0.000	0.000	0.031
Single-vehicle noncollision	0.000	0.000	0.000	0.000	0.000

Worksheet 2G -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Stop-Controlled Intersections

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Predicted N_{bimv}**	**Predicted N_{bisv}**	**Predicted N_{bi}**	**f_{pedi}**	**Calibration factor, C_i**	**Predicted N_{pedi}**
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-16		(4)*(5)*(6)
Total	1.978	0.116	2.094	0.021	0.35	0.015
Fatal and injury (FI)	--	--	--	--	0.35	0.015

Worksheet 2H -- Crash Modification Factors for Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections

(1)	(2)	(3)	(4)
CMF for Bus Stops	CMF for Schools	CMF for Alcohol Sales Establishments	Combined CMF
CMF_{1p}	CMF_{2p}	CMF_{3p}	
from Table 12-28	from Table 12-29	from Table 12-30	(1)*(2)*(3)
--	--	--	--

Worksheet 2I -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections

(1)	(2)					(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**SPF Coefficients**					**Overdispersion Parameter, k**	**$N_{pedbase}$**	**Combined CMF**	**Calibration factor, C_i**	**Predicted N_{pedi}**
	from Table 12-14						from Equation 12-29	(4) from Worksheet 2H		(4)*(5)*(6)
	a	b	c	d	e					
Total	--	--	--	--	--	--	--	--	0.35	--
Fatal and Injury (FI)	--	--	--	--	--	--	--	--	0.35	--

Worksheet 2J -- Vehicle-Bicycle Collisions for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Predicted N_{bimv}**	**Predicted N_{bisv}**	**Predicted N_{bi}**	**f_{bikei}**	**Calibration factor, C_i**	**Predicted N_{bikei}**
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-17		(4)*(5)*(6)
Total	1.978	0.116	2.094	0.016	0.35	0.012
Fatal and injury (FI)	--	--	--	--	0.35	0.012

Worksheet 2K -- Crash Severity Distribution for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)
	Fatal and injury (FI)	**Property damage only (PDO)**	**Total**
Collision type	(3) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J	(5) from Worksheet 2D and 2F	(6) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 2D)	0.118	0.244	0.361
Head-on collisions (from Worksheet 2D)	0.003	0.000	0.003
Angle collisions (from Worksheet 2D)	0.049	0.075	0.125
Sideswipe (from Worksheet 2D)	0.005	0.022	0.027
Other multiple-vehicle collision (from Worksheet 2D)	0.458	1.004	1.462
Subtotal	0.633	1.344	1.977
SINGLE-VEHICLE			
Collision with parked vehicle (from Worksheet 2F)	0.000	0.000	0.000
Collision with animal (from Worksheet 2F)	0.000	0.000	0.000
Collision with fixed object (from Worksheet 2F)	0.003	0.083	0.085
Collision with other object (from Worksheet 2F)	0.000	0.000	0.000
Other single-vehicle collision (from Worksheet 2F)	0.031	0.000	0.031
Single-vehicle noncollision (from Worksheet 2F)	0.000	0.000	0.000
Collision with pedestrian (from Worksheet 2G or 2I)	0.015	0.000	0.015
Collision with bicycle (from Worksheet 2J)	0.012	0.000	0.012
Subtotal	0.060	0.083	0.143
Total	0.693	1.427	2.120

Worksheet 2L -- Summary Results for Urban and Suburban Arterial Intersections

(1)	(2)
Crash severity level	**Predicted average crash frequency, $N_{predicted\ int}$ (crashes/year)**
	(Total) from Worksheet 2K
Total	2.1
Fatal and injury (FI)	0.7
Property damage only (PDO)	1.4

Worksheet 2A -- General Information and Input Data for Urban and Suburban Arterial Intersections

General Information		Location Information	
Analyst	RLS	Roadway	US 97
Agency or Company	DKS	Intersection	Powers/US 97 DNA
Date Performed	07/24/18	Jurisdiction	Bend, OR
		Analysis Year	2040

Input Data		Base Conditions	Site Conditions
Intersection type (3ST, 3SG, 4ST, 4SG)		--	4SG
AADT $_{major}$ (veh/day)	$AADT_{MAX}$ = 67,700 (veh/day)	--	**45,200**
AADT $_{minor}$ (veh/day)	$AADT_{MAX}$ = 33,400 (veh/day)	--	**21,580**
Intersection lighting (present/not present)		Not Present	Present
Calibration factor, C_i		1.00	1.05
Data for unsignalized intersections only:		--	--
Number of major-road approaches with left-turn lanes (0,1,2)		0	0
Number of major-road approaches with right-turn lanes (0,1,2)		0	0
Data for signalized intersections only:		--	--
Number of approaches with left-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	0
Number of approaches with right-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	0
Number of approaches with left-turn signal phasing [for 3SG, use maximum value of 3]		--	0
Type of left-turn signal phasing for Leg #1		Permissive	Not Applicable
Type of left-turn signal phasing for Leg #2		--	Not Applicable
Type of left-turn signal phasing for Leg #3		--	Not Applicable
Type of left-turn signal phasing for Leg #4 (if applicable)		--	Not Applicable
Number of approaches with right-turn-on-red prohibited [for 3SG, use maximum value of 3]		0	2
Intersection red light cameras (present/not present)		Not Present	Not Present
Sum of all pedestrian crossing volumes (PedVol) -- Signalized intersections only			5
Maximum number of lanes crossed by a pedestrian (n_{lanesx})		--	4
Number of bus stops within 300 m (1,000 ft) of the intersection		0	1
Schools within 300 m (1,000 ft) of the intersection (present/not present)		Not Present	Not Present
Number of alcohol sales establishments within 300 m (1,000 ft) of the intersection		0	1

Worksheet 2B -- Crash Modification Factors for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)	(7)
CMF for Left-Turn Lanes	CMF for Left-Turn Signal Phasing	CMF for Right-Turn Lanes	CMF for Right Turn on Red	CMF for Lighting	CMF for Red Light Cameras	Combined CMF
CMF 1i	*CMF 2i*	*CMF 3i*	*CMF 4i*	*CMF 5i*	*CMF 6i*	*CMF $_{COMB}$*
from Table 12-24	from Table 12-25	from Table 12-26	from Equation 12-35	from Equation 12-36	from Equation 12-37	(1)*(2)*(3)*(4)*(5)*(6)
1.00	0.99	1.00	0.96	0.95	1.00	0.91

Worksheet 2C -- Multiple-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1)	(2)			(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**			**Overdispersion Parameter, k**	**Initial N_{bimv}**	**Proportion of Total Crashes**	**Adjusted N_{bimv}**	**Combined CMFs**	**Calibration Factor, C_i**	**Predicted N_{bimv}**
	from Table 12-10			from Table 12-10	from Equation 12-21		$(4)_{TOTAL}$*(5)	(7) from Worksheet 2B		(6)*(7)*(8)
	a	b	c							
Total	-10.99	1.07	0.23	0.39	16.030	1.000	16.030	0.91	1.05	15.261
Fatal and Injury (FI)	-13.14	1.18	0.22	0.33	5.494	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.353	5.663	0.91	1.05	5.392
Property Damage Only (PDO)	-11.02	1.02	0.24	0.44	10.057	$(5)_{TOTAL}-(5)_{FI}$ = 0.647	10.367	0.91	1.05	9.870

Worksheet 2D -- Multiple-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{bimv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{bimv\ (PDO)}$ (crashes/year)**	**Predicted N $_{bimv\ (TOTAL)}$ (crashes/year)**
	from Table 12-11	$(9)_{FI}$ from Worksheet 2C	from Table 12-11	$(9)_{PDO}$ from Worksheet 2C	$(9)_{PDO}$ from Worksheet 2C
Total	1.000	5.392	1.000	9.870	15.261
		(2)*$(3)_{FI}$		(4)*$(5)_{PDO}$	(3)+(5)
Rear-end collision	0.501	2.701	0.402	3.968	6.669
Head-on collision	0.002	0.011	0.000	0.000	0.011
Angle collision	0.236	1.272	0.215	2.122	3.394
Sideswipe	0.004	0.022	0.012	0.118	0.140
Other multiple-vehicle collision	0.257	1.386	0.370	3.652	5.037

Worksheet 2E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1)	(2)			(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**			**Overdispersion Parameter, k**	**Initial N_{bisv}**	**Proportion of Total Crashes**	**Adjusted N_{bimv}**	**Combined CMFs**	**Calibration Factor, C_i**	**Predicted N_{bisv}**
	from Table 12-12			from Table 12-12	from Eqn. 12-24; (FI) from Eqn. 12-24 or 12-27		$(4)_{TOTAL}$*(5)	(7) from Worksheet 2B		(6)*(7)*(8)
	a	b	c							
Total	-10.21	0.68	0.27	0.36	0.797	1.000	0.797	0.91	1.05	0.759
Fatal and Injury (FI)	-9.25	0.43	0.29	0.09	0.174	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.221	0.176	0.91	1.05	0.167
Property Damage Only (PDO)	-11.34	0.78	0.25	0.44	0.616	$(5)_{TOTAL}-(5)_{FI}$ = 0.779	0.621	0.91	1.05	0.592

Worksheet 2F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{bisv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{bisv\ (PDO)}$ (crashes/year)**	**Predicted N $_{bisv\ (TOTAL)}$ (crashes/year)**
	from Table 12-13	(9)$_{FI}$ from Worksheet 2E	from Table 12-13	(9)$_{PDO}$ from Worksheet 2E	(9)$_{PDO}$ from Worksheet 2E
Total	1.000	0.167	1.000	0.592	0.759
		(2)*(3)$_{FI}$		(4)*(5)$_{PDO}$	(3)+(5)
Collision with parked vehicle	0.000	0.000	0.000	0.000	0.000
Collision with animal	0.000	0.000	0.000	0.000	0.000
Collision with fixed object	0.097	0.016	0.722	0.427	0.443
Collision with other object	0.000	0.000	0.000	0.000	0.000
Other single-vehicle collision	0.888	0.149	0.056	0.033	0.182
Single-vehicle noncollision	0.015	0.003	0.222	0.131	0.134

Worksheet 2G -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Stop-Controlled Intersections

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Predicted N_{bimv}**	**Predicted N_{bisv}**	**Predicted N_{bi}**	**f_{pedi}**	**Calibration factor, C_i**	**Predicted N_{pedi}**
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-16		(4)*(5)*(6)
Total	--	--	--	--	1.05	--
Fatal and injury (FI)	--	--	--	--	1.05	--

Worksheet 2H -- Crash Modification Factors for Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections

(1)	(2)	(3)	(4)
CMF for Bus Stops	CMF for Schools	CMF for Alcohol Sales Establishments	Combined CMF
CMF_{1p}	CMF_{2p}	CMF_{3p}	
from Table 12-28	from Table 12-29	from Table 12-30	(1)*(2)*(3)
2.78	1.00	1.12	3.11

Worksheet 2I -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections

(1)	(2)					(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**SPF Coefficients**					**Overdispersion Parameter, k**	**$N_{pedbase}$**	**Combined CMF**	**Calibration factor, C_i**	**Predicted N_{pedi}**
	from Table 12-14						from Equation 12-29	(4) from Worksheet 2H		(4)*(5)*(6)
	a	b	c	d	e					
Total	-9.53	0.40	0.26	0.45	0.04	0.24	0.012	3.11	1.05	0.040
Fatal and Injury (FI)	--	--	--	--	--	--	--	--	1.05	0.040

Worksheet 2J -- Vehicle-Bicycle Collisions for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Predicted N_{bimv}**	**Predicted N_{bisv}**	**Predicted N_{bi}**	**f_{bikei}**	**Calibration factor, C_i**	**Predicted N_{bikei}**
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-17		(4)*(5)*(6)
Total	15.261	0.759	16.020	0.015	1.05	0.252
Fatal and injury (FI)	--	--	--	--	1.05	0.252

Worksheet 2K -- Crash Severity Distribution for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J	(5) from Worksheet 2D and 2F	(6) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 2D)	2.701	3.968	6.669
Head-on collisions (from Worksheet 2D)	0.011	0.000	0.011
Angle collisions (from Worksheet 2D)	1.272	2.122	3.394
Sideswipe (from Worksheet 2D)	0.022	0.118	0.140
Other multiple-vehicle collision (from Worksheet 2D)	1.386	3.652	5.037
Subtotal	5.392	9.860	15.252
SINGLE-VEHICLE			
Collision with parked vehicle (from Worksheet 2F)	0.000	0.000	0.000
Collision with animal (from Worksheet 2F)	0.000	0.000	0.000
Collision with fixed object (from Worksheet 2F)	0.016	0.427	0.443
Collision with other object (from Worksheet 2F)	0.000	0.000	0.000
Other single-vehicle collision (from Worksheet 2F)	0.149	0.033	0.182
Single-vehicle noncollision (from Worksheet 2F)	0.003	0.131	0.134
Collision with pedestrian (from Worksheet 2G or 2I)	0.040	0.000	0.040
Collision with bicycle (from Worksheet 2J)	0.252	0.000	0.252
Subtotal	0.460	0.592	1.052
Total	5.852	10.451	16.303

Worksheet 2L -- Summary Results for Urban and Suburban Arterial Intersections

(1)	(2)
Crash severity level	**Predicted average crash frequency, $N_{predicted\ int}$ (crashes/year)**
	(Total) from Worksheet 2K
Total	16.3
Fatal and injury (FI)	5.9
Property damage only (PDO)	10.5

Worksheet 3A -- Predicted Crashes by Severity and Site Type and Observed Crashes Using the Site-Specific EB Method for Urban and Suburban Arterials

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Collision type / Site type	**Predicted average crash frequency (crashes/year)**			**Observed crashes, $N_{observed}$** (crashes/year)	**Overdispersion Parameter, k**	**Weighted adjustment, w**	**Expected average crash frequency,**
	$N_{predicted}$ (TOTAL)	$N_{predicted}$ (FI)	$N_{predicted}$ (PDO)			Equation A-5 from Part C Appendix	Equation A-4 from Part C Appendix
ROADWAY SEGMENTS							
Multiple-vehicle nondriveway							
Segment 1	1.418	0.365	1.053		1.320	0.348	0.624
Segment 2	2.080	0.535	1.545		1.320	0.267	0.995
Segment 3	2.774	0.714	2.060		1.320	0.215	0.595
Segment 4	1.801	0.464	1.338		1.320	0.296	1.096
Segment 5	3.035	0.784	2.251		1.320	0.200	0.606
Single-vehicle							
Segment 1	0.107	0.022	0.085		0.860	0.916	0.165
Segment 2	0.157	0.032	0.124		0.860	0.881	0.162
Segment 3	0.209	0.043	0.165		0.860	0.848	0.177
Segment 4	0.136	0.028	0.107		0.860	0.896	0.163
Segment 5	0.239	0.049	0.190		0.860	0.829	0.233
Multiple-vehicle driveway-related							
Segment 1	0.000	0.000	0.000		1.390	1.000	0.000
Segment 2	0.000	0.000	0.000		1.390	1.000	0.000
Segment 3	0.000	0.000	0.000		1.390	1.000	0.000
Segment 4	0.000	0.000	0.000		1.390	1.000	0.000
Segment 5	0.000	0.000	0.000		1.390	1.000	0.000
INTERSECTIONS							
Multiple-vehicle							
Intersection 1	2.380	0.676	1.705		0.800	0.344	4.426
Intersection 2	2.498	0.771	1.727		0.800	0.333	1.233
Intersection 3	1.977	0.633	1.344		0.800	0.387	1.623
Intersection 4	15.252	5.392	9.860		0.390	0.144	9.729
Single-vehicle							
Intersection 1	0.152	0.043	0.109		1.140	0.853	0.159
Intersection 2	0.150	0.043	0.108		1.140	0.854	0.158
Intersection 3	0.116	0.033	0.083		1.140	0.883	0.102
Intersection 4	0.759	0.167	0.592		0.360	0.785	0.639
COMBINED (sum of column)	35.239	10.794	24.445	20.1	--	--	22.885

Worksheet 3B -- Predicted Pedestrian and Bicycle Crashes for Urban and Suburban Arterials

(1)	(2)	(3)
Site Type	**N_{ped}**	**N_{bike}**
ROADWAY SEGMENTS		
Segment 1	0.013	0.009
Segment 2	0.019	0.013
Segment 3	0.025	0.017
Segment 4	0.016	0.011
Segment 5	0.027	0.019
INTERSECTIONS		
Intersection 1	0.019	0.014
Intersection 2	0.019	0.015
Intersection 3	0.015	0.012
Intersection 4	0.040	0.252
COMBINED (sum of column)	0.193	0.362

Worksheet 3C -- Site-Specific EB Method Summary Results for Urban and Suburban Arterials

(1)	(2)	(3)	(4)	(5)	(6)
Crash severity level	**$N_{predicted}$**	**N_{ped}**	**N_{bike}**	$N_{expected\ (VEHICLE)}$	$N_{expected}$
Total	$(2)_{COMB}$ from Worksheet 3A	$(2)_{COMB}$ from Worksheet 3B	$(3)_{COMB}$ from Worksheet 3B	$(8)_{COMB}$ Worksheet 3A	(3)+(4)+(5)
	35.2	0.2	0.4	22.9	23.4
Fatal and injury (FI)	$(3)_{COMB}$ from Worksheet 3A	$(2)_{COMB}$ from Worksheet 3B	$(3)_{COMB}$ from Worksheet 3B	$(5)_{TOTAL} * (2)_{FI} / (2)_{TOTAL}$	(3)+(4)+(5)
	10.8	0.2	0.4	7.0	7.6
Property damage only (PDO)	$(4)_{COMB}$ from Worksheet 3A	--	--	$(5)_{TOTAL} * (2)_{PDO} / (2)_{TOTAL}$	(3)+(4)+(5)
	24.4	0.0	0.0	15.9	15.9

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments

General Information		Location Information	
Analyst	RLS	Roadway	US 97
Agency or Company	DKS	Roadway Section	Truman to Reed Market Ramp
Date Performed	07/24/18	Jurisdiction	Bend, OR
		Analysis Year	2017

Input Data		Base Conditions	Site Conditions
Roadway type (2U, 3T, 4U, 4D, ST)		--	4D
Length of segment, L (mi)		--	0.12
AADT (veh/day)	$AADT_{MAX}$ = 66,000 (veh/day)	--	**62,620**
Type of on-street parking (none/parallel/angle)		None	None
Proportion of curb length with on-street parking		--	0
Median width (ft) - for divided only		15	15
Lighting (present / not present)		Not Present	Present
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	0
Minor commercial driveways (number)		--	0
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	0
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	62
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	15
Calibration Factor, Cr		1.00	0.64

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.11	1.00	0.94	1.00	1.05

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-12.34	1.36	1.32	1.752	1.000	1.752	1.05	0.64	1.178
Fatal and Injury (FI)	-12.76	1.28	1.31	0.476	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.258	0.453	1.05	0.64	0.304
Property Damage Only (PDO)	-12.81	1.38	1.34	1.366	$(5)_{TOTAL}-(5)_{FI}$ = 0.742	1.299	1.05	0.64	0.873

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	$(9)_{FI}$ from Worksheet 1C	from Table 12-4	$(9)_{PDO}$ from Worksheet 1C	$(9)_{TOTAL}$ from Worksheet 1C
Total	1.000	0.304	1.000	0.873	1.178
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.783	0.238	0.646	0.564	0.802
Head-on collision	0.006	0.002	0.000	0.000	0.002
Angle collision	0.019	0.006	0.008	0.007	0.013
Sideswipe, same direction	0.038	0.012	0.142	0.124	0.136
Sideswipe, opposite direction	0.013	0.004	0.004	0.003	0.007
Other multiple-vehicle collision	0.140	0.043	0.200	0.175	0.217

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brsv}**	**Proportion of Total Crashes**	**Adjusted N_{brsv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brsv}**
	from Table 12-5		from Table 12-5	from Equation 12-13		$(4)_{TOTAL}*(5)$	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-5.05	0.47	0.86	0.138	1.000	0.138	1.05	0.64	0.093
Fatal and Injury (FI)	-8.71	0.66	0.28	0.029	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.206	0.028	1.05	0.64	0.019
Property Damage Only (PDO)	-5.04	0.45	1.06	0.112	$(5)_{TOTAL}-(5)_{FI}$ = 0.794	0.110	1.05	0.64	0.074

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	$(9)_{FI}$ from Worksheet 1E	from Table 12-6	$(9)_{PDO}$ from Worksheet 1E	$(9)_{TOTAL}$ from Worksheet 1E
Total	1.000	0.019	1.000	0.074	0.093
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with animal	0.000	0.000	0.077	0.006	0.006
Collision with fixed object	0.400	0.008	0.846	0.062	0.070
Collision with other object	0.000	0.000	0.000	0.000	0.000
Other single-vehicle collision	0.600	0.011	0.077	0.006	0.017

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15,000)^t$	from Table 12-7
Major commercial	0	0.033	1.106	0.000	--
Minor commercial	0	0.011	1.106	0.000	
Major industrial/institutional	0	0.036	1.106	0.000	
Minor industrial/institutional	0	0.005	1.106	0.000	
Major residential	0	0.018	1.106	0.000	
Minor residential	0	0.003	1.106	0.000	
Other	0	0.005	1.106	0.000	
Total	--	--	--	0.000	1.39

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	0.000	1.000	0.000	1.05	0.64	0.000
Fatal and injury (FI)	--	0.284	0.000	1.05	0.64	0.000
Property damage only (PDO)	--	0.716	0.000	1.05	0.64	0.000

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	1.178	0.093	0.000	1.270	0.013	0.64	0.011
Fatal and injury (FI)	--	--	--	--	--	0.64	0.011

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	1.178	0.093	0.000	1.270	0.009	0.64	0.007
Fatal and injury (FI)	--	--	--	--	--	0.64	0.007

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	(5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	(6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	0.238	0.564	0.802
Head-on collisions (from Worksheet 1D)	0.002	0.000	0.002
Angle collisions (from Worksheet 1D)	0.006	0.007	0.013
Sideswipe, same direction (from Worksheet 1D)	0.012	0.124	0.136
Sideswipe, opposite direction (from Worksheet 1D)	0.004	0.003	0.007
Driveway-related collisions (from Worksheet 1H)	0.000	0.000	0.000
Other multiple-vehicle collision (from Worksheet 1D)	0.043	0.175	0.217
Subtotal	0.304	0.873	1.177
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.000	0.006	0.006
Collision with fixed object (from Worksheet 1F)	0.008	0.062	0.070
Collision with other object (from Worksheet 1F)	0.000	0.000	0.000
Other single-vehicle collision (from Worksheet 1F)	0.011	0.006	0.017
Collision with pedestrian (from Worksheet 1I)	0.011	0.000	0.011
Collision with bicycle (from Worksheet 1J)	0.007	0.000	0.007
Subtotal	0.037	0.074	0.111
Total	0.341	0.947	1.288

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	1.3	0.12	10.7
Fatal and injury (FI)	0.3	0.12	2.8
Property damage only (PDO)	0.9	0.12	7.9

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments

General Information		Location Information	
Analyst	RLS	Roadway	US 97
Agency or Company	DKS	Roadway Section	Reed Market Ramp to Reed Lane
Date Performed	07/24/18	Jurisdiction	Bend, OR
		Analysis Year	2017

Input Data		Base Conditions	Site Conditions
Roadway type (2U, 3T, 4U, 4D, ST)		--	4D
Length of segment, L (mi)		--	0.23
AADT (veh/day)	$AADT_{MAX}$ = 66,000 (veh/day)	--	**40,000**
Type of on-street parking (none/parallel/angle)		None	None
Proportion of curb length with on-street parking		--	0
Median width (ft) - for divided only		15	15
Lighting (present / not present)		Not Present	Present
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	0
Minor commercial driveways (number)		--	0
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	0
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	23
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	20
Calibration Factor, Cr		1.00	0.64

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.01	1.00	0.94	1.00	0.95

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-12.34	1.36	1.32	1.825	1.000	1.825	0.95	0.64	1.112
Fatal and Injury (FI)	-12.76	1.28	1.31	0.514	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.267	0.487	0.95	0.64	0.297
Property Damage Only (PDO)	-12.81	1.38	1.34	1.410	$(5)_{TOTAL}-(5)_{FI}$ = 0.733	1.338	0.95	0.64	0.815

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	$(9)_{FI}$ from Worksheet 1C	from Table 12-4	$(9)_{PDO}$ from Worksheet 1C	$(9)_{TOTAL}$ from Worksheet 1C
Total	1.000	0.297	1.000	0.815	1.112
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.783	0.233	0.646	0.527	0.759
Head-on collision	0.006	0.002	0.000	0.000	0.002
Angle collision	0.019	0.006	0.008	0.007	0.012
Sideswipe, same direction	0.038	0.011	0.142	0.116	0.127
Sideswipe, opposite direction	0.013	0.004	0.004	0.003	0.007
Other multiple-vehicle collision	0.140	0.042	0.200	0.163	0.205

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brsv}**	**Proportion of Total Crashes**	**Adjusted N_{brsv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brsv}**
	from Table 12-5		from Table 12-5	from Equation 12-13		$(4)_{TOTAL}*(5)$	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-5.05	0.47	0.86	0.215	1.000	0.215	0.95	0.64	0.131
Fatal and Injury (FI)	-8.71	0.66	0.28	0.041	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.191	0.041	0.95	0.64	0.025
Property Damage Only (PDO)	-5.04	0.45	1.06	0.175	$(5)_{TOTAL}-(5)_{FI}$ = 0.809	0.174	0.95	0.64	0.106

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	$(9)_{FI}$ from Worksheet 1E	from Table 12-6	$(9)_{PDO}$ from Worksheet 1E	$(9)_{TOTAL}$ from Worksheet 1E
Total	1.000	0.025	1.000	0.106	0.131
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with animal	0.000	0.000	0.077	0.008	0.008
Collision with fixed object	0.400	0.010	0.846	0.090	0.099
Collision with other object	0.000	0.000	0.000	0.000	0.000
Other single-vehicle collision	0.600	0.015	0.077	0.008	0.023

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15,000)^t$	from Table 12-7
Major commercial	0	0.033	1.106	0.000	--
Minor commercial	0	0.011	1.106	0.000	
Major industrial/institutional	0	0.036	1.106	0.000	
Minor industrial/institutional	0	0.005	1.106	0.000	
Major residential	0	0.018	1.106	0.000	
Minor residential	0	0.003	1.106	0.000	
Other	0	0.005	1.106	0.000	
Total	--	--	--	0.000	1.39

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL} * (3)$	(6) from Worksheet 1B		(4)*(5)*(6)
Total	0.000	1.000	0.000	0.95	0.64	0.000
Fatal and injury (FI)	--	0.284	0.000	0.95	0.64	0.000
Property damage only (PDO)	--	0.716	0.000	0.95	0.64	0.000

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	1.112	0.131	0.000	1.243	0.013	0.64	0.010
Fatal and injury (FI)	--	--	--	--	--	0.64	0.010

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	1.112	0.131	0.000	1.243	0.009	0.64	0.007
Fatal and injury (FI)	--	--	--	--	--	0.64	0.007

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)** (3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	**Property damage only (PDO)** (5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	**Total** (6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	0.233	0.527	0.759
Head-on collisions (from Worksheet 1D)	0.002	0.000	0.002
Angle collisions (from Worksheet 1D)	0.006	0.007	0.012
Sideswipe, same direction (from Worksheet 1D)	0.011	0.116	0.127
Sideswipe, opposite direction (from Worksheet 1D)	0.004	0.003	0.007
Driveway-related collisions (from Worksheet 1H)	0.000	0.000	0.000
Other multiple-vehicle collision (from Worksheet 1D)	0.042	0.163	0.205
Subtotal	0.297	0.815	1.112
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.000	0.008	0.008
Collision with fixed object (from Worksheet 1F)	0.010	0.090	0.099
Collision with other object (from Worksheet 1F)	0.000	0.000	0.000
Other single-vehicle collision (from Worksheet 1F)	0.015	0.008	0.023
Collision with pedestrian (from Worksheet 1I)	0.010	0.000	0.010
Collision with bicycle (from Worksheet 1J)	0.007	0.000	0.007
Subtotal	0.042	0.106	0.148
Total	0.339	0.921	1.260

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)** (Total) from Worksheet 1K	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)** (2) / (3)
Total	1.3	0.23	5.5
Fatal and injury (FI)	0.3	0.23	1.5
Property damage only (PDO)	0.9	0.23	4.0

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments

General Information		Location Information	
Analyst	RLS	Roadway	US 97
Agency or Company	DKS	Roadway Section	Reed Ln to Powers
Date Performed	07/24/18	Jurisdiction	Bend, OR
		Analysis Year	2017

Input Data		Base Conditions	Site Conditions
Roadway type (2U, 3T, 4U, 4D, ST)		--	4D
Length of segment, L (mi)		--	0.29
AADT (veh/day)	$AADT_{MAX}$ = 66,000 (veh/day)	--	**40,000**
Type of on-street parking (none/parallel/angle)		None	None
Proportion of curb length with on-street parking		--	0
Median width (ft) - for divided only		15	15
Lighting (present / not present)		Not Present	Present
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	0
Minor commercial driveways (number)		--	0
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	0
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	33
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	15
Calibration Factor, Cr		1.00	0.64

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.04	1.00	0.94	1.00	0.98

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-12.34	1.36	1.32	2.301	1.000	2.301	0.98	0.64	1.449
Fatal and Injury (FI)	-12.76	1.28	1.31	0.648	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.267	0.615	0.98	0.64	0.387
Property Damage Only (PDO)	-12.81	1.38	1.34	1.778	$(5)_{TOTAL}-(5)_{FI}$ = 0.733	1.687	0.98	0.64	1.062

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	$(9)_{FI}$ from Worksheet 1C	from Table 12-4	$(9)_{PDO}$ from Worksheet 1C	$(9)_{TOTAL}$ from Worksheet 1C
Total	1.000	0.387	1.000	1.062	1.449
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.783	0.303	0.646	0.686	0.989
Head-on collision	0.006	0.002	0.000	0.000	0.002
Angle collision	0.019	0.007	0.008	0.008	0.016
Sideswipe, same direction	0.038	0.015	0.142	0.151	0.166
Sideswipe, opposite direction	0.013	0.005	0.004	0.004	0.009
Other multiple-vehicle collision	0.140	0.054	0.200	0.212	0.267

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brsv}**	**Proportion of Total Crashes**	**Adjusted N_{brsv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brsv}**
	from Table 12-5		from Table 12-5	from Equation 12-13		$(4)_{TOTAL}*(5)$	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-5.05	0.47	0.86	0.271	1.000	0.271	0.98	0.64	0.170
Fatal and Injury (FI)	-8.71	0.66	0.28	0.052	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.191	0.052	0.98	0.64	0.032
Property Damage Only (PDO)	-5.04	0.45	1.06	0.221	$(5)_{TOTAL}-(5)_{FI}$ = 0.809	0.219	0.98	0.64	0.138

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	$(9)_{FI}$ from Worksheet 1E	from Table 12-6	$(9)_{PDO}$ from Worksheet 1E	$(9)_{TOTAL}$ from Worksheet 1E
Total	1.000	0.032	1.000	0.138	0.170
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with animal	0.000	0.000	0.077	0.011	0.011
Collision with fixed object	0.400	0.013	0.846	0.117	0.130
Collision with other object	0.000	0.000	0.000	0.000	0.000
Other single-vehicle collision	0.600	0.019	0.077	0.011	0.030

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15,000)^t$	from Table 12-7
Major commercial	0	0.033	1.106	0.000	
Minor commercial	0	0.011	1.106	0.000	
Major industrial/institutional	0	0.036	1.106	0.000	
Minor industrial/institutional	0	0.005	1.106	0.000	--
Major residential	0	0.018	1.106	0.000	
Minor residential	0	0.003	1.106	0.000	
Other	0	0.005	1.106	0.000	
Total	--	--	--	0.000	1.39

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	0.000	1.000	0.000	0.98	0.64	0.000
Fatal and injury (FI)	--	0.284	0.000	0.98	0.64	0.000
Property damage only (PDO)	--	0.716	0.000	0.98	0.64	0.000

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	1.449	0.170	0.000	1.619	0.013	0.64	0.013
Fatal and injury (FI)	--	--	--	--	--	0.64	0.013

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	1.449	0.170	0.000	1.619	0.009	0.64	0.009
Fatal and injury (FI)	--	--	--	--	--	0.64	0.009

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)** (3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	**Property damage only (PDO)** (5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	**Total** (6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	0.303	0.686	0.989
Head-on collisions (from Worksheet 1D)	0.002	0.000	0.002
Angle collisions (from Worksheet 1D)	0.007	0.008	0.016
Sideswipe, same direction (from Worksheet 1D)	0.015	0.151	0.166
Sideswipe, opposite direction (from Worksheet 1D)	0.005	0.004	0.009
Driveway-related collisions (from Worksheet 1H)	0.000	0.000	0.000
Other multiple-vehicle collision (from Worksheet 1D)	0.054	0.212	0.267
Subtotal	0.387	1.062	1.449
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.000	0.011	0.011
Collision with fixed object (from Worksheet 1F)	0.013	0.117	0.130
Collision with other object (from Worksheet 1F)	0.000	0.000	0.000
Other single-vehicle collision (from Worksheet 1F)	0.019	0.011	0.030
Collision with pedestrian (from Worksheet 1I)	0.013	0.000	0.013
Collision with bicycle (from Worksheet 1J)	0.009	0.000	0.009
Subtotal	0.055	0.138	0.193
Total	0.442	1.200	1.642

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	1.6	0.29	5.7
Fatal and injury (FI)	0.4	0.29	1.5
Property damage only (PDO)	1.2	0.29	4.1

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments

General Information		Location Information	
Analyst	RLS	Roadway	US 97
Agency or Company	DKS	Roadway Section	Powers to Badger
Date Performed	07/24/18	Jurisdiction	Bend, OR
		Analysis Year	2017

Input Data		Base Conditions	Site Conditions
Roadway type (2U, 3T, 4U, 4D, ST)		--	4D
Length of segment, L (mi)		--	0.33
AADT (veh/day)	$AADT_{MAX}$ = 66,000 (veh/day)	--	**40,000**
Type of on-street parking (none/parallel/angle)		None	None
Proportion of curb length with on-street parking		--	0
Median width (ft) - for divided only		15	15
Lighting (present / not present)		Not Present	Present
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	0
Minor commercial driveways (number)		--	0
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	0
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	33
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	15
Calibration Factor, Cr		1.00	0.64

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.04	1.00	0.94	1.00	0.98

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-12.34	1.36	1.32	2.619	1.000	2.619	0.98	0.64	1.649
Fatal and Injury (FI)	-12.76	1.28	1.31	0.737	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.267	0.699	0.98	0.64	0.440
Property Damage Only (PDO)	-12.81	1.38	1.34	2.023	$(5)_{TOTAL}-(5)_{FI}$ = 0.733	1.920	0.98	0.64	1.208

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	$(9)_{FI}$ from Worksheet 1C	from Table 12-4	$(9)_{PDO}$ from Worksheet 1C	$(9)_{TOTAL}$ from Worksheet 1C
Total	1.000	0.440	1.000	1.208	1.649
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.783	0.345	0.646	0.781	1.125
Head-on collision	0.006	0.003	0.000	0.000	0.003
Angle collision	0.019	0.008	0.008	0.010	0.018
Sideswipe, same direction	0.038	0.017	0.142	0.172	0.188
Sideswipe, opposite direction	0.013	0.006	0.004	0.005	0.011
Other multiple-vehicle collision	0.140	0.062	0.200	0.242	0.303

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brsv}**	**Proportion of Total Crashes**	**Adjusted N_{brsv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brsv}**
	from Table 12-5		from Table 12-5	from Equation 12-13		$(4)_{TOTAL}*(5)$	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-5.05	0.47	0.86	0.308	1.000	0.308	0.98	0.64	0.194
Fatal and Injury (FI)	-8.71	0.66	0.28	0.059	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.191	0.059	0.98	0.64	0.037
Property Damage Only (PDO)	-5.04	0.45	1.06	0.252	$(5)_{TOTAL}-(5)_{FI}$ = 0.809	0.249	0.98	0.64	0.157

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	$(9)_{FI}$ from Worksheet 1E	from Table 12-6	$(9)_{PDO}$ from Worksheet 1E	$(9)_{TOTAL}$ from Worksheet 1E
Total	1.000	0.037	1.000	0.157	0.194
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with animal	0.000	0.000	0.077	0.012	0.012
Collision with fixed object	0.400	0.015	0.846	0.133	0.147
Collision with other object	0.000	0.000	0.000	0.000	0.000
Other single-vehicle collision	0.600	0.022	0.077	0.012	0.034

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15,000)^t$	from Table 12-7
Major commercial	0	0.033	1.106	0.000	--
Minor commercial	0	0.011	1.106	0.000	
Major industrial/institutional	0	0.036	1.106	0.000	
Minor industrial/institutional	0	0.005	1.106	0.000	
Major residential	0	0.018	1.106	0.000	
Minor residential	0	0.003	1.106	0.000	
Other	0	0.005	1.106	0.000	
Total	--	--	--	0.000	1.39

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	0.000	1.000	0.000	0.98	0.64	0.000
Fatal and injury (FI)	--	0.284	0.000	0.98	0.64	0.000
Property damage only (PDO)	--	0.716	0.000	0.98	0.64	0.000

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	1.649	0.194	0.000	1.843	0.013	0.64	0.015
Fatal and injury (FI)	--	--	--	--	--	0.64	0.015

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	1.649	0.194	0.000	1.843	0.009	0.64	0.011
Fatal and injury (FI)	--	--	--	--	--	0.64	0.011

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	(5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	(6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	0.345	0.781	1.125
Head-on collisions (from Worksheet 1D)	0.003	0.000	0.003
Angle collisions (from Worksheet 1D)	0.008	0.010	0.018
Sideswipe, same direction (from Worksheet 1D)	0.017	0.172	0.188
Sideswipe, opposite direction (from Worksheet 1D)	0.006	0.005	0.011
Driveway-related collisions (from Worksheet 1H)	0.000	0.000	0.000
Other multiple-vehicle collision (from Worksheet 1D)	0.062	0.242	0.303
Subtotal	0.440	1.208	1.648
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.000	0.012	0.012
Collision with fixed object (from Worksheet 1F)	0.015	0.133	0.147
Collision with other object (from Worksheet 1F)	0.000	0.000	0.000
Other single-vehicle collision (from Worksheet 1F)	0.022	0.012	0.034
Collision with pedestrian (from Worksheet 1I)	0.015	0.000	0.015
Collision with bicycle (from Worksheet 1J)	0.011	0.000	0.011
Subtotal	0.063	0.157	0.220
Total	0.503	1.365	1.868

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	1.9	0.33	5.7
Fatal and injury (FI)	0.5	0.33	1.5
Property damage only (PDO)	1.4	0.33	4.1

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments

General Information		Location Information	
Analyst	RLS	Roadway	US 97
Agency or Company	DKS	Roadway Section	Badger to Pinebrook
Date Performed	07/24/18	Jurisdiction	Bend, OR
		Analysis Year	2017

Input Data		Base Conditions	Site Conditions
Roadway type (2U, 3T, 4U, 4D, ST)		--	4D
Length of segment, L (mi)		--	0.22
AADT (veh/day)	$AADT_{MAX}$ = 66,000 (veh/day)	--	**40,000**
Type of on-street parking (none/parallel/angle)		None	None
Proportion of curb length with on-street parking		--	0
Median width (ft) - for divided only		15	15
Lighting (present / not present)		Not Present	Present
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	0
Minor commercial driveways (number)		--	0
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	0
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	36
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	25
Calibration Factor, Cr		1.00	0.64

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.03	1.00	0.94	1.00	0.97

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-12.34	1.36	1.32	1.746	1.000	1.746	0.97	0.64	1.082
Fatal and Injury (FI)	-12.76	1.28	1.31	0.491	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.267	0.466	0.97	0.64	0.289
Property Damage Only (PDO)	-12.81	1.38	1.34	1.349	$(5)_{TOTAL}-(5)_{FI}$ = 0.733	1.280	0.97	0.64	0.793

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	$(9)_{FI}$ from Worksheet 1C	from Table 12-4	$(9)_{PDO}$ from Worksheet 1C	$(9)_{TOTAL}$ from Worksheet 1C
Total	1.000	0.289	1.000	0.793	1.082
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.783	0.226	0.646	0.512	0.739
Head-on collision	0.006	0.002	0.000	0.000	0.002
Angle collision	0.019	0.005	0.008	0.006	0.012
Sideswipe, same direction	0.038	0.011	0.142	0.113	0.124
Sideswipe, opposite direction	0.013	0.004	0.004	0.003	0.007
Other multiple-vehicle collision	0.140	0.040	0.200	0.159	0.199

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brsv}**	**Proportion of Total Crashes**	**Adjusted N_{brsv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brsv}**
	from Table 12-5		from Table 12-5	from Equation 12-13		$(4)_{TOTAL}*(5)$	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-5.05	0.47	0.86	0.205	1.000	0.205	0.97	0.64	0.127
Fatal and Injury (FI)	-8.71	0.66	0.28	0.040	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.191	0.039	0.97	0.64	0.024
Property Damage Only (PDO)	-5.04	0.45	1.06	0.168	$(5)_{TOTAL}-(5)_{FI}$ = 0.809	0.166	0.97	0.64	0.103

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	$(9)_{FI}$ from Worksheet 1E	from Table 12-6	$(9)_{PDO}$ from Worksheet 1E	$(9)_{TOTAL}$ from Worksheet 1E
Total	1.000	0.024	1.000	0.103	0.127
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with animal	0.000	0.000	0.077	0.008	0.008
Collision with fixed object	0.400	0.010	0.846	0.087	0.097
Collision with other object	0.000	0.000	0.000	0.000	0.000
Other single-vehicle collision	0.600	0.015	0.077	0.008	0.022

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15,000)^t$	from Table 12-7
Major commercial	0	0.033	1.106	0.000	
Minor commercial	0	0.011	1.106	0.000	
Major industrial/institutional	0	0.036	1.106	0.000	
Minor industrial/institutional	0	0.005	1.106	0.000	--
Major residential	0	0.018	1.106	0.000	
Minor residential	0	0.003	1.106	0.000	
Other	0	0.005	1.106	0.000	
Total	--	--	--	0.000	1.39

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	0.000	1.000	0.000	0.97	0.64	0.000
Fatal and injury (FI)	--	0.284	0.000	0.97	0.64	0.000
Property damage only (PDO)	--	0.716	0.000	0.97	0.64	0.000

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	1.082	0.127	0.000	1.209	0.013	0.64	0.010
Fatal and injury (FI)	--	--	--	--	--	0.64	0.010

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	1.082	0.127	0.000	1.209	0.009	0.64	0.007
Fatal and injury (FI)	--	--	--	--	--	0.64	0.007

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)** (3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	**Property damage only (PDO)** (5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	**Total** (6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	0.226	0.512	0.739
Head-on collisions (from Worksheet 1D)	0.002	0.000	0.002
Angle collisions (from Worksheet 1D)	0.005	0.006	0.012
Sideswipe, same direction (from Worksheet 1D)	0.011	0.113	0.124
Sideswipe, opposite direction (from Worksheet 1D)	0.004	0.003	0.007
Driveway-related collisions (from Worksheet 1H)	0.000	0.000	0.000
Other multiple-vehicle collision (from Worksheet 1D)	0.040	0.159	0.199
Subtotal	0.289	0.793	1.082
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.000	0.008	0.008
Collision with fixed object (from Worksheet 1F)	0.010	0.087	0.097
Collision with other object (from Worksheet 1F)	0.000	0.000	0.000
Other single-vehicle collision (from Worksheet 1F)	0.015	0.008	0.022
Collision with pedestrian (from Worksheet 1I)	0.010	0.000	0.010
Collision with bicycle (from Worksheet 1J)	0.007	0.000	0.007
Subtotal	0.041	0.103	0.144
Total	0.330	0.896	1.226

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)** (Total) from Worksheet 1K	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)** (2) / (3)
Total	1.2	0.22	5.6
Fatal and injury (FI)	0.3	0.22	1.5
Property damage only (PDO)	0.9	0.22	4.1

Worksheet 2A -- General Information and Input Data for Urban and Suburban Arterial Intersections

General Information		Location Information	
Analyst	RLS	Roadway	US 97
Agency or Company	DKS	Intersection	Ponderosa/China Hat/US 97
Date Performed	07/24/18	Jurisdiction	Bend, OR
		Analysis Year	2018

Input Data		Base Conditions	Site Conditions
Intersection type (3ST, 3SG, 4ST, 4SG)		--	4ST
AADT $_{major}$ (veh/day)	$AADT_{MAX}$ = 46,800 (veh/day)	--	**44,580**
AADT $_{minor}$ (veh/day)	$AADT_{MAX}$ = 5,900 (veh/day)	--	**5,900**
Intersection lighting (present/not present)		Not Present	Present
Calibration factor, C_i		1.00	0.45
Data for unsignalized intersections only:		--	--
Number of major-road approaches with left-turn lanes (0,1,2)		0	0
Number of major-road approaches with right-turn lanes (0,1,2)		0	2
Data for signalized intersections only:		--	--
Number of approaches with left-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	0
Number of approaches with right-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	0
Number of approaches with left-turn signal phasing [for 3SG, use maximum value of 3]		--	
Type of left-turn signal phasing for Leg #1		Permissive	
Type of left-turn signal phasing for Leg #2		--	
Type of left-turn signal phasing for Leg #3		--	
Type of left-turn signal phasing for Leg #4 (if applicable)		--	
Number of approaches with right-turn-on-red prohibited [for 3SG, use maximum value of 3]		0	0
Intersection red light cameras (present/not present)		Not Present	Not Present
Sum of all pedestrian crossing volumes (PedVol) -- Signalized intersections only			
Maximum number of lanes crossed by a pedestrian (n_{lanesx})		--	
Number of bus stops within 300 m (1,000 ft) of the intersection		0	0
Schools within 300 m (1,000 ft) of the intersection (present/not present)		Not Present	Not Present
Number of alcohol sales establishments within 300 m (1,000 ft) of the intersection		0	0

Worksheet 2B -- Crash Modification Factors for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)	(7)
CMF for Left-Turn Lanes	CMF for Left-Turn Signal Phasing	CMF for Right-Turn Lanes	CMF for Right Turn on Red	CMF for Lighting	CMF for Red Light Cameras	Combined CMF
CMF 1i	*CMF 2i*	*CMF 3i*	*CMF 4i*	*CMF 5i*	*CMF 6i*	*CMF $_{COMB}$*
from Table 12-24	from Table 12-25	from Table 12-26	from Equation 12-35	from Equation 12-36	from Equation 12-37	(1)*(2)*(3)*(4)*(5)*(6)
1.00	1.00	0.74	1.00	0.88	1.00	0.65

Worksheet 2C -- Multiple-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1)	(2)			(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**			**Overdispersion Parameter, k**	**Initial N_{bimv}**	**Proportion of Total Crashes**	**Adjusted N_{bimv}**	**Combined CMFs**	**Calibration Factor, C_i**	**Predicted N_{bimv}**
	from Table 12-10			from Table 12-10	from Equation 12-21		$(4)_{TOTAL}$*(5)	(7) from Worksheet 2B		(6)*(7)*(8)
	a	b	c							
Total	-8.90	0.82	0.25	0.40	7.759	1.000	7.759	0.65	0.45	2.277
Fatal and Injury (FI)	-11.13	0.93	0.28	0.48	3.514	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.440	3.410	0.65	0.45	1.001
Property Damage Only (PDO)	-8.74	0.77	0.23	0.40	4.481	$(5)_{TOTAL}-(5)_{FI}$ = 0.560	4.348	0.65	0.45	1.276

Worksheet 2D -- Multiple-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{bimv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{bimv\ (PDO)}$ (crashes/year)**	**Predicted N $_{bimv\ (TOTAL)}$ (crashes/year)**
	from Table 12-11	$(9)_{FI}$ from Worksheet 2C	from Table 12-11	$(9)_{PDO}$ from Worksheet 2C	$(9)_{PDO}$ from Worksheet 2C
Total	1.000	1.001	1.000	1.276	2.277
		(2)*$(3)_{FI}$		(4)*$(5)_{PDO}$	(3)+(5)
Rear-end collision	0.165	0.165	0.135	0.172	0.337
Head-on collision	0.000	0.000	0.000	0.000	0.000
Angle collision	0.449	0.449	0.399	0.509	0.959
Sideswipe	0.000	0.000	0.007	0.009	0.009
Other multiple-vehicle collision	0.386	0.386	0.459	0.586	0.972

Worksheet 2E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1)	(2)			(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**			**Overdispersion Parameter, k**	**Initial N_{bisv}**	**Proportion of Total Crashes**	**Adjusted N_{bimv}**	**Combined CMFs**	**Calibration Factor, C_i**	**Predicted N_{bisv}**
	from Table 12-12			from Table 12-12	from Eqn. 12-24; (FI) from Eqn. 12-24 or 12-27		$(4)_{TOTAL}$*(5)	(7) from Worksheet 2B		(6)*(7)*(8)
	a	b	c							
Total	-5.33	0.33	0.12	0.65	0.470	1.000	0.470	0.65	0.45	0.138
Fatal and Injury (FI)	--	--	--	--	0.132	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.266	0.125	0.65	0.45	0.037
Property Damage Only (PDO)	-7.04	0.36	0.25	0.54	0.362	$(5)_{TOTAL}-(5)_{FI}$ = 0.734	0.345	0.65	0.45	0.101

Worksheet 2F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{bisv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{bisv\ (PDO)}$ (crashes/year)**	**Predicted N $_{bisv\ (TOTAL)}$ (crashes/year)**
	from Table 12-13	(9)$_{FI}$ from Worksheet 2E	from Table 12-13	(9)$_{PDO}$ from Worksheet 2E	(9)$_{PDO}$ from Worksheet 2E
Total	1.000	0.037	1.000	0.101	0.138
		(2)*(3)$_{FI}$		(4)*(5)$_{PDO}$	(3)+(5)
Collision with parked vehicle	0.000	0.000	0.000	0.000	0.000
Collision with animal	0.000	0.000	0.000	0.000	0.000
Collision with fixed object	0.138	0.005	0.750	0.076	0.081
Collision with other object	0.000	0.000	0.000	0.000	0.000
Other single-vehicle collision	0.862	0.032	0.000	0.000	0.032
Single-vehicle noncollision	0.000	0.000	0.250	0.025	0.025

Worksheet 2G -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Stop-Controlled Intersections

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Predicted N_{bimv}**	**Predicted N_{bisv}**	**Predicted N_{bi}**	**f_{pedi}**	**Calibration factor, C_i**	**Predicted N_{pedi}**
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-16		(4)*(5)*(6)
Total	2.277	0.138	2.415	0.022	0.45	0.024
Fatal and injury (FI)	--	--	--	--	0.45	0.024

Worksheet 2H -- Crash Modification Factors for Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections

(1)	(2)	(3)	(4)
CMF for Bus Stops	CMF for Schools	CMF for Alcohol Sales Establishments	Combined CMF
CMF_{1p}	CMF_{2p}	CMF_{3p}	
from Table 12-28	from Table 12-29	from Table 12-30	(1)*(2)*(3)
--	--	--	--

Worksheet 2I -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections

(1)	(2)					(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**SPF Coefficients**					**Overdispersion Parameter, k**	**$N_{pedbase}$**	**Combined CMF**	**Calibration factor, C_i**	**Predicted N_{pedi}**
	from Table 12-14						from Equation 12-29	(4) from Worksheet 2H		(4)*(5)*(6)
	a	b	c	d	e					
Total	--	--	--	--	--	--	--	--	0.45	--
Fatal and Injury (FI)	--	--	--	--	--	--	--	--	0.45	--

Worksheet 2J -- Vehicle-Bicycle Collisions for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Predicted N_{bimv}**	**Predicted N_{bisv}**	**Predicted N_{bi}**	**f_{bikei}**	**Calibration factor, C_i**	**Predicted N_{bikei}**
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-17		(4)*(5)*(6)
Total	2.277	0.138	2.415	0.018	0.45	0.020
Fatal and injury (FI)	--	--	--	--	0.45	0.020

Worksheet 2K -- Crash Severity Distribution for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J	(5) from Worksheet 2D and 2F	(6) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 2D)	0.165	0.172	0.337
Head-on collisions (from Worksheet 2D)	0.000	0.000	0.000
Angle collisions (from Worksheet 2D)	0.449	0.509	0.959
Sideswipe (from Worksheet 2D)	0.000	0.009	0.009
Other multiple-vehicle collision (from Worksheet 2D)	0.386	0.586	0.972
Subtotal	1.001	1.276	2.277
SINGLE-VEHICLE			
Collision with parked vehicle (from Worksheet 2F)	0.000	0.000	0.000
Collision with animal (from Worksheet 2F)	0.000	0.000	0.000
Collision with fixed object (from Worksheet 2F)	0.005	0.076	0.081
Collision with other object (from Worksheet 2F)	0.000	0.000	0.000
Other single-vehicle collision (from Worksheet 2F)	0.032	0.000	0.032
Single-vehicle noncollision (from Worksheet 2F)	0.000	0.025	0.025
Collision with pedestrian (from Worksheet 2G or 2I)	0.024	0.000	0.024
Collision with bicycle (from Worksheet 2J)	0.020	0.000	0.020
Subtotal	0.080	0.101	0.181
Total	1.081	1.377	2.458

Worksheet 2L -- Summary Results for Urban and Suburban Arterial Intersections

(1)	(2)
Crash severity level	**Predicted average crash frequency, $N_{predicted\ int}$ (crashes/year)**
	(Total) from Worksheet 2K
Total	2.5
Fatal and injury (FI)	1.1
Property damage only (PDO)	1.4

Worksheet 3A -- Predicted Crashes by Severity and Site Type and Observed Crashes Using the Site-Specific EB Method for Urban and Suburban Arterials

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Collision type / Site type	**Predicted average crash frequency (crashes/year)**			**Observed crashes, $N_{observed}$** (crashes/year)	**Overdispersion Parameter, k**	**Weighted adjustment, w**	**Expected average crash frequency,**
	$N_{predicted}$ (TOTAL)	$N_{predicted}$ (FI)	$N_{predicted}$ (PDO)			Equation A-5 from Part C Appendix	Equation A-4 from Part C Appendix
ROADWAY SEGMENTS							
Multiple-vehicle nondriveway							
Segment 1	1.178	0.304	0.873		1.320	0.391	0.461
Segment 2	1.112	0.297	0.815		1.320	0.405	0.451
Segment 3	1.449	0.387	1.062		1.320	0.343	0.497
Segment 4	1.649	0.440	1.208		1.320	0.315	0.519
Segment 5	1.082	0.289	0.793		1.320	0.412	0.446
Single-vehicle							
Segment 1	0.093	0.019	0.074		0.860	0.926	0.086
Segment 2	0.131	0.025	0.106		0.860	0.899	0.118
Segment 3	0.170	0.032	0.138		0.860	0.872	0.149
Segment 4	0.194	0.037	0.157		0.860	0.857	0.166
Segment 5	0.127	0.024	0.103		0.860	0.901	0.115
Multiple-vehicle driveway-related							
Segment 1	0.000	0.000	0.000		1.390	1.000	0.000
Segment 2	0.000	0.000	0.000		1.390	1.000	0.000
Segment 3	0.000	0.000	0.000		1.390	1.000	0.000
Segment 4	0.000	0.000	0.000		1.390	1.000	0.000
Segment 5	0.000	0.000	0.000		1.390	1.000	0.000
INTERSECTIONS							
Multiple-vehicle							
Intersection 1	0.000	0.000	0.000		0.400	1.000	0.000
Intersection 2	0.000	0.000	0.000		0.400	1.000	0.000
Intersection 3	2.277	1.001	1.276		0.400	0.523	1.192
Single-vehicle							
Intersection 1	0.000	0.000	0.000		0.650	1.000	0.000
Intersection 2	0.000	0.000	0.000		0.650	1.000	0.000
Intersection 3	0.138	0.037	0.101		0.650	0.918	0.127
COMBINED (sum of column)	9.600	2.893	6.707		--	--	4.325

Worksheet 3B -- Predicted Pedestrian and Bicycle Crashes for Urban and Suburban Arterials

(1)	(2)	(3)
Site Type	**N_{ped}**	**N_{bike}**
ROADWAY SEGMENTS		
Segment 1	0.011	0.007
Segment 2	0.010	0.007
Segment 3	0.013	0.009
Segment 4	0.015	0.011
Segment 5	0.010	0.007
INTERSECTIONS		
Intersection 1	0.000	0.000
Intersection 2	0.000	0.000
Intersection 3	0.024	0.020
COMBINED (sum of column)	0.084	0.061

Worksheet 3C -- Site-Specific EB Method Summary Results for Urban and Suburban Arterials

(1)	(2)	(3)	(4)	(5)	(6)
Crash severity level	**$N_{predicted}$**	**N_{ped}**	**N_{bike}**	$N_{expected\ (VEHICLE)}$	$N_{expected}$
Total	$(2)_{COMB}$ from Worksheet 3A	$(2)_{COMB}$ from Worksheet 3B	$(3)_{COMB}$ from Worksheet 3B	$(8)_{COMB}$ Worksheet 3A	(3)+(4)+(5)
	9.6	0.1	0.1	4.3	4.5
Fatal and injury (FI)	$(3)_{COMB}$ from Worksheet 3A	$(2)_{COMB}$ from Worksheet 3B	$(3)_{COMB}$ from Worksheet 3B	$(5)_{TOTAL} * (2)_{FI} / (2)_{TOTAL}$	(3)+(4)+(5)
	2.9	0.1	0.1	1.3	1.4
Property damage only (PDO)	$(4)_{COMB}$ from Worksheet 3A	--	--	$(5)_{TOTAL} * (2)_{PDO} / (2)_{TOTAL}$	(3)+(4)+(5)
	6.7	0.0	0.0	3.0	3.0

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments

General Information		Location Information	
Analyst	RLS	Roadway	US 97
Agency or Company	DKS	Roadway Section	Pinebrook to Murphy Ramp
Date Performed	07/24/18	Jurisdiction	Bend, OR
		Analysis Year	2017

Input Data		Base Conditions	Site Conditions
Roadway type (2U, 3T, 4U, 4D, ST)		--	4D
Length of segment, L (mi)		--	0.43
AADT (veh/day)	$AADT_{MAX}$ = 66,000 (veh/day)	--	**40,000**
Type of on-street parking (none/parallel/angle)		None	None
Proportion of curb length with on-street parking		--	0
Median width (ft) - for divided only		15	15
Lighting (present / not present)		Not Present	Present
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	0
Minor commercial driveways (number)		--	0
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	0
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	12
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	20
Calibration Factor, Cr		1.00	0.64

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.00	1.00	0.94	1.00	0.94

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-12.34	1.36	1.32	3.413	1.000	3.413	0.94	0.64	2.057
Fatal and Injury (FI)	-12.76	1.28	1.31	0.961	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.267	0.911	0.94	0.64	0.549
Property Damage Only (PDO)	-12.81	1.38	1.34	2.636	$(5)_{TOTAL}-(5)_{FI}$ = 0.733	2.501	0.94	0.64	1.508

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	$(9)_{FI}$ from Worksheet 1C	from Table 12-4	$(9)_{PDO}$ from Worksheet 1C	$(9)_{TOTAL}$ from Worksheet 1C
Total	1.000	0.549	1.000	1.508	2.057
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.783	0.430	0.646	0.974	1.404
Head-on collision	0.006	0.003	0.000	0.000	0.003
Angle collision	0.019	0.010	0.008	0.012	0.023
Sideswipe, same direction	0.038	0.021	0.142	0.214	0.235
Sideswipe, opposite direction	0.013	0.007	0.004	0.006	0.013
Other multiple-vehicle collision	0.140	0.077	0.200	0.302	0.378

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brsv}**	**Proportion of Total Crashes**	**Adjusted N_{brsv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brsv}**
	from Table 12-5		from Table 12-5	from Equation 12-13		$(4)_{TOTAL}*(5)$	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-5.05	0.47	0.86	0.401	1.000	0.401	0.94	0.64	0.242
Fatal and Injury (FI)	-8.71	0.66	0.28	0.077	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.191	0.077	0.94	0.64	0.046
Property Damage Only (PDO)	-5.04	0.45	1.06	0.328	$(5)_{TOTAL}-(5)_{FI}$ = 0.809	0.325	0.94	0.64	0.196

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	$(9)_{FI}$ from Worksheet 1E	from Table 12-6	$(9)_{PDO}$ from Worksheet 1E	$(9)_{TOTAL}$ from Worksheet 1E
Total	1.000	0.046	1.000	0.196	0.242
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with animal	0.000	0.000	0.077	0.015	0.015
Collision with fixed object	0.400	0.018	0.846	0.166	0.184
Collision with other object	0.000	0.000	0.000	0.000	0.000
Other single-vehicle collision	0.600	0.028	0.077	0.015	0.043

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15,000)^t$	from Table 12-7
Major commercial	0	0.033	1.106	0.000	
Minor commercial	0	0.011	1.106	0.000	
Major industrial/institutional	0	0.036	1.106	0.000	
Minor industrial/institutional	0	0.005	1.106	0.000	--
Major residential	0	0.018	1.106	0.000	
Minor residential	0	0.003	1.106	0.000	
Other	0	0.005	1.106	0.000	
Total	--	--	--	0.000	1.39

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL} * (3)$	(6) from Worksheet 1B		(4)*(5)*(6)
Total	0.000	1.000	0.000	0.94	0.64	0.000
Fatal and injury (FI)	--	0.284	0.000	0.94	0.64	0.000
Property damage only (PDO)	--	0.716	0.000	0.94	0.64	0.000

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	2.057	0.242	0.000	2.299	0.013	0.64	0.019
Fatal and injury (FI)	--	--	--	--	--	0.64	0.019

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	2.057	0.242	0.000	2.299	0.009	0.64	0.013
Fatal and injury (FI)	--	--	--	--	--	0.64	0.013

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)** (3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	**Property damage only (PDO)** (5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	**Total** (6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	0.430	0.974	1.404
Head-on collisions (from Worksheet 1D)	0.003	0.000	0.003
Angle collisions (from Worksheet 1D)	0.010	0.012	0.023
Sideswipe, same direction (from Worksheet 1D)	0.021	0.214	0.235
Sideswipe, opposite direction (from Worksheet 1D)	0.007	0.006	0.013
Driveway-related collisions (from Worksheet 1H)	0.000	0.000	0.000
Other multiple-vehicle collision (from Worksheet 1D)	0.077	0.302	0.378
Subtotal	0.549	1.508	2.057
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.000	0.015	0.015
Collision with fixed object (from Worksheet 1F)	0.018	0.166	0.184
Collision with other object (from Worksheet 1F)	0.000	0.000	0.000
Other single-vehicle collision (from Worksheet 1F)	0.028	0.015	0.043
Collision with pedestrian (from Worksheet 1I)	0.019	0.000	0.019
Collision with bicycle (from Worksheet 1J)	0.013	0.000	0.013
Subtotal	0.079	0.196	0.274
Total	0.627	1.704	2.331

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)** (Total) from Worksheet 1K	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)** (2) / (3)
Total	2.3	0.43	5.4
Fatal and injury (FI)	0.6	0.43	1.5
Property damage only (PDO)	1.7	0.43	4.0

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments

General Information		Location Information	
Analyst	RLS	Roadway	US 97
Agency or Company	DKS	Roadway Section	Murphy Ramp to Ponderosa/China Hat
Date Performed	07/24/18	Jurisdiction	Bend, OR
		Analysis Year	2017

Input Data		Base Conditions	Site Conditions
Roadway type (2U, 3T, 4U, 4D, ST)		--	4U
Length of segment, L (mi)		--	0.21
AADT (veh/day)	$AADT_{MAX}$ = 40,100 (veh/day)	--	**40,100**
Type of on-street parking (none/parallel/angle)		None	None
Proportion of curb length with on-street parking		--	0
Median width (ft) - for divided only		15	Not Present
Lighting (present / not present)		Not Present	Not Present
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	0
Minor commercial driveways (number)		--	0
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	1
Minor residential driveways (number)		--	0
Other driveways (number)		--	0
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	5
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	25
Calibration Factor, Cr		1.00	0.63

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.00	1.00	1.00	1.00	1.00

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-11.63	1.33	1.01	2.475	1.000	2.475	1.00	0.63	1.559
Fatal and Injury (FI)	-12.08	1.25	0.99	0.676	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.283	0.701	1.00	0.63	0.442
Property Damage Only (PDO)	-12.53	1.38	1.08	1.709	$(5)_{TOTAL}-(5)_{FI}$ = 0.717	1.774	1.00	0.63	1.117

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	$(9)_{FI}$ from Worksheet 1C	from Table 12-4	$(9)_{PDO}$ from Worksheet 1C	$(9)_{TOTAL}$ from Worksheet 1C
Total	1.000	0.442	1.000	1.117	1.559
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.658	0.291	0.548	0.612	0.903
Head-on collision	0.029	0.013	0.004	0.004	0.017
Angle collision	0.015	0.007	0.016	0.018	0.025
Sideswipe, same direction	0.060	0.027	0.205	0.229	0.256
Sideswipe, opposite direction	0.022	0.010	0.008	0.009	0.019
Other multiple-vehicle collision	0.216	0.095	0.219	0.245	0.340

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brsv}**	**Proportion of Total Crashes**	**Adjusted N_{brsv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brsv}**
	from Table 12-5		from Table 12-5	from Equation 12-13		$(4)_{TOTAL}*(5)$	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-7.99	0.81	0.91	0.381	1.000	0.381	1.00	0.63	0.240
Fatal and Injury (FI)	-7.37	0.61	0.54	0.085	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.213	0.081	1.00	0.63	0.051
Property Damage Only (PDO)	-8.50	0.84	0.97	0.314	$(5)_{TOTAL}-(5)_{FI}$ = 0.787	0.300	1.00	0.63	0.189

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	$(9)_{FI}$ from Worksheet 1E	from Table 12-6	$(9)_{PDO}$ from Worksheet 1E	$(9)_{TOTAL}$ from Worksheet 1E
Total	1.000	0.051	1.000	0.189	0.240
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with animal	0.037	0.002	0.100	0.019	0.021
Collision with fixed object	0.519	0.027	0.825	0.156	0.182
Collision with other object	0.000	0.000	0.075	0.014	0.014
Other single-vehicle collision	0.444	0.023	0.000	0.000	0.023

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15,000)^t$	from Table 12-7
Major commercial	0	0.182	1.172	0.000	
Minor commercial	0	0.058	1.172	0.000	
Major industrial/institutional	0	0.198	1.172	0.000	
Minor industrial/institutional	0	0.026	1.172	0.000	--
Major residential	1	0.096	1.172	0.304	
Minor residential	0	0.018	1.172	0.000	
Other	0	0.029	1.172	0.000	
Total	--	--	--	0.304	0.81

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL} * (3)$	(6) from Worksheet 1B		(4)*(5)*(6)
Total	0.304	1.000	0.304	1.00	0.63	0.191
Fatal and injury (FI)	--	0.342	0.104	1.00	0.63	0.065
Property damage only (PDO)	--	0.658	0.200	1.00	0.63	0.126

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	1.559	0.240	0.191	1.991	0.004	0.63	0.005
Fatal and injury (FI)	--	--	--	--	--	0.63	0.005

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	1.559	0.240	0.191	1.991	0.01	0.63	0.013
Fatal and injury (FI)	--	--	--	--	--	0.63	0.013

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)** (3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	**Property damage only (PDO)** (5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	**Total** (6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	0.291	0.612	0.903
Head-on collisions (from Worksheet 1D)	0.013	0.004	0.017
Angle collisions (from Worksheet 1D)	0.007	0.018	0.025
Sideswipe, same direction (from Worksheet 1D)	0.027	0.229	0.256
Sideswipe, opposite direction (from Worksheet 1D)	0.010	0.009	0.019
Driveway-related collisions (from Worksheet 1H)	0.065	0.126	0.191
Other multiple-vehicle collision (from Worksheet 1D)	0.095	0.245	0.340
Subtotal	0.507	1.243	1.751
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.002	0.019	0.021
Collision with fixed object (from Worksheet 1F)	0.027	0.156	0.182
Collision with other object (from Worksheet 1F)	0.000	0.014	0.014
Other single-vehicle collision (from Worksheet 1F)	0.023	0.000	0.023
Collision with pedestrian (from Worksheet 1I)	0.005	0.000	0.005
Collision with bicycle (from Worksheet 1J)	0.013	0.000	0.013
Subtotal	0.069	0.189	0.257
Total	0.576	1.432	2.008

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	2.0	0.21	9.6
Fatal and injury (FI)	0.6	0.21	2.7
Property damage only (PDO)	1.4	0.21	6.8

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments

General Information		Location Information	
Analyst	RLS	Roadway	US 97
Agency or Company	DKS	Roadway Section	Ponderosa/China Hat to Speed Change
Date Performed	07/24/18	Jurisdiction	Bend, OR
		Analysis Year	2017

Input Data		Base Conditions	Site Conditions
Roadway type (2U, 3T, 4U, 4D, ST)		--	4U
Length of segment, L (mi)		--	0.27
AADT (veh/day)	$AADT_{MAX}$ = 40,100 (veh/day)	--	**40,100**
Type of on-street parking (none/parallel/angle)		None	None
Proportion of curb length with on-street parking		--	0
Median width (ft) - for divided only		15	Not Present
Lighting (present / not present)		Not Present	Present
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	0
Minor commercial driveways (number)		--	0
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	0
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	7
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	20
Calibration Factor, Cr		1.00	0.63

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.00	1.00	0.95	1.00	0.95

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-11.63	1.33	1.01	3.182	1.000	3.182	0.95	0.63	1.905
Fatal and Injury (FI)	-12.08	1.25	0.99	0.869	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.283	0.902	0.95	0.63	0.540
Property Damage Only (PDO)	-12.53	1.38	1.08	2.198	$(5)_{TOTAL}-(5)_{FI}$ = 0.717	2.280	0.95	0.63	1.365

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	$(9)_{FI}$ from Worksheet 1C	from Table 12-4	$(9)_{PDO}$ from Worksheet 1C	$(9)_{TOTAL}$ from Worksheet 1C
Total	1.000	0.540	1.000	1.365	1.905
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.658	0.355	0.548	0.748	1.103
Head-on collision	0.029	0.016	0.004	0.005	0.021
Angle collision	0.015	0.008	0.016	0.022	0.030
Sideswipe, same direction	0.060	0.032	0.205	0.280	0.312
Sideswipe, opposite direction	0.022	0.012	0.008	0.011	0.023
Other multiple-vehicle collision	0.216	0.117	0.219	0.299	0.416

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brsv}**	**Proportion of Total Crashes**	**Adjusted N_{brsv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brsv}**
	from Table 12-5		from Table 12-5	from Equation 12-13		$(4)_{TOTAL}*(5)$	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-7.99	0.81	0.91	0.490	1.000	0.490	0.95	0.63	0.293
Fatal and Injury (FI)	-7.37	0.61	0.54	0.109	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.213	0.104	0.95	0.63	0.062
Property Damage Only (PDO)	-8.50	0.84	0.97	0.404	$(5)_{TOTAL}-(5)_{FI}$ = 0.787	0.385	0.95	0.63	0.231

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	$(9)_{FI}$ from Worksheet 1E	from Table 12-6	$(9)_{PDO}$ from Worksheet 1E	$(9)_{TOTAL}$ from Worksheet 1E
Total	1.000	0.062	1.000	0.231	0.293
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with animal	0.037	0.002	0.100	0.023	0.025
Collision with fixed object	0.519	0.032	0.825	0.190	0.223
Collision with other object	0.000	0.000	0.075	0.017	0.017
Other single-vehicle collision	0.444	0.028	0.000	0.000	0.028

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15,000)^t$	from Table 12-7
Major commercial	0	0.182	1.172	0.000	
Minor commercial	0	0.058	1.172	0.000	
Major industrial/institutional	0	0.198	1.172	0.000	
Minor industrial/institutional	0	0.026	1.172	0.000	--
Major residential	0	0.096	1.172	0.000	
Minor residential	0	0.018	1.172	0.000	
Other	0	0.029	1.172	0.000	
Total	--	--	--	0.000	0.81

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	0.000	1.000	0.000	0.95	0.63	0.000
Fatal and injury (FI)	--	0.342	0.000	0.95	0.63	0.000
Property damage only (PDO)	--	0.658	0.000	0.95	0.63	0.000

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	1.905	0.293	0.000	2.198	0.004	0.63	0.006
Fatal and injury (FI)	--	--	--	--	--	0.63	0.006

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	1.905	0.293	0.000	2.198	0.01	0.63	0.014
Fatal and injury (FI)	--	--	--	--	--	0.63	0.014

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	(5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	(6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	0.355	0.748	1.103
Head-on collisions (from Worksheet 1D)	0.016	0.005	0.021
Angle collisions (from Worksheet 1D)	0.008	0.022	0.030
Sideswipe, same direction (from Worksheet 1D)	0.032	0.280	0.312
Sideswipe, opposite direction (from Worksheet 1D)	0.012	0.011	0.023
Driveway-related collisions (from Worksheet 1H)	0.000	0.000	0.000
Other multiple-vehicle collision (from Worksheet 1D)	0.117	0.299	0.416
Subtotal	0.540	1.365	1.905
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.002	0.023	0.025
Collision with fixed object (from Worksheet 1F)	0.032	0.190	0.223
Collision with other object (from Worksheet 1F)	0.000	0.017	0.017
Other single-vehicle collision (from Worksheet 1F)	0.028	0.000	0.028
Collision with pedestrian (from Worksheet 1I)	0.006	0.000	0.006
Collision with bicycle (from Worksheet 1J)	0.014	0.000	0.014
Subtotal	0.082	0.231	0.313
Total	0.622	1.596	2.218

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	2.2	0.27	8.2
Fatal and injury (FI)	0.6	0.27	2.3
Property damage only (PDO)	1.6	0.27	5.9

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments

General Information		Location Information	
Analyst	RLS	Roadway	US 97
Agency or Company	DKS	Roadway Section	Speed Change to Knott Ramps
Date Performed	07/24/18	Jurisdiction	Bend, OR
		Analysis Year	2017

Input Data		Base Conditions	Site Conditions
Roadway type (2U, 3T, 4U, 4D, ST)		--	4U
Length of segment, L (mi)		--	0.58
AADT (veh/day)	$AADT_{MAX}$ = 40,100 (veh/day)	--	**40,100**
Type of on-street parking (none/parallel/angle)		None	None
Proportion of curb length with on-street parking		--	0
Median width (ft) - for divided only		15	Not Present
Lighting (present / not present)		Not Present	Present
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	0
Minor commercial driveways (number)		--	0
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	0
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	2
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	25
Calibration Factor, Cr		1.00	0.63

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.00	1.00	0.95	1.00	0.95

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-11.63	1.33	1.01	6.835	1.000	6.835	0.95	0.63	4.092
Fatal and Injury (FI)	-12.08	1.25	0.99	1.867	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.283	1.937	0.95	0.63	1.160
Property Damage Only (PDO)	-12.53	1.38	1.08	4.721	$(5)_{TOTAL}-(5)_{FI}$ = 0.717	4.899	0.95	0.63	2.933

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	$(9)_{FI}$ from Worksheet 1C	from Table 12-4	$(9)_{PDO}$ from Worksheet 1C	$(9)_{TOTAL}$ from Worksheet 1C
Total	1.000	1.160	1.000	2.933	4.092
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.658	0.763	0.548	1.607	2.370
Head-on collision	0.029	0.034	0.004	0.012	0.045
Angle collision	0.015	0.017	0.016	0.047	0.064
Sideswipe, same direction	0.060	0.070	0.205	0.601	0.671
Sideswipe, opposite direction	0.022	0.026	0.008	0.023	0.049
Other multiple-vehicle collision	0.216	0.250	0.219	0.642	0.893

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brsv}**	**Proportion of Total Crashes**	**Adjusted N_{brsv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brsv}**
	from Table 12-5		from Table 12-5	from Equation 12-13		$(4)_{TOTAL}*(5)$	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-7.99	0.81	0.91	1.052	1.000	1.052	0.95	0.63	0.630
Fatal and Injury (FI)	-7.37	0.61	0.54	0.235	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.213	0.224	0.95	0.63	0.134
Property Damage Only (PDO)	-8.50	0.84	0.97	0.868	$(5)_{TOTAL}-(5)_{FI}$ = 0.787	0.828	0.95	0.63	0.496

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	$(9)_{FI}$ from Worksheet 1E	from Table 12-6	$(9)_{PDO}$ from Worksheet 1E	$(9)_{TOTAL}$ from Worksheet 1E
Total	1.000	0.134	1.000	0.496	0.630
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with animal	0.037	0.005	0.100	0.050	0.055
Collision with fixed object	0.519	0.070	0.825	0.409	0.479
Collision with other object	0.000	0.000	0.075	0.037	0.037
Other single-vehicle collision	0.444	0.060	0.000	0.000	0.060

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15,000)^t$	from Table 12-7
Major commercial	0	0.182	1.172	0.000	
Minor commercial	0	0.058	1.172	0.000	
Major industrial/institutional	0	0.198	1.172	0.000	
Minor industrial/institutional	0	0.026	1.172	0.000	--
Major residential	0	0.096	1.172	0.000	
Minor residential	0	0.018	1.172	0.000	
Other	0	0.029	1.172	0.000	
Total	--	--	--	0.000	0.81

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL} * (3)$	(6) from Worksheet 1B		(4)*(5)*(6)
Total	0.000	1.000	0.000	0.95	0.63	0.000
Fatal and injury (FI)	--	0.342	0.000	0.95	0.63	0.000
Property damage only (PDO)	--	0.658	0.000	0.95	0.63	0.000

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	4.092	0.630	0.000	4.722	0.004	0.63	0.012
Fatal and injury (FI)	--	--	--	--	--	0.63	0.012

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	4.092	0.630	0.000	4.722	0.01	0.63	0.030
Fatal and injury (FI)	--	--	--	--	--	0.63	0.030

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	(5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	(6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	0.763	1.607	2.370
Head-on collisions (from Worksheet 1D)	0.034	0.012	0.045
Angle collisions (from Worksheet 1D)	0.017	0.047	0.064
Sideswipe, same direction (from Worksheet 1D)	0.070	0.601	0.671
Sideswipe, opposite direction (from Worksheet 1D)	0.026	0.023	0.049
Driveway-related collisions (from Worksheet 1H)	0.000	0.000	0.000
Other multiple-vehicle collision (from Worksheet 1D)	0.250	0.642	0.893
Subtotal	1.160	2.933	4.092
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.005	0.050	0.055
Collision with fixed object (from Worksheet 1F)	0.070	0.409	0.479
Collision with other object (from Worksheet 1F)	0.000	0.037	0.037
Other single-vehicle collision (from Worksheet 1F)	0.060	0.000	0.060
Collision with pedestrian (from Worksheet 1I)	0.012	0.000	0.012
Collision with bicycle (from Worksheet 1J)	0.030	0.000	0.030
Subtotal	0.176	0.496	0.671
Total	1.335	3.428	4.764

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	4.8	0.58	8.2
Fatal and injury (FI)	1.3	0.58	2.3
Property damage only (PDO)	3.4	0.58	5.9

Worksheet 3A -- Predicted Crashes by Severity and Site Type and Observed Crashes Using the Site-Specific EB Method for Urban and Suburban Arterials

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Collision type / Site type	**Predicted average crash frequency (crashes/year)**			**Observed crashes, $N_{observed}$** (crashes/year)	**Overdispersion Parameter, k**	**Weighted adjustment, w**	**Expected average crash frequency,**
	$N_{predicted}$ (TOTAL)	$N_{predicted}$ (FI)	$N_{predicted}$ (PDO)			Equation A-5 from Part C Appendix	Equation A-4 from Part C Appendix
ROADWAY SEGMENTS							
Multiple-vehicle nondriveway							
Segment 1	2.057	0.549	1.508		1.320	0.269	0.554
Segment 2	1.559	0.442	1.117		1.010	0.388	0.606
Segment 3	1.905	0.540	1.365		1.010	0.342	0.651
Segment 4	4.092	1.160	2.933		1.010	0.195	0.797
Single-vehicle							
Segment 1	0.242	0.046	0.196		0.860	0.828	0.200
Segment 2	0.240	0.051	0.189		0.910	0.821	0.197
Segment 3	0.293	0.062	0.231		0.910	0.789	0.231
Segment 4	0.630	0.134	0.496		0.910	0.636	0.400
Multiple-vehicle driveway-related							
Segment 1	0.000	0.000	0.000		1.390	1.000	0.000
Segment 2	0.191	0.065	0.126		0.810	0.866	0.166
Segment 3	0.000	0.000	0.000		0.810	1.000	0.000
Segment 4	0.000	0.000	0.000		0.810	1.000	0.000
INTERSECTIONS							
Multiple-vehicle							
Intersection 1	0.000	0.000	0.000		0.330	1.000	0.000
Intersection 2	0.000	0.000	0.000		0.800	1.000	0.000
Intersection 3	0.000	0.000	0.000		0.800	1.000	0.000
Single-vehicle							
Intersection 1	0.000	0.000	0.000		0.360	1.000	0.000
Intersection 2	0.000	0.000	0.000		1.140	1.000	0.000
Intersection 3	0.000	0.000	0.000		1.140	1.000	0.000
COMBINED (sum of column)	11.210	3.050	8.160	0.0	--	--	3.803

Worksheet 3B -- Predicted Pedestrian and Bicycle Crashes for Urban and Suburban Arterials

(1)	(2)	(3)
Site Type	**N_{ped}**	**N_{bike}**
ROADWAY SEGMENTS		
Segment 1	0.019	0.013
Segment 2	0.005	0.013
Segment 3	0.006	0.014
Segment 4	0.012	0.030
INTERSECTIONS		
Intersection 1	0.000	0.000
Intersection 2	0.000	0.000
Intersection 3	0.000	0.000
COMBINED (sum of column)	0.042	0.069

Worksheet 3C -- Site-Specific EB Method Summary Results for Urban and Suburban Arterials

(1)	(2)	(3)	(4)	(5)	(6)
Crash severity level	**$N_{predicted}$**	**N_{ped}**	**N_{bike}**	$N_{expected\ (VEHICLE)}$	$N_{expected}$
Total	$(2)_{COMB}$ from Worksheet 3A	$(2)_{COMB}$ from Worksheet 3B	$(3)_{COMB}$ from Worksheet 3B	$(8)_{COMB}$ Worksheet 3A	(3)+(4)+(5)
	11.2	0.0	0.1	3.8	3.9
Fatal and injury (FI)	$(3)_{COMB}$ from Worksheet 3A	$(2)_{COMB}$ from Worksheet 3B	$(3)_{COMB}$ from Worksheet 3B	$(5)_{TOTAL} * (2)_{FI} / (2)_{TOTAL}$	(3)+(4)+(5)
	3.0	0.0	0.1	1.0	1.1
Property damage only (PDO)	$(4)_{COMB}$ from Worksheet 3A	--	--	$(5)_{TOTAL} * (2)_{PDO} / (2)_{TOTAL}$	(3)+(4)+(5)
	8.2	0.0	0.0	2.8	2.8

Segment

Study Site	Segment MP	Predicted Crashes per Year		
		Fatal and Injury	Property Damage Only	Total
Clausen Rd to Cooley Rd S	MP 133.9-134.35	1.1	3.1	4.2
Cooley Rd S to Robal Rd	MP 134.35-134.6	1.1	3.1	4.2
Robal Rd to Nels Anderson Pl	MP 134.6-134.75	1.1	3.2	4.3
Nels Anderson Pl to US 20 off ramp	MP 134.75-134.92	1.1	3.2	4.3
Empire Blvd ramp to Butler Market Rd ramp	MP 135.77-135.92	0.4	1.1	1.5
Butler Market Rd ramp to Revere Blvd ramp	MP 136.81-136.96	0.4	1.1	1.5
Revere Ave ramp to Lafayette Ave	MP 137.32-137.53	0.6	1.7	2.3
Lafayette Ave to Hawthorne Ave	MP 137.53-137.8	0.8	2.2	3
Hawthorne Ave to Colorado Ave ramp	MP 137.8-137.97	0.5	1.4	1.9
Colorado Ave ramp to Truman Ave	MP 138.4-138.75	0.8	2.4	3.2
Truman Ave to Reed Market Rd ramp	MP 138.75-138.85	0.3	0.9	1.2
Reed Market Rd ramp to Reed Ln	MP 139.43-139.68	0.3	0.9	1.2
Reed Ln to Powers Rd	MP 139.68-139.97	0.4	1.2	1.6
Powers Rd to Badger Rd	MP 139.97-140.3	0.5	1.4	1.9
Badger Rd to Pinebrook Blvd	MP 140.3-140.52	0.3	0.9	1.2
Pinebrook Blvd to Murphy Rd ramp	MP 140.52-140.72	0.6	1.7	2.3
Murphy Rd ramp to Ponderosa St/China Hat Rd	MP 142.02-142.24	0.6	1.4	2
Ponderosa St/China Hat Rd to MP 142.52	MP 142.24-142.52	0.6	1.6	2.2
MP 142.52 to Baker Rd/Knott Rd ramp	MP 142.52-143.1	1.3	3.4	4.7

Intersection

Study Site	Intersection MP	Predicted Crashes per Year		
		Fatal and Injury	Property Damage Only	Total
US 97/Cooley N	MP 133.95	1.8	4.3	6.1
US 97/Cooley S	MP 134.35	0	0	0
US97/Robal	MP 134.6	0	0	0
US97/Nels Anderson	MP 134.75	0	0	0
US97/Lafayette	MP 137.53	0	0	0
US97/Hawthorne	MP 137.8	0.7	1.8	2.5
US97/Truman	MP 138.75	0	0	0
US97/Reed Lane	MP 139.68	0	0	0
US97/Powers	MP 139.97	0	0	0
US97/Ponderosa/China Hat	MP 142.24	1	1.4	2.4

Interchange -- see interchange summary table xls

Study Site	Segment MP	Predicted Crashes per Year		
		Fatal and Injury	Property Damage Only	Total
US 97 at US 20 Interchange	134.92-135.13	0	0	0
US 97 at Empire Blvd Interchange	135.13-135.77	10.1	14.9	25
US 97 at Butler Market Rd/US20 Interchange	135.92-136.81	7.1	13.5	20.6
US 97 at Revere Ave Interchange	136.96-137.32	11.4	16.1	27.5
US 97 at Colorado Ave Interchange	137.97-138.4	12.2	19.4	31.6
US 97 at Reed Market Rd Interchange	138.85-139.43	6.7	10.5	17.2
US 97 at Murphy Rd Interchange	140.72-142.02	2.1	3.2	5.3
US 97 at Baker Rd/Knott Rd Interchange	143.1-143.7	5.6	8.8	14.4

TOTAL		**69.3**	**123.5**	**192.8**

DKS

HSM (Future 2040 Build Bundle B) Conditions Analysis

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments

General Information		Location Information	
Analyst	AMD	Roadway	US 97
Agency or Company	DKS	Roadway Section	**Clausen to Robal**
Date Performed	09/20/18	Jurisdiction	Bend, OR
		Analysis Year	2040

Input Data		Base Conditions	Site Conditions
Roadway type (2U, 3T, 4U, 4D, ST)		--	4D
Length of segment, L (mi)		--	**0.7**
AADT (veh/day)	$AADT_{MAX}$ = 66,000 (veh/day)	--	**39,160**
Type of on-street parking (none/parallel/angle)		None	None
Proportion of curb length with on-street parking		--	0
Median width (ft) - for divided only		15	15
Lighting (present / not present)		Not Present	Present
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	0
Minor commercial driveways (number)		--	0
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	0
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	10
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	30
Calibration Factor, Cr		1.00	0.64

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.00	1.00	0.94	1.00	0.94

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-12.34	1.36	1.32	5.397	1.000	5.397	0.94	0.64	3.254
Fatal and Injury (FI)	-12.76	1.28	1.31	1.522	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.267	1.444	0.94	0.64	0.870
Property Damage Only (PDO)	-12.81	1.38	1.34	4.168	$(5)_{TOTAL}-(5)_{FI}$ = 0.733	3.954	0.94	0.64	2.383

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	$(9)_{FI}$ from Worksheet 1C	from Table 12-4	$(9)_{PDO}$ from Worksheet 1C	$(9)_{TOTAL}$ from Worksheet 1C
Total	1.000	0.870	1.000	2.383	3.254
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.783	0.681	0.646	1.540	2.221
Head-on collision	0.006	0.005	0.000	0.000	0.005
Angle collision	0.019	0.017	0.008	0.019	0.036
Sideswipe, same direction	0.038	0.033	0.142	0.338	0.372
Sideswipe, opposite direction	0.013	0.011	0.004	0.010	0.021
Other multiple-vehicle collision	0.140	0.122	0.200	0.477	0.599

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brsv}**	**Proportion of Total Crashes**	**Adjusted N_{brsv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brsv}**
	from Table 12-5		from Table 12-5	from Equation 12-13		$(4)_{TOTAL}*(5)$	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-5.05	0.47	0.86	0.646	1.000	0.646	0.94	0.64	0.390
Fatal and Injury (FI)	-8.71	0.66	0.28	0.124	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.190	0.123	0.94	0.64	0.074
Property Damage Only (PDO)	-5.04	0.45	1.06	0.528	$(5)_{TOTAL}-(5)_{FI}$ = 0.810	0.524	0.94	0.64	0.316

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	$(9)_{FI}$ from Worksheet 1E	from Table 12-6	$(9)_{PDO}$ from Worksheet 1E	$(9)_{TOTAL}$ from Worksheet 1E
Total	1.000	0.074	1.000	0.316	0.390
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with animal	0.000	0.000	0.077	0.024	0.024
Collision with fixed object	0.400	0.030	0.846	0.267	0.297
Collision with other object	0.000	0.000	0.000	0.000	0.000
Other single-vehicle collision	0.600	0.044	0.077	0.024	0.069

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15,000)^t$	from Table 12-7
Major commercial	0	0.033	1.106	0.000	--
Minor commercial	0	0.011	1.106	0.000	
Major industrial/institutional	0	0.036	1.106	0.000	
Minor industrial/institutional	0	0.005	1.106	0.000	
Major residential	0	0.018	1.106	0.000	
Minor residential	0	0.003	1.106	0.000	
Other	0	0.005	1.106	0.000	
Total	--	--	--	0.000	1.39

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	0.000	1.000	0.000	0.94	0.64	0.000
Fatal and injury (FI)	--	0.284	0.000	0.94	0.64	0.000
Property damage only (PDO)	--	0.716	0.000	0.94	0.64	0.000

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	3.254	0.390	0.000	3.643	0.013	0.64	0.030
Fatal and injury (FI)	--	--	--	--	--	0.64	0.030

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	3.254	0.390	0.000	3.643	0.009	0.64	0.021
Fatal and injury (FI)	--	--	--	--	--	0.64	0.021

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	(5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	(6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	0.681	1.540	2.221
Head-on collisions (from Worksheet 1D)	0.005	0.000	0.005
Angle collisions (from Worksheet 1D)	0.017	0.019	0.036
Sideswipe, same direction (from Worksheet 1D)	0.033	0.338	0.372
Sideswipe, opposite direction (from Worksheet 1D)	0.011	0.010	0.021
Driveway-related collisions (from Worksheet 1H)	0.000	0.000	0.000
Other multiple-vehicle collision (from Worksheet 1D)	0.122	0.477	0.599
Subtotal	0.869	2.383	3.253
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.000	0.024	0.024
Collision with fixed object (from Worksheet 1F)	0.030	0.267	0.297
Collision with other object (from Worksheet 1F)	0.000	0.000	0.000
Other single-vehicle collision (from Worksheet 1F)	0.044	0.024	0.069
Collision with pedestrian (from Worksheet 1I)	0.030	0.000	0.030
Collision with bicycle (from Worksheet 1J)	0.021	0.000	0.021
Subtotal	0.125	0.316	0.441
Total	0.995	2.699	3.694

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	3.7	0.70	5.3
Fatal and injury (FI)	1.0	0.70	1.4
Property damage only (PDO)	2.7	0.70	3.9

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments

General Information		Location Information	
Analyst	RLS	Roadway	US 97
Agency or Company	DKS	Roadway Section	**Robal to NB Empire On Ramp**
Date Performed	07/24/18	Jurisdiction	Bend, OR
		Analysis Year	2040

Input Data		Base Conditions	Site Conditions
Roadway type (2U, 3T, 4U, 4D, ST)		--	4D
Length of segment, L (mi)		--	**0.6**
AADT (veh/day)	$AADT_{MAX}$ = 66,000 (veh/day)	--	**43,710**
Type of on-street parking (none/parallel/angle)		None	None
Proportion of curb length with on-street parking		--	0
Median width (ft) - for divided only		15	15
Lighting (present / not present)		Not Present	Present
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	**0**
Minor commercial driveways (number)		--	0
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	0
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	10
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	30
Calibration Factor, Cr		1.00	0.64

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.00	1.00	0.94	1.00	0.94

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-12.34	1.36	1.32	5.372	1.000	5.372	0.94	0.64	3.239
Fatal and Injury (FI)	-12.76	1.28	1.31	1.501	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.265	1.425	0.94	0.64	0.859
Property Damage Only (PDO)	-12.81	1.38	1.34	4.158	$(5)_{TOTAL}-(5)_{FI}$ = 0.735	3.947	0.94	0.64	2.379

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	$(9)_{FI}$ from Worksheet 1C	from Table 12-4	$(9)_{PDO}$ from Worksheet 1C	$(9)_{TOTAL}$ from Worksheet 1C
Total	1.000	0.859	1.000	2.379	3.239
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.783	0.673	0.646	1.537	2.210
Head-on collision	0.006	0.005	0.000	0.000	0.005
Angle collision	0.019	0.016	0.008	0.019	0.035
Sideswipe, same direction	0.038	0.033	0.142	0.338	0.371
Sideswipe, opposite direction	0.013	0.011	0.004	0.010	0.021
Other multiple-vehicle collision	0.140	0.120	0.200	0.476	0.596

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brsv}**	**Proportion of Total Crashes**	**Adjusted N_{brsv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brsv}**
	from Table 12-5		from Table 12-5	from Equation 12-13		$(4)_{TOTAL}*(5)$	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-5.05	0.47	0.86	0.583	1.000	0.583	0.94	0.64	0.352
Fatal and Injury (FI)	-8.71	0.66	0.28	0.114	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.194	0.113	0.94	0.64	0.068
Property Damage Only (PDO)	-5.04	0.45	1.06	0.476	$(5)_{TOTAL}-(5)_{FI}$ = 0.806	0.470	0.94	0.64	0.284

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	$(9)_{FI}$ from Worksheet 1E	from Table 12-6	$(9)_{PDO}$ from Worksheet 1E	$(9)_{TOTAL}$ from Worksheet 1E
Total	1.000	0.068	1.000	0.284	0.352
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with animal	0.000	0.000	0.077	0.022	0.022
Collision with fixed object	0.400	0.027	0.846	0.240	0.267
Collision with other object	0.000	0.000	0.000	0.000	0.000
Other single-vehicle collision	0.600	0.041	0.077	0.022	0.063

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15,000)^t$	from Table 12-7
Major commercial	0	0.033	1.106	0.000	--
Minor commercial	0	0.011	1.106	0.000	
Major industrial/institutional	0	0.036	1.106	0.000	
Minor industrial/institutional	0	0.005	1.106	0.000	
Major residential	0	0.018	1.106	0.000	
Minor residential	0	0.003	1.106	0.000	
Other	0	0.005	1.106	0.000	
Total	--	--	--	0.000	1.39

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	0.000	1.000	0.000	0.94	0.64	0.000
Fatal and injury (FI)	--	0.284	0.000	0.94	0.64	0.000
Property damage only (PDO)	--	0.716	0.000	0.94	0.64	0.000

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	3.239	0.352	0.000	3.590	0.013	0.64	0.030
Fatal and injury (FI)	--	--	--	--	--	0.64	0.030

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	3.239	0.352	0.000	3.590	0.009	0.64	0.021
Fatal and injury (FI)	--	--	--	--	--	0.64	0.021

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	(5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	(6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	0.673	1.537	2.210
Head-on collisions (from Worksheet 1D)	0.005	0.000	0.005
Angle collisions (from Worksheet 1D)	0.016	0.019	0.035
Sideswipe, same direction (from Worksheet 1D)	0.033	0.338	0.371
Sideswipe, opposite direction (from Worksheet 1D)	0.011	0.010	0.021
Driveway-related collisions (from Worksheet 1H)	0.000	0.000	0.000
Other multiple-vehicle collision (from Worksheet 1D)	0.120	0.476	0.596
Subtotal	0.858	2.379	3.238
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.000	0.022	0.022
Collision with fixed object (from Worksheet 1F)	0.027	0.240	0.267
Collision with other object (from Worksheet 1F)	0.000	0.000	0.000
Other single-vehicle collision (from Worksheet 1F)	0.041	0.022	0.063
Collision with pedestrian (from Worksheet 1I)	0.030	0.000	0.030
Collision with bicycle (from Worksheet 1J)	0.021	0.000	0.021
Subtotal	0.119	0.284	0.402
Total	0.977	2.663	3.640

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	3.6	0.60	6.1
Fatal and injury (FI)	1.0	0.60	1.6
Property damage only (PDO)	2.7	0.60	4.4

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments

General Information		Location Information	
Analyst	RLS	Roadway	US 97
Agency or Company	DKS	Roadway Section	Empire Ramp to Butler Market Ramp
Date Performed	07/24/18	Jurisdiction	Bend, OR
		Analysis Year	2017

Input Data		Base Conditions	Site Conditions
Roadway type (2U, 3T, 4U, 4D, ST)		--	4D
Length of segment, L (mi)		--	0.16
AADT (veh/day)	$AADT_{MAX}$ = 66,000 (veh/day)	--	**82,270**
Type of on-street parking (none/parallel/angle)		None	None
Proportion of curb length with on-street parking		--	0
Median width (ft) - for divided only		15	90
Lighting (present / not present)		Not Present	Present
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	0
Minor commercial driveways (number)		--	0
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	0
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	9
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	20
Calibration Factor, Cr		1.00	0.64

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.00	0.93	0.94	1.00	0.88

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-12.34	1.36	1.32	3.386	1.000	3.386	0.88	0.64	1.898
Fatal and Injury (FI)	-12.76	1.28	1.31	0.900	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.253	0.857	0.88	0.64	0.481
Property Damage Only (PDO)	-12.81	1.38	1.34	2.654	$(5)_{TOTAL}-(5)_{FI}$ = 0.747	2.529	0.88	0.64	1.418

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	$(9)_{FI}$ from Worksheet 1C	from Table 12-4	$(9)_{PDO}$ from Worksheet 1C	$(9)_{TOTAL}$ from Worksheet 1C
Total	1.000	0.481	1.000	1.418	1.898
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.783	0.376	0.646	0.916	1.292
Head-on collision	0.006	0.003	0.000	0.000	0.003
Angle collision	0.019	0.009	0.008	0.011	0.020
Sideswipe, same direction	0.038	0.018	0.142	0.201	0.220
Sideswipe, opposite direction	0.013	0.006	0.004	0.006	0.012
Other multiple-vehicle collision	0.140	0.067	0.200	0.284	0.351

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brsv}**	**Proportion of Total Crashes**	**Adjusted N_{brsv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brsv}**
	from Table 12-5		from Table 12-5	from Equation 12-13		$(4)_{TOTAL}*(5)$	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-5.05	0.47	0.86	0.209	1.000	0.209	0.88	0.64	0.117
Fatal and Injury (FI)	-8.71	0.66	0.28	0.046	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.215	0.045	0.88	0.64	0.025
Property Damage Only (PDO)	-5.04	0.45	1.06	0.169	$(5)_{TOTAL}-(5)_{FI}$ = 0.785	0.164	0.88	0.64	0.092

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	$(9)_{FI}$ from Worksheet 1E	from Table 12-6	$(9)_{PDO}$ from Worksheet 1E	$(9)_{TOTAL}$ from Worksheet 1E
Total	1.000	0.025	1.000	0.092	0.117
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with animal	0.000	0.000	0.077	0.007	0.007
Collision with fixed object	0.400	0.010	0.846	0.078	0.088
Collision with other object	0.000	0.000	0.000	0.000	0.000
Other single-vehicle collision	0.600	0.015	0.077	0.007	0.022

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15,000)^t$	from Table 12-7
Major commercial	0	0.033	1.106	0.000	
Minor commercial	0	0.011	1.106	0.000	
Major industrial/institutional	0	0.036	1.106	0.000	
Minor industrial/institutional	0	0.005	1.106	0.000	--
Major residential	0	0.018	1.106	0.000	
Minor residential	0	0.003	1.106	0.000	
Other	0	0.005	1.106	0.000	
Total	--	--	--	0.000	1.39

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	0.000	1.000	0.000	0.88	0.64	0.000
Fatal and injury (FI)	--	0.284	0.000	0.88	0.64	0.000
Property damage only (PDO)	--	0.716	0.000	0.88	0.64	0.000

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	1.898	0.117	0.000	2.016	0.013	0.64	0.017
Fatal and injury (FI)	--	--	--	--	--	0.64	0.017

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	1.898	0.117	0.000	2.016	0.009	0.64	0.012
Fatal and injury (FI)	--	--	--	--	--	0.64	0.012

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	(5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	(6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	0.376	0.916	1.292
Head-on collisions (from Worksheet 1D)	0.003	0.000	0.003
Angle collisions (from Worksheet 1D)	0.009	0.011	0.020
Sideswipe, same direction (from Worksheet 1D)	0.018	0.201	0.220
Sideswipe, opposite direction (from Worksheet 1D)	0.006	0.006	0.012
Driveway-related collisions (from Worksheet 1H)	0.000	0.000	0.000
Other multiple-vehicle collision (from Worksheet 1D)	0.067	0.284	0.351
Subtotal	0.480	1.418	1.898
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.000	0.007	0.007
Collision with fixed object (from Worksheet 1F)	0.010	0.078	0.088
Collision with other object (from Worksheet 1F)	0.000	0.000	0.000
Other single-vehicle collision (from Worksheet 1F)	0.015	0.007	0.022
Collision with pedestrian (from Worksheet 1I)	0.017	0.000	0.017
Collision with bicycle (from Worksheet 1J)	0.012	0.000	0.012
Subtotal	0.054	0.092	0.146
Total	0.534	1.510	2.044

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	2.0	0.16	12.8
Fatal and injury (FI)	0.5	0.16	3.3
Property damage only (PDO)	1.5	0.16	9.4

Worksheet 2A -- General Information and Input Data for Urban and Suburban Arterial Intersections

General Information		Location Information	
Analyst	RLS	Roadway	US 97
Agency or Company	DKS	Intersection	**US 97/Cooley north**
Date Performed	07/24/18	Jurisdiction	Bend, OR
		Analysis Year	2040

Input Data		Base Conditions	Site Conditions
Intersection type (3ST, 3SG, 4ST, 4SG)		--	**3SG**
AADT $_{major}$ (veh/day)	$AADT_{MAX}$ = 58,100 (veh/day)	--	**54,060**
AADT $_{minor}$ (veh/day)	$AADT_{MAX}$ = 16,400 (veh/day)	--	**10,350**
Intersection lighting (present/not present)		Not Present	**Present**
Calibration factor, C_i		1.00	0.73
Data for unsignalized intersections only:		--	--
Number of major-road approaches with left-turn lanes (0,1,2)		0	0
Number of major-road approaches with right-turn lanes (0,1,2)		0	0
Data for signalized intersections only:		--	--
Number of approaches with left-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	**2**
Number of approaches with right-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	**2**
Number of approaches with left-turn signal phasing [for 3SG, use maximum value of 3]		--	**2**
Type of left-turn signal phasing for Leg #1		Permissive	Protected
Type of left-turn signal phasing for Leg #2		--	**Permissive**
Type of left-turn signal phasing for Leg #3		--	**Not Applicable**
Type of left-turn signal phasing for Leg #4 (if applicable)		--	**Not Applicable**
Number of approaches with right-turn-on-red prohibited [for 3SG, use maximum value of 3]		0	0
Intersection red light cameras (present/not present)		Not Present	Not Present
Sum of all pedestrian crossing volumes (PedVol) -- Signalized intersections only			5
Maximum number of lanes crossed by a pedestrian (n_{lanesx})		--	**6**
Number of bus stops within 300 m (1,000 ft) of the intersection		0	0
Schools within 300 m (1,000 ft) of the intersection (present/not present)		Not Present	Not Present
Number of alcohol sales establishments within 300 m (1,000 ft) of the intersection		0	0

Worksheet 2B -- Crash Modification Factors for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)	(7)
CMF for Left-Turn Lanes	CMF for Left-Turn Signal Phasing	CMF for Right-Turn Lanes	CMF for Right Turn on Red	CMF for Lighting	CMF for Red Light Cameras	Combined CMF
CMF 1i	*CMF 2i*	*CMF 3i*	*CMF 4i*	*CMF 5i*	*CMF 6i*	*CMF $_{COMB}$*
from Table 12-24	from Table 12-25	from Table 12-26	from Equation 12-35	from Equation 12-36	from Equation 12-37	(1)*(2)*(3)*(4)*(5)*(6)
0.86	0.94	0.92	1.00	0.94	1.00	0.70

Worksheet 2C -- Multiple-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1)	(2)			(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**			**Overdispersion Parameter, k**	**Initial N_{bimv}**	**Proportion of Total Crashes**	**Adjusted N_{bimv}**	**Combined CMFs**	**Calibration Factor, C_i**	**Predicted N_{bimv}**
	from Table 12-10			from Table 12-10	from Equation 12-21		$(4)_{TOTAL}$*(5)	(7) from Worksheet 2B		(6)*(7)*(8)
	a	b	c							
Total	-12.13	1.11	0.26	0.33	10.700	1.000	10.700	0.70	0.73	5.466
Fatal and Injury (FI)	-11.58	1.02	0.17	0.30	3.027	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.300	3.205	0.70	0.73	1.637
Property Damage Only (PDO)	-13.24	1.14	0.30	0.36	7.078	$(5)_{TOTAL}-(5)_{FI}$ = 0.700	7.495	0.70	0.73	3.828

Worksheet 2D -- Multiple-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{bimv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{bimv\ (PDO)}$ (crashes/year)**	**Predicted N $_{bimv\ (TOTAL)}$ (crashes/year)**
	from Table 12-11	$(9)_{FI}$ from Worksheet 2C	from Table 12-11	$(9)_{PDO}$ from Worksheet 2C	$(9)_{PDO}$ from Worksheet 2C
Total	1.000	1.637	1.000	3.828	5.466
		(2)*$(3)_{FI}$		(4)*$(5)_{PDO}$	(3)+(5)
Rear-end collision	0.580	0.950	0.530	2.029	2.979
Head-on collision	0.005	0.008	0.000	0.000	0.008
Angle collision	0.060	0.098	0.055	0.211	0.309
Sideswipe	0.011	0.018	0.013	0.050	0.068
Other multiple-vehicle collision	0.343	0.562	0.402	1.539	2.101

Worksheet 2E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1)	(2)			(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**			**Overdispersion Parameter, k**	**Initial N_{bisv}**	**Proportion of Total Crashes**	**Adjusted N_{bimv}**	**Combined CMFs**	**Calibration Factor, C_i**	**Predicted N_{bisv}**
	from Table 12-12			from Table 12-12	from Eqn. 12-24; (FI) from Eqn. 12-24 or 12-27		$(4)_{TOTAL}$*(5)	(7) from Worksheet 2B		(6)*(7)*(8)
	a	b	c							
Total	-9.02	0.42	0.40	0.36	0.475	1.000	0.475	0.70	0.73	0.242
Fatal and Injury (FI)	-9.75	0.27	0.51	0.24	0.123	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.275	0.131	0.70	0.73	0.067
Property Damage Only (PDO)	-9.08	0.45	0.33	0.53	0.325	$(5)_{TOTAL}-(5)_{FI}$ = 0.725	0.344	0.70	0.73	0.176

Worksheet 2F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{bisv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{bisv\ (PDO)}$ (crashes/year)**	**Predicted N $_{bisv\ (TOTAL)}$ (crashes/year)**
	from Table 12-13	(9)$_{FI}$ from Worksheet 2E	from Table 12-13	(9)$_{PDO}$ from Worksheet 2E	(9)$_{PDO}$ from Worksheet 2E
Total	1.000	0.067	1.000	0.176	0.242
		(2)*(3)$_{FI}$		(4)*(5)$_{PDO}$	(3)+(5)
Collision with parked vehicle	0.000	0.000	0.000	0.000	0.000
Collision with animal	0.000	0.000	0.000	0.000	0.000
Collision with fixed object	0.115	0.008	0.875	0.154	0.161
Collision with other object	0.000	0.000	0.125	0.022	0.022
Other single-vehicle collision	0.769	0.051	0.000	0.000	0.051
Single-vehicle noncollision	0.115	0.008	0.000	0.000	0.008

Worksheet 2G -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Stop-Controlled Intersections

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Predicted N_{bimv}**	**Predicted N_{bisv}**	**Predicted N_{bi}**	**f_{pedi}**	**Calibration factor, C_i**	**Predicted N_{pedi}**
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-16		(4)*(5)*(6)
Total	--	--	--	--	0.73	--
Fatal and injury (FI)	--	--	--	--	0.73	--

Worksheet 2H -- Crash Modification Factors for Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections

(1)	(2)	(3)	(4)
CMF for Bus Stops	CMF for Schools	CMF for Alcohol Sales Establishments	Combined CMF
CMF_{1p}	CMF_{2p}	CMF_{3p}	
from Table 12-28	from Table 12-29	from Table 12-30	(1)*(2)*(3)
1.00	1.00	1.00	1.00

Worksheet 2I -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections

(1)	(2)					(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**SPF Coefficients**					**Overdispersion Parameter, k**	**$N_{pedbase}$**	**Combined CMF**	**Calibration factor, C_i**	**Predicted N_{pedi}**
	from Table 12-14						from Equation 12-29	(4) from Worksheet 2H		(4)*(5)*(6)
	a	b	c	d	e					
Total	-6.60	0.05	0.24	0.41	0.09	0.52	0.005	1.00	0.73	0.004
Fatal and Injury (FI)	--	--	--	--	--	--	--	--	0.73	0.004

Worksheet 2J -- Vehicle-Bicycle Collisions for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Predicted N_{bimv}**	**Predicted N_{bisv}**	**Predicted N_{bi}**	**f_{bikei}**	**Calibration factor, C_i**	**Predicted N_{bikei}**
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-17		(4)*(5)*(6)
Total	5.466	0.242	5.708	0.011	0.73	0.046
Fatal and injury (FI)	--	--	--	--	0.73	0.046

Worksheet 2K -- Crash Severity Distribution for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)
	Fatal and injury (FI)	**Property damage only (PDO)**	**Total**
Collision type	(3) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J	(5) from Worksheet 2D and 2F	(6) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 2D)	0.950	2.029	2.979
Head-on collisions (from Worksheet 2D)	0.008	0.000	0.008
Angle collisions (from Worksheet 2D)	0.098	0.211	0.309
Sideswipe (from Worksheet 2D)	0.018	0.050	0.068
Other multiple-vehicle collision (from Worksheet 2D)	0.562	1.539	2.101
Subtotal	1.635	3.828	5.464
SINGLE-VEHICLE			
Collision with parked vehicle (from Worksheet 2F)	0.000	0.000	0.000
Collision with animal (from Worksheet 2F)	0.000	0.000	0.000
Collision with fixed object (from Worksheet 2F)	0.008	0.154	0.161
Collision with other object (from Worksheet 2F)	0.000	0.022	0.022
Other single-vehicle collision (from Worksheet 2F)	0.051	0.000	0.051
Single-vehicle noncollision (from Worksheet 2F)	0.008	0.000	0.008
Collision with pedestrian (from Worksheet 2G or 2I)	0.004	0.000	0.004
Collision with bicycle (from Worksheet 2J)	0.046	0.000	0.046
Subtotal	0.116	0.176	0.292
Total	1.752	4.004	5.756

Worksheet 2L -- Summary Results for Urban and Suburban Arterial Intersections

(1)	(2)
Crash severity level	**Predicted average crash frequency, $N_{predicted\ int}$ (crashes/year)**
	(Total) from Worksheet 2K
Total	5.8
Fatal and injury (FI)	1.8
Property damage only (PDO)	4.0

Worksheet 3A -- Predicted Crashes by Severity and Site Type and Observed Crashes Using the Site-Specific EB Method for Urban and Suburban Arterials

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Collision type / Site type	**Predicted average crash frequency (crashes/year)**			**Observed crashes, $N_{observed}$** (crashes/year)	**Overdispersion Parameter, k**	**Weighted adjustment, w**	**Expected average crash frequency,**
	$N_{predicted}$ (TOTAL)	$N_{predicted}$ (FI)	$N_{predicted}$ (PDO)			Equation A-5 from Part C Appendix	Equation A-4 from Part C Appendix
ROADWAY SEGMENTS							
Multiple-vehicle nondriveway							
Segment 1	3.254	0.870	2.383		1.320	0.189	0.614
Segment 2	3.239	0.859	2.379		1.320	0.190	0.614
Segment 3	1.898	0.481	1.418		1.320	0.285	0.541
Single-vehicle							
Segment 1	0.390	0.074	0.316		0.860	0.749	0.292
Segment 2	0.352	0.068	0.284		0.860	0.768	0.270
Segment 3	0.117	0.025	0.092		0.860	0.908	0.107
Multiple-vehicle driveway-related							
Segment 1	0.000	0.000	0.000		1.390	1.000	0.000
Segment 2	0.000	0.000	0.000		1.390	1.000	0.000
Segment 3	0.000	0.000	0.000		1.390	1.000	0.000
INTERSECTIONS							
Multiple-vehicle							
Intersection 1	5.464	1.635	3.828		0.330	0.357	1.949
Single-vehicle							
Intersection 1	0.242	0.067	0.176		0.360	0.920	0.223
COMBINED (sum of column)	14.956	4.080	10.876	0.0	--	--	4.611

Worksheet 3B -- Predicted Pedestrian and Bicycle Crashes for Urban and Suburban Arterials

(1)	(2)	(3)
Site Type	**N_{ped}**	**N_{bike}**
ROADWAY SEGMENTS		
Segment 1	0.030	0.021
Segment 2	0.030	0.021
Segment 3	0.017	0.012
INTERSECTIONS		
Intersection 1	0.004	0.046
COMBINED (sum of column)	0.081	0.099

Worksheet 3C -- Site-Specific EB Method Summary Results for Urban and Suburban Arterials

(1)	(2)	(3)	(4)	(5)	(6)
Crash severity level	**$N_{predicted}$**	**N_{ped}**	**N_{bike}**	$N_{expected\ (VEHICLE)}$	$N_{expected}$
Total	$(2)_{COMB}$ from Worksheet 3A	$(2)_{COMB}$ from Worksheet 3B	$(3)_{COMB}$ from Worksheet 3B	$(8)_{COMB}$ Worksheet 3A	(3)+(4)+(5)
	15.0	0.1	0.1	4.6	4.8
Fatal and injury (FI)	$(3)_{COMB}$ from Worksheet 3A	$(2)_{COMB}$ from Worksheet 3B	$(3)_{COMB}$ from Worksheet 3B	$(5)_{TOTAL} * (2)_{FI} / (2)_{TOTAL}$	(3)+(4)+(5)
	4.1	0.1	0.1	1.3	1.4
Property damage only (PDO)	$(4)_{COMB}$ from Worksheet 3A	--	--	$(5)_{TOTAL} * (2)_{PDO} / (2)_{TOTAL}$	(3)+(4)+(5)
	10.9	0.0	0.0	3.4	3.4

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments

General Information		Location Information	
Analyst	RLS	Roadway	US 97
Agency or Company	DKS	Roadway Section	Butler Market Ramp to Revere Ramp
Date Performed	07/24/18	Jurisdiction	Bend, OR
		Analysis Year	2040

Input Data		Base Conditions	Site Conditions
Roadway type (2U, 3T, 4U, 4D, ST)		--	4D
Length of segment, L (mi)		--	0.15
AADT (veh/day)	$AADT_{MAX}$ = 66,000 (veh/day)	--	**66,000**
Type of on-street parking (none/parallel/angle)		None	None
Proportion of curb length with on-street parking		--	0
Median width (ft) - for divided only		15	15
Lighting (present / not present)		Not Present	**Present**
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	0
Minor commercial driveways (number)		--	0
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	0
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	0
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	30
Calibration Factor, Cr		1.00	0.64

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.00	1.00	0.94	1.00	0.94

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-12.34	1.36	1.32	2.352	1.000	2.352	0.94	0.64	1.418
Fatal and Injury (FI)	-12.76	1.28	1.31	0.636	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.257	0.605	0.94	0.64	0.365
Property Damage Only (PDO)	-12.81	1.38	1.34	1.835	$(5)_{TOTAL}-(5)_{FI}$ = 0.743	1.747	0.94	0.64	1.053

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	$(9)_{FI}$ from Worksheet 1C	from Table 12-4	$(9)_{PDO}$ from Worksheet 1C	$(9)_{TOTAL}$ from Worksheet 1C
Total	1.000	0.365	1.000	1.053	1.418
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.783	0.286	0.646	0.680	0.966
Head-on collision	0.006	0.002	0.000	0.000	0.002
Angle collision	0.019	0.007	0.008	0.008	0.015
Sideswipe, same direction	0.038	0.014	0.142	0.150	0.163
Sideswipe, opposite direction	0.013	0.005	0.004	0.004	0.009
Other multiple-vehicle collision	0.140	0.051	0.200	0.211	0.262

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brsv}**	**Proportion of Total Crashes**	**Adjusted N_{brsv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brsv}**
	from Table 12-5		from Table 12-5	from Equation 12-13		$(4)_{TOTAL}*(5)$	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-5.05	0.47	0.86	0.177	1.000	0.177	0.94	0.64	0.107
Fatal and Injury (FI)	-8.71	0.66	0.28	0.038	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.208	0.037	0.94	0.64	0.022
Property Damage Only (PDO)	-5.04	0.45	1.06	0.143	$(5)_{TOTAL}-(5)_{FI}$ = 0.792	0.140	0.94	0.64	0.085

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	$(9)_{FI}$ from Worksheet 1E	from Table 12-6	$(9)_{PDO}$ from Worksheet 1E	$(9)_{TOTAL}$ from Worksheet 1E
Total	1.000	0.022	1.000	0.085	0.107
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with animal	0.000	0.000	0.077	0.007	0.007
Collision with fixed object	0.400	0.009	0.846	0.072	0.080
Collision with other object	0.000	0.000	0.000	0.000	0.000
Other single-vehicle collision	0.600	0.013	0.077	0.007	0.020

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15,000)^t$	from Table 12-7
Major commercial	0	0.033	1.106	0.000	--
Minor commercial	0	0.011	1.106	0.000	
Major industrial/institutional	0	0.036	1.106	0.000	
Minor industrial/institutional	0	0.005	1.106	0.000	
Major residential	0	0.018	1.106	0.000	
Minor residential	0	0.003	1.106	0.000	
Other	0	0.005	1.106	0.000	
Total	--	--	--	0.000	1.39

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	0.000	1.000	0.000	0.94	0.64	0.000
Fatal and injury (FI)	--	0.284	0.000	0.94	0.64	0.000
Property damage only (PDO)	--	0.716	0.000	0.94	0.64	0.000

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	1.418	0.107	0.000	1.525	0.013	0.64	0.013
Fatal and injury (FI)	--	--	--	--	--	0.64	0.013

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	1.418	0.107	0.000	1.525	0.009	0.64	0.009
Fatal and injury (FI)	--	--	--	--	--	0.64	0.009

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	(5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	(6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	0.286	0.680	0.966
Head-on collisions (from Worksheet 1D)	0.002	0.000	0.002
Angle collisions (from Worksheet 1D)	0.007	0.008	0.015
Sideswipe, same direction (from Worksheet 1D)	0.014	0.150	0.163
Sideswipe, opposite direction (from Worksheet 1D)	0.005	0.004	0.009
Driveway-related collisions (from Worksheet 1H)	0.000	0.000	0.000
Other multiple-vehicle collision (from Worksheet 1D)	0.051	0.211	0.262
Subtotal	0.365	1.053	1.418
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.000	0.007	0.007
Collision with fixed object (from Worksheet 1F)	0.009	0.072	0.080
Collision with other object (from Worksheet 1F)	0.000	0.000	0.000
Other single-vehicle collision (from Worksheet 1F)	0.013	0.007	0.020
Collision with pedestrian (from Worksheet 1I)	0.013	0.000	0.013
Collision with bicycle (from Worksheet 1J)	0.009	0.000	0.009
Subtotal	0.044	0.085	0.128
Total	0.408	1.138	1.546

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	1.5	0.15	10.3
Fatal and injury (FI)	0.4	0.15	2.7
Property damage only (PDO)	1.1	0.15	7.6

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments

General Information		Location Information	
Analyst	RLS	Roadway	US 97
Agency or Company	DKS	Roadway Section	Revere Ramp to Lafayette
Date Performed	07/24/18	Jurisdiction	Bend, OR
		Analysis Year	2040

Input Data		Base Conditions	Site Conditions
Roadway type (2U, 3T, 4U, 4D, ST)		--	4D
Length of segment, L (mi)		--	0.22
AADT (veh/day)	$AADT_{MAX}$ = 66,000 (veh/day)	--	**66,000**
Type of on-street parking (none/parallel/angle)		None	None
Proportion of curb length with on-street parking		--	0
Median width (ft) - for divided only		15	15
Lighting (present / not present)		Not Present	**Present**
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	0
Minor commercial driveways (number)		--	0
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	0
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	14
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	15
Calibration Factor, Cr		1.00	0.64

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.00	1.00	0.94	1.00	0.94

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-12.34	1.36	1.32	3.450	1.000	3.450	0.94	0.64	2.080
Fatal and Injury (FI)	-12.76	1.28	1.31	0.933	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.257	0.888	0.94	0.64	0.535
Property Damage Only (PDO)	-12.81	1.38	1.34	2.692	$(5)_{TOTAL}-(5)_{FI}$ = 0.743	2.562	0.94	0.64	1.545

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	$(9)_{FI}$ from Worksheet 1C	from Table 12-4	$(9)_{PDO}$ from Worksheet 1C	$(9)_{TOTAL}$ from Worksheet 1C
Total	1.000	0.535	1.000	1.545	2.080
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.783	0.419	0.646	0.998	1.417
Head-on collision	0.006	0.003	0.000	0.000	0.003
Angle collision	0.019	0.010	0.008	0.012	0.023
Sideswipe, same direction	0.038	0.020	0.142	0.219	0.240
Sideswipe, opposite direction	0.013	0.007	0.004	0.006	0.013
Other multiple-vehicle collision	0.140	0.075	0.200	0.309	0.384

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brsv}**	**Proportion of Total Crashes**	**Adjusted N_{brsv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brsv}**
	from Table 12-5		from Table 12-5	from Equation 12-13		$(4)_{TOTAL}*(5)$	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-5.05	0.47	0.86	0.260	1.000	0.260	0.94	0.64	0.157
Fatal and Injury (FI)	-8.71	0.66	0.28	0.055	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.208	0.054	0.94	0.64	0.032
Property Damage Only (PDO)	-5.04	0.45	1.06	0.210	$(5)_{TOTAL}-(5)_{FI}$ = 0.792	0.206	0.94	0.64	0.124

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	$(9)_{FI}$ from Worksheet 1E	from Table 12-6	$(9)_{PDO}$ from Worksheet 1E	$(9)_{TOTAL}$ from Worksheet 1E
Total	1.000	0.032	1.000	0.124	0.157
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with animal	0.000	0.000	0.077	0.010	0.010
Collision with fixed object	0.400	0.013	0.846	0.105	0.118
Collision with other object	0.000	0.000	0.000	0.000	0.000
Other single-vehicle collision	0.600	0.019	0.077	0.010	0.029

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15,000)^t$	from Table 12-7
Major commercial	0	0.033	1.106	0.000	
Minor commercial	0	0.011	1.106	0.000	
Major industrial/institutional	0	0.036	1.106	0.000	
Minor industrial/institutional	0	0.005	1.106	0.000	--
Major residential	0	0.018	1.106	0.000	
Minor residential	0	0.003	1.106	0.000	
Other	0	0.005	1.106	0.000	
Total	--	--	--	0.000	1.39

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	0.000	1.000	0.000	0.94	0.64	0.000
Fatal and injury (FI)	--	0.284	0.000	0.94	0.64	0.000
Property damage only (PDO)	--	0.716	0.000	0.94	0.64	0.000

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	2.080	0.157	0.000	2.236	0.013	0.64	0.019
Fatal and injury (FI)	--	--	--	--	--	0.64	0.019

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	2.080	0.157	0.000	2.236	0.009	0.64	0.013
Fatal and injury (FI)	--	--	--	--	--	0.64	0.013

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	(5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	(6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	0.419	0.998	1.417
Head-on collisions (from Worksheet 1D)	0.003	0.000	0.003
Angle collisions (from Worksheet 1D)	0.010	0.012	0.023
Sideswipe, same direction (from Worksheet 1D)	0.020	0.219	0.240
Sideswipe, opposite direction (from Worksheet 1D)	0.007	0.006	0.013
Driveway-related collisions (from Worksheet 1H)	0.000	0.000	0.000
Other multiple-vehicle collision (from Worksheet 1D)	0.075	0.309	0.384
Subtotal	0.535	1.545	2.079
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.000	0.010	0.010
Collision with fixed object (from Worksheet 1F)	0.013	0.105	0.118
Collision with other object (from Worksheet 1F)	0.000	0.000	0.000
Other single-vehicle collision (from Worksheet 1F)	0.019	0.010	0.029
Collision with pedestrian (from Worksheet 1I)	0.019	0.000	0.019
Collision with bicycle (from Worksheet 1J)	0.013	0.000	0.013
Subtotal	0.064	0.124	0.188
Total	0.599	1.669	2.267

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	2.3	0.22	10.3
Fatal and injury (FI)	0.6	0.22	2.7
Property damage only (PDO)	1.7	0.22	7.6

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments

General Information		Location Information	
Analyst	RLS	Roadway	US 97
Agency or Company	DKS	Roadway Section	Lafayette to Hawthorne
Date Performed	07/24/18	Jurisdiction	Bend, OR
		Analysis Year	2040

Input Data		Base Conditions	Site Conditions
Roadway type (2U, 3T, 4U, 4D, ST)		--	4D
Length of segment, L (mi)		--	0.27
AADT (veh/day)	$AADT_{MAX}$ = 66,000 (veh/day)	--	**66,000**
Type of on-street parking (none/parallel/angle)		None	None
Proportion of curb length with on-street parking		--	0
Median width (ft) - for divided only		15	20
Lighting (present / not present)		Not Present	Present
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	0
Minor commercial driveways (number)		--	0
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	0
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	28
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	5
Calibration Factor, Cr		1.00	0.64

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.10	0.99	0.94	1.00	1.02

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-12.34	1.36	1.32	4.234	1.000	4.234	1.02	0.64	2.774
Fatal and Injury (FI)	-12.76	1.28	1.31	1.145	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.257	1.090	1.02	0.64	0.714
Property Damage Only (PDO)	-12.81	1.38	1.34	3.304	$(5)_{TOTAL}-(5)_{FI}$ = 0.743	3.144	1.02	0.64	2.060

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	$(9)_{FI}$ from Worksheet 1C	from Table 12-4	$(9)_{PDO}$ from Worksheet 1C	$(9)_{TOTAL}$ from Worksheet 1C
Total	1.000	0.714	1.000	2.060	2.774
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.783	0.559	0.646	1.331	1.890
Head-on collision	0.006	0.004	0.000	0.000	0.004
Angle collision	0.019	0.014	0.008	0.016	0.030
Sideswipe, same direction	0.038	0.027	0.142	0.293	0.320
Sideswipe, opposite direction	0.013	0.009	0.004	0.008	0.018
Other multiple-vehicle collision	0.140	0.100	0.200	0.412	0.512

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brsv}**	**Proportion of Total Crashes**	**Adjusted N_{brsv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brsv}**
	from Table 12-5		from Table 12-5	from Equation 12-13		$(4)_{TOTAL}*(5)$	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-5.05	0.47	0.86	0.319	1.000	0.319	1.02	0.64	0.209
Fatal and Injury (FI)	-8.71	0.66	0.28	0.068	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.208	0.066	1.02	0.64	0.043
Property Damage Only (PDO)	-5.04	0.45	1.06	0.258	$(5)_{TOTAL}-(5)_{FI}$ = 0.792	0.253	1.02	0.64	0.165

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	$(9)_{FI}$ from Worksheet 1E	from Table 12-6	$(9)_{PDO}$ from Worksheet 1E	$(9)_{TOTAL}$ from Worksheet 1E
Total	1.000	0.043	1.000	0.165	0.209
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with animal	0.000	0.000	0.077	0.013	0.013
Collision with fixed object	0.400	0.017	0.846	0.140	0.157
Collision with other object	0.000	0.000	0.000	0.000	0.000
Other single-vehicle collision	0.600	0.026	0.077	0.013	0.039

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15,000)^t$	from Table 12-7
Major commercial	0	0.033	1.106	0.000	--
Minor commercial	0	0.011	1.106	0.000	
Major industrial/institutional	0	0.036	1.106	0.000	
Minor industrial/institutional	0	0.005	1.106	0.000	
Major residential	0	0.018	1.106	0.000	
Minor residential	0	0.003	1.106	0.000	
Other	0	0.005	1.106	0.000	
Total	--	--	--	0.000	1.39

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	0.000	1.000	0.000	1.02	0.64	0.000
Fatal and injury (FI)	--	0.284	0.000	1.02	0.64	0.000
Property damage only (PDO)	--	0.716	0.000	1.02	0.64	0.000

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	2.774	0.209	0.000	2.983	0.013	0.64	0.025
Fatal and injury (FI)	--	--	--	--	--	0.64	0.025

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	2.774	0.209	0.000	2.983	0.009	0.64	0.017
Fatal and injury (FI)	--	--	--	--	--	0.64	0.017

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	(5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	(6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	0.559	1.331	1.890
Head-on collisions (from Worksheet 1D)	0.004	0.000	0.004
Angle collisions (from Worksheet 1D)	0.014	0.016	0.030
Sideswipe, same direction (from Worksheet 1D)	0.027	0.293	0.320
Sideswipe, opposite direction (from Worksheet 1D)	0.009	0.008	0.018
Driveway-related collisions (from Worksheet 1H)	0.000	0.000	0.000
Other multiple-vehicle collision (from Worksheet 1D)	0.100	0.412	0.512
Subtotal	0.713	2.060	2.773
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.000	0.013	0.013
Collision with fixed object (from Worksheet 1F)	0.017	0.140	0.157
Collision with other object (from Worksheet 1F)	0.000	0.000	0.000
Other single-vehicle collision (from Worksheet 1F)	0.026	0.013	0.039
Collision with pedestrian (from Worksheet 1I)	0.025	0.000	0.025
Collision with bicycle (from Worksheet 1J)	0.017	0.000	0.017
Subtotal	0.085	0.165	0.251
Total	0.799	2.226	3.024

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	3.0	0.27	11.2
Fatal and injury (FI)	0.8	0.27	3.0
Property damage only (PDO)	2.2	0.27	8.2

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments

General Information		Location Information	
Analyst	RLS	Roadway	US 97
Agency or Company	DKS	Roadway Section	Hawthorne to Colorado Ramp
Date Performed	07/24/18	Jurisdiction	Bend, OR
		Analysis Year	2040

Input Data		Base Conditions	Site Conditions
Roadway type (2U, 3T, 4U, 4D, ST)		--	4D
Length of segment, L (mi)		--	0.18
AADT (veh/day)	$AADT_{MAX}$ = 66,000 (veh/day)	--	**66,000**
Type of on-street parking (none/parallel/angle)		None	None
Proportion of curb length with on-street parking		--	0
Median width (ft) - for divided only		15	20
Lighting (present / not present)		Not Present	Present
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	0
Minor commercial driveways (number)		--	0
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	0
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	22
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	5
Calibration Factor, Cr		1.00	0.64

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.07	0.99	0.94	1.00	1.00

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-12.34	1.36	1.32	2.823	1.000	2.823	1.00	0.64	1.801
Fatal and Injury (FI)	-12.76	1.28	1.31	0.763	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.257	0.726	1.00	0.64	0.464
Property Damage Only (PDO)	-12.81	1.38	1.34	2.203	$(5)_{TOTAL}-(5)_{FI}$ = 0.743	2.096	1.00	0.64	1.338

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	$(9)_{FI}$ from Worksheet 1C	from Table 12-4	$(9)_{PDO}$ from Worksheet 1C	$(9)_{TOTAL}$ from Worksheet 1C
Total	1.000	0.464	1.000	1.338	1.801
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.783	0.363	0.646	0.864	1.227
Head-on collision	0.006	0.003	0.000	0.000	0.003
Angle collision	0.019	0.009	0.008	0.011	0.020
Sideswipe, same direction	0.038	0.018	0.142	0.190	0.208
Sideswipe, opposite direction	0.013	0.006	0.004	0.005	0.011
Other multiple-vehicle collision	0.140	0.065	0.200	0.268	0.332

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brsv}**	**Proportion of Total Crashes**	**Adjusted N_{brsv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brsv}**
	from Table 12-5		from Table 12-5	from Equation 12-13		$(4)_{TOTAL}*(5)$	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-5.05	0.47	0.86	0.212	1.000	0.212	1.00	0.64	0.136
Fatal and Injury (FI)	-8.71	0.66	0.28	0.045	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.208	0.044	1.00	0.64	0.028
Property Damage Only (PDO)	-5.04	0.45	1.06	0.172	$(5)_{TOTAL}-(5)_{FI}$ = 0.792	0.168	1.00	0.64	0.107

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	$(9)_{FI}$ from Worksheet 1E	from Table 12-6	$(9)_{PDO}$ from Worksheet 1E	$(9)_{TOTAL}$ from Worksheet 1E
Total	1.000	0.028	1.000	0.107	0.136
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with animal	0.000	0.000	0.077	0.008	0.008
Collision with fixed object	0.400	0.011	0.846	0.091	0.102
Collision with other object	0.000	0.000	0.000	0.000	0.000
Other single-vehicle collision	0.600	0.017	0.077	0.008	0.025

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15,000)^t$	from Table 12-7
Major commercial	0	0.033	1.106	0.000	--
Minor commercial	0	0.011	1.106	0.000	
Major industrial/institutional	0	0.036	1.106	0.000	
Minor industrial/institutional	0	0.005	1.106	0.000	
Major residential	0	0.018	1.106	0.000	
Minor residential	0	0.003	1.106	0.000	
Other	0	0.005	1.106	0.000	
Total	--	--	--	0.000	1.39

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	0.000	1.000	0.000	1.00	0.64	0.000
Fatal and injury (FI)	--	0.284	0.000	1.00	0.64	0.000
Property damage only (PDO)	--	0.716	0.000	1.00	0.64	0.000

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	1.801	0.136	0.000	1.937	0.013	0.64	0.016
Fatal and injury (FI)	--	--	--	--	--	0.64	0.016

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	1.801	0.136	0.000	1.937	0.009	0.64	0.011
Fatal and injury (FI)	--	--	--	--	--	0.64	0.011

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	(5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	(6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	0.363	0.864	1.227
Head-on collisions (from Worksheet 1D)	0.003	0.000	0.003
Angle collisions (from Worksheet 1D)	0.009	0.011	0.020
Sideswipe, same direction (from Worksheet 1D)	0.018	0.190	0.208
Sideswipe, opposite direction (from Worksheet 1D)	0.006	0.005	0.011
Driveway-related collisions (from Worksheet 1H)	0.000	0.000	0.000
Other multiple-vehicle collision (from Worksheet 1D)	0.065	0.268	0.332
Subtotal	0.463	1.338	1.801
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.000	0.008	0.008
Collision with fixed object (from Worksheet 1F)	0.011	0.091	0.102
Collision with other object (from Worksheet 1F)	0.000	0.000	0.000
Other single-vehicle collision (from Worksheet 1F)	0.017	0.008	0.025
Collision with pedestrian (from Worksheet 1I)	0.016	0.000	0.016
Collision with bicycle (from Worksheet 1J)	0.011	0.000	0.011
Subtotal	0.055	0.107	0.163
Total	0.518	1.445	1.963

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	2.0	0.18	10.9
Fatal and injury (FI)	0.5	0.18	2.9
Property damage only (PDO)	1.4	0.18	8.0

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments

General Information		Location Information	
Analyst	RLS	Roadway	US 97
Agency or Company	DKS	Roadway Section	Colorado Ramp to Truman
Date Performed	07/24/18	Jurisdiction	Bend, OR
		Analysis Year	2040

Input Data		Base Conditions	Site Conditions
Roadway type (2U, 3T, 4U, 4D, ST)		--	4D
Length of segment, L (mi)		--	0.33
AADT (veh/day)	$AADT_{MAX}$ = 66,000 (veh/day)	--	**63,000**
Type of on-street parking (none/parallel/angle)		None	None
Proportion of curb length with on-street parking		--	0
Median width (ft) - for divided only		15	10
Lighting (present / not present)		Not Present	**Present**
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	0
Minor commercial driveways (number)		--	0
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	0
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	29
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	15
Calibration Factor, Cr		1.00	0.64

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.03	1.01	0.94	1.00	0.98

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-12.34	1.36	1.32	4.858	1.000	4.858	0.98	0.64	3.060
Fatal and Injury (FI)	-12.76	1.28	1.31	1.318	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.258	1.254	0.98	0.64	0.790
Property Damage Only (PDO)	-12.81	1.38	1.34	3.787	$(5)_{TOTAL}-(5)_{FI}$ = 0.742	3.603	0.98	0.64	2.270

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	$(9)_{FI}$ from Worksheet 1C	from Table 12-4	$(9)_{PDO}$ from Worksheet 1C	$(9)_{TOTAL}$ from Worksheet 1C
Total	1.000	0.790	1.000	2.270	3.060
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.783	0.619	0.646	1.466	2.085
Head-on collision	0.006	0.005	0.000	0.000	0.005
Angle collision	0.019	0.015	0.008	0.018	0.033
Sideswipe, same direction	0.038	0.030	0.142	0.322	0.352
Sideswipe, opposite direction	0.013	0.010	0.004	0.009	0.019
Other multiple-vehicle collision	0.140	0.111	0.200	0.454	0.565

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brsv}**	**Proportion of Total Crashes**	**Adjusted N_{brsv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brsv}**
	from Table 12-5		from Table 12-5	from Equation 12-13		$(4)_{TOTAL}*(5)$	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-5.05	0.47	0.86	0.381	1.000	0.381	0.98	0.64	0.240
Fatal and Injury (FI)	-8.71	0.66	0.28	0.080	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.206	0.078	0.98	0.64	0.049
Property Damage Only (PDO)	-5.04	0.45	1.06	0.309	$(5)_{TOTAL}-(5)_{FI}$ = 0.794	0.303	0.98	0.64	0.191

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	$(9)_{FI}$ from Worksheet 1E	from Table 12-6	$(9)_{PDO}$ from Worksheet 1E	$(9)_{TOTAL}$ from Worksheet 1E
Total	1.000	0.049	1.000	0.191	0.240
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with animal	0.000	0.000	0.077	0.015	0.015
Collision with fixed object	0.400	0.020	0.846	0.161	0.181
Collision with other object	0.000	0.000	0.000	0.000	0.000
Other single-vehicle collision	0.600	0.030	0.077	0.015	0.044

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15,000)^t$	from Table 12-7
Major commercial	0	0.033	1.106	0.000	
Minor commercial	0	0.011	1.106	0.000	
Major industrial/institutional	0	0.036	1.106	0.000	
Minor industrial/institutional	0	0.005	1.106	0.000	--
Major residential	0	0.018	1.106	0.000	
Minor residential	0	0.003	1.106	0.000	
Other	0	0.005	1.106	0.000	
Total	--	--	--	0.000	1.39

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	0.000	1.000	0.000	0.98	0.64	0.000
Fatal and injury (FI)	--	0.284	0.000	0.98	0.64	0.000
Property damage only (PDO)	--	0.716	0.000	0.98	0.64	0.000

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	3.060	0.240	0.000	3.300	0.013	0.64	0.027
Fatal and injury (FI)	--	--	--	--	--	0.64	0.027

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	3.060	0.240	0.000	3.300	0.009	0.64	0.019
Fatal and injury (FI)	--	--	--	--	--	0.64	0.019

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	(5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	(6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	0.619	1.466	2.085
Head-on collisions (from Worksheet 1D)	0.005	0.000	0.005
Angle collisions (from Worksheet 1D)	0.015	0.018	0.033
Sideswipe, same direction (from Worksheet 1D)	0.030	0.322	0.352
Sideswipe, opposite direction (from Worksheet 1D)	0.010	0.009	0.019
Driveway-related collisions (from Worksheet 1H)	0.000	0.000	0.000
Other multiple-vehicle collision (from Worksheet 1D)	0.111	0.454	0.565
Subtotal	0.789	2.270	3.059
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.000	0.015	0.015
Collision with fixed object (from Worksheet 1F)	0.020	0.161	0.181
Collision with other object (from Worksheet 1F)	0.000	0.000	0.000
Other single-vehicle collision (from Worksheet 1F)	0.030	0.015	0.044
Collision with pedestrian (from Worksheet 1I)	0.027	0.000	0.027
Collision with bicycle (from Worksheet 1J)	0.019	0.000	0.019
Subtotal	0.096	0.191	0.287
Total	0.885	2.460	3.346

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	3.3	0.33	10.1
Fatal and injury (FI)	0.9	0.33	2.7
Property damage only (PDO)	2.5	0.33	7.5

Worksheet 2A -- General Information and Input Data for Urban and Suburban Arterial Intersections

General Information		Location Information	
Analyst	RLS	Roadway	US 97
Agency or Company	DKS	Intersection	Hawthorne/US 97
Date Performed	07/24/18	Jurisdiction	Bend, OR
		Analysis Year	2040

Input Data		Base Conditions	Site Conditions
Intersection type (3ST, 3SG, 4ST, 4SG)		--	3ST
AADT $_{major}$ (veh/day)	$AADT_{MAX}$ = 45,700 (veh/day)	--	**45,700**
AADT $_{minor}$ (veh/day)	$AADT_{MAX}$ = 9,300 (veh/day)	--	**7,320**
Intersection lighting (present/not present)		Not Present	Present
Calibration factor, C_i		1.00	0.35
Data for unsignalized intersections only:		--	--
Number of major-road approaches with left-turn lanes (0,1,2)		0	0
Number of major-road approaches with right-turn lanes (0,1,2)		0	1
Data for signalized intersections only:		--	--
Number of approaches with left-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	0
Number of approaches with right-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	0
Number of approaches with left-turn signal phasing [for 3SG, use maximum value of 3]		--	
Type of left-turn signal phasing for Leg #1		Permissive	
Type of left-turn signal phasing for Leg #2		--	
Type of left-turn signal phasing for Leg #3		--	
Type of left-turn signal phasing for Leg #4 (if applicable)		--	
Number of approaches with right-turn-on-red prohibited [for 3SG, use maximum value of 3]		0	0
Intersection red light cameras (present/not present)		Not Present	Not Present
Sum of all pedestrian crossing volumes (PedVol) -- Signalized intersections only			
Maximum number of lanes crossed by a pedestrian (n_{lanesx})		--	
Number of bus stops within 300 m (1,000 ft) of the intersection		0	0
Schools within 300 m (1,000 ft) of the intersection (present/not present)		Not Present	Not Present
Number of alcohol sales establishments within 300 m (1,000 ft) of the intersection		0	0

Worksheet 2B -- Crash Modification Factors for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)	(7)
CMF for Left-Turn Lanes	CMF for Left-Turn Signal Phasing	CMF for Right-Turn Lanes	CMF for Right Turn on Red	CMF for Lighting	CMF for Red Light Cameras	Combined CMF
CMF 1i	*CMF 2i*	*CMF 3i*	*CMF 4i*	*CMF 5i*	*CMF 6i*	*CMF $_{COMB}$*
from Table 12-24	from Table 12-25	from Table 12-26	from Equation 12-35	from Equation 12-36	from Equation 12-37	(1)*(2)*(3)*(4)*(5)*(6)
1.00	1.00	0.86	1.00	0.88	1.00	0.76

Worksheet 2C -- Multiple-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1)	(2)			(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**			**Overdispersion Parameter, k**	**Initial N_{bimv}**	**Proportion of Total Crashes**	**Adjusted N_{bimv}**	**Combined CMFs**	**Calibration Factor, C_i**	**Predicted N_{bimv}**
	from Table 12-10			from Table 12-10	from Equation 12-21		$(4)_{TOTAL}$*(5)	(7) from Worksheet 2B		(6)*(7)*(8)
	a	b	c							
Total	-13.36	1.11	0.41	0.80	9.011	1.000	9.011	0.76	0.35	2.382
Fatal and Injury (FI)	-14.01	1.16	0.30	0.69	3.023	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.283	2.553	0.76	0.35	0.675
Property Damage Only (PDO)	-15.38	1.20	0.51	0.77	7.645	$(5)_{TOTAL}-(5)_{FI}$ = 0.717	6.458	0.76	0.35	1.707

Worksheet 2D -- Multiple-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{bimv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{bimv\ (PDO)}$ (crashes/year)**	**Predicted N $_{bimv\ (TOTAL)}$ (crashes/year)**
	from Table 12-11	$(9)_{FI}$ from Worksheet 2C	from Table 12-11	$(9)_{PDO}$ from Worksheet 2C	$(9)_{PDO}$ from Worksheet 2C
Total	1.000	0.675	1.000	1.707	2.382
		(2)*$(3)_{FI}$		(4)*$(5)_{PDO}$	(3)+(5)
Rear-end collision	0.186	0.126	0.181	0.309	0.434
Head-on collision	0.004	0.003	0.000	0.000	0.003
Angle collision	0.078	0.053	0.056	0.096	0.148
Sideswipe	0.008	0.005	0.016	0.027	0.033
Other multiple-vehicle collision	0.725	0.489	0.746	1.273	1.762

Worksheet 2E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1)	(2)			(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**			**Overdispersion Parameter, k**	**Initial N_{bisv}**	**Proportion of Total Crashes**	**Adjusted N_{bimv}**	**Combined CMFs**	**Calibration Factor, C_i**	**Predicted N_{bisv}**
	from Table 12-12			from Table 12-12	from Eqn. 12-24; (FI) from Eqn. 12-24 or 12-27		$(4)_{TOTAL}$*(5)	(7) from Worksheet 2B		(6)*(7)*(8)
	a	b	c							
Total	-6.81	0.16	0.51	1.14	0.574	1.000	0.574	0.76	0.35	0.152
Fatal and Injury (FI)	--	--	--	--	0.178	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.280	0.161	0.76	0.35	0.043
Property Damage Only (PDO)	-8.36	0.25	0.55	1.29	0.457	$(5)_{TOTAL}-(5)_{FI}$ = 0.720	0.413	0.76	0.35	0.109

Worksheet 2F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{bisv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{bisv\ (PDO)}$ (crashes/year)**	**Predicted N $_{bisv\ (TOTAL)}$ (crashes/year)**
	from Table 12-13	$(9)_{FI}$ from Worksheet 2E	from Table 12-13	$(9)_{PDO}$ from Worksheet 2E	$(9)_{PDO}$ from Worksheet 2E
Total	1.000	0.043	1.000	0.109	0.152
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with parked vehicle	0.000	0.000	0.000	0.000	0.000
Collision with animal	0.000	0.000	0.000	0.000	0.000
Collision with fixed object	0.077	0.003	1.000	0.109	0.112
Collision with other object	0.000	0.000	0.000	0.000	0.000
Other single-vehicle collision	0.923	0.039	0.000	0.000	0.039
Single-vehicle noncollision	0.000	0.000	0.000	0.000	0.000

Worksheet 2G -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Stop-Controlled Intersections

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Predicted N_{bimv}**	**Predicted N_{bisv}**	**Predicted N_{bi}**	**f_{pedi}**	**Calibration factor, C_i**	**Predicted N_{pedi}**
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-16		(4)*(5)*(6)
Total	2.382	0.152	2.533	0.021	0.35	0.019
Fatal and injury (FI)	--	--	--	--	0.35	0.019

Worksheet 2H -- Crash Modification Factors for Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections

(1)	(2)	(3)	(4)
CMF for Bus Stops	CMF for Schools	CMF for Alcohol Sales Establishments	Combined CMF
CMF_{1p}	CMF_{2p}	CMF_{3p}	
from Table 12-28	from Table 12-29	from Table 12-30	(1)*(2)*(3)
--	--	--	--

Worksheet 2I -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections

(1)	(2)					(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**SPF Coefficients**					**Overdispersion Parameter, k**	**$N_{pedbase}$**	**Combined CMF**	**Calibration factor, C_i**	**Predicted N_{pedi}**
	from Table 12-14						from Equation 12-29	(4) from Worksheet 2H		(4)*(5)*(6)
	a	b	c	d	e					
Total	--	--	--	--	--	--	--	--	0.35	--
Fatal and Injury (FI)	--	--	--	--	--	--	--	--	0.35	--

Worksheet 2J -- Vehicle-Bicycle Collisions for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Predicted N_{bimv}**	**Predicted N_{bisv}**	**Predicted N_{bi}**	**f_{bikei}**	**Calibration factor, C_i**	**Predicted N_{bikei}**
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-17		(4)*(5)*(6)
Total	2.382	0.152	2.533	0.016	0.35	0.014
Fatal and injury (FI)	--	--	--	--	0.35	0.014

Worksheet 2K -- Crash Severity Distribution for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)
	Fatal and injury (FI)	**Property damage only (PDO)**	**Total**
Collision type	(3) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J	(5) from Worksheet 2D and 2F	(6) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 2D)	0.126	0.309	0.434
Head-on collisions (from Worksheet 2D)	0.003	0.000	0.003
Angle collisions (from Worksheet 2D)	0.053	0.096	0.148
Sideswipe (from Worksheet 2D)	0.005	0.027	0.033
Other multiple-vehicle collision (from Worksheet 2D)	0.489	1.273	1.762
Subtotal	0.676	1.705	2.380
SINGLE-VEHICLE			
Collision with parked vehicle (from Worksheet 2F)	0.000	0.000	0.000
Collision with animal (from Worksheet 2F)	0.000	0.000	0.000
Collision with fixed object (from Worksheet 2F)	0.003	0.109	0.112
Collision with other object (from Worksheet 2F)	0.000	0.000	0.000
Other single-vehicle collision (from Worksheet 2F)	0.039	0.000	0.039
Single-vehicle noncollision (from Worksheet 2F)	0.000	0.000	0.000
Collision with pedestrian (from Worksheet 2G or 2I)	0.019	0.000	0.019
Collision with bicycle (from Worksheet 2J)	0.014	0.000	0.014
Subtotal	0.075	0.109	0.185
Total	0.751	1.814	2.565

Worksheet 2L -- Summary Results for Urban and Suburban Arterial Intersections

(1)	(2)
Crash severity level	**Predicted average crash frequency, $N_{predicted\ int}$ (crashes/year)**
	(Total) from Worksheet 2K
Total	2.6
Fatal and injury (FI)	0.8
Property damage only (PDO)	1.8

Worksheet 3A -- Predicted Crashes by Severity and Site Type and Observed Crashes Using the Site-Specific EB Method for Urban and Suburban Arterials

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Collision type / Site type	**Predicted average crash frequency (crashes/year)**			**Observed crashes, $N_{observed}$** (crashes/year)	**Overdispersion Parameter, k**	**Weighted adjustment, w**	**Expected average crash frequency,**
	$N_{predicted}$ (TOTAL)	$N_{predicted}$ (FI)	$N_{predicted}$ (PDO)			Equation A-5 from Part C Appendix	Equation A-4 from Part C Appendix
ROADWAY SEGMENTS							
Multiple-vehicle nondriveway							
Segment 1	1.418	0.365	1.053		1.320	0.348	0.494
Segment 2	2.080	0.535	1.545		1.320	0.267	0.555
Segment 3	2.774	0.714	2.060		1.320	0.215	0.595
Segment 4	1.801	0.464	1.338		1.320	0.296	0.533
Segment 5	3.060	0.790	2.270		1.320	0.198	0.607
Single-vehicle							
Segment 1	0.107	0.022	0.085		0.860	0.916	0.098
Segment 2	0.157	0.032	0.124		0.860	0.881	0.138
Segment 3	0.209	0.043	0.165		0.860	0.848	0.177
Segment 4	0.136	0.028	0.107		0.860	0.896	0.121
Segment 5	0.240	0.049	0.191		0.860	0.829	0.199
Multiple-vehicle driveway-related							
Segment 1	0.000	0.000	0.000		1.390	1.000	0.000
Segment 2	0.000	0.000	0.000		1.390	1.000	0.000
Segment 3	0.000	0.000	0.000		1.390	1.000	0.000
Segment 4	0.000	0.000	0.000		1.390	1.000	0.000
Segment 5	0.000	0.000	0.000		1.390	1.000	0.000
INTERSECTIONS							
Multiple-vehicle							
Intersection 1	2.380	0.676	1.705		0.800	0.344	0.820
Intersection 2	0.000	0.000	0.000		0.800	1.000	0.000
Intersection 3	0.000	0.000	0.000		0.800	1.000	0.000
Intersection 4	0.000	0.000	0.000		0.390	1.000	0.000
Single-vehicle							
Intersection 1	0.152	0.043	0.109		1.140	0.853	0.129
Intersection 2	0.000	0.000	0.000		1.140	1.000	0.000
Intersection 3	0.000	0.000	0.000		1.140	1.000	0.000
Intersection 4	0.000	0.000	0.000		0.360	1.000	0.000
COMBINED (sum of column)	14.513	3.762	10.751	0.0	--	--	4.467

Worksheet 3B -- Predicted Pedestrian and Bicycle Crashes for Urban and Suburban Arterials

(1)	(2)	(3)
Site Type	**N_{ped}**	**N_{bike}**
ROADWAY SEGMENTS		
Segment 1	0.013	0.009
Segment 2	0.019	0.013
Segment 3	0.025	0.017
Segment 4	0.016	0.011
Segment 5	0.027	0.019
INTERSECTIONS		
Intersection 1	0.019	0.014
Intersection 2	0.000	0.000
Intersection 3	0.000	0.000
Intersection 4	0.000	0.000
COMBINED (sum of column)	0.118	0.083

Worksheet 3C -- Site-Specific EB Method Summary Results for Urban and Suburban Arterials

(1)	(2)	(3)	(4)	(5)	(6)
Crash severity level	**$N_{predicted}$**	**N_{ped}**	**N_{bike}**	$N_{expected\ (VEHICLE)}$	$N_{expected}$
Total	$(2)_{COMB}$ from Worksheet 3A	$(2)_{COMB}$ from Worksheet 3B	$(3)_{COMB}$ from Worksheet 3B	$(8)_{COMB}$ Worksheet 3A	(3)+(4)+(5)
	14.5	0.1	0.1	4.5	4.7
Fatal and injury (FI)	$(3)_{COMB}$ from Worksheet 3A	$(2)_{COMB}$ from Worksheet 3B	$(3)_{COMB}$ from Worksheet 3B	$(5)_{TOTAL} * (2)_{FI} / (2)_{TOTAL}$	(3)+(4)+(5)
	3.8	0.1	0.1	1.2	1.4
Property damage only (PDO)	$(4)_{COMB}$ from Worksheet 3A	--	--	$(5)_{TOTAL} * (2)_{PDO} / (2)_{TOTAL}$	(3)+(4)+(5)
	10.8	0.0	0.0	3.3	3.3

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments

General Information		Location Information	
Analyst	RLS	Roadway	US 97
Agency or Company	DKS	Roadway Section	Truman to Reed Market Ramp
Date Performed	07/24/18	Jurisdiction	Bend, OR
		Analysis Year	2017

Input Data		Base Conditions	Site Conditions
Roadway type (2U, 3T, 4U, 4D, ST)		--	4D
Length of segment, L (mi)		--	0.12
AADT (veh/day)	$AADT_{MAX}$ = 66,000 (veh/day)	--	**63,000**
Type of on-street parking (none/parallel/angle)		None	None
Proportion of curb length with on-street parking		--	0
Median width (ft) - for divided only		15	15
Lighting (present / not present)		Not Present	**Present**
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	0
Minor commercial driveways (number)		--	0
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	0
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	62
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	15
Calibration Factor, Cr		1.00	0.64

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.11	1.00	0.94	1.00	1.05

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-12.34	1.36	1.32	1.766	1.000	1.766	1.05	0.64	1.187
Fatal and Injury (FI)	-12.76	1.28	1.31	0.479	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.258	0.456	1.05	0.64	0.307
Property Damage Only (PDO)	-12.81	1.38	1.34	1.377	$(5)_{TOTAL}-(5)_{FI}$ = 0.742	1.310	1.05	0.64	0.881

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	$(9)_{FI}$ from Worksheet 1C	from Table 12-4	$(9)_{PDO}$ from Worksheet 1C	$(9)_{TOTAL}$ from Worksheet 1C
Total	1.000	0.307	1.000	0.881	1.187
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.783	0.240	0.646	0.569	0.809
Head-on collision	0.006	0.002	0.000	0.000	0.002
Angle collision	0.019	0.006	0.008	0.007	0.013
Sideswipe, same direction	0.038	0.012	0.142	0.125	0.137
Sideswipe, opposite direction	0.013	0.004	0.004	0.004	0.008
Other multiple-vehicle collision	0.140	0.043	0.200	0.176	0.219

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brsv}**	**Proportion of Total Crashes**	**Adjusted N_{brsv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brsv}**
	from Table 12-5		from Table 12-5	from Equation 12-13		$(4)_{TOTAL}*(5)$	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-5.05	0.47	0.86	0.139	1.000	0.139	1.05	0.64	0.093
Fatal and Injury (FI)	-8.71	0.66	0.28	0.029	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.206	0.029	1.05	0.64	0.019
Property Damage Only (PDO)	-5.04	0.45	1.06	0.112	$(5)_{TOTAL}-(5)_{FI}$ = 0.794	0.110	1.05	0.64	0.074

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	$(9)_{FI}$ from Worksheet 1E	from Table 12-6	$(9)_{PDO}$ from Worksheet 1E	$(9)_{TOTAL}$ from Worksheet 1E
Total	1.000	0.019	1.000	0.074	0.093
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with animal	0.000	0.000	0.077	0.006	0.006
Collision with fixed object	0.400	0.008	0.846	0.063	0.070
Collision with other object	0.000	0.000	0.000	0.000	0.000
Other single-vehicle collision	0.600	0.012	0.077	0.006	0.017

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15,000)^t$	from Table 12-7
Major commercial	0	0.033	1.106	0.000	--
Minor commercial	0	0.011	1.106	0.000	
Major industrial/institutional	0	0.036	1.106	0.000	
Minor industrial/institutional	0	0.005	1.106	0.000	
Major residential	0	0.018	1.106	0.000	
Minor residential	0	0.003	1.106	0.000	
Other	0	0.005	1.106	0.000	
Total	--	--	--	0.000	1.39

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	0.000	1.000	0.000	1.05	0.64	0.000
Fatal and injury (FI)	--	0.284	0.000	1.05	0.64	0.000
Property damage only (PDO)	--	0.716	0.000	1.05	0.64	0.000

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	1.187	0.093	0.000	1.280	0.013	0.64	0.011
Fatal and injury (FI)	--	--	--	--	--	0.64	0.011

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	1.187	0.093	0.000	1.280	0.009	0.64	0.007
Fatal and injury (FI)	--	--	--	--	--	0.64	0.007

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	(5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	(6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	0.240	0.569	0.809
Head-on collisions (from Worksheet 1D)	0.002	0.000	0.002
Angle collisions (from Worksheet 1D)	0.006	0.007	0.013
Sideswipe, same direction (from Worksheet 1D)	0.012	0.125	0.137
Sideswipe, opposite direction (from Worksheet 1D)	0.004	0.004	0.008
Driveway-related collisions (from Worksheet 1H)	0.000	0.000	0.000
Other multiple-vehicle collision (from Worksheet 1D)	0.043	0.176	0.219
Subtotal	0.306	0.881	1.187
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.000	0.006	0.006
Collision with fixed object (from Worksheet 1F)	0.008	0.063	0.070
Collision with other object (from Worksheet 1F)	0.000	0.000	0.000
Other single-vehicle collision (from Worksheet 1F)	0.012	0.006	0.017
Collision with pedestrian (from Worksheet 1I)	0.011	0.000	0.011
Collision with bicycle (from Worksheet 1J)	0.007	0.000	0.007
Subtotal	0.037	0.074	0.111
Total	0.344	0.955	1.298

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	1.3	0.12	10.8
Fatal and injury (FI)	0.3	0.12	2.9
Property damage only (PDO)	1.0	0.12	8.0

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments

General Information		Location Information	
Analyst	RLS	Roadway	US 97
Agency or Company	DKS	Roadway Section	Reed Market Ramp to Reed Lane
Date Performed	07/24/18	Jurisdiction	Bend, OR
		Analysis Year	2017

Input Data		Base Conditions	Site Conditions
Roadway type (2U, 3T, 4U, 4D, ST)		--	4D
Length of segment, L (mi)		--	0.23
AADT (veh/day)	$AADT_{MAX}$ = 66,000 (veh/day)	--	**44,210**
Type of on-street parking (none/parallel/angle)		None	None
Proportion of curb length with on-street parking		--	0
Median width (ft) - for divided only		15	15
Lighting (present / not present)		Not Present	**Present**
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	0
Minor commercial driveways (number)		--	0
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	0
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	23
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	20
Calibration Factor, Cr		1.00	0.64

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.01	1.00	0.94	1.00	0.95

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-12.34	1.36	1.32	2.091	1.000	2.091	0.95	0.64	1.275
Fatal and Injury (FI)	-12.76	1.28	1.31	0.584	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.265	0.554	0.95	0.64	0.338
Property Damage Only (PDO)	-12.81	1.38	1.34	1.619	$(5)_{TOTAL}-(5)_{FI}$ = 0.735	1.537	0.95	0.64	0.937

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	$(9)_{FI}$ from Worksheet 1C	from Table 12-4	$(9)_{PDO}$ from Worksheet 1C	$(9)_{TOTAL}$ from Worksheet 1C
Total	1.000	0.338	1.000	0.937	1.275
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.783	0.265	0.646	0.605	0.870
Head-on collision	0.006	0.002	0.000	0.000	0.002
Angle collision	0.019	0.006	0.008	0.007	0.014
Sideswipe, same direction	0.038	0.013	0.142	0.133	0.146
Sideswipe, opposite direction	0.013	0.004	0.004	0.004	0.008
Other multiple-vehicle collision	0.140	0.047	0.200	0.187	0.235

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brsv}**	**Proportion of Total Crashes**	**Adjusted N_{brsv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brsv}**
	from Table 12-5		from Table 12-5	from Equation 12-13		$(4)_{TOTAL}*(5)$	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-5.05	0.47	0.86	0.225	1.000	0.225	0.95	0.64	0.137
Fatal and Injury (FI)	-8.71	0.66	0.28	0.044	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.194	0.044	0.95	0.64	0.027
Property Damage Only (PDO)	-5.04	0.45	1.06	0.183	$(5)_{TOTAL}-(5)_{FI}$ = 0.806	0.181	0.95	0.64	0.110

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	$(9)_{FI}$ from Worksheet 1E	from Table 12-6	$(9)_{PDO}$ from Worksheet 1E	$(9)_{TOTAL}$ from Worksheet 1E
Total	1.000	0.027	1.000	0.110	0.137
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with animal	0.000	0.000	0.077	0.009	0.009
Collision with fixed object	0.400	0.011	0.846	0.093	0.104
Collision with other object	0.000	0.000	0.000	0.000	0.000
Other single-vehicle collision	0.600	0.016	0.077	0.009	0.024

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15,000)^t$	from Table 12-7
Major commercial	0	0.033	1.106	0.000	--
Minor commercial	0	0.011	1.106	0.000	
Major industrial/institutional	0	0.036	1.106	0.000	
Minor industrial/institutional	0	0.005	1.106	0.000	
Major residential	0	0.018	1.106	0.000	
Minor residential	0	0.003	1.106	0.000	
Other	0	0.005	1.106	0.000	
Total	--	--	--	0.000	1.39

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL} * (3)$	(6) from Worksheet 1B		(4)*(5)*(6)
Total	0.000	1.000	0.000	0.95	0.64	0.000
Fatal and injury (FI)	--	0.284	0.000	0.95	0.64	0.000
Property damage only (PDO)	--	0.716	0.000	0.95	0.64	0.000

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	1.275	0.137	0.000	1.412	0.013	0.64	0.012
Fatal and injury (FI)	--	--	--	--	--	0.64	0.012

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	1.275	0.137	0.000	1.412	0.009	0.64	0.008
Fatal and injury (FI)	--	--	--	--	--	0.64	0.008

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	(5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	(6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	0.265	0.605	0.870
Head-on collisions (from Worksheet 1D)	0.002	0.000	0.002
Angle collisions (from Worksheet 1D)	0.006	0.007	0.014
Sideswipe, same direction (from Worksheet 1D)	0.013	0.133	0.146
Sideswipe, opposite direction (from Worksheet 1D)	0.004	0.004	0.008
Driveway-related collisions (from Worksheet 1H)	0.000	0.000	0.000
Other multiple-vehicle collision (from Worksheet 1D)	0.047	0.187	0.235
Subtotal	0.338	0.937	1.274
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.000	0.009	0.009
Collision with fixed object (from Worksheet 1F)	0.011	0.093	0.104
Collision with other object (from Worksheet 1F)	0.000	0.000	0.000
Other single-vehicle collision (from Worksheet 1F)	0.016	0.009	0.024
Collision with pedestrian (from Worksheet 1I)	0.012	0.000	0.012
Collision with bicycle (from Worksheet 1J)	0.008	0.000	0.008
Subtotal	0.046	0.110	0.157
Total	0.384	1.047	1.431

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	1.4	0.23	6.2
Fatal and injury (FI)	0.4	0.23	1.7
Property damage only (PDO)	1.0	0.23	4.6

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments

General Information		Location Information	
Analyst	RLS	Roadway	US 97
Agency or Company	DKS	Roadway Section	Reed Ln to Powers
Date Performed	07/24/18	Jurisdiction	Bend, OR
		Analysis Year	2017

Input Data		Base Conditions	Site Conditions
Roadway type (2U, 3T, 4U, 4D, ST)		--	4D
Length of segment, L (mi)		--	0.29
AADT (veh/day)	$AADT_{MAX}$ = 66,000 (veh/day)	--	**44,210**
Type of on-street parking (none/parallel/angle)		None	None
Proportion of curb length with on-street parking		--	0
Median width (ft) - for divided only		15	15
Lighting (present / not present)		Not Present	**Present**
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	0
Minor commercial driveways (number)		--	0
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	0
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	33
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	15
Calibration Factor, Cr		1.00	0.64

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.04	1.00	0.94	1.00	0.98

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-12.34	1.36	1.32	2.637	1.000	2.637	0.98	0.64	1.660
Fatal and Injury (FI)	-12.76	1.28	1.31	0.736	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.265	0.699	0.98	0.64	0.440
Property Damage Only (PDO)	-12.81	1.38	1.34	2.041	$(5)_{TOTAL}-(5)_{FI}$ = 0.735	1.938	0.98	0.64	1.220

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	$(9)_{FI}$ from Worksheet 1C	from Table 12-4	$(9)_{PDO}$ from Worksheet 1C	$(9)_{TOTAL}$ from Worksheet 1C
Total	1.000	0.440	1.000	1.220	1.660
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.783	0.345	0.646	0.788	1.133
Head-on collision	0.006	0.003	0.000	0.000	0.003
Angle collision	0.019	0.008	0.008	0.010	0.018
Sideswipe, same direction	0.038	0.017	0.142	0.173	0.190
Sideswipe, opposite direction	0.013	0.006	0.004	0.005	0.011
Other multiple-vehicle collision	0.140	0.062	0.200	0.244	0.306

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brsv}**	**Proportion of Total Crashes**	**Adjusted N_{brsv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brsv}**
	from Table 12-5		from Table 12-5	from Equation 12-13		$(4)_{TOTAL}*(5)$	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-5.05	0.47	0.86	0.284	1.000	0.284	0.98	0.64	0.179
Fatal and Injury (FI)	-8.71	0.66	0.28	0.056	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.194	0.055	0.98	0.64	0.035
Property Damage Only (PDO)	-5.04	0.45	1.06	0.231	$(5)_{TOTAL}-(5)_{FI}$ = 0.806	0.229	0.98	0.64	0.144

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	$(9)_{FI}$ from Worksheet 1E	from Table 12-6	$(9)_{PDO}$ from Worksheet 1E	$(9)_{TOTAL}$ from Worksheet 1E
Total	1.000	0.035	1.000	0.144	0.179
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with animal	0.000	0.000	0.077	0.011	0.011
Collision with fixed object	0.400	0.014	0.846	0.122	0.136
Collision with other object	0.000	0.000	0.000	0.000	0.000
Other single-vehicle collision	0.600	0.021	0.077	0.011	0.032

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15{,}000)^t$	from Table 12-7
Major commercial	0	0.033	1.106	0.000	--
Minor commercial	0	0.011	1.106	0.000	
Major industrial/institutional	0	0.036	1.106	0.000	
Minor industrial/institutional	0	0.005	1.106	0.000	
Major residential	0	0.018	1.106	0.000	
Minor residential	0	0.003	1.106	0.000	
Other	0	0.005	1.106	0.000	
Total	--	--	--	0.000	1.39

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL} * (3)$	(6) from Worksheet 1B		(4)*(5)*(6)
Total	0.000	1.000	0.000	0.98	0.64	0.000
Fatal and injury (FI)	--	0.284	0.000	0.98	0.64	0.000
Property damage only (PDO)	--	0.716	0.000	0.98	0.64	0.000

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	1.660	0.179	0.000	1.839	0.013	0.64	0.015
Fatal and injury (FI)	--	--	--	--	--	0.64	0.015

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	1.660	0.179	0.000	1.839	0.009	0.64	0.011
Fatal and injury (FI)	--	--	--	--	--	0.64	0.011

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)** (3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	**Property damage only (PDO)** (5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	**Total** (6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	0.345	0.788	1.133
Head-on collisions (from Worksheet 1D)	0.003	0.000	0.003
Angle collisions (from Worksheet 1D)	0.008	0.010	0.018
Sideswipe, same direction (from Worksheet 1D)	0.017	0.173	0.190
Sideswipe, opposite direction (from Worksheet 1D)	0.006	0.005	0.011
Driveway-related collisions (from Worksheet 1H)	0.000	0.000	0.000
Other multiple-vehicle collision (from Worksheet 1D)	0.062	0.244	0.306
Subtotal	0.440	1.220	1.660
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.000	0.011	0.011
Collision with fixed object (from Worksheet 1F)	0.014	0.122	0.136
Collision with other object (from Worksheet 1F)	0.000	0.000	0.000
Other single-vehicle collision (from Worksheet 1F)	0.021	0.011	0.032
Collision with pedestrian (from Worksheet 1I)	0.015	0.000	0.015
Collision with bicycle (from Worksheet 1J)	0.011	0.000	0.011
Subtotal	0.061	0.144	0.204
Total	0.500	1.364	1.864

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)** (Total) from Worksheet 1K	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)** (2) / (3)
Total	1.9	0.29	6.4
Fatal and injury (FI)	0.5	0.29	1.7
Property damage only (PDO)	1.4	0.29	4.7

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments

General Information		Location Information	
Analyst	RLS	Roadway	US 97
Agency or Company	DKS	Roadway Section	Powers to Badger
Date Performed	07/24/18	Jurisdiction	Bend, OR
		Analysis Year	2017

Input Data		Base Conditions	Site Conditions
Roadway type (2U, 3T, 4U, 4D, ST)		--	4D
Length of segment, L (mi)		--	0.33
AADT (veh/day)	$AADT_{MAX}$ = 66,000 (veh/day)	--	**44,210**
Type of on-street parking (none/parallel/angle)		None	None
Proportion of curb length with on-street parking		--	0
Median width (ft) - for divided only		15	15
Lighting (present / not present)		Not Present	**Present**
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	0
Minor commercial driveways (number)		--	0
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	0
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	33
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	15
Calibration Factor, Cr		1.00	0.64

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.04	1.00	0.94	1.00	0.98

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-12.34	1.36	1.32	3.001	1.000	3.001	0.98	0.64	1.889
Fatal and Injury (FI)	-12.76	1.28	1.31	0.838	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.265	0.795	0.98	0.64	0.501
Property Damage Only (PDO)	-12.81	1.38	1.34	2.323	$(5)_{TOTAL}-(5)_{FI}$ = 0.735	2.205	0.98	0.64	1.388

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	$(9)_{FI}$ from Worksheet 1C	from Table 12-4	$(9)_{PDO}$ from Worksheet 1C	$(9)_{TOTAL}$ from Worksheet 1C
Total	1.000	0.501	1.000	1.388	1.889
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.783	0.392	0.646	0.897	1.289
Head-on collision	0.006	0.003	0.000	0.000	0.003
Angle collision	0.019	0.010	0.008	0.011	0.021
Sideswipe, same direction	0.038	0.019	0.142	0.197	0.216
Sideswipe, opposite direction	0.013	0.007	0.004	0.006	0.012
Other multiple-vehicle collision	0.140	0.070	0.200	0.278	0.348

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brsv}**	**Proportion of Total Crashes**	**Adjusted N_{brsv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brsv}**
	from Table 12-5		from Table 12-5	from Equation 12-13		$(4)_{TOTAL}*(5)$	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-5.05	0.47	0.86	0.323	1.000	0.323	0.98	0.64	0.203
Fatal and Injury (FI)	-8.71	0.66	0.28	0.063	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.194	0.063	0.98	0.64	0.039
Property Damage Only (PDO)	-5.04	0.45	1.06	0.263	$(5)_{TOTAL}-(5)_{FI}$ = 0.806	0.260	0.98	0.64	0.164

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	$(9)_{FI}$ from Worksheet 1E	from Table 12-6	$(9)_{PDO}$ from Worksheet 1E	$(9)_{TOTAL}$ from Worksheet 1E
Total	1.000	0.039	1.000	0.164	0.203
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with animal	0.000	0.000	0.077	0.013	0.013
Collision with fixed object	0.400	0.016	0.846	0.138	0.154
Collision with other object	0.000	0.000	0.000	0.000	0.000
Other single-vehicle collision	0.600	0.024	0.077	0.013	0.036

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15,000)^t$	from Table 12-7
Major commercial	0	0.033	1.106	0.000	
Minor commercial	0	0.011	1.106	0.000	
Major industrial/institutional	0	0.036	1.106	0.000	
Minor industrial/institutional	0	0.005	1.106	0.000	--
Major residential	0	0.018	1.106	0.000	
Minor residential	0	0.003	1.106	0.000	
Other	0	0.005	1.106	0.000	
Total	--	--	--	0.000	1.39

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL} * (3)$	(6) from Worksheet 1B		(4)*(5)*(6)
Total	0.000	1.000	0.000	0.98	0.64	0.000
Fatal and injury (FI)	--	0.284	0.000	0.98	0.64	0.000
Property damage only (PDO)	--	0.716	0.000	0.98	0.64	0.000

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	1.889	0.203	0.000	2.092	0.013	0.64	0.017
Fatal and injury (FI)	--	--	--	--	--	0.64	0.017

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	1.889	0.203	0.000	2.092	0.009	0.64	0.012
Fatal and injury (FI)	--	--	--	--	--	0.64	0.012

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	(5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	(6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	0.392	0.897	1.289
Head-on collisions (from Worksheet 1D)	0.003	0.000	0.003
Angle collisions (from Worksheet 1D)	0.010	0.011	0.021
Sideswipe, same direction (from Worksheet 1D)	0.019	0.197	0.216
Sideswipe, opposite direction (from Worksheet 1D)	0.007	0.006	0.012
Driveway-related collisions (from Worksheet 1H)	0.000	0.000	0.000
Other multiple-vehicle collision (from Worksheet 1D)	0.070	0.278	0.348
Subtotal	0.500	1.388	1.889
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.000	0.013	0.013
Collision with fixed object (from Worksheet 1F)	0.016	0.138	0.154
Collision with other object (from Worksheet 1F)	0.000	0.000	0.000
Other single-vehicle collision (from Worksheet 1F)	0.024	0.013	0.036
Collision with pedestrian (from Worksheet 1I)	0.017	0.000	0.017
Collision with bicycle (from Worksheet 1J)	0.012	0.000	0.012
Subtotal	0.069	0.164	0.233
Total	0.569	1.552	2.121

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	2.1	0.33	6.4
Fatal and injury (FI)	0.6	0.33	1.7
Property damage only (PDO)	1.6	0.33	4.7

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments

General Information		Location Information	
Analyst	RLS	Roadway	US 97
Agency or Company	DKS	Roadway Section	Badger to Pinebrook
Date Performed	07/24/18	Jurisdiction	Bend, OR
		Analysis Year	2017

Input Data		Base Conditions	Site Conditions
Roadway type (2U, 3T, 4U, 4D, ST)		--	4D
Length of segment, L (mi)		--	0.22
AADT (veh/day)	$AADT_{MAX}$ = 66,000 (veh/day)	--	**44,210**
Type of on-street parking (none/parallel/angle)		None	None
Proportion of curb length with on-street parking		--	0
Median width (ft) - for divided only		15	15
Lighting (present / not present)		Not Present	**Present**
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	0
Minor commercial driveways (number)		--	0
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	0
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	36
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	25
Calibration Factor, Cr		1.00	0.64

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.03	1.00	0.94	1.00	0.97

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-12.34	1.36	1.32	2.000	1.000	2.000	0.97	0.64	1.240
Fatal and Injury (FI)	-12.76	1.28	1.31	0.559	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.265	0.530	0.97	0.64	0.329
Property Damage Only (PDO)	-12.81	1.38	1.34	1.549	$(5)_{TOTAL}-(5)_{FI}$ = 0.735	1.470	0.97	0.64	0.911

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	$(9)_{FI}$ from Worksheet 1C	from Table 12-4	$(9)_{PDO}$ from Worksheet 1C	$(9)_{TOTAL}$ from Worksheet 1C
Total	1.000	0.329	1.000	0.911	1.240
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.783	0.257	0.646	0.589	0.846
Head-on collision	0.006	0.002	0.000	0.000	0.002
Angle collision	0.019	0.006	0.008	0.007	0.014
Sideswipe, same direction	0.038	0.012	0.142	0.129	0.142
Sideswipe, opposite direction	0.013	0.004	0.004	0.004	0.008
Other multiple-vehicle collision	0.140	0.046	0.200	0.182	0.228

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brsv}**	**Proportion of Total Crashes**	**Adjusted N_{brsv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brsv}**
	from Table 12-5		from Table 12-5	from Equation 12-13		$(4)_{TOTAL}*(5)$	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-5.05	0.47	0.86	0.215	1.000	0.215	0.97	0.64	0.133
Fatal and Injury (FI)	-8.71	0.66	0.28	0.042	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.194	0.042	0.97	0.64	0.026
Property Damage Only (PDO)	-5.04	0.45	1.06	0.175	$(5)_{TOTAL}-(5)_{FI}$ = 0.806	0.173	0.97	0.64	0.107

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	$(9)_{FI}$ from Worksheet 1E	from Table 12-6	$(9)_{PDO}$ from Worksheet 1E	$(9)_{TOTAL}$ from Worksheet 1E
Total	1.000	0.026	1.000	0.107	0.133
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with animal	0.000	0.000	0.077	0.008	0.008
Collision with fixed object	0.400	0.010	0.846	0.091	0.101
Collision with other object	0.000	0.000	0.000	0.000	0.000
Other single-vehicle collision	0.600	0.016	0.077	0.008	0.024

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15,000)^t$	from Table 12-7
Major commercial	0	0.033	1.106	0.000	
Minor commercial	0	0.011	1.106	0.000	
Major industrial/institutional	0	0.036	1.106	0.000	
Minor industrial/institutional	0	0.005	1.106	0.000	--
Major residential	0	0.018	1.106	0.000	
Minor residential	0	0.003	1.106	0.000	
Other	0	0.005	1.106	0.000	
Total	--	--	--	0.000	1.39

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL} * (3)$	(6) from Worksheet 1B		(4)*(5)*(6)
Total	0.000	1.000	0.000	0.97	0.64	0.000
Fatal and injury (FI)	--	0.284	0.000	0.97	0.64	0.000
Property damage only (PDO)	--	0.716	0.000	0.97	0.64	0.000

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	1.240	0.133	0.000	1.373	0.013	0.64	0.011
Fatal and injury (FI)	--	--	--	--	--	0.64	0.011

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	1.240	0.133	0.000	1.373	0.009	0.64	0.008
Fatal and injury (FI)	--	--	--	--	--	0.64	0.008

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)** (3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	**Property damage only (PDO)** (5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	**Total** (6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	0.257	0.589	0.846
Head-on collisions (from Worksheet 1D)	0.002	0.000	0.002
Angle collisions (from Worksheet 1D)	0.006	0.007	0.014
Sideswipe, same direction (from Worksheet 1D)	0.012	0.129	0.142
Sideswipe, opposite direction (from Worksheet 1D)	0.004	0.004	0.008
Driveway-related collisions (from Worksheet 1H)	0.000	0.000	0.000
Other multiple-vehicle collision (from Worksheet 1D)	0.046	0.182	0.228
Subtotal	0.328	0.911	1.239
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.000	0.008	0.008
Collision with fixed object (from Worksheet 1F)	0.010	0.091	0.101
Collision with other object (from Worksheet 1F)	0.000	0.000	0.000
Other single-vehicle collision (from Worksheet 1F)	0.016	0.008	0.024
Collision with pedestrian (from Worksheet 1I)	0.011	0.000	0.011
Collision with bicycle (from Worksheet 1J)	0.008	0.000	0.008
Subtotal	0.045	0.107	0.153
Total	0.374	1.019	1.392

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)** (Total) from Worksheet 1K	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)** (2) / (3)
Total	1.4	0.22	6.3
Fatal and injury (FI)	0.4	0.22	1.7
Property damage only (PDO)	1.0	0.22	4.6

Worksheet 2A -- General Information and Input Data for Urban and Suburban Arterial Intersections

General Information		Location Information	
Analyst	RLS	Roadway	US 97
Agency or Company	DKS	Intersection	Ponderosa/China Hat/US 97
Date Performed	07/24/18	Jurisdiction	Bend, OR
		Analysis Year	2018

Input Data		Base Conditions	Site Conditions
Intersection type (3ST, 3SG, 4ST, 4SG)		--	4ST
AADT $_{major}$ (veh/day)	$AADT_{MAX}$ = 46,800 (veh/day)	--	**44,580**
AADT $_{minor}$ (veh/day)	$AADT_{MAX}$ = 5,900 (veh/day)	--	**5,900**
Intersection lighting (present/not present)		Not Present	Not Present
Calibration factor, C_i		1.00	0.45
Data for unsignalized intersections only:		--	--
Number of major-road approaches with left-turn lanes (0,1,2)		0	0
Number of major-road approaches with right-turn lanes (0,1,2)		0	2
Data for signalized intersections only:		--	--
Number of approaches with left-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	0
Number of approaches with right-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	0
Number of approaches with left-turn signal phasing [for 3SG, use maximum value of 3]		--	
Type of left-turn signal phasing for Leg #1		Permissive	
Type of left-turn signal phasing for Leg #2		--	
Type of left-turn signal phasing for Leg #3		--	
Type of left-turn signal phasing for Leg #4 (if applicable)		--	
Number of approaches with right-turn-on-red prohibited [for 3SG, use maximum value of 3]		0	0
Intersection red light cameras (present/not present)		Not Present	Not Present
Sum of all pedestrian crossing volumes (PedVol) -- Signalized intersections only			
Maximum number of lanes crossed by a pedestrian (n_{lanesx})		--	
Number of bus stops within 300 m (1,000 ft) of the intersection		0	0
Schools within 300 m (1,000 ft) of the intersection (present/not present)		Not Present	Not Present
Number of alcohol sales establishments within 300 m (1,000 ft) of the intersection		0	0

Worksheet 2B -- Crash Modification Factors for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)	(7)
CMF for Left-Turn Lanes	CMF for Left-Turn Signal Phasing	CMF for Right-Turn Lanes	CMF for Right Turn on Red	CMF for Lighting	CMF for Red Light Cameras	Combined CMF
CMF 1i	*CMF 2i*	*CMF 3i*	*CMF 4i*	*CMF 5i*	*CMF 6i*	*CMF $_{COMB}$*
from Table 12-24	from Table 12-25	from Table 12-26	from Equation 12-35	from Equation 12-36	from Equation 12-37	(1)*(2)*(3)*(4)*(5)*(6)
1.00	1.00	0.74	1.00	1.00	1.00	0.74

Worksheet 2C -- Multiple-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1)	(2)			(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**			**Overdispersion Parameter, k**	**Initial N_{bimv}**	**Proportion of Total Crashes**	**Adjusted N_{bimv}**	**Combined CMFs**	**Calibration Factor, C_i**	**Predicted N_{bimv}**
	from Table 12-10			from Table 12-10	from Equation 12-21		$(4)_{TOTAL}$*(5)	(7) from Worksheet 2B		(6)*(7)*(8)
	a	b	c							
Total	-8.90	0.82	0.25	0.40	7.759	1.000	7.759	0.74	0.45	2.582
Fatal and Injury (FI)	-11.13	0.93	0.28	0.48	3.514	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.440	3.410	0.74	0.45	1.135
Property Damage Only (PDO)	-8.74	0.77	0.23	0.40	4.481	$(5)_{TOTAL}-(5)_{FI}$ = 0.560	4.348	0.74	0.45	1.447

Worksheet 2D -- Multiple-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{bimv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{bimv\ (PDO)}$ (crashes/year)**	**Predicted N $_{bimv\ (TOTAL)}$ (crashes/year)**
	from Table 12-11	$(9)_{FI}$ from Worksheet 2C	from Table 12-11	$(9)_{PDO}$ from Worksheet 2C	$(9)_{PDO}$ from Worksheet 2C
Total	1.000	1.135	1.000	1.447	2.582
		(2)*$(3)_{FI}$		(4)*$(5)_{PDO}$	(3)+(5)
Rear-end collision	0.165	0.187	0.135	0.195	0.383
Head-on collision	0.000	0.000	0.000	0.000	0.000
Angle collision	0.449	0.510	0.399	0.577	1.087
Sideswipe	0.000	0.000	0.007	0.010	0.010
Other multiple-vehicle collision	0.386	0.438	0.459	0.664	1.102

Worksheet 2E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1)	(2)			(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**			**Overdispersion Parameter, k**	**Initial N_{bisv}**	**Proportion of Total Crashes**	**Adjusted N_{bimv}**	**Combined CMFs**	**Calibration Factor, C_i**	**Predicted N_{bisv}**
	from Table 12-12			from Table 12-12	from Eqn. 12-24; (FI) from Eqn. 12-24 or 12-27		$(4)_{TOTAL}$*(5)	(7) from Worksheet 2B		(6)*(7)*(8)
	a	b	c							
Total	-5.33	0.33	0.12	0.65	0.470	1.000	0.470	0.74	0.45	0.156
Fatal and Injury (FI)	--	--	--	--	0.132	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.266	0.125	0.74	0.45	0.042
Property Damage Only (PDO)	-7.04	0.36	0.25	0.54	0.362	$(5)_{TOTAL}-(5)_{FI}$ = 0.734	0.345	0.74	0.45	0.115

Worksheet 2F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{bisv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{bisv\ (PDO)}$ (crashes/year)**	**Predicted N $_{bisv\ (TOTAL)}$ (crashes/year)**
	from Table 12-13	(9)$_{FI}$ from Worksheet 2E	from Table 12-13	(9)$_{PDO}$ from Worksheet 2E	(9)$_{PDO}$ from Worksheet 2E
Total	1.000	0.042	1.000	0.115	0.156
		(2)*(3)$_{FI}$		(4)*(5)$_{PDO}$	(3)+(5)
Collision with parked vehicle	0.000	0.000	0.000	0.000	0.000
Collision with animal	0.000	0.000	0.000	0.000	0.000
Collision with fixed object	0.138	0.006	0.750	0.086	0.092
Collision with other object	0.000	0.000	0.000	0.000	0.000
Other single-vehicle collision	0.862	0.036	0.000	0.000	0.036
Single-vehicle noncollision	0.000	0.000	0.250	0.029	0.029

Worksheet 2G -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Stop-Controlled Intersections

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Predicted N_{bimv}**	**Predicted N_{bisv}**	**Predicted N_{bi}**	**f_{pedi}**	**Calibration factor, C_i**	**Predicted N_{pedi}**
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-16		(4)*(5)*(6)
Total	2.582	0.156	2.739	0.022	0.45	0.027
Fatal and injury (FI)	--	--	--	--	0.45	0.027

Worksheet 2H -- Crash Modification Factors for Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections

(1)	(2)	(3)	(4)
CMF for Bus Stops	CMF for Schools	CMF for Alcohol Sales Establishments	Combined CMF
CMF_{1p}	CMF_{2p}	CMF_{3p}	
from Table 12-28	from Table 12-29	from Table 12-30	(1)*(2)*(3)
--	--	--	--

Worksheet 2I -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections

(1)	(2)					(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**SPF Coefficients**					**Overdispersion Parameter, k**	**$N_{pedbase}$**	**Combined CMF**	**Calibration factor, C_i**	**Predicted N_{pedi}**
	from Table 12-14						from Equation 12-29	(4) from Worksheet 2H		(4)*(5)*(6)
	a	b	c	d	e					
Total	--	--	--	--	--	--	--	--	0.45	--
Fatal and Injury (FI)	--	--	--	--	--	--	--	--	0.45	--

Worksheet 2J -- Vehicle-Bicycle Collisions for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Predicted N_{bimv}**	**Predicted N_{bisv}**	**Predicted N_{bi}**	**f_{bikei}**	**Calibration factor, C_i**	**Predicted N_{bikei}**
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-17		(4)*(5)*(6)
Total	2.582	0.156	2.739	0.018	0.45	0.022
Fatal and injury (FI)	--	--	--	--	0.45	0.022

Worksheet 2K -- Crash Severity Distribution for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)
	Fatal and injury (FI)	**Property damage only (PDO)**	**Total**
Collision type	(3) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J	(5) from Worksheet 2D and 2F	(6) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 2D)	0.187	0.195	0.383
Head-on collisions (from Worksheet 2D)	0.000	0.000	0.000
Angle collisions (from Worksheet 2D)	0.510	0.577	1.087
Sideswipe (from Worksheet 2D)	0.000	0.010	0.010
Other multiple-vehicle collision (from Worksheet 2D)	0.438	0.664	1.102
Subtotal	1.135	1.447	2.582
SINGLE-VEHICLE			
Collision with parked vehicle (from Worksheet 2F)	0.000	0.000	0.000
Collision with animal (from Worksheet 2F)	0.000	0.000	0.000
Collision with fixed object (from Worksheet 2F)	0.006	0.086	0.092
Collision with other object (from Worksheet 2F)	0.000	0.000	0.000
Other single-vehicle collision (from Worksheet 2F)	0.036	0.000	0.036
Single-vehicle noncollision (from Worksheet 2F)	0.000	0.029	0.029
Collision with pedestrian (from Worksheet 2G or 2I)	0.027	0.000	0.027
Collision with bicycle (from Worksheet 2J)	0.022	0.000	0.022
Subtotal	0.091	0.115	0.206
Total	1.226	1.562	2.788

Worksheet 2L -- Summary Results for Urban and Suburban Arterial Intersections

(1)	(2)
Crash severity level	**Predicted average crash frequency, $N_{predicted\ int}$ (crashes/year)**
	(Total) from Worksheet 2K
Total	2.8
Fatal and injury (FI)	1.2
Property damage only (PDO)	1.6

Worksheet 3A -- Predicted Crashes by Severity and Site Type and Observed Crashes Using the Site-Specific EB Method for Urban and Suburban Arterials

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Collision type / Site type	**Predicted average crash frequency (crashes/year)**			**Observed crashes, $N_{observed}$** (crashes/year)	**Overdispersion Parameter, k**	**Weighted adjustment, w**	**Expected average crash frequency,**
	$N_{predicted}$ (TOTAL)	$N_{predicted}$ (FI)	$N_{predicted}$ (PDO)			Equation A-5 from Part C Appendix	Equation A-4 from Part C Appendix
ROADWAY SEGMENTS							
Multiple-vehicle nondriveway							
Segment 1	1.187	0.307	0.881		1.320	0.390	0.462
Segment 2	1.275	0.338	0.937		1.320	0.373	0.475
Segment 3	1.660	0.440	1.220		1.320	0.313	0.520
Segment 4	1.889	0.501	1.388		1.320	0.286	0.541
Segment 5	1.240	0.329	0.911		1.320	0.379	0.470
Single-vehicle							
Segment 1	0.093	0.019	0.074		0.860	0.926	0.086
Segment 2	0.137	0.027	0.110		0.860	0.895	0.123
Segment 3	0.179	0.035	0.144		0.860	0.867	0.155
Segment 4	0.203	0.039	0.164		0.860	0.851	0.173
Segment 5	0.133	0.026	0.107		0.860	0.897	0.120
Multiple-vehicle driveway-related							
Segment 1	0.000	0.000	0.000		1.390	1.000	0.000
Segment 2	0.000	0.000	0.000		1.390	1.000	0.000
Segment 3	0.000	0.000	0.000		1.390	1.000	0.000
Segment 4	0.000	0.000	0.000		1.390	1.000	0.000
Segment 5	0.000	0.000	0.000		1.390	1.000	0.000
INTERSECTIONS							
Multiple-vehicle							
Intersection 1	0.000	0.000	0.000		0.400	1.000	0.000
Intersection 2	0.000	0.000	0.000		0.400	1.000	0.000
Intersection 3	2.582	1.135	1.447		0.400	0.492	1.270
Single-vehicle							
Intersection 1	0.000	0.000	0.000		0.650	1.000	0.000
Intersection 2	0.000	0.000	0.000		0.650	1.000	0.000
Intersection 3	0.156	0.042	0.115		0.650	0.908	0.142
COMBINED (sum of column)	10.735	3.236	7.498		--	--	4.537

Worksheet 3B -- Predicted Pedestrian and Bicycle Crashes for Urban and Suburban Arterials

(1)	(2)	(3)
Site Type	**N_{ped}**	**N_{bike}**
ROADWAY SEGMENTS		
Segment 1	0.011	0.007
Segment 2	0.012	0.008
Segment 3	0.015	0.011
Segment 4	0.017	0.012
Segment 5	0.011	0.008
INTERSECTIONS		
Intersection 1	0.000	0.000
Intersection 2	0.000	0.000
Intersection 3	0.027	0.022
COMBINED (sum of column)	0.094	0.068

Worksheet 3C -- Site-Specific EB Method Summary Results for Urban and Suburban Arterials

(1)	(2)	(3)	(4)	(5)	(6)
Crash severity level	**$N_{predicted}$**	**N_{ped}**	**N_{bike}**	$N_{expected\ (VEHICLE)}$	$N_{expected}$
Total	$(2)_{COMB}$ from Worksheet 3A	$(2)_{COMB}$ from Worksheet 3B	$(3)_{COMB}$ from Worksheet 3B	$(8)_{COMB}$ Worksheet 3A	(3)+(4)+(5)
	10.7	0.1	0.1	4.5	4.7
Fatal and injury (FI)	$(3)_{COMB}$ from Worksheet 3A	$(2)_{COMB}$ from Worksheet 3B	$(3)_{COMB}$ from Worksheet 3B	$(5)_{TOTAL} * (2)_{FI} / (2)_{TOTAL}$	(3)+(4)+(5)
	3.2	0.1	0.1	1.4	1.5
Property damage only (PDO)	$(4)_{COMB}$ from Worksheet 3A	--	--	$(5)_{TOTAL} * (2)_{PDO} / (2)_{TOTAL}$	(3)+(4)+(5)
	7.5	0.0	0.0	3.2	3.2

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments

General Information		Location Information	
Analyst	RLS	Roadway	US 97
Agency or Company	DKS	Roadway Section	Pinebrook to Murphy Ramp
Date Performed	07/24/18	Jurisdiction	Bend, OR
		Analysis Year	2017

Input Data		Base Conditions	Site Conditions
Roadway type (2U, 3T, 4U, 4D, ST)		--	4D
Length of segment, L (mi)		--	0.43
AADT (veh/day)	$AADT_{MAX}$ = 66,000 (veh/day)	--	**44,210**
Type of on-street parking (none/parallel/angle)		None	None
Proportion of curb length with on-street parking		--	0
Median width (ft) - for divided only		15	15
Lighting (present / not present)		Not Present	**Present**
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	0
Minor commercial driveways (number)		--	0
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	0
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	12
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	20
Calibration Factor, Cr		1.00	0.64

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.00	1.00	0.94	1.00	0.94

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-12.34	1.36	1.32	3.910	1.000	3.910	0.94	0.64	2.357
Fatal and Injury (FI)	-12.76	1.28	1.31	1.092	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.265	1.037	0.94	0.64	0.625
Property Damage Only (PDO)	-12.81	1.38	1.34	3.027	$(5)_{TOTAL}-(5)_{FI}$ = 0.735	2.874	0.94	0.64	1.732

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	$(9)_{FI}$ from Worksheet 1C	from Table 12-4	$(9)_{PDO}$ from Worksheet 1C	$(9)_{TOTAL}$ from Worksheet 1C
Total	1.000	0.625	1.000	1.732	2.357
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.783	0.489	0.646	1.119	1.608
Head-on collision	0.006	0.004	0.000	0.000	0.004
Angle collision	0.019	0.012	0.008	0.014	0.026
Sideswipe, same direction	0.038	0.024	0.142	0.246	0.270
Sideswipe, opposite direction	0.013	0.008	0.004	0.007	0.015
Other multiple-vehicle collision	0.140	0.087	0.200	0.346	0.434

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brsv}**	**Proportion of Total Crashes**	**Adjusted N_{brsv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brsv}**
	from Table 12-5		from Table 12-5	from Equation 12-13		$(4)_{TOTAL}*(5)$	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-5.05	0.47	0.86	0.420	1.000	0.420	0.94	0.64	0.253
Fatal and Injury (FI)	-8.71	0.66	0.28	0.083	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.194	0.082	0.94	0.64	0.049
Property Damage Only (PDO)	-5.04	0.45	1.06	0.343	$(5)_{TOTAL}-(5)_{FI}$ = 0.806	0.339	0.94	0.64	0.204

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	$(9)_{FI}$ from Worksheet 1E	from Table 12-6	$(9)_{PDO}$ from Worksheet 1E	$(9)_{TOTAL}$ from Worksheet 1E
Total	1.000	0.049	1.000	0.204	0.253
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with animal	0.000	0.000	0.077	0.016	0.016
Collision with fixed object	0.400	0.020	0.846	0.173	0.192
Collision with other object	0.000	0.000	0.000	0.000	0.000
Other single-vehicle collision	0.600	0.030	0.077	0.016	0.045

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15,000)^t$	from Table 12-7
Major commercial	0	0.033	1.106	0.000	
Minor commercial	0	0.011	1.106	0.000	
Major industrial/institutional	0	0.036	1.106	0.000	
Minor industrial/institutional	0	0.005	1.106	0.000	--
Major residential	0	0.018	1.106	0.000	
Minor residential	0	0.003	1.106	0.000	
Other	0	0.005	1.106	0.000	
Total	--	--	--	0.000	1.39

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	0.000	1.000	0.000	0.94	0.64	0.000
Fatal and injury (FI)	--	0.284	0.000	0.94	0.64	0.000
Property damage only (PDO)	--	0.716	0.000	0.94	0.64	0.000

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	2.357	0.253	0.000	2.611	0.013	0.64	0.022
Fatal and injury (FI)	--	--	--	--	--	0.64	0.022

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	2.357	0.253	0.000	2.611	0.009	0.64	0.015
Fatal and injury (FI)	--	--	--	--	--	0.64	0.015

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	(5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	(6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	0.489	1.119	1.608
Head-on collisions (from Worksheet 1D)	0.004	0.000	0.004
Angle collisions (from Worksheet 1D)	0.012	0.014	0.026
Sideswipe, same direction (from Worksheet 1D)	0.024	0.246	0.270
Sideswipe, opposite direction (from Worksheet 1D)	0.008	0.007	0.015
Driveway-related collisions (from Worksheet 1H)	0.000	0.000	0.000
Other multiple-vehicle collision (from Worksheet 1D)	0.087	0.346	0.434
Subtotal	0.624	1.732	2.357
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.000	0.016	0.016
Collision with fixed object (from Worksheet 1F)	0.020	0.173	0.192
Collision with other object (from Worksheet 1F)	0.000	0.000	0.000
Other single-vehicle collision (from Worksheet 1F)	0.030	0.016	0.045
Collision with pedestrian (from Worksheet 1I)	0.022	0.000	0.022
Collision with bicycle (from Worksheet 1J)	0.015	0.000	0.015
Subtotal	0.086	0.204	0.290
Total	0.710	1.937	2.647

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	2.6	0.43	6.2
Fatal and injury (FI)	0.7	0.43	1.7
Property damage only (PDO)	1.9	0.43	4.5

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments

General Information		Location Information	
Analyst	RLS	Roadway	US 97
Agency or Company	DKS	Roadway Section	Murphy Ramp to Ponderosa/China Hat
Date Performed	07/24/18	Jurisdiction	Bend, OR
		Analysis Year	2017

Input Data		Base Conditions	Site Conditions
Roadway type (2U, 3T, 4U, 4D, ST)		--	4U
Length of segment, L (mi)		--	0.21
AADT (veh/day)	$AADT_{MAX}$ = 40,100 (veh/day)	--	**39,800**
Type of on-street parking (none/parallel/angle)		None	None
Proportion of curb length with on-street parking		--	0
Median width (ft) - for divided only		15	Not Present
Lighting (present / not present)		Not Present	**Present**
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	0
Minor commercial driveways (number)		--	0
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	1
Minor residential driveways (number)		--	0
Other driveways (number)		--	0
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	5
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	25
Calibration Factor, Cr		1.00	0.63

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.00	1.00	0.95	1.00	0.95

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-11.63	1.33	1.01	2.450	1.000	2.450	0.95	0.63	1.467
Fatal and Injury (FI)	-12.08	1.25	0.99	0.670	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.284	0.695	0.95	0.63	0.416
Property Damage Only (PDO)	-12.53	1.38	1.08	1.692	$(5)_{TOTAL}-(5)_{FI}$ = 0.716	1.756	0.95	0.63	1.051

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	$(9)_{FI}$ from Worksheet 1C	from Table 12-4	$(9)_{PDO}$ from Worksheet 1C	$(9)_{TOTAL}$ from Worksheet 1C
Total	1.000	0.416	1.000	1.051	1.467
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.658	0.274	0.548	0.576	0.850
Head-on collision	0.029	0.012	0.004	0.004	0.016
Angle collision	0.015	0.006	0.016	0.017	0.023
Sideswipe, same direction	0.060	0.025	0.205	0.215	0.240
Sideswipe, opposite direction	0.022	0.009	0.008	0.008	0.018
Other multiple-vehicle collision	0.216	0.090	0.219	0.230	0.320

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brsv}**	**Proportion of Total Crashes**	**Adjusted N_{brsv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brsv}**
	from Table 12-5		from Table 12-5	from Equation 12-13		$(4)_{TOTAL}*(5)$	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-7.99	0.81	0.91	0.379	1.000	0.379	0.95	0.63	0.227
Fatal and Injury (FI)	-7.37	0.61	0.54	0.085	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.213	0.081	0.95	0.63	0.048
Property Damage Only (PDO)	-8.50	0.84	0.97	0.312	$(5)_{TOTAL}-(5)_{FI}$ = 0.787	0.298	0.95	0.63	0.178

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	$(9)_{FI}$ from Worksheet 1E	from Table 12-6	$(9)_{PDO}$ from Worksheet 1E	$(9)_{TOTAL}$ from Worksheet 1E
Total	1.000	0.048	1.000	0.178	0.227
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with animal	0.037	0.002	0.100	0.018	0.020
Collision with fixed object	0.519	0.025	0.825	0.147	0.172
Collision with other object	0.000	0.000	0.075	0.013	0.013
Other single-vehicle collision	0.444	0.021	0.000	0.000	0.021

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15,000)^t$	from Table 12-7
Major commercial	0	0.182	1.172	0.000	
Minor commercial	0	0.058	1.172	0.000	
Major industrial/institutional	0	0.198	1.172	0.000	
Minor industrial/institutional	0	0.026	1.172	0.000	--
Major residential	1	0.096	1.172	0.301	
Minor residential	0	0.018	1.172	0.000	
Other	0	0.029	1.172	0.000	
Total	--	--	--	0.301	0.81

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	0.301	1.000	0.301	0.95	0.63	0.180
Fatal and injury (FI)	--	0.342	0.103	0.95	0.63	0.062
Property damage only (PDO)	--	0.658	0.198	0.95	0.63	0.119

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	1.467	0.227	0.180	1.874	0.004	0.63	0.005
Fatal and injury (FI)	--	--	--	--	--	0.63	0.005

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	1.467	0.227	0.180	1.874	0.01	0.63	0.012
Fatal and injury (FI)	--	--	--	--	--	0.63	0.012

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	(5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	(6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	0.274	0.576	0.850
Head-on collisions (from Worksheet 1D)	0.012	0.004	0.016
Angle collisions (from Worksheet 1D)	0.006	0.017	0.023
Sideswipe, same direction (from Worksheet 1D)	0.025	0.215	0.240
Sideswipe, opposite direction (from Worksheet 1D)	0.009	0.008	0.018
Driveway-related collisions (from Worksheet 1H)	0.062	0.119	0.180
Other multiple-vehicle collision (from Worksheet 1D)	0.090	0.230	0.320
Subtotal	0.478	1.170	1.647
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.002	0.018	0.020
Collision with fixed object (from Worksheet 1F)	0.025	0.147	0.172
Collision with other object (from Worksheet 1F)	0.000	0.013	0.013
Other single-vehicle collision (from Worksheet 1F)	0.021	0.000	0.021
Collision with pedestrian (from Worksheet 1I)	0.005	0.000	0.005
Collision with bicycle (from Worksheet 1J)	0.012	0.000	0.012
Subtotal	0.065	0.178	0.243
Total	0.542	1.348	1.891

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	1.9	0.21	9.0
Fatal and injury (FI)	0.5	0.21	2.6
Property damage only (PDO)	1.3	0.21	6.4

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments

General Information		Location Information	
Analyst	RLS	Roadway	US 97
Agency or Company	DKS	Roadway Section	Ponderosa/China Hat to Speed Change
Date Performed	07/24/18	Jurisdiction	Bend, OR
		Analysis Year	2017

Input Data		Base Conditions	Site Conditions
Roadway type (2U, 3T, 4U, 4D, ST)		--	4U
Length of segment, L (mi)		--	0.27
AADT (veh/day)	$AADT_{MAX}$ = 40,100 (veh/day)	--	**39,800**
Type of on-street parking (none/parallel/angle)		None	None
Proportion of curb length with on-street parking		--	0
Median width (ft) - for divided only		15	Not Present
Lighting (present / not present)		Not Present	**Present**
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	0
Minor commercial driveways (number)		--	0
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	0
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	7
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	20
Calibration Factor, Cr		1.00	0.63

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.00	1.00	0.95	1.00	0.95

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-11.63	1.33	1.01	3.150	1.000	3.150	0.95	0.63	1.886
Fatal and Injury (FI)	-12.08	1.25	0.99	0.861	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.284	0.893	0.95	0.63	0.535
Property Damage Only (PDO)	-12.53	1.38	1.08	2.175	$(5)_{TOTAL}-(5)_{FI}$ = 0.716	2.257	0.95	0.63	1.351

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	$(9)_{FI}$ from Worksheet 1C	from Table 12-4	$(9)_{PDO}$ from Worksheet 1C	$(9)_{TOTAL}$ from Worksheet 1C
Total	1.000	0.535	1.000	1.351	1.886
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.658	0.352	0.548	0.741	1.092
Head-on collision	0.029	0.016	0.004	0.005	0.021
Angle collision	0.015	0.008	0.016	0.022	0.030
Sideswipe, same direction	0.060	0.032	0.205	0.277	0.309
Sideswipe, opposite direction	0.022	0.012	0.008	0.011	0.023
Other multiple-vehicle collision	0.216	0.116	0.219	0.296	0.411

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brsv}**	**Proportion of Total Crashes**	**Adjusted N_{brsv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brsv}**
	from Table 12-5		from Table 12-5	from Equation 12-13		$(4)_{TOTAL}*(5)$	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-7.99	0.81	0.91	0.487	1.000	0.487	0.95	0.63	0.291
Fatal and Injury (FI)	-7.37	0.61	0.54	0.109	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.213	0.104	0.95	0.63	0.062
Property Damage Only (PDO)	-8.50	0.84	0.97	0.402	$(5)_{TOTAL}-(5)_{FI}$ = 0.787	0.383	0.95	0.63	0.229

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	$(9)_{FI}$ from Worksheet 1E	from Table 12-6	$(9)_{PDO}$ from Worksheet 1E	$(9)_{TOTAL}$ from Worksheet 1E
Total	1.000	0.062	1.000	0.229	0.291
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with animal	0.037	0.002	0.100	0.023	0.025
Collision with fixed object	0.519	0.032	0.825	0.189	0.221
Collision with other object	0.000	0.000	0.075	0.017	0.017
Other single-vehicle collision	0.444	0.028	0.000	0.000	0.028

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15,000)^t$	from Table 12-7
Major commercial	0	0.182	1.172	0.000	
Minor commercial	0	0.058	1.172	0.000	
Major industrial/institutional	0	0.198	1.172	0.000	
Minor industrial/institutional	0	0.026	1.172	0.000	--
Major residential	0	0.096	1.172	0.000	
Minor residential	0	0.018	1.172	0.000	
Other	0	0.029	1.172	0.000	
Total	--	--	--	0.000	0.81

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL} * (3)$	(6) from Worksheet 1B		(4)*(5)*(6)
Total	0.000	1.000	0.000	0.95	0.63	0.000
Fatal and injury (FI)	--	0.342	0.000	0.95	0.63	0.000
Property damage only (PDO)	--	0.658	0.000	0.95	0.63	0.000

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	1.886	0.291	0.000	2.178	0.004	0.63	0.005
Fatal and injury (FI)	--	--	--	--	--	0.63	0.005

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	1.886	0.291	0.000	2.178	0.01	0.63	0.014
Fatal and injury (FI)	--	--	--	--	--	0.63	0.014

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	(5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	(6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	0.352	0.741	1.092
Head-on collisions (from Worksheet 1D)	0.016	0.005	0.021
Angle collisions (from Worksheet 1D)	0.008	0.022	0.030
Sideswipe, same direction (from Worksheet 1D)	0.032	0.277	0.309
Sideswipe, opposite direction (from Worksheet 1D)	0.012	0.011	0.023
Driveway-related collisions (from Worksheet 1H)	0.000	0.000	0.000
Other multiple-vehicle collision (from Worksheet 1D)	0.116	0.296	0.411
Subtotal	0.535	1.351	1.886
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.002	0.023	0.025
Collision with fixed object (from Worksheet 1F)	0.032	0.189	0.221
Collision with other object (from Worksheet 1F)	0.000	0.017	0.017
Other single-vehicle collision (from Worksheet 1F)	0.028	0.000	0.028
Collision with pedestrian (from Worksheet 1I)	0.005	0.000	0.005
Collision with bicycle (from Worksheet 1J)	0.014	0.000	0.014
Subtotal	0.081	0.229	0.311
Total	0.616	1.581	2.197

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	2.2	0.27	8.1
Fatal and injury (FI)	0.6	0.27	2.3
Property damage only (PDO)	1.6	0.27	5.9

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments

General Information		Location Information	
Analyst	RLS	Roadway	US 97
Agency or Company	DKS	Roadway Section	Speed Change to Knott Ramps
Date Performed	07/24/18	Jurisdiction	Bend, OR
		Analysis Year	2017

Input Data		Base Conditions	Site Conditions
Roadway type (2U, 3T, 4U, 4D, ST)		--	4U
Length of segment, L (mi)		--	0.58
AADT (veh/day)	$AADT_{MAX}$ = 40,100 (veh/day)	--	**39,800**
Type of on-street parking (none/parallel/angle)		None	None
Proportion of curb length with on-street parking		--	0
Median width (ft) - for divided only		15	Not Present
Lighting (present / not present)		Not Present	**Present**
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	0
Minor commercial driveways (number)		--	0
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	0
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	2
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	25
Calibration Factor, Cr		1.00	0.63

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.00	1.00	0.95	1.00	0.95

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-11.63	1.33	1.01	6.767	1.000	6.767	0.95	0.63	4.052
Fatal and Injury (FI)	-12.08	1.25	0.99	1.849	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.284	1.919	0.95	0.63	1.149
Property Damage Only (PDO)	-12.53	1.38	1.08	4.673	$(5)_{TOTAL}-(5)_{FI}$ = 0.716	4.849	0.95	0.63	2.903

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	$(9)_{FI}$ from Worksheet 1C	from Table 12-4	$(9)_{PDO}$ from Worksheet 1C	$(9)_{TOTAL}$ from Worksheet 1C
Total	1.000	1.149	1.000	2.903	4.052
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.658	0.756	0.548	1.591	2.347
Head-on collision	0.029	0.033	0.004	0.012	0.045
Angle collision	0.015	0.017	0.016	0.046	0.064
Sideswipe, same direction	0.060	0.069	0.205	0.595	0.664
Sideswipe, opposite direction	0.022	0.025	0.008	0.023	0.048
Other multiple-vehicle collision	0.216	0.248	0.219	0.636	0.884

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brsv}**	**Proportion of Total Crashes**	**Adjusted N_{brsv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brsv}**
	from Table 12-5		from Table 12-5	from Equation 12-13		$(4)_{TOTAL}*(5)$	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-7.99	0.81	0.91	1.045	1.000	1.045	0.95	0.63	0.626
Fatal and Injury (FI)	-7.37	0.61	0.54	0.234	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.213	0.223	0.95	0.63	0.133
Property Damage Only (PDO)	-8.50	0.84	0.97	0.863	$(5)_{TOTAL}-(5)_{FI}$ = 0.787	0.823	0.95	0.63	0.493

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	$(9)_{FI}$ from Worksheet 1E	from Table 12-6	$(9)_{PDO}$ from Worksheet 1E	$(9)_{TOTAL}$ from Worksheet 1E
Total	1.000	0.133	1.000	0.493	0.626
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with animal	0.037	0.005	0.100	0.049	0.054
Collision with fixed object	0.519	0.069	0.825	0.406	0.476
Collision with other object	0.000	0.000	0.075	0.037	0.037
Other single-vehicle collision	0.444	0.059	0.000	0.000	0.059

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15,000)^t$	from Table 12-7
Major commercial	0	0.182	1.172	0.000	
Minor commercial	0	0.058	1.172	0.000	
Major industrial/institutional	0	0.198	1.172	0.000	
Minor industrial/institutional	0	0.026	1.172	0.000	--
Major residential	0	0.096	1.172	0.000	
Minor residential	0	0.018	1.172	0.000	
Other	0	0.029	1.172	0.000	
Total	--	--	--	0.000	0.81

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	0.000	1.000	0.000	0.95	0.63	0.000
Fatal and injury (FI)	--	0.342	0.000	0.95	0.63	0.000
Property damage only (PDO)	--	0.658	0.000	0.95	0.63	0.000

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	4.052	0.626	0.000	4.678	0.004	0.63	0.012
Fatal and injury (FI)	--	--	--	--	--	0.63	0.012

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	4.052	0.626	0.000	4.678	0.01	0.63	0.029
Fatal and injury (FI)	--	--	--	--	--	0.63	0.029

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	(5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	(6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	0.756	1.591	2.347
Head-on collisions (from Worksheet 1D)	0.033	0.012	0.045
Angle collisions (from Worksheet 1D)	0.017	0.046	0.064
Sideswipe, same direction (from Worksheet 1D)	0.069	0.595	0.664
Sideswipe, opposite direction (from Worksheet 1D)	0.025	0.023	0.048
Driveway-related collisions (from Worksheet 1H)	0.000	0.000	0.000
Other multiple-vehicle collision (from Worksheet 1D)	0.248	0.636	0.884
Subtotal	1.149	2.903	4.052
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.005	0.049	0.054
Collision with fixed object (from Worksheet 1F)	0.069	0.406	0.476
Collision with other object (from Worksheet 1F)	0.000	0.037	0.037
Other single-vehicle collision (from Worksheet 1F)	0.059	0.000	0.059
Collision with pedestrian (from Worksheet 1I)	0.012	0.000	0.012
Collision with bicycle (from Worksheet 1J)	0.029	0.000	0.029
Subtotal	0.175	0.493	0.667
Total	1.324	3.395	4.719

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	4.7	0.58	8.1
Fatal and injury (FI)	1.3	0.58	2.3
Property damage only (PDO)	3.4	0.58	5.9

Worksheet 3A -- Predicted Crashes by Severity and Site Type and Observed Crashes Using the Site-Specific EB Method for Urban and Suburban Arterials

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Collision type / Site type	**Predicted average crash frequency (crashes/year)**			**Observed crashes, $N_{observed}$** (crashes/year)	**Overdispersion Parameter, k**	**Weighted adjustment, w**	**Expected average crash frequency,**
	$N_{predicted}$ (TOTAL)	$N_{predicted}$ (FI)	$N_{predicted}$ (PDO)			Equation A-5 from Part C Appendix	Equation A-4 from Part C Appendix
ROADWAY SEGMENTS							
Multiple-vehicle nondriveway							
Segment 1	2.357	0.625	1.732		1.320	0.243	0.573
Segment 2	1.467	0.416	1.051		1.010	0.403	0.591
Segment 3	1.886	0.535	1.351		1.010	0.344	0.649
Segment 4	4.052	1.149	2.903		1.010	0.196	0.796
Single-vehicle							
Segment 1	0.253	0.049	0.204		0.860	0.821	0.208
Segment 2	0.227	0.048	0.178		0.910	0.829	0.188
Segment 3	0.291	0.062	0.229		0.910	0.790	0.230
Segment 4	0.626	0.133	0.493		0.910	0.637	0.399
Multiple-vehicle driveway-related							
Segment 1	0.000	0.000	0.000		1.390	1.000	0.000
Segment 2	0.180	0.062	0.119		0.810	0.873	0.157
Segment 3	0.000	0.000	0.000		0.810	1.000	0.000
Segment 4	0.000	0.000	0.000		0.810	1.000	0.000
INTERSECTIONS							
Multiple-vehicle							
Intersection 1	0.000	0.000	0.000		0.330	1.000	0.000
Intersection 2	0.000	0.000	0.000		0.800	1.000	0.000
Intersection 3	0.000	0.000	0.000		0.800	1.000	0.000
Single-vehicle							
Intersection 1	0.000	0.000	0.000		0.360	1.000	0.000
Intersection 2	0.000	0.000	0.000		1.140	1.000	0.000
Intersection 3	0.000	0.000	0.000		1.140	1.000	0.000
COMBINED (sum of column)	11.340	3.079	8.260	0.0	--	--	3.792

Worksheet 3B -- Predicted Pedestrian and Bicycle Crashes for Urban and Suburban Arterials

(1)	(2)	(3)
Site Type	**N_{ped}**	**N_{bike}**
ROADWAY SEGMENTS		
Segment 1	0.022	0.015
Segment 2	0.005	0.012
Segment 3	0.005	0.014
Segment 4	0.012	0.029
INTERSECTIONS		
Intersection 1	0.000	0.000
Intersection 2	0.000	0.000
Intersection 3	0.000	0.000
COMBINED (sum of column)	0.044	0.070

Worksheet 3C -- Site-Specific EB Method Summary Results for Urban and Suburban Arterials

(1)	(2)	(3)	(4)	(5)	(6)
Crash severity level	**$N_{predicted}$**	**N_{ped}**	**N_{bike}**	$N_{expected\ (VEHICLE)}$	$N_{expected}$
Total	$(2)_{COMB}$ from Worksheet 3A	$(2)_{COMB}$ from Worksheet 3B	$(3)_{COMB}$ from Worksheet 3B	$(8)_{COMB}$ Worksheet 3A	(3)+(4)+(5)
	11.3	0.0	0.1	3.8	3.9
Fatal and injury (FI)	$(3)_{COMB}$ from Worksheet 3A	$(2)_{COMB}$ from Worksheet 3B	$(3)_{COMB}$ from Worksheet 3B	$(5)_{TOTAL} * (2)_{FI} / (2)_{TOTAL}$	(3)+(4)+(5)
	3.1	0.0	0.1	1.0	1.1
Property damage only (PDO)	$(4)_{COMB}$ from Worksheet 3A	--	--	$(5)_{TOTAL} * (2)_{PDO} / (2)_{TOTAL}$	(3)+(4)+(5)
	8.3	0.0	0.0	2.8	2.8

Segment

Study Site	Segment MP	Predicted Crashes per Year		
		Fatal and Injury	Property Damage Only	Total
Clausen Rd to Cooley Rd S	MP 133.9-134.35	0.9	2.7	3.6
Cooley Rd S to Robal Rd	MP 134.35-134.6	0.9	2.7	3.6
Robal Rd to Nels Anderson Pl	MP 134.6-134.75	0.9	2.7	3.6
Nels Anderson Pl to US 20 off ramp	MP 134.75-134.92	0.9	2.7	3.6
Empire Blvd ramp to Butler Market Rd ramp	MP 135.77-135.92	0.5	1.5	2
Butler Market Rd ramp to Revere Blvd ramp	MP 136.81-136.96	0.4	1.1	1.5
Revere Ave ramp to Lafayette Ave	MP 137.32-137.53	0.6	1.7	2.3
Lafayette Ave to Hawthorne Ave	MP 137.53-137.8	0.8	2.2	3
Hawthorne Ave to Colorado Ave ramp	MP 137.8-137.97	0.5	1.4	1.9
Colorado Ave ramp to Truman Ave	MP 138.4-138.75	0.8	2.5	3.3
Truman Ave to Reed Market Rd ramp	MP 138.75-138.85	0.3	1	1.3
Reed Market Rd ramp to Reed Ln	MP 139.43-139.68	0.4	1	1.4
Reed Ln to Powers Rd	MP 139.68-139.97	0.5	1.4	1.9
Powers Rd to Badger Rd	MP 139.97-140.3	0.5	1.6	2.1
Badger Rd to Pinebrook Blvd	MP 140.3-140.52	0.4	1	1.4
Pinebrook Blvd to Murphy Rd ramp	MP 140.52-140.72	0.7	1.9	2.6
Murphy Rd ramp to Ponderosa St/China Hat Rd	MP 142.02-142.24	0.5	1.3	1.8
Ponderosa St/China Hat Rd to MP 142.52	MP 142.24-142.52	0.6	1.6	2.2
MP 142.52 to Baker Rd/Knott Rd ramp	MP 142.52-143.1	1.3	3.4	4.7

Intersection

Study Site	Intersection MP	Predicted Crashes per Year		
		Fatal and Injury	Property Damage Only	Total
US 97/Cooley N	MP 133.95	1.7	4	5.7
US 97/Cooley S	MP 134.35	0	0	0
US97/Robal	MP 134.6	0	0	0
US97/Nels Anderson	MP 134.75	0	0	0
US97/Lafayette	MP 137.53	0	0	0
US97/Hawthorne	MP 137.8	0.7	1.8	2.5
US97/Truman	MP 138.75	0	0	0
US97/Reed Lane	MP 139.68	0	0	0
US97/Powers	MP 139.97	0	0	0
US97/Ponderosa/China Hat	MP 142.24	1.2	1.6	2.8

Interchange -- see interchange summary table xls

Study Site	Segment MP	Predicted Crashes per Year		
		Fatal and Injury	Property Damage Only	Total
US 97 at US 20 Interchange	134.92-135.13	0	0	0
US 97 at Empire Blvd Interchange	135.13-135.77	9.8	14.2	24
US 97 at Butler Market Rd/US20 Interchange	135.92-136.81	6.7	12.6	19.3
US 97 at Revere Ave Interchange	136.96-137.32	11.4	16.3	27.7
US 97 at Colorado Ave Interchange	137.97-138.4	10.1	14.3	24.4
US 97 at Reed Market Rd Interchange	138.85-139.43	1.7	2.7	4.4
US 97 at Powers Rd Interchange		8.4	11.3	19.7
US 97 at Murphy Rd Interchange	140.72-142.02	2	3	5
US 97 at Baker Rd/Knott Rd Interchange	143.1-143.7	4.2	7.8	12
TOTAL		**68.5**	**119.6**	**188.1**

DKS

HSM (Future 2040 Build Bundle C) Conditions Analysis

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments

General Information		Location Information	
Analyst	AMD	Roadway	US 97
Agency or Company	DKS	Roadway Section	**Clausen to Cooley S**
Date Performed	09/20/18	Jurisdiction	Bend, OR
		Analysis Year	2040

Input Data		Base Conditions	Site Conditions
Roadway type (2U, 3T, 4U, 4D, ST)		--	4D
Length of segment, L (mi)		--	**0.45**
AADT (veh/day)	$AADT_{MAX}$ = 66,000 (veh/day)	--	**52,610**
Type of on-street parking (none/parallel/angle)		None	None
Proportion of curb length with on-street parking		--	0
Median width (ft) - for divided only		15	10
Lighting (present / not present)		Not Present	**Present**
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	0
Minor commercial driveways (number)		--	0
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	0
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	20
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	15
Calibration Factor, Cr		1.00	0.64

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.01	1.01	0.94	1.00	0.96

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-12.34	1.36	1.32	5.184	1.000	5.184	0.96	0.64	3.197
Fatal and Injury (FI)	-12.76	1.28	1.31	1.428	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.262	1.357	0.96	0.64	0.837
Property Damage Only (PDO)	-12.81	1.38	1.34	4.027	$(5)_{TOTAL}-(5)_{FI}$ = 0.738	3.827	0.96	0.64	2.360

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	$(9)_{FI}$ from Worksheet 1C	from Table 12-4	$(9)_{PDO}$ from Worksheet 1C	$(9)_{TOTAL}$ from Worksheet 1C
Total	1.000	0.837	1.000	2.360	3.197
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.783	0.655	0.646	1.525	2.180
Head-on collision	0.006	0.005	0.000	0.000	0.005
Angle collision	0.019	0.016	0.008	0.019	0.035
Sideswipe, same direction	0.038	0.032	0.142	0.335	0.367
Sideswipe, opposite direction	0.013	0.011	0.004	0.009	0.020
Other multiple-vehicle collision	0.140	0.117	0.200	0.472	0.589

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brsv}**	**Proportion of Total Crashes**	**Adjusted N_{brsv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brsv}**
	from Table 12-5		from Table 12-5	from Equation 12-13		$(4)_{TOTAL}*(5)$	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-5.05	0.47	0.86	0.477	1.000	0.477	0.96	0.64	0.294
Fatal and Injury (FI)	-8.71	0.66	0.28	0.097	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.200	0.095	0.96	0.64	0.059
Property Damage Only (PDO)	-5.04	0.45	1.06	0.388	$(5)_{TOTAL}-(5)_{FI}$ = 0.800	0.382	0.96	0.64	0.236

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	$(9)_{FI}$ from Worksheet 1E	from Table 12-6	$(9)_{PDO}$ from Worksheet 1E	$(9)_{TOTAL}$ from Worksheet 1E
Total	1.000	0.059	1.000	0.236	0.294
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with animal	0.000	0.000	0.077	0.018	0.018
Collision with fixed object	0.400	0.024	0.846	0.199	0.223
Collision with other object	0.000	0.000	0.000	0.000	0.000
Other single-vehicle collision	0.600	0.035	0.077	0.018	0.053

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15,000)^t$	from Table 12-7
Major commercial	0	0.033	1.106	0.000	
Minor commercial	0	0.011	1.106	0.000	
Major industrial/institutional	0	0.036	1.106	0.000	
Minor industrial/institutional	0	0.005	1.106	0.000	--
Major residential	0	0.018	1.106	0.000	
Minor residential	0	0.003	1.106	0.000	
Other	0	0.005	1.106	0.000	
Total	--	--	--	0.000	1.39

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	0.000	1.000	0.000	0.96	0.64	0.000
Fatal and injury (FI)	--	0.284	0.000	0.96	0.64	0.000
Property damage only (PDO)	--	0.716	0.000	0.96	0.64	0.000

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	3.197	0.294	0.000	3.491	0.013	0.64	0.029
Fatal and injury (FI)	--	--	--	--	--	0.64	0.029

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	3.197	0.294	0.000	3.491	0.009	0.64	0.020
Fatal and injury (FI)	--	--	--	--	--	0.64	0.020

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	(5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	(6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	0.655	1.525	2.180
Head-on collisions (from Worksheet 1D)	0.005	0.000	0.005
Angle collisions (from Worksheet 1D)	0.016	0.019	0.035
Sideswipe, same direction (from Worksheet 1D)	0.032	0.335	0.367
Sideswipe, opposite direction (from Worksheet 1D)	0.011	0.009	0.020
Driveway-related collisions (from Worksheet 1H)	0.000	0.000	0.000
Other multiple-vehicle collision (from Worksheet 1D)	0.117	0.472	0.589
Subtotal	0.836	2.360	3.196
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.000	0.018	0.018
Collision with fixed object (from Worksheet 1F)	0.024	0.199	0.223
Collision with other object (from Worksheet 1F)	0.000	0.000	0.000
Other single-vehicle collision (from Worksheet 1F)	0.035	0.018	0.053
Collision with pedestrian (from Worksheet 1I)	0.029	0.000	0.029
Collision with bicycle (from Worksheet 1J)	0.020	0.000	0.020
Subtotal	0.108	0.236	0.344
Total	0.944	2.595	3.539

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	3.5	0.45	7.9
Fatal and injury (FI)	0.9	0.45	2.1
Property damage only (PDO)	2.6	0.45	5.8

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments

General Information		Location Information	
Analyst	RLS	Roadway	US 97
Agency or Company	DKS	Roadway Section	**Cooley S to Robal**
Date Performed	07/24/18	Jurisdiction	Bend, OR
		Analysis Year	2040

Input Data		Base Conditions	Site Conditions
Roadway type (2U, 3T, 4U, 4D, ST)		--	4D
Length of segment, L (mi)		--	**0.25**
AADT (veh/day)	$AADT_{MAX}$ = 66,000 (veh/day)	--	**57,410**
Type of on-street parking (none/parallel/angle)		None	None
Proportion of curb length with on-street parking		--	0
Median width (ft) - for divided only		15	10
Lighting (present / not present)		Not Present	**Present**
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	**1**
Minor commercial driveways (number)		--	0
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	0
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	25
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	10
Calibration Factor, Cr		1.00	0.64

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.04	1.01	0.94	1.00	0.99

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-12.34	1.36	1.32	3.243	1.000	3.243	0.99	0.64	2.058
Fatal and Injury (FI)	-12.76	1.28	1.31	0.887	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.260	0.843	0.99	0.64	0.535
Property Damage Only (PDO)	-12.81	1.38	1.34	2.524	$(5)_{TOTAL}-(5)_{FI}$ = 0.740	2.400	0.99	0.64	1.523

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	$(9)_{FI}$ from Worksheet 1C	from Table 12-4	$(9)_{PDO}$ from Worksheet 1C	$(9)_{TOTAL}$ from Worksheet 1C
Total	1.000	0.535	1.000	1.523	2.058
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.783	0.419	0.646	0.984	1.403
Head-on collision	0.006	0.003	0.000	0.000	0.003
Angle collision	0.019	0.010	0.008	0.012	0.022
Sideswipe, same direction	0.038	0.020	0.142	0.216	0.237
Sideswipe, opposite direction	0.013	0.007	0.004	0.006	0.013
Other multiple-vehicle collision	0.140	0.075	0.200	0.305	0.379

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brsv}**	**Proportion of Total Crashes**	**Adjusted N_{brsv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brsv}**
	from Table 12-5		from Table 12-5	from Equation 12-13		$(4)_{TOTAL}*(5)$	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-5.05	0.47	0.86	0.276	1.000	0.276	0.99	0.64	0.175
Fatal and Injury (FI)	-8.71	0.66	0.28	0.057	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.203	0.056	0.99	0.64	0.036
Property Damage Only (PDO)	-5.04	0.45	1.06	0.224	$(5)_{TOTAL}-(5)_{FI}$ = 0.797	0.220	0.99	0.64	0.140

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	$(9)_{FI}$ from Worksheet 1E	from Table 12-6	$(9)_{PDO}$ from Worksheet 1E	$(9)_{TOTAL}$ from Worksheet 1E
Total	1.000	0.036	1.000	0.140	0.175
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with animal	0.000	0.000	0.077	0.011	0.011
Collision with fixed object	0.400	0.014	0.846	0.118	0.132
Collision with other object	0.000	0.000	0.000	0.000	0.000
Other single-vehicle collision	0.600	0.021	0.077	0.011	0.032

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15,000)^t$	from Table 12-7
Major commercial	1	0.033	1.106	0.146	--
Minor commercial	0	0.011	1.106	0.000	
Major industrial/institutional	0	0.036	1.106	0.000	
Minor industrial/institutional	0	0.005	1.106	0.000	
Major residential	0	0.018	1.106	0.000	
Minor residential	0	0.003	1.106	0.000	
Other	0	0.005	1.106	0.000	
Total	--	--	--	0.146	1.39

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	0.146	1.000	0.146	0.99	0.64	0.092
Fatal and injury (FI)	--	0.284	0.041	0.99	0.64	0.026
Property damage only (PDO)	--	0.716	0.104	0.99	0.64	0.066

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	2.058	0.175	0.092	2.325	0.013	0.64	0.019
Fatal and injury (FI)	--	--	--	--	--	0.64	0.019

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	2.058	0.175	0.092	2.325	0.009	0.64	0.013
Fatal and injury (FI)	--	--	--	--	--	0.64	0.013

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	(5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	(6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	0.419	0.984	1.403
Head-on collisions (from Worksheet 1D)	0.003	0.000	0.003
Angle collisions (from Worksheet 1D)	0.010	0.012	0.022
Sideswipe, same direction (from Worksheet 1D)	0.020	0.216	0.237
Sideswipe, opposite direction (from Worksheet 1D)	0.007	0.006	0.013
Driveway-related collisions (from Worksheet 1H)	0.026	0.066	0.092
Other multiple-vehicle collision (from Worksheet 1D)	0.075	0.305	0.379
Subtotal	0.561	1.589	2.150
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.000	0.011	0.011
Collision with fixed object (from Worksheet 1F)	0.014	0.118	0.132
Collision with other object (from Worksheet 1F)	0.000	0.000	0.000
Other single-vehicle collision (from Worksheet 1F)	0.021	0.011	0.032
Collision with pedestrian (from Worksheet 1I)	0.019	0.000	0.019
Collision with bicycle (from Worksheet 1J)	0.013	0.000	0.013
Subtotal	0.068	0.140	0.208
Total	0.629	1.729	2.358

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	2.4	0.25	9.4
Fatal and injury (FI)	0.6	0.25	2.5
Property damage only (PDO)	1.7	0.25	6.9

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments

General Information		Location Information	
Analyst	RLS	Roadway	US 97
Agency or Company	DKS	Roadway Section	Robal to Nels Anderson
Date Performed	07/24/18	Jurisdiction	Bend, OR
		Analysis Year	2040

Input Data		Base Conditions	Site Conditions
Roadway type (2U, 3T, 4U, 4D, ST)		--	4D
Length of segment, L (mi)		--	0.16
AADT (veh/day)	$AADT_{MAX}$ = 66,000 (veh/day)	--	**61,570**
Type of on-street parking (none/parallel/angle)		None	None
Proportion of curb length with on-street parking		--	0
Median width (ft) - for divided only		15	15
Lighting (present / not present)		Not Present	**Present**
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	0
Minor commercial driveways (number)		--	0
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	0
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	59
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	15
Calibration Factor, Cr		1.00	0.64

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.11	1.00	0.94	1.00	1.04

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-12.34	1.36	1.32	2.283	1.000	2.283	1.04	0.64	1.524
Fatal and Injury (FI)	-12.76	1.28	1.31	0.621	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.259	0.591	1.04	0.64	0.394
Property Damage Only (PDO)	-12.81	1.38	1.34	1.779	$(5)_{TOTAL}-(5)_{FI}$ = 0.741	1.692	1.04	0.64	1.130

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	$(9)_{FI}$ from Worksheet 1C	from Table 12-4	$(9)_{PDO}$ from Worksheet 1C	$(9)_{TOTAL}$ from Worksheet 1C
Total	1.000	0.394	1.000	1.130	1.524
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.783	0.309	0.646	0.730	1.039
Head-on collision	0.006	0.002	0.000	0.000	0.002
Angle collision	0.019	0.007	0.008	0.009	0.017
Sideswipe, same direction	0.038	0.015	0.142	0.160	0.175
Sideswipe, opposite direction	0.013	0.005	0.004	0.005	0.010
Other multiple-vehicle collision	0.140	0.055	0.200	0.226	0.281

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brsv}**	**Proportion of Total Crashes**	**Adjusted N_{brsv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brsv}**
	from Table 12-5		from Table 12-5	from Equation 12-13		$(4)_{TOTAL}*(5)$	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-5.05	0.47	0.86	0.183	1.000	0.183	1.04	0.64	0.122
Fatal and Injury (FI)	-8.71	0.66	0.28	0.038	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.205	0.038	1.04	0.64	0.025
Property Damage Only (PDO)	-5.04	0.45	1.06	0.148	$(5)_{TOTAL}-(5)_{FI}$ = 0.795	0.145	1.04	0.64	0.097

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	$(9)_{FI}$ from Worksheet 1E	from Table 12-6	$(9)_{PDO}$ from Worksheet 1E	$(9)_{TOTAL}$ from Worksheet 1E
Total	1.000	0.025	1.000	0.097	0.122
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with animal	0.000	0.000	0.077	0.007	0.007
Collision with fixed object	0.400	0.010	0.846	0.082	0.092
Collision with other object	0.000	0.000	0.000	0.000	0.000
Other single-vehicle collision	0.600	0.015	0.077	0.007	0.022

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15,000)^t$	from Table 12-7
Major commercial	0	0.033	1.106	0.000	--
Minor commercial	0	0.011	1.106	0.000	
Major industrial/institutional	0	0.036	1.106	0.000	
Minor industrial/institutional	0	0.005	1.106	0.000	
Major residential	0	0.018	1.106	0.000	
Minor residential	0	0.003	1.106	0.000	
Other	0	0.005	1.106	0.000	
Total	--	--	--	0.000	1.39

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	0.000	1.000	0.000	1.04	0.64	0.000
Fatal and injury (FI)	--	0.284	0.000	1.04	0.64	0.000
Property damage only (PDO)	--	0.716	0.000	1.04	0.64	0.000

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	1.524	0.122	0.000	1.646	0.013	0.64	0.014
Fatal and injury (FI)	--	--	--	--	--	0.64	0.014

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	1.524	0.122	0.000	1.646	0.009	0.64	0.009
Fatal and injury (FI)	--	--	--	--	--	0.64	0.009

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	(5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	(6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	0.309	0.730	1.039
Head-on collisions (from Worksheet 1D)	0.002	0.000	0.002
Angle collisions (from Worksheet 1D)	0.007	0.009	0.017
Sideswipe, same direction (from Worksheet 1D)	0.015	0.160	0.175
Sideswipe, opposite direction (from Worksheet 1D)	0.005	0.005	0.010
Driveway-related collisions (from Worksheet 1H)	0.000	0.000	0.000
Other multiple-vehicle collision (from Worksheet 1D)	0.055	0.226	0.281
Subtotal	0.394	1.130	1.524
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.000	0.007	0.007
Collision with fixed object (from Worksheet 1F)	0.010	0.082	0.092
Collision with other object (from Worksheet 1F)	0.000	0.000	0.000
Other single-vehicle collision (from Worksheet 1F)	0.015	0.007	0.022
Collision with pedestrian (from Worksheet 1I)	0.014	0.000	0.014
Collision with bicycle (from Worksheet 1J)	0.009	0.000	0.009
Subtotal	0.048	0.097	0.145
Total	0.442	1.227	1.669

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	1.7	0.16	10.4
Fatal and injury (FI)	0.4	0.16	2.8
Property damage only (PDO)	1.2	0.16	7.7

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments

General Information		Location Information	
Analyst	RLS	Roadway	US 97
Agency or Company	DKS	Roadway Section	Nels Anderson to US 20 Ramp
Date Performed	07/24/18	Jurisdiction	Bend, OR
		Analysis Year	2040

Input Data		Base Conditions	Site Conditions
Roadway type (2U, 3T, 4U, 4D, ST)		--	4D
Length of segment, L (mi)		--	0.14
AADT (veh/day)	$AADT_{MAX}$ = 66,000 (veh/day)	--	**66,000**
Type of on-street parking (none/parallel/angle)		None	None
Proportion of curb length with on-street parking		--	0
Median width (ft) - for divided only		15	20
Lighting (present / not present)		Not Present	**Present**
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	0
Minor commercial driveways (number)		--	0
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	0
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	82
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	15
Calibration Factor, Cr		1.00	0.64

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.16	0.99	0.94	1.00	1.09

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-12.34	1.36	1.32	2.195	1.000	2.195	1.09	0.64	1.525
Fatal and Injury (FI)	-12.76	1.28	1.31	0.594	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.257	0.565	1.09	0.64	0.392
Property Damage Only (PDO)	-12.81	1.38	1.34	1.713	$(5)_{TOTAL}-(5)_{FI}$ = 0.743	1.630	1.09	0.64	1.132

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	$(9)_{FI}$ from Worksheet 1C	from Table 12-4	$(9)_{PDO}$ from Worksheet 1C	$(9)_{TOTAL}$ from Worksheet 1C
Total	1.000	0.392	1.000	1.132	1.525
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.783	0.307	0.646	0.731	1.039
Head-on collision	0.006	0.002	0.000	0.000	0.002
Angle collision	0.019	0.007	0.008	0.009	0.017
Sideswipe, same direction	0.038	0.015	0.142	0.161	0.176
Sideswipe, opposite direction	0.013	0.005	0.004	0.005	0.010
Other multiple-vehicle collision	0.140	0.055	0.200	0.226	0.281

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brsv}**	**Proportion of Total Crashes**	**Adjusted N_{brsv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brsv}**
	from Table 12-5		from Table 12-5	from Equation 12-13		$(4)_{TOTAL}*(5)$	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-5.05	0.47	0.86	0.165	1.000	0.165	1.09	0.64	0.115
Fatal and Injury (FI)	-8.71	0.66	0.28	0.035	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.208	0.034	1.09	0.64	0.024
Property Damage Only (PDO)	-5.04	0.45	1.06	0.134	$(5)_{TOTAL}-(5)_{FI}$ = 0.792	0.131	1.09	0.64	0.091

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	$(9)_{FI}$ from Worksheet 1E	from Table 12-6	$(9)_{PDO}$ from Worksheet 1E	$(9)_{TOTAL}$ from Worksheet 1E
Total	1.000	0.024	1.000	0.091	0.115
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with animal	0.000	0.000	0.077	0.007	0.007
Collision with fixed object	0.400	0.010	0.846	0.077	0.086
Collision with other object	0.000	0.000	0.000	0.000	0.000
Other single-vehicle collision	0.600	0.014	0.077	0.007	0.021

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15,000)^t$	from Table 12-7
Major commercial	0	0.033	1.106	0.000	--
Minor commercial	0	0.011	1.106	0.000	
Major industrial/institutional	0	0.036	1.106	0.000	
Minor industrial/institutional	0	0.005	1.106	0.000	
Major residential	0	0.018	1.106	0.000	
Minor residential	0	0.003	1.106	0.000	
Other	0	0.005	1.106	0.000	
Total	--	--	--	0.000	1.39

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	0.000	1.000	0.000	1.09	0.64	0.000
Fatal and injury (FI)	--	0.284	0.000	1.09	0.64	0.000
Property damage only (PDO)	--	0.716	0.000	1.09	0.64	0.000

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	1.525	0.115	0.000	1.639	0.013	0.64	0.014
Fatal and injury (FI)	--	--	--	--	--	0.64	0.014

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	1.525	0.115	0.000	1.639	0.009	0.64	0.009
Fatal and injury (FI)	--	--	--	--	--	0.64	0.009

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	(5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	(6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	0.307	0.731	1.039
Head-on collisions (from Worksheet 1D)	0.002	0.000	0.002
Angle collisions (from Worksheet 1D)	0.007	0.009	0.017
Sideswipe, same direction (from Worksheet 1D)	0.015	0.161	0.176
Sideswipe, opposite direction (from Worksheet 1D)	0.005	0.005	0.010
Driveway-related collisions (from Worksheet 1H)	0.000	0.000	0.000
Other multiple-vehicle collision (from Worksheet 1D)	0.055	0.226	0.281
Subtotal	0.392	1.132	1.524
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.000	0.007	0.007
Collision with fixed object (from Worksheet 1F)	0.010	0.077	0.086
Collision with other object (from Worksheet 1F)	0.000	0.000	0.000
Other single-vehicle collision (from Worksheet 1F)	0.014	0.007	0.021
Collision with pedestrian (from Worksheet 1I)	0.014	0.000	0.014
Collision with bicycle (from Worksheet 1J)	0.009	0.000	0.009
Subtotal	0.047	0.091	0.138
Total	0.439	1.223	1.662

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	1.7	0.14	11.9
Fatal and injury (FI)	0.4	0.14	3.1
Property damage only (PDO)	1.2	0.14	8.7

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments

General Information		Location Information	
Analyst	RLS	Roadway	US 97
Agency or Company	DKS	Roadway Section	Empire Ramp to Butler Market Ramp
Date Performed	07/24/18	Jurisdiction	Bend, OR
		Analysis Year	2017

Input Data		Base Conditions	Site Conditions
Roadway type (2U, 3T, 4U, 4D, ST)		--	4D
Length of segment, L (mi)		--	0.16
AADT (veh/day)	$AADT_{MAX}$ = 66,000 (veh/day)	--	**66,000**
Type of on-street parking (none/parallel/angle)		None	None
Proportion of curb length with on-street parking		--	0
Median width (ft) - for divided only		15	90
Lighting (present / not present)		Not Present	**Present**
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	0
Minor commercial driveways (number)		--	0
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	0
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	9
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	20
Calibration Factor, Cr		1.00	0.64

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.00	0.93	0.94	1.00	0.88

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-12.34	1.36	1.32	2.509	1.000	2.509	0.88	0.64	1.407
Fatal and Injury (FI)	-12.76	1.28	1.31	0.678	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.257	0.646	0.88	0.64	0.362
Property Damage Only (PDO)	-12.81	1.38	1.34	1.958	$(5)_{TOTAL}-(5)_{FI}$ = 0.743	1.863	0.88	0.64	1.045

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	$(9)_{FI}$ from Worksheet 1C	from Table 12-4	$(9)_{PDO}$ from Worksheet 1C	$(9)_{TOTAL}$ from Worksheet 1C
Total	1.000	0.362	1.000	1.045	1.407
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.783	0.283	0.646	0.675	0.958
Head-on collision	0.006	0.002	0.000	0.000	0.002
Angle collision	0.019	0.007	0.008	0.008	0.015
Sideswipe, same direction	0.038	0.014	0.142	0.148	0.162
Sideswipe, opposite direction	0.013	0.005	0.004	0.004	0.009
Other multiple-vehicle collision	0.140	0.051	0.200	0.209	0.260

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brsv}**	**Proportion of Total Crashes**	**Adjusted N_{brsv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brsv}**
	from Table 12-5		from Table 12-5	from Equation 12-13		$(4)_{TOTAL}*(5)$	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-5.05	0.47	0.86	0.189	1.000	0.189	0.88	0.64	0.106
Fatal and Injury (FI)	-8.71	0.66	0.28	0.040	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.208	0.039	0.88	0.64	0.022
Property Damage Only (PDO)	-5.04	0.45	1.06	0.153	$(5)_{TOTAL}-(5)_{FI}$ = 0.792	0.150	0.88	0.64	0.084

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	$(9)_{FI}$ from Worksheet 1E	from Table 12-6	$(9)_{PDO}$ from Worksheet 1E	$(9)_{TOTAL}$ from Worksheet 1E
Total	1.000	0.022	1.000	0.084	0.106
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with animal	0.000	0.000	0.077	0.006	0.006
Collision with fixed object	0.400	0.009	0.846	0.071	0.080
Collision with other object	0.000	0.000	0.000	0.000	0.000
Other single-vehicle collision	0.600	0.013	0.077	0.006	0.020

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15,000)^t$	from Table 12-7
Major commercial	0	0.033	1.106	0.000	--
Minor commercial	0	0.011	1.106	0.000	
Major industrial/institutional	0	0.036	1.106	0.000	
Minor industrial/institutional	0	0.005	1.106	0.000	
Major residential	0	0.018	1.106	0.000	
Minor residential	0	0.003	1.106	0.000	
Other	0	0.005	1.106	0.000	
Total	--	--	--	0.000	1.39

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	0.000	1.000	0.000	0.88	0.64	0.000
Fatal and injury (FI)	--	0.284	0.000	0.88	0.64	0.000
Property damage only (PDO)	--	0.716	0.000	0.88	0.64	0.000

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	1.407	0.106	0.000	1.513	0.013	0.64	0.013
Fatal and injury (FI)	--	--	--	--	--	0.64	0.013

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	1.407	0.106	0.000	1.513	0.009	0.64	0.009
Fatal and injury (FI)	--	--	--	--	--	0.64	0.009

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	(5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	(6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	0.283	0.675	0.958
Head-on collisions (from Worksheet 1D)	0.002	0.000	0.002
Angle collisions (from Worksheet 1D)	0.007	0.008	0.015
Sideswipe, same direction (from Worksheet 1D)	0.014	0.148	0.162
Sideswipe, opposite direction (from Worksheet 1D)	0.005	0.004	0.009
Driveway-related collisions (from Worksheet 1H)	0.000	0.000	0.000
Other multiple-vehicle collision (from Worksheet 1D)	0.051	0.209	0.260
Subtotal	0.362	1.045	1.406
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.000	0.006	0.006
Collision with fixed object (from Worksheet 1F)	0.009	0.071	0.080
Collision with other object (from Worksheet 1F)	0.000	0.000	0.000
Other single-vehicle collision (from Worksheet 1F)	0.013	0.006	0.020
Collision with pedestrian (from Worksheet 1I)	0.013	0.000	0.013
Collision with bicycle (from Worksheet 1J)	0.009	0.000	0.009
Subtotal	0.043	0.084	0.127
Total	0.405	1.129	1.533

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	1.5	0.16	9.6
Fatal and injury (FI)	0.4	0.16	2.5
Property damage only (PDO)	1.1	0.16	7.1

Worksheet 2A -- General Information and Input Data for Urban and Suburban Arterial Intersections

General Information		Location Information	
Analyst	RLS	Roadway	US 97
Agency or Company	DKS	Intersection	**US 97/Cooley north**
Date Performed	07/24/18	Jurisdiction	Bend, OR
		Analysis Year	2040

Input Data		Base Conditions	Site Conditions
Intersection type (3ST, 3SG, 4ST, 4SG)		--	**3SG**
AADT $_{major}$ (veh/day)	$AADT_{MAX}$ = 58,100 (veh/day)	--	**58,100**
AADT $_{minor}$ (veh/day)	$AADT_{MAX}$ = 16,400 (veh/day)	--	**5,210**
Intersection lighting (present/not present)		Not Present	**Present**
Calibration factor, C_i		1.00	0.73
Data for unsignalized intersections only:		--	--
Number of major-road approaches with left-turn lanes (0,1,2)		0	0
Number of major-road approaches with right-turn lanes (0,1,2)		0	0
Data for signalized intersections only:		--	--
Number of approaches with left-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	**1**
Number of approaches with right-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	**1**
Number of approaches with left-turn signal phasing [for 3SG, use maximum value of 3]		--	**1**
Type of left-turn signal phasing for Leg #1		Permissive	Protected
Type of left-turn signal phasing for Leg #2		--	**Not Applicable**
Type of left-turn signal phasing for Leg #3		--	**Not Applicable**
Type of left-turn signal phasing for Leg #4 (if applicable)		--	**Not Applicable**
Number of approaches with right-turn-on-red prohibited [for 3SG, use maximum value of 3]		0	0
Intersection red light cameras (present/not present)		Not Present	Not Present
Sum of all pedestrian crossing volumes (PedVol) -- Signalized intersections only			5
Maximum number of lanes crossed by a pedestrian (n_{lanesx})		--	**4**
Number of bus stops within 300 m (1,000 ft) of the intersection		0	0
Schools within 300 m (1,000 ft) of the intersection (present/not present)		Not Present	Not Present
Number of alcohol sales establishments within 300 m (1,000 ft) of the intersection		0	0

Worksheet 2B -- Crash Modification Factors for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)	(7)
CMF for Left-Turn Lanes	CMF for Left-Turn Signal Phasing	CMF for Right-Turn Lanes	CMF for Right Turn on Red	CMF for Lighting	CMF for Red Light Cameras	Combined CMF
CMF 1i	*CMF 2i*	*CMF 3i*	*CMF 4i*	*CMF 5i*	*CMF 6i*	*CMF $_{COMB}$*
from Table 12-24	from Table 12-25	from Table 12-26	from Equation 12-35	from Equation 12-36	from Equation 12-37	(1)*(2)*(3)*(4)*(5)*(6)
0.93	0.94	0.96	1.00	0.94	1.00	0.79

Worksheet 2C -- Multiple-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1)	(2)			(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**			**Overdispersion Parameter, k**	**Initial N_{bimv}**	**Proportion of Total Crashes**	**Adjusted N_{bimv}**	**Combined CMFs**	**Calibration Factor, C_i**	**Predicted N_{bimv}**
	from Table 12-10			from Table 12-10	from Equation 12-21		$(4)_{TOTAL}$*(5)	(7) from Worksheet 2B		(6)*(7)*(8)
	a	b	c							
Total	-12.13	1.11	0.26	0.33	9.697	1.000	9.697	0.79	0.73	5.579
Fatal and Injury (FI)	-11.58	1.02	0.17	0.30	2.899	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.317	3.071	0.79	0.73	1.767
Property Damage Only (PDO)	-13.24	1.14	0.30	0.36	6.254	$(5)_{TOTAL}-(5)_{FI}$ = 0.683	6.626	0.79	0.73	3.812

Worksheet 2D -- Multiple-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{bimv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{bimv\ (PDO)}$ (crashes/year)**	**Predicted N $_{bimv\ (TOTAL)}$ (crashes/year)**
	from Table 12-11	$(9)_{FI}$ from Worksheet 2C	from Table 12-11	$(9)_{PDO}$ from Worksheet 2C	$(9)_{PDO}$ from Worksheet 2C
Total	1.000	1.767	1.000	3.812	5.579
		(2)*$(3)_{FI}$		(4)*$(5)_{PDO}$	(3)+(5)
Rear-end collision	0.580	1.025	0.530	2.021	3.045
Head-on collision	0.005	0.009	0.000	0.000	0.009
Angle collision	0.060	0.106	0.055	0.210	0.316
Sideswipe	0.011	0.019	0.013	0.050	0.069
Other multiple-vehicle collision	0.343	0.606	0.402	1.533	2.139

Worksheet 2E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1)	(2)			(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**			**Overdispersion Parameter, k**	**Initial N_{bisv}**	**Proportion of Total Crashes**	**Adjusted N_{bimv}**	**Combined CMFs**	**Calibration Factor, C_i**	**Predicted N_{bisv}**
	from Table 12-12			from Table 12-12	from Eqn. 12-24; (FI) from Eqn. 12-24 or 12-27		$(4)_{TOTAL}$*(5)	(7) from Worksheet 2B		(6)*(7)*(8)
	a	b	c							
Total	-9.02	0.42	0.40	0.36	0.372	1.000	0.372	0.79	0.73	0.214
Fatal and Injury (FI)	-9.75	0.27	0.51	0.24	0.089	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.249	0.093	0.79	0.73	0.053
Property Damage Only (PDO)	-9.08	0.45	0.33	0.53	0.267	$(5)_{TOTAL}-(5)_{FI}$ = 0.751	0.279	0.79	0.73	0.161

Worksheet 2F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{bisv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{bisv\ (PDO)}$ (crashes/year)**	**Predicted N $_{bisv\ (TOTAL)}$ (crashes/year)**
	from Table 12-13	$(9)_{FI}$ from Worksheet 2E	from Table 12-13	$(9)_{PDO}$ from Worksheet 2E	$(9)_{PDO}$ from Worksheet 2E
Total	1.000	0.053	1.000	0.161	0.214
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with parked vehicle	0.000	0.000	0.000	0.000	0.000
Collision with animal	0.000	0.000	0.000	0.000	0.000
Collision with fixed object	0.115	0.006	0.875	0.141	0.147
Collision with other object	0.000	0.000	0.125	0.020	0.020
Other single-vehicle collision	0.769	0.041	0.000	0.000	0.041
Single-vehicle noncollision	0.115	0.006	0.000	0.000	0.006

Worksheet 2G -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Stop-Controlled Intersections

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Predicted N_{bimv}**	**Predicted N_{bisv}**	**Predicted N_{bi}**	**f_{pedi}**	**Calibration factor, C_i**	**Predicted N_{pedi}**
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-16		(4)*(5)*(6)
Total	--	--	--	--	0.73	--
Fatal and injury (FI)	--	--	--	--	0.73	--

Worksheet 2H -- Crash Modification Factors for Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections

(1)	(2)	(3)	(4)
CMF for Bus Stops	CMF for Schools	CMF for Alcohol Sales Establishments	Combined CMF
CMF_{1p}	CMF_{2p}	CMF_{3p}	
from Table 12-28	from Table 12-29	from Table 12-30	(1)*(2)*(3)
1.00	1.00	1.00	1.00

Worksheet 2I -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections

(1)	(2)					(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**SPF Coefficients**					**Overdispersion Parameter, k**	**$N_{pedbase}$**	**Combined CMF**	**Calibration factor, C_i**	**Predicted N_{pedi}**
	from Table 12-14						from Equation 12-29	(4) from Worksheet 2H		(4)*(5)*(6)
	a	b	c	d	e					
Total	-6.60	0.05	0.24	0.41	0.09	0.52	0.004	1.00	0.73	0.003
Fatal and Injury (FI)	--	--	--	--	--	--	--	--	0.73	0.003

Worksheet 2J -- Vehicle-Bicycle Collisions for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Predicted N_{bimv}**	**Predicted N_{bisv}**	**Predicted N_{bi}**	**f_{bikei}**	**Calibration factor, C_i**	**Predicted N_{bikei}**
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-17		(4)*(5)*(6)
Total	5.579	0.214	5.793	0.011	0.73	0.047
Fatal and injury (FI)	--	--	--	--	0.73	0.047

Worksheet 2K -- Crash Severity Distribution for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)
	Fatal and injury (FI)	**Property damage only (PDO)**	**Total**
Collision type	(3) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J	(5) from Worksheet 2D and 2F	(6) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 2D)	1.025	2.021	3.045
Head-on collisions (from Worksheet 2D)	0.009	0.000	0.009
Angle collisions (from Worksheet 2D)	0.106	0.210	0.316
Sideswipe (from Worksheet 2D)	0.019	0.050	0.069
Other multiple-vehicle collision (from Worksheet 2D)	0.606	1.533	2.139
Subtotal	1.765	3.812	5.578
SINGLE-VEHICLE			
Collision with parked vehicle (from Worksheet 2F)	0.000	0.000	0.000
Collision with animal (from Worksheet 2F)	0.000	0.000	0.000
Collision with fixed object (from Worksheet 2F)	0.006	0.141	0.147
Collision with other object (from Worksheet 2F)	0.000	0.020	0.020
Other single-vehicle collision (from Worksheet 2F)	0.041	0.000	0.041
Single-vehicle noncollision (from Worksheet 2F)	0.006	0.000	0.006
Collision with pedestrian (from Worksheet 2G or 2I)	0.003	0.000	0.003
Collision with bicycle (from Worksheet 2J)	0.047	0.000	0.047
Subtotal	0.102	0.161	0.263
Total	1.868	3.973	5.841

Worksheet 2L -- Summary Results for Urban and Suburban Arterial Intersections

(1)	(2)
Crash severity level	**Predicted average crash frequency, $N_{predicted\ int}$ (crashes/year)**
	(Total) from Worksheet 2K
Total	5.8
Fatal and injury (FI)	1.9
Property damage only (PDO)	4.0

Worksheet 2A -- General Information and Input Data for Urban and Suburban Arterial Intersections

General Information		Location Information	
Analyst	RLS	Roadway	US 97
Agency or Company	DKS	Intersection	US 97/Robal
Date Performed	07/24/18	Jurisdiction	Bend, OR
		Analysis Year	2040

Input Data		Base Conditions	Site Conditions
Intersection type (3ST, 3SG, 4ST, 4SG)		--	4SG
AADT $_{major}$ (veh/day)	$AADT_{MAX}$ = 67,700 (veh/day)	--	**61,570**
AADT $_{minor}$ (veh/day)	$AADT_{MAX}$ = 33,400 (veh/day)	--	**11,470**
Intersection lighting (present/not present)		Not Present	Present
Calibration factor, C_i		1.00	1.05
Data for unsignalized intersections only:		--	--
Number of major-road approaches with left-turn lanes (0,1,2)		0	0
Number of major-road approaches with right-turn lanes (0,1,2)		0	0
Data for signalized intersections only:		--	--
Number of approaches with left-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	4
Number of approaches with right-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	1
Number of approaches with left-turn signal phasing [for 3SG, use maximum value of 3]		--	4
Type of left-turn signal phasing for Leg #1		Permissive	Protected
Type of left-turn signal phasing for Leg #2		--	Protected
Type of left-turn signal phasing for Leg #3		--	Protected
Type of left-turn signal phasing for Leg #4 (if applicable)		--	Protected
Number of approaches with right-turn-on-red prohibited [for 3SG, use maximum value of 3]		0	0
Intersection red light cameras (present/not present)		Not Present	Not Present
Sum of all pedestrian crossing volumes (PedVol) -- Signalized intersections only			5
Maximum number of lanes crossed by a pedestrian (n_{lanesx})		--	6
Number of bus stops within 300 m (1,000 ft) of the intersection		0	2
Schools within 300 m (1,000 ft) of the intersection (present/not present)		Not Present	Not Present
Number of alcohol sales establishments within 300 m (1,000 ft) of the intersection		0	6

Worksheet 2B -- Crash Modification Factors for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)	(7)
CMF for Left-Turn Lanes	CMF for Left-Turn Signal Phasing	CMF for Right-Turn Lanes	CMF for Right Turn on Red	CMF for Lighting	CMF for Red Light Cameras	Combined CMF
CMF 1i	*CMF 2i*	*CMF 3i*	*CMF 4i*	*CMF 5i*	*CMF 6i*	*CMF $_{COMB}$*
from Table 12-24	from Table 12-25	from Table 12-26	from Equation 12-35	from Equation 12-36	from Equation 12-37	(1)*(2)*(3)*(4)*(5)*(6)
0.66	0.78	0.96	1.00	0.95	1.00	0.47

Worksheet 2C -- Multiple-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1)	(2)			(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**			**Overdispersion Parameter, k**	**Initial N_{bimv}**	**Proportion of Total Crashes**	**Adjusted N_{bimv}**	**Combined CMFs**	**Calibration Factor, C_i**	**Predicted N_{bimv}**
	from Table 12-10			from Table 12-10	from Equation 12-21		$(4)_{TOTAL}$*(5)	(7) from Worksheet 2B		(6)*(7)*(8)
	a	b	c							
Total	-10.99	1.07	0.23	0.39	19.294	1.000	19.294	0.47	1.05	9.557
Fatal and Injury (FI)	-13.14	1.18	0.22	0.33	6.885	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.368	7.093	0.47	1.05	3.513
Property Damage Only (PDO)	-11.02	1.02	0.24	0.44	11.845	$(5)_{TOTAL}-(5)_{FI}$ = 0.632	12.201	0.47	1.05	6.044

Worksheet 2D -- Multiple-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{bimv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{bimv\ (PDO)}$ (crashes/year)**	**Predicted N $_{bimv\ (TOTAL)}$ (crashes/year)**
	from Table 12-11	$(9)_{FI}$ from Worksheet 2C	from Table 12-11	$(9)_{PDO}$ from Worksheet 2C	$(9)_{PDO}$ from Worksheet 2C
Total	1.000	3.513	1.000	6.044	9.557
		(2)*$(3)_{FI}$		(4)*$(5)_{PDO}$	(3)+(5)
Rear-end collision	0.501	1.760	0.402	2.430	4.190
Head-on collision	0.002	0.007	0.000	0.000	0.007
Angle collision	0.236	0.829	0.215	1.299	2.129
Sideswipe	0.004	0.014	0.012	0.073	0.087
Other multiple-vehicle collision	0.257	0.903	0.370	2.236	3.139

Worksheet 2E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1)	(2)			(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**			**Overdispersion Parameter, k**	**Initial N_{bisv}**	**Proportion of Total Crashes**	**Adjusted N_{bimv}**	**Combined CMFs**	**Calibration Factor, C_i**	**Predicted N_{bisv}**
	from Table 12-12			from Table 12-12	from Eqn. 12-24; (FI) from Eqn. 12-24 or 12-27		$(4)_{TOTAL}$*(5)	(7) from Worksheet 2B		(6)*(7)*(8)
	a	b	c							
Total	-10.21	0.68	0.27	0.36	0.829	1.000	0.829	0.47	1.05	0.411
Fatal and Injury (FI)	-9.25	0.43	0.29	0.09	0.166	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.198	0.165	0.47	1.05	0.082
Property Damage Only (PDO)	-11.34	0.78	0.25	0.44	0.669	$(5)_{TOTAL}-(5)_{FI}$ = 0.802	0.665	0.47	1.05	0.329

Worksheet 2F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{bisv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{bisv\ (PDO)}$ (crashes/year)**	**Predicted N $_{bisv\ (TOTAL)}$ (crashes/year)**
	from Table 12-13	(9)$_{FI}$ from Worksheet 2E	from Table 12-13	(9)$_{PDO}$ from Worksheet 2E	(9)$_{PDO}$ from Worksheet 2E
Total	1.000	0.082	1.000	0.329	0.411
		(2)*(3)$_{FI}$		(4)*(5)$_{PDO}$	(3)+(5)
Collision with parked vehicle	0.000	0.000	0.000	0.000	0.000
Collision with animal	0.000	0.000	0.000	0.000	0.000
Collision with fixed object	0.097	0.008	0.722	0.238	0.246
Collision with other object	0.000	0.000	0.000	0.000	0.000
Other single-vehicle collision	0.888	0.072	0.056	0.018	0.091
Single-vehicle noncollision	0.015	0.001	0.222	0.073	0.074

Worksheet 2G -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Stop-Controlled Intersections

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Predicted N_{bimv}**	**Predicted N_{bisv}**	**Predicted N_{bi}**	**f_{pedi}**	**Calibration factor, C_i**	**Predicted N_{pedi}**
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-16		(4)*(5)*(6)
Total	--	--	--	--	1.05	--
Fatal and injury (FI)	--	--	--	--	1.05	--

Worksheet 2H -- Crash Modification Factors for Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections

(1)	(2)	(3)	(4)
CMF for Bus Stops	CMF for Schools	CMF for Alcohol Sales Establishments	Combined CMF
CMF_{1p}	CMF_{2p}	CMF_{3p}	
from Table 12-28	from Table 12-29	from Table 12-30	(1)*(2)*(3)
2.78	1.00	1.12	3.11

Worksheet 2I -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections

(1)	(2)					(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**SPF Coefficients**					**Overdispersion Parameter, k**	**$N_{pedbase}$**	**Combined CMF**	**Calibration factor, C_i**	**Predicted N_{pedi}**
	from Table 12-14						from Equation 12-29	(4) from Worksheet 2H		(4)*(5)*(6)
	a	b	c	d	e					
Total	-9.53	0.40	0.26	0.45	0.04	0.24	0.011	3.11	1.05	0.035
Fatal and Injury (FI)	--	--	--	--	--	--	--	--	1.05	0.035

Worksheet 2J -- Vehicle-Bicycle Collisions for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Predicted N_{bimv}**	**Predicted N_{bisv}**	**Predicted N_{bi}**	**f_{bikei}**	**Calibration factor, C_i**	**Predicted N_{bikei}**
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-17		(4)*(5)*(6)
Total	9.557	0.411	9.968	0.015	1.05	0.157
Fatal and injury (FI)	--	--	--	--	1.05	0.157

Worksheet 2K -- Crash Severity Distribution for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J	(5) from Worksheet 2D and 2F	(6) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 2D)	1.760	2.430	4.190
Head-on collisions (from Worksheet 2D)	0.007	0.000	0.007
Angle collisions (from Worksheet 2D)	0.829	1.299	2.129
Sideswipe (from Worksheet 2D)	0.014	0.073	0.087
Other multiple-vehicle collision (from Worksheet 2D)	0.903	2.236	3.139
Subtotal	3.513	6.038	9.551
SINGLE-VEHICLE			
Collision with parked vehicle (from Worksheet 2F)	0.000	0.000	0.000
Collision with animal (from Worksheet 2F)	0.000	0.000	0.000
Collision with fixed object (from Worksheet 2F)	0.008	0.238	0.246
Collision with other object (from Worksheet 2F)	0.000	0.000	0.000
Other single-vehicle collision (from Worksheet 2F)	0.072	0.018	0.091
Single-vehicle noncollision (from Worksheet 2F)	0.001	0.073	0.074
Collision with pedestrian (from Worksheet 2G or 2I)	0.035	0.000	0.035
Collision with bicycle (from Worksheet 2J)	0.157	0.000	0.157
Subtotal	0.274	0.329	0.603
Total	3.787	6.367	10.154

Worksheet 2L -- Summary Results for Urban and Suburban Arterial Intersections

(1)	(2)
Crash severity level	**Predicted average crash frequency, $N_{predicted\ int}$ (crashes/year)**
	(Total) from Worksheet 2K
Total	10.2
Fatal and injury (FI)	3.8
Property damage only (PDO)	6.4

Worksheet 2A -- General Information and Input Data for Urban and Suburban Arterial Intersections

General Information		Location Information	
Analyst	RLS	Roadway	US 97
Agency or Company	DKS	Intersection	Nels Anderson/US 97
Date Performed	07/24/18	Jurisdiction	Bend, OR
		Analysis Year	2040

Input Data		Base Conditions	Site Conditions
Intersection type (3ST, 3SG, 4ST, 4SG)		--	4ST
AADT $_{major}$ (veh/day)	$AADT_{MAX}$ = 46,800 (veh/day)	--	**46,800**
AADT $_{minor}$ (veh/day)	$AADT_{MAX}$ = 5,900 (veh/day)	--	**5,900**
Intersection lighting (present/not present)		Not Present	**Present**
Calibration factor, C_i		1.00	0.45
Data for unsignalized intersections only:		--	--
Number of major-road approaches with left-turn lanes (0,1,2)		0	1
Number of major-road approaches with right-turn lanes (0,1,2)		0	0
Data for signalized intersections only:		--	--
Number of approaches with left-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	0
Number of approaches with right-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	0
Number of approaches with left-turn signal phasing [for 3SG, use maximum value of 3]		--	
Type of left-turn signal phasing for Leg #1		Permissive	
Type of left-turn signal phasing for Leg #2		--	
Type of left-turn signal phasing for Leg #3		--	
Type of left-turn signal phasing for Leg #4 (if applicable)		--	
Number of approaches with right-turn-on-red prohibited [for 3SG, use maximum value of 3]		0	0
Intersection red light cameras (present/not present)		Not Present	Not Present
Sum of all pedestrian crossing volumes (PedVol) -- Signalized intersections only			
Maximum number of lanes crossed by a pedestrian (n_{lanesx})		--	
Number of bus stops within 300 m (1,000 ft) of the intersection		0	
Schools within 300 m (1,000 ft) of the intersection (present/not present)		Not Present	Not Present
Number of alcohol sales establishments within 300 m (1,000 ft) of the intersection		0	

Worksheet 2B -- Crash Modification Factors for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)	(7)
CMF for Left-Turn Lanes	CMF for Left-Turn Signal Phasing	CMF for Right-Turn Lanes	CMF for Right Turn on Red	CMF for Lighting	CMF for Red Light Cameras	Combined CMF
CMF 1i	*CMF 2i*	*CMF 3i*	*CMF 4i*	*CMF 5i*	*CMF 6i*	*CMF $_{COMB}$*
from Table 12-24	from Table 12-25	from Table 12-26	from Equation 12-35	from Equation 12-36	from Equation 12-37	(1)*(2)*(3)*(4)*(5)*(6)
0.73	1.00	1.00	1.00	0.88	1.00	0.64

Worksheet 2C -- Multiple-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1)	(2)			(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**			**Overdispersion Parameter, k**	**Initial N_{bimv}**	**Proportion of Total Crashes**	**Adjusted N_{bimv}**	**Combined CMFs**	**Calibration Factor, C_i**	**Predicted N_{bimv}**
	from Table 12-10			from Table 12-10	from Equation 12-21		$(4)_{TOTAL}$*(5)	(7) from Worksheet 2B		(6)*(7)*(8)
	a	b	c							
Total	-8.90	0.82	0.25	0.40	8.074	1.000	8.074	0.64	0.45	2.339
Fatal and Injury (FI)	-11.13	0.93	0.28	0.48	3.677	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.441	3.564	0.64	0.45	1.032
Property Damage Only (PDO)	-8.74	0.77	0.23	0.40	4.652	$(5)_{TOTAL}-(5)_{FI}$ = 0.559	4.510	0.64	0.45	1.306

Worksheet 2D -- Multiple-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{bimv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{bimv\ (PDO)}$ (crashes/year)**	**Predicted N $_{bimv\ (TOTAL)}$ (crashes/year)**
	from Table 12-11	$(9)_{FI}$ from Worksheet 2C	from Table 12-11	$(9)_{PDO}$ from Worksheet 2C	$(9)_{PDO}$ from Worksheet 2C
Total	1.000	1.032	1.000	1.306	2.339
		(2)*$(3)_{FI}$		(4)*$(5)_{PDO}$	(3)+(5)
Rear-end collision	0.165	0.170	0.135	0.176	0.347
Head-on collision	0.000	0.000	0.000	0.000	0.000
Angle collision	0.449	0.464	0.399	0.521	0.985
Sideswipe	0.000	0.000	0.007	0.009	0.009
Other multiple-vehicle collision	0.386	0.399	0.459	0.600	0.998

Worksheet 2E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1)	(2)			(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**			**Overdispersion Parameter, k**	**Initial N_{bisv}**	**Proportion of Total Crashes**	**Adjusted N_{bimv}**	**Combined CMFs**	**Calibration Factor, C_i**	**Predicted N_{bisv}**
	from Table 12-12			from Table 12-12	from Eqn. 12-24; (FI) from Eqn. 12-24 or 12-27		$(4)_{TOTAL}$*(5)	(7) from Worksheet 2B		(6)*(7)*(8)
	a	b	c							
Total	-5.33	0.33	0.12	0.65	0.477	1.000	0.477	0.64	0.45	0.138
Fatal and Injury (FI)	--	--	--	--	0.134	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.266	0.127	0.64	0.45	0.037
Property Damage Only (PDO)	-7.04	0.36	0.25	0.54	0.369	$(5)_{TOTAL}-(5)_{FI}$ = 0.734	0.350	0.64	0.45	0.101

Worksheet 2F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{bisv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{bisv\ (PDO)}$ (crashes/year)**	**Predicted N $_{bisv\ (TOTAL)}$ (crashes/year)**
	from Table 12-13	(9)$_{FI}$ from Worksheet 2E	from Table 12-13	(9)$_{PDO}$ from Worksheet 2E	(9)$_{PDO}$ from Worksheet 2E
Total	1.000	0.037	1.000	0.101	0.138
		(2)*(3)$_{FI}$		(4)*(5)$_{PDO}$	(3)+(5)
Collision with parked vehicle	0.000	0.000	0.000	0.000	0.000
Collision with animal	0.000	0.000	0.000	0.000	0.000
Collision with fixed object	0.138	0.005	0.750	0.076	0.081
Collision with other object	0.000	0.000	0.000	0.000	0.000
Other single-vehicle collision	0.862	0.032	0.000	0.000	0.032
Single-vehicle noncollision	0.000	0.000	0.250	0.025	0.025

Worksheet 2G -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Stop-Controlled Intersections

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Predicted N_{bimv}**	**Predicted N_{bisv}**	**Predicted N_{bi}**	**f_{pedi}**	**Calibration factor, C_i**	**Predicted N_{pedi}**
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-16		(4)*(5)*(6)
Total	2.339	0.138	2.477	0.022	0.45	0.025
Fatal and injury (FI)	--	--	--	--	0.45	0.025

Worksheet 2H -- Crash Modification Factors for Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections

(1)	(2)	(3)	(4)
CMF for Bus Stops	CMF for Schools	CMF for Alcohol Sales Establishments	Combined CMF
CMF_{1p}	CMF_{2p}	CMF_{3p}	
from Table 12-28	from Table 12-29	from Table 12-30	(1)*(2)*(3)
--	--	--	--

Worksheet 2I -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections

(1)	(2)					(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**SPF Coefficients**					**Overdispersion Parameter, k**	**$N_{pedbase}$**	**Combined CMF**	**Calibration factor, C_i**	**Predicted N_{pedi}**
	from Table 12-14						from Equation 12-29	(4) from Worksheet 2H		(4)*(5)*(6)
	a	b	c	d	e					
Total	--	--	--	--	--	--	--	--	0.45	--
Fatal and Injury (FI)	--	--	--	--	--	--	--	--	0.45	--

Worksheet 2J -- Vehicle-Bicycle Collisions for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Predicted N_{bimv}**	**Predicted N_{bisv}**	**Predicted N_{bi}**	**f_{bikei}**	**Calibration factor, C_i**	**Predicted N_{bikei}**
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-17		(4)*(5)*(6)
Total	2.339	0.138	2.477	0.018	0.45	0.020
Fatal and injury (FI)	--	--	--	--	0.45	0.020

Worksheet 2K -- Crash Severity Distribution for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J	(5) from Worksheet 2D and 2F	(6) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 2D)	0.170	0.176	0.347
Head-on collisions (from Worksheet 2D)	0.000	0.000	0.000
Angle collisions (from Worksheet 2D)	0.464	0.521	0.985
Sideswipe (from Worksheet 2D)	0.000	0.009	0.009
Other multiple-vehicle collision (from Worksheet 2D)	0.399	0.600	0.998
Subtotal	1.032	1.306	2.339
SINGLE-VEHICLE			
Collision with parked vehicle (from Worksheet 2F)	0.000	0.000	0.000
Collision with animal (from Worksheet 2F)	0.000	0.000	0.000
Collision with fixed object (from Worksheet 2F)	0.005	0.076	0.081
Collision with other object (from Worksheet 2F)	0.000	0.000	0.000
Other single-vehicle collision (from Worksheet 2F)	0.032	0.000	0.032
Single-vehicle noncollision (from Worksheet 2F)	0.000	0.025	0.025
Collision with pedestrian (from Worksheet 2G or 2I)	0.025	0.000	0.025
Collision with bicycle (from Worksheet 2J)	0.020	0.000	0.020
Subtotal	0.081	0.101	0.183
Total	1.114	1.408	2.522

Worksheet 2L -- Summary Results for Urban and Suburban Arterial Intersections

(1)	(2)
Crash severity level	**Predicted average crash frequency, $N_{predicted\ int}$ (crashes/year)**
	(Total) from Worksheet 2K
Total	2.5
Fatal and injury (FI)	1.1
Property damage only (PDO)	1.4

Worksheet 3A -- Predicted Crashes by Severity and Site Type and Observed Crashes Using the Site-Specific EB Method for Urban and Suburban Arterials

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Collision type / Site type	**Predicted average crash frequency (crashes/year)**			**Observed crashes, $N_{observed}$** (crashes/year)	**Overdispersion Parameter, k**	**Weighted adjustment, w**	**Expected average crash frequency,**
	$N_{predicted}$ (TOTAL)	$N_{predicted}$ (FI)	$N_{predicted}$ (PDO)			Equation A-5 from Part C Appendix	Equation A-4 from Part C Appendix
ROADWAY SEGMENTS							
Multiple-vehicle nondriveway							
Segment 1	3.197	0.837	2.360		1.320	0.192	0.612
Segment 2	2.058	0.535	1.523		1.320	0.269	0.554
Segment 3	1.524	0.394	1.130		1.320	0.332	0.506
Segment 4	1.525	0.392	1.132		1.320	0.332	0.506
Segment 5	1.407	0.362	1.045		1.320	0.350	0.492
Single-vehicle							
Segment 1	0.294	0.059	0.236		0.860	0.798	0.235
Segment 2	0.175	0.036	0.140		0.860	0.869	0.152
Segment 3	0.122	0.025	0.097		0.860	0.905	0.110
Segment 4	0.115	0.024	0.091		0.860	0.910	0.104
Segment 5	0.106	0.022	0.084		0.860	0.917	0.097
Multiple-vehicle driveway-related							
Segment 1	0.000	0.000	0.000		1.390	1.000	0.000
Segment 2	0.092	0.026	0.066		1.390	0.886	0.082
Segment 3	0.000	0.000	0.000		1.390	1.000	0.000
Segment 4	0.000	0.000	0.000		1.390	1.000	0.000
Segment 5	0.000	0.000	0.000		1.390	1.000	0.000
INTERSECTIONS							
Multiple-vehicle							
Intersection 1	5.578	1.765	3.812		0.330	0.352	1.964
Intersection 2	9.551	3.513	6.038		0.390	0.212	2.021
Intersection 3	2.339	1.032	1.306		0.400	0.517	1.208
Single-vehicle							
Intersection 1	0.214	0.053	0.161		0.360	0.928	0.199
Intersection 2	0.411	0.082	0.329		0.360	0.871	0.358
Intersection 3	0.138	0.037	0.101		0.650	0.918	0.127
COMBINED (sum of column)	28.845	9.194	19.651	0.0	--	--	9.329

Worksheet 3B -- Predicted Pedestrian and Bicycle Crashes for Urban and Suburban Arterials

(1)	(2)	(3)
Site Type	**N_{ped}**	**N_{bike}**
ROADWAY SEGMENTS		
Segment 1	0.029	0.020
Segment 2	0.019	0.013
Segment 3	0.014	0.009
Segment 4	0.014	0.009
Segment 5	0.013	0.009
INTERSECTIONS		
Intersection 1	0.003	0.047
Intersection 2	0.035	0.157
Intersection 3	0.025	0.020
COMBINED (sum of column)	0.151	0.285

Worksheet 3C -- Site-Specific EB Method Summary Results for Urban and Suburban Arterials

(1)	(2)	(3)	(4)	(5)	(6)
Crash severity level	**$N_{predicted}$**	**N_{ped}**	**N_{bike}**	$N_{expected\ (VEHICLE)}$	$N_{expected}$
Total	$(2)_{COMB}$ from Worksheet 3A	$(2)_{COMB}$ from Worksheet 3B	$(3)_{COMB}$ from Worksheet 3B	$(8)_{COMB}$ Worksheet 3A	(3)+(4)+(5)
	28.8	0.2	0.3	9.3	9.8
Fatal and injury (FI)	$(3)_{COMB}$ from Worksheet 3A	$(2)_{COMB}$ from Worksheet 3B	$(3)_{COMB}$ from Worksheet 3B	$(5)_{TOTAL} * (2)_{FI} / (2)_{TOTAL}$	(3)+(4)+(5)
	9.2	0.2	0.3	3.0	3.4
Property damage only (PDO)	$(4)_{COMB}$ from Worksheet 3A	--	--	$(5)_{TOTAL} * (2)_{PDO} / (2)_{TOTAL}$	(3)+(4)+(5)
	19.7	0.0	0.0	6.4	6.4

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments

General Information		Location Information	
Analyst	RLS	Roadway	US 97
Agency or Company	DKS	Roadway Section	Butler Market Ramp to Revere Ramp
Date Performed	07/24/18	Jurisdiction	Bend, OR
		Analysis Year	2040

Input Data		Base Conditions	Site Conditions
Roadway type (2U, 3T, 4U, 4D, ST)		--	4D
Length of segment, L (mi)		--	0.15
AADT (veh/day)	$AADT_{MAX}$ = 66,000 (veh/day)	--	**66,000**
Type of on-street parking (none/parallel/angle)		None	None
Proportion of curb length with on-street parking		--	0
Median width (ft) - for divided only		15	15
Lighting (present / not present)		Not Present	**Present**
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	0
Minor commercial driveways (number)		--	0
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	0
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	0
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	30
Calibration Factor, Cr		1.00	0.64

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.00	1.00	0.94	1.00	0.94

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-12.34	1.36	1.32	2.352	1.000	2.352	0.94	0.64	1.418
Fatal and Injury (FI)	-12.76	1.28	1.31	0.636	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.257	0.605	0.94	0.64	0.365
Property Damage Only (PDO)	-12.81	1.38	1.34	1.835	$(5)_{TOTAL}-(5)_{FI}$ = 0.743	1.747	0.94	0.64	1.053

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	$(9)_{FI}$ from Worksheet 1C	from Table 12-4	$(9)_{PDO}$ from Worksheet 1C	$(9)_{TOTAL}$ from Worksheet 1C
Total	1.000	0.365	1.000	1.053	1.418
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.783	0.286	0.646	0.680	0.966
Head-on collision	0.006	0.002	0.000	0.000	0.002
Angle collision	0.019	0.007	0.008	0.008	0.015
Sideswipe, same direction	0.038	0.014	0.142	0.150	0.163
Sideswipe, opposite direction	0.013	0.005	0.004	0.004	0.009
Other multiple-vehicle collision	0.140	0.051	0.200	0.211	0.262

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brsv}**	**Proportion of Total Crashes**	**Adjusted N_{brsv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brsv}**
	from Table 12-5		from Table 12-5	from Equation 12-13		$(4)_{TOTAL}*(5)$	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-5.05	0.47	0.86	0.177	1.000	0.177	0.94	0.64	0.107
Fatal and Injury (FI)	-8.71	0.66	0.28	0.038	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.208	0.037	0.94	0.64	0.022
Property Damage Only (PDO)	-5.04	0.45	1.06	0.143	$(5)_{TOTAL}-(5)_{FI}$ = 0.792	0.140	0.94	0.64	0.085

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	$(9)_{FI}$ from Worksheet 1E	from Table 12-6	$(9)_{PDO}$ from Worksheet 1E	$(9)_{TOTAL}$ from Worksheet 1E
Total	1.000	0.022	1.000	0.085	0.107
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with animal	0.000	0.000	0.077	0.007	0.007
Collision with fixed object	0.400	0.009	0.846	0.072	0.080
Collision with other object	0.000	0.000	0.000	0.000	0.000
Other single-vehicle collision	0.600	0.013	0.077	0.007	0.020

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15,000)^t$	from Table 12-7
Major commercial	0	0.033	1.106	0.000	--
Minor commercial	0	0.011	1.106	0.000	
Major industrial/institutional	0	0.036	1.106	0.000	
Minor industrial/institutional	0	0.005	1.106	0.000	
Major residential	0	0.018	1.106	0.000	
Minor residential	0	0.003	1.106	0.000	
Other	0	0.005	1.106	0.000	
Total	--	--	--	0.000	1.39

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	0.000	1.000	0.000	0.94	0.64	0.000
Fatal and injury (FI)	--	0.284	0.000	0.94	0.64	0.000
Property damage only (PDO)	--	0.716	0.000	0.94	0.64	0.000

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	1.418	0.107	0.000	1.525	0.013	0.64	0.013
Fatal and injury (FI)	--	--	--	--	--	0.64	0.013

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	1.418	0.107	0.000	1.525	0.009	0.64	0.009
Fatal and injury (FI)	--	--	--	--	--	0.64	0.009

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	(5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	(6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	0.286	0.680	0.966
Head-on collisions (from Worksheet 1D)	0.002	0.000	0.002
Angle collisions (from Worksheet 1D)	0.007	0.008	0.015
Sideswipe, same direction (from Worksheet 1D)	0.014	0.150	0.163
Sideswipe, opposite direction (from Worksheet 1D)	0.005	0.004	0.009
Driveway-related collisions (from Worksheet 1H)	0.000	0.000	0.000
Other multiple-vehicle collision (from Worksheet 1D)	0.051	0.211	0.262
Subtotal	0.365	1.053	1.418
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.000	0.007	0.007
Collision with fixed object (from Worksheet 1F)	0.009	0.072	0.080
Collision with other object (from Worksheet 1F)	0.000	0.000	0.000
Other single-vehicle collision (from Worksheet 1F)	0.013	0.007	0.020
Collision with pedestrian (from Worksheet 1I)	0.013	0.000	0.013
Collision with bicycle (from Worksheet 1J)	0.009	0.000	0.009
Subtotal	0.044	0.085	0.128
Total	0.408	1.138	1.546

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	1.5	0.15	10.3
Fatal and injury (FI)	0.4	0.15	2.7
Property damage only (PDO)	1.1	0.15	7.6

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments

General Information		Location Information	
Analyst	RLS	Roadway	US 97
Agency or Company	DKS	Roadway Section	Revere Ramp to Lafayette
Date Performed	07/24/18	Jurisdiction	Bend, OR
		Analysis Year	2040

Input Data		Base Conditions	Site Conditions
Roadway type (2U, 3T, 4U, 4D, ST)		--	4D
Length of segment, L (mi)		--	0.22
AADT (veh/day)	$AADT_{MAX}$ = 66,000 (veh/day)	--	**66,000**
Type of on-street parking (none/parallel/angle)		None	None
Proportion of curb length with on-street parking		--	0
Median width (ft) - for divided only		15	15
Lighting (present / not present)		Not Present	**Present**
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	0
Minor commercial driveways (number)		--	0
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	0
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	14
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	15
Calibration Factor, Cr		1.00	0.64

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.00	1.00	0.94	1.00	0.94

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-12.34	1.36	1.32	3.450	1.000	3.450	0.94	0.64	2.080
Fatal and Injury (FI)	-12.76	1.28	1.31	0.933	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.257	0.888	0.94	0.64	0.535
Property Damage Only (PDO)	-12.81	1.38	1.34	2.692	$(5)_{TOTAL}-(5)_{FI}$ = 0.743	2.562	0.94	0.64	1.545

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	$(9)_{FI}$ from Worksheet 1C	from Table 12-4	$(9)_{PDO}$ from Worksheet 1C	$(9)_{TOTAL}$ from Worksheet 1C
Total	1.000	0.535	1.000	1.545	2.080
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.783	0.419	0.646	0.998	1.417
Head-on collision	0.006	0.003	0.000	0.000	0.003
Angle collision	0.019	0.010	0.008	0.012	0.023
Sideswipe, same direction	0.038	0.020	0.142	0.219	0.240
Sideswipe, opposite direction	0.013	0.007	0.004	0.006	0.013
Other multiple-vehicle collision	0.140	0.075	0.200	0.309	0.384

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brsv}**	**Proportion of Total Crashes**	**Adjusted N_{brsv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brsv}**
	from Table 12-5		from Table 12-5	from Equation 12-13		$(4)_{TOTAL}*(5)$	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-5.05	0.47	0.86	0.260	1.000	0.260	0.94	0.64	0.157
Fatal and Injury (FI)	-8.71	0.66	0.28	0.055	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.208	0.054	0.94	0.64	0.032
Property Damage Only (PDO)	-5.04	0.45	1.06	0.210	$(5)_{TOTAL}-(5)_{FI}$ = 0.792	0.206	0.94	0.64	0.124

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	$(9)_{FI}$ from Worksheet 1E	from Table 12-6	$(9)_{PDO}$ from Worksheet 1E	$(9)_{TOTAL}$ from Worksheet 1E
Total	1.000	0.032	1.000	0.124	0.157
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with animal	0.000	0.000	0.077	0.010	0.010
Collision with fixed object	0.400	0.013	0.846	0.105	0.118
Collision with other object	0.000	0.000	0.000	0.000	0.000
Other single-vehicle collision	0.600	0.019	0.077	0.010	0.029

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15,000)^t$	from Table 12-7
Major commercial	0	0.033	1.106	0.000	
Minor commercial	0	0.011	1.106	0.000	
Major industrial/institutional	0	0.036	1.106	0.000	
Minor industrial/institutional	0	0.005	1.106	0.000	--
Major residential	0	0.018	1.106	0.000	
Minor residential	0	0.003	1.106	0.000	
Other	0	0.005	1.106	0.000	
Total	--	--	--	0.000	1.39

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	0.000	1.000	0.000	0.94	0.64	0.000
Fatal and injury (FI)	--	0.284	0.000	0.94	0.64	0.000
Property damage only (PDO)	--	0.716	0.000	0.94	0.64	0.000

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	2.080	0.157	0.000	2.236	0.013	0.64	0.019
Fatal and injury (FI)	--	--	--	--	--	0.64	0.019

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	2.080	0.157	0.000	2.236	0.009	0.64	0.013
Fatal and injury (FI)	--	--	--	--	--	0.64	0.013

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	(5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	(6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	0.419	0.998	1.417
Head-on collisions (from Worksheet 1D)	0.003	0.000	0.003
Angle collisions (from Worksheet 1D)	0.010	0.012	0.023
Sideswipe, same direction (from Worksheet 1D)	0.020	0.219	0.240
Sideswipe, opposite direction (from Worksheet 1D)	0.007	0.006	0.013
Driveway-related collisions (from Worksheet 1H)	0.000	0.000	0.000
Other multiple-vehicle collision (from Worksheet 1D)	0.075	0.309	0.384
Subtotal	0.535	1.545	2.079
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.000	0.010	0.010
Collision with fixed object (from Worksheet 1F)	0.013	0.105	0.118
Collision with other object (from Worksheet 1F)	0.000	0.000	0.000
Other single-vehicle collision (from Worksheet 1F)	0.019	0.010	0.029
Collision with pedestrian (from Worksheet 1I)	0.019	0.000	0.019
Collision with bicycle (from Worksheet 1J)	0.013	0.000	0.013
Subtotal	0.064	0.124	0.188
Total	0.599	1.669	2.267

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	2.3	0.22	10.3
Fatal and injury (FI)	0.6	0.22	2.7
Property damage only (PDO)	1.7	0.22	7.6

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments

General Information		Location Information	
Analyst	RLS	Roadway	US 97
Agency or Company	DKS	Roadway Section	Lafayette to Hawthorne
Date Performed	07/24/18	Jurisdiction	Bend, OR
		Analysis Year	2040

Input Data		Base Conditions	Site Conditions
Roadway type (2U, 3T, 4U, 4D, ST)		--	4D
Length of segment, L (mi)		--	0.27
AADT (veh/day)	$AADT_{MAX}$ = 66,000 (veh/day)	--	**66,000**
Type of on-street parking (none/parallel/angle)		None	None
Proportion of curb length with on-street parking		--	0
Median width (ft) - for divided only		15	20
Lighting (present / not present)		Not Present	Present
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	0
Minor commercial driveways (number)		--	0
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	0
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	28
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	5
Calibration Factor, Cr		1.00	0.64

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.10	0.99	0.94	1.00	1.02

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-12.34	1.36	1.32	4.234	1.000	4.234	1.02	0.64	2.774
Fatal and Injury (FI)	-12.76	1.28	1.31	1.145	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.257	1.090	1.02	0.64	0.714
Property Damage Only (PDO)	-12.81	1.38	1.34	3.304	$(5)_{TOTAL}-(5)_{FI}$ = 0.743	3.144	1.02	0.64	2.060

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	$(9)_{FI}$ from Worksheet 1C	from Table 12-4	$(9)_{PDO}$ from Worksheet 1C	$(9)_{TOTAL}$ from Worksheet 1C
Total	1.000	0.714	1.000	2.060	2.774
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.783	0.559	0.646	1.331	1.890
Head-on collision	0.006	0.004	0.000	0.000	0.004
Angle collision	0.019	0.014	0.008	0.016	0.030
Sideswipe, same direction	0.038	0.027	0.142	0.293	0.320
Sideswipe, opposite direction	0.013	0.009	0.004	0.008	0.018
Other multiple-vehicle collision	0.140	0.100	0.200	0.412	0.512

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brsv}**	**Proportion of Total Crashes**	**Adjusted N_{brsv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brsv}**
	from Table 12-5		from Table 12-5	from Equation 12-13		$(4)_{TOTAL}*(5)$	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-5.05	0.47	0.86	0.319	1.000	0.319	1.02	0.64	0.209
Fatal and Injury (FI)	-8.71	0.66	0.28	0.068	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.208	0.066	1.02	0.64	0.043
Property Damage Only (PDO)	-5.04	0.45	1.06	0.258	$(5)_{TOTAL}-(5)_{FI}$ = 0.792	0.253	1.02	0.64	0.165

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	$(9)_{FI}$ from Worksheet 1E	from Table 12-6	$(9)_{PDO}$ from Worksheet 1E	$(9)_{TOTAL}$ from Worksheet 1E
Total	1.000	0.043	1.000	0.165	0.209
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with animal	0.000	0.000	0.077	0.013	0.013
Collision with fixed object	0.400	0.017	0.846	0.140	0.157
Collision with other object	0.000	0.000	0.000	0.000	0.000
Other single-vehicle collision	0.600	0.026	0.077	0.013	0.039

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15,000)^t$	from Table 12-7
Major commercial	0	0.033	1.106	0.000	--
Minor commercial	0	0.011	1.106	0.000	
Major industrial/institutional	0	0.036	1.106	0.000	
Minor industrial/institutional	0	0.005	1.106	0.000	
Major residential	0	0.018	1.106	0.000	
Minor residential	0	0.003	1.106	0.000	
Other	0	0.005	1.106	0.000	
Total	--	--	--	0.000	1.39

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	0.000	1.000	0.000	1.02	0.64	0.000
Fatal and injury (FI)	--	0.284	0.000	1.02	0.64	0.000
Property damage only (PDO)	--	0.716	0.000	1.02	0.64	0.000

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	2.774	0.209	0.000	2.983	0.013	0.64	0.025
Fatal and injury (FI)	--	--	--	--	--	0.64	0.025

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	2.774	0.209	0.000	2.983	0.009	0.64	0.017
Fatal and injury (FI)	--	--	--	--	--	0.64	0.017

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	(5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	(6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	0.559	1.331	1.890
Head-on collisions (from Worksheet 1D)	0.004	0.000	0.004
Angle collisions (from Worksheet 1D)	0.014	0.016	0.030
Sideswipe, same direction (from Worksheet 1D)	0.027	0.293	0.320
Sideswipe, opposite direction (from Worksheet 1D)	0.009	0.008	0.018
Driveway-related collisions (from Worksheet 1H)	0.000	0.000	0.000
Other multiple-vehicle collision (from Worksheet 1D)	0.100	0.412	0.512
Subtotal	0.713	2.060	2.773
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.000	0.013	0.013
Collision with fixed object (from Worksheet 1F)	0.017	0.140	0.157
Collision with other object (from Worksheet 1F)	0.000	0.000	0.000
Other single-vehicle collision (from Worksheet 1F)	0.026	0.013	0.039
Collision with pedestrian (from Worksheet 1I)	0.025	0.000	0.025
Collision with bicycle (from Worksheet 1J)	0.017	0.000	0.017
Subtotal	0.085	0.165	0.251
Total	0.799	2.226	3.024

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	3.0	0.27	11.2
Fatal and injury (FI)	0.8	0.27	3.0
Property damage only (PDO)	2.2	0.27	8.2

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments

General Information		Location Information	
Analyst	RLS	Roadway	US 97
Agency or Company	DKS	Roadway Section	Hawthorne to Colorado Ramp
Date Performed	07/24/18	Jurisdiction	Bend, OR
		Analysis Year	2040

Input Data		Base Conditions	Site Conditions
Roadway type (2U, 3T, 4U, 4D, ST)		--	4D
Length of segment, L (mi)		--	0.18
AADT (veh/day)	$AADT_{MAX}$ = 66,000 (veh/day)	--	**66,000**
Type of on-street parking (none/parallel/angle)		None	None
Proportion of curb length with on-street parking		--	0
Median width (ft) - for divided only		15	20
Lighting (present / not present)		Not Present	Present
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	0
Minor commercial driveways (number)		--	0
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	0
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	22
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	5
Calibration Factor, Cr		1.00	0.64

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.07	0.99	0.94	1.00	1.00

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-12.34	1.36	1.32	2.823	1.000	2.823	1.00	0.64	1.801
Fatal and Injury (FI)	-12.76	1.28	1.31	0.763	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.257	0.726	1.00	0.64	0.464
Property Damage Only (PDO)	-12.81	1.38	1.34	2.203	$(5)_{TOTAL}-(5)_{FI}$ = 0.743	2.096	1.00	0.64	1.338

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	$(9)_{FI}$ from Worksheet 1C	from Table 12-4	$(9)_{PDO}$ from Worksheet 1C	$(9)_{TOTAL}$ from Worksheet 1C
Total	1.000	0.464	1.000	1.338	1.801
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.783	0.363	0.646	0.864	1.227
Head-on collision	0.006	0.003	0.000	0.000	0.003
Angle collision	0.019	0.009	0.008	0.011	0.020
Sideswipe, same direction	0.038	0.018	0.142	0.190	0.208
Sideswipe, opposite direction	0.013	0.006	0.004	0.005	0.011
Other multiple-vehicle collision	0.140	0.065	0.200	0.268	0.332

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brsv}**	**Proportion of Total Crashes**	**Adjusted N_{brsv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brsv}**
	from Table 12-5		from Table 12-5	from Equation 12-13		$(4)_{TOTAL}*(5)$	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-5.05	0.47	0.86	0.212	1.000	0.212	1.00	0.64	0.136
Fatal and Injury (FI)	-8.71	0.66	0.28	0.045	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.208	0.044	1.00	0.64	0.028
Property Damage Only (PDO)	-5.04	0.45	1.06	0.172	$(5)_{TOTAL}-(5)_{FI}$ = 0.792	0.168	1.00	0.64	0.107

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	$(9)_{FI}$ from Worksheet 1E	from Table 12-6	$(9)_{PDO}$ from Worksheet 1E	$(9)_{TOTAL}$ from Worksheet 1E
Total	1.000	0.028	1.000	0.107	0.136
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with animal	0.000	0.000	0.077	0.008	0.008
Collision with fixed object	0.400	0.011	0.846	0.091	0.102
Collision with other object	0.000	0.000	0.000	0.000	0.000
Other single-vehicle collision	0.600	0.017	0.077	0.008	0.025

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15,000)^t$	from Table 12-7
Major commercial	0	0.033	1.106	0.000	--
Minor commercial	0	0.011	1.106	0.000	
Major industrial/institutional	0	0.036	1.106	0.000	
Minor industrial/institutional	0	0.005	1.106	0.000	
Major residential	0	0.018	1.106	0.000	
Minor residential	0	0.003	1.106	0.000	
Other	0	0.005	1.106	0.000	
Total	--	--	--	0.000	1.39

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	0.000	1.000	0.000	1.00	0.64	0.000
Fatal and injury (FI)	--	0.284	0.000	1.00	0.64	0.000
Property damage only (PDO)	--	0.716	0.000	1.00	0.64	0.000

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	1.801	0.136	0.000	1.937	0.013	0.64	0.016
Fatal and injury (FI)	--	--	--	--	--	0.64	0.016

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	1.801	0.136	0.000	1.937	0.009	0.64	0.011
Fatal and injury (FI)	--	--	--	--	--	0.64	0.011

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	(5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	(6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	0.363	0.864	1.227
Head-on collisions (from Worksheet 1D)	0.003	0.000	0.003
Angle collisions (from Worksheet 1D)	0.009	0.011	0.020
Sideswipe, same direction (from Worksheet 1D)	0.018	0.190	0.208
Sideswipe, opposite direction (from Worksheet 1D)	0.006	0.005	0.011
Driveway-related collisions (from Worksheet 1H)	0.000	0.000	0.000
Other multiple-vehicle collision (from Worksheet 1D)	0.065	0.268	0.332
Subtotal	0.463	1.338	1.801
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.000	0.008	0.008
Collision with fixed object (from Worksheet 1F)	0.011	0.091	0.102
Collision with other object (from Worksheet 1F)	0.000	0.000	0.000
Other single-vehicle collision (from Worksheet 1F)	0.017	0.008	0.025
Collision with pedestrian (from Worksheet 1I)	0.016	0.000	0.016
Collision with bicycle (from Worksheet 1J)	0.011	0.000	0.011
Subtotal	0.055	0.107	0.163
Total	0.518	1.445	1.963

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	2.0	0.18	10.9
Fatal and injury (FI)	0.5	0.18	2.9
Property damage only (PDO)	1.4	0.18	8.0

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments

General Information		Location Information	
Analyst	RLS	Roadway	US 97
Agency or Company	DKS	Roadway Section	Colorado Ramp to Truman
Date Performed	07/24/18	Jurisdiction	Bend, OR
		Analysis Year	2040

Input Data		Base Conditions	Site Conditions
Roadway type (2U, 3T, 4U, 4D, ST)		--	4D
Length of segment, L (mi)		--	0.33
AADT (veh/day)	$AADT_{MAX}$ = 66,000 (veh/day)	--	**64,170**
Type of on-street parking (none/parallel/angle)		None	None
Proportion of curb length with on-street parking		--	0
Median width (ft) - for divided only		15	10
Lighting (present / not present)		Not Present	**Present**
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	0
Minor commercial driveways (number)		--	0
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	0
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	29
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	15
Calibration Factor, Cr		1.00	0.64

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.03	1.01	0.94	1.00	0.98

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-12.34	1.36	1.32	4.981	1.000	4.981	0.98	0.64	3.138
Fatal and Injury (FI)	-12.76	1.28	1.31	1.350	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.258	1.285	0.98	0.64	0.809
Property Damage Only (PDO)	-12.81	1.38	1.34	3.884	$(5)_{TOTAL}-(5)_{FI}$ = 0.742	3.696	0.98	0.64	2.328

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	$(9)_{FI}$ from Worksheet 1C	from Table 12-4	$(9)_{PDO}$ from Worksheet 1C	$(9)_{TOTAL}$ from Worksheet 1C
Total	1.000	0.809	1.000	2.328	3.138
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.783	0.634	0.646	1.504	2.138
Head-on collision	0.006	0.005	0.000	0.000	0.005
Angle collision	0.019	0.015	0.008	0.019	0.034
Sideswipe, same direction	0.038	0.031	0.142	0.331	0.361
Sideswipe, opposite direction	0.013	0.011	0.004	0.009	0.020
Other multiple-vehicle collision	0.140	0.113	0.200	0.466	0.579

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brsv}**	**Proportion of Total Crashes**	**Adjusted N_{brsv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brsv}**
	from Table 12-5		from Table 12-5	from Equation 12-13		$(4)_{TOTAL}*(5)$	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-5.05	0.47	0.86	0.384	1.000	0.384	0.98	0.64	0.242
Fatal and Injury (FI)	-8.71	0.66	0.28	0.081	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.207	0.079	0.98	0.64	0.050
Property Damage Only (PDO)	-5.04	0.45	1.06	0.311	$(5)_{TOTAL}-(5)_{FI}$ = 0.793	0.305	0.98	0.64	0.192

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	$(9)_{FI}$ from Worksheet 1E	from Table 12-6	$(9)_{PDO}$ from Worksheet 1E	$(9)_{TOTAL}$ from Worksheet 1E
Total	1.000	0.050	1.000	0.192	0.242
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with animal	0.000	0.000	0.077	0.015	0.015
Collision with fixed object	0.400	0.020	0.846	0.163	0.183
Collision with other object	0.000	0.000	0.000	0.000	0.000
Other single-vehicle collision	0.600	0.030	0.077	0.015	0.045

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15,000)^t$	from Table 12-7
Major commercial	0	0.033	1.106	0.000	
Minor commercial	0	0.011	1.106	0.000	
Major industrial/institutional	0	0.036	1.106	0.000	
Minor industrial/institutional	0	0.005	1.106	0.000	--
Major residential	0	0.018	1.106	0.000	
Minor residential	0	0.003	1.106	0.000	
Other	0	0.005	1.106	0.000	
Total	--	--	--	0.000	1.39

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	0.000	1.000	0.000	0.98	0.64	0.000
Fatal and injury (FI)	--	0.284	0.000	0.98	0.64	0.000
Property damage only (PDO)	--	0.716	0.000	0.98	0.64	0.000

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	3.138	0.242	0.000	3.380	0.013	0.64	0.028
Fatal and injury (FI)	--	--	--	--	--	0.64	0.028

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	3.138	0.242	0.000	3.380	0.009	0.64	0.019
Fatal and injury (FI)	--	--	--	--	--	0.64	0.019

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	(5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	(6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	0.634	1.504	2.138
Head-on collisions (from Worksheet 1D)	0.005	0.000	0.005
Angle collisions (from Worksheet 1D)	0.015	0.019	0.034
Sideswipe, same direction (from Worksheet 1D)	0.031	0.331	0.361
Sideswipe, opposite direction (from Worksheet 1D)	0.011	0.009	0.020
Driveway-related collisions (from Worksheet 1H)	0.000	0.000	0.000
Other multiple-vehicle collision (from Worksheet 1D)	0.113	0.466	0.579
Subtotal	0.808	2.328	3.137
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.000	0.015	0.015
Collision with fixed object (from Worksheet 1F)	0.020	0.163	0.183
Collision with other object (from Worksheet 1F)	0.000	0.000	0.000
Other single-vehicle collision (from Worksheet 1F)	0.030	0.015	0.045
Collision with pedestrian (from Worksheet 1I)	0.028	0.000	0.028
Collision with bicycle (from Worksheet 1J)	0.019	0.000	0.019
Subtotal	0.098	0.192	0.290
Total	0.906	2.520	3.426

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	3.4	0.33	10.4
Fatal and injury (FI)	0.9	0.33	2.7
Property damage only (PDO)	2.5	0.33	7.6

Worksheet 2A -- General Information and Input Data for Urban and Suburban Arterial Intersections

General Information		Location Information	
Analyst	RLS	Roadway	US 97
Agency or Company	DKS	Intersection	Hawthorne/US 97
Date Performed	07/24/18	Jurisdiction	Bend, OR
		Analysis Year	2040

Input Data		Base Conditions	Site Conditions
Intersection type (3ST, 3SG, 4ST, 4SG)		--	3ST
AADT $_{major}$ (veh/day)	$AADT_{MAX}$ = 45,700 (veh/day)	--	**45,700**
AADT $_{minor}$ (veh/day)	$AADT_{MAX}$ = 9,300 (veh/day)	--	**3,290**
Intersection lighting (present/not present)		Not Present	Present
Calibration factor, C_i		1.00	0.35
Data for unsignalized intersections only:		--	--
Number of major-road approaches with left-turn lanes (0,1,2)		0	0
Number of major-road approaches with right-turn lanes (0,1,2)		0	1
Data for signalized intersections only:		--	--
Number of approaches with left-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	0
Number of approaches with right-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	0
Number of approaches with left-turn signal phasing [for 3SG, use maximum value of 3]		--	
Type of left-turn signal phasing for Leg #1		Permissive	
Type of left-turn signal phasing for Leg #2		--	
Type of left-turn signal phasing for Leg #3		--	
Type of left-turn signal phasing for Leg #4 (if applicable)		--	
Number of approaches with right-turn-on-red prohibited [for 3SG, use maximum value of 3]		0	0
Intersection red light cameras (present/not present)		Not Present	Not Present
Sum of all pedestrian crossing volumes (PedVol) -- Signalized intersections only			
Maximum number of lanes crossed by a pedestrian (n_{lanesx})		--	
Number of bus stops within 300 m (1,000 ft) of the intersection		0	0
Schools within 300 m (1,000 ft) of the intersection (present/not present)		Not Present	Not Present
Number of alcohol sales establishments within 300 m (1,000 ft) of the intersection		0	0

Worksheet 2B -- Crash Modification Factors for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)	(7)
CMF for Left-Turn Lanes	CMF for Left-Turn Signal Phasing	CMF for Right-Turn Lanes	CMF for Right Turn on Red	CMF for Lighting	CMF for Red Light Cameras	Combined CMF
CMF 1i	*CMF 2i*	*CMF 3i*	*CMF 4i*	*CMF 5i*	*CMF 6i*	*CMF $_{COMB}$*
from Table 12-24	from Table 12-25	from Table 12-26	from Equation 12-35	from Equation 12-36	from Equation 12-37	(1)*(2)*(3)*(4)*(5)*(6)
1.00	1.00	0.86	1.00	0.88	1.00	0.76

Worksheet 2C -- Multiple-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1)	(2)			(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**			**Overdispersion Parameter, k**	**Initial N_{bimv}**	**Proportion of Total Crashes**	**Adjusted N_{bimv}**	**Combined CMFs**	**Calibration Factor, C_i**	**Predicted N_{bimv}**
	from Table 12-10			from Table 12-10	from Equation 12-21		$(4)_{TOTAL}$*(5)	(7) from Worksheet 2B		(6)*(7)*(8)
	a	b	c							
Total	-13.36	1.11	0.41	0.80	6.492	1.000	6.492	0.76	0.35	1.716
Fatal and Injury (FI)	-14.01	1.16	0.30	0.69	2.378	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.319	2.069	0.76	0.35	0.547
Property Damage Only (PDO)	-15.38	1.20	0.51	0.77	5.084	$(5)_{TOTAL}-(5)_{FI}$ = 0.681	4.423	0.76	0.35	1.169

Worksheet 2D -- Multiple-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{bimv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{bimv\ (PDO)}$ (crashes/year)**	**Predicted N $_{bimv\ (TOTAL)}$ (crashes/year)**
	from Table 12-11	$(9)_{FI}$ from Worksheet 2C	from Table 12-11	$(9)_{PDO}$ from Worksheet 2C	$(9)_{PDO}$ from Worksheet 2C
Total	1.000	0.547	1.000	1.169	1.716
		(2)*$(3)_{FI}$		(4)*$(5)_{PDO}$	(3)+(5)
Rear-end collision	0.186	0.102	0.181	0.212	0.313
Head-on collision	0.004	0.002	0.000	0.000	0.002
Angle collision	0.078	0.043	0.056	0.065	0.108
Sideswipe	0.008	0.004	0.016	0.019	0.023
Other multiple-vehicle collision	0.725	0.396	0.746	0.872	1.268

Worksheet 2E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1)	(2)			(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**			**Overdispersion Parameter, k**	**Initial N_{bisv}**	**Proportion of Total Crashes**	**Adjusted N_{bimv}**	**Combined CMFs**	**Calibration Factor, C_i**	**Predicted N_{bisv}**
	from Table 12-12			from Table 12-12	from Eqn. 12-24; (FI) from Eqn. 12-24 or 12-27		$(4)_{TOTAL}$*(5)	(7) from Worksheet 2B		(6)*(7)*(8)
	a	b	c							
Total	-6.81	0.16	0.51	1.14	0.382	1.000	0.382	0.76	0.35	0.101
Fatal and Injury (FI)	--	--	--	--	0.118	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.287	0.110	0.76	0.35	0.029
Property Damage Only (PDO)	-8.36	0.25	0.55	1.29	0.294	$(5)_{TOTAL}-(5)_{FI}$ = 0.713	0.272	0.76	0.35	0.072

Worksheet 2F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{bisv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{bisv\ (PDO)}$ (crashes/year)**	**Predicted N $_{bisv\ (TOTAL)}$ (crashes/year)**
	from Table 12-13	$(9)_{FI}$ from Worksheet 2E	from Table 12-13	$(9)_{PDO}$ from Worksheet 2E	$(9)_{PDO}$ from Worksheet 2E
Total	1.000	0.029	1.000	0.072	0.101
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with parked vehicle	0.000	0.000	0.000	0.000	0.000
Collision with animal	0.000	0.000	0.000	0.000	0.000
Collision with fixed object	0.077	0.002	1.000	0.072	0.074
Collision with other object	0.000	0.000	0.000	0.000	0.000
Other single-vehicle collision	0.923	0.027	0.000	0.000	0.027
Single-vehicle noncollision	0.000	0.000	0.000	0.000	0.000

Worksheet 2G -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Stop-Controlled Intersections

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Predicted N_{bimv}**	**Predicted N_{bisv}**	**Predicted N_{bi}**	**f_{pedi}**	**Calibration factor, C_i**	**Predicted N_{pedi}**
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-16		(4)*(5)*(6)
Total	1.716	0.101	1.817	0.021	0.35	0.013
Fatal and injury (FI)	--	--	--	--	0.35	0.013

Worksheet 2H -- Crash Modification Factors for Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections

(1)	(2)	(3)	(4)
CMF for Bus Stops	CMF for Schools	CMF for Alcohol Sales Establishments	Combined CMF
CMF_{1p}	CMF_{2p}	CMF_{3p}	
from Table 12-28	from Table 12-29	from Table 12-30	(1)*(2)*(3)
--	--	--	--

Worksheet 2I -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections

(1)	(2)					(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**SPF Coefficients**					**Overdispersion Parameter, k**	**$N_{pedbase}$**	**Combined CMF**	**Calibration factor, C_i**	**Predicted N_{pedi}**
	from Table 12-14						from Equation 12-29	(4) from Worksheet 2H		(4)*(5)*(6)
	a	b	c	d	e					
Total	--	--	--	--	--	--	--	--	0.35	--
Fatal and Injury (FI)	--	--	--	--	--	--	--	--	0.35	--

Worksheet 2J -- Vehicle-Bicycle Collisions for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Predicted N_{bimv}**	**Predicted N_{bisv}**	**Predicted N_{bi}**	**f_{bikei}**	**Calibration factor, C_i**	**Predicted N_{bikei}**
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-17		(4)*(5)*(6)
Total	1.716	0.101	1.817	0.016	0.35	0.010
Fatal and injury (FI)	--	--	--	--	0.35	0.010

Worksheet 2K -- Crash Severity Distribution for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)
	Fatal and injury (FI)	**Property damage only (PDO)**	**Total**
Collision type	(3) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J	(5) from Worksheet 2D and 2F	(6) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 2D)	0.102	0.212	0.313
Head-on collisions (from Worksheet 2D)	0.002	0.000	0.002
Angle collisions (from Worksheet 2D)	0.043	0.065	0.108
Sideswipe (from Worksheet 2D)	0.004	0.019	0.023
Other multiple-vehicle collision (from Worksheet 2D)	0.396	0.872	1.268
Subtotal	0.547	1.168	1.715
SINGLE-VEHICLE			
Collision with parked vehicle (from Worksheet 2F)	0.000	0.000	0.000
Collision with animal (from Worksheet 2F)	0.000	0.000	0.000
Collision with fixed object (from Worksheet 2F)	0.002	0.072	0.074
Collision with other object (from Worksheet 2F)	0.000	0.000	0.000
Other single-vehicle collision (from Worksheet 2F)	0.027	0.000	0.027
Single-vehicle noncollision (from Worksheet 2F)	0.000	0.000	0.000
Collision with pedestrian (from Worksheet 2G or 2I)	0.013	0.000	0.013
Collision with bicycle (from Worksheet 2J)	0.010	0.000	0.010
Subtotal	0.052	0.072	0.124
Total	0.600	1.240	1.840

Worksheet 2L -- Summary Results for Urban and Suburban Arterial Intersections

(1)	(2)
Crash severity level	**Predicted average crash frequency, $N_{predicted\ int}$ (crashes/year)**
	(Total) from Worksheet 2K
Total	1.8
Fatal and injury (FI)	0.6
Property damage only (PDO)	1.2

Worksheet 2A -- General Information and Input Data for Urban and Suburban Arterial Intersections

General Information		Location Information	
Analyst	RLS	Roadway	US 97
Agency or Company	DKS	Intersection	Powers/US 97
Date Performed	07/24/18	Jurisdiction	Bend, OR
		Analysis Year	2040

Input Data		Base Conditions	Site Conditions
Intersection type (3ST, 3SG, 4ST, 4SG)		--	4SG
AADT $_{major}$ (veh/day)	$AADT_{MAX}$ = 67,700 (veh/day)	--	**41,660**
AADT $_{minor}$ (veh/day)	$AADT_{MAX}$ = 33,400 (veh/day)	--	**13,760**
Intersection lighting (present/not present)		Not Present	Present
Calibration factor, C_i		1.00	1.05
Data for unsignalized intersections only:		--	--
Number of major-road approaches with left-turn lanes (0,1,2)		0	0
Number of major-road approaches with right-turn lanes (0,1,2)		0	0
Data for signalized intersections only:		--	--
Number of approaches with left-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	0
Number of approaches with right-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	0
Number of approaches with left-turn signal phasing [for 3SG, use maximum value of 3]		--	0
Type of left-turn signal phasing for Leg #1		Permissive	Not Applicable
Type of left-turn signal phasing for Leg #2		--	Not Applicable
Type of left-turn signal phasing for Leg #3		--	Not Applicable
Type of left-turn signal phasing for Leg #4 (if applicable)		--	Not Applicable
Number of approaches with right-turn-on-red prohibited [for 3SG, use maximum value of 3]		0	2
Intersection red light cameras (present/not present)		Not Present	Not Present
Sum of all pedestrian crossing volumes (PedVol) -- Signalized intersections only			5
Maximum number of lanes crossed by a pedestrian (n_{lanesx})		--	4
Number of bus stops within 300 m (1,000 ft) of the intersection		0	1
Schools within 300 m (1,000 ft) of the intersection (present/not present)		Not Present	Not Present
Number of alcohol sales establishments within 300 m (1,000 ft) of the intersection		0	1

Worksheet 2B -- Crash Modification Factors for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)	(7)
CMF for Left-Turn Lanes	CMF for Left-Turn Signal Phasing	CMF for Right-Turn Lanes	CMF for Right Turn on Red	CMF for Lighting	CMF for Red Light Cameras	Combined CMF
CMF 1i	*CMF 2i*	*CMF 3i*	*CMF 4i*	*CMF 5i*	*CMF 6i*	*CMF $_{COMB}$*
from Table 12-24	from Table 12-25	from Table 12-26	from Equation 12-35	from Equation 12-36	from Equation 12-37	(1)*(2)*(3)*(4)*(5)*(6)
1.00	0.99	1.00	0.96	0.95	1.00	0.91

Worksheet 2C -- Multiple-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1)	(2)			(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**			**Overdispersion Parameter, k**	**Initial N_{bimv}**	**Proportion of Total Crashes**	**Adjusted N_{bimv}**	**Combined CMFs**	**Calibration Factor, C_i**	**Predicted N_{bimv}**
	from Table 12-10			from Table 12-10	from Equation 12-21		$(4)_{TOTAL}$*(5)	(7) from Worksheet 2B		(6)*(7)*(8)
	a	b	c							
Total	-10.99	1.07	0.23	0.39	13.246	1.000	13.246	0.91	1.05	12.611
Fatal and Injury (FI)	-13.14	1.18	0.22	0.33	4.520	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.352	4.668	0.91	1.05	4.444
Property Damage Only (PDO)	-11.02	1.02	0.24	0.44	8.307	$(5)_{TOTAL}-(5)_{FI}$ = 0.648	8.578	0.91	1.05	8.167

Worksheet 2D -- Multiple-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{bimv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{bimv\ (PDO)}$ (crashes/year)**	**Predicted N $_{bimv\ (TOTAL)}$ (crashes/year)**
	from Table 12-11	$(9)_{FI}$ from Worksheet 2C	from Table 12-11	$(9)_{PDO}$ from Worksheet 2C	$(9)_{PDO}$ from Worksheet 2C
Total	1.000	4.444	1.000	8.167	12.611
		(2)*$(3)_{FI}$		(4)*$(5)_{PDO}$	(3)+(5)
Rear-end collision	0.501	2.226	0.402	3.283	5.510
Head-on collision	0.002	0.009	0.000	0.000	0.009
Angle collision	0.236	1.049	0.215	1.756	2.805
Sideswipe	0.004	0.018	0.012	0.098	0.116
Other multiple-vehicle collision	0.257	1.142	0.370	3.022	4.164

Worksheet 2E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1)	(2)			(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**			**Overdispersion Parameter, k**	**Initial N_{bisv}**	**Proportion of Total Crashes**	**Adjusted N_{bimv}**	**Combined CMFs**	**Calibration Factor, C_i**	**Predicted N_{bisv}**
	from Table 12-12			from Table 12-12	from Eqn. 12-24; (FI) from Eqn. 12-24 or 12-27		$(4)_{TOTAL}$*(5)	(7) from Worksheet 2B		(6)*(7)*(8)
	a	b	c							
Total	-10.21	0.68	0.27	0.36	0.668	1.000	0.668	0.91	1.05	0.636
Fatal and Injury (FI)	-9.25	0.43	0.29	0.09	0.148	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.222	0.149	0.91	1.05	0.141
Property Damage Only (PDO)	-11.34	0.78	0.25	0.44	0.517	$(5)_{TOTAL}-(5)_{FI}$ = 0.778	0.519	0.91	1.05	0.494

Worksheet 2F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{bisv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{bisv\ (PDO)}$ (crashes/year)**	**Predicted N $_{bisv\ (TOTAL)}$ (crashes/year)**
	from Table 12-13	(9)$_{FI}$ from Worksheet 2E	from Table 12-13	(9)$_{PDO}$ from Worksheet 2E	(9)$_{PDO}$ from Worksheet 2E
Total	1.000	0.141	1.000	0.494	0.636
		(2)*(3)$_{FI}$		(4)*(5)$_{PDO}$	(3)+(5)
Collision with parked vehicle	0.000	0.000	0.000	0.000	0.000
Collision with animal	0.000	0.000	0.000	0.000	0.000
Collision with fixed object	0.097	0.014	0.722	0.357	0.371
Collision with other object	0.000	0.000	0.000	0.000	0.000
Other single-vehicle collision	0.888	0.126	0.056	0.028	0.153
Single-vehicle noncollision	0.015	0.002	0.222	0.110	0.112

Worksheet 2G -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Stop-Controlled Intersections

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Predicted N_{bimv}**	**Predicted N_{bisv}**	**Predicted N_{bi}**	**f_{pedi}**	**Calibration factor, C_i**	**Predicted N_{pedi}**
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-16		(4)*(5)*(6)
Total	--	--	--	--	1.05	--
Fatal and injury (FI)	--	--	--	--	1.05	--

Worksheet 2H -- Crash Modification Factors for Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections

(1)	(2)	(3)	(4)
CMF for Bus Stops	CMF for Schools	CMF for Alcohol Sales Establishments	Combined CMF
CMF_{1p}	CMF_{2p}	CMF_{3p}	
from Table 12-28	from Table 12-29	from Table 12-30	(1)*(2)*(3)
2.78	1.00	1.12	3.11

Worksheet 2I -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections

(1)	(2)					(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**SPF Coefficients**					**Overdispersion Parameter, k**	**$N_{pedbase}$**	**Combined CMF**	**Calibration factor, C_i**	**Predicted N_{pedi}**
	from Table 12-14						from Equation 12-29	(4) from Worksheet 2H		(4)*(5)*(6)
	a	b	c	d	e					
Total	-9.53	0.40	0.26	0.45	0.04	0.24	0.010	3.11	1.05	0.034
Fatal and Injury (FI)	--	--	--	--	--	--	--	--	1.05	0.034

Worksheet 2J -- Vehicle-Bicycle Collisions for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Predicted N_{bimv}**	**Predicted N_{bisv}**	**Predicted N_{bi}**	**f_{bikei}**	**Calibration factor, C_i**	**Predicted N_{bikei}**
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-17		(4)*(5)*(6)
Total	12.611	0.636	13.247	0.015	1.05	0.209
Fatal and injury (FI)	--	--	--	--	1.05	0.209

Worksheet 2K -- Crash Severity Distribution for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J	(5) from Worksheet 2D and 2F	(6) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 2D)	2.226	3.283	5.510
Head-on collisions (from Worksheet 2D)	0.009	0.000	0.009
Angle collisions (from Worksheet 2D)	1.049	1.756	2.805
Sideswipe (from Worksheet 2D)	0.018	0.098	0.116
Other multiple-vehicle collision (from Worksheet 2D)	1.142	3.022	4.164
Subtotal	4.444	8.159	12.603
SINGLE-VEHICLE			
Collision with parked vehicle (from Worksheet 2F)	0.000	0.000	0.000
Collision with animal (from Worksheet 2F)	0.000	0.000	0.000
Collision with fixed object (from Worksheet 2F)	0.014	0.357	0.371
Collision with other object (from Worksheet 2F)	0.000	0.000	0.000
Other single-vehicle collision (from Worksheet 2F)	0.126	0.028	0.153
Single-vehicle noncollision (from Worksheet 2F)	0.002	0.110	0.112
Collision with pedestrian (from Worksheet 2G or 2I)	0.034	0.000	0.034
Collision with bicycle (from Worksheet 2J)	0.209	0.000	0.209
Subtotal	0.384	0.494	0.879
Total	4.828	8.653	13.481

Worksheet 2L -- Summary Results for Urban and Suburban Arterial Intersections

(1)	(2)
Crash severity level	**Predicted average crash frequency, $N_{predicted\ int}$ (crashes/year)**
	(Total) from Worksheet 2K
Total	13.5
Fatal and injury (FI)	4.8
Property damage only (PDO)	8.7

Worksheet 3A -- Predicted Crashes by Severity and Site Type and Observed Crashes Using the Site-Specific EB Method for Urban and Suburban Arterials

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Collision type / Site type	**Predicted average crash frequency (crashes/year)**			**Observed crashes, $N_{observed}$** (crashes/year)	**Overdispersion Parameter, k**	**Weighted adjustment, w**	**Expected average crash frequency,**
	$N_{predicted}$ (TOTAL)	$N_{predicted}$ (FI)	$N_{predicted}$ (PDO)			Equation A-5 from Part C Appendix	Equation A-4 from Part C Appendix
ROADWAY SEGMENTS							
Multiple-vehicle nondriveway							
Segment 1	1.418	0.365	1.053		1.320	0.348	0.494
Segment 2	2.080	0.535	1.545		1.320	0.267	0.555
Segment 3	2.774	0.714	2.060		1.320	0.215	0.595
Segment 4	1.801	0.464	1.338		1.320	0.296	0.533
Segment 5	3.138	0.809	2.328		1.320	0.194	0.610
Single-vehicle							
Segment 1	0.107	0.022	0.085		0.860	0.916	0.098
Segment 2	0.157	0.032	0.124		0.860	0.881	0.138
Segment 3	0.209	0.043	0.165		0.860	0.848	0.177
Segment 4	0.136	0.028	0.107		0.860	0.896	0.121
Segment 5	0.242	0.050	0.192		0.860	0.828	0.200
Multiple-vehicle driveway-related							
Segment 1	0.000	0.000	0.000		1.390	1.000	0.000
Segment 2	0.000	0.000	0.000		1.390	1.000	0.000
Segment 3	0.000	0.000	0.000		1.390	1.000	0.000
Segment 4	0.000	0.000	0.000		1.390	1.000	0.000
Segment 5	0.000	0.000	0.000		1.390	1.000	0.000
INTERSECTIONS							
Multiple-vehicle							
Intersection 1	1.715	0.547	1.168		0.800	0.422	0.723
Intersection 2	0.000	0.000	0.000		0.800	1.000	0.000
Intersection 3	0.000	0.000	0.000		0.800	1.000	0.000
Intersection 4	12.603	4.444	8.159		0.390	0.169	2.131
Single-vehicle							
Intersection 1	0.101	0.029	0.072		1.140	0.897	0.090
Intersection 2	0.000	0.000	0.000		1.140	1.000	0.000
Intersection 3	0.000	0.000	0.000		1.140	1.000	0.000
Intersection 4	0.636	0.141	0.494		0.360	0.814	0.517
COMBINED (sum of column)	27.115	8.224	18.891	0.0	--	--	6.984

Worksheet 3B -- Predicted Pedestrian and Bicycle Crashes for Urban and Suburban Arterials

(1)	(2)	(3)
Site Type	**N_{ped}**	**N_{bike}**
ROADWAY SEGMENTS		
Segment 1	0.013	0.009
Segment 2	0.019	0.013
Segment 3	0.025	0.017
Segment 4	0.016	0.011
Segment 5	0.028	0.019
INTERSECTIONS		
Intersection 1	0.013	0.010
Intersection 2	0.000	0.000
Intersection 3	0.000	0.000
Intersection 4	0.034	0.209
COMBINED (sum of column)	0.148	0.288

Worksheet 3C -- Site-Specific EB Method Summary Results for Urban and Suburban Arterials

(1)	(2)	(3)	(4)	(5)	(6)
Crash severity level	**$N_{predicted}$**	**N_{ped}**	**N_{bike}**	$N_{expected\ (VEHICLE)}$	$N_{expected}$
Total	$(2)_{COMB}$ from Worksheet 3A	$(2)_{COMB}$ from Worksheet 3B	$(3)_{COMB}$ from Worksheet 3B	$(8)_{COMB}$ Worksheet 3A	(3)+(4)+(5)
	27.1	0.1	0.3	7.0	7.4
Fatal and injury (FI)	$(3)_{COMB}$ from Worksheet 3A	$(2)_{COMB}$ from Worksheet 3B	$(3)_{COMB}$ from Worksheet 3B	$(5)_{TOTAL} * (2)_{FI} / (2)_{TOTAL}$	(3)+(4)+(5)
	8.2	0.1	0.3	2.1	2.6
Property damage only (PDO)	$(4)_{COMB}$ from Worksheet 3A	--	--	$(5)_{TOTAL} * (2)_{PDO} / (2)_{TOTAL}$	(3)+(4)+(5)
	18.9	0.0	0.0	4.9	4.9

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments

General Information		Location Information	
Analyst	RLS	Roadway	US 97
Agency or Company	DKS	Roadway Section	Truman to Reed Market Ramp
Date Performed	07/24/18	Jurisdiction	Bend, OR
		Analysis Year	2017

Input Data		Base Conditions	Site Conditions
Roadway type (2U, 3T, 4U, 4D, ST)		--	4D
Length of segment, L (mi)		--	0.12
AADT (veh/day)	$AADT_{MAX}$ = 66,000 (veh/day)	--	**64,170**
Type of on-street parking (none/parallel/angle)		None	None
Proportion of curb length with on-street parking		--	0
Median width (ft) - for divided only		15	15
Lighting (present / not present)		Not Present	**Present**
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	0
Minor commercial driveways (number)		--	0
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	0
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	62
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	15
Calibration Factor, Cr		1.00	0.64

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.11	1.00	0.94	1.00	1.05

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-12.34	1.36	1.32	1.811	1.000	1.811	1.05	0.64	1.217
Fatal and Injury (FI)	-12.76	1.28	1.31	0.491	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.258	0.467	1.05	0.64	0.314
Property Damage Only (PDO)	-12.81	1.38	1.34	1.412	$(5)_{TOTAL}-(5)_{FI}$ = 0.742	1.344	1.05	0.64	0.903

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	$(9)_{FI}$ from Worksheet 1C	from Table 12-4	$(9)_{PDO}$ from Worksheet 1C	$(9)_{TOTAL}$ from Worksheet 1C
Total	1.000	0.314	1.000	0.903	1.217
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.783	0.246	0.646	0.584	0.829
Head-on collision	0.006	0.002	0.000	0.000	0.002
Angle collision	0.019	0.006	0.008	0.007	0.013
Sideswipe, same direction	0.038	0.012	0.142	0.128	0.140
Sideswipe, opposite direction	0.013	0.004	0.004	0.004	0.008
Other multiple-vehicle collision	0.140	0.044	0.200	0.181	0.225

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brsv}**	**Proportion of Total Crashes**	**Adjusted N_{brsv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brsv}**
	from Table 12-5		from Table 12-5	from Equation 12-13		$(4)_{TOTAL}*(5)$	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-5.05	0.47	0.86	0.140	1.000	0.140	1.05	0.64	0.094
Fatal and Injury (FI)	-8.71	0.66	0.28	0.029	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.207	0.029	1.05	0.64	0.019
Property Damage Only (PDO)	-5.04	0.45	1.06	0.113	$(5)_{TOTAL}-(5)_{FI}$ = 0.793	0.111	1.05	0.64	0.075

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	$(9)_{FI}$ from Worksheet 1E	from Table 12-6	$(9)_{PDO}$ from Worksheet 1E	$(9)_{TOTAL}$ from Worksheet 1E
Total	1.000	0.019	1.000	0.075	0.094
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with animal	0.000	0.000	0.077	0.006	0.006
Collision with fixed object	0.400	0.008	0.846	0.063	0.071
Collision with other object	0.000	0.000	0.000	0.000	0.000
Other single-vehicle collision	0.600	0.012	0.077	0.006	0.017

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15,000)^t$	from Table 12-7
Major commercial	0	0.033	1.106	0.000	--
Minor commercial	0	0.011	1.106	0.000	
Major industrial/institutional	0	0.036	1.106	0.000	
Minor industrial/institutional	0	0.005	1.106	0.000	
Major residential	0	0.018	1.106	0.000	
Minor residential	0	0.003	1.106	0.000	
Other	0	0.005	1.106	0.000	
Total	--	--	--	0.000	1.39

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	0.000	1.000	0.000	1.05	0.64	0.000
Fatal and injury (FI)	--	0.284	0.000	1.05	0.64	0.000
Property damage only (PDO)	--	0.716	0.000	1.05	0.64	0.000

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	1.217	0.094	0.000	1.311	0.013	0.64	0.011
Fatal and injury (FI)	--	--	--	--	--	0.64	0.011

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	1.217	0.094	0.000	1.311	0.009	0.64	0.008
Fatal and injury (FI)	--	--	--	--	--	0.64	0.008

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	(5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	(6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	0.246	0.584	0.829
Head-on collisions (from Worksheet 1D)	0.002	0.000	0.002
Angle collisions (from Worksheet 1D)	0.006	0.007	0.013
Sideswipe, same direction (from Worksheet 1D)	0.012	0.128	0.140
Sideswipe, opposite direction (from Worksheet 1D)	0.004	0.004	0.008
Driveway-related collisions (from Worksheet 1H)	0.000	0.000	0.000
Other multiple-vehicle collision (from Worksheet 1D)	0.044	0.181	0.225
Subtotal	0.314	0.903	1.217
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.000	0.006	0.006
Collision with fixed object (from Worksheet 1F)	0.008	0.063	0.071
Collision with other object (from Worksheet 1F)	0.000	0.000	0.000
Other single-vehicle collision (from Worksheet 1F)	0.012	0.006	0.017
Collision with pedestrian (from Worksheet 1I)	0.011	0.000	0.011
Collision with bicycle (from Worksheet 1J)	0.008	0.000	0.008
Subtotal	0.038	0.075	0.112
Total	0.352	0.978	1.329

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	1.3	0.12	11.1
Fatal and injury (FI)	0.4	0.12	2.9
Property damage only (PDO)	1.0	0.12	8.1

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments

General Information		Location Information	
Analyst	RLS	Roadway	US 97
Agency or Company	DKS	Roadway Section	Reed Market Ramp to Reed Lane
Date Performed	07/24/18	Jurisdiction	Bend, OR
		Analysis Year	2017

Input Data		Base Conditions	Site Conditions
Roadway type (2U, 3T, 4U, 4D, ST)		--	4D
Length of segment, L (mi)		--	0.23
AADT (veh/day)	$AADT_{MAX}$ = 66,000 (veh/day)	--	**48,980**
Type of on-street parking (none/parallel/angle)		None	None
Proportion of curb length with on-street parking		--	0
Median width (ft) - for divided only		15	15
Lighting (present / not present)		Not Present	**Present**
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	0
Minor commercial driveways (number)		--	0
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	0
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	23
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	20
Calibration Factor, Cr		1.00	0.64

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.01	1.00	0.94	1.00	0.95

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-12.34	1.36	1.32	2.404	1.000	2.404	0.95	0.64	1.465
Fatal and Injury (FI)	-12.76	1.28	1.31	0.666	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.263	0.633	0.95	0.64	0.385
Property Damage Only (PDO)	-12.81	1.38	1.34	1.865	$(5)_{TOTAL}-(5)_{FI}$ = 0.737	1.772	0.95	0.64	1.080

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	$(9)_{FI}$ from Worksheet 1C	from Table 12-4	$(9)_{PDO}$ from Worksheet 1C	$(9)_{TOTAL}$ from Worksheet 1C
Total	1.000	0.385	1.000	1.080	1.465
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.783	0.302	0.646	0.697	0.999
Head-on collision	0.006	0.002	0.000	0.000	0.002
Angle collision	0.019	0.007	0.008	0.009	0.016
Sideswipe, same direction	0.038	0.015	0.142	0.153	0.168
Sideswipe, opposite direction	0.013	0.005	0.004	0.004	0.009
Other multiple-vehicle collision	0.140	0.054	0.200	0.216	0.270

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brsv}**	**Proportion of Total Crashes**	**Adjusted N_{brsv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brsv}**
	from Table 12-5		from Table 12-5	from Equation 12-13		$(4)_{TOTAL}*(5)$	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-5.05	0.47	0.86	0.236	1.000	0.236	0.95	0.64	0.144
Fatal and Injury (FI)	-8.71	0.66	0.28	0.047	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.197	0.047	0.95	0.64	0.028
Property Damage Only (PDO)	-5.04	0.45	1.06	0.192	$(5)_{TOTAL}-(5)_{FI}$ = 0.803	0.189	0.95	0.64	0.115

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	$(9)_{FI}$ from Worksheet 1E	from Table 12-6	$(9)_{PDO}$ from Worksheet 1E	$(9)_{TOTAL}$ from Worksheet 1E
Total	1.000	0.028	1.000	0.115	0.144
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with animal	0.000	0.000	0.077	0.009	0.009
Collision with fixed object	0.400	0.011	0.846	0.098	0.109
Collision with other object	0.000	0.000	0.000	0.000	0.000
Other single-vehicle collision	0.600	0.017	0.077	0.009	0.026

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15,000)^t$	from Table 12-7
Major commercial	0	0.033	1.106	0.000	
Minor commercial	0	0.011	1.106	0.000	
Major industrial/institutional	0	0.036	1.106	0.000	
Minor industrial/institutional	0	0.005	1.106	0.000	--
Major residential	0	0.018	1.106	0.000	
Minor residential	0	0.003	1.106	0.000	
Other	0	0.005	1.106	0.000	
Total	--	--	--	0.000	1.39

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	0.000	1.000	0.000	0.95	0.64	0.000
Fatal and injury (FI)	--	0.284	0.000	0.95	0.64	0.000
Property damage only (PDO)	--	0.716	0.000	0.95	0.64	0.000

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	1.465	0.144	0.000	1.609	0.013	0.64	0.013
Fatal and injury (FI)	--	--	--	--	--	0.64	0.013

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	1.465	0.144	0.000	1.609	0.009	0.64	0.009
Fatal and injury (FI)	--	--	--	--	--	0.64	0.009

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	(5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	(6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	0.302	0.697	0.999
Head-on collisions (from Worksheet 1D)	0.002	0.000	0.002
Angle collisions (from Worksheet 1D)	0.007	0.009	0.016
Sideswipe, same direction (from Worksheet 1D)	0.015	0.153	0.168
Sideswipe, opposite direction (from Worksheet 1D)	0.005	0.004	0.009
Driveway-related collisions (from Worksheet 1H)	0.000	0.000	0.000
Other multiple-vehicle collision (from Worksheet 1D)	0.054	0.216	0.270
Subtotal	0.385	1.080	1.465
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.000	0.009	0.009
Collision with fixed object (from Worksheet 1F)	0.011	0.098	0.109
Collision with other object (from Worksheet 1F)	0.000	0.000	0.000
Other single-vehicle collision (from Worksheet 1F)	0.017	0.009	0.026
Collision with pedestrian (from Worksheet 1I)	0.013	0.000	0.013
Collision with bicycle (from Worksheet 1J)	0.009	0.000	0.009
Subtotal	0.051	0.115	0.166
Total	0.436	1.195	1.631

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	1.6	0.23	7.1
Fatal and injury (FI)	0.4	0.23	1.9
Property damage only (PDO)	1.2	0.23	5.2

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments

General Information		Location Information	
Analyst	RLS	Roadway	US 97
Agency or Company	DKS	Roadway Section	Reed Ln to Powers
Date Performed	07/24/18	Jurisdiction	Bend, OR
		Analysis Year	2017

Input Data		Base Conditions	Site Conditions
Roadway type (2U, 3T, 4U, 4D, ST)		--	4D
Length of segment, L (mi)		--	0.29
AADT (veh/day)	$AADT_{MAX}$ = 66,000 (veh/day)	--	**48,980**
Type of on-street parking (none/parallel/angle)		None	None
Proportion of curb length with on-street parking		--	0
Median width (ft) - for divided only		15	15
Lighting (present / not present)		Not Present	**Present**
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	0
Minor commercial driveways (number)		--	0
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	0
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	33
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	15
Calibration Factor, Cr		1.00	0.64

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.04	1.00	0.94	1.00	0.98

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-12.34	1.36	1.32	3.031	1.000	3.031	0.98	0.64	1.908
Fatal and Injury (FI)	-12.76	1.28	1.31	0.840	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.263	0.798	0.98	0.64	0.502
Property Damage Only (PDO)	-12.81	1.38	1.34	2.351	$(5)_{TOTAL}-(5)_{FI}$ = 0.737	2.234	0.98	0.64	1.406

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	$(9)_{FI}$ from Worksheet 1C	from Table 12-4	$(9)_{PDO}$ from Worksheet 1C	$(9)_{TOTAL}$ from Worksheet 1C
Total	1.000	0.502	1.000	1.406	1.908
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.783	0.393	0.646	0.908	1.302
Head-on collision	0.006	0.003	0.000	0.000	0.003
Angle collision	0.019	0.010	0.008	0.011	0.021
Sideswipe, same direction	0.038	0.019	0.142	0.200	0.219
Sideswipe, opposite direction	0.013	0.007	0.004	0.006	0.012
Other multiple-vehicle collision	0.140	0.070	0.200	0.281	0.352

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brsv}**	**Proportion of Total Crashes**	**Adjusted N_{brsv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brsv}**
	from Table 12-5		from Table 12-5	from Equation 12-13		$(4)_{TOTAL}*(5)$	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-5.05	0.47	0.86	0.298	1.000	0.298	0.98	0.64	0.187
Fatal and Injury (FI)	-8.71	0.66	0.28	0.060	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.197	0.059	0.98	0.64	0.037
Property Damage Only (PDO)	-5.04	0.45	1.06	0.242	$(5)_{TOTAL}-(5)_{FI}$ = 0.803	0.239	0.98	0.64	0.150

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	$(9)_{FI}$ from Worksheet 1E	from Table 12-6	$(9)_{PDO}$ from Worksheet 1E	$(9)_{TOTAL}$ from Worksheet 1E
Total	1.000	0.037	1.000	0.150	0.187
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with animal	0.000	0.000	0.077	0.012	0.012
Collision with fixed object	0.400	0.015	0.846	0.127	0.142
Collision with other object	0.000	0.000	0.000	0.000	0.000
Other single-vehicle collision	0.600	0.022	0.077	0.012	0.034

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15,000)^t$	from Table 12-7
Major commercial	0	0.033	1.106	0.000	--
Minor commercial	0	0.011	1.106	0.000	
Major industrial/institutional	0	0.036	1.106	0.000	
Minor industrial/institutional	0	0.005	1.106	0.000	
Major residential	0	0.018	1.106	0.000	
Minor residential	0	0.003	1.106	0.000	
Other	0	0.005	1.106	0.000	
Total	--	--	--	0.000	1.39

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	0.000	1.000	0.000	0.98	0.64	0.000
Fatal and injury (FI)	--	0.284	0.000	0.98	0.64	0.000
Property damage only (PDO)	--	0.716	0.000	0.98	0.64	0.000

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	1.908	0.187	0.000	2.096	0.013	0.64	0.017
Fatal and injury (FI)	--	--	--	--	--	0.64	0.017

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	1.908	0.187	0.000	2.096	0.009	0.64	0.012
Fatal and injury (FI)	--	--	--	--	--	0.64	0.012

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	(5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	(6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	0.393	0.908	1.302
Head-on collisions (from Worksheet 1D)	0.003	0.000	0.003
Angle collisions (from Worksheet 1D)	0.010	0.011	0.021
Sideswipe, same direction (from Worksheet 1D)	0.019	0.200	0.219
Sideswipe, opposite direction (from Worksheet 1D)	0.007	0.006	0.012
Driveway-related collisions (from Worksheet 1H)	0.000	0.000	0.000
Other multiple-vehicle collision (from Worksheet 1D)	0.070	0.281	0.352
Subtotal	0.502	1.406	1.908
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.000	0.012	0.012
Collision with fixed object (from Worksheet 1F)	0.015	0.127	0.142
Collision with other object (from Worksheet 1F)	0.000	0.000	0.000
Other single-vehicle collision (from Worksheet 1F)	0.022	0.012	0.034
Collision with pedestrian (from Worksheet 1I)	0.017	0.000	0.017
Collision with bicycle (from Worksheet 1J)	0.012	0.000	0.012
Subtotal	0.066	0.150	0.217
Total	0.568	1.557	2.125

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	2.1	0.29	7.3
Fatal and injury (FI)	0.6	0.29	2.0
Property damage only (PDO)	1.6	0.29	5.4

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments

General Information		Location Information	
Analyst	RLS	Roadway	US 97
Agency or Company	DKS	Roadway Section	Powers to Badger
Date Performed	07/24/18	Jurisdiction	Bend, OR
		Analysis Year	2017

Input Data		Base Conditions	Site Conditions
Roadway type (2U, 3T, 4U, 4D, ST)		--	4D
Length of segment, L (mi)		--	0.33
AADT (veh/day)	$AADT_{MAX}$ = 66,000 (veh/day)	--	**38,440**
Type of on-street parking (none/parallel/angle)		None	None
Proportion of curb length with on-street parking		--	0
Median width (ft) - for divided only		15	15
Lighting (present / not present)		Not Present	**Present**
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	0
Minor commercial driveways (number)		--	0
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	0
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	33
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	15
Calibration Factor, Cr		1.00	0.64

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.04	1.00	0.94	1.00	0.98

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-12.34	1.36	1.32	2.481	1.000	2.481	0.98	0.64	1.562
Fatal and Injury (FI)	-12.76	1.28	1.31	0.701	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.268	0.664	0.98	0.64	0.418
Property Damage Only (PDO)	-12.81	1.38	1.34	1.915	$(5)_{TOTAL}-(5)_{FI}$ = 0.732	1.817	0.98	0.64	1.144

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	$(9)_{FI}$ from Worksheet 1C	from Table 12-4	$(9)_{PDO}$ from Worksheet 1C	$(9)_{TOTAL}$ from Worksheet 1C
Total	1.000	0.418	1.000	1.144	1.562
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.783	0.328	0.646	0.739	1.066
Head-on collision	0.006	0.003	0.000	0.000	0.003
Angle collision	0.019	0.008	0.008	0.009	0.017
Sideswipe, same direction	0.038	0.016	0.142	0.162	0.178
Sideswipe, opposite direction	0.013	0.005	0.004	0.005	0.010
Other multiple-vehicle collision	0.140	0.059	0.200	0.229	0.287

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brsv}**	**Proportion of Total Crashes**	**Adjusted N_{brsv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brsv}**
	from Table 12-5		from Table 12-5	from Equation 12-13		$(4)_{TOTAL}*(5)$	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-5.05	0.47	0.86	0.302	1.000	0.302	0.98	0.64	0.190
Fatal and Injury (FI)	-8.71	0.66	0.28	0.058	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.190	0.057	0.98	0.64	0.036
Property Damage Only (PDO)	-5.04	0.45	1.06	0.247	$(5)_{TOTAL}-(5)_{FI}$ = 0.810	0.245	0.98	0.64	0.154

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	$(9)_{FI}$ from Worksheet 1E	from Table 12-6	$(9)_{PDO}$ from Worksheet 1E	$(9)_{TOTAL}$ from Worksheet 1E
Total	1.000	0.036	1.000	0.154	0.190
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with animal	0.000	0.000	0.077	0.012	0.012
Collision with fixed object	0.400	0.014	0.846	0.130	0.145
Collision with other object	0.000	0.000	0.000	0.000	0.000
Other single-vehicle collision	0.600	0.022	0.077	0.012	0.033

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15,000)^t$	from Table 12-7
Major commercial	0	0.033	1.106	0.000	
Minor commercial	0	0.011	1.106	0.000	
Major industrial/institutional	0	0.036	1.106	0.000	
Minor industrial/institutional	0	0.005	1.106	0.000	--
Major residential	0	0.018	1.106	0.000	
Minor residential	0	0.003	1.106	0.000	
Other	0	0.005	1.106	0.000	
Total	--	--	--	0.000	1.39

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL} * (3)$	(6) from Worksheet 1B		(4)*(5)*(6)
Total	0.000	1.000	0.000	0.98	0.64	0.000
Fatal and injury (FI)	--	0.284	0.000	0.98	0.64	0.000
Property damage only (PDO)	--	0.716	0.000	0.98	0.64	0.000

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	1.562	0.190	0.000	1.752	0.013	0.64	0.015
Fatal and injury (FI)	--	--	--	--	--	0.64	0.015

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	1.562	0.190	0.000	1.752	0.009	0.64	0.010
Fatal and injury (FI)	--	--	--	--	--	0.64	0.010

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	(5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	(6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	0.328	0.739	1.066
Head-on collisions (from Worksheet 1D)	0.003	0.000	0.003
Angle collisions (from Worksheet 1D)	0.008	0.009	0.017
Sideswipe, same direction (from Worksheet 1D)	0.016	0.162	0.178
Sideswipe, opposite direction (from Worksheet 1D)	0.005	0.005	0.010
Driveway-related collisions (from Worksheet 1H)	0.000	0.000	0.000
Other multiple-vehicle collision (from Worksheet 1D)	0.059	0.229	0.287
Subtotal	0.418	1.144	1.562
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.000	0.012	0.012
Collision with fixed object (from Worksheet 1F)	0.014	0.130	0.145
Collision with other object (from Worksheet 1F)	0.000	0.000	0.000
Other single-vehicle collision (from Worksheet 1F)	0.022	0.012	0.033
Collision with pedestrian (from Worksheet 1I)	0.015	0.000	0.015
Collision with bicycle (from Worksheet 1J)	0.010	0.000	0.010
Subtotal	0.061	0.154	0.215
Total	0.479	1.298	1.776

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	1.8	0.33	5.4
Fatal and injury (FI)	0.5	0.33	1.5
Property damage only (PDO)	1.3	0.33	3.9

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments

General Information		Location Information	
Analyst	RLS	Roadway	US 97
Agency or Company	DKS	Roadway Section	Badger to Pinebrook
Date Performed	07/24/18	Jurisdiction	Bend, OR
		Analysis Year	2017

Input Data		Base Conditions	Site Conditions
Roadway type (2U, 3T, 4U, 4D, ST)		--	4D
Length of segment, L (mi)		--	0.22
AADT (veh/day)	$AADT_{MAX}$ = 66,000 (veh/day)	--	**38,440**
Type of on-street parking (none/parallel/angle)		None	None
Proportion of curb length with on-street parking		--	0
Median width (ft) - for divided only		15	15
Lighting (present / not present)		Not Present	**Present**
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	0
Minor commercial driveways (number)		--	0
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	0
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	36
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	25
Calibration Factor, Cr		1.00	0.64

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.03	1.00	0.94	1.00	0.97

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-12.34	1.36	1.32	1.654	1.000	1.654	0.97	0.64	1.025
Fatal and Injury (FI)	-12.76	1.28	1.31	0.467	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.268	0.443	0.97	0.64	0.275
Property Damage Only (PDO)	-12.81	1.38	1.34	1.277	$(5)_{TOTAL}-(5)_{FI}$ = 0.732	1.211	0.97	0.64	0.751

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	$(9)_{FI}$ from Worksheet 1C	from Table 12-4	$(9)_{PDO}$ from Worksheet 1C	$(9)_{TOTAL}$ from Worksheet 1C
Total	1.000	0.275	1.000	0.751	1.025
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.783	0.215	0.646	0.485	0.700
Head-on collision	0.006	0.002	0.000	0.000	0.002
Angle collision	0.019	0.005	0.008	0.006	0.011
Sideswipe, same direction	0.038	0.010	0.142	0.107	0.117
Sideswipe, opposite direction	0.013	0.004	0.004	0.003	0.007
Other multiple-vehicle collision	0.140	0.038	0.200	0.150	0.189

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brsv}**	**Proportion of Total Crashes**	**Adjusted N_{brsv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brsv}**
	from Table 12-5		from Table 12-5	from Equation 12-13		$(4)_{TOTAL}*(5)$	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-5.05	0.47	0.86	0.201	1.000	0.201	0.97	0.64	0.125
Fatal and Injury (FI)	-8.71	0.66	0.28	0.039	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.190	0.038	0.97	0.64	0.024
Property Damage Only (PDO)	-5.04	0.45	1.06	0.165	$(5)_{TOTAL}-(5)_{FI}$ = 0.810	0.163	0.97	0.64	0.101

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	$(9)_{FI}$ from Worksheet 1E	from Table 12-6	$(9)_{PDO}$ from Worksheet 1E	$(9)_{TOTAL}$ from Worksheet 1E
Total	1.000	0.024	1.000	0.101	0.125
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with animal	0.000	0.000	0.077	0.008	0.008
Collision with fixed object	0.400	0.009	0.846	0.086	0.095
Collision with other object	0.000	0.000	0.000	0.000	0.000
Other single-vehicle collision	0.600	0.014	0.077	0.008	0.022

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15,000)^t$	from Table 12-7
Major commercial	0	0.033	1.106	0.000	--
Minor commercial	0	0.011	1.106	0.000	
Major industrial/institutional	0	0.036	1.106	0.000	
Minor industrial/institutional	0	0.005	1.106	0.000	
Major residential	0	0.018	1.106	0.000	
Minor residential	0	0.003	1.106	0.000	
Other	0	0.005	1.106	0.000	
Total	--	--	--	0.000	1.39

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	0.000	1.000	0.000	0.97	0.64	0.000
Fatal and injury (FI)	--	0.284	0.000	0.97	0.64	0.000
Property damage only (PDO)	--	0.716	0.000	0.97	0.64	0.000

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	1.025	0.125	0.000	1.150	0.013	0.64	0.010
Fatal and injury (FI)	--	--	--	--	--	0.64	0.010

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	1.025	0.125	0.000	1.150	0.009	0.64	0.007
Fatal and injury (FI)	--	--	--	--	--	0.64	0.007

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	(5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	(6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	0.215	0.485	0.700
Head-on collisions (from Worksheet 1D)	0.002	0.000	0.002
Angle collisions (from Worksheet 1D)	0.005	0.006	0.011
Sideswipe, same direction (from Worksheet 1D)	0.010	0.107	0.117
Sideswipe, opposite direction (from Worksheet 1D)	0.004	0.003	0.007
Driveway-related collisions (from Worksheet 1H)	0.000	0.000	0.000
Other multiple-vehicle collision (from Worksheet 1D)	0.038	0.150	0.189
Subtotal	0.274	0.751	1.025
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.000	0.008	0.008
Collision with fixed object (from Worksheet 1F)	0.009	0.086	0.095
Collision with other object (from Worksheet 1F)	0.000	0.000	0.000
Other single-vehicle collision (from Worksheet 1F)	0.014	0.008	0.022
Collision with pedestrian (from Worksheet 1I)	0.010	0.000	0.010
Collision with bicycle (from Worksheet 1J)	0.007	0.000	0.007
Subtotal	0.040	0.101	0.141
Total	0.314	0.852	1.166

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	1.2	0.22	5.3
Fatal and injury (FI)	0.3	0.22	1.4
Property damage only (PDO)	0.9	0.22	3.9

Worksheet 2A -- General Information and Input Data for Urban and Suburban Arterial Intersections

General Information		Location Information	
Analyst	RLS	Roadway	US 97
Agency or Company	DKS	Intersection	Ponderosa/China Hat/US 97
Date Performed	07/24/18	Jurisdiction	Bend, OR
		Analysis Year	2018

Input Data		Base Conditions	Site Conditions
Intersection type (3ST, 3SG, 4ST, 4SG)		--	4ST
AADT $_{major}$ (veh/day)	$AADT_{MAX}$ = 46,800 (veh/day)	--	**44,140**
AADT $_{minor}$ (veh/day)	$AADT_{MAX}$ = 5,900 (veh/day)	--	**5,900**
Intersection lighting (present/not present)		Not Present	**Present**
Calibration factor, C_i		1.00	0.45
Data for unsignalized intersections only:		--	--
Number of major-road approaches with left-turn lanes (0,1,2)		0	0
Number of major-road approaches with right-turn lanes (0,1,2)		0	2
Data for signalized intersections only:		--	--
Number of approaches with left-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	0
Number of approaches with right-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	0
Number of approaches with left-turn signal phasing [for 3SG, use maximum value of 3]		--	
Type of left-turn signal phasing for Leg #1		Permissive	
Type of left-turn signal phasing for Leg #2		--	
Type of left-turn signal phasing for Leg #3		--	
Type of left-turn signal phasing for Leg #4 (if applicable)		--	
Number of approaches with right-turn-on-red prohibited [for 3SG, use maximum value of 3]		0	0
Intersection red light cameras (present/not present)		Not Present	Not Present
Sum of all pedestrian crossing volumes (PedVol) -- Signalized intersections only			
Maximum number of lanes crossed by a pedestrian (n_{lanesx})		--	
Number of bus stops within 300 m (1,000 ft) of the intersection		0	0
Schools within 300 m (1,000 ft) of the intersection (present/not present)		Not Present	Not Present
Number of alcohol sales establishments within 300 m (1,000 ft) of the intersection		0	0

Worksheet 2B -- Crash Modification Factors for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)	(7)
CMF for Left-Turn Lanes	CMF for Left-Turn Signal Phasing	CMF for Right-Turn Lanes	CMF for Right Turn on Red	CMF for Lighting	CMF for Red Light Cameras	Combined CMF
CMF 1i	*CMF 2i*	*CMF 3i*	*CMF 4i*	*CMF 5i*	*CMF 6i*	*CMF $_{COMB}$*
from Table 12-24	from Table 12-25	from Table 12-26	from Equation 12-35	from Equation 12-36	from Equation 12-37	(1)*(2)*(3)*(4)*(5)*(6)
1.00	1.00	0.74	1.00	0.88	1.00	0.65

Worksheet 2C -- Multiple-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1)	(2)			(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**			**Overdispersion Parameter, k**	**Initial N_{bimv}**	**Proportion of Total Crashes**	**Adjusted N_{bimv}**	**Combined CMFs**	**Calibration Factor, C_i**	**Predicted N_{bimv}**
	from Table 12-10			from Table 12-10	from Equation 12-21		$(4)_{TOTAL}$*(5)	(7) from Worksheet 2B		(6)*(7)*(8)
	a	b	c							
Total	-8.90	0.82	0.25	0.40	7.696	1.000	7.696	0.65	0.45	2.259
Fatal and Injury (FI)	-11.13	0.93	0.28	0.48	3.482	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.439	3.380	0.65	0.45	0.992
Property Damage Only (PDO)	-8.74	0.77	0.23	0.40	4.447	$(5)_{TOTAL}-(5)_{FI}$ = 0.561	4.316	0.65	0.45	1.267

Worksheet 2D -- Multiple-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{bimv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{bimv\ (PDO)}$ (crashes/year)**	**Predicted N $_{bimv\ (TOTAL)}$ (crashes/year)**
	from Table 12-11	$(9)_{FI}$ from Worksheet 2C	from Table 12-11	$(9)_{PDO}$ from Worksheet 2C	$(9)_{PDO}$ from Worksheet 2C
Total	1.000	0.992	1.000	1.267	2.259
		(2)*$(3)_{FI}$		(4)*$(5)_{PDO}$	(3)+(5)
Rear-end collision	0.165	0.164	0.135	0.171	0.335
Head-on collision	0.000	0.000	0.000	0.000	0.000
Angle collision	0.449	0.445	0.399	0.505	0.951
Sideswipe	0.000	0.000	0.007	0.009	0.009
Other multiple-vehicle collision	0.386	0.383	0.459	0.581	0.964

Worksheet 2E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1)	(2)			(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**			**Overdispersion Parameter, k**	**Initial N_{bisv}**	**Proportion of Total Crashes**	**Adjusted N_{bimv}**	**Combined CMFs**	**Calibration Factor, C_i**	**Predicted N_{bisv}**
	from Table 12-12			from Table 12-12	from Eqn. 12-24; (FI) from Eqn. 12-24 or 12-27		$(4)_{TOTAL}$*(5)	(7) from Worksheet 2B		(6)*(7)*(8)
	a	b	c							
Total	-5.33	0.33	0.12	0.65	0.468	1.000	0.468	0.65	0.45	0.137
Fatal and Injury (FI)	--	--	--	--	0.131	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.266	0.125	0.65	0.45	0.037
Property Damage Only (PDO)	-7.04	0.36	0.25	0.54	0.361	$(5)_{TOTAL}-(5)_{FI}$ = 0.734	0.343	0.65	0.45	0.101

Worksheet 2F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{bisv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{bisv\ (PDO)}$ (crashes/year)**	**Predicted N $_{bisv\ (TOTAL)}$ (crashes/year)**
	from Table 12-13	(9)$_{FI}$ from Worksheet 2E	from Table 12-13	(9)$_{PDO}$ from Worksheet 2E	(9)$_{PDO}$ from Worksheet 2E
Total	1.000	0.037	1.000	0.101	0.137
		(2)*(3)$_{FI}$		(4)*(5)$_{PDO}$	(3)+(5)
Collision with parked vehicle	0.000	0.000	0.000	0.000	0.000
Collision with animal	0.000	0.000	0.000	0.000	0.000
Collision with fixed object	0.138	0.005	0.750	0.076	0.081
Collision with other object	0.000	0.000	0.000	0.000	0.000
Other single-vehicle collision	0.862	0.032	0.000	0.000	0.032
Single-vehicle noncollision	0.000	0.000	0.250	0.025	0.025

Worksheet 2G -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Stop-Controlled Intersections

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Predicted N_{bimv}**	**Predicted N_{bisv}**	**Predicted N_{bi}**	**f_{pedi}**	**Calibration factor, C_i**	**Predicted N_{pedi}**
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-16		(4)*(5)*(6)
Total	2.259	0.137	2.396	0.022	0.45	0.024
Fatal and injury (FI)	--	--	--	--	0.45	0.024

Worksheet 2H -- Crash Modification Factors for Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections

(1)	(2)	(3)	(4)
CMF for Bus Stops	CMF for Schools	CMF for Alcohol Sales Establishments	Combined CMF
CMF_{1p}	CMF_{2p}	CMF_{3p}	
from Table 12-28	from Table 12-29	from Table 12-30	(1)*(2)*(3)
--	--	--	--

Worksheet 2I -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections

(1)	(2)					(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**SPF Coefficients**					**Overdispersion Parameter, k**	**$N_{pedbase}$**	**Combined CMF**	**Calibration factor, C_i**	**Predicted N_{pedi}**
	from Table 12-14						from Equation 12-29	(4) from Worksheet 2H		(4)*(5)*(6)
	a	b	c	d	e					
Total	--	--	--	--	--	--	--	--	0.45	--
Fatal and Injury (FI)	--	--	--	--	--	--	--	--	0.45	--

Worksheet 2J -- Vehicle-Bicycle Collisions for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Predicted N_{bimv}**	**Predicted N_{bisv}**	**Predicted N_{bi}**	**f_{bikei}**	**Calibration factor, C_i**	**Predicted N_{bikei}**
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-17		(4)*(5)*(6)
Total	2.259	0.137	2.396	0.018	0.45	0.019
Fatal and injury (FI)	--	--	--	--	0.45	0.019

Worksheet 2K -- Crash Severity Distribution for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)
	Fatal and injury (FI)	**Property damage only (PDO)**	**Total**
Collision type	(3) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J	(5) from Worksheet 2D and 2F	(6) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 2D)	0.164	0.171	0.335
Head-on collisions (from Worksheet 2D)	0.000	0.000	0.000
Angle collisions (from Worksheet 2D)	0.445	0.505	0.951
Sideswipe (from Worksheet 2D)	0.000	0.009	0.009
Other multiple-vehicle collision (from Worksheet 2D)	0.383	0.581	0.964
Subtotal	0.992	1.267	2.259
SINGLE-VEHICLE			
Collision with parked vehicle (from Worksheet 2F)	0.000	0.000	0.000
Collision with animal (from Worksheet 2F)	0.000	0.000	0.000
Collision with fixed object (from Worksheet 2F)	0.005	0.076	0.081
Collision with other object (from Worksheet 2F)	0.000	0.000	0.000
Other single-vehicle collision (from Worksheet 2F)	0.032	0.000	0.032
Single-vehicle noncollision (from Worksheet 2F)	0.000	0.025	0.025
Collision with pedestrian (from Worksheet 2G or 2I)	0.024	0.000	0.024
Collision with bicycle (from Worksheet 2J)	0.019	0.000	0.019
Subtotal	0.080	0.101	0.181
Total	1.072	1.368	2.439

Worksheet 2L -- Summary Results for Urban and Suburban Arterial Intersections

(1)	(2)
Crash severity level	**Predicted average crash frequency, $N_{predicted\ int}$ (crashes/year)**
	(Total) from Worksheet 2K
Total	2.4
Fatal and injury (FI)	1.1
Property damage only (PDO)	1.4

Worksheet 3A -- Predicted Crashes by Severity and Site Type and Observed Crashes Using the Site-Specific EB Method for Urban and Suburban Arterials

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Collision type / Site type	**Predicted average crash frequency (crashes/year)**			**Observed crashes, $N_{observed}$** (crashes/year)	**Overdispersion Parameter, k**	**Weighted adjustment, w**	**Expected average crash frequency,**
	$N_{predicted}$ (TOTAL)	$N_{predicted}$ (FI)	$N_{predicted}$ (PDO)			Equation A-5 from Part C Appendix	Equation A-4 from Part C Appendix
ROADWAY SEGMENTS							
Multiple-vehicle nondriveway							
Segment 1	1.217	0.314	0.903		1.320	0.384	0.467
Segment 2	1.465	0.385	1.080		1.320	0.341	0.499
Segment 3	1.908	0.502	1.406		1.320	0.284	0.542
Segment 4	1.562	0.418	1.144		1.320	0.327	0.510
Segment 5	1.025	0.275	0.751		1.320	0.425	0.436
Single-vehicle							
Segment 1	0.094	0.019	0.075		0.860	0.925	0.087
Segment 2	0.144	0.028	0.115		0.860	0.890	0.128
Segment 3	0.187	0.037	0.150		0.860	0.861	0.161
Segment 4	0.190	0.036	0.154		0.860	0.859	0.163
Segment 5	0.125	0.024	0.101		0.860	0.903	0.113
Multiple-vehicle driveway-related							
Segment 1	0.000	0.000	0.000		1.390	1.000	0.000
Segment 2	0.000	0.000	0.000		1.390	1.000	0.000
Segment 3	0.000	0.000	0.000		1.390	1.000	0.000
Segment 4	0.000	0.000	0.000		1.390	1.000	0.000
Segment 5	0.000	0.000	0.000		1.390	1.000	0.000
INTERSECTIONS							
Multiple-vehicle							
Intersection 1	0.000	0.000	0.000		0.400	1.000	0.000
Intersection 2	0.000	0.000	0.000		0.400	1.000	0.000
Intersection 3	2.259	0.992	1.267		0.400	0.525	1.187
Single-vehicle							
Intersection 1	0.000	0.000	0.000		0.650	1.000	0.000
Intersection 2	0.000	0.000	0.000		0.650	1.000	0.000
Intersection 3	0.137	0.037	0.101		0.650	0.918	0.126
COMBINED (sum of column)	10.314	3.067	7.247		--	--	4.420

Worksheet 3B -- Predicted Pedestrian and Bicycle Crashes for Urban and Suburban Arterials

(1)	(2)	(3)
Site Type	**N_{ped}**	**N_{bike}**
ROADWAY SEGMENTS		
Segment 1	0.011	0.008
Segment 2	0.013	0.009
Segment 3	0.017	0.012
Segment 4	0.015	0.010
Segment 5	0.010	0.007
INTERSECTIONS		
Intersection 1	0.000	0.000
Intersection 2	0.000	0.000
Intersection 3	0.024	0.019
COMBINED (sum of column)	0.090	0.065

Worksheet 3C -- Site-Specific EB Method Summary Results for Urban and Suburban Arterials

(1)	(2)	(3)	(4)	(5)	(6)
Crash severity level	**$N_{predicted}$**	**N_{ped}**	**N_{bike}**	$N_{expected\ (VEHICLE)}$	$N_{expected}$
Total	$(2)_{COMB}$ from Worksheet 3A	$(2)_{COMB}$ from Worksheet 3B	$(3)_{COMB}$ from Worksheet 3B	$(8)_{COMB}$ Worksheet 3A	(3)+(4)+(5)
	10.3	0.1	0.1	4.4	4.6
Fatal and injury (FI)	$(3)_{COMB}$ from Worksheet 3A	$(2)_{COMB}$ from Worksheet 3B	$(3)_{COMB}$ from Worksheet 3B	$(5)_{TOTAL} * (2)_{FI} / (2)_{TOTAL}$	(3)+(4)+(5)
	3.1	0.1	0.1	1.3	1.5
Property damage only (PDO)	$(4)_{COMB}$ from Worksheet 3A	--	--	$(5)_{TOTAL} * (2)_{PDO} / (2)_{TOTAL}$	(3)+(4)+(5)
	7.2	0.0	0.0	3.1	3.1

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments

General Information		Location Information	
Analyst	RLS	Roadway	US 97
Agency or Company	DKS	Roadway Section	Pinebrook to Murphy Ramp
Date Performed	07/24/18	Jurisdiction	Bend, OR
		Analysis Year	2017

Input Data		Base Conditions	Site Conditions
Roadway type (2U, 3T, 4U, 4D, ST)		--	4D
Length of segment, L (mi)		--	0.43
AADT (veh/day)	$AADT_{MAX}$ = 66,000 (veh/day)	--	**38,440**
Type of on-street parking (none/parallel/angle)		None	None
Proportion of curb length with on-street parking		--	0
Median width (ft) - for divided only		15	15
Lighting (present / not present)		Not Present	**Present**
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	0
Minor commercial driveways (number)		--	0
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	0
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	12
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	20
Calibration Factor, Cr		1.00	0.64

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.00	1.00	0.94	1.00	0.94

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-12.34	1.36	1.32	3.233	1.000	3.233	0.94	0.64	1.949
Fatal and Injury (FI)	-12.76	1.28	1.31	0.913	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.268	0.866	0.94	0.64	0.522
Property Damage Only (PDO)	-12.81	1.38	1.34	2.495	$(5)_{TOTAL}-(5)_{FI}$ = 0.732	2.367	0.94	0.64	1.427

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	$(9)_{FI}$ from Worksheet 1C	from Table 12-4	$(9)_{PDO}$ from Worksheet 1C	$(9)_{TOTAL}$ from Worksheet 1C
Total	1.000	0.522	1.000	1.427	1.949
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.783	0.409	0.646	0.922	1.330
Head-on collision	0.006	0.003	0.000	0.000	0.003
Angle collision	0.019	0.010	0.008	0.011	0.021
Sideswipe, same direction	0.038	0.020	0.142	0.203	0.222
Sideswipe, opposite direction	0.013	0.007	0.004	0.006	0.012
Other multiple-vehicle collision	0.140	0.073	0.200	0.285	0.358

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brsv}**	**Proportion of Total Crashes**	**Adjusted N_{brsv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brsv}**
	from Table 12-5		from Table 12-5	from Equation 12-13		$(4)_{TOTAL}*(5)$	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-5.05	0.47	0.86	0.394	1.000	0.394	0.94	0.64	0.237
Fatal and Injury (FI)	-8.71	0.66	0.28	0.075	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.190	0.075	0.94	0.64	0.045
Property Damage Only (PDO)	-5.04	0.45	1.06	0.322	$(5)_{TOTAL}-(5)_{FI}$ = 0.810	0.319	0.94	0.64	0.192

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	$(9)_{FI}$ from Worksheet 1E	from Table 12-6	$(9)_{PDO}$ from Worksheet 1E	$(9)_{TOTAL}$ from Worksheet 1E
Total	1.000	0.045	1.000	0.192	0.237
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with animal	0.000	0.000	0.077	0.015	0.015
Collision with fixed object	0.400	0.018	0.846	0.163	0.181
Collision with other object	0.000	0.000	0.000	0.000	0.000
Other single-vehicle collision	0.600	0.027	0.077	0.015	0.042

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15,000)^t$	from Table 12-7
Major commercial	0	0.033	1.106	0.000	
Minor commercial	0	0.011	1.106	0.000	
Major industrial/institutional	0	0.036	1.106	0.000	
Minor industrial/institutional	0	0.005	1.106	0.000	--
Major residential	0	0.018	1.106	0.000	
Minor residential	0	0.003	1.106	0.000	
Other	0	0.005	1.106	0.000	
Total	--	--	--	0.000	1.39

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	0.000	1.000	0.000	0.94	0.64	0.000
Fatal and injury (FI)	--	0.284	0.000	0.94	0.64	0.000
Property damage only (PDO)	--	0.716	0.000	0.94	0.64	0.000

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	1.949	0.237	0.000	2.186	0.013	0.64	0.018
Fatal and injury (FI)	--	--	--	--	--	0.64	0.018

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	1.949	0.237	0.000	2.186	0.009	0.64	0.013
Fatal and injury (FI)	--	--	--	--	--	0.64	0.013

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	(5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	(6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	0.409	0.922	1.330
Head-on collisions (from Worksheet 1D)	0.003	0.000	0.003
Angle collisions (from Worksheet 1D)	0.010	0.011	0.021
Sideswipe, same direction (from Worksheet 1D)	0.020	0.203	0.222
Sideswipe, opposite direction (from Worksheet 1D)	0.007	0.006	0.012
Driveway-related collisions (from Worksheet 1H)	0.000	0.000	0.000
Other multiple-vehicle collision (from Worksheet 1D)	0.073	0.285	0.358
Subtotal	0.521	1.427	1.948
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.000	0.015	0.015
Collision with fixed object (from Worksheet 1F)	0.018	0.163	0.181
Collision with other object (from Worksheet 1F)	0.000	0.000	0.000
Other single-vehicle collision (from Worksheet 1F)	0.027	0.015	0.042
Collision with pedestrian (from Worksheet 1I)	0.018	0.000	0.018
Collision with bicycle (from Worksheet 1J)	0.013	0.000	0.013
Subtotal	0.076	0.192	0.268
Total	0.597	1.619	2.216

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	2.2	0.43	5.2
Fatal and injury (FI)	0.6	0.43	1.4
Property damage only (PDO)	1.6	0.43	3.8

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments

General Information		Location Information	
Analyst	RLS	Roadway	US 97
Agency or Company	DKS	Roadway Section	Murphy Ramp to Ponderosa/China Hat
Date Performed	07/24/18	Jurisdiction	Bend, OR
		Analysis Year	2017

Input Data		Base Conditions	Site Conditions
Roadway type (2U, 3T, 4U, 4D, ST)		--	4U
Length of segment, L (mi)		--	0.21
AADT (veh/day)	$AADT_{MAX}$ = 40,100 (veh/day)	--	**40,100**
Type of on-street parking (none/parallel/angle)		None	None
Proportion of curb length with on-street parking		--	0
Median width (ft) - for divided only		15	Not Present
Lighting (present / not present)		Not Present	**Present**
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	0
Minor commercial driveways (number)		--	0
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	1
Minor residential driveways (number)		--	0
Other driveways (number)		--	0
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	5
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	25
Calibration Factor, Cr		1.00	0.63

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.00	1.00	0.95	1.00	0.95

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-11.63	1.33	1.01	2.475	1.000	2.475	0.95	0.63	1.482
Fatal and Injury (FI)	-12.08	1.25	0.99	0.676	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.283	0.701	0.95	0.63	0.420
Property Damage Only (PDO)	-12.53	1.38	1.08	1.709	$(5)_{TOTAL}-(5)_{FI}$ = 0.717	1.774	0.95	0.63	1.062

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	$(9)_{FI}$ from Worksheet 1C	from Table 12-4	$(9)_{PDO}$ from Worksheet 1C	$(9)_{TOTAL}$ from Worksheet 1C
Total	1.000	0.420	1.000	1.062	1.482
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.658	0.276	0.548	0.582	0.858
Head-on collision	0.029	0.012	0.004	0.004	0.016
Angle collision	0.015	0.006	0.016	0.017	0.023
Sideswipe, same direction	0.060	0.025	0.205	0.218	0.243
Sideswipe, opposite direction	0.022	0.009	0.008	0.008	0.018
Other multiple-vehicle collision	0.216	0.091	0.219	0.233	0.323

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brsv}**	**Proportion of Total Crashes**	**Adjusted N_{brsv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brsv}**
	from Table 12-5		from Table 12-5	from Equation 12-13		$(4)_{TOTAL}*(5)$	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-7.99	0.81	0.91	0.381	1.000	0.381	0.95	0.63	0.228
Fatal and Injury (FI)	-7.37	0.61	0.54	0.085	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.213	0.081	0.95	0.63	0.049
Property Damage Only (PDO)	-8.50	0.84	0.97	0.314	$(5)_{TOTAL}-(5)_{FI}$ = 0.787	0.300	0.95	0.63	0.179

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	$(9)_{FI}$ from Worksheet 1E	from Table 12-6	$(9)_{PDO}$ from Worksheet 1E	$(9)_{TOTAL}$ from Worksheet 1E
Total	1.000	0.049	1.000	0.179	0.228
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with animal	0.037	0.002	0.100	0.018	0.020
Collision with fixed object	0.519	0.025	0.825	0.148	0.173
Collision with other object	0.000	0.000	0.075	0.013	0.013
Other single-vehicle collision	0.444	0.022	0.000	0.000	0.022

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15{,}000)^t$	from Table 12-7
Major commercial	0	0.182	1.172	0.000	
Minor commercial	0	0.058	1.172	0.000	
Major industrial/institutional	0	0.198	1.172	0.000	
Minor industrial/institutional	0	0.026	1.172	0.000	--
Major residential	1	0.096	1.172	0.304	
Minor residential	0	0.018	1.172	0.000	
Other	0	0.029	1.172	0.000	
Total	--	--	--	0.304	0.81

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL} * (3)$	(6) from Worksheet 1B		(4)*(5)*(6)
Total	0.304	1.000	0.304	0.95	0.63	0.182
Fatal and injury (FI)	--	0.342	0.104	0.95	0.63	0.062
Property damage only (PDO)	--	0.658	0.200	0.95	0.63	0.120

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	1.482	0.228	0.182	1.892	0.004	0.63	0.005
Fatal and injury (FI)	--	--	--	--	--	0.63	0.005

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	1.482	0.228	0.182	1.892	0.01	0.63	0.012
Fatal and injury (FI)	--	--	--	--	--	0.63	0.012

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)**	**Property damage only (PDO)**	**Total**
	(3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	(5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	(6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	0.276	0.582	0.858
Head-on collisions (from Worksheet 1D)	0.012	0.004	0.016
Angle collisions (from Worksheet 1D)	0.006	0.017	0.023
Sideswipe, same direction (from Worksheet 1D)	0.025	0.218	0.243
Sideswipe, opposite direction (from Worksheet 1D)	0.009	0.008	0.018
Driveway-related collisions (from Worksheet 1H)	0.062	0.120	0.182
Other multiple-vehicle collision (from Worksheet 1D)	0.091	0.233	0.323
Subtotal	0.482	1.182	1.664
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.002	0.018	0.020
Collision with fixed object (from Worksheet 1F)	0.025	0.148	0.173
Collision with other object (from Worksheet 1F)	0.000	0.013	0.013
Other single-vehicle collision (from Worksheet 1F)	0.022	0.000	0.022
Collision with pedestrian (from Worksheet 1I)	0.005	0.000	0.005
Collision with bicycle (from Worksheet 1J)	0.012	0.000	0.012
Subtotal	0.065	0.179	0.245
Total	0.547	1.361	1.908

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	1.9	0.21	9.1
Fatal and injury (FI)	0.5	0.21	2.6
Property damage only (PDO)	1.4	0.21	6.5

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments

General Information		Location Information	
Analyst	RLS	Roadway	US 97
Agency or Company	DKS	Roadway Section	Ponderosa/China Hat to Speed Change
Date Performed	07/24/18	Jurisdiction	Bend, OR
		Analysis Year	2017

Input Data		Base Conditions	Site Conditions
Roadway type (2U, 3T, 4U, 4D, ST)		--	4U
Length of segment, L (mi)		--	0.27
AADT (veh/day)	$AADT_{MAX}$ = 40,100 (veh/day)	--	**36,210**
Type of on-street parking (none/parallel/angle)		None	None
Proportion of curb length with on-street parking		--	0
Median width (ft) - for divided only		15	Not Present
Lighting (present / not present)		Not Present	**Present**
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	0
Minor commercial driveways (number)		--	0
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	0
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	7
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	20
Calibration Factor, Cr		1.00	0.63

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.00	1.00	0.95	1.00	0.95

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-11.63	1.33	1.01	2.778	1.000	2.778	0.95	0.63	1.663
Fatal and Injury (FI)	-12.08	1.25	0.99	0.765	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.286	0.795	0.95	0.63	0.476
Property Damage Only (PDO)	-12.53	1.38	1.08	1.909	$(5)_{TOTAL}-(5)_{FI}$ = 0.714	1.983	0.95	0.63	1.187

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	$(9)_{FI}$ from Worksheet 1C	from Table 12-4	$(9)_{PDO}$ from Worksheet 1C	$(9)_{TOTAL}$ from Worksheet 1C
Total	1.000	0.476	1.000	1.187	1.663
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.658	0.313	0.548	0.651	0.964
Head-on collision	0.029	0.014	0.004	0.005	0.019
Angle collision	0.015	0.007	0.016	0.019	0.026
Sideswipe, same direction	0.060	0.029	0.205	0.243	0.272
Sideswipe, opposite direction	0.022	0.010	0.008	0.009	0.020
Other multiple-vehicle collision	0.216	0.103	0.219	0.260	0.363

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brsv}**	**Proportion of Total Crashes**	**Adjusted N_{brsv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brsv}**
	from Table 12-5		from Table 12-5	from Equation 12-13		$(4)_{TOTAL}*(5)$	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-7.99	0.81	0.91	0.451	1.000	0.451	0.95	0.63	0.270
Fatal and Injury (FI)	-7.37	0.61	0.54	0.103	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.217	0.098	0.95	0.63	0.059
Property Damage Only (PDO)	-8.50	0.84	0.97	0.371	$(5)_{TOTAL}-(5)_{FI}$ = 0.783	0.353	0.95	0.63	0.211

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	$(9)_{FI}$ from Worksheet 1E	from Table 12-6	$(9)_{PDO}$ from Worksheet 1E	$(9)_{TOTAL}$ from Worksheet 1E
Total	1.000	0.059	1.000	0.211	0.270
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with animal	0.037	0.002	0.100	0.021	0.023
Collision with fixed object	0.519	0.030	0.825	0.174	0.205
Collision with other object	0.000	0.000	0.075	0.016	0.016
Other single-vehicle collision	0.444	0.026	0.000	0.000	0.026

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15,000)^t$	from Table 12-7
Major commercial	0	0.182	1.172	0.000	--
Minor commercial	0	0.058	1.172	0.000	
Major industrial/institutional	0	0.198	1.172	0.000	
Minor industrial/institutional	0	0.026	1.172	0.000	
Major residential	0	0.096	1.172	0.000	
Minor residential	0	0.018	1.172	0.000	
Other	0	0.029	1.172	0.000	
Total	--	--	--	0.000	0.81

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL}$ * (3)	(6) from Worksheet 1B		(4)*(5)*(6)
Total	0.000	1.000	0.000	0.95	0.63	0.000
Fatal and injury (FI)	--	0.342	0.000	0.95	0.63	0.000
Property damage only (PDO)	--	0.658	0.000	0.95	0.63	0.000

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	1.663	0.270	0.000	1.933	0.004	0.63	0.005
Fatal and injury (FI)	--	--	--	--	--	0.63	0.005

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	1.663	0.270	0.000	1.933	0.01	0.63	0.012
Fatal and injury (FI)	--	--	--	--	--	0.63	0.012

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)** (3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	**Property damage only (PDO)** (5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	**Total** (6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	0.313	0.651	0.964
Head-on collisions (from Worksheet 1D)	0.014	0.005	0.019
Angle collisions (from Worksheet 1D)	0.007	0.019	0.026
Sideswipe, same direction (from Worksheet 1D)	0.029	0.243	0.272
Sideswipe, opposite direction (from Worksheet 1D)	0.010	0.009	0.020
Driveway-related collisions (from Worksheet 1H)	0.000	0.000	0.000
Other multiple-vehicle collision (from Worksheet 1D)	0.103	0.260	0.363
Subtotal	0.476	1.187	1.663
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.002	0.021	0.023
Collision with fixed object (from Worksheet 1F)	0.030	0.174	0.205
Collision with other object (from Worksheet 1F)	0.000	0.016	0.016
Other single-vehicle collision (from Worksheet 1F)	0.026	0.000	0.026
Collision with pedestrian (from Worksheet 1I)	0.005	0.000	0.005
Collision with bicycle (from Worksheet 1J)	0.012	0.000	0.012
Subtotal	0.076	0.211	0.287
Total	0.551	1.399	1.950

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments			
(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	2.0	0.27	7.2
Fatal and injury (FI)	0.6	0.27	2.0
Property damage only (PDO)	1.4	0.27	5.2

Worksheet 1A -- General Information and Input Data for Urban and Suburban Roadway Segments

General Information		Location Information	
Analyst	RLS	Roadway	US 97
Agency or Company	DKS	Roadway Section	Speed Change to Knott Ramps
Date Performed	07/24/18	Jurisdiction	Bend, OR
		Analysis Year	2017

Input Data		Base Conditions	Site Conditions
Roadway type (2U, 3T, 4U, 4D, ST)		--	4U
Length of segment, L (mi)		--	0.58
AADT (veh/day)	$AADT_{MAX}$ = 40,100 (veh/day)	--	**36,210**
Type of on-street parking (none/parallel/angle)		None	None
Proportion of curb length with on-street parking		--	0
Median width (ft) - for divided only		15	Not Present
Lighting (present / not present)		Not Present	**Present**
Auto speed enforcement (present / not present)		Not Present	Not Present
Major commercial driveways (number)		--	0
Minor commercial driveways (number)		--	0
Major industrial / institutional driveways (number)		--	0
Minor industrial / institutional driveways (number)		--	0
Major residential driveways (number)		--	0
Minor residential driveways (number)		--	0
Other driveways (number)		--	0
Speed Category		--	Posted Speed Greater than 30 mph
Roadside fixed object density (fixed objects / mi)		0	2
Offset to roadside fixed objects (ft) [If greater than 30 or Not Present, input 30]		30	25
Calibration Factor, Cr		1.00	0.63

Worksheet 1B -- Crash Modification Factors for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
CMF for On-Street Parking	CMF for Roadside Fixed Objects	CMF for Median Width	CMF for Lighting	CMF for Automated Speed Enforcement	Combined CMF
CMF 1r	*CMF 2r*	*CMF 3r*	*CMF 4r*	*CMF 5r*	*CMF comb*
from Equation 12-32	from Equation 12-33	from Table 12-22	from Equation 12-34	from Section 12.7.1	(1)*(2)*(3)*(4)*(5)
1.00	1.00	1.00	0.95	1.00	0.95

Worksheet 1C -- Multiple-Vehicle Nondriveway Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brmv}**	**Proportion of Total Crashes**	**Adjusted N_{brmv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brmv}**
	from Table 12-3		from Table 12-3	from Equation 12-10		$(4)_{TOTAL}$*(5)	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-11.63	1.33	1.01	5.968	1.000	5.968	0.95	0.63	3.573
Fatal and Injury (FI)	-12.08	1.25	0.99	1.643	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.286	1.707	0.95	0.63	1.022
Property Damage Only (PDO)	-12.53	1.38	1.08	4.101	$(5)_{TOTAL}-(5)_{FI}$ = 0.714	4.261	0.95	0.63	2.551

Worksheet 1D -- Multiple-Vehicle Nondriveway Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brmv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brmv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brmv\ (TOTAL)}$ (crashes/year)**
	from Table 12-4	$(9)_{FI}$ from Worksheet 1C	from Table 12-4	$(9)_{PDO}$ from Worksheet 1C	$(9)_{TOTAL}$ from Worksheet 1C
Total	1.000	1.022	1.000	2.551	3.573
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Rear-end collision	0.658	0.673	0.548	1.398	2.070
Head-on collision	0.029	0.030	0.004	0.010	0.040
Angle collision	0.015	0.015	0.016	0.041	0.056
Sideswipe, same direction	0.060	0.061	0.205	0.523	0.584
Sideswipe, opposite direction	0.022	0.022	0.008	0.020	0.043
Other multiple-vehicle collision	0.216	0.221	0.219	0.559	0.779

Worksheet 1E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	**SPF Coefficients**		**Overdispersion Parameter, k**	**Initial N_{brsv}**	**Proportion of Total Crashes**	**Adjusted N_{brsv}**	**Combined CMFs**	**Calibration Factor, Cr**	**Predicted N_{brsv}**
	from Table 12-5		from Table 12-5	from Equation 12-13		$(4)_{TOTAL}*(5)$	(6) from Worksheet 1B		(6)*(7)*(8)
	a	b							
Total	-7.99	0.81	0.91	0.968	1.000	0.968	0.95	0.63	0.580
Fatal and Injury (FI)	-7.37	0.61	0.54	0.221	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ = 0.217	0.210	0.95	0.63	0.126
Property Damage Only (PDO)	-8.50	0.84	0.97	0.797	$(5)_{TOTAL}-(5)_{FI}$ = 0.783	0.758	0.95	0.63	0.454

Worksheet 1F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	**Proportion of Collision Type$_{(FI)}$**	**Predicted N $_{brsv\ (FI)}$ (crashes/year)**	**Proportion of Collision Type $_{(PDO)}$**	**Predicted N $_{brsv\ (PDO)}$ (crashes/year)**	**Predicted N $_{brsv\ (TOTAL)}$ (crashes/year)**
	from Table 12-6	$(9)_{FI}$ from Worksheet 1E	from Table 12-6	$(9)_{PDO}$ from Worksheet 1E	$(9)_{TOTAL}$ from Worksheet 1E
Total	1.000	0.126	1.000	0.454	0.580
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	(3)+(5)
Collision with animal	0.037	0.005	0.100	0.045	0.050
Collision with fixed object	0.519	0.065	0.825	0.375	0.440
Collision with other object	0.000	0.000	0.075	0.034	0.034
Other single-vehicle collision	0.444	0.056	0.000	0.000	0.056

Worksheet 1G -- Multiple-Vehicle Driveway-Related Collisions by Driveway Type for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)
Driveway Type	**Number of driveways, n_j**	**Crashes per driveway per year, N_j**	**Coefficient for traffic adjustment, t**	**Initial N_{brdwy}**	**Overdispersion parameter, k**
		from Table 12-7	from Table 12-7	Equation 12-16 $n_j * N_j * (AADT/15,000)^t$	from Table 12-7
Major commercial	0	0.182	1.172	0.000	
Minor commercial	0	0.058	1.172	0.000	
Major industrial/institutional	0	0.198	1.172	0.000	
Minor industrial/institutional	0	0.026	1.172	0.000	--
Major residential	0	0.096	1.172	0.000	
Minor residential	0	0.018	1.172	0.000	
Other	0	0.029	1.172	0.000	
Total	--	--	--	0.000	0.81

Worksheet 1H -- Multiple-Vehicle Driveway-Related Collisions by Severity Level for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	**Initial N_{brdwy}**	**Proportion of total crashes (f_{dwy})**	**Adjusted N_{brdwy}**	**Combined CMFs**	**Calibration factor, C_r**	**Predicted N_{brdwy}**
	$(5)_{TOTAL}$ from Worksheet 1G	from Table 12-7	$(2)_{TOTAL} * (3)$	(6) from Worksheet 1B		(4)*(5)*(6)
Total	0.000	1.000	0.000	0.95	0.63	0.000
Fatal and injury (FI)	--	0.342	0.000	0.95	0.63	0.000
Property damage only (PDO)	--	0.658	0.000	0.95	0.63	0.000

Worksheet 1I -- Vehicle-Pedestrian Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{pedr}**	**Calibration factor, C_r**	**Predicted N_{pedr}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-8		(5)*(6)*(7)
Total	3.573	0.580	0.000	4.153	0.004	0.63	0.010
Fatal and injury (FI)	--	--	--	--	--	0.63	0.010

Worksheet 1J -- Vehicle-Bicycle Collisions for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Crash Severity Level	**Predicted N_{brmv}**	**Predicted N_{brsv}**	**Predicted N_{brdwy}**	**Predicted N_{br}**	**f_{biker}**	**Calibration factor, C_r**	**Predicted N_{biker}**
	(9) from Worksheet 1C	(9) from Worksheet 1E	(7) from Worksheet 1H	(2)+(3)+(4)	from Table 12-9		(5)*(6)*(7)
Total	3.573	0.580	0.000	4.153	0.01	0.63	0.026
Fatal and injury (FI)	--	--	--	--	--	0.63	0.026

Worksheet 1K -- Crash Severity Distribution for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)
Collision type	**Fatal and injury (FI)** (3) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J	**Property damage only (PDO)** (5) from Worksheet 1D and 1F; and (7) from Worksheet 1H	**Total** (6) from Worksheet 1D and 1F; (7) from Worksheet 1H; and (8) from Worksheet 1I and 1J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 1D)	0.673	1.398	2.070
Head-on collisions (from Worksheet 1D)	0.030	0.010	0.040
Angle collisions (from Worksheet 1D)	0.015	0.041	0.056
Sideswipe, same direction (from Worksheet 1D)	0.061	0.523	0.584
Sideswipe, opposite direction (from Worksheet 1D)	0.022	0.020	0.043
Driveway-related collisions (from Worksheet 1H)	0.000	0.000	0.000
Other multiple-vehicle collision (from Worksheet 1D)	0.221	0.559	0.779
Subtotal	1.022	2.551	3.573
SINGLE-VEHICLE			
Collision with animal (from Worksheet 1F)	0.005	0.045	0.050
Collision with fixed object (from Worksheet 1F)	0.065	0.375	0.440
Collision with other object (from Worksheet 1F)	0.000	0.034	0.034
Other single-vehicle collision (from Worksheet 1F)	0.056	0.000	0.056
Collision with pedestrian (from Worksheet 1I)	0.010	0.000	0.010
Collision with bicycle (from Worksheet 1J)	0.026	0.000	0.026
Subtotal	0.162	0.454	0.616
Total	1.184	3.005	4.189

Worksheet 1L -- Summary Results for Urban and Suburban Roadway Segments

(1)	(2)	(3)	(4)
Crash Severity Level	**Predicted average crash frequency, $N_{predicted\ rs}$ (crashes/year)**	**Roadway segment length, L (mi)**	**Crash rate (crashes/mi/year)**
	(Total) from Worksheet 1K		(2) / (3)
Total	4.2	0.58	7.2
Fatal and injury (FI)	1.2	0.58	2.0
Property damage only (PDO)	3.0	0.58	5.2

Worksheet 3A -- Predicted Crashes by Severity and Site Type and Observed Crashes Using the Site-Specific EB Method for Urban and Suburban Arterials

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Collision type / Site type	**Predicted average crash frequency (crashes/year)**			**Observed crashes, $N_{observed}$** (crashes/year)	**Overdispersion Parameter, k**	**Weighted adjustment, w**	**Expected average crash frequency,**
	$N_{predicted}$ (TOTAL)	$N_{predicted}$ (FI)	$N_{predicted}$ (PDO)			Equation A-5 from Part C Appendix	Equation A-4 from Part C Appendix
ROADWAY SEGMENTS							
Multiple-vehicle nondriveway							
Segment 1	1.949	0.522	1.427		1.320	0.280	0.546
Segment 2	1.482	0.420	1.062		1.010	0.401	0.594
Segment 3	1.663	0.476	1.187		1.010	0.373	0.621
Segment 4	3.573	1.022	2.551		1.010	0.217	0.775
Single-vehicle							
Segment 1	0.237	0.045	0.192		0.860	0.830	0.197
Segment 2	0.228	0.049	0.179		0.910	0.828	0.189
Segment 3	0.270	0.059	0.211		0.910	0.803	0.217
Segment 4	0.580	0.126	0.454		0.910	0.655	0.380
Multiple-vehicle driveway-related							
Segment 1	0.000	0.000	0.000		1.390	1.000	0.000
Segment 2	0.182	0.062	0.120		0.810	0.872	0.159
Segment 3	0.000	0.000	0.000		0.810	1.000	0.000
Segment 4	0.000	0.000	0.000		0.810	1.000	0.000
INTERSECTIONS							
Multiple-vehicle							
Intersection 1	0.000	0.000	0.000		0.330	1.000	0.000
Intersection 2	0.000	0.000	0.000		0.800	1.000	0.000
Intersection 3	0.000	0.000	0.000		0.800	1.000	0.000
Single-vehicle							
Intersection 1	0.000	0.000	0.000		0.360	1.000	0.000
Intersection 2	0.000	0.000	0.000		1.140	1.000	0.000
Intersection 3	0.000	0.000	0.000		1.140	1.000	0.000
COMBINED (sum of column)	10.164	2.780	7.384	0.0	--	--	3.676

Worksheet 3B -- Predicted Pedestrian and Bicycle Crashes for Urban and Suburban Arterials

(1)	(2)	(3)
Site Type	**N_{ped}**	**N_{bike}**
ROADWAY SEGMENTS		
Segment 1	0.018	0.013
Segment 2	0.005	0.012
Segment 3	0.005	0.012
Segment 4	0.010	0.026
INTERSECTIONS		
Intersection 1	0.000	0.000
Intersection 2	0.000	0.000
Intersection 3	0.000	0.000
COMBINED (sum of column)	0.038	0.063

Worksheet 3C -- Site-Specific EB Method Summary Results for Urban and Suburban Arterials

(1)	(2)	(3)	(4)	(5)	(6)
Crash severity level	**$N_{predicted}$**	**N_{ped}**	**N_{bike}**	$N_{expected\ (VEHICLE)}$	$N_{expected}$
Total	$(2)_{COMB}$ from Worksheet 3A	$(2)_{COMB}$ from Worksheet 3B	$(3)_{COMB}$ from Worksheet 3B	$(8)_{COMB}$ Worksheet 3A	(3)+(4)+(5)
	10.2	0.0	0.1	3.7	3.8
Fatal and injury (FI)	$(3)_{COMB}$ from Worksheet 3A	$(2)_{COMB}$ from Worksheet 3B	$(3)_{COMB}$ from Worksheet 3B	$(5)_{TOTAL} * (2)_{FI} / (2)_{TOTAL}$	(3)+(4)+(5)
	2.8	0.0	0.1	1.0	1.1
Property damage only (PDO)	$(4)_{COMB}$ from Worksheet 3A	--	--	$(5)_{TOTAL} * (2)_{PDO} / (2)_{TOTAL}$	(3)+(4)+(5)
	7.4	0.0	0.0	2.7	2.7

ISATe (Future 2040 Build Bundle A) Conditions Analysis

Input Worksheet for Freeway Segments

Clear | Echo Input Values (View results in Column AV) | Check Input Values (View results in Advisory Messages)

		Segment 1 Study Period	Segment 2 Study Period
Basic Roadway Data			
	Number of through lanes (n):	4	
	Freeway segment description:	Empire MP 135.13-MP135.7	
	Segment length (L), mi:	0.64	
Alignment Data			
Horizontal Curve Data	↖See note		
1	Horizontal curve in segment?:	No	No
	Curve radius (R_1), ft:		
	Length of curve (L_{c1}), mi:		
	Length of curve in segment ($L_{c1,seg}$), mi:		
2	Horizontal curve in segment?:		
	Curve radius (R_2), ft:		
	Length of curve (L_{c2}), mi:		
	Length of curve in segment ($L_{c2,seg}$), mi:		
3	Horizontal curve in segment?:		
	Curve radius (R_3), ft:		
	Length of curve (L_{c3}), mi:		
	Length of curve in segment ($L_{c3,seg}$), mi:		
Cross Section Data			
	Lane width (W_l), ft:	12	
	Outside shoulder width (W_s), ft:	6	
	Inside shoulder width (W_{is}), ft:	2	
	Median width (W_m), ft:	20	
	Rumble strips on outside shoulders?:	No	
	Length of rumble strips for travel in increasing milepost direction, mi:		
	Length of rumble strips for travel in decreasing milepost direction, mi:		
	Rumble strips on inside shoulders?:	No	No
	Length of rumble strips for travel in increasing milepost direction, mi:		
	Length of rumble strips for travel in decreasing milepost direction, mi:		
	Presence of barrier in median:	None	None
1	Length of barrier ($L_{ib,1}$), mi:		
	Distance from edge of traveled way to barrier face ($W_{off,in,1}$), ft:		
2	Length of barrier ($L_{ib,2}$), mi:		
	Distance from edge of traveled way to barrier face ($W_{off,in,2}$), ft:		
3	Length of barrier ($L_{ib,3}$), mi:		
	Distance from edge of traveled way to barrier face ($W_{off,in,3}$), ft:		
4	Length of barrier ($L_{ib,4}$), mi:		
	Distance from edge of traveled way to barrier face ($W_{off,in,4}$), ft:		
5	Length of barrier ($L_{ib,5}$), mi:		
	Distance from edge of traveled way to barrier face ($W_{off,in,5}$), ft:		
	Median barrier width (W_{ib}), ft:		
	Nearest distance from edge of traveled way to barrier face (W_{near}), ft:		

Roadside Data			
Clear zone width (W_{hc}), ft:		20	
Presence of barrier on roadside:		None	
1	Length of barrier ($L_{ob,1}$), mi:		
	Distance from edge of traveled way to barrier face ($W_{off,o,1}$), ft:		
2	Length of barrier ($L_{ob,2}$), mi:		
	Distance from edge of traveled way to barrier face ($W_{off,o,2}$), ft:		
3	Length of barrier ($L_{ob,3}$), mi:		
	Distance from edge of traveled way to barrier face ($W_{off,o,3}$), ft:		
4	Length of barrier ($L_{ob,4}$), mi:		
	Distance from edge of traveled way to barrier face ($W_{off,o,4}$), ft:		
5	Length of barrier ($L_{ob,5}$), mi:		
	Distance from edge of traveled way to barrier face ($W_{off,o,5}$), ft:		
Distance from edge of traveled way to barrier face, increasing milepost ($W_{off,inc}$), ft:			
Distance from edge of traveled way to barrier face, decreasing milepost ($W_{off,dec}$), ft:			

Ramp Access Data			
Travel in Increasing Milepost Direction			
Entrance Ramp	Ramp entrance in segment? (If yes, indicate type.):	S-C Lane	No
	Distance from begin milepost to upstream entrance ramp gore ($X_{b,ent}$), mi:		
	Length of ramp entrance ($L_{en,inc}$), mi:	0.15	
	Length of ramp entrance in segment ($L_{en,seg,inc}$), mi:	0.15	
	Entrance side?:	Right	
Exit Ramp	Ramp exit in segment? (If yes, indicate type.):	No	No
	Distance from end milepost to downstream exit ramp gore ($X_{e,ext}$), mi:	0.22	
	Length of ramp exit ($L_{ex,inc}$), mi:		
	Length of ramp exit in segment ($L_{ex,seg,inc}$), mi:		
	Exit side?:		
Weave	Type B weave in segment?:	No	No
	Length of weaving section ($L_{wev,inc}$), mi:		
	Length of weaving section in segment ($L_{wev,seg,inc}$), mi:		
Travel in Decreasing Milepost Direction			
Entrance Ramp	Ramp entrance in segment? (If yes, indicate type.):	S-C Lane	No
	Distance from end milepost to upstream entrance ramp gore ($X_{e,ent}$), mi:		0
	Length of ramp entrance ($L_{en,dec}$), mi:	0.12	
	Length of ramp entrance in segment ($L_{en,seg,dec}$), mi:	0.12	
	Entrance side?:	Right	
Exit Ramp	Ramp exit in segment? (If yes, indicate type.):	S-C Lane	No
	Distance from begin milepost to downstream exit ramp gore ($X_{b,ext}$), mi:		
	Length of ramp exit ($L_{ex,dec}$), mi:	0.03	
	Length of ramp exit in segment ($L_{ex,seg,dec}$), mi:	0.03	
	Exit side?:	Right	
Weave	Type B weave in segment?:	No	No
	Length of weaving section ($L_{wev,dec}$), mi:		
	Length of weaving section in segment ($L_{wev,seg,dec}$), mi:		

Traffic Data	**Year**		
Proportion of AADT during high-volume hours (P_{hv}):			

Freeway Segment Data	2011	55195	
Average daily traffic ($AADT_{fs}$) by year, veh/d:	2012	56321	
(enter data only for those years for which	2013	57470	
it is available, leave other years blank)	2014	58643	
	2015	**59840**	
	2016		
	2017		
	2018		
	2019		
	2020		
	2021		
	2022		
	2023		
	2024		
	2025		
	2026		
	2027		
	2028		
	2029		
	2030		
	2031		
	2032		
	2033		
	2034		
Entrance Ramp Data for Travel in Increasing Milepost Dir.	**Year**		
Average daily traffic ($AADT_{b,ent}$) by year, veh/d:	2011	9132	
(enter data only for those years for which	2012	9318	
it is available, leave other years blank)	2013	9508	
	2014	9702	
	2015	**9900**	
	2016		
	2017		
	2018		
	2019		
	2020		
	2021		
	2022		
	2023		
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	2034		
Exit Ramp Data for Travel in Increasing Milepost Direction	**Year**		
Average daily traffic ($AADT_{e,ext}$) by year, veh/d:	2011	0	

(enter data only for those years for which it is available, leave other years blank)	2012	0	
	2013	0	
	2014	0	
	2015	0	
	2016		
	2017		
	2018		
	2019		
	2020		
	2021		
	2022		
	2023		
	2024		
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	2033		
	2034		
Entrance Ramp Data for Travel in Decreasing Milepost Dir.	**Year**		
Average daily traffic ($AADT_{e,ent}$) by year, veh/d:	2011	4261	
(enter data only for those years for which it is available, leave other years blank)	2012	4348	
	2013	4437	
	2014	4528	
	2015	**4620**	
	2016		
	2017		
	2018		
	2019		
	2020		
	2021		
	2022		
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	2031		
	2032		
	2033		
	2034		
Exit Ramp Data for Travel in Decreasing Milepost Direction	**Year**		
Average daily traffic ($AADT_{b,ext}$) by year, veh/d:	2011	6848	
(enter data only for those years for which	2012	6988	

it is available, leave other years blank)

2013	7131	
2014	7277	
2015	**7425**	
2016		
2017		
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Crash Data	**Year**		Segment Crashes -->	
Count of Fatal-and-Injury (FI) Crashes by Year				
Multiple-vehicle crashes (not ramp related) ($N_{o,fs,n,mv,fi}$)	2011			
	2012			
	2013			
	2014			
	2015			
Single-vehicle crashes (not ramp related) ($N_{o,fs,n,sv,fi}$)	2011			
	2012			
	2013			
	2014			
	2015			
Ramp-entrance-related crashes ($N_{o,sc,EN,at,fi}$)	2011			
	2012			
	2013			
	2014			
	2015			
Ramp-exit-related crashes ($N_{o,sc,EX,at,fi}$)	2011			
	2012			
	2013			
	2014			
	2015			
Count of Property-Damage-Only (PDO) Crashes by Year				
Multiple-vehicle crashes (not ramp related) ($N_{o,fs,n,mv,pdo}$)	2011			
	2012			
	2013			
	2014			
	2015			

	Single-vehicle crashes (not ramp related) ($N_{o,fs,n,sv,pdo}$)	2011			
		2012			
		2013			
		2014			
		2015			
	Ramp-entrance-related crashes ($N_{o,sc,EN,at,pdo}$)	2011			
		2012			
		2013			
		2014			
		2015			
	Ramp-exit-related crashes ($N_{o,sc,EX,at,pdo}$)	2011			
		2012			
		2013			
		2014			
		2015			

Input Worksheet for Ramp Segments

Clear | Echo Input Values (View results in Column CJ) | Check Input Values (View results in Advisory Messages)

		Segment 1 Study Period	Segment 2 Study Period	Segment 3 Study Period	Segment 4 Study Period
Basic Roadway Data					
	Number of through lanes (n):	1	1	1	
	Ramp segment description:	NB on ramp	NB off ramp	SB on ramp	
	Segment length (L), mi:	0.2	0.25	0.31	
	Average traffic speed on the freeway (V_{frwy}), mi/h:	50	50	50	
	Segment type (ramp or collector-distributor road):	Entrance	Exit	Entrance	Entrance
	Type of control at crossroad ramp terminal:	Signal	Signal	**Signal**	Signal
Alignment Data					
Horizontal Curve Data ← See notes →					
1	Horizontal curve?:	No	No	No	No
	Curve radius (R_1), ft:				
	Length of curve (L_{c1}), mi:				
	Length of curve in segment ($L_{c1,seg}$), mi:				
	Ramp-mile of beginning of curve in direction of travel (X_1), mi:				
2	Horizontal curve?:				
	Curve radius (R_2), ft:				
	Length of curve (L_{c2}), mi:				
	Length of curve in segment ($L_{c2,seg}$), mi:				
	Ramp-mile of beginning of curve in direction of travel (X_2), mi:				
3	Horizontal curve?:				
	Curve radius (R_3), ft:				
	Length of curve (L_{c3}), mi:				
	Length of curve in segment ($L_{c3,seg}$), mi:				
	Ramp-mile of beginning of curve in direction of travel (X_3), mi:				
4	Horizontal curve?:				
	Curve radius (R_4), ft:				
	Length of curve (L_{c4}), mi:				
	Length of curve in segment ($L_{c4,seg}$), mi:				
	Ramp-mile of beginning of curve in direction of travel (X_4), mi:				
5	Horizontal curve?:				
	Curve radius (R_5), ft:				
	Length of curve (L_{c5}), mi:				
	Length of curve in segment ($L_{c5,seg}$), mi:				
	Ramp-mile of beginning of curve in direction of travel (X_5), mi:				
Cross Section Data					
	Lane width (W_l), ft:	12	12	12	
	Right shoulder width (W_{rs}), ft:	4	4	4	
	Left shoulder width (W_{ls}), ft:	2	2	2	
	Presence of lane add or lane drop by taper:	No	No	No	No
	Length of taper in segment ($L_{add,seg}$ or $L_{drop,seg}$), mi:				
Roadside Data					
	Presence of barrier on <u>right</u> side of roadway:	Yes	Yes	No	No
1	Length of barrier ($L_{rb,1}$), mi:	0.03	0.07		
	Distance from edge of traveled way to barrier face ($W_{off,r,1}$), ft:	4	4		

2	Length of barrier ($L_{rb,2}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,r,2}$), ft:				
3	Length of barrier ($L_{rb,3}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,r,3}$), ft:				
4	Length of barrier ($L_{rb,4}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,r,4}$), ft:				
5	Length of barrier ($L_{rb,5}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,r,5}$), ft:				
Presence of barrier on left side of roadway:		Yes	Yes	No	No
1	Length of barrier ($L_{lb,1}$), mi:	0.03	0.08		
	Distance from edge of traveled way to barrier face ($W_{off,l,1}$), ft:	2	2		
2	Length of barrier ($L_{lb,2}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,l,2}$), ft:				
3	Length of barrier ($L_{lb,3}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,l,3}$), ft:				
4	Length of barrier ($L_{lb,4}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,l,4}$), ft:				
5	Length of barrier ($L_{lb,5}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,l,5}$), ft:				
Ramp Access Data	← See note				
Ramp Entrance	Ramp entrance in segment? (If yes, indicate type.):	No	No	No	No
	Length of entrance s-c lane in segment ($L_{en,seg}$), mi:				
Ramp Exit	Ramp exit in segment? (If yes, indicate type.):	No	No	No	No
	Length of exit s-c lane in segment ($L_{ex,seg}$), mi:				
Weaving Section	Weave section in collector-distributor road segment?:				
	Length of weaving section (L_{wev}), mi:				
	Length of weaving section in segment ($L_{wev,seg}$), mi:				

Traffic Data	**Year**				
Average daily traffic ($AADT_r$ or $AADT_c$) by year, veh/d:	2011	4261	6848	9132	
(enter data only for those years for which it is available, leave other years blank)	2012	4348	6988	9318	
	2013	4437	7131	9508	
	2014	4528	7277	9702	
	2015	4620	7425	9900	
	2016				
	2017				
	2018				
	2019				
	2020				
	2021				
	2022				
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2033				
2034				

Input Worksheet for Crossroad Ramp Terminals

Clear | Echo Input Values (View results in Column T) | Check Input Values (View results in Advisory Messages)

			Terminal 1 Study Period	Terminal 2 Study Period	Terminal 3 Study Period
Basic Intersection Data					
Ramp terminal configuration:			D4	D3en	
Ramp terminal description:			NB	SB	
Ramp terminal traffic control type:			Signal	**Signal**	
Is a non-ramp public street leg present at the terminal (I_{ps})?:			No	**Yes**	
Alignment Data					
Exit ramp skew angle (I_{sk}), degrees:					
Distance to the next public street intersection on the outside crossroad leg (L_{str}), mi:			0.14	0.05	
Distance to the adjacent ramp terminal (L_{rmp}), mi:			0.07	0.07	
Traffic Control					
Left-Turn Operational Mode					
Crossroad	Inside approach	Protected-only mode ($I_{p,lt,in}$)?:	No	No	
	Outside approach	Protected-only mode ($I_{p,lt,out}$)?:			
Right-Turn Control Type					
Ramp	Exit ramp approach	Right-turn control type:	Signal		
Cross Section Data					
Crossroad median width (W_m), ft:			0	0	
Number of Lanes					
Crossroad	Both approaches	Lanes serving through vehicles (n_{th}):	3	3	
	Inside approach	Lanes serving through vehicles ($n_{th,in}$):	2	1	
	Outside approach	Lanes serving through vehicles ($n_{th,out}$):	1	2	
Ramp	Exit ramp approach	All lanes (n_{ex}):	1		
Right-Turn Channelization		see note: →			
Crossroad	Inside approach	Channelization present ($I_{ch,in}$)?:		No	
	Outside approach	Channelization present ($I_{ch,out}$)?:	No	No	
Ramp	Exit ramp approach	Channelization present ($I_{ch,ex}$)?:	No		
Left-Turn Lane or Bay					
Crossroad	Inside approach	Lane or bay present ($I_{bay,lt,in}$)?:	Yes	Yes	
		Width of lane or bay ($W_{b,in}$), ft:	12	12	
	Outside approach	Lane or bay present ($I_{bay,lt,out}$)?:		**Yes**	
		Width of lane or bay ($W_{b,out}$), ft:		**12**	
Right-Turn Lane or Bay					
Crossroad	Inside approach	Lane or bay present ($I_{bay,rt,in}$)?:		No	
	Outside approach	Lane or bay present ($I_{bay,rt,out}$)?:	No	**Yes**	
Access Data					
Number of driveways on the outside crossroad leg (n_{dw}):			0	0	
Number of public street approaches on the outside crossroad leg (n_{ps}):				1	
Traffic Data		**Year**			
Inside Crossroad Leg Data		2011	24401	24401	
Average daily traffic ($AADT_{in}$) by year, veh/d:		2012	24899	24899	
(enter data only for those years for which		2013	25407	25407	
it is available, leave other years blank)		2014	25926	25926	

	2015	**26455**	26455	
	2016			
	2017			
	2018			
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	2021			
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	2023			
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	2034			
Outside Crossroad Leg Data	2011	27902	26482	
Average daily traffic ($AADT_{out}$) by year, veh/d:	2012	28471	27022	
(enter data only for those years for which	2013	29052	27573	
it is available, leave other years blank)	2014	29645	28136	
	2015	**30250**	**28710**	
	2016			
	2017			
	2018			
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	2023			
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	2030			
	2031			
	2032			
	2033			
	2034			
Exit Ramp Data	2011	6848		
Average daily traffic ($AADT_{ex}$) by year, veh/d:	2012	6988		
(enter data only for those years for which	2013	7131		
it is available, leave other years blank)	2014	7277		
	2015	7425		
For a B4 terminal configuration, enter the AADT for the	2016			
diagonal exit ramp (not the loop exit ramp).	2017			

	2018			
	2019			
	2020			
	2021			
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	2026			
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	2030			
	2031			
	2032			
	2033			
	2034			
Entrance Ramp Data	2011	4261	9132	
Average daily traffic ($AADT_{en}$) by year, veh/d:	2012	4348	9318	
(enter data only for those years for which	2013	4437	9508	
it is available, leave other years blank)	2014	4528	9702	
	2015	4620	9900	
For an A4 terminal configuration, enter the AADT for the	2016			
diagonal entrance ramp (not the loop entrance ramp).	2017			
	2018			
	2019			
	2020			
	2021			
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Output Summary

General Information

Project description:	Bend US 97 Parkway				
Analyst:	AMD	Date:	8/28/2019	Area type:	Urban
First year of analysis:	2011				
Last year of analysis:	2015				

Crash Data Description

Freeway segments	Segment crash data available?	No	First year of crash data:	
	Project-level crash data available?	No	Last year of crash data:	
Ramp segments	Segment crash data available?	No	First year of crash data:	
	Project-level crash data available?	No	Last year of crash data:	
Ramp terminals	Segment crash data available?	No	First year of crash data:	
	Project-level crash data available?	No	Last year of crash data:	

Estimated Crash Statistics

Crashes for Entire Facility	**Total**	**K**	**A**	**B**	**C**	**PDO**
Estimated number of crashes during Study Period, crashes:	124.8	0.5	2.4	13.4	34.2	74.3
Estimated average crash freq. during Study Period, crashes/yr:	25.0	0.1	0.5	2.7	6.8	14.9

Crashes by Facility Component	**Nbr. Sites**	**Total**	**K**	**A**	**B**	**C**	**PDO**
Freeway segments, crashes:	1	46.6	0.3	0.7	5.0	10.4	30.1
Ramp segments, crashes:	3	9.5	0.1	0.4	1.9	2.4	4.7
Crossroad ramp terminals, crashes:	2	68.7	0.1	1.3	6.4	21.3	39.5

Crashes for Entire Facility by Year	**Year**	**Total**	**K**	**A**	**B**	**C**	**PDO**
Estimated number of crashes during the Study Period, crashes:	2011	23.6	0.1	0.5	2.5	6.5	14.0
	2012	24.3	0.1	0.5	2.6	6.7	14.4
	2013	24.9	0.1	0.5	2.7	6.8	14.8
	2014	25.6	0.1	0.5	2.7	7.0	15.3
	2015	26.3	0.1	0.5	2.8	7.2	15.7
	2016						
	2017						
	2018						
	2019						
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	2021						
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	2034						

Distribution of Crashes for Entire Facility

Crash Type	**Crash Type Category**	**Estimated Number of Crashes During the Study Period**					
		Total	**K**	**A**	**B**	**C**	**PDO**
Multiple vehicle	Head-on crashes:	0.7	0.0	0.0	0.1	0.3	0.3
	Right-angle crashes:	16.9	0.0	0.4	1.8	5.7	9.1
	Rear-end crashes:	61.4	0.2	1.2	6.5	18.3	35.3
	Sideswipe crashes:	14.8	0.0	0.1	0.9	2.1	11.7
	Other multiple-vehicle crashes:	2.0	0.0	0.0	0.2	0.4	1.3
	Total multiple-vehicle crashes:	95.8	0.2	1.7	9.4	26.8	57.7
Single vehicle	Crashes with animal:	0.3	0.0	0.0	0.0	0.0	0.2
	Crashes with fixed object:	21.3	0.2	0.5	2.8	5.2	12.5
	Crashes with other object:	2.1	0.0	0.0	0.1	0.3	1.7
	Crashes with parked vehicle:	0.5	0.0	0.0	0.1	0.1	0.3
	Other single-vehicle crashes	4.8	0.1	0.2	1.0	1.8	1.8
	Total single-vehicle crashes:	29.0	0.2	0.7	4.0	7.5	16.6
	Total crashes:	124.8	0.5	2.4	13.4	34.2	74.3

Input Worksheet for Freeway Segments

Clear | Echo Input Values (View results in Column AV) | Check Input Values (View results in Advisory Messages)

		Segment 1 Study Period	Segment 2 Study Period	Segment 3 Study Period	Segment 4 Study Period
Basic Roadway Data					
	Number of through lanes (n):	4	4		
	Freeway segment description:	Butler MP 135	US 20 ramps MP136.10-136.81		
	Segment length (L), mi:	0.18	0.71		
Alignment Data					
Horizontal Curve Data	← See note				
1	Horizontal curve in segment?:	No	No	No	No
	Curve radius (R_1), ft:				
	Length of curve (L_{c1}), mi:				
	Length of curve in segment ($L_{c1,seg}$), mi:				
2	Horizontal curve in segment?:				
	Curve radius (R_2), ft:				
	Length of curve (L_{c2}), mi:				
	Length of curve in segment ($L_{c2,seg}$), mi:				
3	Horizontal curve in segment?:				
	Curve radius (R_3), ft:				
	Length of curve (L_{c3}), mi:				
	Length of curve in segment ($L_{c3,seg}$), mi:				
Cross Section Data					
	Lane width (W_l), ft:	12	12		
	Outside shoulder width (W_s), ft:	6	7		
	Inside shoulder width (W_{is}), ft:	2	2		
	Median width (W_m), ft:	45	16		
	Rumble strips on outside shoulders?:	No	No	No	No
	Length of rumble strips for travel in increasing milepost direction, mi:				
	Length of rumble strips for travel in decreasing milepost direction, mi:				
	Rumble strips on inside shoulders?:	No	No	No	No
	Length of rumble strips for travel in increasing milepost direction, mi:				
	Length of rumble strips for travel in decreasing milepost direction, mi:				
	Presence of barrier in median:	None	None	None	None
1	Length of barrier ($L_{ib,1}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,in,1}$), ft:				
2	Length of barrier ($L_{ib,2}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,in,2}$), ft:				
3	Length of barrier ($L_{ib,3}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,in,3}$), ft:				
4	Length of barrier ($L_{ib,4}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,in,4}$), ft:				
5	Length of barrier ($L_{ib,5}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,in,5}$), ft:				
	Median barrier width (W_{ib}), ft:				
	Nearest distance from edge of traveled way to barrier face (W_{near}), ft:				
Roadside Data					
	Clear zone width (W_{hc}), ft:	30	30		
	Presence of barrier on roadside:	Some	Some	None	None

1	Length of barrier ($L_{ob,1}$), mi:	0.18	0.65		
	Distance from edge of traveled way to barrier face ($W_{off,o,1}$), ft:	6	7		
2	Length of barrier ($L_{ob,2}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,o,2}$), ft:				
3	Length of barrier ($L_{ob,3}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,o,3}$), ft:				
4	Length of barrier ($L_{ob,4}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,o,4}$), ft:				
5	Length of barrier ($L_{ob,5}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,o,5}$), ft:				
Distance from edge of traveled way to barrier face, increasing milepost ($W_{off,inc}$), ft:					
Distance from edge of traveled way to barrier face, decreasing milepost ($W_{off,dec}$), ft:					
Ramp Access Data					
Travel in Increasing Milepost Direction					
Entrance Ramp	Ramp entrance in segment? (If yes, indicate type.):	No	S-C Lane	No	No
	Distance from begin milepost to upstream entrance ramp gore ($X_{b,ent}$), mi:	0.29		0	0
	Length of ramp entrance ($L_{en,inc}$), mi:		0.11		
	Length of ramp entrance in segment ($L_{en,seg,inc}$), mi:		0.11		
	Entrance side?:		Right		
Exit Ramp	Ramp exit in segment? (If yes, indicate type.):	S-C Lane	No	No	No
	Distance from end milepost to downstream exit ramp gore ($X_{e,ext}$), mi:		0.15	0	0
	Length of ramp exit ($L_{ex,inc}$), mi:	0.05			
	Length of ramp exit in segment ($L_{ex,seg,inc}$), mi:	0.05			
	Exit side?:	Right			
Weave	Type B weave in segment?:	No	No	No	No
	Length of weaving section ($L_{wev,inc}$), mi:				
	Length of weaving section in segment ($L_{wev,seg,inc}$), mi:				
Travel in Decreasing Milepost Direction					
Entrance Ramp	Ramp entrance in segment? (If yes, indicate type.):	S-C Lane	S-C Lane	No	No
	Distance from end milepost to upstream entrance ramp gore ($X_{e,ent}$), mi:			0	0
	Length of ramp entrance ($L_{en,dec}$), mi:	0.07	0.11		
	Length of ramp entrance in segment ($L_{en,seg,dec}$), mi:	0.07	0.11		
	Entrance side?:	Right	Right		
Exit Ramp	Ramp exit in segment? (If yes, indicate type.):	No	No	No	No
	Distance from begin milepost to downstream exit ramp gore ($X_{b,ext}$), mi:	0.21	0.39	0	0
	Length of ramp exit ($L_{ex,dec}$), mi:				
	Length of ramp exit in segment ($L_{ex,seg,dec}$), mi:				
	Exit side?:				
Weave	Type B weave in segment?:	No	No	No	No
	Length of weaving section ($L_{wev,dec}$), mi:				
	Length of weaving section in segment ($L_{wev,seg,dec}$), mi:				

Traffic Data	**Year**				
Proportion of AADT during high-volume hours (P_{hv}):				0	0
Freeway Segment Data	2011	65696	60674		
Average daily traffic ($AADT_{fs}$) by year, veh/d:	2012	67037	61912		
(enter data only for those years for which	2013	68405	63175		
it is available, leave other years blank)	2014	69801	64464		
	2015	**71225**	**65780**		
	2016				

	2017				
	2018				
	2019				
	2020				
	2021				
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	2030				
	2031				
	2032				
	2033				
	2034				
Entrance Ramp Data for Travel in Increasing Milepost Dir.	**Year**				
Average daily traffic ($AADT_{b,ent}$) by year, veh/d:	2011	0	4668		
(enter data only for those years for which	2012	0	4763		
it is available, leave other years blank)	2013	0	4860		
	2014	0	4959		
	2015	0	**5060**		
	2016				
	2017				
	2018				
	2019				
	2020				
	2021				
	2022				
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	2029				
	2030				
	2031				
	2032				
	2033				
	2034				
Exit Ramp Data for Travel in Increasing Milepost Direction	**Year**				
Average daily traffic ($AADT_{e,ext}$) by year, veh/d:	2011	2638	0		
(enter data only for those years for which	2012	2692	0		
it is available, leave other years blank)	2013	2747	0		
	2014	2803	0		
	2015	**2860**	0		
	2016				
	2017				
	2018				
	2019				
	2020				

	2021				
	2022				
	2023				
	2024				
	2025				
	2026				
	2027				
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	2029				
	2030				
	2031				
	2032				
	2033				
	2034				
Entrance Ramp Data for Travel in Decreasing Milepost Dir.	**Year**				
Average daily traffic ($AADT_{e,ent}$) by year, veh/d:	2011	2841	5022		
(enter data only for those years for which	2012	2899	5124		
it is available, leave other years blank)	2013	2958	5229		
	2014	3018	5336		
	2015	**3080**	**5445**		
	2016				
	2017				
	2018				
	2019				
	2020				
	2021				
	2022				
	2023				
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Exit Ramp Data for Travel in Decreasing Milepost Direction	**Year**				
Average daily traffic ($AADT_{b,ext}$) by year, veh/d:	2011	0	0		
(enter data only for those years for which	2012	0	0		
it is available, leave other years blank)	2013	0	0		
	2014	0	0		
	2015	0	0		
	2016				
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	2018				
	2019				
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Input Worksheet for Ramp Segments

Clear | Echo Input Values (View results in Column CJ) | Check Input Values (View results in Advisory Messages)

		Segment 1	Segment 2	Segment 3	Segment 4	Segment 5
		Study Period	**Study Period**	**Study Period**	**Study Period**	**Study Period**
Basic Roadway Data						
	Number of through lanes (n):	1	1	1	1	
	Ramp segment description:	Butler NB on	Butler SB off r	US20 NB on r	US20 SB on ramp	
	Segment length (L), mi:	0.27	0.23	0.3	0.31	
	Average traffic speed on the freeway (V_{frwy}), mi/h:	50	50	50	50	
	Segment type (ramp or collector-distributor road):	Entrance	Exit	Entrance	Entrance	
	Type of control at crossroad ramp terminal:	Stop	Stop	None	None	
Alignment Data						
Horizontal Curve Data	← See notes →					
1	Horizontal curve?:	No	No	No	No	
	Curve radius (R_1), ft:					
	Length of curve (L_{c1}), mi:					
	Length of curve in segment ($L_{c1,seg}$), mi:					
	Ramp-mile of beginning of curve in direction of travel (X_1), mi:					
2	Horizontal curve?:					
	Curve radius (R_2), ft:					
	Length of curve (L_{c2}), mi:					
	Length of curve in segment ($L_{c2,seg}$), mi:					
	Ramp-mile of beginning of curve in direction of travel (X_2), mi:					
3	Horizontal curve?:					
	Curve radius (R_3), ft:					
	Length of curve (L_{c3}), mi:					
	Length of curve in segment ($L_{c3,seg}$), mi:					
	Ramp-mile of beginning of curve in direction of travel (X_3), mi:					
4	Horizontal curve?:					
	Curve radius (R_4), ft:					
	Length of curve (L_{c4}), mi:					
	Length of curve in segment ($L_{c4,seg}$), mi:					
	Ramp-mile of beginning of curve in direction of travel (X_4), mi:					
5	Horizontal curve?:					
	Curve radius (R_5), ft:					
	Length of curve (L_{c5}), mi:					
	Length of curve in segment ($L_{c5,seg}$), mi:					
	Ramp-mile of beginning of curve in direction of travel (X_5), mi:					
Cross Section Data						
	Lane width (W_l), ft:	12	12	12	12	
	Right shoulder width (W_{rs}), ft:	6	6	4	6	
	Left shoulder width (W_{ls}), ft:	2	2	6	2	
	Presence of lane add or lane drop by taper:	No	No	No	No	No
	Length of taper in segment ($L_{add,seg}$ or $L_{drop,seg}$), mi:					
Roadside Data						
	Presence of barrier on <u>right</u> side of roadway:	No	Yes	Yes	Yes	No
1	Length of barrier ($L_{rb,1}$), mi:		0.02	0.3	0.28	
	Distance from edge of traveled way to barrier face ($W_{off,r,1}$), ft:		6	6	6	
2	Length of barrier ($L_{rb,2}$), mi:					
	Distance from edge of traveled way to barrier face ($W_{off,r,2}$), ft:					
3	Length of barrier ($L_{rb,3}$), mi:					
	Distance from edge of traveled way to barrier face ($W_{off,r,3}$), ft:					

4	Length of barrier ($L_{rb,4}$), mi:					
	Distance from edge of traveled way to barrier face ($W_{off,r,4}$), ft:					
5	Length of barrier ($L_{rb,5}$), mi:					
	Distance from edge of traveled way to barrier face ($W_{off,r,5}$), ft:					
Presence of barrier on left side of roadway:		No	No	Yes	Yes	No
1	Length of barrier ($L_{lb,1}$), mi:			0.14	0.06	
	Distance from edge of traveled way to barrier face ($W_{off,l,1}$), ft:			6	6	
2	Length of barrier ($L_{lb,2}$), mi:					
	Distance from edge of traveled way to barrier face ($W_{off,l,2}$), ft:					
3	Length of barrier ($L_{lb,3}$), mi:					
	Distance from edge of traveled way to barrier face ($W_{off,l,3}$), ft:					
4	Length of barrier ($L_{lb,4}$), mi:					
	Distance from edge of traveled way to barrier face ($W_{off,l,4}$), ft:					
5	Length of barrier ($L_{lb,5}$), mi:					
	Distance from edge of traveled way to barrier face ($W_{off,l,5}$), ft:					
Ramp Access Data	↖ See note					
Ramp Entrance	Ramp entrance in segment? (If yes, indicate type.):	No	No	No	No	No
	Length of entrance s-c lane in segment ($L_{en,seg}$), mi:					
Ramp Exit	Ramp exit in segment? (If yes, indicate type.):	No	No	No	No	No
	Length of exit s-c lane in segment ($L_{ex,seg}$), mi:					
Weaving Section	Weave section in collector-distributor road segment?:					
	Length of weaving section (L_{wev}), mi:					
	Length of weaving section in segment ($L_{wev,seg}$), mi:					

Traffic Data	**Year**					
Average daily traffic ($AADT_r$ or $AADT_c$) by year, veh/d:	2011	2841	2638	5022	4668	
(enter data only for those years for which it is available, leave other years blank)	2012	2899	2692	5124	4763	
	2013	2958	2747	5229	4860	
	2014	3018	2803	5336	4959	
	2015	3080	2860	5445	5060	
	2016					
	2017					
	2018					
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	2034					

Input Worksheet for Crossroad Ramp Terminals

Clear | Echo Input Values (View results in Column T) | Check Input Values (View results in Advisory Messages)

			Terminal 1 Study Period	Terminal 2 Study Period	Terminal 3 Study Period
Basic Intersection Data					
Ramp terminal configuration:			D3en	D3ex	
Ramp terminal description:			Butler NB	Butler SB	
Ramp terminal traffic control type:			One stop	One stop	
Is a non-ramp public street leg present at the terminal (I_{ps})?:					
Alignment Data					
Exit ramp skew angle (I_{sk}), degrees:				0	
Distance to the next public street intersection on the outside crossroad leg (L_{str}), mi:			0.12	0.04	
Distance to the adjacent ramp terminal (L_{rmp}), mi:			0.08	0.08	
Traffic Control					
Left-Turn Operational Mode					
Crossroad	Inside approach	Protected-only mode ($I_{p,lt,in}$)?:			
	Outside approach	Protected-only mode ($I_{p,lt,out}$)?:			
Right-Turn Control Type					
Ramp	Exit ramp approach	Right-turn control type:		Stop	
Cross Section Data					
Crossroad median width (W_m), ft:			12	12	
Number of Lanes					
Crossroad	Both approaches	Lanes serving through vehicles (n_{th}):	2	2	
	Inside approach	Lanes serving through vehicles ($n_{th,in}$):			
	Outside approach	Lanes serving through vehicles ($n_{th,out}$):			
Ramp	Exit ramp approach	All lanes (n_{ex}):		1	
Right-Turn Channelization		see note: →			
Crossroad	Inside approach	Channelization present ($I_{ch,in}$)?:			
	Outside approach	Channelization present ($I_{ch,out}$)?:			
Ramp	Exit ramp approach	Channelization present ($I_{ch,ex}$)?:			
Left-Turn Lane or Bay					
Crossroad	Inside approach	Lane or bay present ($I_{bay,lt,in}$)?:	Yes		
		Width of lane or bay ($W_{b,in}$), ft:	12		
	Outside approach	Lane or bay present ($I_{bay,lt,out}$)?:			
		Width of lane or bay ($W_{b,out}$), ft:			
Right-Turn Lane or Bay					
Crossroad	Inside approach	Lane or bay present ($I_{bay,rt,in}$)?:			
	Outside approach	Lane or bay present ($I_{bay,rt,out}$)?:	No		
Access Data					
Number of driveways on the outside crossroad leg (n_{dw}):					
Number of public street approaches on the outside crossroad leg (n_{ps}):				1	

Traffic Data	**Year**			
Inside Crossroad Leg Data	2011	14357	14357	
Average daily traffic ($AADT_{in}$) by year, veh/d:	2012	14650	14650	
(enter data only for those years for which	2013	14949	14949	
it is available, leave other years blank)	2014	15254	15254	

	2015	**15565**	15565	
	2016			
	2017			
	2018			
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	2034			
Outside Crossroad Leg Data	2011	15625	11110	
Average daily traffic ($AADT_{out}$) by year, veh/d:	2012	15944	11337	
(enter data only for those years for which	2013	16269	11568	
it is available, leave other years blank)	2014	16601	11804	
	2015	**16940**	**12045**	
	2016			
	2017			
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	2034			
Exit Ramp Data	2011		2638	
Average daily traffic ($AADT_{ex}$) by year, veh/d:	2012		2692	
(enter data only for those years for which	2013		2747	
it is available, leave other years blank)	2014		2803	
	2015		2860	
For a B4 terminal configuration, enter the AADT for the	2016			
diagonal exit ramp (not the loop exit ramp).	2017			

	2018			
	2019			
	2020			
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	2033			
	2034			
Entrance Ramp Data	2011	2841		
Average daily traffic ($AADT_{en}$) by year, veh/d:	2012	2899		
(enter data only for those years for which	2013	2958		
it is available, leave other years blank)	2014	3018		
	2015	3080		
For an A4 terminal configuration, enter the AADT for the	2016			
diagonal entrance ramp (not the loop entrance ramp).	2017			
	2018			
	2019			
	2020			
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Output Summary

General Information

Project description:	Bend US 97 Parkway				
Analyst:	AMD	Date:	8/28/2019	Area type:	Urban
First year of analysis:	2011				
Last year of analysis:	2015				

Crash Data Description

Freeway segments	Segment crash data available?	No	First year of crash data:	
	Project-level crash data available?	No	Last year of crash data:	
Ramp segments	Segment crash data available?	No	First year of crash data:	
	Project-level crash data available?	No	Last year of crash data:	
Ramp terminals	Segment crash data available?	No	First year of crash data:	
	Project-level crash data available?	No	Last year of crash data:	

Estimated Crash Statistics

Crashes for Entire Facility	**Total**	**K**	**A**	**B**	**C**	**PDO**
Estimated number of crashes during Study Period, crashes:	103.4	0.5	1.5	9.7	24.0	67.6
Estimated average crash freq. during Study Period, crashes/yr:	20.7	0.1	0.3	1.9	4.8	13.5

Crashes by Facility Component	**Nbr. Sites**	**Total**	**K**	**A**	**B**	**C**	**PDO**
Freeway segments, crashes:	2	80.4	0.4	1.1	7.5	18.6	52.7
Ramp segments, crashes:	4	8.4	0.1	0.3	1.5	2.3	4.3
Crossroad ramp terminals, crashes:	2	14.5	0.0	0.1	0.7	3.1	10.6

Crashes for Entire Facility by Year	**Year**	**Total**	**K**	**A**	**B**	**C**	**PDO**
Estimated number of crashes during the Study Period, crashes:	2011	19.6	0.1	0.3	1.9	4.6	12.8
	2012	20.1	0.1	0.3	1.9	4.7	13.1
	2013	20.7	0.1	0.3	1.9	4.8	13.5
	2014	21.2	0.1	0.3	2.0	4.9	13.9
	2015	21.8	0.1	0.3	2.0	5.0	14.3
	2016						
	2017						
	2018						
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Distribution of Crashes for Entire Facility

Crash Type	**Crash Type Category**	**Estimated Number of Crashes During the Study Period**					
		Total	**K**	**A**	**B**	**C**	**PDO**
Multiple vehicle	Head-on crashes:	0.4	0.0	0.0	0.1	0.1	0.2
	Right-angle crashes:	7.0	0.0	0.1	0.5	1.8	4.7
	Rear-end crashes:	43.6	0.2	0.6	3.9	10.1	28.8
	Sideswipe crashes:	14.2	0.1	0.1	0.9	2.2	10.9
	Other multiple-vehicle crashes:	1.7	0.0	0.0	0.2	0.4	1.1
	Total multiple-vehicle crashes:	66.9	0.3	0.8	5.5	14.7	45.6
Single vehicle	Crashes with animal:	0.4	0.0	0.0	0.0	0.0	0.4
	Crashes with fixed object:	26.6	0.2	0.5	3.0	6.7	16.3
	Crashes with other object:	3.2	0.0	0.0	0.2	0.4	2.6
	Crashes with parked vehicle:	0.6	0.0	0.0	0.1	0.1	0.4
	Other single-vehicle crashes	5.6	0.1	0.1	0.9	2.0	2.4
	Total single-vehicle crashes:	36.4	0.2	0.7	4.2	9.3	22.0
	Total crashes:	103.4	0.5	1.5	9.7	24.0	67.6

Input Worksheet for Freeway Segments

Clear | Echo Input Values (View results in Column AV) | Check Input Values (View results in Advisory Messages)

		Segment 1 Study Period	Segment 2 Study Period	Segment 3 Study Period	Segment 4 Study Period
Basic Roadway Data					
	Number of through lanes (n):	4	4		
	Freeway segment description:	N Revere MP	S Revere MP 137.13-137.32		
	Segment length (L), mi:	0.18	0.18		
Alignment Data					
Horizontal Curve Data ← See note					
1	Horizontal curve in segment?:	No	No	No	No
	Curve radius (R_1), ft:				
	Length of curve (L_{c1}), mi:				
	Length of curve in segment ($L_{c1,seg}$), mi:				
2	Horizontal curve in segment?:				
	Curve radius (R_2), ft:				
	Length of curve (L_{c2}), mi:				
	Length of curve in segment ($L_{c2,seg}$), mi:				
3	Horizontal curve in segment?:				
	Curve radius (R_3), ft:				
	Length of curve (L_{c3}), mi:				
	Length of curve in segment ($L_{c3,seg}$), mi:				
Cross Section Data					
	Lane width (W_l), ft:	12	12		
	Outside shoulder width (W_s), ft:	6	6		
	Inside shoulder width (W_{is}), ft:	2	2		
	Median width (W_m), ft:	16	16		
	Rumble strips on outside shoulders?:	No	No	No	No
	Length of rumble strips for travel in increasing milepost direction, mi:				
	Length of rumble strips for travel in decreasing milepost direction, mi:				
	Rumble strips on inside shoulders?:	No	No	No	No
	Length of rumble strips for travel in increasing milepost direction, mi:				
	Length of rumble strips for travel in decreasing milepost direction, mi:				
	Presence of barrier in median:	None	None	None	None
1	Length of barrier ($L_{ib,1}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,in,1}$), ft:				
2	Length of barrier ($L_{ib,2}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,in,2}$), ft:				
3	Length of barrier ($L_{ib,3}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,in,3}$), ft:				
4	Length of barrier ($L_{ib,4}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,in,4}$), ft:				
5	Length of barrier ($L_{ib,5}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,in,5}$), ft:				
	Median barrier width (W_{ib}), ft:				
	Nearest distance from edge of traveled way to barrier face (W_{near}), ft:				
Roadside Data					
	Clear zone width (W_{hc}), ft:	20	20		
	Presence of barrier on roadside:	Some	Some	None	None

1	Length of barrier ($L_{ob,1}$), mi:	0.17	0.05		
	Distance from edge of traveled way to barrier face ($W_{off,o,1}$), ft:	6	6		
2	Length of barrier ($L_{ob,2}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,o,2}$), ft:				
3	Length of barrier ($L_{ob,3}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,o,3}$), ft:				
4	Length of barrier ($L_{ob,4}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,o,4}$), ft:				
5	Length of barrier ($L_{ob,5}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,o,5}$), ft:				
Distance from edge of traveled way to barrier face, increasing milepost ($W_{off,inc}$), ft:					
Distance from edge of traveled way to barrier face, decreasing milepost ($W_{off,dec}$), ft:					
Ramp Access Data					
Travel in Increasing Milepost Direction					
Entrance Ramp	Ramp entrance in segment? (If yes, indicate type.):	S-C Lane	No	No	No
	Distance from begin milepost to upstream entrance ramp gore ($X_{b,ent}$), mi:		0.04	0	0
	Length of ramp entrance ($L_{en,inc}$), mi:	0.15			
	Length of ramp entrance in segment ($L_{en,seg,inc}$), mi:	0.04			
	Entrance side?:	Right			
Exit Ramp	Ramp exit in segment? (If yes, indicate type.):	S-C Lane	No	No	No
	Distance from end milepost to downstream exit ramp gore ($X_{e,ext}$), mi:		0.2	0	0
	Length of ramp exit ($L_{ex,inc}$), mi:	0.03			
	Length of ramp exit in segment ($L_{ex,seg,inc}$), mi:	0.03			
	Exit side?:	Right			
Weave	Type B weave in segment?:	No	No	No	No
	Length of weaving section ($L_{wev,inc}$), mi:				
	Length of weaving section in segment ($L_{wev,seg,inc}$), mi:				
Travel in Decreasing Milepost Direction					
Entrance Ramp	Ramp entrance in segment? (If yes, indicate type.):	No	S-C Lane	No	No
	Distance from end milepost to upstream entrance ramp gore ($X_{e,ent}$), mi:	0.04		0	0
	Length of ramp entrance ($L_{en,dec}$), mi:		0.09		
	Length of ramp entrance in segment ($L_{en,seg,dec}$), mi:		0.04		
	Entrance side?:		Right		
Exit Ramp	Ramp exit in segment? (If yes, indicate type.):	No	S-C Lane	No	No
	Distance from begin milepost to downstream exit ramp gore ($X_{b,ext}$), mi:	1.23		0	0
	Length of ramp exit ($L_{ex,dec}$), mi:		0.03		
	Length of ramp exit in segment ($L_{ex,seg,dec}$), mi:		0.03		
	Exit side?:		Right		
Weave	Type B weave in segment?:	No	No	No	No
	Length of weaving section ($L_{wev,dec}$), mi:				
	Length of weaving section in segment ($L_{wev,seg,dec}$), mi:				

Traffic Data	**Year**				
Proportion of AADT during high-volume hours (P_{hv}):				0	0
Freeway Segment Data	2011	61435	58897		
Average daily traffic ($AADT_{fs}$) by year, veh/d:	2012	62689	60099		
(enter data only for those years for which	2013	63968	61326		
it is available, leave other years blank)	2014	65273	62578		
	2015	**66605**	**63855**		
	2016				

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Entrance Ramp Data for Travel in Increasing Milepost Dir.	**Year**				
Average daily traffic ($AADT_{b,ent}$) by year, veh/d:	2011	4719	0		
(enter data only for those years for which	2012	4815	0		
it is available, leave other years blank)	2013	4913	0		
	2014	5013	0		
	2015	**5115**	0		
	2016				
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Exit Ramp Data for Travel in Increasing Milepost Direction	**Year**				
Average daily traffic ($AADT_{e,ext}$) by year, veh/d:	2011	3906	0		
(enter data only for those years for which	2012	3986	0		
it is available, leave other years blank)	2013	4067	0		
	2014	4150	0		
	2015	**4235**	0		
	2016				
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Entrance Ramp Data for Travel in Decreasing Milepost Dir.	**Year**				
Average daily traffic ($AADT_{e,ent}$) by year, veh/d:	2011	0	3501		
(enter data only for those years for which	2012	0	3572		
it is available, leave other years blank)	2013	0	3645		
	2014	0	3719		
	2015	0	**3795**		
	2016				
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	2022				
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Exit Ramp Data for Travel in Decreasing Milepost Direction	**Year**				
Average daily traffic ($AADT_{b,ext}$) by year, veh/d:	2011	0	4921		
(enter data only for those years for which	2012	0	5021		
it is available, leave other years blank)	2013	0	5123		
	2014	0	5228		
	2015	0	**5335**		
	2016				
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Input Worksheet for Ramp Segments

Clear | Echo Input Values (View results in Column CJ) | Check Input Values (View results in Advisory Messages)

		Segment 1 Study Period	Segment 2 Study Period	Segment 3 Study Period	Segment 4 Study Period
Basic Roadway Data					
	Number of through lanes (n):	1	1	1	1
	Ramp segment description:	NB on ramp	NB off ramp	SB on ramp	SB off ramp
	Segment length (L), mi:	0.12	0.15	0.16	0.18
	Average traffic speed on the freeway (V_{frwy}), mi/h:	50	50	50	50
	Segment type (ramp or collector-distributor road):	Entrance	Exit	Entrance	Exit
	Type of control at crossroad ramp terminal:	Signal	Signal	Signal	Signal
Alignment Data					
Horizontal Curve Data	← See notes →				
1	Horizontal curve?:	In Seg.	In Seg.	In Seg.	In Seg.
	Curve radius (R_1), ft:	140	550	140	155
	Length of curve (L_{c1}), mi:	0.07	0.05	0.07	0.03
	Length of curve in segment ($L_{c1,seg}$), mi:	0.07	0.05	0.07	0.03
	Ramp-mile of beginning of curve in direction of travel (X_1), mi:	0.03	0	0.04	0.11
2	Horizontal curve?:	No	In Seg.	No	No
	Curve radius (R_2), ft:		450		
	Length of curve (L_{c2}), mi:		0.06		
	Length of curve in segment ($L_{c2,seg}$), mi:		0.06		
	Ramp-mile of beginning of curve in direction of travel (X_2), mi:		0.05		
3	Horizontal curve?:		No		
	Curve radius (R_3), ft:				
	Length of curve (L_{c3}), mi:				
	Length of curve in segment ($L_{c3,seg}$), mi:				
	Ramp-mile of beginning of curve in direction of travel (X_3), mi:				
4	Horizontal curve?:				
	Curve radius (R_4), ft:				
	Length of curve (L_{c4}), mi:				
	Length of curve in segment ($L_{c4,seg}$), mi:				
	Ramp-mile of beginning of curve in direction of travel (X_4), mi:				
5	Horizontal curve?:				
	Curve radius (R_5), ft:				
	Length of curve (L_{c5}), mi:				
	Length of curve in segment ($L_{c5,seg}$), mi:				
	Ramp-mile of beginning of curve in direction of travel (X_5), mi:				
Cross Section Data					
	Lane width (W_l), ft:	12	12	12	12
	Right shoulder width (W_{rs}), ft:	4	2	5	4
	Left shoulder width (W_{ls}), ft:	2	4	2	2
	Presence of lane add or lane drop by taper:	No	No	No	No
	Length of taper in segment ($L_{add,seg}$ or $L_{drop,seg}$), mi:				
Roadside Data					
	Presence of barrier on <u>right</u> side of roadway:	Yes	Yes	Yes	No
1	Length of barrier ($L_{rb,1}$), mi:	0.06	0.07	0.09	
	Distance from edge of traveled way to barrier face ($W_{off,r,1}$), ft:	6	6	6	

2	Length of barrier ($L_{rb,2}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,r,2}$), ft:				
3	Length of barrier ($L_{rb,3}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,r,3}$), ft:				
4	Length of barrier ($L_{rb,4}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,r,4}$), ft:				
5	Length of barrier ($L_{rb,5}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,r,5}$), ft:				
Presence of barrier on left side of roadway:		No	No	No	No
1	Length of barrier ($L_{lb,1}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,l,1}$), ft:				
2	Length of barrier ($L_{lb,2}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,l,2}$), ft:				
3	Length of barrier ($L_{lb,3}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,l,3}$), ft:				
4	Length of barrier ($L_{lb,4}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,l,4}$), ft:				
5	Length of barrier ($L_{lb,5}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,l,5}$), ft:				
Ramp Access Data	← See note				
Ramp Entrance	Ramp entrance in segment? (If yes, indicate type.):	No	No	No	No
	Length of entrance s-c lane in segment ($L_{en,seg}$), mi:				
Ramp Exit	Ramp exit in segment? (If yes, indicate type.):	No	No	No	No
	Length of exit s-c lane in segment ($L_{ex,seg}$), mi:				
Weaving Section	Weave section in collector-distributor road segment?:				
	Length of weaving section (L_{wev}), mi:				
	Length of weaving section in segment ($L_{wev,seg}$), mi:				

Traffic Data	**Year**				
Average daily traffic ($AADT_r$ or $AADT_c$) by year, veh/d:	2011	3501	4921	4719	3906
(enter data only for those years for which	2012	3572	5021	4815	3986
it is available, leave other years blank)	2013	3645	5123	4913	4067
	2014	3719	5228	5013	4150
	2015	**3795**	**5335**	**5115**	**4235**
	2016				
	2017				
	2018				
	2019				
	2020				
	2021				
	2022				
	2023				
	2024				
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	2032				

2033				
2034				

Input Worksheet for Crossroad Ramp Terminals

Clear | Echo Input Values (View results in Column T) | Check Input Values (View results in Advisory Messages)

			Terminal 1 Study Period	Terminal 2 Study Period	Terminal 3 Study Period
Basic Intersection Data					
Ramp terminal configuration:			A2	A2	
Ramp terminal description:			NB	SB	
Ramp terminal traffic control type:			Signal	Signal	
Is a non-ramp public street leg present at the terminal (I_{ps})?:			Yes	Yes	
Alignment Data					
Exit ramp skew angle (I_{sk}), degrees:					
Distance to the next public street intersection on the outside crossroad leg (L_{str}), mi:			0.06	0.06	
Distance to the adjacent ramp terminal (L_{rmp}), mi:			0.13	0.13	
Traffic Control					
Left-Turn Operational Mode					
Crossroad	Inside approach	Protected-only mode ($I_{p,lt,in}$)?:	No	Yes	
	Outside approach	Protected-only mode ($I_{p,lt,out}$)?:	No	No	
Right-Turn Control Type					
Ramp	Exit ramp approach	Right-turn control type:	Signal	Signal	
Cross Section Data					
Crossroad median width (W_m), ft:			0	0	
Number of Lanes					
Crossroad	Both approaches	Lanes serving through vehicles (n_{th}):	4	2	
	Inside approach	Lanes serving through vehicles ($n_{th,in}$):	2	1	
	Outside approach	Lanes serving through vehicles ($n_{th,out}$):	2	1	
Ramp	Exit ramp approach	All lanes (n_{ex}):	1	2	
Right-Turn Channelization		see note: →			
Crossroad	Inside approach	Channelization present ($I_{ch,in}$)?:	No	No	
	Outside approach	Channelization present ($I_{ch,out}$)?:	No	No	
Ramp	Exit ramp approach	Channelization present ($I_{ch,ex}$)?:	No	No	
Left-Turn Lane or Bay					
Crossroad	Inside approach	Lane or bay present ($I_{bay,lt,in}$)?:	No	Yes	
		Width of lane or bay ($W_{b,in}$), ft:		12	
	Outside approach	Lane or bay present ($I_{bay,lt,out}$)?:	No	No	
		Width of lane or bay ($W_{b,out}$), ft:			
Right-Turn Lane or Bay					
Crossroad	Inside approach	Lane or bay present ($I_{bay,rt,in}$)?:	Yes	No	
	Outside approach	Lane or bay present ($I_{bay,rt,out}$)?:	No	No	
Access Data					
Number of driveways on the outside crossroad leg (n_{dw}):			2	2	
Number of public street approaches on the outside crossroad leg (n_{ps}):					
Traffic Data		**Year**			
Inside Crossroad Leg Data		2011	19937	19937	
Average daily traffic ($AADT_{in}$) by year, veh/d:		2012	20344	20344	
(enter data only for those years for which		2013	20759	20759	
it is available, leave other years blank)		2014	21183	21183	

	2015	**21615**	21615	
	2016			
	2017			
	2018			
	2019			
	2020			
	2021			
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	2023			
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	2034			
Outside Crossroad Leg Data	2011	11313	2841	
Average daily traffic ($AADT_{out}$) by year, veh/d:	2012	11544	2899	
(enter data only for those years for which	2013	11780	2958	
it is available, leave other years blank)	2014	12020	3018	
	2015	**12265**	**3080**	
	2016			
	2017			
	2018			
	2019			
	2020			
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	2033			
	2034			
Exit Ramp Data	2011	4921	3906	
Average daily traffic ($AADT_{ex}$) by year, veh/d:	2012	5021	3986	
(enter data only for those years for which	2013	5123	4067	
it is available, leave other years blank)	2014	5228	4150	
	2015	5335	4235	
For a B4 terminal configuration, enter the AADT for the	2016			
diagonal exit ramp (not the loop exit ramp).	2017			

	2018			
	2019			
	2020			
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	2032			
	2033			
	2034			
Entrance Ramp Data	2011	3501	4719	
Average daily traffic ($AADT_{en}$) by year, veh/d:	2012	3572	4815	
(enter data only for those years for which	2013	3645	4913	
it is available, leave other years blank)	2014	3719	5013	
	2015	3795	5115	
For an A4 terminal configuration, enter the AADT for the	2016			
diagonal entrance ramp (not the loop entrance ramp).	2017			
	2018			
	2019			
	2020			
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	2033			
	2034			

Output Summary

General Information

Project description:	Bend US 97 Parkway				
Analyst:	AMD	Date:	8/6/2018	Area type:	Urban
First year of analysis:	2011				
Last year of analysis:	2015				

Crash Data Description

Freeway segments	Segment crash data available?	No	First year of crash data:	
	Project-level crash data available?	No	Last year of crash data:	
Ramp segments	Segment crash data available?	No	First year of crash data:	
	Project-level crash data available?	No	Last year of crash data:	
Ramp terminals	Segment crash data available?	No	First year of crash data:	
	Project-level crash data available?	No	Last year of crash data:	

Estimated Crash Statistics

Crashes for Entire Facility	**Total**	**K**	**A**	**B**	**C**	**PDO**
Estimated number of crashes during Study Period, crashes:	137.6	0.6	3.7	18.7	34.0	80.5
Estimated average crash freq. during Study Period, crashes/yr:	27.5	0.1	0.7	3.7	6.8	16.1

Crashes by Facility Component	**Nbr. Sites**	**Total**	**K**	**A**	**B**	**C**	**PDO**
Freeway segments, crashes:	2	54.1	0.3	0.8	5.2	12.2	35.7
Ramp segments, crashes:	4	17.9	0.2	0.6	3.3	4.4	9.4
Crossroad ramp terminals, crashes:	2	65.6	0.1	2.3	10.3	17.4	35.5

Crashes for Entire Facility by Year	**Year**	**Total**	**K**	**A**	**B**	**C**	**PDO**
Estimated number of crashes during the Study Period, crashes:	2011	26.3	0.1	0.7	3.6	6.6	15.3
	2012	26.9	0.1	0.7	3.7	6.7	15.7
	2013	27.5	0.1	0.7	3.7	6.8	16.1
	2014	28.1	0.1	0.8	3.8	6.9	16.5
	2015	28.8	0.1	0.8	3.9	7.0	17.0
	2016						
	2017						
	2018						
	2019						
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	2031						
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	2034						

Distribution of Crashes for Entire Facility

Crash Type	**Crash Type Category**	**Estimated Number of Crashes During the Study Period**					
		Total	**K**	**A**	**B**	**C**	**PDO**
Multiple vehicle	Head-on crashes:	0.8	0.0	0.0	0.1	0.3	0.3
	Right-angle crashes:	16.6	0.0	0.6	2.8	4.8	8.3
	Rear-end crashes:	69.4	0.2	1.9	9.6	18.1	39.6
	Sideswipe crashes:	17.1	0.0	0.2	1.2	2.5	13.2
	Other multiple-vehicle crashes:	2.2	0.0	0.0	0.2	0.5	1.5
	Total multiple-vehicle crashes:	106.1	0.3	2.8	13.9	26.2	62.8
Single vehicle	Crashes with animal:	0.2	0.0	0.0	0.0	0.0	0.2
	Crashes with fixed object:	23.7	0.2	0.6	3.4	5.5	14.0
	Crashes with other object:	1.6	0.0	0.0	0.1	0.2	1.2
	Crashes with parked vehicle:	0.5	0.0	0.0	0.1	0.1	0.3
	Other single-vehicle crashes	5.5	0.1	0.2	1.2	1.9	2.1
	Total single-vehicle crashes:	31.5	0.3	0.9	4.8	7.8	17.7
	Total crashes:	137.6	0.6	3.7	18.7	34.0	80.5

Input Worksheet for Freeway Segments

Clear | Echo Input Values (View results in Column AV) | Check Input Values (View results in Advisory Messages)

		Segment 1 Study Period	Segment 2 Study Period	Segment 3 Study Period
Basic Roadway Data				
Number of through lanes (n):		4		
Freeway segment description:		Colorado MP 137.97-MP 138.4		
Segment length (L), mi:		0.43		
Alignment Data				
Horizontal Curve Data ←See note				
1	Horizontal curve in segment?:	No	No	No
	Curve radius (R_1), ft:			
	Length of curve (L_{c1}), mi:			
	Length of curve in segment ($L_{c1,seg}$), mi:			
2	Horizontal curve in segment?:			
	Curve radius (R_2), ft:			
	Length of curve (L_{c2}), mi:			
	Length of curve in segment ($L_{c2,seg}$), mi:			
3	Horizontal curve in segment?:			
	Curve radius (R_3), ft:			
	Length of curve (L_{c3}), mi:			
	Length of curve in segment ($L_{c3,seg}$), mi:			
Cross Section Data				
Lane width (W_l), ft:		12		
Outside shoulder width (W_s), ft:		6		
Inside shoulder width (W_{is}), ft:		2		
Median width (W_m), ft:		14		
Rumble strips on outside shoulders?:		No		No
	Length of rumble strips for travel in increasing milepost direction, mi:			
	Length of rumble strips for travel in decreasing milepost direction, mi:			
Rumble strips on inside shoulders?:		No	No	No
	Length of rumble strips for travel in increasing milepost direction, mi:			
	Length of rumble strips for travel in decreasing milepost direction, mi:			
Presence of barrier in median:		None	None	None
1	Length of barrier ($L_{ib,1}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,in,1}$), ft:			
2	Length of barrier ($L_{ib,2}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,in,2}$), ft:			
3	Length of barrier ($L_{ib,3}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,in,3}$), ft:			
4	Length of barrier ($L_{ib,4}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,in,4}$), ft:			
5	Length of barrier ($L_{ib,5}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,in,5}$), ft:			
Median barrier width (W_{ib}), ft:				
Nearest distance from edge of traveled way to barrier face (W_{near}), ft:				

Roadside Data				
Clear zone width (W_{hc}), ft:		30		
Presence of barrier on roadside:		Some		None
1	Length of barrier ($L_{ob,1}$), mi:	0.24		
	Distance from edge of traveled way to barrier face ($W_{off,o,1}$), ft:	6		
2	Length of barrier ($L_{ob,2}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,o,2}$), ft:			
3	Length of barrier ($L_{ob,3}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,o,3}$), ft:			
4	Length of barrier ($L_{ob,4}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,o,4}$), ft:			
5	Length of barrier ($L_{ob,5}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,o,5}$), ft:			
Distance from edge of traveled way to barrier face, increasing milepost ($W_{off,inc}$), ft:				
Distance from edge of traveled way to barrier face, decreasing milepost ($W_{off,dec}$), ft:				
Ramp Access Data				
Travel in Increasing Milepost Direction				
Entrance Ramp	Ramp entrance in segment? (If yes, indicate type.):	S-C Lane	No	No
	Distance from begin milepost to upstream entrance ramp gore ($X_{b,ent}$), mi:			0
	Length of ramp entrance ($L_{en,inc}$), mi:	0.25		
	Length of ramp entrance in segment ($L_{en,seg,inc}$), mi:	0.25		
	Entrance side?:	Right		
Exit Ramp	Ramp exit in segment? (If yes, indicate type.):	S-C Lane	No	No
	Distance from end milepost to downstream exit ramp gore ($X_{e,ext}$), mi:			0
	Length of ramp exit ($L_{ex,inc}$), mi:	0.04		
	Length of ramp exit in segment ($L_{ex,seg,inc}$), mi:	0.04		
	Exit side?:	Right		
Weave	Type B weave in segment?:	No	No	No
	Length of weaving section ($L_{wev,inc}$), mi:			
	Length of weaving section in segment ($L_{wev,seg,inc}$), mi:			
Travel in Decreasing Milepost Direction				
Entrance Ramp	Ramp entrance in segment? (If yes, indicate type.):	S-C Lane	No	No
	Distance from end milepost to upstream entrance ramp gore ($X_{e,ent}$), mi:		0	0
	Length of ramp entrance ($L_{en,dec}$), mi:	0.1		
	Length of ramp entrance in segment ($L_{en,seg,dec}$), mi:	0.1		
	Entrance side?:	Right		
Exit Ramp	Ramp exit in segment? (If yes, indicate type.):	S-C Lane	No	No
	Distance from begin milepost to downstream exit ramp gore ($X_{b,ext}$), mi:			0
	Length of ramp exit ($L_{ex,dec}$), mi:	0.07		
	Length of ramp exit in segment ($L_{ex,seg,dec}$), mi:	0.07		
	Exit side?:	Right		
Weave	Type B weave in segment?:	No	No	No
	Length of weaving section ($L_{wev,dec}$), mi:			
	Length of weaving section in segment ($L_{wev,seg,dec}$), mi:			
Traffic Data	**Year**			
Proportion of AADT during high-volume hours (P_{hv}):				0

Freeway Segment Data	2011	43070		
Average daily traffic ($AADT_{fs}$) by year, veh/d:	2012	43949		
(enter data only for those years for which	2013	44846		
it is available, leave other years blank)	2014	45761		
	2015	**46695**		
	2016			
	2017			
	2018			
	2019			
	2020			
	2021			
	2022			
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	2034			
Entrance Ramp Data for Travel in Increasing Milepost Dir.	**Year**			
Average daily traffic ($AADT_{b,ent}$) by year, veh/d:	2011	4413		
(enter data only for those years for which	2012	4503		
it is available, leave other years blank)	2013	4595		
	2014	4689		
	2015	**4785**		
	2016			
	2017			
	2018			
	2019			
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Exit Ramp Data for Travel in Increasing Milepost Direction	**Year**			
Average daily traffic ($AADT_{e,ext}$) by year, veh/d:	2011	6544		

(enter data only for those years for which it is available, leave other years blank)	2012	6678		
	2013	6814		
	2014	6953		
	2015	**7095**		
	2016			
	2017			
	2018			
	2019			
	2020			
	2021			
	2022			
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	2034			
Entrance Ramp Data for Travel in Decreasing Milepost Dir.	**Year**			
Average daily traffic ($AADT_{e,ent}$) by year, veh/d:	2011	11464		
(enter data only for those years for which it is available, leave other years blank)	2012	11698		
	2013	11937		
	2014	12181		
	2015	**12430**		
	2016			
	2017			
	2018			
	2019			
	2020			
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	2034			
Exit Ramp Data for Travel in Decreasing Milepost Direction	**Year**			
Average daily traffic ($AADT_{b,ext}$) by year, veh/d:	2011	3196		
(enter data only for those years for which	2012	3261		

it is available, leave other years blank)

2013	3328		
2014	3396		
2015	**3465**		
2016			
2017			
2018			
2019			
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Input Worksheet for Ramp Segments

Clear | Echo Input Values (View results in Column CJ) | Check Input Values (View results in Advisory Messages)

		Segment 1 Study Period	Segment 2 Study Period	Segment 3 Study Period	Segment 4 Study Period
Basic Roadway Data					
	Number of through lanes (n):	1	1	1	1
	Ramp segment description:	NB on ramp	NB off ramp	SB on ramp	SB off ramp
	Segment length (L), mi:	0.17	0.14	0.11	0.13
	Average traffic speed on the freeway (V_{frwy}), mi/h:	50	50	50	50
	Segment type (ramp or collector-distributor road):	Entrance	Exit	Entrance	Exit
	Type of control at crossroad ramp terminal:	Signal	Signal	Signal	Signal
Alignment Data					
Horizontal Curve Data	← See notes →				
1	Horizontal curve?:	In Seg.	In Seg.	In Seg.	In Seg.
	Curve radius (R_1), ft:	150	105	100	150
	Length of curve (L_{c1}), mi:	0.06	0.05	0.04	0.03
	Length of curve in segment ($L_{c1,seg}$), mi:	0.06	0.05	0.04	0.03
	Ramp-mile of beginning of curve in direction of travel (X_1), mi:	0.03	0	0.08	0.05
2	Horizontal curve?:	No	No	No	No
	Curve radius (R_2), ft:				
	Length of curve (L_{c2}), mi:				
	Length of curve in segment ($L_{c2,seg}$), mi:				
	Ramp-mile of beginning of curve in direction of travel (X_2), mi:				
3	Horizontal curve?:				
	Curve radius (R_3), ft:				
	Length of curve (L_{c3}), mi:				
	Length of curve in segment ($L_{c3,seg}$), mi:				
	Ramp-mile of beginning of curve in direction of travel (X_3), mi:				
4	Horizontal curve?:				
	Curve radius (R_4), ft:				
	Length of curve (L_{c4}), mi:				
	Length of curve in segment ($L_{c4,seg}$), mi:				
	Ramp-mile of beginning of curve in direction of travel (X_4), mi:				
5	Horizontal curve?:				
	Curve radius (R_5), ft:				
	Length of curve (L_{c5}), mi:				
	Length of curve in segment ($L_{c5,seg}$), mi:				
	Ramp-mile of beginning of curve in direction of travel (X_5), mi:				
Cross Section Data					
	Lane width (W_l), ft:	12	12	12	12
	Right shoulder width (W_{rs}), ft:	5	5	5	5
	Left shoulder width (W_{ls}), ft:	4	4	4	4
	Presence of lane add or lane drop by taper:	No	No	No	No
	Length of taper in segment ($L_{add,seg}$ or $L_{drop,seg}$), mi:				
Roadside Data					
	Presence of barrier on right side of roadway:	No	No	No	No
1	Length of barrier ($L_{rb,1}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,r,1}$), ft:				

2	Length of barrier ($L_{rb,2}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,r,2}$), ft:				
3	Length of barrier ($L_{rb,3}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,r,3}$), ft:				
4	Length of barrier ($L_{rb,4}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,r,4}$), ft:				
5	Length of barrier ($L_{rb,5}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,r,5}$), ft:				
Presence of barrier on left side of roadway:		No	No	No	No
1	Length of barrier ($L_{lb,1}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,l,1}$), ft:				
2	Length of barrier ($L_{lb,2}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,l,2}$), ft:				
3	Length of barrier ($L_{lb,3}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,l,3}$), ft:				
4	Length of barrier ($L_{lb,4}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,l,4}$), ft:				
5	Length of barrier ($L_{lb,5}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,l,5}$), ft:				
Ramp Access Data ← See note					
Ramp Entrance	Ramp entrance in segment? (If yes, indicate type.):	No	No	No	No
	Length of entrance s-c lane in segment ($L_{en,seg}$), mi:				
Ramp Exit	Ramp exit in segment? (If yes, indicate type.):	No	No	No	No
	Length of exit s-c lane in segment ($L_{ex,seg}$), mi:				
Weaving Section	Weave section in collector-distributor road segment?:				
	Length of weaving section (L_{wev}), mi:				
	Length of weaving section in segment ($L_{wev,seg}$), mi:				

Traffic Data	**Year**				
Average daily traffic ($AADT_r$ or $AADT_c$) by year, veh/d:	2011	11464	3196	4413	6544
(enter data only for those years for which	2012	11698	3261	4503	6678
it is available, leave other years blank)	2013	11937	3328	4595	6814
	2014	12181	3396	4689	6953
	2015	12430	3465	4785	7095
	2016				
	2017				
	2018				
	2019				
	2020				
	2021				
	2022				
	2023				
	2024				
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	2031				
	2032				

2033				
2034				

Input Worksheet for Crossroad Ramp Terminals

Clear | Echo Input Values (View results in Column T) | Check Input Values (View results in Advisory Messages)

			Terminal 1 Study Period	Terminal 2 Study Period
Basic Intersection Data				
Ramp terminal configuration:			D4	D4
Ramp terminal description:			NB	SB
Ramp terminal traffic control type:			Signal	Signal
Is a non-ramp public street leg present at the terminal (I_{ps})?:			Yes	Yes
Alignment Data				
Exit ramp skew angle (I_{sk}), degrees:				
Distance to the next public street intersection on the outside crossroad leg (L_{str}), mi:			0.09	0.12
Distance to the adjacent ramp terminal (L_{rmp}), mi:			0.13	0.13
Traffic Control				
Left-Turn Operational Mode				
Crossroad	Inside approach	Protected-only mode ($I_{p,lt,in}$)?:	Yes	No
	Outside approach	Protected-only mode ($I_{p,lt,out}$)?:		
Right-Turn Control Type				
Ramp	Exit ramp approach	Right-turn control type:	Signal	Signal
Cross Section Data				
Crossroad median width (W_m), ft:			12	12
Number of Lanes				
Crossroad	Both approaches	Lanes serving through vehicles (n_{th}):	2	3
	Inside approach	Lanes serving through vehicles ($n_{th,in}$):	1	2
	Outside approach	Lanes serving through vehicles ($n_{th,out}$):	1	1
Ramp	Exit ramp approach	All lanes (n_{ex}):	2	2
Right-Turn Channelization		see note: →		
Crossroad	Inside approach	Channelization present ($I_{ch,in}$)?:		
	Outside approach	Channelization present ($I_{ch,out}$)?:	Yes	No
Ramp	Exit ramp approach	Channelization present ($I_{ch,ex}$)?:	No	Yes
Left-Turn Lane or Bay				
Crossroad	Inside approach	Lane or bay present ($I_{bay,lt,in}$)?:	Yes	No
		Width of lane or bay ($W_{b,in}$), ft:	12	
	Outside approach	Lane or bay present ($I_{bay,lt,out}$)?:		
		Width of lane or bay ($W_{b,out}$), ft:		
Right-Turn Lane or Bay				
Crossroad	Inside approach	Lane or bay present ($I_{bay,rt,in}$)?:		
	Outside approach	Lane or bay present ($I_{bay,rt,out}$)?:	Yes	No
Access Data				
Number of driveways on the outside crossroad leg (n_{dw}):			0	0
Number of public street approaches on the outside crossroad leg (n_{ps}):				
Traffic Data		**Year**		
Inside Crossroad Leg Data		2011	16639	16639
Average daily traffic ($AADT_{in}$) by year, veh/d:		2012	16979	16979
(enter data only for those years for which		2013	17325	17325
it is available, leave other years blank)		2014	17679	17679

	2015	**18040**	18040
	2016		
	2017		
	2018		
	2019		
	2020		
	2021		
	2022		
	2023		
	2024		
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	2032		
	2033		
	2034		
Outside Crossroad Leg Data	2011	9791	23336
Average daily traffic ($AADT_{out}$) by year, veh/d:	2012	9991	23812
(enter data only for those years for which	2013	10195	24298
it is available, leave other years blank)	2014	10403	24794
	2015	**10615**	**25300**
	2016		
	2017		
	2018		
	2019		
	2020		
	2021		
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	2023		
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	2030		
	2031		
	2032		
	2033		
	2034		
Exit Ramp Data	2011	3196	6544
Average daily traffic ($AADT_{ex}$) by year, veh/d:	2012	3261	6678
(enter data only for those years for which	2013	3328	6814
it is available, leave other years blank)	2014	3396	6953
	2015	3465	7095
For a B4 terminal configuration, enter the AADT for the	2016		
diagonal exit ramp (not the loop exit ramp).	2017		

	2018		
	2019		
	2020		
	2021		
	2022		
	2023		
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	2032		
	2033		
	2034		
Entrance Ramp Data	2011	11464	4413
Average daily traffic ($AADT_{en}$) by year, veh/d:	2012	11698	4503
(enter data only for those years for which	2013	11937	4595
it is available, leave other years blank)	2014	12181	4689
	2015	12430	4785
For an A4 terminal configuration, enter the AADT for the	2016		
diagonal entrance ramp (not the loop entrance ramp).	2017		
	2018		
	2019		
	2020		
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	2034		

Output Summary

General Information

Project description:	Bend US 97 Parkway				
Analyst:	AMD	Date:	8/6/2018	Area type:	Urban
First year of analysis:	2011				
Last year of analysis:	2015				

Crash Data Description

Freeway segments	Segment crash data available?	No	First year of crash data:	
	Project-level crash data available?	No	Last year of crash data:	
Ramp segments	Segment crash data available?	No	First year of crash data:	
	Project-level crash data available?	No	Last year of crash data:	
Ramp terminals	Segment crash data available?	No	First year of crash data:	
	Project-level crash data available?	No	Last year of crash data:	

Estimated Crash Statistics

Crashes for Entire Facility	**Total**	**K**	**A**	**B**	**C**	**PDO**
Estimated number of crashes during Study Period, crashes:	186.0	0.7	5.2	22.9	43.5	113.8
Estimated average crash freq. during Study Period, crashes/yr:	37.2	0.1	1.0	4.6	8.7	22.8

Crashes by Facility Component	**Nbr. Sites**	**Total**	**K**	**A**	**B**	**C**	**PDO**
Freeway segments, crashes:	1	23.6	0.2	0.4	2.8	4.8	15.5
Ramp segments, crashes:	4	34.7	0.4	1.3	6.3	7.7	19.1
Crossroad ramp terminals, crashes:	2	127.7	0.1	3.5	13.8	31.0	79.2

Crashes for Entire Facility by Year	**Year**	**Total**	**K**	**A**	**B**	**C**	**PDO**
Estimated number of crashes during the Study Period, crashes:	2011	35.3	0.1	1.0	4.4	8.3	21.6
	2012	36.2	0.1	1.0	4.5	8.5	22.2
	2013	37.2	0.1	1.0	4.6	8.7	22.7
	2014	38.1	0.1	1.1	4.7	8.9	23.3
	2015	39.1	0.2	1.1	4.8	9.1	24.0
	2016						
	2017						
	2018						
	2019						
	2020						
	2021						
	2022						
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	2029						
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	2031						
	2032						
	2033						
	2034						

Distribution of Crashes for Entire Facility

Crash Type	**Crash Type Category**	**Estimated Number of Crashes During the Study Period**					
		Total	**K**	**A**	**B**	**C**	**PDO**
Multiple vehicle	Head-on crashes:	1.2	0.0	0.0	0.2	0.4	0.6
	Right-angle crashes:	30.4	0.0	0.9	3.6	8.2	17.6
	Rear-end crashes:	85.1	0.2	2.4	10.2	21.9	50.5
	Sideswipe crashes:	18.1	0.0	0.2	0.9	1.9	15.0
	Other multiple-vehicle crashes:	2.6	0.0	0.0	0.2	0.4	1.9
	Total multiple-vehicle crashes:	137.3	0.3	3.6	15.1	32.7	85.5
Single vehicle	Crashes with animal:	0.3	0.0	0.0	0.0	0.0	0.2
	Crashes with fixed object:	37.3	0.3	1.1	5.5	7.5	22.8
	Crashes with other object:	1.8	0.0	0.0	0.2	0.2	1.4
	Crashes with parked vehicle:	0.7	0.0	0.0	0.1	0.1	0.5
	Other single-vehicle crashes	8.6	0.1	0.4	2.0	2.8	3.4
	Total single-vehicle crashes:	48.8	0.5	1.6	7.8	10.7	28.2
Total crashes:		186.0	0.7	5.2	22.9	43.5	113.8

Input Worksheet for Freeway Segments

Clear | Echo Input Values (View results in Column AV) | Check Input Values (View results in Advisory Messages)

		Segment 1 Study Period	Segment 2 Study Period	Segment 3 Study Period	Segment 4 Study Period	Segment 5 Study Period
Basic Roadway Data						
Number of through lanes (n):		4	4	4		
Freeway segment description:		Division ramp	N Reed Mark	S Reed Market MP 139.18-139.43		
Segment length (L), mi:		0.13	0.19	0.26		
Alignment Data						
Horizontal Curve Data ←See note						
1	Horizontal curve in segment?:	No	No	No	No	No
	Curve radius (R_1), ft:					
	Length of curve (L_{c1}), mi:					
	Length of curve in segment ($L_{c1,seg}$), mi:					
2	Horizontal curve in segment?:					
	Curve radius (R_2), ft:					
	Length of curve (L_{c2}), mi:					
	Length of curve in segment ($L_{c2,seg}$), mi:					
3	Horizontal curve in segment?:					
	Curve radius (R_3), ft:					
	Length of curve (L_{c3}), mi:					
	Length of curve in segment ($L_{c3,seg}$), mi:					
Cross Section Data						
Lane width (W_l), ft:		12	12	12		
Outside shoulder width (W_s), ft:		6	6	6		
Inside shoulder width (W_{is}), ft:		2	2	2		
Median width (W_m), ft:		16	16	16		
Rumble strips on outside shoulders?:		No	No	No	No	No
	Length of rumble strips for travel in increasing milepost direction, mi:					
	Length of rumble strips for travel in decreasing milepost direction, mi:					
Rumble strips on inside shoulders?:		No	No	No	No	No
	Length of rumble strips for travel in increasing milepost direction, mi:					
	Length of rumble strips for travel in decreasing milepost direction, mi:					
Presence of barrier in median:		None	None	None	None	None
1	Length of barrier ($L_{ib,1}$), mi:					
	Distance from edge of traveled way to barrier face ($W_{off,in,1}$), ft:					
2	Length of barrier ($L_{ib,2}$), mi:					
	Distance from edge of traveled way to barrier face ($W_{off,in,2}$), ft:					
3	Length of barrier ($L_{ib,3}$), mi:					
	Distance from edge of traveled way to barrier face ($W_{off,in,3}$), ft:					
4	Length of barrier ($L_{ib,4}$), mi:					
	Distance from edge of traveled way to barrier face ($W_{off,in,4}$), ft:					
5	Length of barrier ($L_{ib,5}$), mi:					
	Distance from edge of traveled way to barrier face ($W_{off,in,5}$), ft:					
Median barrier width (W_{ib}), ft:						
Nearest distance from edge of traveled way to barrier face (W_{near}), ft:						
Roadside Data						
Clear zone width (W_{hc}), ft:		30	30	30		
Presence of barrier on roadside:		Full	None	Some	None	None
1	Length of barrier ($L_{ob,1}$), mi:			0.08		
	Distance from edge of traveled way to barrier face ($W_{off,o,1}$), ft:			15		
2	Length of barrier ($L_{ob,2}$), mi:					
	Distance from edge of traveled way to barrier face ($W_{off,o,2}$), ft:					

3	Length of barrier ($L_{ob,3}$), mi:					
	Distance from edge of traveled way to barrier face ($W_{off,o,3}$), ft:					
4	Length of barrier ($L_{ob,4}$), mi:					
	Distance from edge of traveled way to barrier face ($W_{off,o,4}$), ft:					
5	Length of barrier ($L_{ob,5}$), mi:					
	Distance from edge of traveled way to barrier face ($W_{off,o,5}$), ft:					
Distance from edge of traveled way to barrier face, increasing milepost ($W_{off,inc}$), ft:		20				
Distance from edge of traveled way to barrier face, decreasing milepost ($W_{off,dec}$), ft:		20				
Ramp Access Data						
Travel in Increasing Milepost Direction						
Entrance Ramp	Ramp entrance in segment? (If yes, indicate type.):	No	No	S-C Lane	No	No
	Distance from begin milepost to upstream entrance ramp gore ($X_{b,ent}$), mi:	0.12	0.29		0	0
	Length of ramp entrance ($L_{en,inc}$), mi:			0.1		
	Length of ramp entrance in segment ($L_{en,seg,inc}$), mi:			0.1		
	Entrance side?:			Right		
Exit Ramp	Ramp exit in segment? (If yes, indicate type.):	No	S-C Lane	No	No	No
	Distance from end milepost to downstream exit ramp gore ($X_{e,ext}$), mi:	0.05		0.52	0	0
	Length of ramp exit ($L_{ex,inc}$), mi:		0.04			
	Length of ramp exit in segment ($L_{ex,seg,inc}$), mi:		0.04			
	Exit side?:		Right			
Weave	Type B weave in segment?:	No	No	No	No	No
	Length of weaving section ($L_{wev,inc}$), mi:					
	Length of weaving section in segment ($L_{wev,seg,inc}$), mi:					
Travel in Decreasing Milepost Direction						
Entrance Ramp	Ramp entrance in segment? (If yes, indicate type.):	S-C Lane	S-C Lane	No	No	No
	Distance from end milepost to upstream entrance ramp gore ($X_{e,ent}$), mi:			0.24	0	0
	Length of ramp entrance ($L_{en,dec}$), mi:	0.12	0.13			
	Length of ramp entrance in segment ($L_{en,seg,dec}$), mi:	0.12	0.13			
	Entrance side?:	Right	Right			
Exit Ramp	Ramp exit in segment? (If yes, indicate type.):	No	No	S-C Lane	No	No
	Distance from begin milepost to downstream exit ramp gore ($X_{b,ext}$), mi:	0.65	0.79		0	
	Length of ramp exit ($L_{ex,dec}$), mi:			0.03		
	Length of ramp exit in segment ($L_{ex,seg,dec}$), mi:			0.03		
	Exit side?:			Right		
Weave	Type B weave in segment?:	No	No	No	No	No
	Length of weaving section ($L_{wev,dec}$), mi:					
	Length of weaving section in segment ($L_{wev,seg,dec}$), mi:					

Traffic Data	**Year**					
Proportion of AADT during high-volume hours (P_{hv}):				0	0	
Freeway Segment Data	2011	31605	31605	29373		
Average daily traffic ($AADT_{fs}$) by year, veh/d:	2012	32250	32250	29972		
(enter data only for those years for which	2013	32908	32908	30584		
it is available, leave other years blank)	2014	33580	33580	31208		
	2015	**34265**	**34265**	**31845**		
	2016					
	2017					
	2018					
	2019					
	2020					
	2021					
	2022					
	2023					
	2024					
	2025					
	2026					

	2027					
	2028					
	2029					
	2030					
	2031					
	2032					
	2033					
	2034					
Entrance Ramp Data for Travel in Increasing Milepost Dir.	**Year**					
Average daily traffic ($AADT_{b,ent}$) by year, veh/d:	2011	0	0	1776		
(enter data only for those years for which	2012	0	0	1812		
it is available, leave other years blank)	2013	0	0	1849		
	2014	0	0	1887		
	2015	0	0	**1925**		
	2016					
	2017					
	2018					
	2019					
	2020					
	2021					
	2022					
	2023					
	2024					
	2025					
	2026					
	2027					
	2028					
	2029					
	2030					
	2031					
	2032					
	2033					
	2034					
Exit Ramp Data for Travel in Increasing Milepost Direction	**Year**					
Average daily traffic ($AADT_{e,ext}$) by year, veh/d:	2011	0	11364	0		
(enter data only for those years for which	2012	0	11596	0		
it is available, leave other years blank)	2013	0	11833	0		
	2014	0	12074	0		
	2015	0	**12320**	0		
	2016					
	2017					
	2018					
	2019					
	2020					
	2021					
	2022					
	2023					
	2024					
	2025					
	2026					
	2027					
	2028					
	2029					
	2030					
	2031					
	2032					
	2033					
	2034					
Entrance Ramp Data for Travel in Decreasing Milepost Dir.	**Year**					

Average daily traffic ($AADT_{e,ent}$) by year, veh/d: (enter data only for those years for which it is available, leave other years blank)						
	2011	8269	2233	0		
	2012	8438	2279	0		
	2013	8610	2325	0		
	2014	8786	2372	0		
	2015	**8965**	**2420**	0		
	2016					
	2017					
	2018					
	2019					
	2020					
	2021					
	2022					
	2023					
	2024					
	2025					
	2026					
	2027					
	2028					
	2029					
	2030					
	2031					
	2032					
	2033					
	2034					
Exit Ramp Data for Travel in Decreasing Milepost Direction	**Year**					
Average daily traffic ($AADT_{b,ext}$) by year, veh/d: (enter data only for those years for which it is available, leave other years blank)						
	2011	0	0	1369		
	2012	0	0	1397		
	2013	0	0	1426		
	2014	0	0	1455		
	2015	0	0	**1485**		
	2016					
	2017					
	2018					
	2019					
	2020					
	2021					
	2022					
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	2032					
	2033					
	2034					

Input Worksheet for Ramp Segments

Clear | Echo Input Values (View results in Column CJ) | Check Input Values (View results in Advisory Messages)

		Segment 1	Segment 2	Segment 3	Segment 4	Segment 5	Segment 6	Segment 7	Segment 8
		Study Period	**Study Period**	**Study Period**	**Study Period**	**Study Period**	**Study Period**	**Study Period**	**Study Period**
Basic Roadway Data									
Number of through lanes (n):		1	1	1	1	1	1	1	
Ramp segment description:		S1 NB on ran	S2 NB on ran	S2 SB off ran	S3 NB off ran	S3 SB on ran	S3 SB on ran	S3 SB on ramp join	
Segment length (L), mi:		0.14	0.12	0.2	0.23	0.23	0.08	0.11	
Average traffic speed on the freeway (V_{frwy}), mi/h:		50	50	50	50	50	50	50	
Segment type (ramp or collector-distributor road):		Entrance	Entrance	Exit	Exit	Entrance	Entrance	Entrance	
Type of control at crossroad ramp terminal:		Stop	Stop	Signal	Stop	Signal	Signal	None	
Alignment Data									
Horizontal Curve Data ←See notes→									
1	Horizontal curve?:	No	In Seg.	In Seg.	In Seg.	In Seg.	No	No	
	Curve radius (R_1), ft:		100	275	265	140			
	Length of curve (L_{c1}), mi:		0.04	0.08	0.03	0.04			
	Length of curve in segment ($L_{c1,seg}$), mi:		0.04	0.08	0.03	0.04			
	Ramp-mile of beginning of curve in direction of travel (X_1), mi:		0	0.01	0.08	0			
2	Horizontal curve?:		In Seg.	In Seg.	In Seg.	In Seg.			
	Curve radius (R_2), ft:		105	140	100	150			
	Length of curve (L_{c2}), mi:		0.03	0.04	0.04	0.05			
	Length of curve in segment ($L_{c2,seg}$), mi:		0.03	0.04	0.04	0.05			
	Ramp-mile of beginning of curve in direction of travel (X_2), mi:		0.08	0.14	0.19	0.08			
3	Horizontal curve?:		No	No	No	No			
	Curve radius (R_3), ft:								
	Length of curve (L_{c3}), mi:								
	Length of curve in segment ($L_{c3,seg}$), mi:								
	Ramp-mile of beginning of curve in direction of travel (X_3), mi:								
4	Horizontal curve?:								
	Curve radius (R_4), ft:								
	Length of curve (L_{c4}), mi:								
	Length of curve in segment ($L_{c4,seg}$), mi:								
	Ramp-mile of beginning of curve in direction of travel (X_4), mi:								
5	Horizontal curve?:								
	Curve radius (R_5), ft:								
	Length of curve (L_{c5}), mi:								
	Length of curve in segment ($L_{c5,seg}$), mi:								
	Ramp-mile of beginning of curve in direction of travel (X_5), mi:								
Cross Section Data									
Lane width (W_l), ft:		12	12	12	12	12	12	12	
Right shoulder width (W_{rs}), ft:		6	6	6	6	6	6	6	
Left shoulder width (W_{ls}), ft:		6	3	3	3	3	3	3	
Presence of lane add or lane drop by taper:		No	No	No	No	No	No	No	
	Length of taper in segment ($L_{add,seg}$ or $L_{drop,seg}$), mi:								
Roadside Data									
Presence of barrier on <u>right</u> side of roadway:		Yes	No	Yes	Yes	No	Yes	Yes	
1	Length of barrier ($L_{rb,1}$), mi:	0.03		0.2	0.23		0.08	0.11	
	Distance from edge of traveled way to barrier face ($W_{off,r,1}$), ft:	10		25	20		35	30	
2	Length of barrier ($L_{rb,2}$), mi:								
	Distance from edge of traveled way to barrier face ($W_{off,r,2}$), ft:								
3	Length of barrier ($L_{rb,3}$), mi:								
	Distance from edge of traveled way to barrier face ($W_{off,r,3}$), ft:								
4	Length of barrier ($L_{rb,4}$), mi:								
	Distance from edge of traveled way to barrier face ($W_{off,r,4}$), ft:								
5	Length of barrier ($L_{rb,5}$), mi:								
	Distance from edge of traveled way to barrier face ($W_{off,r,5}$), ft:								
Presence of barrier on <u>left</u> side of roadway:		No	No	No	No	No	No	No	
1	Length of barrier ($L_{lb,1}$), mi:								
	Distance from edge of traveled way to barrier face ($W_{off,l,1}$), ft:								
2	Length of barrier ($L_{lb,2}$), mi:								
	Distance from edge of traveled way to barrier face ($W_{off,l,2}$), ft:								
3	Length of barrier ($L_{lb,3}$), mi:								
	Distance from edge of traveled way to barrier face ($W_{off,l,3}$), ft:								
4	Length of barrier ($L_{lb,4}$), mi:								

	Distance from edge of traveled way to barrier face ($W_{off,l,4}$), ft:								
5	Length of barrier ($L_{lb,5}$), mi:								
	Distance from edge of traveled way to barrier face ($W_{off,l,5}$), ft:								
Ramp Access Data	See note								
Ramp Entrance	Ramp entrance in segment? (If yes, indicate type.):	No	No	No	No	No	No	S-C Lane	
	Length of entrance s-c lane in segment ($L_{en,seg}$), mi:							0.02	
Ramp Exit	Ramp exit in segment? (If yes, indicate type.):	No	No	No	No	No	No	No	
	Length of exit s-c lane in segment ($L_{ex,seg}$), mi:								
Weaving Section	Weave section in collector-distributor road segment?:								
	Length of weaving section (L_{wev}), mi:								
	Length of weaving section in segment ($L_{wev,seg}$), mi:								

Traffic Data	**Year**								
Average daily traffic ($AADT_f$ or $AADT_c$) by year, veh/d:	2011	8269	2233	11364	1369	811	964	1776	
(enter data only for those years for which it is available, leave other years blank)	2012	8438	2279	11596	1397	828	984	1812	
	2013	8610	2325	11833	1426	845	1004	1849	
	2014	8786	2372	12074	1455	862	1024	1887	
	2015	8965	2420	12320	1485	**880**	**1045**	1925	
	2016								
	2017								
	2018								
	2019								
	2020								
	2021								
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	2031								
	2032								
	2033								
	2034								

Input Worksheet for Crossroad Ramp Terminals

Clear | Echo Input Values (View results in Column T) | Check Input Values (View results in Advisory Messages)

			Terminal 1 Study Period	Terminal 2 Study Period	Terminal 3 Study Period
Basic Intersection Data					
Ramp terminal configuration:			A2	A4	
Ramp terminal description:			NB	SB	
Ramp terminal traffic control type:			One stop	Signal	
Is a non-ramp public street leg present at the terminal (I_{ps})?:				No	
Alignment Data					
Exit ramp skew angle (I_{sk}), degrees:			0		
Distance to the next public street intersection on the outside crossroad leg (L_{str}), mi:			0.04	0.09	
Distance to the adjacent ramp terminal (L_{rmp}), mi:			0.17	0.17	
Traffic Control					
Left-Turn Operational Mode					
Crossroad	Inside approach	Protected-only mode ($I_{p,lt,in}$)?:			
	Outside approach	Protected-only mode ($I_{p,lt,out}$)?:			
Right-Turn Control Type					
Ramp	Exit ramp approach	Right-turn control type:	Stop	Signal	
Cross Section Data					
Crossroad median width (W_m), ft:			0	0	
Number of Lanes					
Crossroad	Both approaches	Lanes serving through vehicles (n_{th}):	4	2	
	Inside approach	Lanes serving through vehicles ($n_{th,in}$):		1	
	Outside approach	Lanes serving through vehicles ($n_{th,out}$):		1	
Ramp	Exit ramp approach	All lanes (n_{ex}):	2	2	
Right-Turn Channelization		see note: →			
Crossroad	Inside approach	Channelization present ($I_{ch,in}$)?:		No	
	Outside approach	Channelization present ($I_{ch,out}$)?:		No	
Ramp	Exit ramp approach	Channelization present ($I_{ch,ex}$)?:		No	
Left-Turn Lane or Bay					
Crossroad	Inside approach	Lane or bay present ($I_{bay,lt,in}$)?:			
		Width of lane or bay ($W_{b,in}$), ft:			
	Outside approach	Lane or bay present ($I_{bay,lt,out}$)?:	No		
		Width of lane or bay ($W_{b,out}$), ft:			
Right-Turn Lane or Bay					
Crossroad	Inside approach	Lane or bay present ($I_{bay,rt,in}$)?:	No	Yes	
	Outside approach	Lane or bay present ($I_{bay,rt,out}$)?:		No	
Access Data					
Number of driveways on the outside crossroad leg (n_{dw}):				0	
Number of public street approaches on the outside crossroad leg (n_{ps}):			2		
Traffic Data		**Year**			
Inside Crossroad Leg Data		2011	28663	28663	
Average daily traffic ($AADT_{in}$) by year, veh/d:		2012	29248	29248	
(enter data only for those years for which		2013	29845	29845	
it is available, leave other years blank)		2014	30454	30454	

	2015	**31075**	31075	
	2016			
	2017			
	2018			
	2019			
	2020			
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	2023			
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	2033			
	2034			
Outside Crossroad Leg Data	2011	27749	22372	
Average daily traffic ($AADT_{out}$) by year, veh/d:	2012	28315	22829	
(enter data only for those years for which	2013	28893	23295	
it is available, leave other years blank)	2014	29483	23770	
	2015	**30085**	**24255**	
	2016			
	2017			
	2018			
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	2023			
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	2033			
	2034			
Exit Ramp Data	2011	1369	11364	
Average daily traffic ($AADT_{ex}$) by year, veh/d:	2012	1397	11596	
(enter data only for those years for which	2013	1426	11833	
it is available, leave other years blank)	2014	1455	12074	
	2015	**1485**	**12320**	
For a B4 terminal configuration, enter the AADT for the	2016			
diagonal exit ramp (not the loop exit ramp).	2017			

	2018			
	2019			
	2020			
	2021			
	2022			
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	2031			
	2032			
	2033			
	2034			
Entrance Ramp Data	2011	2233	1776	
Average daily traffic ($AADT_{en}$) by year, veh/d:	2012	2279	1812	
(enter data only for those years for which	2013	2325	1849	
it is available, leave other years blank)	2014	2372	1887	
	2015	**2420**	**1925**	
For an A4 terminal configuration, enter the AADT for the	2016			
diagonal entrance ramp (not the loop entrance ramp).	2017			
	2018			
	2019			
	2020			
	2021			
	2022			
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	2033			
	2034			

Output Summary

General Information

Project description:	Bend US 97 Parkway				
Analyst:	AMD	Date:	8/6/2018	Area type:	Urban
First year of analysis:	2011				
Last year of analysis:	2015				

Crash Data Description

Freeway segments	Segment crash data available?	No	First year of crash data:	
	Project-level crash data available?	No	Last year of crash data:	
Ramp segments	Segment crash data available?	No	First year of crash data:	
	Project-level crash data available?	No	Last year of crash data:	
Ramp terminals	Segment crash data available?	No	First year of crash data:	
	Project-level crash data available?	No	Last year of crash data:	

Estimated Crash Statistics

Crashes for Entire Facility	**Total**	**K**	**A**	**B**	**C**	**PDO**
Estimated number of crashes during Study Period, crashes:	86.1	0.5	1.7	9.5	21.7	52.7
Estimated average crash freq. during Study Period, crashes/yr:	17.2	0.1	0.3	1.9	4.3	10.5

Crashes by Facility Component	**Nbr. Sites**	**Total**	**K**	**A**	**B**	**C**	**PDO**
Freeway segments, crashes:	3	24.8	0.2	0.5	3.1	5.3	15.8
Ramp segments, crashes:	7	23.4	0.3	0.8	4.0	5.7	12.6
Crossroad ramp terminals, crashes:	2	37.8	0.0	0.4	2.4	10.7	24.3

Crashes for Entire Facility by Year	**Year**	**Total**	**K**	**A**	**B**	**C**	**PDO**
Estimated number of crashes during the Study Period, crashes:	2011	16.4	0.1	0.3	1.8	4.2	10.0
	2012	16.8	0.1	0.3	1.9	4.3	10.3
	2013	17.2	0.1	0.3	1.9	4.3	10.5
	2014	17.6	0.1	0.3	1.9	4.4	10.8
	2015	18.0	0.1	0.3	2.0	4.5	11.1
	2016						
	2017						
	2018						
	2019						
	2020						
	2021						
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Distribution of Crashes for Entire Facility

Crash Type	**Crash Type Category**	**Estimated Number of Crashes During the Study Period**					
		Total	**K**	**A**	**B**	**C**	**PDO**
Multiple vehicle	Head-on crashes:	0.5	0.0	0.0	0.0	0.2	0.2
	Right-angle crashes:	11.5	0.0	0.1	0.8	3.4	7.2
	Rear-end crashes:	30.7	0.1	0.5	2.9	8.6	18.6
	Sideswipe crashes:	7.5	0.0	0.1	0.5	1.0	5.9
	Other multiple-vehicle crashes:	1.1	0.0	0.0	0.1	0.3	0.7
	Total multiple-vehicle crashes:	51.3	0.1	0.7	4.3	13.5	32.7
Single vehicle	Crashes with animal:	0.2	0.0	0.0	0.0	0.0	0.2
	Crashes with fixed object:	26.5	0.2	0.7	3.7	5.9	15.9
	Crashes with other object:	1.5	0.0	0.0	0.1	0.2	1.2
	Crashes with parked vehicle:	0.5	0.0	0.0	0.1	0.1	0.3
	Other single-vehicle crashes	6.0	0.1	0.2	1.3	2.0	2.4
	Total single-vehicle crashes:	34.8	0.3	1.0	5.2	8.2	20.0
	Total crashes:	86.1	0.5	1.7	9.5	21.7	52.7

Input Worksheet for Freeway Segments

Clear | Echo Input Values (View results in Column AV) | Check Input Values (View results in Advisory Messages)

		Segment 1 Study Period	Segment 2 Study Period	Segment 3 Study Period	Segment 4 Study Period
Basic Roadway Data					
	Number of through lanes (n):	4			
	Freeway segment description:	Murphy MP 140.95 (141.70)-MP 142.02			
	Segment length (L), mi:	0.32			
Alignment Data					
Horizontal Curve Data	← See note				
1	Horizontal curve in segment?:	No	No	No	No
	Curve radius (R_1), ft:				
	Length of curve (L_{c1}), mi:				
	Length of curve in segment ($L_{c1,seg}$), mi:				
2	Horizontal curve in segment?:				
	Curve radius (R_2), ft:				
	Length of curve (L_{c2}), mi:				
	Length of curve in segment ($L_{c2,seg}$), mi:				
3	Horizontal curve in segment?:				
	Curve radius (R_3), ft:				
	Length of curve (L_{c3}), mi:				
	Length of curve in segment ($L_{c3,seg}$), mi:				
Cross Section Data					
	Lane width (W_l), ft:	12			
	Outside shoulder width (W_s), ft:	7			
	Inside shoulder width (W_{is}), ft:	2			
	Median width (W_m), ft:	14			
	Rumble strips on outside shoulders?:	No		No	No
	Length of rumble strips for travel in increasing milepost direction, mi:				
	Length of rumble strips for travel in decreasing milepost direction, mi:				
	Rumble strips on inside shoulders?:	No	No	No	No
	Length of rumble strips for travel in increasing milepost direction, mi:				
	Length of rumble strips for travel in decreasing milepost direction, mi:				
	Presence of barrier in median:	Center	None	None	None
1	Length of barrier ($L_{ib,1}$), mi:	0.32			
	Distance from edge of traveled way to barrier face ($W_{off,in,1}$), ft:	6			
2	Length of barrier ($L_{ib,2}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,in,2}$), ft:				
3	Length of barrier ($L_{ib,3}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,in,3}$), ft:				
4	Length of barrier ($L_{ib,4}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,in,4}$), ft:				
5	Length of barrier ($L_{ib,5}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,in,5}$), ft:				
	Median barrier width (W_{ib}), ft:	2			
	Nearest distance from edge of traveled way to barrier face (W_{near}), ft:				
Roadside Data					
	Clear zone width (W_{hc}), ft:	30			
	Presence of barrier on roadside:	None		None	None

1	Length of barrier ($L_{ob,1}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,o,1}$), ft:				
2	Length of barrier ($L_{ob,2}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,o,2}$), ft:				
3	Length of barrier ($L_{ob,3}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,o,3}$), ft:				
4	Length of barrier ($L_{ob,4}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,o,4}$), ft:				
5	Length of barrier ($L_{ob,5}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,o,5}$), ft:				
Distance from edge of traveled way to barrier face, increasing milepost ($W_{off,inc}$), ft:					
Distance from edge of traveled way to barrier face, decreasing milepost ($W_{off,dec}$), ft:					

Ramp Access Data

Travel in Increasing Milepost Direction

Entrance Ramp	Ramp entrance in segment? (If yes, indicate type.):	S-C Lane	No	No	No
	Distance from begin milepost to upstream entrance ramp gore ($X_{b,ent}$), mi:			0	0
	Length of ramp entrance ($L_{en,inc}$), mi:	0.14			
	Length of ramp entrance in segment ($L_{en,seg,inc}$), mi:	0.14			
	Entrance side?:	Right			
Exit Ramp	Ramp exit in segment? (If yes, indicate type.):	**S-C Lane**	No	No	No
	Distance from end milepost to downstream exit ramp gore ($X_{e,ext}$), mi:			0	0
	Length of ramp exit ($L_{ex,inc}$), mi:	**0.07**			
	Length of ramp exit in segment ($L_{ex,seg,inc}$), mi:	**0.07**			
	Exit side?:	Right			
Weave	Type B weave in segment?:	No	No	No	No
	Length of weaving section ($L_{wev,inc}$), mi:				
	Length of weaving section in segment ($L_{wev,seg,inc}$), mi:				

Travel in Decreasing Milepost Direction

Entrance Ramp	Ramp entrance in segment? (If yes, indicate type.):	**S-C Lane**	No	No	No
	Distance from end milepost to upstream entrance ramp gore ($X_{e,ent}$), mi:		0	0	0
	Length of ramp entrance ($L_{en,dec}$), mi:	**0.07**			
	Length of ramp entrance in segment ($L_{en,seg,dec}$), mi:	**0.07**			
	Entrance side?:	Right			
Exit Ramp	Ramp exit in segment? (If yes, indicate type.):	S-C Lane	No	No	No
	Distance from begin milepost to downstream exit ramp gore ($X_{b,ext}$), mi:			0	0
	Length of ramp exit ($L_{ex,dec}$), mi:	0.03			
	Length of ramp exit in segment ($L_{ex,seg,dec}$), mi:	0.03			
	Exit side?:	Right			
Weave	Type B weave in segment?:	No	No	No	No
	Length of weaving section ($L_{wev,dec}$), mi:				
	Length of weaving section in segment ($L_{wev,seg,dec}$), mi:				

Traffic Data	**Year**				
Proportion of AADT during high-volume hours (P_{hv}):				0	0
Freeway Segment Data	2011	28105			
Average daily traffic ($AADT_{fs}$) by year, veh/d:	2012	28679			
(enter data only for those years for which	2013	29264			
it is available, leave other years blank)	2014	29861			
	2015	**30470**			

	2016				
	2017				
	2018				
	2019				
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	2034				
Entrance Ramp Data for Travel in Increasing Milepost Dir.	**Year**				
Average daily traffic ($AADT_{b,ent}$) by year, veh/d:	2011	5884			
(enter data only for those years for which	2012	6004			
it is available, leave other years blank)	2013	6127			
	2014	6252			
	2015	**6380**			
	2016				
	2017				
	2018				
	2019				
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	2034				
Exit Ramp Data for Travel in Increasing Milepost Direction	**Year**				
Average daily traffic ($AADT_{e,ext}$) by year, veh/d:	2011	1471			
(enter data only for those years for which	2012	1501			
it is available, leave other years blank)	2013	1532			
	2014	1563			
	2015	**1595**			
	2016				
	2017				
	2018				
	2019				

	2020				
	2021				
	2022				
	2023				
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	2026				
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	2028				
	2029				
	2030				
	2031				
	2032				
	2033				
	2034				
Entrance Ramp Data for Travel in Decreasing Milepost Dir.	**Year**				
Average daily traffic ($AADT_{e,ent}$) by year, veh/d:	2011	2942			
(enter data only for those years for which	2012	3002			
it is available, leave other years blank)	2013	3063			
	2014	3126			
	2015	**3190**			
	2016				
	2017				
	2018				
	2019				
	2020				
	2021				
	2022				
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	2031				
	2032				
	2033				
	2034				
Exit Ramp Data for Travel in Decreasing Milepost Direction	**Year**				
Average daily traffic ($AADT_{b,ext}$) by year, veh/d:	2011	3095			
(enter data only for those years for which	2012	3158			
it is available, leave other years blank)	2013	3222			
	2014	3288			
	2015	**3355**			
	2016				
	2017				
	2018				
	2019				
	2020				
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Input Worksheet for Ramp Segments

Clear | Echo Input Values (View results in Column CJ) | Check Input Values (View results in Advisory Messages)

		Segment 1	Segment 2	Segment 3	Segment 4	Segment 5
		Study Period	**Study Period**	**Study Period**	**Study Period**	**Study Period**
Basic Roadway Data						
	Number of through lanes (n):	1	1			
	Ramp segment description:	NB off ramp	SB on ramp	**NB on ramp**	**SB off ramp**	
	Segment length (L), mi:	0.12	0.15	**0.09**	**0.09**	
	Average traffic speed on the freeway (V_{frwy}), mi/h:	50	50	**50**	**50**	
	Segment type (ramp or collector-distributor road):	Exit	**Entrance**	**Entrance**	**Exit**	
	Type of control at crossroad ramp terminal:	Yield	Yield	**Yield**	**Yield**	
Alignment Data						
Horizontal Curve Data	← See notes →					
1	Horizontal curve?:	In Seg.	In Seg.	**No**	**No**	
	Curve radius (R_1), ft:	125	100			
	Length of curve (L_{c1}), mi:	0.02	0.03			
	Length of curve in segment ($L_{c1,seg}$), mi:	0.02	0.03			
	Ramp-mile of beginning of curve in direction of travel (X_1), mi:	0.25	0.25			
2	Horizontal curve?:	No	No			
	Curve radius (R_2), ft:					
	Length of curve (L_{c2}), mi:					
	Length of curve in segment ($L_{c2,seg}$), mi:					
	Ramp-mile of beginning of curve in direction of travel (X_2), mi:					
3	Horizontal curve?:					
	Curve radius (R_3), ft:					
	Length of curve (L_{c3}), mi:					
	Length of curve in segment ($L_{c3,seg}$), mi:					
	Ramp-mile of beginning of curve in direction of travel (X_3), mi:					
4	Horizontal curve?:					
	Curve radius (R_4), ft:					
	Length of curve (L_{c4}), mi:					
	Length of curve in segment ($L_{c4,seg}$), mi:					
	Ramp-mile of beginning of curve in direction of travel (X_4), mi:					
5	Horizontal curve?:					
	Curve radius (R_5), ft:					
	Length of curve (L_{c5}), mi:					
	Length of curve in segment ($L_{c5,seg}$), mi:					
	Ramp-mile of beginning of curve in direction of travel (X_5), mi:					
Cross Section Data						
	Lane width (W_l), ft:	12	12	**12**	**12**	
	Right shoulder width (W_{rs}), ft:	6	6	**6**	**6**	
	Left shoulder width (W_{ls}), ft:	6	6	**6**	**6**	
	Presence of lane add or lane drop by taper:	No	No	**No**	**No**	
	Length of taper in segment ($L_{add,seg}$ or $L_{drop,seg}$), mi:					
Roadside Data						
	Presence of barrier on <u>right</u> side of roadway:	No	Yes	**No**	**No**	
1	Length of barrier ($L_{rb,1}$), mi:		0.06			
	Distance from edge of traveled way to barrier face ($W_{off,r,1}$), ft:		6			
2	Length of barrier ($L_{rb,2}$), mi:					
	Distance from edge of traveled way to barrier face ($W_{off,r,2}$), ft:					
3	Length of barrier ($L_{rb,3}$), mi:					
	Distance from edge of traveled way to barrier face ($W_{off,r,3}$), ft:					

4	Length of barrier ($L_{rb,4}$), mi:					
	Distance from edge of traveled way to barrier face ($W_{off,r,4}$), ft:					
5	Length of barrier ($L_{rb,5}$), mi:					
	Distance from edge of traveled way to barrier face ($W_{off,r,5}$), ft:					
Presence of barrier on left side of roadway:		Yes	Yes	**No**	**No**	No
1	Length of barrier ($L_{lb,1}$), mi:	0.08	0.1			
	Distance from edge of traveled way to barrier face ($W_{off,l,1}$), ft:	2	6			
2	Length of barrier ($L_{lb,2}$), mi:					
	Distance from edge of traveled way to barrier face ($W_{off,l,2}$), ft:					
3	Length of barrier ($L_{lb,3}$), mi:					
	Distance from edge of traveled way to barrier face ($W_{off,l,3}$), ft:					
4	Length of barrier ($L_{lb,4}$), mi:					
	Distance from edge of traveled way to barrier face ($W_{off,l,4}$), ft:					
5	Length of barrier ($L_{lb,5}$), mi:					
	Distance from edge of traveled way to barrier face ($W_{off,l,5}$), ft:					
Ramp Access Data	↖ See note					
Ramp Entrance	Ramp entrance in segment? (If yes, indicate type.):	No	No	No	No	No
	Length of entrance s-c lane in segment ($L_{en,seg}$), mi:					
Ramp Exit	Ramp exit in segment? (If yes, indicate type.):	No	No	No	No	No
	Length of exit s-c lane in segment ($L_{ex,seg}$), mi:					
Weaving Section	Weave section in collector-distributor road segment?:					
	Length of weaving section (L_{wev}), mi:					
	Length of weaving section in segment ($L_{wev,seg}$), mi:					

Traffic Data	**Year**					
Average daily traffic ($AADT_r$ or $AADT_c$) by year, veh/d:	2011	3095	5884	2942	1471	
(enter data only for those years for which it is available, leave other years blank)	2012	3158	6004	3002	1501	
	2013	3222	6127	3063	1532	
	2014	3288	6252	3126	1563	
	2015	3355	6380	3190	1595	
	2016					
	2017					
	2018					
	2019					
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	2021					
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	2032					
	2033					
	2034					

Output Summary

General Information

Project description:	Bend US 97 Parkway				
Analyst:	AMD	Date:	8/28/2019	Area type:	Urban
First year of analysis:	2011				
Last year of analysis:	2015				

Crash Data Description

Freeway segments	Segment crash data available?	No	First year of crash data:	
	Project-level crash data available?	No	Last year of crash data:	
Ramp segments	Segment crash data available?	No	First year of crash data:	
	Project-level crash data available?	No	Last year of crash data:	
Ramp terminals	Segment crash data available?	No	First year of crash data:	
	Project-level crash data available?	No	Last year of crash data:	

Estimated Crash Statistics

Crashes for Entire Facility	**Total**	**K**	**A**	**B**	**C**	**PDO**
Estimated number of crashes during Study Period, crashes:	26.4	0.2	0.6	3.7	6.0	16.0
Estimated average crash freq. during Study Period, crashes/yr:	5.3	0.0	0.1	0.7	1.2	3.2

Crashes by Facility Component	**Nbr. Sites**	**Total**	**K**	**A**	**B**	**C**	**PDO**
Freeway segments, crashes:	1	11.5	0.1	0.2	1.3	2.4	7.4
Ramp segments, crashes:	4	14.9	0.1	0.4	2.3	3.5	8.5
Crossroad ramp terminals, crashes:	0	0.0	0.0	0.0	0.0	0.0	0.0

Crashes for Entire Facility by Year	**Year**	**Total**	**K**	**A**	**B**	**C**	**PDO**
Estimated number of crashes during the Study Period, crashes:	2011	5.1	0.0	0.1	0.7	1.2	3.1
	2012	5.2	0.0	0.1	0.7	1.2	3.1
	2013	5.3	0.0	0.1	0.7	1.2	3.2
	2014	5.4	0.0	0.1	0.7	1.2	3.3
	2015	5.5	0.0	0.1	0.8	1.2	3.3
	2016						
	2017						
	2018						
	2019						
	2020						
	2021						
	2022						
	2023						
	2024						
	2025						
	2026						
	2027						
	2028						
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	2031						
	2032						
	2033						
	2034						

Distribution of Crashes for Entire Facility

Crash Type	**Crash Type Category**	**Estimated Number of Crashes During the Study Period**					
		Total	**K**	**A**	**B**	**C**	**PDO**
Multiple vehicle	Head-on crashes:	0.0	0.0	0.0	0.0	0.0	0.0
	Right-angle crashes:	0.2	0.0	0.0	0.0	0.0	0.1
	Rear-end crashes:	5.6	0.0	0.1	0.7	1.3	3.4
	Sideswipe crashes:	1.9	0.0	0.0	0.2	0.3	1.4
	Other multiple-vehicle crashes:	0.3	0.0	0.0	0.0	0.1	0.2
	Total multiple-vehicle crashes:	8.0	0.1	0.1	1.0	1.7	5.1
Single vehicle	Crashes with animal:	0.1	0.0	0.0	0.0	0.0	0.1
	Crashes with fixed object:	14.1	0.1	0.3	1.9	3.1	8.7
	Crashes with other object:	0.8	0.0	0.0	0.1	0.1	0.6
	Crashes with parked vehicle:	0.2	0.0	0.0	0.0	0.1	0.1
	Other single-vehicle crashes	3.1	0.0	0.1	0.7	1.0	1.3
	Total single-vehicle crashes:	18.4	0.1	0.4	2.7	4.3	10.8
	Total crashes:	26.4	0.2	0.6	3.7	6.0	16.0

Input Worksheet for Freeway Segments

Clear | Echo Input Values (View results in Column AV) | Check Input Values (View results in Advisory Messages)

		Segment 1 Study Period	Segment 2 Study Period	Segment 3 Study Period	Segment 4 Study Period
Basic Roadway Data					
	Number of through lanes (n):	4	4		
	Freeway segment description:	N Baker/Knott	S Baker/Knott MP 143.4-143.7		
	Segment length (L), mi:	0.28	0.32		
Alignment Data					
Horizontal Curve Data ← See note					
1	Horizontal curve in segment?:	No	No	No	No
	Curve radius (R_1), ft:				
	Length of curve (L_{c1}), mi:				
	Length of curve in segment ($L_{c1,seg}$), mi:				
2	Horizontal curve in segment?:				
	Curve radius (R_2), ft:				
	Length of curve (L_{c2}), mi:				
	Length of curve in segment ($L_{c2,seg}$), mi:				
3	Horizontal curve in segment?:				
	Curve radius (R_3), ft:				
	Length of curve (L_{c3}), mi:				
	Length of curve in segment ($L_{c3,seg}$), mi:				
Cross Section Data					
	Lane width (W_l), ft:	12	12		
	Outside shoulder width (W_s), ft:	6	6		
	Inside shoulder width (W_{is}), ft:	2	2		
	Median width (W_m), ft:	8	8		
	Rumble strips on outside shoulders?:	No	No	No	No
	Length of rumble strips for travel in increasing milepost direction, mi:				
	Length of rumble strips for travel in decreasing milepost direction, mi:				
	Rumble strips on inside shoulders?:	No	No	No	No
	Length of rumble strips for travel in increasing milepost direction, mi:				
	Length of rumble strips for travel in decreasing milepost direction, mi:				
	Presence of barrier in median:	Center	Center	None	None
1	Length of barrier ($L_{ib,1}$), mi:	0.28	0.32		
	Distance from edge of traveled way to barrier face ($W_{off,in,1}$), ft:	3	3		
2	Length of barrier ($L_{ib,2}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,in,2}$), ft:				
3	Length of barrier ($L_{ib,3}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,in,3}$), ft:				
4	Length of barrier ($L_{ib,4}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,in,4}$), ft:				
5	Length of barrier ($L_{ib,5}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,in,5}$), ft:				
	Median barrier width (W_{ib}), ft:	2	2		
	Nearest distance from edge of traveled way to barrier face (W_{near}), ft:				
Roadside Data					
	Clear zone width (W_{hc}), ft:	30	30		
	Presence of barrier on roadside:	Some	None		

1	Length of barrier ($L_{ob,1}$), mi:	0.02			
	Distance from edge of traveled way to barrier face ($W_{off,o,1}$), ft:	6			
2	Length of barrier ($L_{ob,2}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,o,2}$), ft:				
3	Length of barrier ($L_{ob,3}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,o,3}$), ft:				
4	Length of barrier ($L_{ob,4}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,o,4}$), ft:				
5	Length of barrier ($L_{ob,5}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,o,5}$), ft:				
Distance from edge of traveled way to barrier face, increasing milepost ($W_{off,inc}$), ft:					
Distance from edge of traveled way to barrier face, decreasing milepost ($W_{off,dec}$), ft:					
Ramp Access Data					
Travel in Increasing Milepost Direction					
Entrance Ramp	Ramp entrance in segment? (If yes, indicate type.):	No	S-C Lane	No	No
	Distance from begin milepost to upstream entrance ramp gore ($X_{b,ent}$), mi:	0.67		0	0
	Length of ramp entrance ($L_{en,inc}$), mi:		0.2		
	Length of ramp entrance in segment ($L_{en,seg,inc}$), mi:		0.2		
	Entrance side?:		Right		
Exit Ramp	Ramp exit in segment? (If yes, indicate type.):	S-C Lane	No	No	No
	Distance from end milepost to downstream exit ramp gore ($X_{e,ext}$), mi:		1.15	0	0
	Length of ramp exit ($L_{ex,inc}$), mi:	0.05			
	Length of ramp exit in segment ($L_{ex,seg,inc}$), mi:	0.05			
	Exit side?:	Right			
Weave	Type B weave in segment?:	No	No	No	No
	Length of weaving section ($L_{wev,inc}$), mi:				
	Length of weaving section in segment ($L_{wev,seg,inc}$), mi:				
Travel in Decreasing Milepost Direction					
Entrance Ramp	Ramp entrance in segment? (If yes, indicate type.):	S-C Lane	No	No	No
	Distance from end milepost to upstream entrance ramp gore ($X_{e,ent}$), mi:		1.35	0	0
	Length of ramp entrance ($L_{en,dec}$), mi:	0.15			
	Length of ramp entrance in segment ($L_{en,seg,dec}$), mi:	0.15			
	Entrance side?:	Right			
Exit Ramp	Ramp exit in segment? (If yes, indicate type.):	No	S-C Lane	No	No
	Distance from begin milepost to downstream exit ramp gore ($X_{b,ext}$), mi:	0.9		0	0
	Length of ramp exit ($L_{ex,dec}$), mi:		0.06		
	Length of ramp exit in segment ($L_{ex,seg,dec}$), mi:		0.06		
	Exit side?:		Right		
Weave	Type B weave in segment?:	No	No	No	No
	Length of weaving section ($L_{wev,dec}$), mi:				
	Length of weaving section in segment ($L_{wev,seg,dec}$), mi:				

Traffic Data	**Year**				
Proportion of AADT during high-volume hours (P_{hv}):				0	0
Freeway Segment Data	2011	26177	28713		
Average daily traffic ($AADT_{fs}$) by year, veh/d:	2012	26711	29299		
(enter data only for those years for which	2013	27256	29897		
it is available, leave other years blank)	2014	27812	30507		
	2015	**28380**	**31130**		
	2016				

	2017				
	2018				
	2019				
	2020				
	2021				
	2022				
	2023				
	2024				
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	2031				
	2032				
	2033				
	2034				
Entrance Ramp Data for Travel in Increasing Milepost Dir.	**Year**				
Average daily traffic ($AADT_{b,ent}$) by year, veh/d:	2011	0	2536		
(enter data only for those years for which	2012	0	2588		
it is available, leave other years blank)	2013	0	2641		
	2014	0	2695		
	2015	0	**2750**		
	2016				
	2017				
	2018				
	2019				
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	2022				
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	2034				
Exit Ramp Data for Travel in Increasing Milepost Direction	**Year**				
Average daily traffic ($AADT_{e,ext}$) by year, veh/d:	2011	5428	0		
(enter data only for those years for which	2012	5539	0		
it is available, leave other years blank)	2013	5652	0		
	2014	5767	0		
	2015	**5885**	0		
	2016				
	2017				
	2018				
	2019				
	2020				

	2021				
	2022				
	2023				
	2024				
	2025				
	2026				
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	2031				
	2032				
	2033				
	2034				
Entrance Ramp Data for Travel in Decreasing Milepost Dir.	**Year**				
Average daily traffic ($AADT_{e,ent}$) by year, veh/d:	2011	5479	0		
(enter data only for those years for which	2012	5591	0		
it is available, leave other years blank)	2013	5705	0		
	2014	5821	0		
	2015	**5940**	0		
	2016				
	2017				
	2018				
	2019				
	2020				
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	2022				
	2023				
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	2033				
	2034				
Exit Ramp Data for Travel in Decreasing Milepost Direction	**Year**				
Average daily traffic ($AADT_{b,ext}$) by year, veh/d:	2011	0	1826		
(enter data only for those years for which	2012	0	1863		
it is available, leave other years blank)	2013	0	1901		
	2014	0	1940		
	2015	0	**1980**		
	2016				
	2017				
	2018				
	2019				
	2020				
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Input Worksheet for Ramp Segments

Clear | Echo Input Values (View results in Column CJ) | Check Input Values (View results in Advisory Messages)

		Segment 1 Study Period	Segment 2 Study Period	Segment 3 Study Period	Segment 4 Study Period
Basic Roadway Data					
	Number of through lanes (n):	1	1	1	1
	Ramp segment description:	NB on ramp	NB off ramp	SB on ramp	SB off ramp
	Segment length (L), mi:	0.27	0.15	0.16	0.18
	Average traffic speed on the freeway (V_{frwy}), mi/h:	50	50	50	50
	Segment type (ramp or collector-distributor road):	Entrance	Exit	Entrance	Exit
	Type of control at crossroad ramp terminal:	Stop	Stop	Stop	Stop
Alignment Data					
Horizontal Curve Data	← See notes →				
1	Horizontal curve?:	In Seg.	In Seg.	In Seg.	In Seg.
	Curve radius (R_1), ft:	545	545	150	315
	Length of curve (L_{c1}), mi:	0.06	0.06	0.09	0.05
	Length of curve in segment ($L_{c1,seg}$), mi:	0.06	0.06	0.09	0.05
	Ramp-mile of beginning of curve in direction of travel (X_1), mi:	0	0.09	0.09	0.16
2	Horizontal curve?:	No	No	No	No
	Curve radius (R_2), ft:				
	Length of curve (L_{c2}), mi:				
	Length of curve in segment ($L_{c2,seg}$), mi:				
	Ramp-mile of beginning of curve in direction of travel (X_2), mi:				
3	Horizontal curve?:				
	Curve radius (R_3), ft:				
	Length of curve (L_{c3}), mi:				
	Length of curve in segment ($L_{c3,seg}$), mi:				
	Ramp-mile of beginning of curve in direction of travel (X_3), mi:				
4	Horizontal curve?:				
	Curve radius (R_4), ft:				
	Length of curve (L_{c4}), mi:				
	Length of curve in segment ($L_{c4,seg}$), mi:				
	Ramp-mile of beginning of curve in direction of travel (X_4), mi:				
5	Horizontal curve?:				
	Curve radius (R_5), ft:				
	Length of curve (L_{c5}), mi:				
	Length of curve in segment ($L_{c5,seg}$), mi:				
	Ramp-mile of beginning of curve in direction of travel (X_5), mi:				
Cross Section Data					
	Lane width (W_l), ft:	12	12	12	12
	Right shoulder width (W_{rs}), ft:	5	2	2	5
	Left shoulder width (W_{ls}), ft:	2	2	2	5
	Presence of lane add or lane drop by taper:	No	No	No	No
	Length of taper in segment ($L_{add,seg}$ or $L_{drop,seg}$), mi:				
Roadside Data					
	Presence of barrier on right side of roadway:	Yes	Yes	No	Yes
1	Length of barrier ($L_{rb,1}$), mi:	0.11	0.06		0.02
	Distance from edge of traveled way to barrier face ($W_{off,r,1}$), ft:	6	6		6

2	Length of barrier ($L_{rb,2}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,r,2}$), ft:				
3	Length of barrier ($L_{rb,3}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,r,3}$), ft:				
4	Length of barrier ($L_{rb,4}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,r,4}$), ft:				
5	Length of barrier ($L_{rb,5}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,r,5}$), ft:				
Presence of barrier on left side of roadway:		Yes	Yes	No	Yes
1	Length of barrier ($L_{lb,1}$), mi:	0.05	0.04		0.02
	Distance from edge of traveled way to barrier face ($W_{off,l,1}$), ft:	6	6		6
2	Length of barrier ($L_{lb,2}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,l,2}$), ft:				
3	Length of barrier ($L_{lb,3}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,l,3}$), ft:				
4	Length of barrier ($L_{lb,4}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,l,4}$), ft:				
5	Length of barrier ($L_{lb,5}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,l,5}$), ft:				
Ramp Access Data	← See note				
Ramp Entrance	Ramp entrance in segment? (If yes, indicate type.):	No	No	No	No
	Length of entrance s-c lane in segment ($L_{en,seg}$), mi:				
Ramp Exit	Ramp exit in segment? (If yes, indicate type.):	No	No	No	No
	Length of exit s-c lane in segment ($L_{ex,seg}$), mi:				
Weaving Section	Weave section in collector-distributor road segment?:				
	Length of weaving section (L_{wev}), mi:				
	Length of weaving section in segment ($L_{wev,seg}$), mi:				

Traffic Data	**Year**				
Average daily traffic ($AADT_r$ or $AADT_c$) by year, veh/d:	2011	5479	1826	2536	5428
(enter data only for those years for which	2012	5591	1863	2588	5539
it is available, leave other years blank)	2013	5705	1901	2641	5652
	2014	5821	1940	2695	5767
	2015	5940	1980	2750	5885
	2016				
	2017				
	2018				
	2019				
	2020				
	2021				
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2034				

Input Worksheet for Crossroad Ramp Terminals

Clear | Echo Input Values (View results in Column T) | Check Input Values (View results in Advisory Messages)

			Terminal 1 Study Period	Terminal 2 Study Period
Basic Intersection Data				
Ramp terminal configuration:			D4	A2
Ramp terminal description:			NB	SB
Ramp terminal traffic control type:			Signal	Signal
Is a non-ramp public street leg present at the terminal (I_{ps})?:			No	No
Alignment Data				
Exit ramp skew angle (I_{sk}), degrees:				
Distance to the next public street intersection on the outside crossroad leg (L_{str}), mi:			0.1	0.03
Distance to the adjacent ramp terminal (L_{rmp}), mi:			0.15	0.15
Traffic Control				
Left-Turn Operational Mode				
Crossroad	Inside approach	Protected-only mode ($I_{p,lt,in}$)?:	Yes	
	Outside approach	Protected-only mode ($I_{p,lt,out}$)?:		No
Right-Turn Control Type				
Ramp	Exit ramp approach	Right-turn control type:	Signal	Signal
Cross Section Data				
Crossroad median width (W_m), ft:			0	0
Number of Lanes				
Crossroad	Both approaches	Lanes serving through vehicles (n_{th}):	2	2
	Inside approach	Lanes serving through vehicles ($n_{th,in}$):	1	1
	Outside approach	Lanes serving through vehicles ($n_{th,out}$):	1	1
Ramp	Exit ramp approach	All lanes (n_{ex}):	2	2
Right-Turn Channelization		see note: →		
Crossroad	Inside approach	Channelization present ($I_{ch,in}$)?:		Yes
	Outside approach	Channelization present ($I_{ch,out}$)?:	No	
Ramp	Exit ramp approach	Channelization present ($I_{ch,ex}$)?:	Yes	No
Left-Turn Lane or Bay				
Crossroad	Inside approach	Lane or bay present ($I_{bay,lt,in}$)?:	Yes	
		Width of lane or bay ($W_{b,in}$), ft:	12	
	Outside approach	Lane or bay present ($I_{bay,lt,out}$)?:		No
		Width of lane or bay ($W_{b,out}$), ft:		
Right-Turn Lane or Bay				
Crossroad	Inside approach	Lane or bay present ($I_{bay,rt,in}$)?:		Yes
	Outside approach	Lane or bay present ($I_{bay,rt,out}$)?:	No	
Access Data				
Number of driveways on the outside crossroad leg (n_{dw}):			2	2
Number of public street approaches on the outside crossroad leg (n_{ps}):				1

Traffic Data	**Year**		
Inside Crossroad Leg Data	2011	11364	11364
Average daily traffic ($AADT_{in}$) by year, veh/d:	2012	11596	11596
(enter data only for those years for which	2013	11833	11833
it is available, leave other years blank)	2014	12074	12074

	2015	**12320**	12320
	2016		
	2017		
	2018		
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	2024		
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	2034		
Outside Crossroad Leg Data	2011	12276	13545
Average daily traffic ($AADT_{out}$) by year, veh/d:	2012	12527	13821
(enter data only for those years for which	2013	12783	14103
it is available, leave other years blank)	2014	13044	14391
	2015	**13310**	**14685**
	2016		
	2017		
	2018		
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	2023		
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	2034		
Exit Ramp Data	2011	1826	5428
Average daily traffic ($AADT_{ex}$) by year, veh/d:	2012	1863	5539
(enter data only for those years for which	2013	1901	5652
it is available, leave other years blank)	2014	1940	5767
	2015	1980	5885
For a B4 terminal configuration, enter the AADT for the	2016		
diagonal exit ramp (not the loop exit ramp).	2017		

		2018		
		2019		
		2020		
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		2034		
Entrance Ramp Data		2011	5479	2536
Average daily traffic ($AADT_{en}$) by year, veh/d:		2012	5591	2588
(enter data only for those years for which		2013	5705	2641
it is available, leave other years blank)		2014	5821	2695
		2015	5940	2750
For an A4 terminal configuration, enter the AADT for the		2016		
diagonal entrance ramp (not the loop entrance ramp).		2017		
		2018		
		2019		
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		2034		
Crash Data	**Year**		Ramp Terminal Crashe	
Count of Fatal-and-Injury (FI) Crashes by Year				
($N_{o,w,ac,at,fi}$)	2011			
	2012			
	2013			
	2014			
	2015			
Count of Property-Damage-Only (PDO) Crashes by Year				
($N_{o,w,ac,at,pdo}$)	2011			
	2012			

2013			
2014			
2015			

Output Summary

General Information

Project description:	Bend US 97 Parkway				
Analyst:	AMD	Date:	8/28/2019	Area type:	Urban
First year of analysis:	2011				
Last year of analysis:	2015				

Crash Data Description

Freeway segments	Segment crash data available?	No	First year of crash data:	
	Project-level crash data available?	No	Last year of crash data:	
Ramp segments	Segment crash data available?	No	First year of crash data:	
	Project-level crash data available?	No	Last year of crash data:	
Ramp terminals	Segment crash data available?	No	First year of crash data:	
	Project-level crash data available?	No	Last year of crash data:	

Estimated Crash Statistics

Crashes for Entire Facility	**Total**	**K**	**A**	**B**	**C**	**PDO**
Estimated number of crashes during Study Period, crashes:	71.8	0.3	1.3	8.2	18.2	43.8
Estimated average crash freq. during Study Period, crashes/yr:	14.4	0.1	0.3	1.6	3.6	8.8

Crashes by Facility Component	**Nbr. Sites**	**Total**	**K**	**A**	**B**	**C**	**PDO**
Freeway segments, crashes:	2	22.1	0.1	0.4	2.5	4.6	14.5
Ramp segments, crashes:	4	13.3	0.1	0.5	2.6	3.3	6.9
Crossroad ramp terminals, crashes:	2	36.3	0.0	0.4	3.1	10.3	22.5

Crashes for Entire Facility by Year	**Year**	**Total**	**K**	**A**	**B**	**C**	**PDO**
Estimated number of crashes during the Study Period, crashes:	2011	13.7	0.1	0.2	1.6	3.5	8.4
	2012	14.0	0.1	0.2	1.6	3.6	8.6
	2013	14.4	0.1	0.3	1.6	3.6	8.8
	2014	14.7	0.1	0.3	1.7	3.7	9.0
	2015	15.0	0.1	0.3	1.7	3.8	9.2
	2016						
	2017						
	2018						
	2019						
	2020						
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	2034						

Distribution of Crashes for Entire Facility

Crash Type	**Crash Type Category**	**Estimated Number of Crashes During the Study Period**					
		Total	**K**	**A**	**B**	**C**	**PDO**
Multiple vehicle	Head-on crashes:	0.4	0.0	0.0	0.0	0.1	0.2
	Right-angle crashes:	8.8	0.0	0.1	0.8	2.7	5.1
	Rear-end crashes:	29.9	0.1	0.4	3.1	8.5	17.9
	Sideswipe crashes:	7.1	0.0	0.1	0.4	0.9	5.7
	Other multiple-vehicle crashes:	1.0	0.0	0.0	0.1	0.2	0.7
	Total multiple-vehicle crashes:	47.2	0.1	0.6	4.5	12.5	29.5
Single vehicle	Crashes with animal:	0.2	0.0	0.0	0.0	0.0	0.2
	Crashes with fixed object:	18.4	0.1	0.4	2.6	4.1	11.1
	Crashes with other object:	1.4	0.0	0.0	0.1	0.2	1.1
	Crashes with parked vehicle:	0.4	0.0	0.0	0.0	0.1	0.2
	Other single-vehicle crashes	4.1	0.0	0.1	0.9	1.4	1.6
	Total single-vehicle crashes:	24.6	0.2	0.6	3.7	5.7	14.3
	Total crashes:	71.8	0.3	1.3	8.2	18.2	43.8

DKS

ISATe (Future 2040 Build Bundle B) Conditions Analysis

Input Worksheet for Freeway Segments

Clear | Echo Input Values (View results in Column AV) | Check Input Values (View results in Advisory Messages)

		Segment 1 Study Period	Segment 2 Study Period	Segment 3 Study Period
Basic Roadway Data				
Number of through lanes (n):		4		
Freeway segment description:		Empire MP 135.13-MP135.77		
Segment length (L), mi:		0.64		
Alignment Data				
Horizontal Curve Data ←See note				
1	Horizontal curve in segment?:	No	No	No
	Curve radius (R_1), ft:			
	Length of curve (L_{c1}), mi:			
	Length of curve in segment ($L_{c1,seg}$), mi:			
2	Horizontal curve in segment?:			
	Curve radius (R_2), ft:			
	Length of curve (L_{c2}), mi:			
	Length of curve in segment ($L_{c2,seg}$), mi:			
3	Horizontal curve in segment?:			
	Curve radius (R_3), ft:			
	Length of curve (L_{c3}), mi:			
	Length of curve in segment ($L_{c3,seg}$), mi:			
Cross Section Data				
Lane width (W_l), ft:		12		
Outside shoulder width (W_s), ft:		6		
Inside shoulder width (W_{is}), ft:		2		
Median width (W_m), ft:		20		
Rumble strips on outside shoulders?:		No		No
	Length of rumble strips for travel in increasing milepost direction, mi:			
	Length of rumble strips for travel in decreasing milepost direction, mi:			
Rumble strips on inside shoulders?:		No	No	No
	Length of rumble strips for travel in increasing milepost direction, mi:			
	Length of rumble strips for travel in decreasing milepost direction, mi:			
Presence of barrier in median:		None	None	None
1	Length of barrier ($L_{ib,1}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,in,1}$), ft:			
2	Length of barrier ($L_{ib,2}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,in,2}$), ft:			
3	Length of barrier ($L_{ib,3}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,in,3}$), ft:			
4	Length of barrier ($L_{ib,4}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,in,4}$), ft:			
5	Length of barrier ($L_{ib,5}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,in,5}$), ft:			
Median barrier width (W_{ib}), ft:				
Nearest distance from edge of traveled way to barrier face (W_{near}), ft:				

Roadside Data				
Clear zone width (W_{hc}), ft:		20		
Presence of barrier on roadside:		None		None
1	Length of barrier ($L_{ob,1}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,o,1}$), ft:			
2	Length of barrier ($L_{ob,2}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,o,2}$), ft:			
3	Length of barrier ($L_{ob,3}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,o,3}$), ft:			
4	Length of barrier ($L_{ob,4}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,o,4}$), ft:			
5	Length of barrier ($L_{ob,5}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,o,5}$), ft:			
Distance from edge of traveled way to barrier face, increasing milepost ($W_{off,inc}$), ft:				
Distance from edge of traveled way to barrier face, decreasing milepost ($W_{off,dec}$), ft:				
Ramp Access Data				
Travel in Increasing Milepost Direction				
Entrance Ramp	Ramp entrance in segment? (If yes, indicate type.):	S-C Lane	No	No
	Distance from begin milepost to upstream entrance ramp gore ($X_{b,ent}$), mi:			0
	Length of ramp entrance ($L_{en,inc}$), mi:	0.15		
	Length of ramp entrance in segment ($L_{en,seg,inc}$), mi:	0.15		
	Entrance side?:	Right		
Exit Ramp	Ramp exit in segment? (If yes, indicate type.):	No	No	No
	Distance from end milepost to downstream exit ramp gore ($X_{e,ext}$), mi:	0.22		0
	Length of ramp exit ($L_{ex,inc}$), mi:			
	Length of ramp exit in segment ($L_{ex,seg,inc}$), mi:			
	Exit side?:			
Weave	Type B weave in segment?:	No	No	No
	Length of weaving section ($L_{wev,inc}$), mi:			
	Length of weaving section in segment ($L_{wev,seg,inc}$), mi:			
Travel in Decreasing Milepost Direction				
Entrance Ramp	Ramp entrance in segment? (If yes, indicate type.):	S-C Lane	No	No
	Distance from end milepost to upstream entrance ramp gore ($X_{e,ent}$), mi:		0	0
	Length of ramp entrance ($L_{en,dec}$), mi:	0.12		
	Length of ramp entrance in segment ($L_{en,seg,dec}$), mi:	0.12		
	Entrance side?:	Right		
Exit Ramp	Ramp exit in segment? (If yes, indicate type.):	S-C Lane	No	No
	Distance from begin milepost to downstream exit ramp gore ($X_{b,ext}$), mi:			0
	Length of ramp exit ($L_{ex,dec}$), mi:	0.03		
	Length of ramp exit in segment ($L_{ex,seg,dec}$), mi:	0.03		
	Exit side?:	Right		
Weave	Type B weave in segment?:	No	No	No
	Length of weaving section ($L_{wev,dec}$), mi:			
	Length of weaving section in segment ($L_{wev,seg,dec}$), mi:			
Traffic Data	**Year**			
Proportion of AADT during high-volume hours (P_{hv}):				0

Freeway Segment Data	2011	51186		
Average daily traffic ($AADT_{fs}$) by year, veh/d:	2012	52231		
(enter data only for those years for which	2013	53297		
it is available, leave other years blank)	2014	54385		
	2015	**55495**		
	2016			
	2017			
	2018			
	2019			
	2020			
	2021			
	2022			
	2023			
	2024			
	2025			
	2026			
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	2031			
	2032			
	2033			
	2034			
Entrance Ramp Data for Travel in Increasing Milepost Dir.	**Year**			
Average daily traffic ($AADT_{b,ent}$) by year, veh/d:	2011	9132		
(enter data only for those years for which	2012	9318		
it is available, leave other years blank)	2013	9508		
	2014	9702		
	2015	**9900**		
	2016			
	2017			
	2018			
	2019			
	2020			
	2021			
	2022			
	2023			
	2024			
	2025			
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	2029			
	2030			
	2031			
	2032			
	2033			
	2034			
Exit Ramp Data for Travel in Increasing Milepost Direction	**Year**			
Average daily traffic ($AADT_{e,ext}$) by year, veh/d:	2011	0		

(enter data only for those years for which it is available, leave other years blank)	2012	0		
	2013	0		
	2014	0		
	2015	0		
	2016			
	2017			
	2018			
	2019			
	2020			
	2021			
	2022			
	2023			
	2024			
	2025			
	2026			
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	2029			
	2030			
	2031			
	2032			
	2033			
	2034			
Entrance Ramp Data for Travel in Decreasing Milepost Dir.	**Year**			
Average daily traffic ($AADT_{e,ent}$) by year, veh/d:	2011	3805		
(enter data only for those years for which it is available, leave other years blank)	2012	3883		
	2013	3962		
	2014	4043		
	2015	**4125**		
	2016			
	2017			
	2018			
	2019			
	2020			
	2021			
	2022			
	2023			
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	2031			
	2032			
	2033			
	2034			
Exit Ramp Data for Travel in Decreasing Milepost Direction	**Year**			
Average daily traffic ($AADT_{b,ext}$) by year, veh/d:	2011	7000		
(enter data only for those years for which	2012	7143		

it is available, leave other years blank)

2013	7289		
2014	7438		
2015	**7590**		
2016			
2017			
2018			
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Input Worksheet for Ramp Segments

Clear | Echo Input Values (View results in Column CJ) | Check Input Values (View results in Advisory Messages)

		Segment 1 Study Period	Segment 2 Study Period	Segment 3 Study Period
Basic Roadway Data				
Number of through lanes (n):		1	1	1
Ramp segment description:		NB on ramp	NB off ramp	SB on ramp
Segment length (L), mi:		0.2	0.25	0.31
Average traffic speed on the freeway (V_{frwy}), mi/h:		50	50	50
Segment type (ramp or collector-distributor road):		Entrance	Exit	Entrance
Type of control at crossroad ramp terminal:		Signal	Signal	**Signal**
Alignment Data				
Horizontal Curve Data ← See notes →				
1	Horizontal curve?:	No	No	No
	Curve radius (R_1), ft:			
	Length of curve (L_{c1}), mi:			
	Length of curve in segment ($L_{c1,seg}$), mi:			
	Ramp-mile of beginning of curve in direction of travel (X_1), mi:			
2	Horizontal curve?:			
	Curve radius (R_2), ft:			
	Length of curve (L_{c2}), mi:			
	Length of curve in segment ($L_{c2,seg}$), mi:			
	Ramp-mile of beginning of curve in direction of travel (X_2), mi:			
3	Horizontal curve?:			
	Curve radius (R_3), ft:			
	Length of curve (L_{c3}), mi:			
	Length of curve in segment ($L_{c3,seg}$), mi:			
	Ramp-mile of beginning of curve in direction of travel (X_3), mi:			
4	Horizontal curve?:			
	Curve radius (R_4), ft:			
	Length of curve (L_{c4}), mi:			
	Length of curve in segment ($L_{c4,seg}$), mi:			
	Ramp-mile of beginning of curve in direction of travel (X_4), mi:			
5	Horizontal curve?:			
	Curve radius (R_5), ft:			
	Length of curve (L_{c5}), mi:			
	Length of curve in segment ($L_{c5,seg}$), mi:			
	Ramp-mile of beginning of curve in direction of travel (X_5), mi:			
Cross Section Data				
Lane width (W_l), ft:		12	12	12
Right shoulder width (W_{rs}), ft:		4	4	4
Left shoulder width (W_{ls}), ft:		2	2	2
Presence of lane add or lane drop by taper:		No	No	No
	Length of taper in segment ($L_{add,seg}$ or $L_{drop,seg}$), mi:			
Roadside Data				

Presence of barrier on right side of roadway:		Yes	Yes	No
1	Length of barrier ($L_{rb,1}$), mi:	0.03	0.07	
	Distance from edge of traveled way to barrier face ($W_{off,r,1}$), ft:	4	4	
2	Length of barrier ($L_{rb,2}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,r,2}$), ft:			
3	Length of barrier ($L_{rb,3}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,r,3}$), ft:			
4	Length of barrier ($L_{rb,4}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,r,4}$), ft:			
5	Length of barrier ($L_{rb,5}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,r,5}$), ft:			
Presence of barrier on left side of roadway:		Yes	Yes	No
1	Length of barrier ($L_{lb,1}$), mi:	0.03	0.08	
	Distance from edge of traveled way to barrier face ($W_{off,l,1}$), ft:	2	2	
2	Length of barrier ($L_{lb,2}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,l,2}$), ft:			
3	Length of barrier ($L_{lb,3}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,l,3}$), ft:			
4	Length of barrier ($L_{lb,4}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,l,4}$), ft:			
5	Length of barrier ($L_{lb,5}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,l,5}$), ft:			
Ramp Access Data	↖ See note			
Ramp Entrance	Ramp entrance in segment? (If yes, indicate type.):	No	No	No
	Length of entrance s-c lane in segment ($L_{en,seg}$), mi:			
Ramp Exit	Ramp exit in segment? (If yes, indicate type.):	No	No	No
	Length of exit s-c lane in segment ($L_{ex,seg}$), mi:			
Weaving Section	Weave section in collector-distributor road segment?:			
	Length of weaving section (L_{wev}), mi:			
	Length of weaving section in segment ($L_{wev,seg}$), mi:			

Traffic Data	**Year**			
Average daily traffic ($AADT_r$ or $AADT_c$) by year, veh/d:	2011	3805	7000	9132
(enter data only for those years for which it is available, leave other years blank)	2012	3883	7143	9318
	2013	3962	7289	9508
	2014	4043	7438	9702
	2015	4125	7590	9900
	2016			
	2017			
	2018			
	2019			
	2020			
	2021			
	2022			
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2034			

Input Worksheet for Crossroad Ramp Terminals

Clear | Echo Input Values (View results in Column T) | Check Input Values (View results in Advisory Messages)

			Terminal 1 Study Period	Terminal 2 Study Period	Terminal 3 Study Period
Basic Intersection Data					
Ramp terminal configuration:			D4	D3en	
Ramp terminal description:			NB	SB	
Ramp terminal traffic control type:			Signal	**Signal**	
Is a non-ramp public street leg present at the terminal (I_{ps})?:			No	**Yes**	
Alignment Data					
Exit ramp skew angle (I_{sk}), degrees:					
Distance to the next public street intersection on the outside crossroad leg (L_{str}), mi:			0.14	0.05	
Distance to the adjacent ramp terminal (L_{rmp}), mi:			0.07	0.07	
Traffic Control					
Left-Turn Operational Mode					
Crossroad	Inside approach	Protected-only mode ($I_{p,lt,in}$)?:	No	No	
	Outside approach	Protected-only mode ($I_{p,lt,out}$)?:			
Right-Turn Control Type					
Ramp	Exit ramp approach	Right-turn control type:	Signal		
Cross Section Data					
Crossroad median width (W_m), ft:			0	0	
Number of Lanes					
Crossroad	Both approaches	Lanes serving through vehicles (n_{th}):	3	3	
	Inside approach	Lanes serving through vehicles ($n_{th,in}$):	2	1	
	Outside approach	Lanes serving through vehicles ($n_{th,out}$):	1	2	
Ramp	Exit ramp approach	All lanes (n_{ex}):	1		
Right-Turn Channelization		see note: →			
Crossroad	Inside approach	Channelization present ($I_{ch,in}$)?:		No	
	Outside approach	Channelization present ($I_{ch,out}$)?:	No	No	
Ramp	Exit ramp approach	Channelization present ($I_{ch,ex}$)?:	No		
Left-Turn Lane or Bay					
Crossroad	Inside approach	Lane or bay present ($I_{bay,lt,in}$)?:	Yes	Yes	
		Width of lane or bay ($W_{b,in}$), ft:	12	12	
	Outside approach	Lane or bay present ($I_{bay,lt,out}$)?:		**Yes**	
		Width of lane or bay ($W_{b,out}$), ft:		**12**	
Right-Turn Lane or Bay					
Crossroad	Inside approach	Lane or bay present ($I_{bay,rt,in}$)?:		No	
	Outside approach	Lane or bay present ($I_{bay,rt,out}$)?:	No	**Yes**	
Access Data					
Number of driveways on the outside crossroad leg (n_{dw}):			0	0	
Number of public street approaches on the outside crossroad leg (n_{ps}):				1	
Traffic Data		**Year**			
Inside Crossroad Leg Data		2011	24655	24655	
Average daily traffic ($AADT_{in}$) by year, veh/d:		2012	25158	25158	
(enter data only for those years for which		2013	25671	25671	
it is available, leave other years blank)		2014	26195	26195	

	2015	**26730**	26730	
	2016			
	2017			
	2018			
	2019			
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	2021			
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	2023			
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	2034			
Outside Crossroad Leg Data	2011	28459	26279	
Average daily traffic ($AADT_{out}$) by year, veh/d:	2012	29040	26815	
(enter data only for those years for which	2013	29633	27362	
it is available, leave other years blank)	2014	30238	27920	
	2015	**30855**	**28490**	
	2016			
	2017			
	2018			
	2019			
	2020			
	2021			
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	2023			
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	2031			
	2032			
	2033			
	2034			
Exit Ramp Data	2011	7000		
Average daily traffic ($AADT_{ex}$) by year, veh/d:	2012	7143		
(enter data only for those years for which	2013	7289		
it is available, leave other years blank)	2014	7438		
	2015	7590		
For a B4 terminal configuration, enter the AADT for the	2016			
diagonal exit ramp (not the loop exit ramp).	2017			

	2018			
	2019			
	2020			
	2021			
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	2031			
	2032			
	2033			
	2034			
Entrance Ramp Data	2011	3805	9132	
Average daily traffic ($AADT_{en}$) by year, veh/d:	2012	3883	9318	
(enter data only for those years for which	2013	3962	9508	
it is available, leave other years blank)	2014	4043	9702	
	2015	4125	9900	
For an A4 terminal configuration, enter the AADT for the	2016			
diagonal entrance ramp (not the loop entrance ramp).	2017			
	2018			
	2019			
	2020			
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Output Summary

General Information

Project description:	Bend US 97 Parkway				
Analyst:	AMD	Date:	8/28/2019	Area type:	Urban
First year of analysis:	2011				
Last year of analysis:	2015				

Crash Data Description

Freeway segments	Segment crash data available?	No	First year of crash data:	
	Project-level crash data available?	No	Last year of crash data:	
Ramp segments	Segment crash data available?	No	First year of crash data:	
	Project-level crash data available?	No	Last year of crash data:	
Ramp terminals	Segment crash data available?	No	First year of crash data:	
	Project-level crash data available?	No	Last year of crash data:	

Estimated Crash Statistics

Crashes for Entire Facility	**Total**	**K**	**A**	**B**	**C**	**PDO**
Estimated number of crashes during Study Period, crashes:	120.4	0.5	2.4	13.2	33.2	71.2
Estimated average crash freq. during Study Period, crashes/yr:	24.1	0.1	0.5	2.6	6.6	14.2

Crashes by Facility Component	**Nbr. Sites**	**Total**	**K**	**A**	**B**	**C**	**PDO**
Freeway segments, crashes:	1	41.9	0.3	0.7	4.8	9.1	27.1
Ramp segments, crashes:	3	9.4	0.1	0.4	1.9	2.4	4.6
Crossroad ramp terminals, crashes:	2	69.1	0.1	1.3	6.5	21.7	39.5

Crashes for Entire Facility by Year	**Year**	**Total**	**K**	**A**	**B**	**C**	**PDO**
Estimated number of crashes during the Study Period, crashes:	2011	22.8	0.1	0.5	2.5	6.3	13.4
	2012	23.4	0.1	0.5	2.6	6.5	13.8
	2013	24.1	0.1	0.5	2.6	6.6	14.2
	2014	24.7	0.1	0.5	2.7	6.8	14.6
	2015	25.4	0.1	0.5	2.8	7.0	15.1
	2016						
	2017						
	2018						
	2019						
	2020						
	2021						
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	2034						

Distribution of Crashes for Entire Facility

Crash Type	**Crash Type Category**	**Estimated Number of Crashes During the Study Period**					
		Total	**K**	**A**	**B**	**C**	**PDO**
Multiple vehicle	Head-on crashes:	0.7	0.0	0.0	0.1	0.3	0.3
	Right-angle crashes:	16.9	0.0	0.4	1.8	5.8	9.0
	Rear-end crashes:	58.8	0.2	1.2	6.3	17.7	33.4
	Sideswipe crashes:	13.8	0.0	0.1	0.8	1.9	10.9
	Other multiple-vehicle crashes:	1.9	0.0	0.0	0.2	0.4	1.3
	Total multiple-vehicle crashes:	92.1	0.2	1.7	9.2	26.1	54.9
Single vehicle	Crashes with animal:	0.3	0.0	0.0	0.0	0.0	0.2
	Crashes with fixed object:	20.8	0.2	0.5	2.8	5.0	12.4
	Crashes with other object:	2.1	0.0	0.0	0.1	0.3	1.7
	Crashes with parked vehicle:	0.5	0.0	0.0	0.1	0.1	0.3
	Other single-vehicle crashes	4.7	0.1	0.2	1.0	1.7	1.8
	Total single-vehicle crashes:	28.3	0.2	0.7	4.0	7.1	16.3
	Total crashes:	120.4	0.5	2.4	13.2	33.2	71.2

Input Worksheet for Freeway Segments

Clear | Echo Input Values (View results in Column AV) | Check Input Values (View results in Advisory Messages)

		Segment 1 Study Period	Segment 2 Study Period	Segment 3 Study Period	Segment 4 Study Period
Basic Roadway Data					
Number of through lanes (n):		4	4		
Freeway segment description:		Butler MP 135	US 20 ramps MP136.10-136.81		
Segment length (L), mi:		0.18	0.71		
Alignment Data					
Horizontal Curve Data ←See note					
1	Horizontal curve in segment?:	No	No	No	No
	Curve radius (R_1), ft:				
	Length of curve (L_{c1}), mi:				
	Length of curve in segment ($L_{c1,seg}$), mi:				
2	Horizontal curve in segment?:				
	Curve radius (R_2), ft:				
	Length of curve (L_{c2}), mi:				
	Length of curve in segment ($L_{c2,seg}$), mi:				
3	Horizontal curve in segment?:				
	Curve radius (R_3), ft:				
	Length of curve (L_{c3}), mi:				
	Length of curve in segment ($L_{c3,seg}$), mi:				
Cross Section Data					
Lane width (W_l), ft:		12	12		
Outside shoulder width (W_s), ft:		6	7		
Inside shoulder width (W_{is}), ft:		2	2		
Median width (W_m), ft:		45	16		
Rumble strips on outside shoulders?:		No	No	No	No
	Length of rumble strips for travel in increasing milepost direction, mi:				
	Length of rumble strips for travel in decreasing milepost direction, mi:				
Rumble strips on inside shoulders?:		No	No	No	No
	Length of rumble strips for travel in increasing milepost direction, mi:				
	Length of rumble strips for travel in decreasing milepost direction, mi:				
Presence of barrier in median:		None	None	None	None
1	Length of barrier ($L_{ib,1}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,in,1}$), ft:				
2	Length of barrier ($L_{ib,2}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,in,2}$), ft:				
3	Length of barrier ($L_{ib,3}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,in,3}$), ft:				
4	Length of barrier ($L_{ib,4}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,in,4}$), ft:				
5	Length of barrier ($L_{ib,5}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,in,5}$), ft:				
Median barrier width (W_{ib}), ft:					
Nearest distance from edge of traveled way to barrier face (W_{near}), ft:					
Roadside Data					
Clear zone width (W_{hc}), ft:		30	30		

Presence of barrier on roadside:		Some	Some	None	None
1	Length of barrier ($L_{ob,1}$), mi:	0.18	0.65		
	Distance from edge of traveled way to barrier face ($W_{off,o,1}$), ft:	6	7		
2	Length of barrier ($L_{ob,2}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,o,2}$), ft:				
3	Length of barrier ($L_{ob,3}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,o,3}$), ft:				
4	Length of barrier ($L_{ob,4}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,o,4}$), ft:				
5	Length of barrier ($L_{ob,5}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,o,5}$), ft:				
Distance from edge of traveled way to barrier face, increasing milepost ($W_{off,inc}$), ft:					
Distance from edge of traveled way to barrier face, decreasing milepost ($W_{off,dec}$), ft:					
Ramp Access Data					
Travel in Increasing Milepost Direction					
Entrance Ramp	Ramp entrance in segment? (If yes, indicate type.):	No	S-C Lane	No	No
	Distance from begin milepost to upstream entrance ramp gore ($X_{b,ent}$), mi:	0.29		0	0
	Length of ramp entrance ($L_{en,inc}$), mi:		0.11		
	Length of ramp entrance in segment ($L_{en,seg,inc}$), mi:		0.11		
	Entrance side?:		Right		
Exit Ramp	Ramp exit in segment? (If yes, indicate type.):	S-C Lane	No	No	No
	Distance from end milepost to downstream exit ramp gore ($X_{e,ext}$), mi:		0.15	0	0
	Length of ramp exit ($L_{ex,inc}$), mi:	0.05			
	Length of ramp exit in segment ($L_{ex,seg,inc}$), mi:	0.05			
	Exit side?:	Right			
Weave	Type B weave in segment?:	No	No	No	No
	Length of weaving section ($L_{wev,inc}$), mi:				
	Length of weaving section in segment ($L_{wev,seg,inc}$), mi:				
Travel in Decreasing Milepost Direction					
Entrance Ramp	Ramp entrance in segment? (If yes, indicate type.):	S-C Lane	S-C Lane	No	No
	Distance from end milepost to upstream entrance ramp gore ($X_{e,ent}$), mi:			0	0
	Length of ramp entrance ($L_{en,dec}$), mi:	0.07	0.11		
	Length of ramp entrance in segment ($L_{en,seg,dec}$), mi:	0.07	0.11		
	Entrance side?:	Right	Right		
Exit Ramp	Ramp exit in segment? (If yes, indicate type.):	No	No	No	No
	Distance from begin milepost to downstream exit ramp gore ($X_{b,ext}$), mi:	0.21	0.39	0	0
	Length of ramp exit ($L_{ex,dec}$), mi:				
	Length of ramp exit in segment ($L_{ex,seg,dec}$), mi:				
	Exit side?:				
Weave	Type B weave in segment?:	No	No	No	No
	Length of weaving section ($L_{wev,dec}$), mi:				
	Length of weaving section in segment ($L_{wev,seg,dec}$), mi:				
Traffic Data	**Year**				
Proportion of AADT during high-volume hours (P_{hv}):				0	0
Freeway Segment Data	2011	62044	57021		
Average daily traffic ($AADT_{fs}$) by year, veh/d:	2012	63310	58185		
(enter data only for those years for which	2013	64602	59372		
it is available, leave other years blank)	2014	65920	60584		
	2015	**67265**	**61820**		

	2016				
	2017				
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	2023				
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	2034				
Entrance Ramp Data for Travel in Increasing Milepost Dir.	**Year**				
Average daily traffic ($AADT_{b,ent}$) by year, veh/d:	2011	0	4770		
(enter data only for those years for which	2012	0	4867		
it is available, leave other years blank)	2013	0	4966		
	2014	0	5067		
	2015	0	**5170**		
	2016				
	2017				
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	2033				
	2034				
Exit Ramp Data for Travel in Increasing Milepost Direction	**Year**				
Average daily traffic ($AADT_{e,ext}$) by year, veh/d:	2011	2485	0		
(enter data only for those years for which	2012	2536	0		
it is available, leave other years blank)	2013	2588	0		
	2014	2641	0		
	2015	**2695**	0		
	2016				
	2017				
	2018				
	2019				

	2020				
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	2022				
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	2026				
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	2032				
	2033				
	2034				
Entrance Ramp Data for Travel in Decreasing Milepost Dir.	**Year**				
Average daily traffic ($AADT_{e,ent}$) by year, veh/d:	2011	2791	5022		
(enter data only for those years for which	2012	2848	5124		
it is available, leave other years blank)	2013	2906	5229		
	2014	2965	5336		
	2015	**3025**	**5445**		
	2016				
	2017				
	2018				
	2019				
	2020				
	2021				
	2022				
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	2031				
	2032				
	2033				
	2034				
Exit Ramp Data for Travel in Decreasing Milepost Direction	**Year**				
Average daily traffic ($AADT_{b,ext}$) by year, veh/d:	2011	0	0		
(enter data only for those years for which	2012	0	0		
it is available, leave other years blank)	2013	0	0		
	2014	0	0		
	2015	0	0		
	2016				
	2017				
	2018				
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Input Worksheet for Ramp Segments

Clear | Echo Input Values (View results in Column CJ) | Check Input Values (View results in Advisory Messages)

		Segment 1 Study Period	Segment 2 Study Period	Segment 3 Study Period	Segment 4 Study Period	Segment 5 Study Period
Basic Roadway Data						
Number of through lanes (n):		1	1	1	1	
Ramp segment description:		Butler NB on	Butler SB off r	US20 NB on r	US20 SB on ramp	
Segment length (L), mi:		0.27	0.23	0.3	0.31	
Average traffic speed on the freeway (V_{frwy}), mi/h:		50	50	50	50	
Segment type (ramp or collector-distributor road):		Entrance	Exit	Entrance	Entrance	
Type of control at crossroad ramp terminal:		Stop	Stop	None	None	
Alignment Data						
Horizontal Curve Data ← See notes →						
1	Horizontal curve?:	No	No	No	No	
	Curve radius (R_1), ft:					
	Length of curve (L_{c1}), mi:					
	Length of curve in segment ($L_{c1,seg}$), mi:					
	Ramp-mile of beginning of curve in direction of travel (X_1), mi:					
2	Horizontal curve?:					
	Curve radius (R_2), ft:					
	Length of curve (L_{c2}), mi:					
	Length of curve in segment ($L_{c2,seg}$), mi:					
	Ramp-mile of beginning of curve in direction of travel (X_2), mi:					
3	Horizontal curve?:					
	Curve radius (R_3), ft:					
	Length of curve (L_{c3}), mi:					
	Length of curve in segment ($L_{c3,seg}$), mi:					
	Ramp-mile of beginning of curve in direction of travel (X_3), mi:					
4	Horizontal curve?:					
	Curve radius (R_4), ft:					
	Length of curve (L_{c4}), mi:					
	Length of curve in segment ($L_{c4,seg}$), mi:					
	Ramp-mile of beginning of curve in direction of travel (X_4), mi:					
5	Horizontal curve?:					
	Curve radius (R_5), ft:					
	Length of curve (L_{c5}), mi:					
	Length of curve in segment ($L_{c5,seg}$), mi:					
	Ramp-mile of beginning of curve in direction of travel (X_5), mi:					
Cross Section Data						
Lane width (W_l), ft:		12	12	12	12	
Right shoulder width (W_{rs}), ft:		6	6	4	6	
Left shoulder width (W_{ls}), ft:		2	2	6	2	
Presence of lane add or lane drop by taper:		No	No	No	No	No
	Length of taper in segment ($L_{add,seg}$ or $L_{drop,seg}$), mi:					
Roadside Data						
Presence of barrier on <u>right</u> side of roadway:		No	Yes	Yes	Yes	No
1	Length of barrier ($L_{rb,1}$), mi:		0.02	0.3	0.28	
	Distance from edge of traveled way to barrier face ($W_{off,r,1}$), ft:		6	6	6	
2	Length of barrier ($L_{rb,2}$), mi:					
	Distance from edge of traveled way to barrier face ($W_{off,r,2}$), ft:					
3	Length of barrier ($L_{rb,3}$), mi:					
	Distance from edge of traveled way to barrier face ($W_{off,r,3}$), ft:					

4	Length of barrier ($L_{rb,4}$), mi:					
	Distance from edge of traveled way to barrier face ($W_{off,r,4}$), ft:					
5	Length of barrier ($L_{rb,5}$), mi:					
	Distance from edge of traveled way to barrier face ($W_{off,r,5}$), ft:					
Presence of barrier on left side of roadway:		No	No	Yes	Yes	No
1	Length of barrier ($L_{lb,1}$), mi:			0.14	0.06	
	Distance from edge of traveled way to barrier face ($W_{off,l,1}$), ft:			6	6	
2	Length of barrier ($L_{lb,2}$), mi:					
	Distance from edge of traveled way to barrier face ($W_{off,l,2}$), ft:					
3	Length of barrier ($L_{lb,3}$), mi:					
	Distance from edge of traveled way to barrier face ($W_{off,l,3}$), ft:					
4	Length of barrier ($L_{lb,4}$), mi:					
	Distance from edge of traveled way to barrier face ($W_{off,l,4}$), ft:					
5	Length of barrier ($L_{lb,5}$), mi:					
	Distance from edge of traveled way to barrier face ($W_{off,l,5}$), ft:					
Ramp Access Data	↖ See note					
Ramp Entrance	Ramp entrance in segment? (If yes, indicate type.):	No	No	No	No	No
	Length of entrance s-c lane in segment ($L_{en,seg}$), mi:					
Ramp Exit	Ramp exit in segment? (If yes, indicate type.):	No	No	No	No	No
	Length of exit s-c lane in segment ($L_{ex,seg}$), mi:					
Weaving Section	Weave section in collector-distributor road segment?:					
	Length of weaving section (L_{wev}), mi:					
	Length of weaving section in segment ($L_{wev,seg}$), mi:					

Traffic Data	**Year**					
Average daily traffic ($AADT_r$ or $AADT_c$) by year, veh/d:	2011	2791	2485	5022	4770	
(enter data only for those years for which it is available, leave other years blank)	2012	2848	2536	5124	4867	
	2013	2906	2588	5229	4966	
	2014	2965	2641	5336	5067	
	2015	3025	2695	5445	5170	
	2016					
	2017					
	2018					
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	2034					

Input Worksheet for Crossroad Ramp Terminals

Clear | Echo Input Values (View results in Column T) | Check Input Values (View results in Advisory Messages)

			Terminal 1 Study Period	Terminal 2 Study Period	Terminal 3 Study Period
Basic Intersection Data					
Ramp terminal configuration:			D3en	D3ex	
Ramp terminal description:			Butler NB	Butler SB	
Ramp terminal traffic control type:			One stop	One stop	
Is a non-ramp public street leg present at the terminal (I_{ps})?:					
Alignment Data					
Exit ramp skew angle (I_{sk}), degrees:				0	
Distance to the next public street intersection on the outside crossroad leg (L_{str}), mi:			0.12	0.04	
Distance to the adjacent ramp terminal (L_{rmp}), mi:			0.08	0.08	
Traffic Control					
Left-Turn Operational Mode					
Crossroad	Inside approach	Protected-only mode ($I_{p,lt,in}$)?:			
	Outside approach	Protected-only mode ($I_{p,lt,out}$)?:			
Right-Turn Control Type					
Ramp	Exit ramp approach	Right-turn control type:		Stop	
Cross Section Data					
Crossroad median width (W_m), ft:			12	12	
Number of Lanes					
Crossroad	Both approaches	Lanes serving through vehicles (n_{th}):	2	2	
	Inside approach	Lanes serving through vehicles ($n_{th,in}$):			
	Outside approach	Lanes serving through vehicles ($n_{th,out}$):			
Ramp	Exit ramp approach	All lanes (n_{ex}):		1	
Right-Turn Channelization		see note: →			
Crossroad	Inside approach	Channelization present ($I_{ch,in}$)?:			
	Outside approach	Channelization present ($I_{ch,out}$)?:			
Ramp	Exit ramp approach	Channelization present ($I_{ch,ex}$)?:			
Left-Turn Lane or Bay					
Crossroad	Inside approach	Lane or bay present ($I_{bay,lt,in}$)?:	Yes		
		Width of lane or bay ($W_{b,in}$), ft:	12		
	Outside approach	Lane or bay present ($I_{bay,lt,out}$)?:			
		Width of lane or bay ($W_{b,out}$), ft:			
Right-Turn Lane or Bay					
Crossroad	Inside approach	Lane or bay present ($I_{bay,rt,in}$)?:			
	Outside approach	Lane or bay present ($I_{bay,rt,out}$)?:	No		
Access Data					
Number of driveways on the outside crossroad leg (n_{dw}):					
Number of public street approaches on the outside crossroad leg (n_{ps}):				1	

Traffic Data	Year			
Inside Crossroad Leg Data	2011	13951	13951	
Average daily traffic ($AADT_{in}$) by year, veh/d:	2012	14236	14236	
(enter data only for those years for which	2013	14527	14527	
it is available, leave other years blank)	2014	14823	14823	

	2015	**15125**	15125	
	2016			
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	2034			
Outside Crossroad Leg Data	2011	15219	12886	
Average daily traffic ($AADT_{out}$) by year, veh/d:	2012	15530	13149	
(enter data only for those years for which	2013	15847	13417	
it is available, leave other years blank)	2014	16170	13691	
	2015	**16500**	**13970**	
	2016			
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	2034			
Exit Ramp Data	2011		2485	
Average daily traffic ($AADT_{ex}$) by year, veh/d:	2012		2536	
(enter data only for those years for which	2013		2588	
it is available, leave other years blank)	2014		2641	
	2015		2695	
For a B4 terminal configuration, enter the AADT for the	2016			
diagonal exit ramp (not the loop exit ramp).	2017			

	2018			
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	2034			
Entrance Ramp Data	2011	2791		
Average daily traffic ($AADT_{en}$) by year, veh/d:	2012	2848		
(enter data only for those years for which	2013	2906		
it is available, leave other years blank)	2014	2965		
	2015	3025		
For an A4 terminal configuration, enter the AADT for the	2016			
diagonal entrance ramp (not the loop entrance ramp).	2017			
	2018			
	2019			
	2020			
	2021			
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Output Summary

General Information

Project description:	Bend US 97 Parkway				
Analyst:	AMD	Date:	8/28/2019	Area type:	Urban
First year of analysis:	2011				
Last year of analysis:	2015				

Crash Data Description

Freeway segments	Segment crash data available?	No	First year of crash data:	
	Project-level crash data available?	No	Last year of crash data:	
Ramp segments	Segment crash data available?	No	First year of crash data:	
	Project-level crash data available?	No	Last year of crash data:	
Ramp terminals	Segment crash data available?	No	First year of crash data:	
	Project-level crash data available?	No	Last year of crash data:	

Estimated Crash Statistics

Crashes for Entire Facility	**Total**	**K**	**A**	**B**	**C**	**PDO**
Estimated number of crashes during Study Period, crashes:	96.2	0.5	1.4	9.4	22.0	62.8
Estimated average crash freq. during Study Period, crashes/yr:	19.2	0.1	0.3	1.9	4.4	12.6

Crashes by Facility Component	**Nbr. Sites**	**Total**	**K**	**A**	**B**	**C**	**PDO**
Freeway segments, crashes:	2	73.6	0.4	1.1	7.2	16.8	48.2
Ramp segments, crashes:	4	8.4	0.1	0.3	1.5	2.2	4.3
Crossroad ramp terminals, crashes:	2	14.1	0.0	0.1	0.7	3.0	10.3

Crashes for Entire Facility by Year	**Year**	**Total**	**K**	**A**	**B**	**C**	**PDO**
Estimated number of crashes during the Study Period, crashes:	2011	18.2	0.1	0.3	1.8	4.2	11.9
	2012	18.7	0.1	0.3	1.8	4.3	12.2
	2013	19.2	0.1	0.3	1.9	4.4	12.5
	2014	19.7	0.1	0.3	1.9	4.5	12.9
	2015	20.3	0.1	0.3	2.0	4.6	13.3
	2016						
	2017						
	2018						
	2019						
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Distribution of Crashes for Entire Facility

Crash Type	**Crash Type Category**	**Estimated Number of Crashes During the Study Period**					
		Total	**K**	**A**	**B**	**C**	**PDO**
Multiple vehicle	Head-on crashes:	0.4	0.0	0.0	0.0	0.1	0.2
	Right-angle crashes:	6.7	0.0	0.1	0.4	1.7	4.5
	Rear-end crashes:	39.3	0.2	0.5	3.7	9.0	25.8
	Sideswipe crashes:	12.7	0.0	0.1	0.8	2.0	9.7
	Other multiple-vehicle crashes:	1.6	0.0	0.0	0.2	0.4	1.0
	Total multiple-vehicle crashes:	60.6	0.3	0.8	5.2	13.2	41.1
Single vehicle	Crashes with animal:	0.4	0.0	0.0	0.0	0.0	0.4
	Crashes with fixed object:	26.0	0.2	0.5	3.0	6.4	16.0
	Crashes with other object:	3.1	0.0	0.0	0.2	0.4	2.5
	Crashes with parked vehicle:	0.6	0.0	0.0	0.1	0.1	0.4
	Other single-vehicle crashes	5.5	0.1	0.1	0.9	1.9	2.4
	Total single-vehicle crashes:	35.6	0.2	0.6	4.2	8.8	21.7
	Total crashes:	96.2	0.5	1.4	9.4	22.0	62.8

Input Worksheet for Freeway Segments

Clear | Echo Input Values (View results in Column AV) | Check Input Values (View results in Advisory Messages)

		Segment 1 Study Period	Segment 2 Study Period	Segment 3 Study Period	Segment 4 Study Period
Basic Roadway Data					
	Number of through lanes (n):	4	4		
	Freeway segment description:	N Revere MP	S Revere MP 137.13-137.32		
	Segment length (L), mi:	0.18	0.18		
Alignment Data					
Horizontal Curve Data ← See note					
1	Horizontal curve in segment?:	No	No	No	No
	Curve radius (R_1), ft:				
	Length of curve (L_{c1}), mi:				
	Length of curve in segment ($L_{c1,seg}$), mi:				
2	Horizontal curve in segment?:				
	Curve radius (R_2), ft:				
	Length of curve (L_{c2}), mi:				
	Length of curve in segment ($L_{c2,seg}$), mi:				
3	Horizontal curve in segment?:				
	Curve radius (R_3), ft:				
	Length of curve (L_{c3}), mi:				
	Length of curve in segment ($L_{c3,seg}$), mi:				
Cross Section Data					
	Lane width (W_l), ft:	12	12		
	Outside shoulder width (W_s), ft:	6	6		
	Inside shoulder width (W_{is}), ft:	2	2		
	Median width (W_m), ft:	16	16		
	Rumble strips on outside shoulders?:	No	No	No	No
	Length of rumble strips for travel in increasing milepost direction, mi:				
	Length of rumble strips for travel in decreasing milepost direction, mi:				
	Rumble strips on inside shoulders?:	No	No	No	No
	Length of rumble strips for travel in increasing milepost direction, mi:				
	Length of rumble strips for travel in decreasing milepost direction, mi:				
	Presence of barrier in median:	None	None	None	None
1	Length of barrier ($L_{ib,1}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,in,1}$), ft:				
2	Length of barrier ($L_{ib,2}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,in,2}$), ft:				
3	Length of barrier ($L_{ib,3}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,in,3}$), ft:				
4	Length of barrier ($L_{ib,4}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,in,4}$), ft:				
5	Length of barrier ($L_{ib,5}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,in,5}$), ft:				
	Median barrier width (W_{ib}), ft:				
	Nearest distance from edge of traveled way to barrier face (W_{near}), ft:				
Roadside Data					
	Clear zone width (W_{hc}), ft:	20	20		
	Presence of barrier on roadside:	Some	Some	None	None

1	Length of barrier ($L_{ob,1}$), mi:	0.17	0.05		
	Distance from edge of traveled way to barrier face ($W_{off,o,1}$), ft:	6	6		
2	Length of barrier ($L_{ob,2}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,o,2}$), ft:				
3	Length of barrier ($L_{ob,3}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,o,3}$), ft:				
4	Length of barrier ($L_{ob,4}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,o,4}$), ft:				
5	Length of barrier ($L_{ob,5}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,o,5}$), ft:				
Distance from edge of traveled way to barrier face, increasing milepost ($W_{off,inc}$), ft:					
Distance from edge of traveled way to barrier face, decreasing milepost ($W_{off,dec}$), ft:					
Ramp Access Data					
Travel in Increasing Milepost Direction					
Entrance Ramp	Ramp entrance in segment? (If yes, indicate type.):	S-C Lane	No	No	No
	Distance from begin milepost to upstream entrance ramp gore ($X_{b,ent}$), mi:		0.04	0	0
	Length of ramp entrance ($L_{en,inc}$), mi:	0.15			
	Length of ramp entrance in segment ($L_{en,seg,inc}$), mi:	0.04			
	Entrance side?:	Right			
Exit Ramp	Ramp exit in segment? (If yes, indicate type.):	S-C Lane	No	No	No
	Distance from end milepost to downstream exit ramp gore ($X_{e,ext}$), mi:		0.2	0	0
	Length of ramp exit ($L_{ex,inc}$), mi:	0.03			
	Length of ramp exit in segment ($L_{ex,seg,inc}$), mi:	0.03			
	Exit side?:	Right			
Weave	Type B weave in segment?:	No	No	No	No
	Length of weaving section ($L_{wev,inc}$), mi:				
	Length of weaving section in segment ($L_{wev,seg,inc}$), mi:				
Travel in Decreasing Milepost Direction					
Entrance Ramp	Ramp entrance in segment? (If yes, indicate type.):	No	S-C Lane	No	No
	Distance from end milepost to upstream entrance ramp gore ($X_{e,ent}$), mi:	0.04		0	0
	Length of ramp entrance ($L_{en,dec}$), mi:		0.09		
	Length of ramp entrance in segment ($L_{en,seg,dec}$), mi:		0.04		
	Entrance side?:		Right		
Exit Ramp	Ramp exit in segment? (If yes, indicate type.):	No	S-C Lane	No	No
	Distance from begin milepost to downstream exit ramp gore ($X_{b,ext}$), mi:	1.23		0	0
	Length of ramp exit ($L_{ex,dec}$), mi:		0.03		
	Length of ramp exit in segment ($L_{ex,seg,dec}$), mi:		0.03		
	Exit side?:		Right		
Weave	Type B weave in segment?:	No	No	No	No
	Length of weaving section ($L_{wev,dec}$), mi:				
	Length of weaving section in segment ($L_{wev,seg,dec}$), mi:				

Traffic Data	**Year**				
Proportion of AADT during high-volume hours (P_{hv}):				0	0
Freeway Segment Data	2011	58441	59760		
Average daily traffic ($AADT_{fs}$) by year, veh/d:	2012	59634	60980		
(enter data only for those years for which	2013	60851	62224		
it is available, leave other years blank)	2014	62093	63494		
	2015	**63360**	**64790**		
	2016				

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	2034				
Entrance Ramp Data for Travel in Increasing Milepost Dir.	**Year**				
Average daily traffic ($AADT_{b,ent}$) by year, veh/d:	2011	4821	0		
(enter data only for those years for which	2012	4919	0		
it is available, leave other years blank)	2013	5019	0		
	2014	5121	0		
	2015	**5225**	0		
	2016				
	2017				
	2018				
	2019				
	2020				
	2021				
	2022				
	2023				
	2024				
	2025				
	2026				
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	2031				
	2032				
	2033				
	2034				
Exit Ramp Data for Travel in Increasing Milepost Direction	**Year**				
Average daily traffic ($AADT_{e,ext}$) by year, veh/d:	2011	3348	0		
(enter data only for those years for which	2012	3416	0		
it is available, leave other years blank)	2013	3486	0		
	2014	3557	0		
	2015	**3630**	0		
	2016				
	2017				
	2018				
	2019				
	2020				

	2021				
	2022				
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	2031				
	2032				
	2033				
	2034				
Entrance Ramp Data for Travel in Decreasing Milepost Dir.	**Year**				
Average daily traffic ($AADT_{e,ent}$) by year, veh/d:	2011	0	3501		
(enter data only for those years for which	2012	0	3572		
it is available, leave other years blank)	2013	0	3645		
	2014	0	3719		
	2015	0	**3795**		
	2016				
	2017				
	2018				
	2019				
	2020				
	2021				
	2022				
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	2031				
	2032				
	2033				
	2034				
Exit Ramp Data for Travel in Decreasing Milepost Direction	**Year**				
Average daily traffic ($AADT_{b,ext}$) by year, veh/d:	2011	0	4971		
(enter data only for those years for which	2012	0	5072		
it is available, leave other years blank)	2013	0	5176		
	2014	0	5282		
	2015	0	**5390**		
	2016				
	2017				
	2018				
	2019				
	2020				
	2021				
	2022				
	2023				
	2024				

		2025					
		2026					
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		2030					
		2031					
		2032					
		2033					
		2034					
Crash Data		**Year**		Segment Crashes -->			
Count of Fatal-and-Injury (FI) Crashes by Year							
	Multiple-vehicle crashes (not ramp related) ($N_{o,fs,n,mv,fi}$)	2011					
		2012					
		2013					
		2014					
		2015					
	Single-vehicle crashes (not ramp related) ($N_{o,fs,n,sv,fi}$)	2011					
		2012					
		2013					
		2014					
		2015					
	Ramp-entrance-related crashes ($N_{o,sc,EN,at,fi}$)	2011					
		2012					
		2013					
		2014					
		2015					
	Ramp-exit-related crashes ($N_{o,sc,EX,at,fi}$)	2011					
		2012					
		2013					
		2014					
		2015					

Input Worksheet for Ramp Segments

Clear | Echo Input Values (View results in Column CJ) | Check Input Values (View results in Advisory Messages)

		Segment 1 Study Period	Segment 2 Study Period	Segment 3 Study Period	Segment 4 Study Period
Basic Roadway Data					
	Number of through lanes (n):	1	1	1	1
	Ramp segment description:	NB on ramp	NB off ramp	SB on ramp	SB off ramp
	Segment length (L), mi:	0.12	0.15	0.16	0.18
	Average traffic speed on the freeway (V_{frwy}), mi/h:	50	50	50	50
	Segment type (ramp or collector-distributor road):	Entrance	Exit	Entrance	Exit
	Type of control at crossroad ramp terminal:	Signal	Signal	Signal	Signal
Alignment Data					
Horizontal Curve Data	← See notes →				
1	Horizontal curve?:	In Seg.	In Seg.	In Seg.	In Seg.
	Curve radius (R_1), ft:	140	550	140	155
	Length of curve (L_{c1}), mi:	0.07	0.05	0.07	0.03
	Length of curve in segment ($L_{c1,seg}$), mi:	0.07	0.05	0.07	0.03
	Ramp-mile of beginning of curve in direction of travel (X_1), mi:	0.03	0	0.04	0.11
2	Horizontal curve?:	No	In Seg.	No	No
	Curve radius (R_2), ft:		450		
	Length of curve (L_{c2}), mi:		0.06		
	Length of curve in segment ($L_{c2,seg}$), mi:		0.06		
	Ramp-mile of beginning of curve in direction of travel (X_2), mi:		0.05		
3	Horizontal curve?:		No		
	Curve radius (R_3), ft:				
	Length of curve (L_{c3}), mi:				
	Length of curve in segment ($L_{c3,seg}$), mi:				
	Ramp-mile of beginning of curve in direction of travel (X_3), mi:				
4	Horizontal curve?:				
	Curve radius (R_4), ft:				
	Length of curve (L_{c4}), mi:				
	Length of curve in segment ($L_{c4,seg}$), mi:				
	Ramp-mile of beginning of curve in direction of travel (X_4), mi:				
5	Horizontal curve?:				
	Curve radius (R_5), ft:				
	Length of curve (L_{c5}), mi:				
	Length of curve in segment ($L_{c5,seg}$), mi:				
	Ramp-mile of beginning of curve in direction of travel (X_5), mi:				
Cross Section Data					
	Lane width (W_l), ft:	12	12	12	12
	Right shoulder width (W_{rs}), ft:	4	2	5	4
	Left shoulder width (W_{ls}), ft:	2	4	2	2
	Presence of lane add or lane drop by taper:	No	No	No	No
	Length of taper in segment ($L_{add,seg}$ or $L_{drop,seg}$), mi:				
Roadside Data					
	Presence of barrier on <u>right</u> side of roadway:	Yes	Yes	Yes	No
1	Length of barrier ($L_{rb,1}$), mi:	0.06	0.07	0.09	
	Distance from edge of traveled way to barrier face ($W_{off,r,1}$), ft:	6	6	6	

2	Length of barrier ($L_{rb,2}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,r,2}$), ft:				
3	Length of barrier ($L_{rb,3}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,r,3}$), ft:				
4	Length of barrier ($L_{rb,4}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,r,4}$), ft:				
5	Length of barrier ($L_{rb,5}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,r,5}$), ft:				
Presence of barrier on left side of roadway:		No	No	No	No
1	Length of barrier ($L_{lb,1}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,l,1}$), ft:				
2	Length of barrier ($L_{lb,2}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,l,2}$), ft:				
3	Length of barrier ($L_{lb,3}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,l,3}$), ft:				
4	Length of barrier ($L_{lb,4}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,l,4}$), ft:				
5	Length of barrier ($L_{lb,5}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,l,5}$), ft:				
Ramp Access Data	← See note				
Ramp Entrance	Ramp entrance in segment? (If yes, indicate type.):	No	No	No	No
	Length of entrance s-c lane in segment ($L_{en,seg}$), mi:				
Ramp Exit	Ramp exit in segment? (If yes, indicate type.):	No	No	No	No
	Length of exit s-c lane in segment ($L_{ex,seg}$), mi:				
Weaving Section	Weave section in collector-distributor road segment?:				
	Length of weaving section (L_{wev}), mi:				
	Length of weaving section in segment ($L_{wev,seg}$), mi:				

Traffic Data	**Year**				
Average daily traffic ($AADT_r$ or $AADT_c$) by year, veh/d:	2011	3501	4971	4821	3348
(enter data only for those years for which	2012	3572	5072	4919	3416
it is available, leave other years blank)	2013	3645	5176	5019	3486
	2014	3719	5282	5121	3557
	2015	**3795**	**5390**	**5225**	**3630**
	2016				
	2017				
	2018				
	2019				
	2020				
	2021				
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2033				
2034				

Input Worksheet for Crossroad Ramp Terminals

Clear | Echo Input Values (View results in Column T) | Check Input Values (View results in Advisory Messages)

			Terminal 1 Study Period	Terminal 2 Study Period
Basic Intersection Data				
Ramp terminal configuration:			A2	A2
Ramp terminal description:			NB	SB
Ramp terminal traffic control type:			Signal	Signal
Is a non-ramp public street leg present at the terminal (I_{ps})?:			Yes	Yes
Alignment Data				
Exit ramp skew angle (I_{sk}), degrees:				
Distance to the next public street intersection on the outside crossroad leg (L_{str}), mi:			0.06	0.06
Distance to the adjacent ramp terminal (L_{rmp}), mi:			0.13	0.13
Traffic Control				
Left-Turn Operational Mode				
Crossroad	Inside approach	Protected-only mode ($I_{p,lt,in}$)?:	No	Yes
	Outside approach	Protected-only mode ($I_{p,lt,out}$)?:	No	No
Right-Turn Control Type				
Ramp	Exit ramp approach	Right-turn control type:	Signal	Signal
Cross Section Data				
Crossroad median width (W_m), ft:			0	0
Number of Lanes				
Crossroad	Both approaches	Lanes serving through vehicles (n_{th}):	4	2
	Inside approach	Lanes serving through vehicles ($n_{th,in}$):	2	1
	Outside approach	Lanes serving through vehicles ($n_{th,out}$):	2	1
Ramp	Exit ramp approach	All lanes (n_{ex}):	1	2
Right-Turn Channelization		see note: →		
Crossroad	Inside approach	Channelization present ($I_{ch,in}$)?:	No	No
	Outside approach	Channelization present ($I_{ch,out}$)?:	No	No
Ramp	Exit ramp approach	Channelization present ($I_{ch,ex}$)?:	No	No
Left-Turn Lane or Bay				
Crossroad	Inside approach	Lane or bay present ($I_{bay,lt,in}$)?:	No	Yes
		Width of lane or bay ($W_{b,in}$), ft:		12
	Outside approach	Lane or bay present ($I_{bay,lt,out}$)?:	No	No
		Width of lane or bay ($W_{b,out}$), ft:		
Right-Turn Lane or Bay				
Crossroad	Inside approach	Lane or bay present ($I_{bay,rt,in}$)?:	Yes	No
	Outside approach	Lane or bay present ($I_{bay,rt,out}$)?:	No	No
Access Data				
Number of driveways on the outside crossroad leg (n_{dw}):			2	2
Number of public street approaches on the outside crossroad leg (n_{ps}):				

Traffic Data	**Year**		
Inside Crossroad Leg Data	2011	21255	21255
Average daily traffic ($AADT_{in}$) by year, veh/d:	2012	21689	21689
(enter data only for those years for which	2013	22132	22132
it is available, leave other years blank)	2014	22584	22584

	2015	**23045**	23045
	2016		
	2017		
	2018		
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	2034		
Outside Crossroad Leg Data	2011	12937	3450
Average daily traffic ($AADT_{out}$) by year, veh/d:	2012	13201	3520
(enter data only for those years for which	2013	13470	3592
it is available, leave other years blank)	2014	13745	3665
	2015	**14025**	**3740**
	2016		
	2017		
	2018		
	2019		
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	2023		
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	2032		
	2033		
	2034		
Exit Ramp Data	2011	4971	3348
Average daily traffic ($AADT_{ex}$) by year, veh/d:	2012	5072	3416
(enter data only for those years for which	2013	5176	3486
it is available, leave other years blank)	2014	5282	3557
	2015	5390	3630
For a B4 terminal configuration, enter the AADT for the	2016		
diagonal exit ramp (not the loop exit ramp).	2017		

	2018		
	2019		
	2020		
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	2033		
	2034		
Entrance Ramp Data	2011	3501	4821
Average daily traffic ($AADT_{en}$) by year, veh/d:	2012	3572	4919
(enter data only for those years for which	2013	3645	5019
it is available, leave other years blank)	2014	3719	5121
	2015	3795	5225
For an A4 terminal configuration, enter the AADT for the	2016		
diagonal entrance ramp (not the loop entrance ramp).	2017		
	2018		
	2019		
	2020		
	2021		
	2022		
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	2032		
	2033		
	2034		

Output Summary

General Information

Project description:	Bend US 97 Parkway				
Analyst:	AMD	Date:	8/6/2018	Area type:	Urban
First year of analysis:	2011				
Last year of analysis:	2015				

Crash Data Description

Freeway segments	Segment crash data available?	No	First year of crash data:	
	Project-level crash data available?	No	Last year of crash data:	
Ramp segments	Segment crash data available?	No	First year of crash data:	
	Project-level crash data available?	No	Last year of crash data:	
Ramp terminals	Segment crash data available?	No	First year of crash data:	
	Project-level crash data available?	No	Last year of crash data:	

Estimated Crash Statistics

Crashes for Entire Facility	**Total**	**K**	**A**	**B**	**C**	**PDO**
Estimated number of crashes during Study Period, crashes:	138.5	0.6	3.8	18.9	34.0	81.3
Estimated average crash freq. during Study Period, crashes/yr:	27.7	0.1	0.8	3.8	6.8	16.3

Crashes by Facility Component	**Nbr. Sites**	**Total**	**K**	**A**	**B**	**C**	**PDO**
Freeway segments, crashes:	2	52.8	0.3	0.8	5.1	11.9	34.7
Ramp segments, crashes:	4	17.6	0.2	0.6	3.2	4.3	9.3
Crossroad ramp terminals, crashes:	2	68.1	0.1	2.4	10.5	17.8	37.3

Crashes for Entire Facility by Year	**Year**	**Total**	**K**	**A**	**B**	**C**	**PDO**
Estimated number of crashes during the Study Period, crashes:	2011	26.5	0.1	0.7	3.6	6.6	15.4
	2012	27.1	0.1	0.7	3.7	6.7	15.8
	2013	27.7	0.1	0.8	3.8	6.8	16.2
	2014	28.3	0.1	0.8	3.8	6.9	16.7
	2015	29.0	0.1	0.8	3.9	7.0	17.1
	2016						
	2017						
	2018						
	2019						
	2020						
	2021						
	2022						
	2023						
	2024						
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	2032						
	2033						
	2034						

Distribution of Crashes for Entire Facility

Crash Type	**Crash Type Category**	**Estimated Number of Crashes During the Study Period**					
		Total	**K**	**A**	**B**	**C**	**PDO**
Multiple vehicle	Head-on crashes:	0.8	0.0	0.0	0.1	0.3	0.3
	Right-angle crashes:	17.1	0.0	0.6	2.9	4.9	8.7
	Rear-end crashes:	70.0	0.2	2.0	9.7	18.2	39.9
	Sideswipe crashes:	17.1	0.0	0.2	1.2	2.4	13.2
	Other multiple-vehicle crashes:	2.2	0.0	0.0	0.2	0.5	1.5
	Total multiple-vehicle crashes:	107.2	0.3	2.9	14.1	26.2	63.6
Single vehicle	Crashes with animal:	0.2	0.0	0.0	0.0	0.0	0.2
	Crashes with fixed object:	23.5	0.2	0.6	3.4	5.5	13.9
	Crashes with other object:	1.6	0.0	0.0	0.1	0.2	1.2
	Crashes with parked vehicle:	0.5	0.0	0.0	0.1	0.1	0.3
	Other single-vehicle crashes	5.4	0.1	0.2	1.2	1.9	2.1
	Total single-vehicle crashes:	31.3	0.3	0.9	4.8	7.7	17.7
	Total crashes:	138.5	0.6	3.8	18.9	34.0	81.3

Input Worksheet for Freeway Segments

Clear | Echo Input Values (View results in Column AV) | Check Input Values (View results in Advisory Messages)

		Segment 1 Study Period	Segment 2 Study Period	Segment 3 Study Period
Basic Roadway Data				
Number of through lanes (n):		4		
Freeway segment description:		Colorado MP 137.97-MP 138.4		
Segment length (L), mi:		0.43		
Alignment Data				
Horizontal Curve Data ←See note				
1	Horizontal curve in segment?:	No	No	No
	Curve radius (R_1), ft:			
	Length of curve (L_{c1}), mi:			
	Length of curve in segment ($L_{c1,seg}$), mi:			
2	Horizontal curve in segment?:			
	Curve radius (R_2), ft:			
	Length of curve (L_{c2}), mi:			
	Length of curve in segment ($L_{c2,seg}$), mi:			
3	Horizontal curve in segment?:			
	Curve radius (R_3), ft:			
	Length of curve (L_{c3}), mi:			
	Length of curve in segment ($L_{c3,seg}$), mi:			
Cross Section Data				
Lane width (W_l), ft:		12		
Outside shoulder width (W_s), ft:		6		
Inside shoulder width (W_{is}), ft:		2		
Median width (W_m), ft:		14		
Rumble strips on outside shoulders?:		No		No
	Length of rumble strips for travel in increasing milepost direction, mi:			
	Length of rumble strips for travel in decreasing milepost direction, mi:			
Rumble strips on inside shoulders?:		No	No	No
	Length of rumble strips for travel in increasing milepost direction, mi:			
	Length of rumble strips for travel in decreasing milepost direction, mi:			
Presence of barrier in median:		None	None	None
1	Length of barrier ($L_{ib,1}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,in,1}$), ft:			
2	Length of barrier ($L_{ib,2}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,in,2}$), ft:			
3	Length of barrier ($L_{ib,3}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,in,3}$), ft:			
4	Length of barrier ($L_{ib,4}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,in,4}$), ft:			
5	Length of barrier ($L_{ib,5}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,in,5}$), ft:			
Median barrier width (W_{ib}), ft:				
Nearest distance from edge of traveled way to barrier face (W_{near}), ft:				

Roadside Data				
Clear zone width (W_{hc}), ft:		30		
Presence of barrier on roadside:		Some		None
1	Length of barrier ($L_{ob,1}$), mi:	0.24		
	Distance from edge of traveled way to barrier face ($W_{off,o,1}$), ft:	6		
2	Length of barrier ($L_{ob,2}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,o,2}$), ft:			
3	Length of barrier ($L_{ob,3}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,o,3}$), ft:			
4	Length of barrier ($L_{ob,4}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,o,4}$), ft:			
5	Length of barrier ($L_{ob,5}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,o,5}$), ft:			
Distance from edge of traveled way to barrier face, increasing milepost ($W_{off,inc}$), ft:				
Distance from edge of traveled way to barrier face, decreasing milepost ($W_{off,dec}$), ft:				
Ramp Access Data				
Travel in Increasing Milepost Direction				
Entrance Ramp	Ramp entrance in segment? (If yes, indicate type.):	S-C Lane	No	No
	Distance from begin milepost to upstream entrance ramp gore ($X_{b,ent}$), mi:			0
	Length of ramp entrance ($L_{en,inc}$), mi:	0.25		
	Length of ramp entrance in segment ($L_{en,seg,inc}$), mi:	0.25		
	Entrance side?:	Right		
Exit Ramp	Ramp exit in segment? (If yes, indicate type.):	S-C Lane	No	No
	Distance from end milepost to downstream exit ramp gore ($X_{e,ext}$), mi:			0
	Length of ramp exit ($L_{ex,inc}$), mi:	0.04		
	Length of ramp exit in segment ($L_{ex,seg,inc}$), mi:	0.04		
	Exit side?:	Right		
Weave	Type B weave in segment?:	No	No	No
	Length of weaving section ($L_{wev,inc}$), mi:			
	Length of weaving section in segment ($L_{wev,seg,inc}$), mi:			
Travel in Decreasing Milepost Direction				
Entrance Ramp	Ramp entrance in segment? (If yes, indicate type.):	S-C Lane	No	No
	Distance from end milepost to upstream entrance ramp gore ($X_{e,ent}$), mi:		0	0
	Length of ramp entrance ($L_{en,dec}$), mi:	0.1		
	Length of ramp entrance in segment ($L_{en,seg,dec}$), mi:	0.1		
	Entrance side?:	Right		
Exit Ramp	Ramp exit in segment? (If yes, indicate type.):	S-C Lane	No	No
	Distance from begin milepost to downstream exit ramp gore ($X_{b,ext}$), mi:			0
	Length of ramp exit ($L_{ex,dec}$), mi:	0.07		
	Length of ramp exit in segment ($L_{ex,seg,dec}$), mi:	0.07		
	Exit side?:	Right		
Weave	Type B weave in segment?:	No	No	No
	Length of weaving section ($L_{wev,dec}$), mi:			
	Length of weaving section in segment ($L_{wev,seg,dec}$), mi:			
Traffic Data	**Year**			
Proportion of AADT during high-volume hours (P_{hv}):				0

Freeway Segment Data	2011	44846		
Average daily traffic ($AADT_{fs}$) by year, veh/d:	2012	45761		
(enter data only for those years for which	2013	46695		
it is available, leave other years blank)	2014	47648		
	2015	**48620**		
	2016			
	2017			
	2018			
	2019			
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	2021			
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Entrance Ramp Data for Travel in Increasing Milepost Dir.	**Year**			
Average daily traffic ($AADT_{b,ent}$) by year, veh/d:	2011	4464		
(enter data only for those years for which	2012	4555		
it is available, leave other years blank)	2013	4648		
	2014	4743		
	2015	**4840**		
	2016			
	2017			
	2018			
	2019			
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	2033			
	2034			
Exit Ramp Data for Travel in Increasing Milepost Direction	**Year**			
Average daily traffic ($AADT_{e,ext}$) by year, veh/d:	2011	6139		

(enter data only for those years for which it is available, leave other years blank)	2012	6264		
	2013	6392		
	2014	6522		
	2015	**6655**		
	2016			
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	2022			
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	2025			
	2026			
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	2032			
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	2034			
Entrance Ramp Data for Travel in Decreasing Milepost Dir.	**Year**			
Average daily traffic ($AADT_{e,ent}$) by year, veh/d:	2011	11059		
(enter data only for those years for which it is available, leave other years blank)	2012	11285		
	2013	11515		
	2014	11750		
	2015	**11990**		
	2016			
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	2033			
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Exit Ramp Data for Travel in Decreasing Milepost Direction	**Year**			
Average daily traffic ($AADT_{b,ext}$) by year, veh/d:	2011	2081		
(enter data only for those years for which	2012	2123		

it is available, leave other years blank)

2013	2166		
2014	2210		
2015	**2255**		
2016			
2017			
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Input Worksheet for Ramp Segments

Clear | Echo Input Values (View results in Column CJ) | Check Input Values (View results in Advisory Messages)

		Segment 1 Study Period	Segment 2 Study Period	Segment 3 Study Period	Segment 4 Study Period
Basic Roadway Data					
	Number of through lanes (n):	1	1	1	1
	Ramp segment description:	NB on ramp	NB off ramp	SB on ramp	SB off ramp
	Segment length (L), mi:	0.17	0.14	0.11	0.13
	Average traffic speed on the freeway (V_{frwy}), mi/h:	50	50	50	50
	Segment type (ramp or collector-distributor road):	Entrance	Exit	Entrance	Exit
	Type of control at crossroad ramp terminal:	Stop	Stop	Signal	Signal
Alignment Data					
Horizontal Curve Data	← See notes →				
1	Horizontal curve?:	In Seg.	In Seg.	In Seg.	No
	Curve radius (R_1), ft:	380	105	100	
	Length of curve (L_{c1}), mi:	0.06	0.05	0.04	
	Length of curve in segment ($L_{c1,seg}$), mi:	0.06	0.05	0.04	
	Ramp-mile of beginning of curve in direction of travel (X_1), mi:	0.03	0	0.08	
2	Horizontal curve?:	No	In Seg.	No	
	Curve radius (R_2), ft:		380		
	Length of curve (L_{c2}), mi:		0.06		
	Length of curve in segment ($L_{c2,seg}$), mi:		0.06		
	Ramp-mile of beginning of curve in direction of travel (X_2), mi:		0.05		
3	Horizontal curve?:		No		
	Curve radius (R_3), ft:				
	Length of curve (L_{c3}), mi:				
	Length of curve in segment ($L_{c3,seg}$), mi:				
	Ramp-mile of beginning of curve in direction of travel (X_3), mi:				
4	Horizontal curve?:				
	Curve radius (R_4), ft:				
	Length of curve (L_{c4}), mi:				
	Length of curve in segment ($L_{c4,seg}$), mi:				
	Ramp-mile of beginning of curve in direction of travel (X_4), mi:				
5	Horizontal curve?:				
	Curve radius (R_5), ft:				
	Length of curve (L_{c5}), mi:				
	Length of curve in segment ($L_{c5,seg}$), mi:				
	Ramp-mile of beginning of curve in direction of travel (X_5), mi:				
Cross Section Data					
	Lane width (W_l), ft:	12	12	12	12
	Right shoulder width (W_{rs}), ft:	5	5	5	5
	Left shoulder width (W_{ls}), ft:	4	4	4	4
	Presence of lane add or lane drop by taper:	No	No	No	No
	Length of taper in segment ($L_{add,seg}$ or $L_{drop,seg}$), mi:				
Roadside Data					
	Presence of barrier on <u>right</u> side of roadway:	No	No	No	No
1	Length of barrier ($L_{rb,1}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,r,1}$), ft:				

2	Length of barrier ($L_{rb,2}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,r,2}$), ft:				
3	Length of barrier ($L_{rb,3}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,r,3}$), ft:				
4	Length of barrier ($L_{rb,4}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,r,4}$), ft:				
5	Length of barrier ($L_{rb,5}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,r,5}$), ft:				
Presence of barrier on left side of roadway:		No	No	No	No
1	Length of barrier ($L_{lb,1}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,l,1}$), ft:				
2	Length of barrier ($L_{lb,2}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,l,2}$), ft:				
3	Length of barrier ($L_{lb,3}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,l,3}$), ft:				
4	Length of barrier ($L_{lb,4}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,l,4}$), ft:				
5	Length of barrier ($L_{lb,5}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,l,5}$), ft:				
Ramp Access Data ← See note					
Ramp Entrance	Ramp entrance in segment? (If yes, indicate type.):	No	No	No	No
	Length of entrance s-c lane in segment ($L_{en,seg}$), mi:				
Ramp Exit	Ramp exit in segment? (If yes, indicate type.):	No	No	No	No
	Length of exit s-c lane in segment ($L_{ex,seg}$), mi:				
Weaving Section	Weave section in collector-distributor road segment?:				
	Length of weaving section (L_{wev}), mi:				
	Length of weaving section in segment ($L_{wev,seg}$), mi:				

Traffic Data	**Year**				
Average daily traffic ($AADT_r$ or $AADT_c$) by year, veh/d:	2011	11059	2081	4464	6139
(enter data only for those years for which	2012	11285	2123	4555	6264
it is available, leave other years blank)	2013	11515	2166	4648	6392
	2014	11750	2210	4743	6522
	2015	11990	2255	4840	6655
	2016				
	2017				
	2018				
	2019				
	2020				
	2021				
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Input Worksheet for Crossroad Ramp Terminals

Clear | Echo Input Values (View results in Column T) | Check Input Values (View results in Advisory Messages)

			Terminal 1 Study Period	Terminal 2 Study Period
Basic Intersection Data				
Ramp terminal configuration:			B2	A2
Ramp terminal description:			NB	SB
Ramp terminal traffic control type:			Signal	Signal
Is a non-ramp public street leg present at the terminal (I_{ps})?:			Yes	Yes
Alignment Data				
Exit ramp skew angle (I_{sk}), degrees:				
Distance to the next public street intersection on the outside crossroad leg (L_{str}), mi:			0.09	0.12
Distance to the adjacent ramp terminal (L_{rmp}), mi:			0.13	0.13
Traffic Control				
Left-Turn Operational Mode				
Crossroad	Inside approach	Protected-only mode ($I_{p,lt,in}$)?:	Yes	No
	Outside approach	Protected-only mode ($I_{p,lt,out}$)?:	Yes	No
Right-Turn Control Type				
Ramp	Exit ramp approach	Right-turn control type:	Signal	Signal
Cross Section Data				
Crossroad median width (W_m), ft:			12	12
Number of Lanes				
Crossroad	Both approaches	Lanes serving through vehicles (n_{th}):	2	2
	Inside approach	Lanes serving through vehicles ($n_{th,in}$):	1	1
	Outside approach	Lanes serving through vehicles ($n_{th,out}$):	1	1
Ramp	Exit ramp approach	All lanes (n_{ex}):	2	2
Right-Turn Channelization		see note: →		
Crossroad	Inside approach	Channelization present ($I_{ch,in}$)?:	No	No
	Outside approach	Channelization present ($I_{ch,out}$)?:	No	No
Ramp	Exit ramp approach	Channelization present ($I_{ch,ex}$)?:	No	No
Left-Turn Lane or Bay				
Crossroad	Inside approach	Lane or bay present ($I_{bay,lt,in}$)?:	Yes	No
		Width of lane or bay ($W_{b,in}$), ft:	12	
	Outside approach	Lane or bay present ($I_{bay,lt,out}$)?:	No	No
		Width of lane or bay ($W_{b,out}$), ft:		
Right-Turn Lane or Bay				
Crossroad	Inside approach	Lane or bay present ($I_{bay,rt,in}$)?:	No	No
	Outside approach	Lane or bay present ($I_{bay,rt,out}$)?:	Yes	No
Access Data				
Number of driveways on the outside crossroad leg (n_{dw}):			2	0
Number of public street approaches on the outside crossroad leg (n_{ps}):				
Traffic Data		**Year**		
Inside Crossroad Leg Data		2011	15219	15219
Average daily traffic ($AADT_{in}$) by year, veh/d:		2012	15530	15530
(enter data only for those years for which		2013	15847	15847
it is available, leave other years blank)		2014	16170	16170

	2015	**16500**	16500
	2016		
	2017		
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Outside Crossroad Leg Data	2011	8827	9386
Average daily traffic ($AADT_{out}$) by year, veh/d:	2012	9007	9578
(enter data only for those years for which	2013	9191	9773
it is available, leave other years blank)	2014	9379	9972
	2015	**9570**	**10175**
	2016		
	2017		
	2018		
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	2034		
Exit Ramp Data	2011	2357	6898
Average daily traffic ($AADT_{ex}$) by year, veh/d:	2012	2405	7039
(enter data only for those years for which	2013	2454	7183
it is available, leave other years blank)	2014	2504	7330
	2015	2555	7480
For a B4 terminal configuration, enter the AADT for the	2016		
diagonal exit ramp (not the loop exit ramp).	2017		

	2018		
	2019		
	2020		
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	2034		
Entrance Ramp Data	2011	10501	4635
Average daily traffic ($AADT_{en}$) by year, veh/d:	2012	10715	4635
(enter data only for those years for which	2013	10934	4635
it is available, leave other years blank)	2014	11157	4635
	2015	11385	4730
For an A4 terminal configuration, enter the AADT for the	2016		
diagonal entrance ramp (not the loop entrance ramp).	2017		
	2018		
	2019		
	2020		
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Output Summary

General Information

Project description:	Bend US 97 Parkway				
Analyst:	AMD	Date:	8/6/2018	Area type:	Urban
First year of analysis:	2011				
Last year of analysis:	2015				

Crash Data Description

Freeway segments	Segment crash data available?	No	First year of crash data:	
	Project-level crash data available?	No	Last year of crash data:	
Ramp segments	Segment crash data available?	No	First year of crash data:	
	Project-level crash data available?	No	Last year of crash data:	
Ramp terminals	Segment crash data available?	No	First year of crash data:	
	Project-level crash data available?	No	Last year of crash data:	

Estimated Crash Statistics

Crashes for Entire Facility	**Total**	**K**	**A**	**B**	**C**	**PDO**
Estimated number of crashes during Study Period, crashes:	112.6	0.5	3.2	15.3	27.2	66.3
Estimated average crash freq. during Study Period, crashes/yr:	22.5	0.1	0.6	3.1	5.4	13.3

Crashes by Facility Component	**Nbr. Sites**	**Total**	**K**	**A**	**B**	**C**	**PDO**
Freeway segments, crashes:	1	24.9	0.2	0.4	3.0	5.0	16.3
Ramp segments, crashes:	4	22.4	0.3	0.8	4.1	5.0	12.3
Crossroad ramp terminals, crashes:	2	65.4	0.1	2.0	8.3	17.3	37.7

Crashes for Entire Facility by Year	**Year**	**Total**	**K**	**A**	**B**	**C**	**PDO**
Estimated number of crashes during the Study Period, crashes:	2011	21.7	0.1	0.6	3.0	5.3	12.7
	2012	22.1	0.1	0.6	3.0	5.4	13.0
	2013	22.5	0.1	0.6	3.1	5.4	13.3
	2014	22.9	0.1	0.7	3.1	5.5	13.5
	2015	23.4	0.1	0.7	3.2	5.6	13.8
	2016						
	2017						
	2018						
	2019						
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	2021						
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Distribution of Crashes for Entire Facility

Crash Type	**Crash Type Category**	**Estimated Number of Crashes During the Study Period**					
		Total	**K**	**A**	**B**	**C**	**PDO**
Multiple vehicle	Head-on crashes:	0.6	0.0	0.0	0.1	0.2	0.3
	Right-angle crashes:	15.8	0.0	0.5	2.2	4.6	8.5
	Rear-end crashes:	49.8	0.1	1.5	6.7	13.3	28.2
	Sideswipe crashes:	11.1	0.0	0.1	0.7	1.3	8.8
	Other multiple-vehicle crashes:	1.5	0.0	0.0	0.2	0.3	1.1
	Total multiple-vehicle crashes:	78.9	0.2	2.2	9.9	19.7	46.9
Single vehicle	Crashes with animal:	0.2	0.0	0.0	0.0	0.0	0.2
	Crashes with fixed object:	25.6	0.2	0.7	3.8	5.3	15.5
	Crashes with other object:	1.5	0.0	0.0	0.1	0.2	1.2
	Crashes with parked vehicle:	0.5	0.0	0.0	0.1	0.1	0.3
	Other single-vehicle crashes	5.9	0.1	0.3	1.4	1.9	2.3
	Total single-vehicle crashes:	33.7	0.3	1.0	5.4	7.5	19.5
	Total crashes:	112.6	0.5	3.2	15.3	27.2	66.3

Input Worksheet for Freeway Segments

Clear | Echo Input Values (View results in Column AV) | Check Input Values (View results in Advisory Messages)

		Segment 1 Study Period	Segment 2 Study Period	Segment 3 Study Period
Basic Roadway Data				
	Number of through lanes (n):	4		
	Freeway segment description:	Reed Market MP 138.95-139.38		
	Segment length (L), mi:	0.43		
Alignment Data				
Horizontal Curve Data	← See note			
1	Horizontal curve in segment?:	No	No	No
	Curve radius (R_1), ft:			
	Length of curve (L_{c1}), mi:			
	Length of curve in segment ($L_{c1,seg}$), mi:			
2	Horizontal curve in segment?:			
	Curve radius (R_2), ft:			
	Length of curve (L_{c2}), mi:			
	Length of curve in segment ($L_{c2,seg}$), mi:			
3	Horizontal curve in segment?:			
	Curve radius (R_3), ft:			
	Length of curve (L_{c3}), mi:			
	Length of curve in segment ($L_{c3,seg}$), mi:			
Cross Section Data				
	Lane width (W_l), ft:	12		
	Outside shoulder width (W_s), ft:	6		
	Inside shoulder width (W_{is}), ft:	2		
	Median width (W_m), ft:	16		
	Rumble strips on outside shoulders?:	No	No	No
	Length of rumble strips for travel in increasing milepost direction, mi:			
	Length of rumble strips for travel in decreasing milepost direction, mi:			
	Rumble strips on inside shoulders?:	No	No	No
	Length of rumble strips for travel in increasing milepost direction, mi:			
	Length of rumble strips for travel in decreasing milepost direction, mi:			
	Presence of barrier in median:	None	None	None
1	Length of barrier ($L_{ib,1}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,in,1}$), ft:			
2	Length of barrier ($L_{ib,2}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,in,2}$), ft:			
3	Length of barrier ($L_{ib,3}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,in,3}$), ft:			
4	Length of barrier ($L_{ib,4}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,in,4}$), ft:			
5	Length of barrier ($L_{ib,5}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,in,5}$), ft:			
	Median barrier width (W_{ib}), ft:			

Nearest distance from edge of traveled way to barrier face (W_{near}), ft:				
Roadside Data				
Clear zone width (W_{hc}), ft:		30		
Presence of barrier on roadside:		Full	None	
1	Length of barrier ($L_{ob,1}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,o,1}$), ft:			
2	Length of barrier ($L_{ob,2}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,o,2}$), ft:			
3	Length of barrier ($L_{ob,3}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,o,3}$), ft:			
4	Length of barrier ($L_{ob,4}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,o,4}$), ft:			
5	Length of barrier ($L_{ob,5}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,o,5}$), ft:			
Distance from edge of traveled way to barrier face, increasing milepost ($W_{off,inc}$), ft:		20		
Distance from edge of traveled way to barrier face, decreasing milepost ($W_{off,dec}$), ft:		20		
Ramp Access Data				
Travel in Increasing Milepost Direction				
Entrance Ramp	Ramp entrance in segment? (If yes, indicate type.):	S-C Lane		
	Distance from begin milepost to upstream entrance ramp gore ($X_{b,ent}$), mi:			
	Length of ramp entrance ($L_{en,inc}$), mi:	0.06		
	Length of ramp entrance in segment ($L_{en,seg,inc}$), mi:	0.15		
	Entrance side?:	Right		
Exit Ramp	Ramp exit in segment? (If yes, indicate type.):	S-C Lane		
	Distance from end milepost to downstream exit ramp gore ($X_{e,ext}$), mi:			
	Length of ramp exit ($L_{ex,inc}$), mi:	0.1		
	Length of ramp exit in segment ($L_{ex,seg,inc}$), mi:	0.1		
	Exit side?:	Right		
Weave	Type B weave in segment?:	No	No	No
	Length of weaving section ($L_{wev,inc}$), mi:			
	Length of weaving section in segment ($L_{wev,seg,inc}$), mi:			
Travel in Decreasing Milepost Direction				
Entrance Ramp	Ramp entrance in segment? (If yes, indicate type.):	S-C Lane		
	Distance from end milepost to upstream entrance ramp gore ($X_{e,ent}$), mi:			
	Length of ramp entrance ($L_{en,dec}$), mi:	0.06		
	Length of ramp entrance in segment ($L_{en,seg,dec}$), mi:	0.12		
	Entrance side?:	Right		
Exit Ramp	Ramp exit in segment? (If yes, indicate type.):	No		
	Distance from begin milepost to downstream exit ramp gore ($X_{b,ext}$), mi:	0.43		
	Length of ramp exit ($L_{ex,dec}$), mi:			
	Length of ramp exit in segment ($L_{ex,seg,dec}$), mi:			
	Exit side?:			
Weave	Type B weave in segment?:	No	No	No
	Length of weaving section ($L_{wev,dec}$), mi:			
	Length of weaving section in segment ($L_{wev,seg,dec}$), mi:			
Traffic Data	**Year**			

Proportion of AADT during high-volume hours (P_{hv}):				0
Freeway Segment Data	2011	33686		
Average daily traffic ($AADT_{fs}$) by year, veh/d:	2012	34373		
(enter data only for those years for which	2013	35074		
it is available, leave other years blank)	2014	35790		
	2015	**36520**		
	2016			
	2017			
	2018			
	2019			
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Entrance Ramp Data for Travel in Increasing Milepost Dir.	**Year**			
Average daily traffic ($AADT_{b,ent}$) by year, veh/d:	2011	1369	0	
(enter data only for those years for which	2012	1397	0	
it is available, leave other years blank)	2013	1426	0	
	2014	1455	0	
	2015	**1485**	0	
	2016			
	2017			
	2018			
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Exit Ramp Data for Travel in Increasing Milepost Direction	**Year**			

Average daily traffic ($AADT_{e,ext}$) by year, veh/d:	2011	8928		0
(enter data only for those years for which	2012	9110		0
it is available, leave other years blank)	2013	9296		0
	2014	9486		0
	2015	**9680**		0
	2016			
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	2022			
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Entrance Ramp Data for Travel in Decreasing Milepost Dir.	**Year**			
Average daily traffic ($AADT_{e,ent}$) by year, veh/d:	2011	6697		0
(enter data only for those years for which	2012	6834		0
it is available, leave other years blank)	2013	6973		0
	2014	7115		0
	2015	**7260**		0
	2016			
	2017			
	2018			
	2019			
	2020			
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Exit Ramp Data for Travel in Decreasing Milepost Direction	**Year**			
Average daily traffic ($AADT_{b,ext}$) by year, veh/d:	2011	1116	0	

(enter data only for those years for which it is available, leave other years blank)

2012	1139	0	
2013	1162	0	
2014	1186	0	
2015	**1210**	0	
2016			
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Input Worksheet for Ramp Segments

Clear | Echo Input Values (View results in Column CJ) | Check Input Values (View results in Advisory Messages)

		Segment 1 Study Period	Segment 2 Study Period	Segment 3 Study Period	Segment 4 Study Period	Segment 5 Study Period
Basic Roadway Data						
Number of through lanes (n):		1	1	1	1	
Ramp segment description:		S1 NB on ran	SB On Ramp	S2 SB off ran	S3 NB off ramp	
Segment length (L), mi:		0.1	0.15	0.1	0.15	
Average traffic speed on the freeway (V_{frwy}), mi/h:		50	50	50	50	
Segment type (ramp or collector-distributor road):		Entrance	Entrance	Exit	Exit	
Type of control at crossroad ramp terminal:		Signal	Signal	Signal	Signal	
Alignment Data						
Horizontal Curve Data ← See notes →						
1	Horizontal curve?:	No	No	No	No	
	Curve radius (R_1), ft:					
	Length of curve (L_{c1}), mi:					
	Length of curve in segment ($L_{c1,seg}$), mi:					
	Ramp-mile of beginning of curve in direction of travel (X_1), mi:					
2	Horizontal curve?:					
	Curve radius (R_2), ft:					
	Length of curve (L_{c2}), mi:					
	Length of curve in segment ($L_{c2,seg}$), mi:					
	Ramp-mile of beginning of curve in direction of travel (X_2), mi:					
3	Horizontal curve?:					
	Curve radius (R_3), ft:					
	Length of curve (L_{c3}), mi:					
	Length of curve in segment ($L_{c3,seg}$), mi:					
	Ramp-mile of beginning of curve in direction of travel (X_3), mi:					
4	Horizontal curve?:					
	Curve radius (R_4), ft:					
	Length of curve (L_{c4}), mi:					
	Length of curve in segment ($L_{c4,seg}$), mi:					
	Ramp-mile of beginning of curve in direction of travel (X_4), mi:					
5	Horizontal curve?:					
	Curve radius (R_5), ft:					
	Length of curve (L_{c5}), mi:					
	Length of curve in segment ($L_{c5,seg}$), mi:					
	Ramp-mile of beginning of curve in direction of travel (X_5), mi:					
Cross Section Data						
Lane width (W_l), ft:		12	12	12	12	
Right shoulder width (W_{rs}), ft:		6	6	6	6	
Left shoulder width (W_{ls}), ft:		6	6	6	6	
Presence of lane add or lane drop by taper:		No	No	No	No	
	Length of taper in segment ($L_{add,seg}$ or $L_{drop,seg}$), mi:					
Roadside Data						
Presence of barrier on right side of roadway:		No	No	No	No	
1	Length of barrier ($L_{rb,1}$), mi:					
	Distance from edge of traveled way to barrier face ($W_{off,r,1}$), ft:					
2	Length of barrier ($L_{rb,2}$), mi:					
	Distance from edge of traveled way to barrier face ($W_{off,r,2}$), ft:					
3	Length of barrier ($L_{rb,3}$), mi:					
	Distance from edge of traveled way to barrier face ($W_{off,r,3}$), ft:					

4	Length of barrier ($L_{rb,4}$), mi:					
	Distance from edge of traveled way to barrier face ($W_{off,r,4}$), ft:					
5	Length of barrier ($L_{rb,5}$), mi:					
	Distance from edge of traveled way to barrier face ($W_{off,r,5}$), ft:					
Presence of barrier on left side of roadway:		No	No	No	No	No
1	Length of barrier ($L_{lb,1}$), mi:					
	Distance from edge of traveled way to barrier face ($W_{off,l,1}$), ft:					
2	Length of barrier ($L_{lb,2}$), mi:					
	Distance from edge of traveled way to barrier face ($W_{off,l,2}$), ft:					
3	Length of barrier ($L_{lb,3}$), mi:					
	Distance from edge of traveled way to barrier face ($W_{off,l,3}$), ft:					
4	Length of barrier ($L_{lb,4}$), mi:					
	Distance from edge of traveled way to barrier face ($W_{off,l,4}$), ft:					
5	Length of barrier ($L_{lb,5}$), mi:					
	Distance from edge of traveled way to barrier face ($W_{off,l,5}$), ft:					
Ramp Access Data	↖ See note					
Ramp Entrance	Ramp entrance in segment? (If yes, indicate type.):	No	No	No	No	No
	Length of entrance s-c lane in segment ($L_{en,seg}$), mi:					
Ramp Exit	Ramp exit in segment? (If yes, indicate type.):	No	No	No	No	No
	Length of exit s-c lane in segment ($L_{ex,seg}$), mi:					
Weaving Section	Weave section in collector-distributor road segment?:					
	Length of weaving section (L_{wev}), mi:					
	Length of weaving section in segment ($L_{wev,seg}$), mi:					

Traffic Data	**Year**					
Average daily traffic ($AADT_r$ or $AADT_c$) by year, veh/d:	2011	6697	1369	8928	1116	
(enter data only for those years for which it is available, leave other years blank)	2012	6834	1397	9110	1139	
	2013	6973	1426	9296	1162	
	2014	7115	1455	9486	1186	
	2015	7260	1485	9680	1210	
	2016					
	2017					
	2018					
	2019					
	2020					
	2021					
	2022					
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	2028					
	2029					
	2030					
	2031					
	2032					
	2033					
	2034					

Input Worksheet for Crossroad Ramp Terminals

Clear | Echo Input Values (View results in Column T) | Check Input Values (View results in Advisory Messages)

			Terminal 1 Study Period	Terminal 2 Study Period
Basic Intersection Data				
Ramp terminal configuration:			A2	A2
Ramp terminal description:			NB	SB
Ramp terminal traffic control type:			Signal	Signal
Is a non-ramp public street leg present at the terminal (I_{ps})?:			No	No
Alignment Data				
Exit ramp skew angle (I_{sk}), degrees:				
Distance to the next public street intersection on the outside crossroad leg (L_{str}), mi:			0.04	0.09
Distance to the adjacent ramp terminal (L_{rmp}), mi:			0.03	0.03
Traffic Control				
Left-Turn Operational Mode				
Crossroad	Inside approach	Protected-only mode ($I_{p,lt,in}$)?:		
	Outside approach	Protected-only mode ($I_{p,lt,out}$)?:	No	No
Right-Turn Control Type				
Ramp	Exit ramp approach	Right-turn control type:	Yield	Yield
Cross Section Data				
Crossroad median width (W_m), ft:			0	0
Number of Lanes				
Crossroad	Both approaches	Lanes serving through vehicles (n_{th}):	4	4
	Inside approach	Lanes serving through vehicles ($n_{th,in}$):	2	2
	Outside approach	Lanes serving through vehicles ($n_{th,out}$):	2	2
Ramp	Exit ramp approach	All lanes (n_{ex}):	2	3
Right-Turn Channelization		see note: →		
Crossroad	Inside approach	Channelization present ($I_{ch,in}$)?:	No	No
	Outside approach	Channelization present ($I_{ch,out}$)?:		
Ramp	Exit ramp approach	Channelization present ($I_{ch,ex}$)?:	Yes	Yes
Left-Turn Lane or Bay				
Crossroad	Inside approach	Lane or bay present ($I_{bay,lt,in}$)?:		
		Width of lane or bay ($W_{b,in}$), ft:		
	Outside approach	Lane or bay present ($I_{bay,lt,out}$)?:	Yes	Yes
		Width of lane or bay ($W_{b,out}$), ft:	12	12
Right-Turn Lane or Bay				
Crossroad	Inside approach	Lane or bay present ($I_{bay,rt,in}$)?:	Yes	Yes
	Outside approach	Lane or bay present ($I_{bay,rt,out}$)?:		
Access Data				
Number of driveways on the outside crossroad leg (n_{dw}):			2	0
Number of public street approaches on the outside crossroad leg (n_{ps}):			2	

Traffic Data	**Year**		
Inside Crossroad Leg Data	2011	19937	25011
Average daily traffic ($AADT_{in}$) by year, veh/d:	2012	20344	25521
(enter data only for those years for which	2013	20759	26042
it is available, leave other years blank)	2014	21183	26573

	2015	**21615**	27115
	2016		
	2017		
	2018		
	2019		
	2020		
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	2033		
	2034		
Outside Crossroad Leg Data	2011	27302	22372
Average daily traffic ($AADT_{out}$) by year, veh/d:	2012	27859	22829
(enter data only for those years for which	2013	28428	23295
it is available, leave other years blank)	2014	29008	23770
	2015	**29600**	**24255**
	2016		
	2017		
	2018		
	2019		
	2020		
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	2023		
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	2031		
	2032		
	2033		
	2034		
Exit Ramp Data	2011	0	0
Average daily traffic ($AADT_{ex}$) by year, veh/d:	2012	0	0
(enter data only for those years for which	2013	0	0
it is available, leave other years blank)	2014	0	0
	2015	**0**	**0**
For a B4 terminal configuration, enter the AADT for the	2016		
diagonal exit ramp (not the loop exit ramp).	2017		

		2018		
		2019		
		2020		
		2021		
		2022		
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		2032		
		2033		
		2034		
Entrance Ramp Data		2011	0	0
Average daily traffic ($AADT_{en}$) by year, veh/d:		2012	0	0
(enter data only for those years for which		2013	0	0
it is available, leave other years blank)		2014	0	0
		2015	**0**	**0**
For an A4 terminal configuration, enter the AADT for the		2016		
diagonal entrance ramp (not the loop entrance ramp).		2017		
		2018		
		2019		
		2020		
		2021		
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		2034		
Crash Data	**Year**		Ramp Terminal Crashe	
Count of Fatal-and-Injury (FI) Crashes by Year				
($N_{o,w,ac,at,fi}$)	2011			
	2012			
	2013			
	2014			
	2015			
Count of Property-Damage-Only (PDO) Crashes by Year				
($N_{o,w,ac,at,pdo}$)	2011			
	2012			

2013			
2014			
2015			

Output Summary

General Information

Project description:	Bend US 97 Parkway				
Analyst:	AMD	Date:	8/6/2018	Area type:	Urban
First year of analysis:	2011				
Last year of analysis:	2015				

Crash Data Description

Freeway segments	Segment crash data available?	No	First year of crash data:	
	Project-level crash data available?	No	Last year of crash data:	
Ramp segments	Segment crash data available?	No	First year of crash data:	
	Project-level crash data available?	No	Last year of crash data:	
Ramp terminals	Segment crash data available?	No	First year of crash data:	
	Project-level crash data available?	No	Last year of crash data:	

Estimated Crash Statistics

Crashes for Entire Facility	**Total**	**K**	**A**	**B**	**C**	**PDO**
Estimated number of crashes during Study Period, crashes:	22.2	0.2	0.4	2.8	5.1	13.6
Estimated average crash freq. during Study Period, crashes/yr:	4.4	0.0	0.1	0.6	1.0	2.7

Crashes by Facility Component	**Nbr. Sites**	**Total**	**K**	**A**	**B**	**C**	**PDO**
Freeway segments, crashes:	1	18.7	0.1	0.3	2.1	3.9	12.2
Ramp segments, crashes:	4	2.7	0.0	0.1	0.5	0.6	1.4
Crossroad ramp terminals, crashes:	2	0.8	0.0	0.0	0.2	0.5	0.0

Crashes for Entire Facility by Year	**Year**	**Total**	**K**	**A**	**B**	**C**	**PDO**
Estimated number of crashes during the Study Period, crashes:	2011	4.2	0.0	0.1	0.5	1.0	2.6
	2012	4.3	0.0	0.1	0.6	1.0	2.7
	2013	4.4	0.0	0.1	0.6	1.0	2.7
	2014	4.5	0.0	0.1	0.6	1.0	2.8
	2015	4.6	0.0	0.1	0.6	1.1	2.9
	2016						
	2017						
	2018						
	2019						
	2020						
	2021						
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	2029						
	2030						
	2031						
	2032						
	2033						
	2034						

Distribution of Crashes for Entire Facility

Crash Type	**Crash Type Category**	**Estimated Number of Crashes During the Study Period**					
		Total	**K**	**A**	**B**	**C**	**PDO**
Multiple vehicle	Head-on crashes:	0.0	0.0	0.0	0.0	0.0	0.0
	Right-angle crashes:	0.4	0.0	0.0	0.1	0.2	0.1
	Rear-end crashes:	8.5	0.1	0.2	1.1	2.1	5.1
	Sideswipe crashes:	2.9	0.0	0.0	0.2	0.4	2.1
	Other multiple-vehicle crashes:	0.3	0.0	0.0	0.0	0.1	0.2
	Total multiple-vehicle crashes:	12.1	0.1	0.2	1.4	2.8	7.6
Single vehicle	Crashes with animal:	0.1	0.0	0.0	0.0	0.0	0.1
	Crashes with fixed object:	7.4	0.1	0.2	1.0	1.7	4.5
	Crashes with other object:	0.9	0.0	0.0	0.1	0.1	0.7
	Crashes with parked vehicle:	0.1	0.0	0.0	0.0	0.0	0.1
	Other single-vehicle crashes	1.6	0.0	0.1	0.3	0.5	0.6
	Total single-vehicle crashes:	10.1	0.1	0.2	1.4	2.3	6.0
	Total crashes:	22.2	0.2	0.4	2.8	5.1	13.6

Input Worksheet for Freeway Segments

Clear | Echo Input Values (View results in Column AV) | Check Input Values (View results in Advisory Messages)

		Segment 1 Study Period	Segment 2 Study Period	Segment 3 Study Period
Basic Roadway Data				
Number of through lanes (n):		4		
Freeway segment description:		Murphy MP 140.95 (141.70)-MP 142.02		
Segment length (L), mi:		0.32		
Alignment Data				
Horizontal Curve Data ↖See note				
1	Horizontal curve in segment?:	No	No	No
	Curve radius (R_1), ft:			
	Length of curve (L_{c1}), mi:			
	Length of curve in segment ($L_{c1,seg}$), mi:			
2	Horizontal curve in segment?:			
	Curve radius (R_2), ft:			
	Length of curve (L_{c2}), mi:			
	Length of curve in segment ($L_{c2,seg}$), mi:			
3	Horizontal curve in segment?:			
	Curve radius (R_3), ft:			
	Length of curve (L_{c3}), mi:			
	Length of curve in segment ($L_{c3,seg}$), mi:			
Cross Section Data				
Lane width (W_l), ft:		12		
Outside shoulder width (W_s), ft:		7		
Inside shoulder width (W_{is}), ft:		2		
Median width (W_m), ft:		14		
Rumble strips on outside shoulders?:		No		No
	Length of rumble strips for travel in increasing milepost direction, mi:			
	Length of rumble strips for travel in decreasing milepost direction, mi:			
Rumble strips on inside shoulders?:		No	No	No
	Length of rumble strips for travel in increasing milepost direction, mi:			
	Length of rumble strips for travel in decreasing milepost direction, mi:			
Presence of barrier in median:		Center	None	None
1	Length of barrier ($L_{ib,1}$), mi:	0.32		
	Distance from edge of traveled way to barrier face ($W_{off,in,1}$), ft:	6		
2	Length of barrier ($L_{ib,2}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,in,2}$), ft:			
3	Length of barrier ($L_{ib,3}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,in,3}$), ft:			
4	Length of barrier ($L_{ib,4}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,in,4}$), ft:			
5	Length of barrier ($L_{ib,5}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,in,5}$), ft:			
Median barrier width (W_{ib}), ft:		2		
Nearest distance from edge of traveled way to barrier face (W_{near}), ft:				

Roadside Data				
Clear zone width (W_{hc}), ft:		30		
Presence of barrier on roadside:		None		None
1	Length of barrier ($L_{ob,1}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,o,1}$), ft:			
2	Length of barrier ($L_{ob,2}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,o,2}$), ft:			
3	Length of barrier ($L_{ob,3}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,o,3}$), ft:			
4	Length of barrier ($L_{ob,4}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,o,4}$), ft:			
5	Length of barrier ($L_{ob,5}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,o,5}$), ft:			
Distance from edge of traveled way to barrier face, increasing milepost ($W_{off,inc}$), ft:				
Distance from edge of traveled way to barrier face, decreasing milepost ($W_{off,dec}$), ft:				
Ramp Access Data				
Travel in Increasing Milepost Direction				
Entrance Ramp	Ramp entrance in segment? (If yes, indicate type.):	S-C Lane	No	No
	Distance from begin milepost to upstream entrance ramp gore ($X_{b,ent}$), mi:			0
	Length of ramp entrance ($L_{en,inc}$), mi:	0.14		
	Length of ramp entrance in segment ($L_{en,seg,inc}$), mi:	0.14		
	Entrance side?:	Right		
Exit Ramp	Ramp exit in segment? (If yes, indicate type.):	**S-C Lane**	No	No
	Distance from end milepost to downstream exit ramp gore ($X_{e,ext}$), mi:			0
	Length of ramp exit ($L_{ex,inc}$), mi:	**0.07**		
	Length of ramp exit in segment ($L_{ex,seg,inc}$), mi:	**0.07**		
	Exit side?:	Right		
Weave	Type B weave in segment?:	No	No	No
	Length of weaving section ($L_{wev,inc}$), mi:			
	Length of weaving section in segment ($L_{wev,seg,inc}$), mi:			
Travel in Decreasing Milepost Direction				
Entrance Ramp	Ramp entrance in segment? (If yes, indicate type.):	**S-C Lane**	No	No
	Distance from end milepost to upstream entrance ramp gore ($X_{e,ent}$), mi:		0	0
	Length of ramp entrance ($L_{en,dec}$), mi:	**0.07**		
	Length of ramp entrance in segment ($L_{en,seg,dec}$), mi:	**0.07**		
	Entrance side?:	Right		
Exit Ramp	Ramp exit in segment? (If yes, indicate type.):	S-C Lane	No	No
	Distance from begin milepost to downstream exit ramp gore ($X_{b,ext}$), mi:			0
	Length of ramp exit ($L_{ex,dec}$), mi:	0.03		
	Length of ramp exit in segment ($L_{ex,seg,dec}$), mi:	0.03		
	Exit side?:	Right		
Weave	Type B weave in segment?:	No	No	No
	Length of weaving section ($L_{wev,dec}$), mi:			
	Length of weaving section in segment ($L_{wev,seg,dec}$), mi:			
Traffic Data	**Year**			

Proportion of AADT during high-volume hours (P_{hv}):				0
Freeway Segment Data	2011	23842		
Average daily traffic ($AADT_{fs}$) by year, veh/d:	2012	24329		
(enter data only for those years for which	2013	24826		
it is available, leave other years blank)	2014	25333		
	2015	**25850**		
	2016			
	2017			
	2018			
	2019			
	2020			
	2021			
	2022			
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	2034			
Entrance Ramp Data for Travel in Increasing Milepost Dir.	**Year**			
Average daily traffic ($AADT_{b,ent}$) by year, veh/d:	2011	6544		
(enter data only for those years for which	2012	6678		
it is available, leave other years blank)	2013	6814		
	2014	6953		
	2015	**7095**		
	2016			
	2017			
	2018			
	2019			
	2020			
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	2034			
Exit Ramp Data for Travel in Increasing Milepost Direction	**Year**			

Average daily traffic ($AADT_{e,ext}$) by year, veh/d:	2011	1471		
(enter data only for those years for which	2012	1501		
it is available, leave other years blank)	2013	1532		
	2014	1563		
	2015	**1595**		
	2016			
	2017			
	2018			
	2019			
	2020			
	2021			
	2022			
	2023			
	2024			
	2025			
	2026			
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	2031			
	2032			
	2033			
	2034			
Entrance Ramp Data for Travel in Decreasing Milepost Dir.	**Year**			
Average daily traffic ($AADT_{e,ent}$) by year, veh/d:	2011	3196		
(enter data only for those years for which	2012	3261		
it is available, leave other years blank)	2013	3328		
	2014	3396		
	2015	**3465**		
	2016			
	2017			
	2018			
	2019			
	2020			
	2021			
	2022			
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	2034			
Exit Ramp Data for Travel in Decreasing Milepost Direction	**Year**			
Average daily traffic ($AADT_{b,ext}$) by year, veh/d:	2011	2182		

(enter data only for those years for which it is available, leave other years blank)

2012	2227		
2013	2272		
2014	2318		
2015	**2365**		
2016			
2017			
2018			
2019			
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Input Worksheet for Ramp Segments

Clear | Echo Input Values (View results in Column CJ) | Check Input Values (View results in Advisory Messages)

		Segment 1 Study Period	Segment 2 Study Period	Segment 3 Study Period	Segment 4 Study Period
Basic Roadway Data					
	Number of through lanes (n):	1	1		
	Ramp segment description:	NB off ramp	SB on ramp	**NB on ramp**	**SB off ramp**
	Segment length (L), mi:	0.12	0.15	**0.09**	**0.09**
	Average traffic speed on the freeway (V_{frwy}), mi/h:	50	50	**50**	**50**
	Segment type (ramp or collector-distributor road):	Exit	**Entrance**	**Entrance**	**Exit**
	Type of control at crossroad ramp terminal:	Yield	Yield	**Yield**	**Yield**
Alignment Data					
Horizontal Curve Data	← See notes →				
1	Horizontal curve?:	In Seg.	In Seg.	**No**	**No**
	Curve radius (R_1), ft:	125	100		
	Length of curve (L_{c1}), mi:	0.02	0.03		
	Length of curve in segment ($L_{c1,seg}$), mi:	0.02	0.03		
	Ramp-mile of beginning of curve in direction of travel (X_1), mi:	0.25	0.25		
2	Horizontal curve?:	No	No		
	Curve radius (R_2), ft:				
	Length of curve (L_{c2}), mi:				
	Length of curve in segment ($L_{c2,seg}$), mi:				
	Ramp-mile of beginning of curve in direction of travel (X_2), mi:				
3	Horizontal curve?:				
	Curve radius (R_3), ft:				
	Length of curve (L_{c3}), mi:				
	Length of curve in segment ($L_{c3,seg}$), mi:				
	Ramp-mile of beginning of curve in direction of travel (X_3), mi:				
4	Horizontal curve?:				
	Curve radius (R_4), ft:				
	Length of curve (L_{c4}), mi:				
	Length of curve in segment ($L_{c4,seg}$), mi:				
	Ramp-mile of beginning of curve in direction of travel (X_4), mi:				
5	Horizontal curve?:				
	Curve radius (R_5), ft:				
	Length of curve (L_{c5}), mi:				
	Length of curve in segment ($L_{c5,seg}$), mi:				
	Ramp-mile of beginning of curve in direction of travel (X_5), mi:				
Cross Section Data					
	Lane width (W_l), ft:	12	12	**12**	**12**
	Right shoulder width (W_{rs}), ft:	6	6	**6**	**6**
	Left shoulder width (W_{ls}), ft:	6	6	**6**	**6**
	Presence of lane add or lane drop by taper:	No	No	**No**	**No**
	Length of taper in segment ($L_{add,seg}$ or $L_{drop,seg}$), mi:				
Roadside Data					
	Presence of barrier on <u>right</u> side of roadway:	No	Yes	**No**	**No**
1	Length of barrier ($L_{rb,1}$), mi:		0.06		
	Distance from edge of traveled way to barrier face ($W_{off,r,1}$), ft:		6		

2	Length of barrier ($L_{rb,2}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,r,2}$), ft:				
3	Length of barrier ($L_{rb,3}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,r,3}$), ft:				
4	Length of barrier ($L_{rb,4}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,r,4}$), ft:				
5	Length of barrier ($L_{rb,5}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,r,5}$), ft:				
Presence of barrier on left side of roadway:		Yes	Yes	**No**	**No**
1	Length of barrier ($L_{lb,1}$), mi:	0.08	0.1		
	Distance from edge of traveled way to barrier face ($W_{off,l,1}$), ft:	2	6		
2	Length of barrier ($L_{lb,2}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,l,2}$), ft:				
3	Length of barrier ($L_{lb,3}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,l,3}$), ft:				
4	Length of barrier ($L_{lb,4}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,l,4}$), ft:				
5	Length of barrier ($L_{lb,5}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,l,5}$), ft:				
Ramp Access Data	↖ See note				
Ramp Entrance	Ramp entrance in segment? (If yes, indicate type.):	No	No	No	No
	Length of entrance s-c lane in segment ($L_{en,seg}$), mi:				
Ramp Exit	Ramp exit in segment? (If yes, indicate type.):	No	No	No	No
	Length of exit s-c lane in segment ($L_{ex,seg}$), mi:				
Weaving Section	Weave section in collector-distributor road segment?:				
	Length of weaving section (L_{wev}), mi:				
	Length of weaving section in segment ($L_{wev,seg}$), mi:				

Traffic Data	**Year**				
Average daily traffic ($AADT_r$ or $AADT_c$) by year, veh/d:	2011	2182	6544	3196	1471
(enter data only for those years for which	2012	2227	6678	3261	1501
it is available, leave other years blank)	2013	2272	6814	3328	1532
	2014	2318	6953	3396	1563
	2015	2365	7095	3465	1595
	2016				
	2017				
	2018				
	2019				
	2020				
	2021				
	2022				
	2023				
	2024				
	2025				
	2026				
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	2029				
	2030				
	2031				
	2032				

2033				
2034				

Output Summary

General Information

Project description:	Bend US 97 Parkway				
Analyst:	AMD	Date:	9/4/2019	Area type:	Urban
First year of analysis:	2011				
Last year of analysis:	2015				

Crash Data Description

Freeway segments	Segment crash data available?	No	First year of crash data:	
	Project-level crash data available?	No	Last year of crash data:	
Ramp segments	Segment crash data available?	No	First year of crash data:	
	Project-level crash data available?	No	Last year of crash data:	
Ramp terminals	Segment crash data available?	No	First year of crash data:	
	Project-level crash data available?	No	Last year of crash data:	

Estimated Crash Statistics

Crashes for Entire Facility	**Total**	**K**	**A**	**B**	**C**	**PDO**
Estimated number of crashes during Study Period, crashes:	25.2	0.2	0.5	3.6	5.8	15.1
Estimated average crash freq. during Study Period, crashes/yr:	5.0	0.0	0.1	0.7	1.2	3.0

Crashes by Facility Component	**Nbr. Sites**	**Total**	**K**	**A**	**B**	**C**	**PDO**
Freeway segments, crashes:	1	9.5	0.1	0.2	1.1	2.1	6.1
Ramp segments, crashes:	4	15.7	0.1	0.4	2.4	3.7	9.0
Crossroad ramp terminals, crashes:	0	0.0	0.0	0.0	0.0	0.0	0.0

Crashes for Entire Facility by Year	**Year**	**Total**	**K**	**A**	**B**	**C**	**PDO**
Estimated number of crashes during the Study Period, crashes:	2011	4.9	0.0	0.1	0.7	1.1	2.9
	2012	5.0	0.0	0.1	0.7	1.1	3.0
	2013	5.0	0.0	0.1	0.7	1.2	3.0
	2014	5.1	0.0	0.1	0.7	1.2	3.1
	2015	5.2	0.0	0.1	0.7	1.2	3.1
	2016						
	2017						
	2018						
	2019						
	2020						
	2021						
	2022						
	2023						
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	2031						
	2032						
	2033						
	2034						

Distribution of Crashes for Entire Facility

Crash Type	**Crash Type Category**	**Estimated Number of Crashes During the Study Period**					
		Total	**K**	**A**	**B**	**C**	**PDO**
Multiple vehicle	Head-on crashes:	0.0	0.0	0.0	0.0	0.0	0.0
	Right-angle crashes:	0.1	0.0	0.0	0.0	0.0	0.1
	Rear-end crashes:	4.7	0.0	0.1	0.6	1.1	2.9
	Sideswipe crashes:	1.6	0.0	0.0	0.1	0.3	1.2
	Other multiple-vehicle crashes:	0.3	0.0	0.0	0.0	0.1	0.1
	Total multiple-vehicle crashes:	6.8	0.0	0.1	0.8	1.5	4.3
Single vehicle	Crashes with animal:	0.1	0.0	0.0	0.0	0.0	0.1
	Crashes with fixed object:	14.2	0.1	0.3	2.0	3.1	8.7
	Crashes with other object:	0.7	0.0	0.0	0.1	0.1	0.6
	Crashes with parked vehicle:	0.2	0.0	0.0	0.0	0.1	0.1
	Other single-vehicle crashes	3.2	0.0	0.1	0.7	1.1	1.3
	Total single-vehicle crashes:	18.4	0.1	0.4	2.7	4.3	10.8
	Total crashes:	25.2	0.2	0.5	3.6	5.8	15.1

Input Worksheet for Freeway Segments

Clear | Echo Input Values (View results in Column AV) | Check Input Values (View results in Advisory Messages)

		Segment 1 Study Period	Segment 2 Study Period	Segment 3 Study Period
Basic Roadway Data				
Number of through lanes (n):		4		
Freeway segment description:		Powers MP 139.85-MP 140.08		
Segment length (L), mi:		0.95		
Alignment Data				
Horizontal Curve Data ←See note				
1	Horizontal curve in segment?:	No	No	No
	Curve radius (R_1), ft:			
	Length of curve (L_{c1}), mi:			
	Length of curve in segment ($L_{c1,seg}$), mi:			
2	Horizontal curve in segment?:			
	Curve radius (R_2), ft:			
	Length of curve (L_{c2}), mi:			
	Length of curve in segment ($L_{c2,seg}$), mi:			
3	Horizontal curve in segment?:			
	Curve radius (R_3), ft:			
	Length of curve (L_{c3}), mi:			
	Length of curve in segment ($L_{c3,seg}$), mi:			
Cross Section Data				
Lane width (W_l), ft:		12		
Outside shoulder width (W_s), ft:		6		
Inside shoulder width (W_{is}), ft:		2		
Median width (W_m), ft:		14		
Rumble strips on outside shoulders?:		No		No
	Length of rumble strips for travel in increasing milepost direction, mi:			
	Length of rumble strips for travel in decreasing milepost direction, mi:			
Rumble strips on inside shoulders?:		No	No	No
	Length of rumble strips for travel in increasing milepost direction, mi:			
	Length of rumble strips for travel in decreasing milepost direction, mi:			
Presence of barrier in median:		None	None	None
1	Length of barrier ($L_{ib,1}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,in,1}$), ft:			
2	Length of barrier ($L_{ib,2}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,in,2}$), ft:			
3	Length of barrier ($L_{ib,3}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,in,3}$), ft:			
4	Length of barrier ($L_{ib,4}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,in,4}$), ft:			
5	Length of barrier ($L_{ib,5}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,in,5}$), ft:			
Median barrier width (W_{ib}), ft:				
Nearest distance from edge of traveled way to barrier face (W_{near}), ft:				

Roadside Data				
Clear zone width (W_{hc}), ft:		30		
Presence of barrier on roadside:		Some		None
1	Length of barrier ($L_{ob,1}$), mi:	0.24		
	Distance from edge of traveled way to barrier face ($W_{off,o,1}$), ft:	6		
2	Length of barrier ($L_{ob,2}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,o,2}$), ft:			
3	Length of barrier ($L_{ob,3}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,o,3}$), ft:			
4	Length of barrier ($L_{ob,4}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,o,4}$), ft:			
5	Length of barrier ($L_{ob,5}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,o,5}$), ft:			
Distance from edge of traveled way to barrier face, increasing milepost ($W_{off,inc}$), ft:				
Distance from edge of traveled way to barrier face, decreasing milepost ($W_{off,dec}$), ft:				
Ramp Access Data				
Travel in Increasing Milepost Direction				
Entrance Ramp	Ramp entrance in segment? (If yes, indicate type.):	S-C Lane	No	No
	Distance from begin milepost to upstream entrance ramp gore ($X_{b,ent}$), mi:			0
	Length of ramp entrance ($L_{en,inc}$), mi:	0.04		
	Length of ramp entrance in segment ($L_{en,seg,inc}$), mi:	0.04		
	Entrance side?:	Right		
Exit Ramp	Ramp exit in segment? (If yes, indicate type.):	No	No	No
	Distance from end milepost to downstream exit ramp gore ($X_{e,ext}$), mi:	0		0
	Length of ramp exit ($L_{ex,inc}$), mi:			
	Length of ramp exit in segment ($L_{ex,seg,inc}$), mi:			
	Exit side?:			
Weave	Type B weave in segment?:	No	No	No
	Length of weaving section ($L_{wev,inc}$), mi:			
	Length of weaving section in segment ($L_{wev,seg,inc}$), mi:			
Travel in Decreasing Milepost Direction				
Entrance Ramp	Ramp entrance in segment? (If yes, indicate type.):	S-C Lane	No	No
	Distance from end milepost to upstream entrance ramp gore ($X_{e,ent}$), mi:		0	0
	Length of ramp entrance ($L_{en,dec}$), mi:	0.04		
	Length of ramp entrance in segment ($L_{en,seg,dec}$), mi:	0.04		
	Entrance side?:	Right		
Exit Ramp	Ramp exit in segment? (If yes, indicate type.):	No	No	No
	Distance from begin milepost to downstream exit ramp gore ($X_{b,ext}$), mi:	0		0
	Length of ramp exit ($L_{ex,dec}$), mi:			
	Length of ramp exit in segment ($L_{ex,seg,dec}$), mi:			
	Exit side?:			
Weave	Type B weave in segment?:	No	No	No
	Length of weaving section ($L_{wev,dec}$), mi:			
	Length of weaving section in segment ($L_{wev,seg,dec}$), mi:			
Traffic Data	**Year**			
Proportion of AADT during high-volume hours (P_{hv}):				0

Freeway Segment Data	2011	26380		
Average daily traffic ($AADT_{fs}$) by year, veh/d:	2012	26918		
(enter data only for those years for which	2013	27467		
it is available, leave other years blank)	2014	28028		
	2015	**28600**		
	2016			
	2017			
	2018			
	2019			
	2020			
	2021			
	2022			
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	2024			
	2025			
	2026			
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	2034			
Entrance Ramp Data for Travel in Increasing Milepost Dir.	**Year**			
Average daily traffic ($AADT_{b,ent}$) by year, veh/d:	2011	1471		
(enter data only for those years for which	2012	1501		
it is available, leave other years blank)	2013	1532		
	2014	1563		
	2015	**1595**		
	2016			
	2017			
	2018			
	2019			
	2020			
	2021			
	2022			
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	2034			
Exit Ramp Data for Travel in Increasing Milepost Direction	**Year**			
Average daily traffic ($AADT_{e,ext}$) by year, veh/d:	2011	6544		

(enter data only for those years for which it is available, leave other years blank)	2012	6678		
	2013	6814		
	2014	6953		
	2015	**7095**		
	2016			
	2017			
	2018			
	2019			
	2020			
	2021			
	2022			
	2023			
	2024			
	2025			
	2026			
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	2031			
	2032			
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	2034			
Entrance Ramp Data for Travel in Decreasing Milepost Dir.	**Year**			
Average daily traffic ($AADT_{e,ent}$) by year, veh/d:	2011	3247		
(enter data only for those years for which it is available, leave other years blank)	2012	3313		
	2013	3381		
	2014	3450		
	2015	**3520**		
	2016			
	2017			
	2018			
	2019			
	2020			
	2021			
	2022			
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	2034			
Exit Ramp Data for Travel in Decreasing Milepost Direction	**Year**			
Average daily traffic ($AADT_{b,ext}$) by year, veh/d:	2011	660		
(enter data only for those years for which	2012	673		

it is available, leave other years blank)

2013	687		
2014	701		
2015	**715**		
2016			
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Input Worksheet for Ramp Segments

Clear | Echo Input Values (View results in Column CJ) | Check Input Values (View results in Advisory Messages)

		Segment 1 Study Period	Segment 2 Study Period	Segment 3 Study Period	Segment 4 Study Period
Basic Roadway Data					
Number of through lanes (n):		1	1	1	1
Ramp segment description:		NB on ramp	NB off ramp	SB on ramp	SB off ramp
Segment length (L), mi:		0.14	0.14	0.14	0.14
Average traffic speed on the freeway (V_{frwy}), mi/h:		50	50	50	50
Segment type (ramp or collector-distributor road):		Entrance	Exit	Entrance	Exit
Type of control at crossroad ramp terminal:		Signal	Signal	Signal	Signal
Alignment Data					
Horizontal Curve Data ← See notes →					
1	Horizontal curve?:	In Seg.	In Seg.	In Seg.	In Seg.
	Curve radius (R_1), ft:	150	150	150	150
	Length of curve (L_{c1}), mi:	0.05	0.05	0.05	0.05
	Length of curve in segment ($L_{c1,seg}$), mi:	0.05	0.05	0.05	0.05
	Ramp-mile of beginning of curve in direction of travel (X_1), mi:	0.05	0.05	0.05	0.05
2	Horizontal curve?:	No	No	No	No
	Curve radius (R_2), ft:				
	Length of curve (L_{c2}), mi:				
	Length of curve in segment ($L_{c2,seg}$), mi:				
	Ramp-mile of beginning of curve in direction of travel (X_2), mi:				
3	Horizontal curve?:				
	Curve radius (R_3), ft:				
	Length of curve (L_{c3}), mi:				
	Length of curve in segment ($L_{c3,seg}$), mi:				
	Ramp-mile of beginning of curve in direction of travel (X_3), mi:				
4	Horizontal curve?:				
	Curve radius (R_4), ft:				
	Length of curve (L_{c4}), mi:				
	Length of curve in segment ($L_{c4,seg}$), mi:				
	Ramp-mile of beginning of curve in direction of travel (X_4), mi:				
5	Horizontal curve?:				
	Curve radius (R_5), ft:				
	Length of curve (L_{c5}), mi:				
	Length of curve in segment ($L_{c5,seg}$), mi:				
	Ramp-mile of beginning of curve in direction of travel (X_5), mi:				
Cross Section Data					
Lane width (W_l), ft:		12	12	12	12
Right shoulder width (W_{rs}), ft:		6	6	6	6
Left shoulder width (W_{ls}), ft:		4	4	4	4
Presence of lane add or lane drop by taper:		No	No	No	No
	Length of taper in segment ($L_{add,seg}$ or $L_{drop,seg}$), mi:				
Roadside Data					
Presence of barrier on <u>right</u> side of roadway:		No	No	No	No
1	Length of barrier ($L_{rb,1}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,r,1}$), ft:				

2	Length of barrier ($L_{rb,2}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,r,2}$), ft:				
3	Length of barrier ($L_{rb,3}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,r,3}$), ft:				
4	Length of barrier ($L_{rb,4}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,r,4}$), ft:				
5	Length of barrier ($L_{rb,5}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,r,5}$), ft:				
Presence of barrier on left side of roadway:		No	No	No	No
1	Length of barrier ($L_{lb,1}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,l,1}$), ft:				
2	Length of barrier ($L_{lb,2}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,l,2}$), ft:				
3	Length of barrier ($L_{lb,3}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,l,3}$), ft:				
4	Length of barrier ($L_{lb,4}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,l,4}$), ft:				
5	Length of barrier ($L_{lb,5}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,l,5}$), ft:				
Ramp Access Data ← See note					
Ramp Entrance	Ramp entrance in segment? (If yes, indicate type.):	S-C Lane	No	S-C Lane	No
	Length of entrance s-c lane in segment ($L_{en,seg}$), mi:	0.04		0.04	
Ramp Exit	Ramp exit in segment? (If yes, indicate type.):	No	No	No	No
	Length of exit s-c lane in segment ($L_{ex,seg}$), mi:				
Weaving Section	Weave section in collector-distributor road segment?:				
	Length of weaving section (L_{wev}), mi:				
	Length of weaving section in segment ($L_{wev,seg}$), mi:				

Traffic Data	Year				
Average daily traffic ($AADT_r$ or $AADT_c$) by year, veh/d:	2011	3247	660	1471	6544
(enter data only for those years for which	2012	3313	673	1501	6678
it is available, leave other years blank)	2013	3381	687	1532	6814
	2014	3450	701	1563	6953
	2015	3520	715	1595	7095
	2016				
	2017				
	2018				
	2019				
	2020				
	2021				
	2022				
	2023				
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	2032				

2033				
2034				

Input Worksheet for Crossroad Ramp Terminals

Clear | Echo Input Values (View results in Column T) | Check Input Values (View results in Advisory Messages)

			Terminal 1 Study Period	Terminal 2 Study Period
Basic Intersection Data				
Ramp terminal configuration:			D4	D4
Ramp terminal description:			NB	SB
Ramp terminal traffic control type:			Signal	Signal
Is a non-ramp public street leg present at the terminal (I_{ps})?:			Yes	Yes
Alignment Data				
Exit ramp skew angle (I_{sk}), degrees:				
Distance to the next public street intersection on the outside crossroad leg (L_{str}), mi:			0.04	0.1
Distance to the adjacent ramp terminal (L_{rmp}), mi:			0.17	0.17
Traffic Control				
Left-Turn Operational Mode				
Crossroad	Inside approach	Protected-only mode ($I_{p,lt,in}$)?:	Yes	No
	Outside approach	Protected-only mode ($I_{p,lt,out}$)?:		
Right-Turn Control Type				
Ramp	Exit ramp approach	Right-turn control type:	Signal	Signal
Cross Section Data				
Crossroad median width (W_m), ft:			12	12
Number of Lanes				
Crossroad	Both approaches	Lanes serving through vehicles (n_{th}):	3	2
	Inside approach	Lanes serving through vehicles ($n_{th,in}$):	2	1
	Outside approach	Lanes serving through vehicles ($n_{th,out}$):	1	1
Ramp	Exit ramp approach	All lanes (n_{ex}):	2	2
Right-Turn Channelization		see note: →		
Crossroad	Inside approach	Channelization present ($I_{ch,in}$)?:		
	Outside approach	Channelization present ($I_{ch,out}$)?:	No	No
Ramp	Exit ramp approach	Channelization present ($I_{ch,ex}$)?:	No	No
Left-Turn Lane or Bay				
Crossroad	Inside approach	Lane or bay present ($I_{bay,lt,in}$)?:	No	Yes
		Width of lane or bay ($W_{b,in}$), ft:		12
	Outside approach	Lane or bay present ($I_{bay,lt,out}$)?:		
		Width of lane or bay ($W_{b,out}$), ft:		
Right-Turn Lane or Bay				
Crossroad	Inside approach	Lane or bay present ($I_{bay,rt,in}$)?:		
	Outside approach	Lane or bay present ($I_{bay,rt,out}$)?:	No	No
Access Data				
Number of driveways on the outside crossroad leg (n_{dw}):			0	0
Number of public street approaches on the outside crossroad leg (n_{ps}):			0	
Traffic Data		**Year**		
Inside Crossroad Leg Data		2011	14408	14408
Average daily traffic ($AADT_{in}$) by year, veh/d:		2012	14702	14702
(enter data only for those years for which		2013	15002	15002
it is available, leave other years blank)		2014	15308	15308

	2015	**15620**	15620
	2016		
	2017		
	2018		
	2019		
	2020		
	2021		
	2022		
	2023		
	2024		
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	2030		
	2031		
	2032		
	2033		
	2034		
Outside Crossroad Leg Data	2011	13139	15117
Average daily traffic ($AADT_{out}$) by year, veh/d:	2012	13407	15426
(enter data only for those years for which	2013	13681	15741
it is available, leave other years blank)	2014	13960	16062
	2015	**14245**	**16390**
	2016		
	2017		
	2018		
	2019		
	2020		
	2021		
	2022		
	2023		
	2024		
	2025		
	2026		
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	2028		
	2029		
	2030		
	2031		
	2032		
	2033		
	2034		
Exit Ramp Data	2011	660	6544
Average daily traffic ($AADT_{ex}$) by year, veh/d:	2012	673	6678
(enter data only for those years for which	2013	687	6814
it is available, leave other years blank)	2014	701	6953
	2015	715	7095
For a B4 terminal configuration, enter the AADT for the	2016		
diagonal exit ramp (not the loop exit ramp).	2017		

	2018		
	2019		
	2020		
	2021		
	2022		
	2023		
	2024		
	2025		
	2026		
	2027		
	2028		
	2029		
	2030		
	2031		
	2032		
	2033		
	2034		
Entrance Ramp Data	2011	3247	1471
Average daily traffic ($AADT_{en}$) by year, veh/d:	2012	3313	1501
(enter data only for those years for which	2013	3381	1532
it is available, leave other years blank)	2014	3450	1563
	2015	3520	1595
For an A4 terminal configuration, enter the AADT for the	2016		
diagonal entrance ramp (not the loop entrance ramp).	2017		
	2018		
	2019		
	2020		
	2021		
	2022		
	2023		
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	2032		
	2033		
	2034		

Output Summary

General Information

Project description:	Bend US 97 Parkway				
Analyst:	AMD	Date:	8/6/2018	Area type:	Urban
First year of analysis:	2011				
Last year of analysis:	2015				

Crash Data Description

Freeway segments	Segment crash data available?	No	First year of crash data:	
	Project-level crash data available?	No	Last year of crash data:	
Ramp segments	Segment crash data available?	No	First year of crash data:	
	Project-level crash data available?	No	Last year of crash data:	
Ramp terminals	Segment crash data available?	No	First year of crash data:	
	Project-level crash data available?	No	Last year of crash data:	

Estimated Crash Statistics

Crashes for Entire Facility	**Total**	**K**	**A**	**B**	**C**	**PDO**
Estimated number of crashes during Study Period, crashes:	98.4	0.5	2.8	13.3	25.3	56.5
Estimated average crash freq. during Study Period, crashes/yr:	19.7	0.1	0.6	2.7	5.1	11.3

Crashes by Facility Component	**Nbr. Sites**	**Total**	**K**	**A**	**B**	**C**	**PDO**
Freeway segments, crashes:	1	28.2	0.2	0.5	3.7	6.1	17.5
Ramp segments, crashes:	4	15.2	0.2	0.6	2.7	3.3	8.3
Crossroad ramp terminals, crashes:	2	55.1	0.1	1.7	6.8	15.8	30.6

Crashes for Entire Facility by Year	**Year**	**Total**	**K**	**A**	**B**	**C**	**PDO**
Estimated number of crashes during the Study Period, crashes:	2011	18.7	0.1	0.5	2.5	4.8	10.7
	2012	19.2	0.1	0.6	2.6	4.9	11.0
	2013	19.7	0.1	0.6	2.7	5.1	11.3
	2014	20.2	0.1	0.6	2.7	5.2	11.6
	2015	20.7	0.1	0.6	2.8	5.3	11.9
	2016						
	2017						
	2018						
	2019						
	2020						
	2021						
	2022						
	2023						
	2024						
	2025						
	2026						
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	2031						
	2032						
	2033						
	2034						

Distribution of Crashes for Entire Facility

Crash Type	**Crash Type Category**	**Estimated Number of Crashes During the Study Period**					
		Total	**K**	**A**	**B**	**C**	**PDO**
Multiple vehicle	Head-on crashes:	0.5	0.0	0.0	0.1	0.2	0.2
	Right-angle crashes:	13.3	0.0	0.5	1.8	4.2	6.9
	Rear-end crashes:	39.8	0.1	1.2	5.5	11.8	21.2
	Sideswipe crashes:	8.2	0.0	0.1	0.6	1.1	6.4
	Other multiple-vehicle crashes:	1.2	0.0	0.0	0.1	0.2	0.8
	Total multiple-vehicle crashes:	63.1	0.2	1.9	8.1	17.6	35.5
Single vehicle	Crashes with animal:	0.3	0.0	0.0	0.0	0.0	0.3
	Crashes with fixed object:	26.3	0.2	0.7	3.7	5.5	16.2
	Crashes with other object:	2.3	0.0	0.0	0.2	0.3	1.8
	Crashes with parked vehicle:	0.5	0.0	0.0	0.1	0.1	0.3
	Other single-vehicle crashes	5.8	0.1	0.2	1.3	1.9	2.4
	Total single-vehicle crashes:	35.3	0.3	1.0	5.2	7.8	21.0
	Total crashes:	98.4	0.5	2.8	13.3	25.3	56.5

Input Worksheet for Freeway Segments

Clear | Echo Input Values (View results in Column AV) | Check Input Values (View results in Advisory Messages)

		Segment 1 Study Period	Segment 2 Study Period	Segment 3 Study Period	Segment 4 Study Period
Basic Roadway Data					
	Number of through lanes (n):	4	4		
	Freeway segment description:	N Baker/Knott	S Baker/Knott MP 143.4-143.7		
	Segment length (L), mi:	0.28	0.32		
Alignment Data					
Horizontal Curve Data ← See note					
1	Horizontal curve in segment?:	No	No	No	No
	Curve radius (R_1), ft:				
	Length of curve (L_{c1}), mi:				
	Length of curve in segment ($L_{c1,seg}$), mi:				
2	Horizontal curve in segment?:				
	Curve radius (R_2), ft:				
	Length of curve (L_{c2}), mi:				
	Length of curve in segment ($L_{c2,seg}$), mi:				
3	Horizontal curve in segment?:				
	Curve radius (R_3), ft:				
	Length of curve (L_{c3}), mi:				
	Length of curve in segment ($L_{c3,seg}$), mi:				
Cross Section Data					
	Lane width (W_l), ft:	12	12		
	Outside shoulder width (W_s), ft:	6	6		
	Inside shoulder width (W_{is}), ft:	2	2		
	Median width (W_m), ft:	8	8		
	Rumble strips on outside shoulders?:	No	No	No	No
	Length of rumble strips for travel in increasing milepost direction, mi:				
	Length of rumble strips for travel in decreasing milepost direction, mi:				
	Rumble strips on inside shoulders?:	No	No	No	No
	Length of rumble strips for travel in increasing milepost direction, mi:				
	Length of rumble strips for travel in decreasing milepost direction, mi:				
	Presence of barrier in median:	Center	Center	None	None
1	Length of barrier ($L_{ib,1}$), mi:	0.28	0.32		
	Distance from edge of traveled way to barrier face ($W_{off,in,1}$), ft:	3	3		
2	Length of barrier ($L_{ib,2}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,in,2}$), ft:				
3	Length of barrier ($L_{ib,3}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,in,3}$), ft:				
4	Length of barrier ($L_{ib,4}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,in,4}$), ft:				
5	Length of barrier ($L_{ib,5}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,in,5}$), ft:				
	Median barrier width (W_{ib}), ft:	2	2		
	Nearest distance from edge of traveled way to barrier face (W_{near}), ft:				
Roadside Data					
	Clear zone width (W_{hc}), ft:	30	30		
	Presence of barrier on roadside:	Some	None		

1	Length of barrier ($L_{ob,1}$), mi:	0.02			
	Distance from edge of traveled way to barrier face ($W_{off,o,1}$), ft:	6			
2	Length of barrier ($L_{ob,2}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,o,2}$), ft:				
3	Length of barrier ($L_{ob,3}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,o,3}$), ft:				
4	Length of barrier ($L_{ob,4}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,o,4}$), ft:				
5	Length of barrier ($L_{ob,5}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,o,5}$), ft:				
Distance from edge of traveled way to barrier face, increasing milepost ($W_{off,inc}$), ft:					
Distance from edge of traveled way to barrier face, decreasing milepost ($W_{off,dec}$), ft:					
Ramp Access Data					
Travel in Increasing Milepost Direction					
Entrance Ramp	Ramp entrance in segment? (If yes, indicate type.):	No	S-C Lane	No	No
	Distance from begin milepost to upstream entrance ramp gore ($X_{b,ent}$), mi:	0.67		0	0
	Length of ramp entrance ($L_{en,inc}$), mi:		0.2		
	Length of ramp entrance in segment ($L_{en,seg,inc}$), mi:		0.2		
	Entrance side?:		Right		
Exit Ramp	Ramp exit in segment? (If yes, indicate type.):	S-C Lane	No	No	No
	Distance from end milepost to downstream exit ramp gore ($X_{e,ext}$), mi:		1.15	0	0
	Length of ramp exit ($L_{ex,inc}$), mi:	0.05			
	Length of ramp exit in segment ($L_{ex,seg,inc}$), mi:	0.05			
	Exit side?:	Right			
Weave	Type B weave in segment?:	No	No	No	No
	Length of weaving section ($L_{wev,inc}$), mi:				
	Length of weaving section in segment ($L_{wev,seg,inc}$), mi:				
Travel in Decreasing Milepost Direction					
Entrance Ramp	Ramp entrance in segment? (If yes, indicate type.):	S-C Lane	No	No	No
	Distance from end milepost to upstream entrance ramp gore ($X_{e,ent}$), mi:		1.35	0	0
	Length of ramp entrance ($L_{en,dec}$), mi:	0.15			
	Length of ramp entrance in segment ($L_{en,seg,dec}$), mi:	0.15			
	Entrance side?:	Right			
Exit Ramp	Ramp exit in segment? (If yes, indicate type.):	No	S-C Lane	No	No
	Distance from begin milepost to downstream exit ramp gore ($X_{b,ext}$), mi:	0.9		0	0
	Length of ramp exit ($L_{ex,dec}$), mi:		0.06		
	Length of ramp exit in segment ($L_{ex,seg,dec}$), mi:		0.06		
	Exit side?:		Right		
Weave	Type B weave in segment?:	No	No	No	No
	Length of weaving section ($L_{wev,dec}$), mi:				
	Length of weaving section in segment ($L_{wev,seg,dec}$), mi:				

Traffic Data	**Year**				
Proportion of AADT during high-volume hours (P_{hv}):				0	0
Freeway Segment Data	2011	21104	23692		
Average daily traffic ($AADT_{fs}$) by year, veh/d:	2012	21535	24175		
(enter data only for those years for which	2013	21974	24668		
it is available, leave other years blank)	2014	22422	25171		
	2015	**22880**	**25685**		
	2016				

	2017				
	2018				
	2019				
	2020				
	2021				
	2022				
	2023				
	2024				
	2025				
	2026				
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	2032				
	2033				
	2034				
Entrance Ramp Data for Travel in Increasing Milepost Dir.	**Year**				
Average daily traffic ($AADT_{b,ent}$) by year, veh/d:	2011	0	2587		
(enter data only for those years for which	2012	0	2640		
it is available, leave other years blank)	2013	0	2694		
	2014	0	2749		
	2015	0	**2805**		
	2016				
	2017				
	2018				
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	2022				
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	2032				
	2033				
	2034				
Exit Ramp Data for Travel in Increasing Milepost Direction	**Year**				
Average daily traffic ($AADT_{e,ext}$) by year, veh/d:	2011	5428	0		
(enter data only for those years for which	2012	5539	0		
it is available, leave other years blank)	2013	5652	0		
	2014	5767	0		
	2015	**5885**	0		
	2016				
	2017				
	2018				
	2019				
	2020				

	2021				
	2022				
	2023				
	2024				
	2025				
	2026				
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	2031				
	2032				
	2033				
	2034				
Entrance Ramp Data for Travel in Decreasing Milepost Dir.	**Year**				
Average daily traffic ($AADT_{e,ent}$) by year, veh/d:	2011	6037	0		
(enter data only for those years for which	2012	6160	0		
it is available, leave other years blank)	2013	6286	0		
	2014	6414	0		
	2015	**6545**	0		
	2016				
	2017				
	2018				
	2019				
	2020				
	2021				
	2022				
	2023				
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	2032				
	2033				
	2034				
Exit Ramp Data for Travel in Decreasing Milepost Direction	**Year**				
Average daily traffic ($AADT_{b,ext}$) by year, veh/d:	2011	0	1776		
(enter data only for those years for which	2012	0	1812		
it is available, leave other years blank)	2013	0	1849		
	2014	0	1887		
	2015	0	**1925**		
	2016				
	2017				
	2018				
	2019				
	2020				
	2021				
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Input Worksheet for Ramp Segments

Clear | Echo Input Values (View results in Column CJ) | Check Input Values (View results in Advisory Messages)

		Segment 1 Study Period	Segment 2 Study Period	Segment 3 Study Period	Segment 4 Study Period
Basic Roadway Data					
Number of through lanes (n):		1	1	1	1
Ramp segment description:		NB on ramp	NB off ramp	SB on ramp	SB off ramp
Segment length (L), mi:		0.27	0.15	0.16	0.18
Average traffic speed on the freeway (V_{frwy}), mi/h:		50	50	50	50
Segment type (ramp or collector-distributor road):		Entrance	Exit	Entrance	Exit
Type of control at crossroad ramp terminal:		Stop	Stop	Stop	Stop
Alignment Data					
Horizontal Curve Data ← See notes →					
1	Horizontal curve?:	In Seg.	In Seg.	In Seg.	In Seg.
	Curve radius (R_1), ft:	545	545	150	315
	Length of curve (L_{c1}), mi:	0.06	0.06	0.09	0.05
	Length of curve in segment ($L_{c1,seg}$), mi:	0.06	0.06	0.09	0.05
	Ramp-mile of beginning of curve in direction of travel (X_1), mi:	0	0.09	0.09	0.16
2	Horizontal curve?:	No	No	No	No
	Curve radius (R_2), ft:				
	Length of curve (L_{c2}), mi:				
	Length of curve in segment ($L_{c2,seg}$), mi:				
	Ramp-mile of beginning of curve in direction of travel (X_2), mi:				
3	Horizontal curve?:				
	Curve radius (R_3), ft:				
	Length of curve (L_{c3}), mi:				
	Length of curve in segment ($L_{c3,seg}$), mi:				
	Ramp-mile of beginning of curve in direction of travel (X_3), mi:				
4	Horizontal curve?:				
	Curve radius (R_4), ft:				
	Length of curve (L_{c4}), mi:				
	Length of curve in segment ($L_{c4,seg}$), mi:				
	Ramp-mile of beginning of curve in direction of travel (X_4), mi:				
5	Horizontal curve?:				
	Curve radius (R_5), ft:				
	Length of curve (L_{c5}), mi:				
	Length of curve in segment ($L_{c5,seg}$), mi:				
	Ramp-mile of beginning of curve in direction of travel (X_5), mi:				
Cross Section Data					
Lane width (W_l), ft:		12	12	12	12
Right shoulder width (W_{rs}), ft:		5	2	2	5
Left shoulder width (W_{ls}), ft:		2	2	2	5
Presence of lane add or lane drop by taper:		No	No	No	No
	Length of taper in segment ($L_{add,seg}$ or $L_{drop,seg}$), mi:				
Roadside Data					
Presence of barrier on right side of roadway:		Yes	Yes	No	Yes
1	Length of barrier ($L_{rb,1}$), mi:	0.11	0.06		0.02
	Distance from edge of traveled way to barrier face ($W_{off,r,1}$), ft:	6	6		6

2	Length of barrier ($L_{rb,2}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,r,2}$), ft:				
3	Length of barrier ($L_{rb,3}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,r,3}$), ft:				
4	Length of barrier ($L_{rb,4}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,r,4}$), ft:				
5	Length of barrier ($L_{rb,5}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,r,5}$), ft:				
Presence of barrier on left side of roadway:		Yes	Yes	No	Yes
1	Length of barrier ($L_{lb,1}$), mi:	0.05	0.04		0.02
	Distance from edge of traveled way to barrier face ($W_{off,l,1}$), ft:	6	6		6
2	Length of barrier ($L_{lb,2}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,l,2}$), ft:				
3	Length of barrier ($L_{lb,3}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,l,3}$), ft:				
4	Length of barrier ($L_{lb,4}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,l,4}$), ft:				
5	Length of barrier ($L_{lb,5}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,l,5}$), ft:				
Ramp Access Data	← See note				
Ramp Entrance	Ramp entrance in segment? (If yes, indicate type.):	No	No	No	No
	Length of entrance s-c lane in segment ($L_{en,seg}$), mi:				
Ramp Exit	Ramp exit in segment? (If yes, indicate type.):	No	No	No	No
	Length of exit s-c lane in segment ($L_{ex,seg}$), mi:				
Weaving Section	Weave section in collector-distributor road segment?:				
	Length of weaving section (L_{wev}), mi:				
	Length of weaving section in segment ($L_{wev,seg}$), mi:				

Traffic Data	**Year**				
Average daily traffic ($AADT_r$ or $AADT_c$) by year, veh/d:	2011	6037	1776	2587	5428
(enter data only for those years for which	2012	6160	1812	2640	5539
it is available, leave other years blank)	2013	6286	1849	2694	5652
	2014	6414	1887	2749	5767
	2015	6545	1925	2805	5885
	2016				
	2017				
	2018				
	2019				
	2020				
	2021				
	2022				
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2033				
2034				

Input Worksheet for Crossroad Ramp Terminals

Clear | Echo Input Values (View results in Column T) | Check Input Values (View results in Advisory Messages)

			Terminal 1 Study Period	Terminal 2 Study Period
Basic Intersection Data				
Ramp terminal configuration:			D4	A2
Ramp terminal description:			NB	SB
Ramp terminal traffic control type:			One stop	One stop
Is a non-ramp public street leg present at the terminal (I_{ps})?:				
Alignment Data				
Exit ramp skew angle (I_{sk}), degrees:			0	0
Distance to the next public street intersection on the outside crossroad leg (L_{str}), mi:			0.1	0.03
Distance to the adjacent ramp terminal (L_{rmp}), mi:			0.15	0.15
Traffic Control				
Left-Turn Operational Mode				
Crossroad	Inside approach	Protected-only mode ($I_{p,lt,in}$)?:		
	Outside approach	Protected-only mode ($I_{p,lt,out}$)?:		
Right-Turn Control Type				
Ramp	Exit ramp approach	Right-turn control type:	Yield	Yield
Cross Section Data				
Crossroad median width (W_m), ft:			0	0
Number of Lanes				
Crossroad	Both approaches	Lanes serving through vehicles (n_{th}):	2	2
	Inside approach	Lanes serving through vehicles ($n_{th,in}$):		
	Outside approach	Lanes serving through vehicles ($n_{th,out}$):		
Ramp	Exit ramp approach	All lanes (n_{ex}):	1	2
Right-Turn Channelization		see note: →		
Crossroad	Inside approach	Channelization present ($I_{ch,in}$)?:		
	Outside approach	Channelization present ($I_{ch,out}$)?:		
Ramp	Exit ramp approach	Channelization present ($I_{ch,ex}$)?:		
Left-Turn Lane or Bay				
Crossroad	Inside approach	Lane or bay present ($I_{bay,lt,in}$)?:	No	
		Width of lane or bay ($W_{b,in}$), ft:		
	Outside approach	Lane or bay present ($I_{bay,lt,out}$)?:		No
		Width of lane or bay ($W_{b,out}$), ft:		
Right-Turn Lane or Bay				
Crossroad	Inside approach	Lane or bay present ($I_{bay,rt,in}$)?:		Yes
	Outside approach	Lane or bay present ($I_{bay,rt,out}$)?:	No	
Access Data				
Number of driveways on the outside crossroad leg (n_{dw}):				
Number of public street approaches on the outside crossroad leg (n_{ps}):				1

Traffic Data	Year		
Inside Crossroad Leg Data	2011	12024	12024
Average daily traffic ($AADT_{in}$) by year, veh/d:	2012	12269	12269
(enter data only for those years for which	2013	12519	12519
it is available, leave other years blank)	2014	12774	12774

	2015	**13035**	13035
	2016		
	2017		
	2018		
	2019		
	2020		
	2021		
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	2023		
	2024		
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	2032		
	2033		
	2034		
Outside Crossroad Leg Data	2011	12835	14255
Average daily traffic ($AADT_{out}$) by year, veh/d:	2012	13097	14546
(enter data only for those years for which	2013	13364	14843
it is available, leave other years blank)	2014	13637	15146
	2015	**13915**	**15455**
	2016		
	2017		
	2018		
	2019		
	2020		
	2021		
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	2023		
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	2032		
	2033		
	2034		
Exit Ramp Data	2011	1776	5428
Average daily traffic ($AADT_{ex}$) by year, veh/d:	2012	1812	5539
(enter data only for those years for which	2013	1849	5652
it is available, leave other years blank)	2014	1887	5767
	2015	1925	5885
For a B4 terminal configuration, enter the AADT for the	2016		
diagonal exit ramp (not the loop exit ramp).	2017		

	2018		
	2019		
	2020		
	2021		
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	2031		
	2032		
	2033		
	2034		
Entrance Ramp Data	2011	6037	2587
Average daily traffic ($AADT_{en}$) by year, veh/d:	2012	6160	2640
(enter data only for those years for which	2013	6286	2694
it is available, leave other years blank)	2014	6414	2749
	2015	6545	2805
For an A4 terminal configuration, enter the AADT for the	2016		
diagonal entrance ramp (not the loop entrance ramp).	2017		
	2018		
	2019		
	2020		
	2021		
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	2032		
	2033		
	2034		

Output Summary

General Information

Project description:	Bend US 97 Parkway				
Analyst:	AMD	Date:	9/4/2019	Area type:	Urban
First year of analysis:	2011				
Last year of analysis:	2015				

Crash Data Description

Freeway segments	Segment crash data available?	No	First year of crash data:	
	Project-level crash data available?	No	Last year of crash data:	
Ramp segments	Segment crash data available?	No	First year of crash data:	
	Project-level crash data available?	No	Last year of crash data:	
Ramp terminals	Segment crash data available?	No	First year of crash data:	
	Project-level crash data available?	No	Last year of crash data:	

Estimated Crash Statistics

Crashes for Entire Facility	**Total**	**K**	**A**	**B**	**C**	**PDO**
Estimated number of crashes during Study Period, crashes:	59.8	0.3	1.0	6.1	13.4	39.0
Estimated average crash freq. during Study Period, crashes/yr:	12.0	0.1	0.2	1.2	2.7	7.8

Crashes by Facility Component	**Nbr. Sites**	**Total**	**K**	**A**	**B**	**C**	**PDO**
Freeway segments, crashes:	2	17.6	0.1	0.3	2.1	3.8	11.4
Ramp segments, crashes:	4	13.6	0.2	0.5	2.6	3.3	7.1
Crossroad ramp terminals, crashes:	2	28.6	0.0	0.2	1.4	6.3	20.6

Crashes for Entire Facility by Year	**Year**	**Total**	**K**	**A**	**B**	**C**	**PDO**
Estimated number of crashes during the Study Period, crashes:	2011	11.4	0.1	0.2	1.2	2.6	7.4
	2012	11.7	0.1	0.2	1.2	2.6	7.6
	2013	12.0	0.1	0.2	1.2	2.7	7.8
	2014	12.2	0.1	0.2	1.2	2.7	8.0
	2015	12.5	0.1	0.2	1.3	2.8	8.2
	2016						
	2017						
	2018						
	2019						
	2020						
	2021						
	2022						
	2023						
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	2030						
	2031						
	2032						
	2033						
	2034						

Distribution of Crashes for Entire Facility

Crash Type	**Crash Type Category**	**Estimated Number of Crashes During the Study Period**					
		Total	**K**	**A**	**B**	**C**	**PDO**
Multiple vehicle	Head-on crashes:	0.4	0.0	0.0	0.0	0.1	0.3
	Right-angle crashes:	11.6	0.0	0.1	0.7	2.9	7.9
	Rear-end crashes:	17.8	0.1	0.2	1.5	4.0	12.1
	Sideswipe crashes:	4.3	0.0	0.0	0.3	0.5	3.5
	Other multiple-vehicle crashes:	0.8	0.0	0.0	0.1	0.2	0.5
	Total multiple-vehicle crashes:	35.0	0.1	0.4	2.5	7.8	24.3
Single vehicle	Crashes with animal:	0.2	0.0	0.0	0.0	0.0	0.1
	Crashes with fixed object:	18.8	0.1	0.4	2.6	4.1	11.6
	Crashes with other object:	1.2	0.0	0.0	0.1	0.1	0.9
	Crashes with parked vehicle:	0.4	0.0	0.0	0.0	0.1	0.3
	Other single-vehicle crashes	4.2	0.0	0.1	0.9	1.3	1.8
	Total single-vehicle crashes:	24.8	0.2	0.6	3.6	5.6	14.8
	Total crashes:	59.8	0.3	1.0	6.1	13.4	39.0

DKS

ISATe (Future 2040 Build Bundle C) Conditions Analysis

Input Worksheet for Freeway Segments

Clear | Echo Input Values (View results in Column AV) | Check Input Values (View results in Advisory Messages)

		Segment 1 Study Period	Segment 2 Study Period	Segment 3 Study Period
Basic Roadway Data				
Number of through lanes (n):		4		
Freeway segment description:		Empire MP 135.13-MP135.77		
Segment length (L), mi:		0.64		
Alignment Data				
Horizontal Curve Data ←See note				
1	Horizontal curve in segment?:	No	No	No
	Curve radius (R_1), ft:			
	Length of curve (L_{c1}), mi:			
	Length of curve in segment ($L_{c1,seg}$), mi:			
2	Horizontal curve in segment?:			
	Curve radius (R_2), ft:			
	Length of curve (L_{c2}), mi:			
	Length of curve in segment ($L_{c2,seg}$), mi:			
3	Horizontal curve in segment?:			
	Curve radius (R_3), ft:			
	Length of curve (L_{c3}), mi:			
	Length of curve in segment ($L_{c3,seg}$), mi:			
Cross Section Data				
Lane width (W_l), ft:		12		
Outside shoulder width (W_s), ft:		6		
Inside shoulder width (W_{is}), ft:		2		
Median width (W_m), ft:		20		
Rumble strips on outside shoulders?:		No		No
	Length of rumble strips for travel in increasing milepost direction, mi:			
	Length of rumble strips for travel in decreasing milepost direction, mi:			
Rumble strips on inside shoulders?:		No	No	No
	Length of rumble strips for travel in increasing milepost direction, mi:			
	Length of rumble strips for travel in decreasing milepost direction, mi:			
Presence of barrier in median:		None	None	None
1	Length of barrier ($L_{ib,1}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,in,1}$), ft:			
2	Length of barrier ($L_{ib,2}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,in,2}$), ft:			
3	Length of barrier ($L_{ib,3}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,in,3}$), ft:			
4	Length of barrier ($L_{ib,4}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,in,4}$), ft:			
5	Length of barrier ($L_{ib,5}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,in,5}$), ft:			
Median barrier width (W_{ib}), ft:				
Nearest distance from edge of traveled way to barrier face (W_{near}), ft:				

Roadside Data				
Clear zone width (W_{hc}), ft:		20		
Presence of barrier on roadside:		None		None
1	Length of barrier ($L_{ob,1}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,o,1}$), ft:			
2	Length of barrier ($L_{ob,2}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,o,2}$), ft:			
3	Length of barrier ($L_{ob,3}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,o,3}$), ft:			
4	Length of barrier ($L_{ob,4}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,o,4}$), ft:			
5	Length of barrier ($L_{ob,5}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,o,5}$), ft:			
Distance from edge of traveled way to barrier face, increasing milepost ($W_{off,inc}$), ft:				
Distance from edge of traveled way to barrier face, decreasing milepost ($W_{off,dec}$), ft:				
Ramp Access Data				
Travel in Increasing Milepost Direction				
Entrance Ramp	Ramp entrance in segment? (If yes, indicate type.):	S-C Lane	No	No
	Distance from begin milepost to upstream entrance ramp gore ($X_{b,ent}$), mi:			0
	Length of ramp entrance ($L_{en,inc}$), mi:	0.15		
	Length of ramp entrance in segment ($L_{en,seg,inc}$), mi:	0.15		
	Entrance side?:	Right		
Exit Ramp	Ramp exit in segment? (If yes, indicate type.):	No	No	No
	Distance from end milepost to downstream exit ramp gore ($X_{e,ext}$), mi:	0.22		0
	Length of ramp exit ($L_{ex,inc}$), mi:			
	Length of ramp exit in segment ($L_{ex,seg,inc}$), mi:			
	Exit side?:			
Weave	Type B weave in segment?:	No	No	No
	Length of weaving section ($L_{wev,inc}$), mi:			
	Length of weaving section in segment ($L_{wev,seg,inc}$), mi:			
Travel in Decreasing Milepost Direction				
Entrance Ramp	Ramp entrance in segment? (If yes, indicate type.):	S-C Lane	No	No
	Distance from end milepost to upstream entrance ramp gore ($X_{e,ent}$), mi:		0	0
	Length of ramp entrance ($L_{en,dec}$), mi:	0.12		
	Length of ramp entrance in segment ($L_{en,seg,dec}$), mi:	0.12		
	Entrance side?:	Right		
Exit Ramp	Ramp exit in segment? (If yes, indicate type.):	S-C Lane	No	No
	Distance from begin milepost to downstream exit ramp gore ($X_{b,ext}$), mi:			0
	Length of ramp exit ($L_{ex,dec}$), mi:	0.03		
	Length of ramp exit in segment ($L_{ex,seg,dec}$), mi:	0.03		
	Exit side?:	Right		
Weave	Type B weave in segment?:	No	No	No
	Length of weaving section ($L_{wev,dec}$), mi:			
	Length of weaving section in segment ($L_{wev,seg,dec}$), mi:			
Traffic Data	**Year**			
Proportion of AADT during high-volume hours (P_{hv}):				0

Freeway Segment Data	2011	53318		
Average daily traffic ($AADT_{fs}$) by year, veh/d:	2012	54406		
(enter data only for those years for which	2013	55516		
it is available, leave other years blank)	2014	56649		
	2015	**57805**		
	2016			
	2017			
	2018			
	2019			
	2020			
	2021			
	2022			
	2023			
	2024			
	2025			
	2026			
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	2033			
	2034			
Entrance Ramp Data for Travel in Increasing Milepost Dir.	**Year**			
Average daily traffic ($AADT_{b,ent}$) by year, veh/d:	2011	8827		
(enter data only for those years for which	2012	9007		
it is available, leave other years blank)	2013	9191		
	2014	9379		
	2015	**9570**		
	2016			
	2017			
	2018			
	2019			
	2020			
	2021			
	2022			
	2023			
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	2031			
	2032			
	2033			
	2034			
Exit Ramp Data for Travel in Increasing Milepost Direction	**Year**			
Average daily traffic ($AADT_{e,ext}$) by year, veh/d:	2011	0		

(enter data only for those years for which it is available, leave other years blank)	2012	0		
	2013	0		
	2014	0		
	2015	0		
	2016			
	2017			
	2018			
	2019			
	2020			
	2021			
	2022			
	2023			
	2024			
	2025			
	2026			
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	2029			
	2030			
	2031			
	2032			
	2033			
	2034			
Entrance Ramp Data for Travel in Decreasing Milepost Dir.	**Year**			
Average daily traffic ($AADT_{e,ent}$) by year, veh/d:	2011	5835		
(enter data only for those years for which it is available, leave other years blank)	2012	5954		
	2013	6075		
	2014	6199		
	2015	**6325**		
	2016			
	2017			
	2018			
	2019			
	2020			
	2021			
	2022			
	2023			
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	2033			
	2034			
Exit Ramp Data for Travel in Decreasing Milepost Direction	**Year**			
Average daily traffic ($AADT_{b,ext}$) by year, veh/d:	2011	6544		
(enter data only for those years for which	2012	6678		

it is available, leave other years blank)

2013	6814		
2014	6953		
2015	**7095**		
2016			
2017			
2018			
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Input Worksheet for Ramp Segments

Clear | Echo Input Values (View results in Column CJ) | Check Input Values (View results in Advisory Messages)

		Segment 1 Study Period	Segment 2 Study Period	Segment 3 Study Period
Basic Roadway Data				
Number of through lanes (n):		1	1	1
Ramp segment description:		NB on ramp	NB off ramp	SB on ramp
Segment length (L), mi:		0.2	0.25	0.31
Average traffic speed on the freeway (V_{frwy}), mi/h:		50	50	50
Segment type (ramp or collector-distributor road):		Entrance	Exit	Entrance
Type of control at crossroad ramp terminal:		Signal	Signal	**Signal**
Alignment Data				
Horizontal Curve Data ← See notes →				
1	Horizontal curve?:	No	No	No
	Curve radius (R_1), ft:			
	Length of curve (L_{c1}), mi:			
	Length of curve in segment ($L_{c1,seg}$), mi:			
	Ramp-mile of beginning of curve in direction of travel (X_1), mi:			
2	Horizontal curve?:			
	Curve radius (R_2), ft:			
	Length of curve (L_{c2}), mi:			
	Length of curve in segment ($L_{c2,seg}$), mi:			
	Ramp-mile of beginning of curve in direction of travel (X_2), mi:			
3	Horizontal curve?:			
	Curve radius (R_3), ft:			
	Length of curve (L_{c3}), mi:			
	Length of curve in segment ($L_{c3,seg}$), mi:			
	Ramp-mile of beginning of curve in direction of travel (X_3), mi:			
4	Horizontal curve?:			
	Curve radius (R_4), ft:			
	Length of curve (L_{c4}), mi:			
	Length of curve in segment ($L_{c4,seg}$), mi:			
	Ramp-mile of beginning of curve in direction of travel (X_4), mi:			
5	Horizontal curve?:			
	Curve radius (R_5), ft:			
	Length of curve (L_{c5}), mi:			
	Length of curve in segment ($L_{c5,seg}$), mi:			
	Ramp-mile of beginning of curve in direction of travel (X_5), mi:			
Cross Section Data				
Lane width (W_l), ft:		12	12	12
Right shoulder width (W_{rs}), ft:		4	4	4
Left shoulder width (W_{ls}), ft:		2	2	2
Presence of lane add or lane drop by taper:		No	No	No
	Length of taper in segment ($L_{add,seg}$ or $L_{drop,seg}$), mi:			
Roadside Data				

Presence of barrier on right side of roadway:		Yes	Yes	No
1	Length of barrier ($L_{rb,1}$), mi:	0.03	0.07	
	Distance from edge of traveled way to barrier face ($W_{off,r,1}$), ft:	4	4	
2	Length of barrier ($L_{rb,2}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,r,2}$), ft:			
3	Length of barrier ($L_{rb,3}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,r,3}$), ft:			
4	Length of barrier ($L_{rb,4}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,r,4}$), ft:			
5	Length of barrier ($L_{rb,5}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,r,5}$), ft:			
Presence of barrier on left side of roadway:		Yes	Yes	No
1	Length of barrier ($L_{lb,1}$), mi:	0.03	0.08	
	Distance from edge of traveled way to barrier face ($W_{off,l,1}$), ft:	2	2	
2	Length of barrier ($L_{lb,2}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,l,2}$), ft:			
3	Length of barrier ($L_{lb,3}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,l,3}$), ft:			
4	Length of barrier ($L_{lb,4}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,l,4}$), ft:			
5	Length of barrier ($L_{lb,5}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,l,5}$), ft:			
Ramp Access Data	↖ See note			
Ramp Entrance	Ramp entrance in segment? (If yes, indicate type.):	No	No	No
	Length of entrance s-c lane in segment ($L_{en,seg}$), mi:			
Ramp Exit	Ramp exit in segment? (If yes, indicate type.):	No	No	No
	Length of exit s-c lane in segment ($L_{ex,seg}$), mi:			
Weaving Section	Weave section in collector-distributor road segment?:			
	Length of weaving section (L_{wev}), mi:			
	Length of weaving section in segment ($L_{wev,seg}$), mi:			

Traffic Data	**Year**			
Average daily traffic ($AADT_r$ or $AADT_c$) by year, veh/d:	2011	5835	6544	8827
(enter data only for those years for which it is available, leave other years blank)	2012	5954	6678	9007
	2013	6075	6814	9191
	2014	6199	6953	9379
	2015	6325	7095	9570
	2016			
	2017			
	2018			
	2019			
	2020			
	2021			
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Input Worksheet for Crossroad Ramp Terminals

Clear | Echo Input Values (View results in Column T) | Check Input Values (View results in Advisory Messages)

			Terminal 1 Study Period	Terminal 2 Study Period
Basic Intersection Data				
Ramp terminal configuration:			D4	D3en
Ramp terminal description:			NB	SB
Ramp terminal traffic control type:			Signal	**Signal**
Is a non-ramp public street leg present at the terminal (I_{ps})?:			No	**Yes**
Alignment Data				
Exit ramp skew angle (I_{sk}), degrees:				
Distance to the next public street intersection on the outside crossroad leg (L_{str}), mi:			0.14	0.05
Distance to the adjacent ramp terminal (L_{rmp}), mi:			0.07	0.07
Traffic Control				
Left-Turn Operational Mode				
Crossroad	Inside approach	Protected-only mode ($I_{p,lt,in}$)?:	No	No
	Outside approach	Protected-only mode ($I_{p,lt,out}$)?:		
Right-Turn Control Type				
Ramp	Exit ramp approach	Right-turn control type:	Signal	
Cross Section Data				
Crossroad median width (W_m), ft:			0	0
Number of Lanes				
Crossroad	Both approaches	Lanes serving through vehicles (n_{th}):	3	3
	Inside approach	Lanes serving through vehicles ($n_{th,in}$):	2	1
	Outside approach	Lanes serving through vehicles ($n_{th,out}$):	1	2
Ramp	Exit ramp approach	All lanes (n_{ex}):	1	
Right-Turn Channelization		see note: →		
Crossroad	Inside approach	Channelization present ($I_{ch,in}$)?:		No
	Outside approach	Channelization present ($I_{ch,out}$)?:	No	No
Ramp	Exit ramp approach	Channelization present ($I_{ch,ex}$)?:	No	
Left-Turn Lane or Bay				
Crossroad	Inside approach	Lane or bay present ($I_{bay,lt,in}$)?:	Yes	Yes
		Width of lane or bay ($W_{b,in}$), ft:	12	12
	Outside approach	Lane or bay present ($I_{bay,lt,out}$)?:		**Yes**
		Width of lane or bay ($W_{b,out}$), ft:		**12**
Right-Turn Lane or Bay				
Crossroad	Inside approach	Lane or bay present ($I_{bay,rt,in}$)?:		No
	Outside approach	Lane or bay present ($I_{bay,rt,out}$)?:	No	**Yes**
Access Data				
Number of driveways on the outside crossroad leg (n_{dw}):			0	0
Number of public street approaches on the outside crossroad leg (n_{ps}):				1

Traffic Data	**Year**		
Inside Crossroad Leg Data	2011	23489	23489
Average daily traffic ($AADT_{in}$) by year, veh/d:	2012	23968	23968
(enter data only for those years for which	2013	24457	24457
it is available, leave other years blank)	2014	24956	24956

	2015	**25465**	25465
	2016		
	2017		
	2018		
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	2020		
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	2034		
Outside Crossroad Leg Data	2011	28357	24960
Average daily traffic ($AADT_{out}$) by year, veh/d:	2012	28936	25469
(enter data only for those years for which	2013	29527	25989
it is available, leave other years blank)	2014	30130	26519
	2015	**30745**	**27060**
	2016		
	2017		
	2018		
	2019		
	2020		
	2021		
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	2023		
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	2033		
	2034		
Exit Ramp Data	2011	6544	
Average daily traffic ($AADT_{ex}$) by year, veh/d:	2012	6678	
(enter data only for those years for which	2013	6814	
it is available, leave other years blank)	2014	6953	
	2015	7095	
For a B4 terminal configuration, enter the AADT for the	2016		
diagonal exit ramp (not the loop exit ramp).	2017		

	2018		
	2019		
	2020		
	2021		
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	2031		
	2032		
	2033		
	2034		
Entrance Ramp Data	2011	5835	8827
Average daily traffic ($AADT_{en}$) by year, veh/d:	2012	5954	9007
(enter data only for those years for which	2013	6075	9191
it is available, leave other years blank)	2014	6199	9379
	2015	6325	9570
For an A4 terminal configuration, enter the AADT for the	2016		
diagonal entrance ramp (not the loop entrance ramp).	2017		
	2018		
	2019		
	2020		
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Output Summary

General Information

Project description:	Bend US 97 Parkway				
Analyst:	AMD	Date:	9/4/2019	Area type:	Urban
First year of analysis:	2011				
Last year of analysis:	2015				

Crash Data Description

Freeway segments	Segment crash data available?	No	First year of crash data:	
	Project-level crash data available?	No	Last year of crash data:	
Ramp segments	Segment crash data available?	No	First year of crash data:	
	Project-level crash data available?	No	Last year of crash data:	
Ramp terminals	Segment crash data available?	No	First year of crash data:	
	Project-level crash data available?	No	Last year of crash data:	

Estimated Crash Statistics

Crashes for Entire Facility	**Total**	**K**	**A**	**B**	**C**	**PDO**
Estimated number of crashes during Study Period, crashes:	122.7	0.5	2.4	13.2	33.4	73.4
Estimated average crash freq. during Study Period, crashes/yr:	24.5	0.1	0.5	2.6	6.7	14.7

Crashes by Facility Component	**Nbr. Sites**	**Total**	**K**	**A**	**B**	**C**	**PDO**
Freeway segments, crashes:	1	44.4	0.3	0.7	4.9	9.9	28.6
Ramp segments, crashes:	3	9.7	0.1	0.4	1.9	2.5	4.8
Crossroad ramp terminals, crashes:	2	68.6	0.1	1.3	6.3	21.0	40.0

Crashes for Entire Facility by Year	**Year**	**Total**	**K**	**A**	**B**	**C**	**PDO**
Estimated number of crashes during the Study Period, crashes:	2011	23.2	0.1	0.4	2.5	6.3	13.9
	2012	23.9	0.1	0.5	2.6	6.5	14.3
	2013	24.5	0.1	0.5	2.6	6.7	14.7
	2014	25.2	0.1	0.5	2.7	6.8	15.1
	2015	25.9	0.1	0.5	2.8	7.0	15.5
	2016						
	2017						
	2018						
	2019						
	2020						
	2021						
	2022						
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	2031						
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	2034						

Distribution of Crashes for Entire Facility

Crash Type	**Crash Type Category**	**Estimated Number of Crashes During the Study Period**					
		Total	**K**	**A**	**B**	**C**	**PDO**
Multiple vehicle	Head-on crashes:	0.7	0.0	0.0	0.1	0.3	0.3
	Right-angle crashes:	16.9	0.0	0.3	1.7	5.6	9.1
	Rear-end crashes:	60.0	0.2	1.2	6.3	17.7	34.7
	Sideswipe crashes:	14.4	0.0	0.1	0.8	2.0	11.4
	Other multiple-vehicle crashes:	1.9	0.0	0.0	0.2	0.4	1.3
	Total multiple-vehicle crashes:	93.9	0.2	1.7	9.1	26.0	56.8
Single vehicle	Crashes with animal:	0.3	0.0	0.0	0.0	0.0	0.2
	Crashes with fixed object:	21.2	0.2	0.5	2.9	5.2	12.5
	Crashes with other object:	2.1	0.0	0.0	0.1	0.3	1.7
	Crashes with parked vehicle:	0.5	0.0	0.0	0.1	0.1	0.3
	Other single-vehicle crashes	4.8	0.1	0.2	1.0	1.8	1.8
	Total single-vehicle crashes:	28.9	0.2	0.7	4.0	7.3	16.6
	Total crashes:	122.7	0.5	2.4	13.2	33.4	73.4

Input Worksheet for Freeway Segments

Clear | Echo Input Values (View results in Column AV) | Check Input Values (View results in Advisory Messages)

		Segment 1 Study Period	Segment 2 Study Period	Segment 3 Study Period	Segment 4 Study Period
Basic Roadway Data					
	Number of through lanes (n):	4	4		
	Freeway segment description:	Butler MP 13	US 20 ramps MP136.10-136.81		
	Segment length (L), mi:	0.18	0.71		
Alignment Data					
Horizontal Curve Data	← See note				
1	Horizontal curve in segment?:	No	No	No	No
	Curve radius (R_1), ft:				
	Length of curve (L_{c1}), mi:				
	Length of curve in segment ($L_{c1,seg}$), mi:				
2	Horizontal curve in segment?:				
	Curve radius (R_2), ft:				
	Length of curve (L_{c2}), mi:				
	Length of curve in segment ($L_{c2,seg}$), mi:				
3	Horizontal curve in segment?:				
	Curve radius (R_3), ft:				
	Length of curve (L_{c3}), mi:				
	Length of curve in segment ($L_{c3,seg}$), mi:				
Cross Section Data					
	Lane width (W_l), ft:	12	12		
	Outside shoulder width (W_s), ft:	6	7		
	Inside shoulder width (W_{is}), ft:	2	2		
	Median width (W_m), ft:	45	16		
	Rumble strips on outside shoulders?:	No	No	No	No
	Length of rumble strips for travel in increasing milepost direction, mi:				
	Length of rumble strips for travel in decreasing milepost direction, mi:				
	Rumble strips on inside shoulders?:	No	No	No	No
	Length of rumble strips for travel in increasing milepost direction, mi:				
	Length of rumble strips for travel in decreasing milepost direction, mi:				
	Presence of barrier in median:	None	None	None	None
1	Length of barrier ($L_{ib,1}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,in,1}$), ft:				
2	Length of barrier ($L_{ib,2}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,in,2}$), ft:				
3	Length of barrier ($L_{ib,3}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,in,3}$), ft:				
4	Length of barrier ($L_{ib,4}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,in,4}$), ft:				
5	Length of barrier ($L_{ib,5}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,in,5}$), ft:				
	Median barrier width (W_{ib}), ft:				
	Nearest distance from edge of traveled way to barrier face (W_{near}), ft:				
Roadside Data					
	Clear zone width (W_{hc}), ft:	30	30		
	Presence of barrier on roadside:	Some	Some	None	None

1	Length of barrier ($L_{ob,1}$), mi:	0.18	0.65		
	Distance from edge of traveled way to barrier face ($W_{off,o,1}$), ft:	6	7		
2	Length of barrier ($L_{ob,2}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,o,2}$), ft:				
3	Length of barrier ($L_{ob,3}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,o,3}$), ft:				
4	Length of barrier ($L_{ob,4}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,o,4}$), ft:				
5	Length of barrier ($L_{ob,5}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,o,5}$), ft:				
Distance from edge of traveled way to barrier face, increasing milepost ($W_{off,inc}$), ft:					
Distance from edge of traveled way to barrier face, decreasing milepost ($W_{off,dec}$), ft:					
Ramp Access Data					
Travel in Increasing Milepost Direction					
Entrance Ramp	Ramp entrance in segment? (If yes, indicate type.):	No	S-C Lane	No	No
	Distance from begin milepost to upstream entrance ramp gore ($X_{b,ent}$), mi:	0.29		0	0
	Length of ramp entrance ($L_{en,inc}$), mi:		0.11		
	Length of ramp entrance in segment ($L_{en,seg,inc}$), mi:		0.11		
	Entrance side?:		Right		
Exit Ramp	Ramp exit in segment? (If yes, indicate type.):	S-C Lane	No	No	No
	Distance from end milepost to downstream exit ramp gore ($X_{e,ext}$), mi:		0.15	0	0
	Length of ramp exit ($L_{ex,inc}$), mi:	0.05			
	Length of ramp exit in segment ($L_{ex,seg,inc}$), mi:	0.05			
	Exit side?:	Right			
Weave	Type B weave in segment?:	No	No	No	No
	Length of weaving section ($L_{wev,inc}$), mi:				
	Length of weaving section in segment ($L_{wev,seg,inc}$), mi:				
Travel in Decreasing Milepost Direction					
Entrance Ramp	Ramp entrance in segment? (If yes, indicate type.):	S-C Lane	S-C Lane	No	No
	Distance from end milepost to upstream entrance ramp gore ($X_{e,ent}$), mi:			0	0
	Length of ramp entrance ($L_{en,dec}$), mi:	0.07	0.11		
	Length of ramp entrance in segment ($L_{en,seg,dec}$), mi:	0.07	0.11		
	Entrance side?:	Right	Right		
Exit Ramp	Ramp exit in segment? (If yes, indicate type.):	No	No	No	No
	Distance from begin milepost to downstream exit ramp gore ($X_{b,ext}$), mi:	0.21	0.39	0	0
	Length of ramp exit ($L_{ex,dec}$), mi:				
	Length of ramp exit in segment ($L_{ex,seg,dec}$), mi:				
	Exit side?:				
Weave	Type B weave in segment?:	No	No	No	No
	Length of weaving section ($L_{wev,dec}$), mi:				
	Length of weaving section in segment ($L_{wev,seg,dec}$), mi:				

Traffic Data	**Year**				
Proportion of AADT during high-volume hours (P_{hv}):				0	0
Freeway Segment Data	2011	63312	58492		
Average daily traffic ($AADT_{fs}$) by year, veh/d:	2012	64604	59686		
(enter data only for those years for which	2013	65922	60904		
it is available, leave other years blank)	2014	67267	62147		
	2015	**68640**	**63415**		
	2016				

	2017				
	2018				
	2019				
	2020				
	2021				
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	2023				
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	2033				
	2034				
Entrance Ramp Data for Travel in Increasing Milepost Dir.	**Year**				
Average daily traffic ($AADT_{b,ent}$) by year, veh/d:	2011	0	4464		
(enter data only for those years for which	2012	0	4555		
it is available, leave other years blank)	2013	0	4648		
	2014	0	4743		
	2015	0	**4840**		
	2016				
	2017				
	2018				
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	2022				
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	2032				
	2033				
	2034				
Exit Ramp Data for Travel in Increasing Milepost Direction	**Year**				
Average daily traffic ($AADT_{e,ext}$) by year, veh/d:	2011	2942	0		
(enter data only for those years for which	2012	3002	0		
it is available, leave other years blank)	2013	3063	0		
	2014	3126	0		
	2015	**3190**	0		
	2016				
	2017				
	2018				
	2019				
	2020				

	2021				
	2022				
	2023				
	2024				
	2025				
	2026				
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	2031				
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	2033				
	2034				
Entrance Ramp Data for Travel in Decreasing Milepost Dir.	**Year**				
Average daily traffic ($AADT_{e,ent}$) by year, veh/d:	2011	2434	4821		
(enter data only for those years for which	2012	2484	4919		
it is available, leave other years blank)	2013	2535	5019		
	2014	2587	5121		
	2015	**2640**	**5225**		
	2016				
	2017				
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	2021				
	2022				
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	2032				
	2033				
	2034				
Exit Ramp Data for Travel in Decreasing Milepost Direction	**Year**				
Average daily traffic ($AADT_{b,ext}$) by year, veh/d:	2011	0	0		
(enter data only for those years for which	2012	0	0		
it is available, leave other years blank)	2013	0	0		
	2014	0	0		
	2015	0	0		
	2016				
	2017				
	2018				
	2019				
	2020				
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Input Worksheet for Ramp Segments

Clear | Echo Input Values (View results in Column CJ) | Check Input Values (View results in Advisory Messages)

		Segment 1	Segment 2	Segment 3	Segment 4	Segment 5
		Study Period	**Study Period**	**Study Period**	**Study Period**	**Study Period**
Basic Roadway Data						
	Number of through lanes (n):	1	1	1	1	
	Ramp segment description:	Butler NB on	Butler SB off r	US20 NB on r	US20 SB on ramp	
	Segment length (L), mi:	0.27	0.23	0.3	0.31	
	Average traffic speed on the freeway (V_{frwy}), mi/h:	50	50	50	50	
	Segment type (ramp or collector-distributor road):	Entrance	Exit	Entrance	Entrance	
	Type of control at crossroad ramp terminal:	Stop	Stop	None	None	
Alignment Data						
Horizontal Curve Data	← See notes →					
1	Horizontal curve?:	No	No	No	No	
	Curve radius (R_1), ft:					
	Length of curve (L_{c1}), mi:					
	Length of curve in segment ($L_{c1,seg}$), mi:					
	Ramp-mile of beginning of curve in direction of travel (X_1), mi:					
2	Horizontal curve?:					
	Curve radius (R_2), ft:					
	Length of curve (L_{c2}), mi:					
	Length of curve in segment ($L_{c2,seg}$), mi:					
	Ramp-mile of beginning of curve in direction of travel (X_2), mi:					
3	Horizontal curve?:					
	Curve radius (R_3), ft:					
	Length of curve (L_{c3}), mi:					
	Length of curve in segment ($L_{c3,seg}$), mi:					
	Ramp-mile of beginning of curve in direction of travel (X_3), mi:					
4	Horizontal curve?:					
	Curve radius (R_4), ft:					
	Length of curve (L_{c4}), mi:					
	Length of curve in segment ($L_{c4,seg}$), mi:					
	Ramp-mile of beginning of curve in direction of travel (X_4), mi:					
5	Horizontal curve?:					
	Curve radius (R_5), ft:					
	Length of curve (L_{c5}), mi:					
	Length of curve in segment ($L_{c5,seg}$), mi:					
	Ramp-mile of beginning of curve in direction of travel (X_5), mi:					
Cross Section Data						
	Lane width (W_l), ft:	12	12	12	12	
	Right shoulder width (W_{rs}), ft:	6	6	4	6	
	Left shoulder width (W_{ls}), ft:	2	2	6	2	
	Presence of lane add or lane drop by taper:	No	No	No	No	No
	Length of taper in segment ($L_{add,seg}$ or $L_{drop,seg}$), mi:					
Roadside Data						
	Presence of barrier on <u>right</u> side of roadway:	No	Yes	Yes	Yes	No
1	Length of barrier ($L_{rb,1}$), mi:		0.02	0.3	0.28	
	Distance from edge of traveled way to barrier face ($W_{off,r,1}$), ft:		6	6	6	
2	Length of barrier ($L_{rb,2}$), mi:					
	Distance from edge of traveled way to barrier face ($W_{off,r,2}$), ft:					
3	Length of barrier ($L_{rb,3}$), mi:					
	Distance from edge of traveled way to barrier face ($W_{off,r,3}$), ft:					

4	Length of barrier ($L_{rb,4}$), mi:					
	Distance from edge of traveled way to barrier face ($W_{off,r,4}$), ft:					
5	Length of barrier ($L_{rb,5}$), mi:					
	Distance from edge of traveled way to barrier face ($W_{off,r,5}$), ft:					
Presence of barrier on left side of roadway:		No	No	Yes	Yes	No
1	Length of barrier ($L_{lb,1}$), mi:			0.14	0.06	
	Distance from edge of traveled way to barrier face ($W_{off,l,1}$), ft:			6	6	
2	Length of barrier ($L_{lb,2}$), mi:					
	Distance from edge of traveled way to barrier face ($W_{off,l,2}$), ft:					
3	Length of barrier ($L_{lb,3}$), mi:					
	Distance from edge of traveled way to barrier face ($W_{off,l,3}$), ft:					
4	Length of barrier ($L_{lb,4}$), mi:					
	Distance from edge of traveled way to barrier face ($W_{off,l,4}$), ft:					
5	Length of barrier ($L_{lb,5}$), mi:					
	Distance from edge of traveled way to barrier face ($W_{off,l,5}$), ft:					
Ramp Access Data	↖ See note					
Ramp Entrance	Ramp entrance in segment? (If yes, indicate type.):	No	No	No	No	No
	Length of entrance s-c lane in segment ($L_{en,seg}$), mi:					
Ramp Exit	Ramp exit in segment? (If yes, indicate type.):	No	No	No	No	No
	Length of exit s-c lane in segment ($L_{ex,seg}$), mi:					
Weaving Section	Weave section in collector-distributor road segment?:					
	Length of weaving section (L_{wev}), mi:					
	Length of weaving section in segment ($L_{wev,seg}$), mi:					

Traffic Data	**Year**					
Average daily traffic ($AADT_r$ or $AADT_c$) by year, veh/d:	2011	2434	2942	4821	4464	
(enter data only for those years for which it is available, leave other years blank)	2012	2484	3002	4919	4555	
	2013	2535	3063	5019	4648	
	2014	2587	3126	5121	4743	
	2015	2640	3190	5225	4840	
	2016					
	2017					
	2018					
	2019					
	2020					
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	2034					

Input Worksheet for Crossroad Ramp Terminals

Clear | Echo Input Values (View results in Column T) | Check Input Values (View results in Advisory Messages)

			Terminal 1 Study Period	Terminal 2 Study Period
Basic Intersection Data				
Ramp terminal configuration:			D3en	D3ex
Ramp terminal description:			Butler NB	Butler SB
Ramp terminal traffic control type:			One stop	One stop
Is a non-ramp public street leg present at the terminal (I_{ps})?:				
Alignment Data				
Exit ramp skew angle (I_{sk}), degrees:				0
Distance to the next public street intersection on the outside crossroad leg (L_{str}), mi:			0.12	0.04
Distance to the adjacent ramp terminal (L_{rmp}), mi:			0.08	0.08
Traffic Control				
Left-Turn Operational Mode				
Crossroad	Inside approach	Protected-only mode ($I_{p,lt,in}$)?:		
	Outside approach	Protected-only mode ($I_{p,lt,out}$)?:		
Right-Turn Control Type				
Ramp	Exit ramp approach	Right-turn control type:		Stop
Cross Section Data				
Crossroad median width (W_m), ft:			12	12
Number of Lanes				
Crossroad	Both approaches	Lanes serving through vehicles (n_{th}):	2	2
	Inside approach	Lanes serving through vehicles ($n_{th,in}$):		
	Outside approach	Lanes serving through vehicles ($n_{th,out}$):		
Ramp	Exit ramp approach	All lanes (n_{ex}):		1
Right-Turn Channelization		see note: →		
Crossroad	Inside approach	Channelization present ($I_{ch,in}$)?:		
	Outside approach	Channelization present ($I_{ch,out}$)?:		
Ramp	Exit ramp approach	Channelization present ($I_{ch,ex}$)?:		
Left-Turn Lane or Bay				
Crossroad	Inside approach	Lane or bay present ($I_{bay,lt,in}$)?:	Yes	
		Width of lane or bay ($W_{b,in}$), ft:	12	
	Outside approach	Lane or bay present ($I_{bay,lt,out}$)?:		
		Width of lane or bay ($W_{b,out}$), ft:		
Right-Turn Lane or Bay				
Crossroad	Inside approach	Lane or bay present ($I_{bay,rt,in}$)?:		
	Outside approach	Lane or bay present ($I_{bay,rt,out}$)?:	No	
Access Data				
Number of driveways on the outside crossroad leg (n_{dw}):				
Number of public street approaches on the outside crossroad leg (n_{ps}):				1

Traffic Data	Year		
Inside Crossroad Leg Data	2011	15879	15879
Average daily traffic ($AADT_{in}$) by year, veh/d:	2012	16203	16203
(enter data only for those years for which	2013	16534	16534
it is available, leave other years blank)	2014	16871	16871

	2015	**17215**	17215
	2016		
	2017		
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	2034		
Outside Crossroad Leg Data	2011	16995	13139
Average daily traffic ($AADT_{out}$) by year, veh/d:	2012	17342	13407
(enter data only for those years for which	2013	17696	13681
it is available, leave other years blank)	2014	18057	13960
	2015	**18425**	**14245**
	2016		
	2017		
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	2033		
	2034		
Exit Ramp Data	2011		2942
Average daily traffic ($AADT_{ex}$) by year, veh/d:	2012		3002
(enter data only for those years for which	2013		3063
it is available, leave other years blank)	2014		3126
	2015		3190
For a B4 terminal configuration, enter the AADT for the	2016		
diagonal exit ramp (not the loop exit ramp).	2017		

	2018		
	2019		
	2020		
	2021		
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	2033		
	2034		
Entrance Ramp Data	2011	2434	
Average daily traffic ($AADT_{en}$) by year, veh/d:	2012	2484	
(enter data only for those years for which	2013	2535	
it is available, leave other years blank)	2014	2587	
	2015	2640	
For an A4 terminal configuration, enter the AADT for the	2016		
diagonal entrance ramp (not the loop entrance ramp).	2017		
	2018		
	2019		
	2020		
	2021		
	2022		
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	2033		
	2034		

Output Summary

General Information

Project description:	Bend US 97 Parkway				
Analyst:	AMD	Date:	9/4/2019	Area type:	Urban
First year of analysis:	2011				
Last year of analysis:	2015				

Crash Data Description

Freeway segments	Segment crash data available?	No	First year of crash data:	
	Project-level crash data available?	No	Last year of crash data:	
Ramp segments	Segment crash data available?	No	First year of crash data:	
	Project-level crash data available?	No	Last year of crash data:	
Ramp terminals	Segment crash data available?	No	First year of crash data:	
	Project-level crash data available?	No	Last year of crash data:	

Estimated Crash Statistics

Crashes for Entire Facility	**Total**	**K**	**A**	**B**	**C**	**PDO**
Estimated number of crashes during Study Period, crashes:	100.2	0.5	1.4	9.6	23.0	65.7
Estimated average crash freq. during Study Period, crashes/yr:	20.0	0.1	0.3	1.9	4.6	13.1

Crashes by Facility Component	**Nbr. Sites**	**Total**	**K**	**A**	**B**	**C**	**PDO**
Freeway segments, crashes:	2	76.2	0.4	1.1	7.3	17.4	50.0
Ramp segments, crashes:	4	8.2	0.1	0.3	1.5	2.2	4.2
Crossroad ramp terminals, crashes:	2	15.8	0.0	0.1	0.8	3.3	11.5

Crashes for Entire Facility by Year	**Year**	**Total**	**K**	**A**	**B**	**C**	**PDO**
Estimated number of crashes during the Study Period, crashes:	2011	19.0	0.1	0.3	1.8	4.4	12.4
	2012	19.5	0.1	0.3	1.9	4.5	12.8
	2013	20.0	0.1	0.3	1.9	4.6	13.1
	2014	20.6	0.1	0.3	2.0	4.7	13.5
	2015	21.1	0.1	0.3	2.0	4.8	13.9
	2016						
	2017						
	2018						
	2019						
	2020						
	2021						
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	2034						

Distribution of Crashes for Entire Facility

Crash Type	**Crash Type Category**	**Estimated Number of Crashes During the Study Period**					
		Total	**K**	**A**	**B**	**C**	**PDO**
Multiple vehicle	Head-on crashes:	0.4	0.0	0.0	0.0	0.1	0.2
	Right-angle crashes:	7.4	0.0	0.1	0.5	1.8	5.0
	Rear-end crashes:	41.4	0.2	0.6	3.8	9.5	27.4
	Sideswipe crashes:	13.3	0.0	0.1	0.9	2.1	10.2
	Other multiple-vehicle crashes:	1.6	0.0	0.0	0.2	0.4	1.0
	Total multiple-vehicle crashes:	64.2	0.3	0.8	5.4	14.0	43.8
Single vehicle	Crashes with animal:	0.4	0.0	0.0	0.0	0.0	0.4
	Crashes with fixed object:	26.3	0.2	0.5	3.0	6.5	16.2
	Crashes with other object:	3.1	0.0	0.0	0.2	0.4	2.5
	Crashes with parked vehicle:	0.6	0.0	0.0	0.1	0.1	0.4
	Other single-vehicle crashes	5.5	0.1	0.1	0.9	2.0	2.4
	Total single-vehicle crashes:	35.9	0.2	0.6	4.2	9.0	21.9
	Total crashes:	100.2	0.5	1.4	9.6	23.0	65.7

Input Worksheet for Freeway Segments

Clear | Echo Input Values (View results in Column AV) | Check Input Values (View results in Advisory Messages)

		Segment 1 Study Period	Segment 2 Study Period	Segment 3 Study Period	Segment 4 Study Period
Basic Roadway Data					
	Number of through lanes (n):	4	4		
	Freeway segment description:	N Revere MP	S Revere MP 137.13-137.32		
	Segment length (L), mi:	0.18	0.18		
Alignment Data					
Horizontal Curve Data ← See note					
1	Horizontal curve in segment?:	No	No	No	No
	Curve radius (R_1), ft:				
	Length of curve (L_{c1}), mi:				
	Length of curve in segment ($L_{c1,seg}$), mi:				
2	Horizontal curve in segment?:				
	Curve radius (R_2), ft:				
	Length of curve (L_{c2}), mi:				
	Length of curve in segment ($L_{c2,seg}$), mi:				
3	Horizontal curve in segment?:				
	Curve radius (R_3), ft:				
	Length of curve (L_{c3}), mi:				
	Length of curve in segment ($L_{c3,seg}$), mi:				
Cross Section Data					
	Lane width (W_l), ft:	12	12		
	Outside shoulder width (W_s), ft:	6	6		
	Inside shoulder width (W_{is}), ft:	2	2		
	Median width (W_m), ft:	16	16		
	Rumble strips on outside shoulders?:	No	No	No	No
	Length of rumble strips for travel in increasing milepost direction, mi:				
	Length of rumble strips for travel in decreasing milepost direction, mi:				
	Rumble strips on inside shoulders?:	No	No	No	No
	Length of rumble strips for travel in increasing milepost direction, mi:				
	Length of rumble strips for travel in decreasing milepost direction, mi:				
	Presence of barrier in median:	None	None	None	None
1	Length of barrier ($L_{ib,1}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,in,1}$), ft:				
2	Length of barrier ($L_{ib,2}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,in,2}$), ft:				
3	Length of barrier ($L_{ib,3}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,in,3}$), ft:				
4	Length of barrier ($L_{ib,4}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,in,4}$), ft:				
5	Length of barrier ($L_{ib,5}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,in,5}$), ft:				
	Median barrier width (W_{ib}), ft:				
	Nearest distance from edge of traveled way to barrier face (W_{near}), ft:				
Roadside Data					
	Clear zone width (W_{hc}), ft:	20	20		
	Presence of barrier on roadside:	Some	Some	None	None

1	Length of barrier ($L_{ob,1}$), mi:	0.17	0.05		
	Distance from edge of traveled way to barrier face ($W_{off,o,1}$), ft:	6	6		
2	Length of barrier ($L_{ob,2}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,o,2}$), ft:				
3	Length of barrier ($L_{ob,3}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,o,3}$), ft:				
4	Length of barrier ($L_{ob,4}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,o,4}$), ft:				
5	Length of barrier ($L_{ob,5}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,o,5}$), ft:				
Distance from edge of traveled way to barrier face, increasing milepost ($W_{off,inc}$), ft:					
Distance from edge of traveled way to barrier face, decreasing milepost ($W_{off,dec}$), ft:					
Ramp Access Data					
Travel in Increasing Milepost Direction					
Entrance Ramp	Ramp entrance in segment? (If yes, indicate type.):	S-C Lane	No	No	No
	Distance from begin milepost to upstream entrance ramp gore ($X_{b,ent}$), mi:		0.04	0	0
	Length of ramp entrance ($L_{en,inc}$), mi:	0.15			
	Length of ramp entrance in segment ($L_{en,seg,inc}$), mi:	0.04			
	Entrance side?:	Right			
Exit Ramp	Ramp exit in segment? (If yes, indicate type.):	S-C Lane	No	No	No
	Distance from end milepost to downstream exit ramp gore ($X_{e,ext}$), mi:		0.2	0	0
	Length of ramp exit ($L_{ex,inc}$), mi:	0.03			
	Length of ramp exit in segment ($L_{ex,seg,inc}$), mi:	0.03			
	Exit side?:	Right			
Weave	Type B weave in segment?:	No	No	No	No
	Length of weaving section ($L_{wev,inc}$), mi:				
	Length of weaving section in segment ($L_{wev,seg,inc}$), mi:				
Travel in Decreasing Milepost Direction					
Entrance Ramp	Ramp entrance in segment? (If yes, indicate type.):	No	S-C Lane	No	No
	Distance from end milepost to upstream entrance ramp gore ($X_{e,ent}$), mi:	0.04		0	0
	Length of ramp entrance ($L_{en,dec}$), mi:		0.09		
	Length of ramp entrance in segment ($L_{en,seg,dec}$), mi:		0.04		
	Entrance side?:		Right		
Exit Ramp	Ramp exit in segment? (If yes, indicate type.):	No	S-C Lane	No	No
	Distance from begin milepost to downstream exit ramp gore ($X_{b,ext}$), mi:	1.23		0	0
	Length of ramp exit ($L_{ex,dec}$), mi:		0.03		
	Length of ramp exit in segment ($L_{ex,seg,dec}$), mi:		0.03		
	Exit side?:		Right		
Weave	Type B weave in segment?:	No	No	No	No
	Length of weaving section ($L_{wev,dec}$), mi:				
	Length of weaving section in segment ($L_{wev,seg,dec}$), mi:				

Traffic Data	**Year**				
Proportion of AADT during high-volume hours (P_{hv}):				0	0
Freeway Segment Data	2011	58797	60216		
Average daily traffic ($AADT_{fs}$) by year, veh/d:	2012	59997	61445		
(enter data only for those years for which	2013	61221	62699		
it is available, leave other years blank)	2014	62470	63979		
	2015	**63745**	**65285**		
	2016				

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	2032				
	2033				
	2034				
Entrance Ramp Data for Travel in Increasing Milepost Dir.	**Year**				
Average daily traffic ($AADT_{b,ent}$) by year, veh/d:	2011	4770	0		
(enter data only for those years for which	2012	4867	0		
it is available, leave other years blank)	2013	4966	0		
	2014	5067	0		
	2015	**5170**	0		
	2016				
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	2034				
Exit Ramp Data for Travel in Increasing Milepost Direction	**Year**				
Average daily traffic ($AADT_{e,ext}$) by year, veh/d:	2011	4160	0		
(enter data only for those years for which	2012	4245	0		
it is available, leave other years blank)	2013	4332	0		
	2014	4420	0		
	2015	**4510**	0		
	2016				
	2017				
	2018				
	2019				
	2020				

	2021				
	2022				
	2023				
	2024				
	2025				
	2026				
	2027				
	2028				
	2029				
	2030				
	2031				
	2032				
	2033				
	2034				
Entrance Ramp Data for Travel in Decreasing Milepost Dir.	**Year**				
Average daily traffic ($AADT_{e,ent}$) by year, veh/d:	2011	0	3348		
(enter data only for those years for which	2012	0	3416		
it is available, leave other years blank)	2013	0	3486		
	2014	0	3557		
	2015	0	**3630**		
	2016				
	2017				
	2018				
	2019				
	2020				
	2021				
	2022				
	2023				
	2024				
	2025				
	2026				
	2027				
	2028				
	2029				
	2030				
	2031				
	2032				
	2033				
	2034				
Exit Ramp Data for Travel in Decreasing Milepost Direction	**Year**				
Average daily traffic ($AADT_{b,ext}$) by year, veh/d:	2011	0	5935		
(enter data only for those years for which	2012	0	6056		
it is available, leave other years blank)	2013	0	6180		
	2014	0	6306		
	2015	0	**6435**		
	2016				
	2017				
	2018				
	2019				
	2020				
	2021				
	2022				
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Input Worksheet for Ramp Segments

Clear | Echo Input Values (View results in Column CJ) | Check Input Values (View results in Advisory Messages)

		Segment 1 Study Period	Segment 2 Study Period	Segment 3 Study Period	Segment 4 Study Period
Basic Roadway Data					
	Number of through lanes (n):	1	1	1	1
	Ramp segment description:	NB on ramp	NB off ramp	SB on ramp	SB off ramp
	Segment length (L), mi:	0.12	0.15	0.16	0.18
	Average traffic speed on the freeway (V_{frwy}), mi/h:	50	50	50	50
	Segment type (ramp or collector-distributor road):	Entrance	Exit	Entrance	Exit
	Type of control at crossroad ramp terminal:	Signal	Signal	Signal	Signal
Alignment Data					
Horizontal Curve Data	← See notes →				
1	Horizontal curve?:	In Seg.	In Seg.	In Seg.	In Seg.
	Curve radius (R_1), ft:	140	550	140	155
	Length of curve (L_{c1}), mi:	0.07	0.05	0.07	0.03
	Length of curve in segment ($L_{c1,seg}$), mi:	0.07	0.05	0.07	0.03
	Ramp-mile of beginning of curve in direction of travel (X_1), mi:	0.03	0	0.04	0.11
2	Horizontal curve?:	No	In Seg.	No	No
	Curve radius (R_2), ft:		450		
	Length of curve (L_{c2}), mi:		0.06		
	Length of curve in segment ($L_{c2,seg}$), mi:		0.06		
	Ramp-mile of beginning of curve in direction of travel (X_2), mi:		0.05		
3	Horizontal curve?:		No		
	Curve radius (R_3), ft:				
	Length of curve (L_{c3}), mi:				
	Length of curve in segment ($L_{c3,seg}$), mi:				
	Ramp-mile of beginning of curve in direction of travel (X_3), mi:				
4	Horizontal curve?:				
	Curve radius (R_4), ft:				
	Length of curve (L_{c4}), mi:				
	Length of curve in segment ($L_{c4,seg}$), mi:				
	Ramp-mile of beginning of curve in direction of travel (X_4), mi:				
5	Horizontal curve?:				
	Curve radius (R_5), ft:				
	Length of curve (L_{c5}), mi:				
	Length of curve in segment ($L_{c5,seg}$), mi:				
	Ramp-mile of beginning of curve in direction of travel (X_5), mi:				
Cross Section Data					
	Lane width (W_l), ft:	12	12	12	12
	Right shoulder width (W_{rs}), ft:	4	2	5	4
	Left shoulder width (W_{ls}), ft:	2	4	2	2
	Presence of lane add or lane drop by taper:	No	No	No	No
	Length of taper in segment ($L_{add,seg}$ or $L_{drop,seg}$), mi:				
Roadside Data					
	Presence of barrier on <u>right</u> side of roadway:	Yes	Yes	Yes	No
1	Length of barrier ($L_{rb,1}$), mi:	0.06	0.07	0.09	
	Distance from edge of traveled way to barrier face ($W_{off,r,1}$), ft:	6	6	6	

2	Length of barrier ($L_{rb,2}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,r,2}$), ft:				
3	Length of barrier ($L_{rb,3}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,r,3}$), ft:				
4	Length of barrier ($L_{rb,4}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,r,4}$), ft:				
5	Length of barrier ($L_{rb,5}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,r,5}$), ft:				
Presence of barrier on left side of roadway:		No	No	No	No
1	Length of barrier ($L_{lb,1}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,l,1}$), ft:				
2	Length of barrier ($L_{lb,2}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,l,2}$), ft:				
3	Length of barrier ($L_{lb,3}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,l,3}$), ft:				
4	Length of barrier ($L_{lb,4}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,l,4}$), ft:				
5	Length of barrier ($L_{lb,5}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,l,5}$), ft:				
Ramp Access Data ← See note					
Ramp Entrance	Ramp entrance in segment? (If yes, indicate type.):	No	No	No	No
	Length of entrance s-c lane in segment ($L_{en,seg}$), mi:				
Ramp Exit	Ramp exit in segment? (If yes, indicate type.):	No	No	No	No
	Length of exit s-c lane in segment ($L_{ex,seg}$), mi:				
Weaving Section	Weave section in collector-distributor road segment?:				
	Length of weaving section (L_{wev}), mi:				
	Length of weaving section in segment ($L_{wev,seg}$), mi:				

Traffic Data	**Year**				
Average daily traffic ($AADT_r$ or $AADT_c$) by year, veh/d:	2011	3348	5935	4770	4160
(enter data only for those years for which	2012	3416	6056	4867	4245
it is available, leave other years blank)	2013	3486	6180	4966	4332
	2014	3557	6306	5067	4420
	2015	**3630**	**6435**	**5170**	**4510**
	2016				
	2017				
	2018				
	2019				
	2020				
	2021				
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2033				
2034				

Input Worksheet for Crossroad Ramp Terminals

Clear | Echo Input Values (View results in Column T) | Check Input Values (View results in Advisory Messages)

			Terminal 1 Study Period	Terminal 2 Study Period
Basic Intersection Data				
Ramp terminal configuration:			A2	A2
Ramp terminal description:			NB	SB
Ramp terminal traffic control type:			Signal	Signal
Is a non-ramp public street leg present at the terminal (I_{ps})?:			Yes	Yes
Alignment Data				
Exit ramp skew angle (I_{sk}), degrees:				
Distance to the next public street intersection on the outside crossroad leg (L_{str}), mi:			0.06	0.06
Distance to the adjacent ramp terminal (L_{rmp}), mi:			0.13	0.13
Traffic Control				
Left-Turn Operational Mode				
Crossroad	Inside approach	Protected-only mode ($I_{p,lt,in}$)?:	No	Yes
	Outside approach	Protected-only mode ($I_{p,lt,out}$)?:	No	No
Right-Turn Control Type				
Ramp	Exit ramp approach	Right-turn control type:	Signal	Signal
Cross Section Data				
Crossroad median width (W_m), ft:			0	0
Number of Lanes				
Crossroad	Both approaches	Lanes serving through vehicles (n_{th}):	4	2
	Inside approach	Lanes serving through vehicles ($n_{th,in}$):	2	1
	Outside approach	Lanes serving through vehicles ($n_{th,out}$):	2	1
Ramp	Exit ramp approach	All lanes (n_{ex}):	1	2
Right-Turn Channelization		see note: →		
Crossroad	Inside approach	Channelization present ($I_{ch,in}$)?:	No	No
	Outside approach	Channelization present ($I_{ch,out}$)?:	No	No
Ramp	Exit ramp approach	Channelization present ($I_{ch,ex}$)?:	No	No
Left-Turn Lane or Bay				
Crossroad	Inside approach	Lane or bay present ($I_{bay,lt,in}$)?:	No	Yes
		Width of lane or bay ($W_{b,in}$), ft:		12
	Outside approach	Lane or bay present ($I_{bay,lt,out}$)?:	No	No
		Width of lane or bay ($W_{b,out}$), ft:		
Right-Turn Lane or Bay				
Crossroad	Inside approach	Lane or bay present ($I_{bay,rt,in}$)?:	Yes	No
	Outside approach	Lane or bay present ($I_{bay,rt,out}$)?:	No	No
Access Data				
Number of driveways on the outside crossroad leg (n_{dw}):			2	2
Number of public street approaches on the outside crossroad leg (n_{ps}):				
Traffic Data		**Year**		
Inside Crossroad Leg Data		2011	20343	20343
Average daily traffic ($AADT_{in}$) by year, veh/d:		2012	20758	20758
(enter data only for those years for which		2013	21182	21182
it is available, leave other years blank)		2014	21614	21614

	2015	**22055**	22055
	2016		
	2017		
	2018		
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	2023		
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	2034		
Outside Crossroad Leg Data	2011	13647	3450
Average daily traffic ($AADT_{out}$) by year, veh/d:	2012	13925	3520
(enter data only for those years for which	2013	14209	3592
it is available, leave other years blank)	2014	14499	3665
	2015	**14795**	**3740**
	2016		
	2017		
	2018		
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	2023		
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	2032		
	2033		
	2034		
Exit Ramp Data	2011	5935	4160
Average daily traffic ($AADT_{ex}$) by year, veh/d:	2012	6056	4245
(enter data only for those years for which	2013	6180	4332
it is available, leave other years blank)	2014	6306	4420
	2015	6435	4510
For a B4 terminal configuration, enter the AADT for the	2016		
diagonal exit ramp (not the loop exit ramp).	2017		

	2018		
	2019		
	2020		
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	2034		
Entrance Ramp Data	2011	3348	4770
Average daily traffic ($AADT_{en}$) by year, veh/d:	2012	3416	4867
(enter data only for those years for which	2013	3486	4966
it is available, leave other years blank)	2014	3557	5067
	2015	3630	5170
For an A4 terminal configuration, enter the AADT for the	2016		
diagonal entrance ramp (not the loop entrance ramp).	2017		
	2018		
	2019		
	2020		
	2021		
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	2034		

Output Summary

General Information

Project description:	Bend US 97 Parkway				
Analyst:	AMD	Date:	8/6/2018	Area type:	Urban
First year of analysis:	2011				
Last year of analysis:	2015				

Crash Data Description

Freeway segments	Segment crash data available?	No	First year of crash data:	
	Project-level crash data available?	No	Last year of crash data:	
Ramp segments	Segment crash data available?	No	First year of crash data:	
	Project-level crash data available?	No	Last year of crash data:	
Ramp terminals	Segment crash data available?	No	First year of crash data:	
	Project-level crash data available?	No	Last year of crash data:	

Estimated Crash Statistics

Crashes for Entire Facility	**Total**	**K**	**A**	**B**	**C**	**PDO**
Estimated number of crashes during Study Period, crashes:	143.9	0.6	4.0	19.8	35.6	83.9
Estimated average crash freq. during Study Period, crashes/yr:	28.8	0.1	0.8	4.0	7.1	16.8

Crashes by Facility Component	**Nbr. Sites**	**Total**	**K**	**A**	**B**	**C**	**PDO**
Freeway segments, crashes:	2	53.4	0.3	0.8	5.1	12.0	35.1
Ramp segments, crashes:	4	18.4	0.2	0.6	3.4	4.5	9.6
Crossroad ramp terminals, crashes:	2	72.1	0.1	2.6	11.3	19.1	39.1

Crashes for Entire Facility by Year	**Year**	**Total**	**K**	**A**	**B**	**C**	**PDO**
Estimated number of crashes during the Study Period, crashes:	2011	27.5	0.1	0.8	3.8	6.9	15.9
	2012	28.1	0.1	0.8	3.9	7.0	16.3
	2013	28.8	0.1	0.8	4.0	7.1	16.8
	2014	29.4	0.1	0.8	4.0	7.2	17.2
	2015	30.1	0.1	0.8	4.1	7.4	17.7
	2016						
	2017						
	2018						
	2019						
	2020						
	2021						
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	2031						
	2032						
	2033						
	2034						

Distribution of Crashes for Entire Facility

Crash Type	**Crash Type Category**	**Estimated Number of Crashes During the Study Period**					
		Total	**K**	**A**	**B**	**C**	**PDO**
Multiple vehicle	Head-on crashes:	0.8	0.0	0.0	0.2	0.3	0.3
	Right-angle crashes:	18.1	0.0	0.7	3.1	5.2	9.1
	Rear-end crashes:	72.7	0.2	2.1	10.2	19.1	41.2
	Sideswipe crashes:	17.6	0.0	0.2	1.2	2.5	13.6
	Other multiple-vehicle crashes:	2.3	0.0	0.0	0.3	0.5	1.5
	Total multiple-vehicle crashes:	111.6	0.3	3.1	14.9	27.6	65.7
Single vehicle	Crashes with animal:	0.2	0.0	0.0	0.0	0.0	0.2
	Crashes with fixed object:	24.3	0.2	0.6	3.5	5.7	14.3
	Crashes with other object:	1.6	0.0	0.0	0.1	0.2	1.2
	Crashes with parked vehicle:	0.5	0.0	0.0	0.1	0.1	0.3
	Other single-vehicle crashes	5.6	0.1	0.2	1.2	2.0	2.1
	Total single-vehicle crashes:	32.3	0.3	0.9	4.9	8.0	18.1
	Total crashes:	143.9	0.6	4.0	19.8	35.6	83.9

Input Worksheet for Freeway Segments

Clear | Echo Input Values (View results in Column AV) | Check Input Values (View results in Advisory Messages)

		Segment 1 Study Period	Segment 2 Study Period	Segment 3 Study Period
Basic Roadway Data				
Number of through lanes (n):		4		
Freeway segment description:		Colorado MP 137.97-MP 138.4		
Segment length (L), mi:		0.43		
Alignment Data				
Horizontal Curve Data ←See note				
1	Horizontal curve in segment?:	No	No	No
	Curve radius (R_1), ft:			
	Length of curve (L_{c1}), mi:			
	Length of curve in segment ($L_{c1,seg}$), mi:			
2	Horizontal curve in segment?:			
	Curve radius (R_2), ft:			
	Length of curve (L_{c2}), mi:			
	Length of curve in segment ($L_{c2,seg}$), mi:			
3	Horizontal curve in segment?:			
	Curve radius (R_3), ft:			
	Length of curve (L_{c3}), mi:			
	Length of curve in segment ($L_{c3,seg}$), mi:			
Cross Section Data				
Lane width (W_l), ft:		12		
Outside shoulder width (W_s), ft:		6		
Inside shoulder width (W_{is}), ft:		2		
Median width (W_m), ft:		14		
Rumble strips on outside shoulders?:		No		No
	Length of rumble strips for travel in increasing milepost direction, mi:			
	Length of rumble strips for travel in decreasing milepost direction, mi:			
Rumble strips on inside shoulders?:		No	No	No
	Length of rumble strips for travel in increasing milepost direction, mi:			
	Length of rumble strips for travel in decreasing milepost direction, mi:			
Presence of barrier in median:		None	None	None
1	Length of barrier ($L_{ib,1}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,in,1}$), ft:			
2	Length of barrier ($L_{ib,2}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,in,2}$), ft:			
3	Length of barrier ($L_{ib,3}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,in,3}$), ft:			
4	Length of barrier ($L_{ib,4}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,in,4}$), ft:			
5	Length of barrier ($L_{ib,5}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,in,5}$), ft:			
Median barrier width (W_{ib}), ft:				
Nearest distance from edge of traveled way to barrier face (W_{near}), ft:				

Roadside Data				
Clear zone width (W_{hc}), ft:		30		
Presence of barrier on roadside:		Some		None
1	Length of barrier ($L_{ob,1}$), mi:	0.24		
	Distance from edge of traveled way to barrier face ($W_{off,o,1}$), ft:	6		
2	Length of barrier ($L_{ob,2}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,o,2}$), ft:			
3	Length of barrier ($L_{ob,3}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,o,3}$), ft:			
4	Length of barrier ($L_{ob,4}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,o,4}$), ft:			
5	Length of barrier ($L_{ob,5}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,o,5}$), ft:			
Distance from edge of traveled way to barrier face, increasing milepost ($W_{off,inc}$), ft:				
Distance from edge of traveled way to barrier face, decreasing milepost ($W_{off,dec}$), ft:				
Ramp Access Data				
Travel in Increasing Milepost Direction				
Entrance Ramp	Ramp entrance in segment? (If yes, indicate type.):	S-C Lane	No	No
	Distance from begin milepost to upstream entrance ramp gore ($X_{b,ent}$), mi:			0
	Length of ramp entrance ($L_{en,inc}$), mi:	0.25		
	Length of ramp entrance in segment ($L_{en,seg,inc}$), mi:	0.25		
	Entrance side?:	Right		
Exit Ramp	Ramp exit in segment? (If yes, indicate type.):	S-C Lane	No	No
	Distance from end milepost to downstream exit ramp gore ($X_{e,ext}$), mi:			0
	Length of ramp exit ($L_{ex,inc}$), mi:	0.04		
	Length of ramp exit in segment ($L_{ex,seg,inc}$), mi:	0.04		
	Exit side?:	Right		
Weave	Type B weave in segment?:	No	No	No
	Length of weaving section ($L_{wev,inc}$), mi:			
	Length of weaving section in segment ($L_{wev,seg,inc}$), mi:			
Travel in Decreasing Milepost Direction				
Entrance Ramp	Ramp entrance in segment? (If yes, indicate type.):	S-C Lane	No	No
	Distance from end milepost to upstream entrance ramp gore ($X_{e,ent}$), mi:		0	0
	Length of ramp entrance ($L_{en,dec}$), mi:	0.1		
	Length of ramp entrance in segment ($L_{en,seg,dec}$), mi:	0.1		
	Entrance side?:	Right		
Exit Ramp	Ramp exit in segment? (If yes, indicate type.):	S-C Lane	No	No
	Distance from begin milepost to downstream exit ramp gore ($X_{b,ext}$), mi:			0
	Length of ramp exit ($L_{ex,dec}$), mi:	0.07		
	Length of ramp exit in segment ($L_{ex,seg,dec}$), mi:	0.07		
	Exit side?:	Right		
Weave	Type B weave in segment?:	No	No	No
	Length of weaving section ($L_{wev,dec}$), mi:			
	Length of weaving section in segment ($L_{wev,seg,dec}$), mi:			
Traffic Data	**Year**			
Proportion of AADT during high-volume hours (P_{hv}):				0

Freeway Segment Data	2011	46063		
Average daily traffic ($AADT_{fs}$) by year, veh/d:	2012	47003		
(enter data only for those years for which	2013	47962		
it is available, leave other years blank)	2014	48941		
	2015	**49940**		
	2016			
	2017			
	2018			
	2019			
	2020			
	2021			
	2022			
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Entrance Ramp Data for Travel in Increasing Milepost Dir.	**Year**			
Average daily traffic ($AADT_{b,ent}$) by year, veh/d:	2011	4362		
(enter data only for those years for which	2012	4451		
it is available, leave other years blank)	2013	4542		
	2014	4635		
	2015	**4730**		
	2016			
	2017			
	2018			
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	2034			
Exit Ramp Data for Travel in Increasing Milepost Direction	**Year**			
Average daily traffic ($AADT_{e,ext}$) by year, veh/d:	2011	6898		

(enter data only for those years for which it is available, leave other years blank)	2012	7039		
	2013	7183		
	2014	7330		
	2015	**7480**		
	2016			
	2017			
	2018			
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	2022			
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	2034			
Entrance Ramp Data for Travel in Decreasing Milepost Dir.	**Year**			
Average daily traffic ($AADT_{e,ent}$) by year, veh/d:	2011	10501		
(enter data only for those years for which	2012	10715		
it is available, leave other years blank)	2013	10934		
	2014	11157		
	2015	**11385**		
	2016			
	2017			
	2018			
	2019			
	2020			
	2021			
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	2034			
Exit Ramp Data for Travel in Decreasing Milepost Direction	**Year**			
Average daily traffic ($AADT_{b,ext}$) by year, veh/d:	2011	2357		
(enter data only for those years for which	2012	2405		

it is available, leave other years blank)

2013	2454		
2014	2504		
2015	**2555**		
2016			
2017			
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Input Worksheet for Ramp Segments

Clear | Echo Input Values (View results in Column CJ) | Check Input Values (View results in Advisory Messages)

		Segment 1 Study Period	Segment 2 Study Period	Segment 3 Study Period	Segment 4 Study Period
Basic Roadway Data					
	Number of through lanes (n):	1	1	1	1
	Ramp segment description:	NB on ramp	NB off ramp	SB on ramp	SB off ramp
	Segment length (L), mi:	0.17	0.14	0.11	0.13
	Average traffic speed on the freeway (V_{frwy}), mi/h:	50	50	50	50
	Segment type (ramp or collector-distributor road):	Entrance	Exit	Entrance	Exit
	Type of control at crossroad ramp terminal:	Stop	Stop	Signal	Signal
Alignment Data					
Horizontal Curve Data	← See notes →				
1	Horizontal curve?:	In Seg.	In Seg.	In Seg.	No
	Curve radius (R_1), ft:	380	105	100	
	Length of curve (L_{c1}), mi:	0.06	0.05	0.04	
	Length of curve in segment ($L_{c1,seg}$), mi:	0.06	0.05	0.04	
	Ramp-mile of beginning of curve in direction of travel (X_1), mi:	0.03	0	0.08	
2	Horizontal curve?:	No	In Seg.	No	
	Curve radius (R_2), ft:		380		
	Length of curve (L_{c2}), mi:		0.06		
	Length of curve in segment ($L_{c2,seg}$), mi:		0.06		
	Ramp-mile of beginning of curve in direction of travel (X_2), mi:		0.05		
3	Horizontal curve?:		No		
	Curve radius (R_3), ft:				
	Length of curve (L_{c3}), mi:				
	Length of curve in segment ($L_{c3,seg}$), mi:				
	Ramp-mile of beginning of curve in direction of travel (X_3), mi:				
4	Horizontal curve?:				
	Curve radius (R_4), ft:				
	Length of curve (L_{c4}), mi:				
	Length of curve in segment ($L_{c4,seg}$), mi:				
	Ramp-mile of beginning of curve in direction of travel (X_4), mi:				
5	Horizontal curve?:				
	Curve radius (R_5), ft:				
	Length of curve (L_{c5}), mi:				
	Length of curve in segment ($L_{c5,seg}$), mi:				
	Ramp-mile of beginning of curve in direction of travel (X_5), mi:				
Cross Section Data					
	Lane width (W_l), ft:	12	12	12	12
	Right shoulder width (W_{rs}), ft:	5	5	5	5
	Left shoulder width (W_{ls}), ft:	4	4	4	4
	Presence of lane add or lane drop by taper:	No	No	No	No
	Length of taper in segment ($L_{add,seg}$ or $L_{drop,seg}$), mi:				
Roadside Data					
	Presence of barrier on <u>right</u> side of roadway:	No	No	No	No
1	Length of barrier ($L_{rb,1}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,r,1}$), ft:				

2	Length of barrier ($L_{rb,2}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,r,2}$), ft:				
3	Length of barrier ($L_{rb,3}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,r,3}$), ft:				
4	Length of barrier ($L_{rb,4}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,r,4}$), ft:				
5	Length of barrier ($L_{rb,5}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,r,5}$), ft:				
Presence of barrier on left side of roadway:		No	No	No	No
1	Length of barrier ($L_{lb,1}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,l,1}$), ft:				
2	Length of barrier ($L_{lb,2}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,l,2}$), ft:				
3	Length of barrier ($L_{lb,3}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,l,3}$), ft:				
4	Length of barrier ($L_{lb,4}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,l,4}$), ft:				
5	Length of barrier ($L_{lb,5}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,l,5}$), ft:				
Ramp Access Data	← See note				
Ramp Entrance	Ramp entrance in segment? (If yes, indicate type.):	No	No	No	No
	Length of entrance s-c lane in segment ($L_{en,seg}$), mi:				
Ramp Exit	Ramp exit in segment? (If yes, indicate type.):	No	No	No	No
	Length of exit s-c lane in segment ($L_{ex,seg}$), mi:				
Weaving Section	Weave section in collector-distributor road segment?:				
	Length of weaving section (L_{wev}), mi:				
	Length of weaving section in segment ($L_{wev,seg}$), mi:				

Traffic Data	**Year**				
Average daily traffic ($AADT_r$ or $AADT_c$) by year, veh/d:	2011	10501	2357	4362	6898
(enter data only for those years for which it is available, leave other years blank)	2012	10715	2405	4451	7039
	2013	10934	2454	4542	7183
	2014	11157	2504	4635	7330
	2015	11385	2555	4730	7480
	2016				
	2017				
	2018				
	2019				
	2020				
	2021				
	2022				
	2023				
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	2032				

2033				
2034				

Input Worksheet for Crossroad Ramp Terminals

Clear | Echo Input Values (View results in Column T) | Check Input Values (View results in Advisory Messages)

			Terminal 1 Study Period	Terminal 2 Study Period
Basic Intersection Data				
Ramp terminal configuration:			B2	A2
Ramp terminal description:			NB	SB
Ramp terminal traffic control type:			One stop	Signal
Is a non-ramp public street leg present at the terminal (I_{ps})?:				Yes
Alignment Data				
Exit ramp skew angle (I_{sk}), degrees:			0	
Distance to the next public street intersection on the outside crossroad leg (L_{str}), mi:			0.09	0.12
Distance to the adjacent ramp terminal (L_{rmp}), mi:			0.13	0.13
Traffic Control				
Left-Turn Operational Mode				
Crossroad	Inside approach	Protected-only mode ($I_{p,lt,in}$)?:		No
	Outside approach	Protected-only mode ($I_{p,lt,out}$)?:		No
Right-Turn Control Type				
Ramp	Exit ramp approach	Right-turn control type:	Stop	Signal
Cross Section Data				
Crossroad median width (W_m), ft:			12	12
Number of Lanes				
Crossroad	Both approaches	Lanes serving through vehicles (n_{th}):	2	2
	Inside approach	Lanes serving through vehicles ($n_{th,in}$):		1
	Outside approach	Lanes serving through vehicles ($n_{th,out}$):		1
Ramp	Exit ramp approach	All lanes (n_{ex}):	2	2
Right-Turn Channelization		see note: →		
Crossroad	Inside approach	Channelization present ($I_{ch,in}$)?:		No
	Outside approach	Channelization present ($I_{ch,out}$)?:		No
Ramp	Exit ramp approach	Channelization present ($I_{ch,ex}$)?:		No
Left-Turn Lane or Bay				
Crossroad	Inside approach	Lane or bay present ($I_{bay,lt,in}$)?:	Yes	No
		Width of lane or bay ($W_{b,in}$), ft:	12	
	Outside approach	Lane or bay present ($I_{bay,lt,out}$)?:		No
		Width of lane or bay ($W_{b,out}$), ft:		
Right-Turn Lane or Bay				
Crossroad	Inside approach	Lane or bay present ($I_{bay,rt,in}$)?:		No
	Outside approach	Lane or bay present ($I_{bay,rt,out}$)?:	No	No
Access Data				
Number of driveways on the outside crossroad leg (n_{dw}):				0
Number of public street approaches on the outside crossroad leg (n_{ps}):				

Traffic Data	Year		
Inside Crossroad Leg Data	2011	15219	15219
Average daily traffic ($AADT_{in}$) by year, veh/d:	2012	15530	15530
(enter data only for those years for which	2013	15847	15847
it is available, leave other years blank)	2014	16170	16170

	2015	**16500**	16500
	2016		
	2017		
	2018		
	2019		
	2020		
	2021		
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	2034		
Outside Crossroad Leg Data	2011	8827	9386
Average daily traffic ($AADT_{out}$) by year, veh/d:	2012	9007	9578
(enter data only for those years for which	2013	9191	9773
it is available, leave other years blank)	2014	9379	9972
	2015	**9570**	**10175**
	2016		
	2017		
	2018		
	2019		
	2020		
	2021		
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	2023		
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	2032		
	2033		
	2034		
Exit Ramp Data	2011	2357	6898
Average daily traffic ($AADT_{ex}$) by year, veh/d:	2012	2405	7039
(enter data only for those years for which	2013	2454	7183
it is available, leave other years blank)	2014	2504	7330
	2015	2555	7480
For a B4 terminal configuration, enter the AADT for the	2016		
diagonal exit ramp (not the loop exit ramp).	2017		

	2018		
	2019		
	2020		
	2021		
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	2033		
	2034		
Entrance Ramp Data	2011	10501	4362
Average daily traffic ($AADT_{en}$) by year, veh/d:	2012	10715	4451
(enter data only for those years for which	2013	10934	4542
it is available, leave other years blank)	2014	11157	4635
	2015	11385	4730
For an A4 terminal configuration, enter the AADT for the	2016		
diagonal entrance ramp (not the loop entrance ramp).	2017		
	2018		
	2019		
	2020		
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	2034		

Output Summary

General Information

Project description:	Bend US 97 Parkway				
Analyst:	AMD	Date:	8/6/2018	Area type:	Urban
First year of analysis:	2011				
Last year of analysis:	2015				

Crash Data Description

Freeway segments	Segment crash data available?	No	First year of crash data:	
	Project-level crash data available?	No	Last year of crash data:	
Ramp segments	Segment crash data available?	No	First year of crash data:	
	Project-level crash data available?	No	Last year of crash data:	
Ramp terminals	Segment crash data available?	No	First year of crash data:	
	Project-level crash data available?	No	Last year of crash data:	

Estimated Crash Statistics

Crashes for Entire Facility	**Total**	**K**	**A**	**B**	**C**	**PDO**
Estimated number of crashes during Study Period, crashes:	107.6	0.5	2.8	13.5	26.0	64.8
Estimated average crash freq. during Study Period, crashes/yr:	21.5	0.1	0.6	2.7	5.2	13.0

Crashes by Facility Component	**Nbr. Sites**	**Total**	**K**	**A**	**B**	**C**	**PDO**
Freeway segments, crashes:	1	25.8	0.2	0.4	3.0	5.2	16.9
Ramp segments, crashes:	4	23.1	0.3	0.8	4.2	5.1	12.7
Crossroad ramp terminals, crashes:	2	58.7	0.1	1.5	6.3	15.6	35.2

Crashes for Entire Facility by Year	**Year**	**Total**	**K**	**A**	**B**	**C**	**PDO**
Estimated number of crashes during the Study Period, crashes:	2011	20.6	0.1	0.5	2.6	5.0	12.3
	2012	21.1	0.1	0.6	2.7	5.1	12.6
	2013	21.5	0.1	0.6	2.7	5.2	12.9
	2014	22.0	0.1	0.6	2.7	5.3	13.3
	2015	22.4	0.1	0.6	2.8	5.4	13.6
	2016						
	2017						
	2018						
	2019						
	2020						
	2021						
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	2031						
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	2033						
	2034						

Distribution of Crashes for Entire Facility

Crash Type	**Crash Type Category**	**Estimated Number of Crashes During the Study Period**					
		Total	**K**	**A**	**B**	**C**	**PDO**
Multiple vehicle	Head-on crashes:	0.7	0.0	0.0	0.1	0.2	0.3
	Right-angle crashes:	17.3	0.0	0.4	1.9	4.9	10.1
	Rear-end crashes:	42.9	0.1	1.2	5.3	11.4	24.9
	Sideswipe crashes:	9.7	0.0	0.1	0.6	1.2	7.7
	Other multiple-vehicle crashes:	1.5	0.0	0.0	0.1	0.3	1.0
	Total multiple-vehicle crashes:	72.1	0.2	1.8	8.0	18.1	44.0
Single vehicle	Crashes with animal:	0.2	0.0	0.0	0.0	0.0	0.2
	Crashes with fixed object:	27.1	0.2	0.8	3.9	5.6	16.6
	Crashes with other object:	1.5	0.0	0.0	0.1	0.2	1.2
	Crashes with parked vehicle:	0.6	0.0	0.0	0.1	0.1	0.4
	Other single-vehicle crashes	6.2	0.1	0.3	1.4	2.0	2.5
	Total single-vehicle crashes:	35.6	0.3	1.1	5.5	7.9	20.8
	Total crashes:	107.6	0.5	2.8	13.5	26.0	64.8

Input Worksheet for Freeway Segments

Clear | Echo Input Values (View results in Column AV) | Check Input Values (View results in Advisory Messages)

		Segment 1 Study Period	Segment 2 Study Period	Segment 3 Study Period	Segment 4 Study Period	Segment 5 Study Period
Basic Roadway Data						
Number of through lanes (n):		4	4	4		
Freeway segment description:		Division ramp	N Reed Mark	S Reed Market MP 139.18-139.43		
Segment length (L), mi:		0.13	0.19	0.26		
Alignment Data						
Horizontal Curve Data ←See note						
1	Horizontal curve in segment?:	No	No	No	No	No
	Curve radius (R_1), ft:					
	Length of curve (L_{c1}), mi:					
	Length of curve in segment ($L_{c1,seg}$), mi:					
2	Horizontal curve in segment?:					
	Curve radius (R_2), ft:					
	Length of curve (L_{c2}), mi:					
	Length of curve in segment ($L_{c2,seg}$), mi:					
3	Horizontal curve in segment?:					
	Curve radius (R_3), ft:					
	Length of curve (L_{c3}), mi:					
	Length of curve in segment ($L_{c3,seg}$), mi:					
Cross Section Data						
Lane width (W_l), ft:		12	12	12		
Outside shoulder width (W_s), ft:		6	6	6		
Inside shoulder width (W_{is}), ft:		2	2	2		
Median width (W_m), ft:		16	16	16		
Rumble strips on outside shoulders?:		No	No	No	No	No
	Length of rumble strips for travel in increasing milepost direction, mi:					
	Length of rumble strips for travel in decreasing milepost direction, mi:					
Rumble strips on inside shoulders?:		No	No	No	No	No
	Length of rumble strips for travel in increasing milepost direction, mi:					
	Length of rumble strips for travel in decreasing milepost direction, mi:					
Presence of barrier in median:		None	None	None	None	None
1	Length of barrier ($L_{ib,1}$), mi:					
	Distance from edge of traveled way to barrier face ($W_{off,in,1}$), ft:					
2	Length of barrier ($L_{ib,2}$), mi:					
	Distance from edge of traveled way to barrier face ($W_{off,in,2}$), ft:					
3	Length of barrier ($L_{ib,3}$), mi:					
	Distance from edge of traveled way to barrier face ($W_{off,in,3}$), ft:					
4	Length of barrier ($L_{ib,4}$), mi:					
	Distance from edge of traveled way to barrier face ($W_{off,in,4}$), ft:					
5	Length of barrier ($L_{ib,5}$), mi:					
	Distance from edge of traveled way to barrier face ($W_{off,in,5}$), ft:					
Median barrier width (W_{ib}), ft:						
Nearest distance from edge of traveled way to barrier face (W_{near}), ft:						
Roadside Data						
Clear zone width (W_{hc}), ft:		30	30	30		
Presence of barrier on roadside:		Full	None	Some	None	None
1	Length of barrier ($L_{ob,1}$), mi:			0.08		
	Distance from edge of traveled way to barrier face ($W_{off,o,1}$), ft:			15		
2	Length of barrier ($L_{ob,2}$), mi:					
	Distance from edge of traveled way to barrier face ($W_{off,o,2}$), ft:					

3	Length of barrier ($L_{ob,3}$), mi:					
	Distance from edge of traveled way to barrier face ($W_{off,o,3}$), ft:					
4	Length of barrier ($L_{ob,4}$), mi:					
	Distance from edge of traveled way to barrier face ($W_{off,o,4}$), ft:					
5	Length of barrier ($L_{ob,5}$), mi:					
	Distance from edge of traveled way to barrier face ($W_{off,o,5}$), ft:					
Distance from edge of traveled way to barrier face, increasing milepost ($W_{off,inc}$), ft:		20				
Distance from edge of traveled way to barrier face, decreasing milepost ($W_{off,dec}$), ft:		20				
Ramp Access Data						
Travel in Increasing Milepost Direction						
Entrance Ramp	Ramp entrance in segment? (If yes, indicate type.):	No	No	S-C Lane	No	No
	Distance from begin milepost to upstream entrance ramp gore ($X_{b,ent}$), mi:	0.12	0.29		0	0
	Length of ramp entrance ($L_{en,inc}$), mi:			0.1		
	Length of ramp entrance in segment ($L_{en,seg,inc}$), mi:			0.1		
	Entrance side?:			Right		
Exit Ramp	Ramp exit in segment? (If yes, indicate type.):	No	S-C Lane	No	No	No
	Distance from end milepost to downstream exit ramp gore ($X_{e,ext}$), mi:	0.05		0.52	0	0
	Length of ramp exit ($L_{ex,inc}$), mi:		0.04			
	Length of ramp exit in segment ($L_{ex,seg,inc}$), mi:		0.04			
	Exit side?:		Right			
Weave	Type B weave in segment?:	No	No	No	No	No
	Length of weaving section ($L_{wev,inc}$), mi:					
	Length of weaving section in segment ($L_{wev,seg,inc}$), mi:					
Travel in Decreasing Milepost Direction						
Entrance Ramp	Ramp entrance in segment? (If yes, indicate type.):	S-C Lane	S-C Lane	No	No	No
	Distance from end milepost to upstream entrance ramp gore ($X_{e,ent}$), mi:			0.24	0	0
	Length of ramp entrance ($L_{en,dec}$), mi:	0.12	0.13			
	Length of ramp entrance in segment ($L_{en,seg,dec}$), mi:	0.12	0.13			
	Entrance side?:	Right	Right			
Exit Ramp	Ramp exit in segment? (If yes, indicate type.):	No	No	S-C Lane	No	No
	Distance from begin milepost to downstream exit ramp gore ($X_{b,ext}$), mi:	0.65	0.79		0	
	Length of ramp exit ($L_{ex,dec}$), mi:			0.03		
	Length of ramp exit in segment ($L_{ex,seg,dec}$), mi:			0.03		
	Exit side?:			Right		
Weave	Type B weave in segment?:	No	No	No	No	No
	Length of weaving section ($L_{wev,dec}$), mi:					
	Length of weaving section in segment ($L_{wev,seg,dec}$), mi:					

Traffic Data	**Year**					
Proportion of AADT during high-volume hours (P_{hv}):				0	0	
Freeway Segment Data	2011	37795	39164	36880		
Average daily traffic ($AADT_{fs}$) by year, veh/d:	2012	38566	39963	37633		
(enter data only for those years for which	2013	39353	40779	38401		
it is available, leave other years blank)	2014	40156	41611	39185		
	2015	**40975**	**42460**	**39985**		
	2016					
	2017					
	2018					
	2019					
	2020					
	2021					
	2022					
	2023					
	2024					
	2025					
	2026					

	2027					
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	2030					
	2031					
	2032					
	2033					
	2034					
Entrance Ramp Data for Travel in Increasing Milepost Dir.	**Year**					
Average daily traffic ($AADT_{b,ent}$) by year, veh/d:	2011	0	0	1369		
(enter data only for those years for which	2012	0	0	1397		
it is available, leave other years blank)	2013	0	0	1426		
	2014	0	0	1455		
	2015	0	0	**1485**		
	2016					
	2017					
	2018					
	2019					
	2020					
	2021					
	2022					
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	2025					
	2026					
	2027					
	2028					
	2029					
	2030					
	2031					
	2032					
	2033					
	2034					
Exit Ramp Data for Travel in Increasing Milepost Direction	**Year**					
Average daily traffic ($AADT_{e,ext}$) by year, veh/d:	2011	0	9183	0		
(enter data only for those years for which	2012	0	9370	0		
it is available, leave other years blank)	2013	0	9561	0		
	2014	0	9756	0		
	2015	0	**9955**	0		
	2016					
	2017					
	2018					
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	2021					
	2022					
	2023					
	2024					
	2025					
	2026					
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	2031					
	2032					
	2033					
	2034					
Entrance Ramp Data for Travel in Decreasing Milepost Dir.	**Year**					

Average daily traffic ($AADT_{e,ent}$) by year, veh/d: (enter data only for those years for which it is available, leave other years blank)						
	2011	5530	2282	0		
	2012	5643	2329	0		
	2013	5758	2377	0		
	2014	5875	2426	0		
	2015	**5995**	**2475**	0		
	2016					
	2017					
	2018					
	2019					
	2020					
	2021					
	2022					
	2023					
	2024					
	2025					
	2026					
	2027					
	2028					
	2029					
	2030					
	2031					
	2032					
	2033					
	2034					
Exit Ramp Data for Travel in Decreasing Milepost Direction	**Year**					
Average daily traffic ($AADT_{b,ext}$) by year, veh/d: (enter data only for those years for which it is available, leave other years blank)						
	2011	0	0	1826		
	2012	0	0	1863		
	2013	0	0	1901		
	2014	0	0	1940		
	2015	0	0	**1980**		
	2016					
	2017					
	2018					
	2019					
	2020					
	2021					
	2022					
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	2032					
	2033					
	2034					

Input Worksheet for Ramp Segments

Clear | Echo Input Values (View results in Column CJ) | Check Input Values (View results in Advisory Messages)

		Segment 1	Segment 2	Segment 3	Segment 4	Segment 5	Segment 6	Segment 7	Segment 8
		Study Period	**Study Period**	**Study Period**	**Study Period**	**Study Period**	**Study Period**	**Study Period**	**Study Period**
Basic Roadway Data									
Number of through lanes (n):		1	1	1	1	1	1	1	
Ramp segment description:		S1 NB on ran	S2 NB on ran	S2 SB off ran	S3 NB off ran	S3 SB on ran	S3 SB on ran	S3 SB on ramp join	
Segment length (L), mi:		0.14	0.12	0.2	0.23	0.23	0.08	0.11	
Average traffic speed on the freeway (V_{frwy}), mi/h:		50	50	50	50	50	50	50	
Segment type (ramp or collector-distributor road):		Entrance	Entrance	Exit	Exit	Entrance	Entrance	Entrance	
Type of control at crossroad ramp terminal:		Stop	Stop	Signal	Stop	Signal	Signal	None	
Alignment Data									
Horizontal Curve Data ←See notes→									
1	Horizontal curve?:	No	In Seg.	In Seg.	In Seg.	In Seg.	No	No	
	Curve radius (R_1), ft:		100	275	265	140			
	Length of curve (L_{c1}), mi:		0.04	0.08	0.03	0.04			
	Length of curve in segment ($L_{c1,seg}$), mi:		0.04	0.08	0.03	0.04			
	Ramp-mile of beginning of curve in direction of travel (X_1), mi:		0	0.01	0.08	0			
2	Horizontal curve?:		In Seg.	In Seg.	In Seg.	In Seg.			
	Curve radius (R_2), ft:		105	140	100	150			
	Length of curve (L_{c2}), mi:		0.03	0.04	0.04	0.05			
	Length of curve in segment ($L_{c2,seg}$), mi:		0.03	0.04	0.04	0.05			
	Ramp-mile of beginning of curve in direction of travel (X_2), mi:		0.08	0.14	0.19	0.08			
3	Horizontal curve?:		No	No	No	No			
	Curve radius (R_3), ft:								
	Length of curve (L_{c3}), mi:								
	Length of curve in segment ($L_{c3,seg}$), mi:								
	Ramp-mile of beginning of curve in direction of travel (X_3), mi:								
4	Horizontal curve?:								
	Curve radius (R_4), ft:								
	Length of curve (L_{c4}), mi:								
	Length of curve in segment ($L_{c4,seg}$), mi:								
	Ramp-mile of beginning of curve in direction of travel (X_4), mi:								
5	Horizontal curve?:								
	Curve radius (R_5), ft:								
	Length of curve (L_{c5}), mi:								
	Length of curve in segment ($L_{c5,seg}$), mi:								
	Ramp-mile of beginning of curve in direction of travel (X_5), mi:								
Cross Section Data									
Lane width (W_l), ft:		12	12	12	12	12	12	12	
Right shoulder width (W_{rs}), ft:		6	6	6	6	6	6	6	
Left shoulder width (W_{ls}), ft:		6	3	3	3	3	3	3	
Presence of lane add or lane drop by taper:		No	No	No	No	No	No	No	
	Length of taper in segment ($L_{add,seg}$ or $L_{drop,seg}$), mi:								
Roadside Data									
Presence of barrier on <u>right</u> side of roadway:		Yes	No	Yes	Yes	No	Yes	Yes	
1	Length of barrier ($L_{rb,1}$), mi:	0.03		0.2	0.23		0.08	0.11	
	Distance from edge of traveled way to barrier face ($W_{off,r,1}$), ft:	10		25	20		35	30	
2	Length of barrier ($L_{rb,2}$), mi:								
	Distance from edge of traveled way to barrier face ($W_{off,r,2}$), ft:								
3	Length of barrier ($L_{rb,3}$), mi:								
	Distance from edge of traveled way to barrier face ($W_{off,r,3}$), ft:								
4	Length of barrier ($L_{rb,4}$), mi:								
	Distance from edge of traveled way to barrier face ($W_{off,r,4}$), ft:								
5	Length of barrier ($L_{rb,5}$), mi:								
	Distance from edge of traveled way to barrier face ($W_{off,r,5}$), ft:								
Presence of barrier on <u>left</u> side of roadway:		No	No	No	No	No	No	No	
1	Length of barrier ($L_{lb,1}$), mi:								
	Distance from edge of traveled way to barrier face ($W_{off,l,1}$), ft:								
2	Length of barrier ($L_{lb,2}$), mi:								
	Distance from edge of traveled way to barrier face ($W_{off,l,2}$), ft:								
3	Length of barrier ($L_{lb,3}$), mi:								
	Distance from edge of traveled way to barrier face ($W_{off,l,3}$), ft:								
4	Length of barrier ($L_{lb,4}$), mi:								

	Distance from edge of traveled way to barrier face ($W_{off,l,4}$), ft:								
5	Length of barrier ($L_{lb,5}$), mi:								
	Distance from edge of traveled way to barrier face ($W_{off,l,5}$), ft:								
Ramp Access Data	See note								
Ramp Entrance	Ramp entrance in segment? (If yes, indicate type.):	No	No	No	No	No	No	S-C Lane	
	Length of entrance s-c lane in segment ($L_{en,seg}$), mi:							0.02	
Ramp Exit	Ramp exit in segment? (If yes, indicate type.):	No	No	No	No	No	No	No	
	Length of exit s-c lane in segment ($L_{ex,seg}$), mi:								
Weaving Section	Weave section in collector-distributor road segment?:								
	Length of weaving section (L_{wev}), mi:								
	Length of weaving section in segment ($L_{wev,seg}$), mi:								

Traffic Data	**Year**								
Average daily traffic ($AADT_f$ or $AADT_c$) by year, veh/d:	2011	5530	2282	9183	1826	660	711	1369	
(enter data only for those years for which it is available, leave other years blank)	2012	5643	2329	9370	1863	673	725	1397	
	2013	5758	2377	9561	1901	687	740	1426	
	2014	5875	2426	9756	1940	701	755	1455	
	2015	5995	2475	9955	1980	**715**	**770**	1485	
	2016								
	2017								
	2018								
	2019								
	2020								
	2021								
	2022								
	2023								
	2024								
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	2026								
	2027								
	2028								
	2029								
	2030								
	2031								
	2032								
	2033								
	2034								

Input Worksheet for Crossroad Ramp Terminals

Clear | Echo Input Values (View results in Column T) | Check Input Values (View results in Advisory Messages)

			Terminal 1 Study Period	Terminal 2 Study Period
Basic Intersection Data				
Ramp terminal configuration:			A2	A4
Ramp terminal description:			NB	SB
Ramp terminal traffic control type:			One stop	Signal
Is a non-ramp public street leg present at the terminal (I_{ps})?:				No
Alignment Data				
Exit ramp skew angle (I_{sk}), degrees:			0	
Distance to the next public street intersection on the outside crossroad leg (L_{str}), mi:			0.04	0.09
Distance to the adjacent ramp terminal (L_{rmp}), mi:			0.17	0.17
Traffic Control				
Left-Turn Operational Mode				
Crossroad	Inside approach	Protected-only mode ($I_{p,lt,in}$)?:		
	Outside approach	Protected-only mode ($I_{p,lt,out}$)?:		
Right-Turn Control Type				
Ramp	Exit ramp approach	Right-turn control type:	Stop	Signal
Cross Section Data				
Crossroad median width (W_m), ft:			0	0
Number of Lanes				
Crossroad	Both approaches	Lanes serving through vehicles (n_{th}):	4	2
	Inside approach	Lanes serving through vehicles ($n_{th,in}$):		1
	Outside approach	Lanes serving through vehicles ($n_{th,out}$):		1
Ramp	Exit ramp approach	All lanes (n_{ex}):	2	2
Right-Turn Channelization		see note: →		
Crossroad	Inside approach	Channelization present ($I_{ch,in}$)?:		No
	Outside approach	Channelization present ($I_{ch,out}$)?:		No
Ramp	Exit ramp approach	Channelization present ($I_{ch,ex}$)?:		No
Left-Turn Lane or Bay				
Crossroad	Inside approach	Lane or bay present ($I_{bay,lt,in}$)?:		
		Width of lane or bay ($W_{b,in}$), ft:		
	Outside approach	Lane or bay present ($I_{bay,lt,out}$)?:	No	
		Width of lane or bay ($W_{b,out}$), ft:		
Right-Turn Lane or Bay				
Crossroad	Inside approach	Lane or bay present ($I_{bay,rt,in}$)?:	No	Yes
	Outside approach	Lane or bay present ($I_{bay,rt,out}$)?:		No
Access Data				
Number of driveways on the outside crossroad leg (n_{dw}):				0
Number of public street approaches on the outside crossroad leg (n_{ps}):			2	

Traffic Data	Year		
Inside Crossroad Leg Data	2011	27749	27749
Average daily traffic ($AADT_{in}$) by year, veh/d:	2012	28315	28315
(enter data only for those years for which	2013	28893	28893
it is available, leave other years blank)	2014	29483	29483

	2015	**30085**	30085
	2016		
	2017		
	2018		
	2019		
	2020		
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	2034		
Outside Crossroad Leg Data	2011	25619	22778
Average daily traffic ($AADT_{out}$) by year, veh/d:	2012	26142	23243
(enter data only for those years for which	2013	26676	23717
it is available, leave other years blank)	2014	27220	24201
	2015	**27775**	**24695**
	2016		
	2017		
	2018		
	2019		
	2020		
	2021		
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	2023		
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	2033		
	2034		
Exit Ramp Data	2011	1826	9183
Average daily traffic ($AADT_{ex}$) by year, veh/d:	2012	1863	9370
(enter data only for those years for which	2013	1901	9561
it is available, leave other years blank)	2014	1940	9756
	2015	**1980**	**9955**
For a B4 terminal configuration, enter the AADT for the	2016		
diagonal exit ramp (not the loop exit ramp).	2017		

	2018		
	2019		
	2020		
	2021		
	2022		
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	2034		
Entrance Ramp Data	2011	2282	1369
Average daily traffic ($AADT_{en}$) by year, veh/d:	2012	2329	1397
(enter data only for those years for which	2013	2377	1426
it is available, leave other years blank)	2014	2426	1455
	2015	**2475**	**1485**
For an A4 terminal configuration, enter the AADT for the	2016		
diagonal entrance ramp (not the loop entrance ramp).	2017		
	2018		
	2019		
	2020		
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	2034		

Output Summary

General Information

Project description:	Bend US 97 Parkway				
Analyst:	AMD	Date:	8/6/2018	Area type:	Urban
First year of analysis:	2011				
Last year of analysis:	2015				

Crash Data Description

Freeway segments	Segment crash data available?	No	First year of crash data:	
	Project-level crash data available?	No	Last year of crash data:	
Ramp segments	Segment crash data available?	No	First year of crash data:	
	Project-level crash data available?	No	Last year of crash data:	
Ramp terminals	Segment crash data available?	No	First year of crash data:	
	Project-level crash data available?	No	Last year of crash data:	

Estimated Crash Statistics

Crashes for Entire Facility	**Total**	**K**	**A**	**B**	**C**	**PDO**
Estimated number of crashes during Study Period, crashes:	89.8	0.5	1.7	9.7	21.6	56.3
Estimated average crash freq. during Study Period, crashes/yr:	18.0	0.1	0.3	1.9	4.3	11.3

Crashes by Facility Component	**Nbr. Sites**	**Total**	**K**	**A**	**B**	**C**	**PDO**
Freeway segments, crashes:	3	32.2	0.2	0.6	3.9	6.6	20.9
Ramp segments, crashes:	7	21.4	0.3	0.8	3.6	5.2	11.5
Crossroad ramp terminals, crashes:	2	36.2	0.0	0.4	2.2	9.8	23.9

Crashes for Entire Facility by Year	**Year**	**Total**	**K**	**A**	**B**	**C**	**PDO**
Estimated number of crashes during the Study Period, crashes:	2011	17.1	0.1	0.3	1.9	4.2	10.7
	2012	17.5	0.1	0.3	1.9	4.2	11.0
	2013	17.9	0.1	0.3	1.9	4.3	11.2
	2014	18.4	0.1	0.3	2.0	4.4	11.5
	2015	18.8	0.1	0.4	2.0	4.5	11.8
	2016						
	2017						
	2018						
	2019						
	2020						
	2021						
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	2031						
	2032						
	2033						
	2034						

Distribution of Crashes for Entire Facility

Crash Type	**Crash Type Category**	**Estimated Number of Crashes During the Study Period**					
		Total	**K**	**A**	**B**	**C**	**PDO**
Multiple vehicle	Head-on crashes:	0.5	0.0	0.0	0.0	0.2	0.3
	Right-angle crashes:	11.4	0.0	0.1	0.8	3.3	7.3
	Rear-end crashes:	33.3	0.1	0.5	3.2	8.7	20.8
	Sideswipe crashes:	8.6	0.0	0.1	0.6	1.2	6.8
	Other multiple-vehicle crashes:	1.2	0.0	0.0	0.1	0.3	0.8
	Total multiple-vehicle crashes:	55.0	0.2	0.7	4.7	13.6	35.8
Single vehicle	Crashes with animal:	0.2	0.0	0.0	0.0	0.0	0.2
	Crashes with fixed object:	26.4	0.2	0.7	3.6	5.8	16.1
	Crashes with other object:	1.7	0.0	0.0	0.1	0.2	1.3
	Crashes with parked vehicle:	0.5	0.0	0.0	0.1	0.1	0.4
	Other single-vehicle crashes	5.9	0.1	0.2	1.2	2.0	2.4
	Total single-vehicle crashes:	34.8	0.3	1.0	5.0	8.0	20.4
	Total crashes:	89.8	0.5	1.7	9.7	21.6	56.3

Input Worksheet for Freeway Segments

Clear | Echo Input Values (View results in Column AV) | Check Input Values (View results in Advisory Messages)

		Segment 1 Study Period	Segment 2 Study Period	Segment 3 Study Period
Basic Roadway Data				
Number of through lanes (n):		4		
Freeway segment description:		Murphy MP 140.95 (141.70)-MP 142.02		
Segment length (L), mi:		0.32		
Alignment Data				
Horizontal Curve Data ↖See note				
1	Horizontal curve in segment?:	No	No	No
	Curve radius (R_1), ft:			
	Length of curve (L_{c1}), mi:			
	Length of curve in segment ($L_{c1,seg}$), mi:			
2	Horizontal curve in segment?:			
	Curve radius (R_2), ft:			
	Length of curve (L_{c2}), mi:			
	Length of curve in segment ($L_{c2,seg}$), mi:			
3	Horizontal curve in segment?:			
	Curve radius (R_3), ft:			
	Length of curve (L_{c3}), mi:			
	Length of curve in segment ($L_{c3,seg}$), mi:			
Cross Section Data				
Lane width (W_l), ft:		12		
Outside shoulder width (W_s), ft:		7		
Inside shoulder width (W_{is}), ft:		2		
Median width (W_m), ft:		14		
Rumble strips on outside shoulders?:		No		No
	Length of rumble strips for travel in increasing milepost direction, mi:			
	Length of rumble strips for travel in decreasing milepost direction, mi:			
Rumble strips on inside shoulders?:		No	No	No
	Length of rumble strips for travel in increasing milepost direction, mi:			
	Length of rumble strips for travel in decreasing milepost direction, mi:			
Presence of barrier in median:		Center	None	None
1	Length of barrier ($L_{ib,1}$), mi:	0.32		
	Distance from edge of traveled way to barrier face ($W_{off,in,1}$), ft:	6		
2	Length of barrier ($L_{ib,2}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,in,2}$), ft:			
3	Length of barrier ($L_{ib,3}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,in,3}$), ft:			
4	Length of barrier ($L_{ib,4}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,in,4}$), ft:			
5	Length of barrier ($L_{ib,5}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,in,5}$), ft:			
Median barrier width (W_{ib}), ft:		2		
Nearest distance from edge of traveled way to barrier face (W_{near}), ft:				

Roadside Data				
Clear zone width (W_{hc}), ft:		30		
Presence of barrier on roadside:		None		None
1	Length of barrier ($L_{ob,1}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,o,1}$), ft:			
2	Length of barrier ($L_{ob,2}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,o,2}$), ft:			
3	Length of barrier ($L_{ob,3}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,o,3}$), ft:			
4	Length of barrier ($L_{ob,4}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,o,4}$), ft:			
5	Length of barrier ($L_{ob,5}$), mi:			
	Distance from edge of traveled way to barrier face ($W_{off,o,5}$), ft:			
Distance from edge of traveled way to barrier face, increasing milepost ($W_{off,inc}$), ft:				
Distance from edge of traveled way to barrier face, decreasing milepost ($W_{off,dec}$), ft:				
Ramp Access Data				
Travel in Increasing Milepost Direction				
Entrance Ramp	Ramp entrance in segment? (If yes, indicate type.):	S-C Lane	No	No
	Distance from begin milepost to upstream entrance ramp gore ($X_{b,ent}$), mi:			0
	Length of ramp entrance ($L_{en,inc}$), mi:	0.14		
	Length of ramp entrance in segment ($L_{en,seg,inc}$), mi:	0.14		
	Entrance side?:	Right		
Exit Ramp	Ramp exit in segment? (If yes, indicate type.):	**S-C Lane**	No	No
	Distance from end milepost to downstream exit ramp gore ($X_{e,ext}$), mi:			0
	Length of ramp exit ($L_{ex,inc}$), mi:	**0.07**		
	Length of ramp exit in segment ($L_{ex,seg,inc}$), mi:	**0.07**		
	Exit side?:	Right		
Weave	Type B weave in segment?:	No	No	No
	Length of weaving section ($L_{wev,inc}$), mi:			
	Length of weaving section in segment ($L_{wev,seg,inc}$), mi:			
Travel in Decreasing Milepost Direction				
Entrance Ramp	Ramp entrance in segment? (If yes, indicate type.):	**S-C Lane**	No	No
	Distance from end milepost to upstream entrance ramp gore ($X_{e,ent}$), mi:		0	0
	Length of ramp entrance ($L_{en,dec}$), mi:	**0.07**		
	Length of ramp entrance in segment ($L_{en,seg,dec}$), mi:	**0.07**		
	Entrance side?:	Right		
Exit Ramp	Ramp exit in segment? (If yes, indicate type.):	S-C Lane	No	No
	Distance from begin milepost to downstream exit ramp gore ($X_{b,ext}$), mi:			0
	Length of ramp exit ($L_{ex,dec}$), mi:	0.03		
	Length of ramp exit in segment ($L_{ex,seg,dec}$), mi:	0.03		
	Exit side?:	Right		
Weave	Type B weave in segment?:	No	No	No
	Length of weaving section ($L_{wev,dec}$), mi:			
	Length of weaving section in segment ($L_{wev,seg,dec}$), mi:			
Traffic Data	**Year**			

Proportion of AADT during high-volume hours (P_{hv}):				0
Freeway Segment Data	2011	28663		
Average daily traffic ($AADT_{fs}$) by year, veh/d:	2012	29248		
(enter data only for those years for which	2013	29845		
it is available, leave other years blank)	2014	30454		
	2015	**31075**		
	2016			
	2017			
	2018			
	2019			
	2020			
	2021			
	2022			
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	2024			
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	2034			
Entrance Ramp Data for Travel in Increasing Milepost Dir.	**Year**			
Average daily traffic ($AADT_{b,ent}$) by year, veh/d:	2011	6595		
(enter data only for those years for which	2012	6730		
it is available, leave other years blank)	2013	6867		
	2014	7007		
	2015	**7150**		
	2016			
	2017			
	2018			
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Exit Ramp Data for Travel in Increasing Milepost Direction	**Year**			

Average daily traffic ($AADT_{e,ext}$) by year, veh/d:	2011	1167		
(enter data only for those years for which	2012	1191		
it is available, leave other years blank)	2013	1215		
	2014	1240		
	2015	**1265**		
	2016			
	2017			
	2018			
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	2020			
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	2023			
	2024			
	2025			
	2026			
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	2034			
Entrance Ramp Data for Travel in Decreasing Milepost Dir.	**Year**			
Average daily traffic ($AADT_{e,ent}$) by year, veh/d:	2011	1624		
(enter data only for those years for which	2012	1657		
it is available, leave other years blank)	2013	1691		
	2014	1725		
	2015	**1760**		
	2016			
	2017			
	2018			
	2019			
	2020			
	2021			
	2022			
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	2034			
Exit Ramp Data for Travel in Decreasing Milepost Direction	**Year**			
Average daily traffic ($AADT_{b,ext}$) by year, veh/d:	2011	3298		

(enter data only for those years for which it is available, leave other years blank)

2012	3365		
2013	3434		
2014	3504		
2015	**3575**		
2016			
2017			
2018			
2019			
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Input Worksheet for Ramp Segments

Clear | Echo Input Values (View results in Column CJ) | Check Input Values (View results in Advisory Messages)

		Segment 1	Segment 2	Segment 3	Segment 4
		Study Period	**Study Period**	**Study Period**	**Study Period**
Basic Roadway Data					
	Number of through lanes (n):	1	1		
	Ramp segment description:	NB off ramp	SB on ramp	**NB on ramp**	**SB off ramp**
	Segment length (L), mi:	0.12	0.15	**0.09**	**0.09**
	Average traffic speed on the freeway (V_{frwy}), mi/h:	50	50	**50**	**50**
	Segment type (ramp or collector-distributor road):	Exit	**Entrance**	**Entrance**	**Exit**
	Type of control at crossroad ramp terminal:	Yield	Yield	**Yield**	**Yield**
Alignment Data					
Horizontal Curve Data	← See notes →				
1	Horizontal curve?:	In Seg.	In Seg.	**No**	**No**
	Curve radius (R_1), ft:	125	100		
	Length of curve (L_{c1}), mi:	0.02	0.03		
	Length of curve in segment ($L_{c1,seg}$), mi:	0.02	0.03		
	Ramp-mile of beginning of curve in direction of travel (X_1), mi:	0.25	0.25		
2	Horizontal curve?:	No	No		
	Curve radius (R_2), ft:				
	Length of curve (L_{c2}), mi:				
	Length of curve in segment ($L_{c2,seg}$), mi:				
	Ramp-mile of beginning of curve in direction of travel (X_2), mi:				
3	Horizontal curve?:				
	Curve radius (R_3), ft:				
	Length of curve (L_{c3}), mi:				
	Length of curve in segment ($L_{c3,seg}$), mi:				
	Ramp-mile of beginning of curve in direction of travel (X_3), mi:				
4	Horizontal curve?:				
	Curve radius (R_4), ft:				
	Length of curve (L_{c4}), mi:				
	Length of curve in segment ($L_{c4,seg}$), mi:				
	Ramp-mile of beginning of curve in direction of travel (X_4), mi:				
5	Horizontal curve?:				
	Curve radius (R_5), ft:				
	Length of curve (L_{c5}), mi:				
	Length of curve in segment ($L_{c5,seg}$), mi:				
	Ramp-mile of beginning of curve in direction of travel (X_5), mi:				
Cross Section Data					
	Lane width (W_l), ft:	12	12	**12**	**12**
	Right shoulder width (W_{rs}), ft:	6	6	**6**	**6**
	Left shoulder width (W_{ls}), ft:	6	6	**6**	**6**
	Presence of lane add or lane drop by taper:	No	No	**No**	**No**
	Length of taper in segment ($L_{add,seg}$ or $L_{drop,seg}$), mi:				
Roadside Data					
	Presence of barrier on right side of roadway:	No	Yes	**No**	**No**
1	Length of barrier ($L_{rb,1}$), mi:		0.06		
	Distance from edge of traveled way to barrier face ($W_{off,r,1}$), ft:		6		

2	Length of barrier ($L_{rb,2}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,r,2}$), ft:				
3	Length of barrier ($L_{rb,3}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,r,3}$), ft:				
4	Length of barrier ($L_{rb,4}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,r,4}$), ft:				
5	Length of barrier ($L_{rb,5}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,r,5}$), ft:				
Presence of barrier on left side of roadway:		Yes	Yes	**No**	**No**
1	Length of barrier ($L_{lb,1}$), mi:	0.08	0.1		
	Distance from edge of traveled way to barrier face ($W_{off,l,1}$), ft:	2	6		
2	Length of barrier ($L_{lb,2}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,l,2}$), ft:				
3	Length of barrier ($L_{lb,3}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,l,3}$), ft:				
4	Length of barrier ($L_{lb,4}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,l,4}$), ft:				
5	Length of barrier ($L_{lb,5}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,l,5}$), ft:				
Ramp Access Data	← See note				
Ramp Entrance	Ramp entrance in segment? (If yes, indicate type.):	No	No	No	No
	Length of entrance s-c lane in segment ($L_{en,seg}$), mi:				
Ramp Exit	Ramp exit in segment? (If yes, indicate type.):	No	No	No	No
	Length of exit s-c lane in segment ($L_{ex,seg}$), mi:				
Weaving Section	Weave section in collector-distributor road segment?:				
	Length of weaving section (L_{wev}), mi:				
	Length of weaving section in segment ($L_{wev,seg}$), mi:				

Traffic Data	**Year**				
Average daily traffic ($AADT_r$ or $AADT_c$) by year, veh/d:	2011	3298	6595	1624	1167
(enter data only for those years for which	2012	3365	6730	1657	1191
it is available, leave other years blank)	2013	3434	6867	1691	1215
	2014	3504	7007	1725	1240
	2015	3575	7150	1760	1265
	2016				
	2017				
	2018				
	2019				
	2020				
	2021				
	2022				
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2033				
2034				

Output Summary

General Information

Project description:	Bend US 97 Parkway				
Analyst:	AMD	Date:	9/4/2019	Area type:	Urban
First year of analysis:	2011				
Last year of analysis:	2015				

Crash Data Description

Freeway segments	Segment crash data available?	No	First year of crash data:	
	Project-level crash data available?	No	Last year of crash data:	
Ramp segments	Segment crash data available?	No	First year of crash data:	
	Project-level crash data available?	No	Last year of crash data:	
Ramp terminals	Segment crash data available?	No	First year of crash data:	
	Project-level crash data available?	No	Last year of crash data:	

Estimated Crash Statistics

Crashes for Entire Facility	**Total**	**K**	**A**	**B**	**C**	**PDO**
Estimated number of crashes during Study Period, crashes:	27.9	0.2	0.6	3.9	6.3	16.9
Estimated average crash freq. during Study Period, crashes/yr:	5.6	0.0	0.1	0.8	1.3	3.4

Crashes by Facility Component	**Nbr. Sites**	**Total**	**K**	**A**	**B**	**C**	**PDO**
Freeway segments, crashes:	1	11.7	0.1	0.2	1.4	2.5	7.6
Ramp segments, crashes:	4	16.2	0.1	0.4	2.5	3.8	9.3
Crossroad ramp terminals, crashes:	0	0.0	0.0	0.0	0.0	0.0	0.0

Crashes for Entire Facility by Year	**Year**	**Total**	**K**	**A**	**B**	**C**	**PDO**
Estimated number of crashes during the Study Period, crashes:	2011	5.4	0.0	0.1	0.7	1.2	3.2
	2012	5.5	0.0	0.1	0.8	1.2	3.3
	2013	5.6	0.0	0.1	0.8	1.3	3.4
	2014	5.7	0.0	0.1	0.8	1.3	3.4
	2015	5.8	0.0	0.1	0.8	1.3	3.5
	2016						
	2017						
	2018						
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	2034						

Distribution of Crashes for Entire Facility

Crash Type	**Crash Type Category**	**Estimated Number of Crashes During the Study Period**					
		Total	**K**	**A**	**B**	**C**	**PDO**
Multiple vehicle	Head-on crashes:	0.0	0.0	0.0	0.0	0.0	0.0
	Right-angle crashes:	0.2	0.0	0.0	0.0	0.0	0.1
	Rear-end crashes:	5.8	0.0	0.1	0.7	1.3	3.6
	Sideswipe crashes:	2.0	0.0	0.0	0.2	0.3	1.5
	Other multiple-vehicle crashes:	0.3	0.0	0.0	0.0	0.1	0.2
	Total multiple-vehicle crashes:	8.3	0.1	0.1	1.0	1.8	5.3
Single vehicle	Crashes with animal:	0.1	0.0	0.0	0.0	0.0	0.1
	Crashes with fixed object:	15.0	0.1	0.3	2.1	3.3	9.3
	Crashes with other object:	0.8	0.0	0.0	0.1	0.1	0.6
	Crashes with parked vehicle:	0.2	0.0	0.0	0.0	0.1	0.1
	Other single-vehicle crashes	3.3	0.0	0.1	0.7	1.1	1.4
	Total single-vehicle crashes:	19.5	0.2	0.5	2.9	4.5	11.5
	Total crashes:	27.9	0.2	0.6	3.9	6.3	16.9

Input Worksheet for Freeway Segments

Clear | Echo Input Values (View results in Column AV) | Check Input Values (View results in Advisory Messages)

		Segment 1 Study Period	Segment 2 Study Period	Segment 3 Study Period	Segment 4 Study Period
Basic Roadway Data					
	Number of through lanes (n):	4	4		
	Freeway segment description:	N Baker/Knott	S Baker/Knott MP 143.4-143.7		
	Segment length (L), mi:	0.28	0.32		
Alignment Data					
Horizontal Curve Data ← See note					
1	Horizontal curve in segment?:	No	No	No	No
	Curve radius (R_1), ft:				
	Length of curve (L_{c1}), mi:				
	Length of curve in segment ($L_{c1,seg}$), mi:				
2	Horizontal curve in segment?:				
	Curve radius (R_2), ft:				
	Length of curve (L_{c2}), mi:				
	Length of curve in segment ($L_{c2,seg}$), mi:				
3	Horizontal curve in segment?:				
	Curve radius (R_3), ft:				
	Length of curve (L_{c3}), mi:				
	Length of curve in segment ($L_{c3,seg}$), mi:				
Cross Section Data					
	Lane width (W_l), ft:	12	12		
	Outside shoulder width (W_s), ft:	6	6		
	Inside shoulder width (W_{is}), ft:	2	2		
	Median width (W_m), ft:	8	8		
	Rumble strips on outside shoulders?:	No	No	No	No
	Length of rumble strips for travel in increasing milepost direction, mi:				
	Length of rumble strips for travel in decreasing milepost direction, mi:				
	Rumble strips on inside shoulders?:	No	No	No	No
	Length of rumble strips for travel in increasing milepost direction, mi:				
	Length of rumble strips for travel in decreasing milepost direction, mi:				
	Presence of barrier in median:	Center	Center	None	None
1	Length of barrier ($L_{ib,1}$), mi:	0.28	0.32		
	Distance from edge of traveled way to barrier face ($W_{off,in,1}$), ft:	3	3		
2	Length of barrier ($L_{ib,2}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,in,2}$), ft:				
3	Length of barrier ($L_{ib,3}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,in,3}$), ft:				
4	Length of barrier ($L_{ib,4}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,in,4}$), ft:				
5	Length of barrier ($L_{ib,5}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,in,5}$), ft:				
	Median barrier width (W_{ib}), ft:	2	2		
	Nearest distance from edge of traveled way to barrier face (W_{near}), ft:				
Roadside Data					
	Clear zone width (W_{hc}), ft:	30	30		
	Presence of barrier on roadside:	Some	None		

1	Length of barrier ($L_{ob,1}$), mi:	0.02			
	Distance from edge of traveled way to barrier face ($W_{off,o,1}$), ft:	6			
2	Length of barrier ($L_{ob,2}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,o,2}$), ft:				
3	Length of barrier ($L_{ob,3}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,o,3}$), ft:				
4	Length of barrier ($L_{ob,4}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,o,4}$), ft:				
5	Length of barrier ($L_{ob,5}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,o,5}$), ft:				
Distance from edge of traveled way to barrier face, increasing milepost ($W_{off,inc}$), ft:					
Distance from edge of traveled way to barrier face, decreasing milepost ($W_{off,dec}$), ft:					
Ramp Access Data					
Travel in Increasing Milepost Direction					
Entrance Ramp	Ramp entrance in segment? (If yes, indicate type.):	No	S-C Lane	No	No
	Distance from begin milepost to upstream entrance ramp gore ($X_{b,ent}$), mi:	0.67		0	0
	Length of ramp entrance ($L_{en,inc}$), mi:		0.2		
	Length of ramp entrance in segment ($L_{en,seg,inc}$), mi:		0.2		
	Entrance side?:		Right		
Exit Ramp	Ramp exit in segment? (If yes, indicate type.):	S-C Lane	No	No	No
	Distance from end milepost to downstream exit ramp gore ($X_{e,ext}$), mi:		1.15	0	0
	Length of ramp exit ($L_{ex,inc}$), mi:	0.05			
	Length of ramp exit in segment ($L_{ex,seg,inc}$), mi:	0.05			
	Exit side?:	Right			
Weave	Type B weave in segment?:	No	No	No	No
	Length of weaving section ($L_{wev,inc}$), mi:				
	Length of weaving section in segment ($L_{wev,seg,inc}$), mi:				
Travel in Decreasing Milepost Direction					
Entrance Ramp	Ramp entrance in segment? (If yes, indicate type.):	S-C Lane	No	No	No
	Distance from end milepost to upstream entrance ramp gore ($X_{e,ent}$), mi:		1.35	0	0
	Length of ramp entrance ($L_{en,dec}$), mi:	0.15			
	Length of ramp entrance in segment ($L_{en,seg,dec}$), mi:	0.15			
	Entrance side?:	Right			
Exit Ramp	Ramp exit in segment? (If yes, indicate type.):	No	S-C Lane	No	No
	Distance from begin milepost to downstream exit ramp gore ($X_{b,ext}$), mi:	0.9		0	0
	Length of ramp exit ($L_{ex,dec}$), mi:		0.06		
	Length of ramp exit in segment ($L_{ex,seg,dec}$), mi:		0.06		
	Exit side?:		Right		
Weave	Type B weave in segment?:	No	No	No	No
	Length of weaving section ($L_{wev,dec}$), mi:				
	Length of weaving section in segment ($L_{wev,seg,dec}$), mi:				

Traffic Data	**Year**				
Proportion of AADT during high-volume hours (P_{hv}):				0	0
Freeway Segment Data	2011	19886	22372		
Average daily traffic ($AADT_{fs}$) by year, veh/d:	2012	20292	22829		
(enter data only for those years for which	2013	20706	23295		
it is available, leave other years blank)	2014	21129	23770		
	2015	**21560**	**24255**		
	2016				

	2017				
	2018				
	2019				
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	2023				
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	2034				
Entrance Ramp Data for Travel in Increasing Milepost Dir.	**Year**				
Average daily traffic ($AADT_{b,ent}$) by year, veh/d:	2011	0	2485		
(enter data only for those years for which	2012	0	2536		
it is available, leave other years blank)	2013	0	2588		
	2014	0	2641		
	2015	0	**2695**		
	2016				
	2017				
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	2022				
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	2034				
Exit Ramp Data for Travel in Increasing Milepost Direction	**Year**				
Average daily traffic ($AADT_{e,ext}$) by year, veh/d:	2011	6898	0		
(enter data only for those years for which	2012	7039	0		
it is available, leave other years blank)	2013	7183	0		
	2014	7330	0		
	2015	**7480**	0		
	2016				
	2017				
	2018				
	2019				
	2020				

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	2022				
	2023				
	2024				
	2025				
	2026				
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	2033				
	2034				
Entrance Ramp Data for Travel in Decreasing Milepost Dir.	**Year**				
Average daily traffic ($AADT_{e,ent}$) by year, veh/d:	2011	2841	0		
(enter data only for those years for which	2012	2899	0		
it is available, leave other years blank)	2013	2958	0		
	2014	3018	0		
	2015	**3080**	0		
	2016				
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	2020				
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	2022				
	2023				
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	2034				
Exit Ramp Data for Travel in Decreasing Milepost Direction	**Year**				
Average daily traffic ($AADT_{b,ext}$) by year, veh/d:	2011	0	1674		
(enter data only for those years for which	2012	0	1708		
it is available, leave other years blank)	2013	0	1743		
	2014	0	1779		
	2015	0	**1815**		
	2016				
	2017				
	2018				
	2019				
	2020				
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2034				

Input Worksheet for Ramp Segments

Clear | Echo Input Values (View results in Column CJ) | Check Input Values (View results in Advisory Messages)

		Segment 1 Study Period	Segment 2 Study Period	Segment 3 Study Period	Segment 4 Study Period
Basic Roadway Data					
	Number of through lanes (n):	1	1	1	1
	Ramp segment description:	NB on ramp	NB off ramp	SB on ramp	SB off ramp
	Segment length (L), mi:	0.27	0.15	0.16	0.18
	Average traffic speed on the freeway (V_{frwy}), mi/h:	50	50	50	50
	Segment type (ramp or collector-distributor road):	Entrance	Exit	Entrance	Exit
	Type of control at crossroad ramp terminal:	Stop	Stop	Stop	Stop
Alignment Data					
Horizontal Curve Data	← See notes →				
1	Horizontal curve?:	In Seg.	In Seg.	In Seg.	In Seg.
	Curve radius (R_1), ft:	545	545	150	315
	Length of curve (L_{c1}), mi:	0.06	0.06	0.09	0.05
	Length of curve in segment ($L_{c1,seg}$), mi:	0.06	0.06	0.09	0.05
	Ramp-mile of beginning of curve in direction of travel (X_1), mi:	0	0.09	0.09	0.16
2	Horizontal curve?:	No	No	No	No
	Curve radius (R_2), ft:				
	Length of curve (L_{c2}), mi:				
	Length of curve in segment ($L_{c2,seg}$), mi:				
	Ramp-mile of beginning of curve in direction of travel (X_2), mi:				
3	Horizontal curve?:				
	Curve radius (R_3), ft:				
	Length of curve (L_{c3}), mi:				
	Length of curve in segment ($L_{c3,seg}$), mi:				
	Ramp-mile of beginning of curve in direction of travel (X_3), mi:				
4	Horizontal curve?:				
	Curve radius (R_4), ft:				
	Length of curve (L_{c4}), mi:				
	Length of curve in segment ($L_{c4,seg}$), mi:				
	Ramp-mile of beginning of curve in direction of travel (X_4), mi:				
5	Horizontal curve?:				
	Curve radius (R_5), ft:				
	Length of curve (L_{c5}), mi:				
	Length of curve in segment ($L_{c5,seg}$), mi:				
	Ramp-mile of beginning of curve in direction of travel (X_5), mi:				
Cross Section Data					
	Lane width (W_l), ft:	12	12	12	12
	Right shoulder width (W_{rs}), ft:	5	2	2	5
	Left shoulder width (W_{ls}), ft:	2	2	2	5
	Presence of lane add or lane drop by taper:	No	No	No	No
	Length of taper in segment ($L_{add,seg}$ or $L_{drop,seg}$), mi:				
Roadside Data					
	Presence of barrier on right side of roadway:	Yes	Yes	No	Yes
1	Length of barrier ($L_{rb,1}$), mi:	0.11	0.06		0.02
	Distance from edge of traveled way to barrier face ($W_{off,r,1}$), ft:	6	6		6

2	Length of barrier ($L_{rb,2}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,r,2}$), ft:				
3	Length of barrier ($L_{rb,3}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,r,3}$), ft:				
4	Length of barrier ($L_{rb,4}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,r,4}$), ft:				
5	Length of barrier ($L_{rb,5}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,r,5}$), ft:				
Presence of barrier on left side of roadway:		Yes	Yes	No	Yes
1	Length of barrier ($L_{lb,1}$), mi:	0.05	0.04		0.02
	Distance from edge of traveled way to barrier face ($W_{off,l,1}$), ft:	6	6		6
2	Length of barrier ($L_{lb,2}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,l,2}$), ft:				
3	Length of barrier ($L_{lb,3}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,l,3}$), ft:				
4	Length of barrier ($L_{lb,4}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,l,4}$), ft:				
5	Length of barrier ($L_{lb,5}$), mi:				
	Distance from edge of traveled way to barrier face ($W_{off,l,5}$), ft:				
Ramp Access Data	← See note				
Ramp Entrance	Ramp entrance in segment? (If yes, indicate type.):	No	No	No	No
	Length of entrance s-c lane in segment ($L_{en,seg}$), mi:				
Ramp Exit	Ramp exit in segment? (If yes, indicate type.):	No	No	No	No
	Length of exit s-c lane in segment ($L_{ex,seg}$), mi:				
Weaving Section	Weave section in collector-distributor road segment?:				
	Length of weaving section (L_{wev}), mi:				
	Length of weaving section in segment ($L_{wev,seg}$), mi:				

Traffic Data	**Year**				
Average daily traffic ($AADT_r$ or $AADT_c$) by year, veh/d:	2011	2841	1674	2485	6898
(enter data only for those years for which	2012	2899	1708	2536	7039
it is available, leave other years blank)	2013	2958	1743	2588	7183
	2014	3018	1779	2641	7330
	2015	3080	1815	2695	7480
	2016				
	2017				
	2018				
	2019				
	2020				
	2021				
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Input Worksheet for Crossroad Ramp Terminals

Clear | Echo Input Values (View results in Column T) | Check Input Values (View results in Advisory Messages)

			Terminal 1 Study Period	Terminal 2 Study Period
Basic Intersection Data				
Ramp terminal configuration:			D4	A2
Ramp terminal description:			NB	SB
Ramp terminal traffic control type:			One stop	One stop
Is a non-ramp public street leg present at the terminal (I_{ps})?:				
Alignment Data				
Exit ramp skew angle (I_{sk}), degrees:			0	0
Distance to the next public street intersection on the outside crossroad leg (L_{str}), mi:			0.1	0.03
Distance to the adjacent ramp terminal (L_{rmp}), mi:			0.15	0.15
Traffic Control				
Left-Turn Operational Mode				
Crossroad	Inside approach	Protected-only mode ($I_{p,lt,in}$)?:		
	Outside approach	Protected-only mode ($I_{p,lt,out}$)?:		
Right-Turn Control Type				
Ramp	Exit ramp approach	Right-turn control type:	Stop	Stop
Cross Section Data				
Crossroad median width (W_m), ft:			0	0
Number of Lanes				
Crossroad	Both approaches	Lanes serving through vehicles (n_{th}):	2	2
	Inside approach	Lanes serving through vehicles ($n_{th,in}$):		
	Outside approach	Lanes serving through vehicles ($n_{th,out}$):		
Ramp	Exit ramp approach	All lanes (n_{ex}):	1	2
Right-Turn Channelization		see note: →		
Crossroad	Inside approach	Channelization present ($I_{ch,in}$)?:		
	Outside approach	Channelization present ($I_{ch,out}$)?:		
Ramp	Exit ramp approach	Channelization present ($I_{ch,ex}$)?:		
Left-Turn Lane or Bay				
Crossroad	Inside approach	Lane or bay present ($I_{bay,lt,in}$)?:	No	
		Width of lane or bay ($W_{b,in}$), ft:		
	Outside approach	Lane or bay present ($I_{bay,lt,out}$)?:		No
		Width of lane or bay ($W_{b,out}$), ft:		
Right-Turn Lane or Bay				
Crossroad	Inside approach	Lane or bay present ($I_{bay,rt,in}$)?:		Yes
	Outside approach	Lane or bay present ($I_{bay,rt,out}$)?:	No	
Access Data				
Number of driveways on the outside crossroad leg (n_{dw}):				
Number of public street approaches on the outside crossroad leg (n_{ps}):				1

Traffic Data	Year		
Inside Crossroad Leg Data	2011	13342	13342
Average daily traffic ($AADT_{in}$) by year, veh/d:	2012	13614	13614
(enter data only for those years for which	2013	13892	13892
it is available, leave other years blank)	2014	14176	14176

	2015	**14465**	14465
	2016		
	2017		
	2018		
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	2024		
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	2033		
	2034		
Outside Crossroad Leg Data	2011	11973	13799
Average daily traffic ($AADT_{out}$) by year, veh/d:	2012	12217	14081
(enter data only for those years for which	2013	12466	14368
it is available, leave other years blank)	2014	12720	14661
	2015	**12980**	**14960**
	2016		
	2017		
	2018		
	2019		
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	2034		
Exit Ramp Data	2011	1674	6898
Average daily traffic ($AADT_{ex}$) by year, veh/d:	2012	1708	7039
(enter data only for those years for which	2013	1743	7183
it is available, leave other years blank)	2014	1779	7330
	2015	1815	7480
For a B4 terminal configuration, enter the AADT for the	2016		
diagonal exit ramp (not the loop exit ramp).	2017		

	2018		
	2019		
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	2034		
Entrance Ramp Data	2011	2841	2485
Average daily traffic ($AADT_{en}$) by year, veh/d:	2012	2899	2536
(enter data only for those years for which	2013	2958	2588
it is available, leave other years blank)	2014	3018	2641
	2015	3080	2695
For an A4 terminal configuration, enter the AADT for the	2016		
diagonal entrance ramp (not the loop entrance ramp).	2017		
	2018		
	2019		
	2020		
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Output Summary

General Information

Project description:	Bend US 97 Parkway				
Analyst:	AMD	Date:	9/4/2019	Area type:	Urban
First year of analysis:	2011				
Last year of analysis:	2015				

Crash Data Description

Freeway segments	Segment crash data available?	No	First year of crash data:	
	Project-level crash data available?	No	Last year of crash data:	
Ramp segments	Segment crash data available?	No	First year of crash data:	
	Project-level crash data available?	No	Last year of crash data:	
Ramp terminals	Segment crash data available?	No	First year of crash data:	
	Project-level crash data available?	No	Last year of crash data:	

Estimated Crash Statistics

Crashes for Entire Facility	**Total**	**K**	**A**	**B**	**C**	**PDO**
Estimated number of crashes during Study Period, crashes:	58.0	0.3	1.0	5.9	13.6	37.2
Estimated average crash freq. during Study Period, crashes/yr:	11.6	0.1	0.2	1.2	2.7	7.4

Crashes by Facility Component	**Nbr. Sites**	**Total**	**K**	**A**	**B**	**C**	**PDO**
Freeway segments, crashes:	2	16.4	0.1	0.3	1.9	3.5	10.6
Ramp segments, crashes:	4	12.5	0.1	0.4	2.4	3.1	6.5
Crossroad ramp terminals, crashes:	2	29.0	0.0	0.2	1.6	7.0	20.1

Crashes for Entire Facility by Year	**Year**	**Total**	**K**	**A**	**B**	**C**	**PDO**
Estimated number of crashes during the Study Period, crashes:	2011	11.0	0.1	0.2	1.1	2.6	7.1
	2012	11.3	0.1	0.2	1.2	2.7	7.2
	2013	11.6	0.1	0.2	1.2	2.7	7.4
	2014	11.9	0.1	0.2	1.2	2.8	7.6
	2015	12.2	0.1	0.2	1.2	2.9	7.8
	2016						
	2017						
	2018						
	2019						
	2020						
	2021						
	2022						
	2023						
	2024						
	2025						
	2026						
	2027						
	2028						
	2029						
	2030						
	2031						
	2032						
	2033						
	2034						

Distribution of Crashes for Entire Facility

Crash Type	**Crash Type Category**	**Estimated Number of Crashes During the Study Period**					
		Total	**K**	**A**	**B**	**C**	**PDO**
Multiple vehicle	Head-on crashes:	0.4	0.0	0.0	0.0	0.1	0.3
	Right-angle crashes:	11.9	0.0	0.1	0.8	3.3	7.7
	Rear-end crashes:	17.3	0.1	0.2	1.4	4.1	11.5
	Sideswipe crashes:	4.0	0.0	0.0	0.2	0.5	3.2
	Other multiple-vehicle crashes:	0.8	0.0	0.0	0.1	0.2	0.5
	Total multiple-vehicle crashes:	34.4	0.1	0.4	2.5	8.2	23.2
Single vehicle	Crashes with animal:	0.2	0.0	0.0	0.0	0.0	0.1
	Crashes with fixed object:	17.9	0.1	0.4	2.4	3.9	11.0
	Crashes with other object:	1.1	0.0	0.0	0.1	0.1	0.9
	Crashes with parked vehicle:	0.4	0.0	0.0	0.0	0.1	0.3
	Other single-vehicle crashes	4.0	0.0	0.1	0.8	1.3	1.7
	Total single-vehicle crashes:	23.6	0.2	0.6	3.4	5.4	14.0
	Total crashes:	58.0	0.3	1.0	5.9	13.6	37.2

Synchro HCM reports (Future 2040 Build Bundle A Conditions)

Intersection	
Intersection Delay, s/veh	240.1
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	90	425	175	65	345	95	80	315	65	175	255	355
Future Vol, veh/h	90	425	175	65	345	95	80	315	65	175	255	355
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	0	1	0	0	0	0	0	1	0	1	1	2
Mvmt Flow	100	472	194	72	383	106	89	350	72	194	283	394
Number of Lanes	1	1	1	1	1	0	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	3	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	3	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	2	3
HCM Control Delay	177	266	355	211.7
HCM LOS	F	F	F	F

Lane	NBLn1	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	17%	100%	0%	0%	100%	0%	41%	0%
Vol Thru, %	68%	0%	100%	0%	0%	78%	59%	0%
Vol Right, %	14%	0%	0%	100%	0%	22%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	460	90	425	175	65	440	430	355
LT Vol	80	90	0	0	65	0	175	0
Through Vol	315	0	425	0	0	345	255	0
RT Vol	65	0	0	175	0	95	0	355
Lane Flow Rate	511	100	472	194	72	489	478	394
Geometry Grp	8	8	8	8	8	8	8	8
Degree of Util (X)	1.682	0.324	1.467	0.565	0.243	1.558	1.486	1.128
Departure Headway (Hd)	14.015	15.642	15.12	14.345	14.666	13.952	14.975	13.992
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	266	232	246	255	246	264	248	264
Service Time	11.715	13.342	12.82	12.045	12.366	11.652	12.675	11.692
HCM Lane V/C Ratio	1.921	0.431	1.919	0.761	0.293	1.852	1.927	1.492
HCM Control Delay	355	25.7	267.9	34.2	22	302	275.3	134.6
HCM Lane LOS	F	D	F	D	C	F	F	F
HCM 95th-tile Q	27.7	1.3	20.3	3.2	0.9	24.2	21	12.7

Intersection	
Intersection Delay, s/veh	0
Intersection LOS	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0	0	0	0	0	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

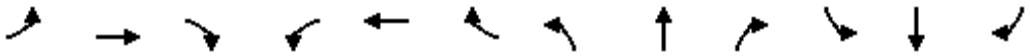
Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	0	0	0	0
HCM LOS	-	-	-	-

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	0%	0%	0%
Vol Thru, %	100%	100%	100%	100%
Vol Right, %	0%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	0	0	0	0
LT Vol	0	0	0	0
Through Vol	0	0	0	0
RT Vol	0	0	0	0
Lane Flow Rate	0	0	0	0
Geometry Grp	1	1	1	1
Degree of Util (X)	0	0	0	0
Departure Headway (Hd)	3.934	3.934	3.934	3.934
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	0	0	0	0
Service Time	1.934	1.934	1.934	1.934
HCM Lane V/C Ratio	0	0	0	0
HCM Control Delay	6.9	6.9	6.9	6.9
HCM Lane LOS	N	N	N	N
HCM 95th-tile Q	0	0	0	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1800	1750	1750	1750	1750
Total Lost time (s)												
Lane Util. Factor												
Frpb, ped/bikes												
Flpb, ped/bikes												
Frt												
Flt Protected												
Satd. Flow (prot)												
Flt Permitted												
Satd. Flow (perm)												
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Confl. Peds. (#/hr)	1					1			1	1		
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	1%	0%	0%	1%	6%	0%	5%	4%	0%	5%	7%	5%
Turn Type	Prot		Perm	Prot			Prot		custom	Prot		custom
Protected Phases	3	8		7	4		1!	2!	7	5!	6!	3
Permitted Phases			8						1			5
Actuated Green, G (s)												
Effective Green, g (s)												
Actuated g/C Ratio												
Clearance Time (s)												
Vehicle Extension (s)												
Lane Grp Cap (vph)												
v/s Ratio Prot												
v/s Ratio Perm												
v/c Ratio												
Uniform Delay, d1												
Progression Factor												
Incremental Delay, d2												
Delay (s)												
Level of Service												
Approach Delay (s)		0.0			0.0			0.0			0.0	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	0.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.00		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	23.9%	ICU Level of Service	A
Analysis Period (min)	15		

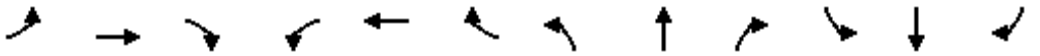
! Phase conflict between lane groups.
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)												
Lane Util. Factor												
Frpb, ped/bikes												
Flpb, ped/bikes												
Frt												
Flt Protected												
Satd. Flow (prot)												
Flt Permitted												
Satd. Flow (perm)												
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Confl. Peds. (#/hr)	1					1			4	4		
Heavy Vehicles (%)	2%	0%	0%	1%	9%	11%	0%	3%	7%	10%	6%	0%
Turn Type	Split		Prot	Split			Prot			Prot		
Protected Phases	4	4	4	8	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)												
Effective Green, g (s)												
Actuated g/C Ratio												
Clearance Time (s)												
Vehicle Extension (s)												
Lane Grp Cap (vph)												
v/s Ratio Prot												
v/s Ratio Perm												
v/c Ratio												
Uniform Delay, d1												
Progression Factor												
Incremental Delay, d2												
Delay (s)												
Level of Service												
Approach Delay (s)		0.0			0.0			0.0			0.0	
Approach LOS		A			A			A			A	

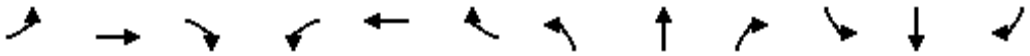
Intersection Summary			
HCM 2000 Control Delay	0.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.00		
Actuated Cycle Length (s)	148.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	26.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



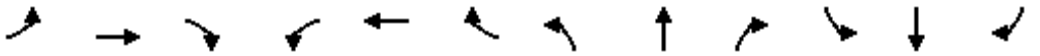
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	1155	590	405	1090	10	0	0	0	10	5	55
Future Volume (vph)	10	1155	590	405	1090	10	0	0	0	10	5	55
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0						4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95						1.00	
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00						1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00						1.00	
Frt	1.00	1.00	0.85	1.00	1.00						0.89	
Flt Protected	0.95	1.00	1.00	0.95	1.00						0.99	
Satd. Flow (prot)	1662	1683	1424	1662	3224						1382	
Flt Permitted	0.95	1.00	1.00	0.95	1.00						0.99	
Satd. Flow (perm)	1662	1683	1424	1662	3224						1382	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	10	1191	608	418	1124	10	0	0	0	10	5	57
RTOR Reduction (vph)	0	0	228	0	0	0	0	0	0	0	53	0
Lane Group Flow (vph)	10	1191	380	418	1134	0	0	0	0	0	19	0
Confl. Peds. (#/hr)	3					3						
Confl. Bikes (#/hr)			4			1						
Heavy Vehicles (%)	0%	4%	3%	0%	3%	0%	0%	0%	0%	20%	0%	12%
Turn Type	Prot	NA	Perm	Prot	NA					Perm	NA	
Protected Phases	5	2		1	6						4	
Permitted Phases			2							4		
Actuated Green, G (s)	1.5	44.2	44.2	27.6	70.3						6.2	
Effective Green, g (s)	1.5	44.2	44.2	27.6	70.3						6.2	
Actuated g/C Ratio	0.02	0.49	0.49	0.31	0.78						0.07	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0						4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0						3.0	
Lane Grp Cap (vph)	27	826	699	509	2518						95	
v/s Ratio Prot	0.01	c0.71		c0.25	0.35							
v/s Ratio Perm			0.27								0.01	
v/c Ratio	0.37	1.44	0.54	0.82	0.45						0.20	
Uniform Delay, d1	43.8	22.9	15.9	28.9	3.3						39.6	
Progression Factor	1.00	1.00	1.00	1.20	0.77						1.00	
Incremental Delay, d2	8.4	205.7	3.0	5.9	0.3						1.0	
Delay (s)	52.2	228.6	18.9	40.5	2.9						40.6	
Level of Service	D	F	B	D	A						D	
Approach Delay (s)		157.2			13.0			0.0			40.6	
Approach LOS		F			B			A			D	

Intersection Summary			
HCM 2000 Control Delay	89.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.12		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	104.9%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	165	1000	0	0	1260	295	245	5	500	0	0	0
Future Volume (vph)	165	1000	0	0	1260	295	245	5	500	0	0	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0			4.0	4.0		4.0	5.0			
Lane Util. Factor	1.00	1.00			0.95	1.00		1.00	1.00			
Frpb, ped/bikes	1.00	1.00			1.00	0.97		1.00	1.00			
Flpb, ped/bikes	1.00	1.00			1.00	1.00		1.00	1.00			
Frt	1.00	1.00			1.00	0.85		1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (prot)	1646	1667			3260	1403		1636	1444			
Flt Permitted	0.08	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (perm)	147	1667			3260	1403		1636	1444			
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	177	1075	0	0	1355	317	263	5	538	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	124	0	0	80	0	0	0
Lane Group Flow (vph)	177	1075	0	0	1355	193	0	268	458	0	0	0
Confl. Peds. (#/hr)	3					3						
Confl. Bikes (#/hr)			3			1						
Heavy Vehicles (%)	1%	5%	0%	0%	2%	3%	2%	0%	3%	0%	0%	0%
Turn Type	pm+pt	NA			NA	Perm	Perm	NA	Perm			
Protected Phases	5	2			6			8				
Permitted Phases	2					6	8		8			
Actuated Green, G (s)	55.0	55.0			42.1	42.1		25.0	25.0			
Effective Green, g (s)	56.0	56.0			43.1	43.1		26.0	25.0			
Actuated g/C Ratio	0.62	0.62			0.48	0.48		0.29	0.28			
Clearance Time (s)	5.0	5.0			5.0	5.0		5.0	5.0			
Vehicle Extension (s)	3.0	3.0			3.0	3.0		3.0	3.0			
Lane Grp Cap (vph)	239	1037			1561	671		472	401			
v/s Ratio Prot	0.07	c0.65			0.42							
v/s Ratio Perm	0.39					0.14		0.16	c0.32			
v/c Ratio	0.74	1.04			0.87	0.29		0.57	1.14			
Uniform Delay, d1	19.4	17.0			20.9	14.2		27.2	32.5			
Progression Factor	2.03	1.00			1.00	1.00		1.00	1.00			
Incremental Delay, d2	1.1	20.1			6.8	1.1		1.6	89.5			
Delay (s)	40.4	37.1			27.7	15.3		28.8	122.0			
Level of Service	D	D			C	B		C	F			
Approach Delay (s)		37.6			25.4			91.0			0.0	
Approach LOS		D			C			F			A	

Intersection Summary			
HCM 2000 Control Delay	43.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	98.3%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



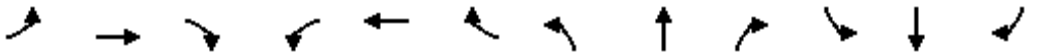
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	230	250	40	350	490	220	60	1070	190	1200	1305	180
Future Volume (vph)	230	250	40	350	490	220	60	1070	190	1200	1305	180
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1775	1750	1750
Total Lost time (s)	4.0	4.0		4.0	4.0	5.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95		0.97	0.95	1.00	1.00	0.95	1.00	0.97	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.98	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1662	3184		3131	3228	1462	1614	3260	1458	3116	3124	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1662	3184		3131	3228	1462	1614	3260	1458	3116	3124	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	242	263	42	368	516	232	63	1126	200	1263	1374	189
RTOR Reduction (vph)	0	8	0	0	0	189	0	0	64	0	7	0
Lane Group Flow (vph)	242	297	0	368	516	43	63	1126	136	1263	1556	0
Confl. Peds. (#/hr)	3					3						
Confl. Bikes (#/hr)						1						
Heavy Vehicles (%)	0%	2%	4%	3%	3%	0%	3%	2%	2%	5%	5%	1%
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases						4			6			
Actuated Green, G (s)	16.0	23.5		20.6	28.1	28.1	8.0	42.5	42.5	42.9	77.4	
Effective Green, g (s)	17.0	24.5		21.6	29.1	28.1	9.0	44.0	44.0	43.9	78.9	
Actuated g/C Ratio	0.11	0.16		0.14	0.19	0.19	0.06	0.29	0.29	0.29	0.53	
Clearance Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.5	5.5	5.0	5.5	
Vehicle Extension (s)	2.5	2.5		2.5	2.5	2.5	2.5	4.8	4.8	2.5	4.8	
Lane Grp Cap (vph)	188	520		450	626	273	96	956	427	911	1643	
v/s Ratio Prot	c0.15	0.09		c0.12	c0.16		0.04	c0.35		c0.41	0.50	
v/s Ratio Perm						0.03			0.09			
v/c Ratio	1.29	0.57		0.82	0.82	0.16	0.66	1.18	0.32	1.39	0.95	
Uniform Delay, d1	66.5	57.9		62.3	58.0	51.1	69.0	53.0	41.3	53.0	33.6	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	163.2	1.2		10.8	8.5	0.2	13.5	91.0	2.0	180.7	12.8	
Delay (s)	229.7	59.1		73.0	66.5	51.3	82.5	144.0	43.3	233.7	46.3	
Level of Service	F	E		E	E	D	F	F	D	F	D	
Approach Delay (s)		134.6			65.5			126.7			130.1	
Approach LOS		F			E			F			F	

Intersection Summary			
HCM 2000 Control Delay	117.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.19		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	111.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	220	205	140	10	275	180	190	1215	180	320	1890	110
Future Volume (vph)	220	205	140	10	275	180	190	1215	180	320	1890	110
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0	5.0	4.0	4.0	5.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1646	1733	1450	1646	1733	1473	1630	3189		1630	3228	1458
Flt Permitted	0.28	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	482	1733	1450	1646	1733	1473	1630	3189		1630	3228	1458
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	239	223	152	11	299	196	207	1321	196	348	2054	120
RTOR Reduction (vph)	0	0	45	0	38	123	0	13	0	0	0	75
Lane Group Flow (vph)	239	223	107	11	261	73	207	1504	0	348	2054	45
Confl. Peds. (#/hr)			5	5					5	5		
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	2%	2%	1%	2%	3%	2%
Turn Type	pm+pt	NA	custom	Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	8		8 1			4						2
Actuated Green, G (s)	31.7	26.7	44.2	0.8	22.5	22.5	12.5	32.0		15.5	35.0	35.0
Effective Green, g (s)	33.5	27.7	44.2	1.8	23.5	22.5	13.5	33.0		16.5	36.0	36.0
Actuated g/C Ratio	0.35	0.29	0.47	0.02	0.25	0.24	0.14	0.35		0.17	0.38	0.38
Clearance Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Vehicle Extension (s)	3.0	2.5		3.0	2.5	2.5	2.5	4.8		2.5	4.8	4.8
Lane Grp Cap (vph)	243	505	674	31	428	348	231	1107		283	1223	552
v/s Ratio Prot	c0.06	0.13		0.01	0.15		0.13	0.47		c0.21	c0.64	
v/s Ratio Perm	c0.28		0.07			0.05						0.03
v/c Ratio	0.98	0.44	0.16	0.35	0.61	0.21	0.90	1.36		1.23	1.68	0.08
Uniform Delay, d1	30.4	27.4	14.7	46.0	31.7	29.1	40.1	31.0		39.2	29.5	18.9
Progression Factor	1.00	1.00	1.00	1.00	1.58	2.93	1.11	0.73		1.00	1.00	1.00
Incremental Delay, d2	52.8	0.5	0.1	6.4	2.0	0.2	25.5	165.6		130.4	309.4	0.3
Delay (s)	83.1	27.8	14.7	52.5	52.1	85.5	69.8	188.1		169.6	338.9	19.2
Level of Service	F	C	B	D	D	F	E	F		F	F	B
Approach Delay (s)		46.1			65.0			173.9			300.3	
Approach LOS		D			E			F			F	

Intersection Summary			
HCM 2000 Control Delay	208.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.40		
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	110.4%	ICU Level of Service	H
Analysis Period (min)	15		

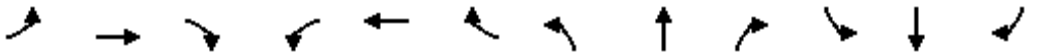
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	700	5	180	470	0	0	0	0	200	45	40
Future Volume (vph)	0	700	5	180	470	0	0	0	0	200	45	40
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)		4.0		4.0	4.0					4.0	4.0	
Lane Util. Factor		1.00		1.00	1.00					1.00	1.00	
Frpb, ped/bikes		1.00		1.00	1.00					1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00					1.00	1.00	
Frt		1.00		1.00	1.00					1.00	0.93	
Flt Protected		1.00		0.95	1.00					0.95	1.00	
Satd. Flow (prot)		1731		1662	1733					1646	1611	
Flt Permitted		1.00		0.12	1.00					0.95	1.00	
Satd. Flow (perm)		1731		204	1733					1646	1611	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	0	769	5	198	516	0	0	0	0	220	49	44
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	32	0
Lane Group Flow (vph)	0	774	0	198	516	0	0	0	0	220	61	0
Confl. Peds. (#/hr)			1	1								
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	0%	1%	0%	2%
Turn Type		NA		pm+pt	NA					Prot	NA	
Protected Phases		4		3	8					1	6	
Permitted Phases				8								
Actuated Green, G (s)		47.8		61.8	61.8					25.2	25.2	
Effective Green, g (s)		47.8		61.8	61.8					25.2	25.2	
Actuated g/C Ratio		0.50		0.65	0.65					0.27	0.27	
Clearance Time (s)		4.0		4.0	4.0					4.0	4.0	
Vehicle Extension (s)		3.0		3.0	3.0					3.0	3.0	
Lane Grp Cap (vph)		870		286	1127					436	427	
v/s Ratio Prot		c0.45		c0.07	0.30					c0.13	0.04	
v/s Ratio Perm				0.38								
v/c Ratio		0.89		0.69	0.46					0.50	0.14	
Uniform Delay, d1		21.2		16.2	8.3					29.6	26.6	
Progression Factor		0.88		1.00	1.00					1.00	1.00	
Incremental Delay, d2		3.3		7.1	0.3					4.1	0.7	
Delay (s)		21.9		23.2	8.6					33.7	27.3	
Level of Service		C		C	A					C	C	
Approach Delay (s)		21.9			12.6			0.0			31.8	
Approach LOS		C			B			A			C	

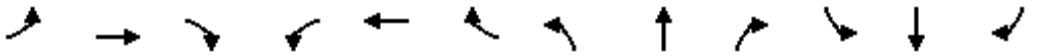
Intersection Summary			
HCM 2000 Control Delay	20.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	73.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



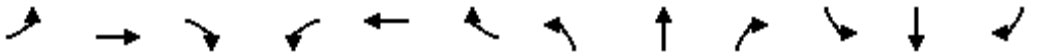
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	570	0	20	195	30	5	0	1010	0	0	1460	580
Future Volume (vph)	570	0	20	195	30	5	0	1010	0	0	1460	580
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0		4.0	4.0	4.0			4.0			4.0	4.0
Lane Util. Factor	1.00		1.00	1.00	1.00			*0.95			0.95	1.00
Frt	1.00		0.85	1.00	0.98			1.00			1.00	0.85
Flt Protected	0.95		1.00	0.95	1.00			1.00			1.00	1.00
Satd. Flow (prot)	1630		1458	1630	1682			3260			3325	1488
Flt Permitted	0.95		1.00	0.95	1.00			1.00			1.00	1.00
Satd. Flow (perm)	1630		1458	1630	1682			3260			3325	1488
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	620	0	22	212	33	5	0	1098	0	0	1587	630
RTOR Reduction (vph)	0	0	20	0	5	0	0	0	0	0	0	0
Lane Group Flow (vph)	620	0	2	212	33	0	0	1098	0	0	1587	630
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	0%	0%
Turn Type	Prot		Perm	Prot	NA			NA			NA	custom
Protected Phases	7			3	8			6			6	7
Permitted Phases			4								9	2
Actuated Green, G (s)	25.0		10.8	22.4	8.2			56.8			56.8	71.8
Effective Green, g (s)	26.0		11.8	23.4	9.2			57.8			57.8	73.8
Actuated g/C Ratio	0.25		0.11	0.22	0.09			0.55			0.55	0.70
Clearance Time (s)	5.0		5.0	5.0	5.0			5.0			5.0	5.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0			4.8			4.8	3.0
Lane Grp Cap (vph)	403		163	363	147			1794			1830	1102
v/s Ratio Prot	c0.38			0.13	c0.02			0.34			c0.48	0.14
v/s Ratio Perm			c0.00									0.28
v/c Ratio	1.54		0.02	0.58	0.23			0.61			0.87	0.57
Uniform Delay, d1	39.5		41.4	36.5	44.6			16.0			20.3	7.7
Progression Factor	1.00		1.00	1.00	1.00			1.00			1.00	1.00
Incremental Delay, d2	254.5		0.0	2.4	0.8			1.6			4.6	0.7
Delay (s)	294.0		41.5	38.8	45.4			17.6			24.9	8.5
Level of Service	F		D	D	D			B			C	A
Approach Delay (s)		285.3			39.8			17.6			20.2	
Approach LOS		F			D			B			C	

Intersection Summary			
HCM 2000 Control Delay	61.2	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	91.4%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



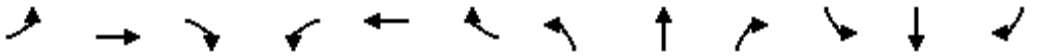
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	65	30	765	140	255	60	250	775	180	245	5
Future Volume (vph)	10	65	30	765	140	255	60	250	775	180	245	5
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	1.00	0.99	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.95		1.00	0.90		1.00	1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1662	1650		1656	1549		1662	1750	1463	1614	1744	
Flt Permitted	0.51	1.00		0.42	1.00		0.59	1.00	1.00	0.20	1.00	
Satd. Flow (perm)	889	1650		730	1549		1030	1750	1463	338	1744	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	11	72	33	850	156	283	67	278	861	200	272	6
RTOR Reduction (vph)	0	14	0	0	57	0	0	0	134	0	1	0
Lane Group Flow (vph)	11	91	0	850	382	0	67	278	727	200	277	0
Confl. Peds. (#/hr)			5	5					1	1		
Confl. Bikes (#/hr)						2			1			
Heavy Vehicles (%)	0%	0%	0%	0%	0%	1%	0%	0%	1%	3%	0%	0%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA	pm+ov	pm+pt	NA	
Protected Phases		8		7	4			6	7	5	2	
Permitted Phases	8			4			6		6	2		
Actuated Green, G (s)	11.0	11.0		69.0	69.0		20.4	20.4	73.4	34.4	34.4	
Effective Green, g (s)	12.0	12.0		70.0	70.0		21.4	21.4	75.4	35.4	35.4	
Actuated g/C Ratio	0.11	0.11		0.62	0.62		0.19	0.19	0.66	0.31	0.31	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)	2.5	2.5		3.0	4.0		5.2	5.2	3.0	3.0	5.2	
Lane Grp Cap (vph)	94	174		891	956		194	330	1024	218	544	
v/s Ratio Prot		0.05		c0.45	0.25			0.16	0.34	c0.08	0.16	
v/s Ratio Perm	0.01			c0.13			0.07		0.16	c0.21		
v/c Ratio	0.12	0.52		0.95	0.40		0.35	0.84	0.71	0.92	0.51	
Uniform Delay, d1	45.9	48.0		19.4	11.0		39.9	44.4	12.1	33.6	31.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.4	2.1		19.7	0.4		2.4	19.2	2.3	38.5	1.7	
Delay (s)	46.3	50.1		39.1	11.4		42.3	63.6	14.3	72.1	33.6	
Level of Service	D	D		D	B		D	E	B	E	C	
Approach Delay (s)		49.8			29.7			27.2			49.7	
Approach LOS		D			C			C			D	

Intersection Summary			
HCM 2000 Control Delay	32.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	113.4	Sum of lost time (s)	16.0
Intersection Capacity Utilization	87.9%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	310	370	340	15	500	90	155	220	160	100	30	505
Future Volume (vph)	310	370	340	15	500	90	155	220	160	100	30	505
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0			4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.96	1.00	1.00			1.00	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	0.99	1.00			1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.98			1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.98	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1646	1716	1431	1590	1693			1715	1473	1662	1667	1468
Flt Permitted	0.11	1.00	1.00	0.52	1.00			0.85	1.00	0.22	1.00	1.00
Satd. Flow (perm)	194	1716	1431	872	1693			1489	1473	388	1667	1468
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	344	411	378	17	556	100	172	244	178	111	33	561
RTOR Reduction (vph)	0	0	139	0	5	0	0	0	76	0	0	85
Lane Group Flow (vph)	344	411	239	17	651	0	0	416	102	111	33	476
Confl. Peds. (#/hr)			7	7								
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	1%	2%	0%	4%	1%	1%	0%	0%	1%	0%	5%	0%
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Perm	NA	Perm	Perm	NA	pm+ov
Protected Phases	1	6		5	2			8			4	1
Permitted Phases	6		6	2			8		8	4		4
Actuated Green, G (s)	72.3	65.8	65.8	49.7	48.2			34.7	34.7	34.7	34.7	53.8
Effective Green, g (s)	73.3	66.8	66.8	51.7	49.2			35.7	35.7	35.7	35.7	55.8
Actuated g/C Ratio	0.63	0.57	0.57	0.44	0.42			0.31	0.31	0.31	0.31	0.48
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0			5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	3.0	2.5	2.5	3.0	2.5			2.0	2.0	2.0	2.0	3.0
Lane Grp Cap (vph)	370	979	817	400	711			454	449	118	508	750
v/s Ratio Prot	c0.16	0.24		0.00	0.38						0.02	c0.11
v/s Ratio Perm	c0.42		0.17	0.02				0.28	0.07	c0.29		0.22
v/c Ratio	0.93	0.42	0.29	0.04	0.92			0.92	0.23	0.94	0.06	0.64
Uniform Delay, d1	32.2	14.2	12.9	18.4	31.9			39.2	30.4	39.6	28.8	23.0
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	29.2	0.2	0.1	0.0	16.4			22.7	0.1	63.7	0.0	1.8
Delay (s)	61.3	14.4	13.1	18.5	48.3			61.9	30.5	103.3	28.8	24.7
Level of Service	E	B	B	B	D			E	C	F	C	C
Approach Delay (s)		28.2			47.6			52.5			37.3	
Approach LOS		C			D			D			D	

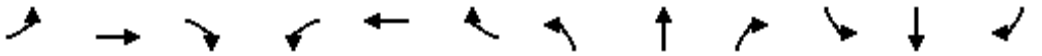
Intersection Summary			
HCM 2000 Control Delay	39.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	117.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	100.3%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1075	380	55	450	0	0	0	0	170	0	545
Future Volume (vph)	0	1075	380	55	450	0	0	0	0	170	0	545
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)		4.0	4.0	4.0	4.0						4.0	4.0
Lane Util. Factor		0.95	1.00	1.00	1.00						1.00	1.00
Frt		1.00	0.85	1.00	1.00						1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00						0.95	1.00
Satd. Flow (prot)		3260	1458	1630	1716						1630	1458
Flt Permitted		1.00	1.00	0.10	1.00						0.95	1.00
Satd. Flow (perm)		3260	1458	173	1716						1630	1458
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1168	413	60	489	0	0	0	0	185	0	592
RTOR Reduction (vph)	0	0	193	0	0	0	0	0	0	0	0	181
Lane Group Flow (vph)	0	1168	220	60	489	0	0	0	0	0	185	411
Turn Type		NA	Perm	pm+pt	NA					Perm	NA	Perm
Protected Phases		4		3	8						2	
Permitted Phases			4	8						2		2
Actuated Green, G (s)		34.6	34.6	42.8	42.8						37.2	37.2
Effective Green, g (s)		35.6	35.6	43.8	43.8						38.2	38.2
Actuated g/C Ratio		0.40	0.40	0.49	0.49						0.42	0.42
Clearance Time (s)		5.0	5.0	5.0	5.0						5.0	5.0
Vehicle Extension (s)		3.0	3.0	3.0	3.0						3.0	3.0
Lane Grp Cap (vph)		1289	576	152	835						691	618
v/s Ratio Prot		c0.36		0.02	c0.29							
v/s Ratio Perm			0.15	0.17							0.11	c0.28
v/c Ratio		0.91	0.38	0.39	0.59						0.27	0.66
Uniform Delay, d1		25.6	19.4	17.2	16.6						16.8	20.8
Progression Factor		1.00	1.00	1.89	1.44						1.00	1.00
Incremental Delay, d2		9.3	0.4	1.3	0.8						0.9	5.6
Delay (s)		34.9	19.8	33.9	24.7						17.8	26.3
Level of Service		C	B	C	C						B	C
Approach Delay (s)		31.0			25.7			0.0			24.3	
Approach LOS		C			C			A			C	

Intersection Summary			
HCM 2000 Control Delay	28.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	77.7%	ICU Level of Service	D
Analysis Period (min)	15		

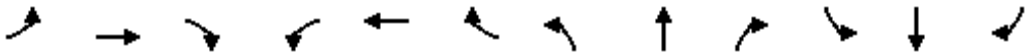
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	890	355	0	0	245	365	260	0	55	0	0	0
Future Volume (vph)	890	355	0	0	245	365	260	0	55	0	0	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0			4.0	4.0		4.0	4.0			
Lane Util. Factor	0.97	1.00			1.00	1.00		1.00	1.00			
Frpb, ped/bikes	1.00	1.00			1.00	0.99		1.00	1.00			
Flpb, ped/bikes	1.00	1.00			1.00	1.00		1.00	1.00			
Frt	1.00	1.00			1.00	0.85		1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (prot)	3193	1716			1733	1453		1662	1488			
Flt Permitted	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (perm)	3193	1716			1733	1453		1662	1488			
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	989	394	0	0	272	406	289	0	61	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	284	0	0	49	0	0	0
Lane Group Flow (vph)	989	394	0	0	272	122	0	289	12	0	0	0
Confl. Bikes (#/hr)						2						
Heavy Vehicles (%)	1%	2%	0%	0%	1%	1%	0%	0%	0%	6%	0%	1%
Turn Type	Prot	NA			NA	Perm	Split	NA	Perm			
Protected Phases	7	4			8		2	2				
Permitted Phases						8			2			
Actuated Green, G (s)	31.6	62.7			26.1	26.1		17.3	17.3			
Effective Green, g (s)	32.6	63.7			27.1	27.1		18.3	18.3			
Actuated g/C Ratio	0.36	0.71			0.30	0.30		0.20	0.20			
Clearance Time (s)	5.0	5.0			5.0	5.0		5.0	5.0			
Vehicle Extension (s)	3.0	3.0			3.0	3.0		3.0	3.0			
Lane Grp Cap (vph)	1156	1214			521	437		337	302			
v/s Ratio Prot	c0.31	0.23			c0.16			c0.17				
v/s Ratio Perm						0.08			0.01			
v/c Ratio	0.86	0.32			0.52	0.28		0.86	0.04			
Uniform Delay, d1	26.5	5.0			26.1	24.0		34.6	28.8			
Progression Factor	1.78	0.99			1.00	1.00		1.00	1.00			
Incremental Delay, d2	4.0	0.4			3.7	1.6		18.9	0.1			
Delay (s)	51.2	5.4			29.8	25.6		53.5	28.9			
Level of Service	D	A			C	C		D	C			
Approach Delay (s)		38.2			27.3			49.2			0.0	
Approach LOS		D			C			D			A	

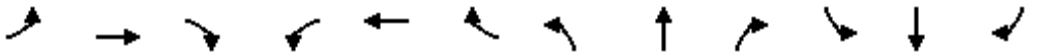
Intersection Summary			
HCM 2000 Control Delay	36.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	77.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



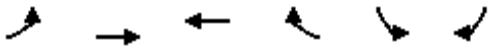
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1115	150	0	725	270	0	0	0	995	0	250
Future Volume (vph)	0	1115	150	0	725	270	0	0	0	995	0	250
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)		4.0			4.0	4.0				4.0	4.0	
Lane Util. Factor		0.95			1.00	1.00				0.95	0.95	
Frpb, ped/bikes		1.00			1.00	0.99				1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00				1.00	1.00	
Frt		0.98			1.00	0.85				1.00	0.94	
Flt Protected		1.00			1.00	1.00				0.95	0.97	
Satd. Flow (prot)		3193			1716	1441				1548	1486	
Flt Permitted		1.00			1.00	1.00				0.95	0.97	
Satd. Flow (perm)		3193			1716	1441				1548	1486	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	0	1225	165	0	797	297	0	0	0	1093	0	275
RTOR Reduction (vph)	0	55	0	0	0	24	0	0	0	0	38	0
Lane Group Flow (vph)	0	1335	0	0	797	273	0	0	0	700	630	0
Confl. Peds. (#/hr)	2		1	1		2						
Confl. Bikes (#/hr)						1						
Heavy Vehicles (%)	0%	2%	2%	0%	2%	2%	0%	0%	0%	2%	0%	2%
Turn Type		NA			NA	pm+ov				Split	NA	
Protected Phases		2			6	4				4	4	
Permitted Phases						6						
Actuated Green, G (s)		29.0			29.0	56.0				27.0	27.0	
Effective Green, g (s)		30.0			30.0	58.0				28.0	28.0	
Actuated g/C Ratio		0.45			0.45	0.88				0.42	0.42	
Clearance Time (s)		5.0			5.0	5.0				5.0	5.0	
Vehicle Extension (s)		5.2			5.2	3.0				3.0	3.0	
Lane Grp Cap (vph)		1451			780	1441				656	630	
v/s Ratio Prot		0.42			c0.46	0.08				c0.45	0.42	
v/s Ratio Perm						0.11						
v/c Ratio		0.92			1.02	0.19				1.07	1.00	
Uniform Delay, d1		16.9			18.0	0.6				19.0	19.0	
Progression Factor		1.00			1.00	1.00				1.00	1.00	
Incremental Delay, d2		10.3			37.8	0.1				54.4	35.9	
Delay (s)		27.2			55.8	0.6				73.4	54.9	
Level of Service		C			E	A				E	D	
Approach Delay (s)		27.2			40.9			0.0			64.3	
Approach LOS		C			D			A			E	

Intersection Summary			
HCM 2000 Control Delay	44.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	66.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	86.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1865	245	0	925	40	30	0	140	0	0	40
Future Volume (vph)	0	1865	245	0	925	40	30	0	140	0	0	40
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)		4.0			4.0		4.0		4.0			4.0
Lane Util. Factor		0.95			0.95		1.00		1.00			1.00
Frpb, ped/bikes		1.00			1.00		1.00		1.00			1.00
Flpb, ped/bikes		1.00			1.00		1.00		1.00			1.00
Frt		0.98			0.99		1.00		0.85			0.86
Flt Protected		1.00			1.00		0.95		1.00			1.00
Satd. Flow (prot)		3210			3238		1662		1488			1514
Flt Permitted		1.00			1.00		0.95		1.00			1.00
Satd. Flow (perm)		3210			3238		1662		1488			1514
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	2005	263	0	995	43	32	0	151	0	0	43
RTOR Reduction (vph)	0	5	0	0	2	0	0	0	15	0	0	41
Lane Group Flow (vph)	0	2263	0	0	1036	0	32	0	136	0	0	2
Confl. Peds. (#/hr)	2					2						
Confl. Bikes (#/hr)						1						
Heavy Vehicles (%)	0%	2%	0%	0%	2%	0%	0%	0%	0%	0%	0%	0%
Turn Type		NA			NA		Prot		Perm			Perm
Protected Phases		2			6		3					
Permitted Phases									8			4
Actuated Green, G (s)		92.2			92.2		7.8		17.8			5.0
Effective Green, g (s)		93.2			93.2		8.8		18.8			6.0
Actuated g/C Ratio		0.78			0.78		0.07		0.16			0.05
Clearance Time (s)		5.0			5.0		5.0		5.0			5.0
Vehicle Extension (s)		3.0			3.0		3.0		3.0			3.0
Lane Grp Cap (vph)		2493			2514		121		233			75
v/s Ratio Prot		c0.70			0.32		0.02					
v/s Ratio Perm									c0.09			0.00
v/c Ratio		0.91			0.41		0.26		0.58			0.03
Uniform Delay, d1		10.1			4.4		52.5		47.0			54.2
Progression Factor		0.68			1.00		1.00		1.00			1.00
Incremental Delay, d2		0.6			0.1		1.2		3.7			0.2
Delay (s)		7.5			4.5		53.7		50.6			54.4
Level of Service		A			A		D		D			D
Approach Delay (s)		7.5			4.5			51.2			54.4	
Approach LOS		A			A			D			D	

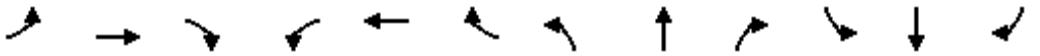
Intersection Summary			
HCM 2000 Control Delay	9.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	80.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	55	460	495	220	95	500
Future Volume (vph)	55	460	495	220	95	500
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1662	1750	1750	1488	1662	1400
Flt Permitted	0.32	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	556	1750	1750	1488	1662	1400
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	58	484	521	232	100	526
RTOR Reduction (vph)	0	0	0	43	0	222
Lane Group Flow (vph)	58	484	521	189	100	304
Confl. Bikes (#/hr)						1
Heavy Vehicles (%)	0%	0%	0%	0%	0%	4%
Turn Type	pm+pt	NA	NA	Perm	Prot	Perm
Protected Phases	7	4	8		6	
Permitted Phases	4			8		6
Actuated Green, G (s)	57.1	57.1	47.3	47.3	22.9	22.9
Effective Green, g (s)	58.1	58.1	48.3	48.3	23.9	23.9
Actuated g/C Ratio	0.65	0.65	0.54	0.54	0.27	0.27
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	430	1129	939	798	441	371
v/s Ratio Prot	0.01	c0.28	c0.30		0.06	
v/s Ratio Perm	0.08			0.13		c0.22
v/c Ratio	0.13	0.43	0.55	0.24	0.23	0.82
Uniform Delay, d1	7.6	7.8	13.8	11.1	25.8	31.0
Progression Factor	1.00	1.00	0.97	1.08	1.00	1.00
Incremental Delay, d2	0.1	1.2	1.0	0.3	0.3	13.2
Delay (s)	7.7	9.0	14.4	12.2	26.1	44.2
Level of Service	A	A	B	B	C	D
Approach Delay (s)		8.9	13.7		41.3	
Approach LOS		A	B		D	

Intersection Summary			
HCM 2000 Control Delay	21.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	68.6%	ICU Level of Service	C
Analysis Period (min)	15		

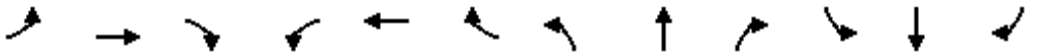
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	315	240	0	0	685	280	30	5	165	0	0	0
Future Volume (vph)	315	240	0	0	685	280	30	5	165	0	0	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Grade (%)		0%			0%			15%			0%	
Total Lost time (s)	4.0	4.0			4.0	4.0		4.0	4.0			
Lane Util. Factor	1.00	1.00			1.00	1.00		1.00	1.00			
Frt	1.00	1.00			1.00	0.85		1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00		0.96	1.00			
Satd. Flow (prot)	1568	1683			1699	1473		1551	1376			
Flt Permitted	0.95	1.00			1.00	1.00		0.96	1.00			
Satd. Flow (perm)	1568	1683			1699	1473		1551	1376			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	342	261	0	0	745	304	33	5	179	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	142	0	0	161	0	0	0
Lane Group Flow (vph)	342	261	0	0	745	162	0	38	18	0	0	0
Heavy Vehicles (%)	6%	4%	0%	0%	3%	1%	0%	0%	0%	5%	0%	2%
Turn Type	Prot	NA			NA	Perm	Split	NA	Perm			
Protected Phases	7	4			8		2	2				
Permitted Phases						8			2			
Actuated Green, G (s)	25.0	71.7			41.7	41.7		8.3	8.3			
Effective Green, g (s)	26.0	72.7			42.7	42.7		9.3	9.3			
Actuated g/C Ratio	0.29	0.81			0.47	0.47		0.10	0.10			
Clearance Time (s)	5.0	5.0			5.0	5.0		5.0	5.0			
Vehicle Extension (s)	3.0	3.0			3.0	3.0		3.0	3.0			
Lane Grp Cap (vph)	452	1359			806	698		160	142			
v/s Ratio Prot	c0.22	0.16			c0.44			c0.02				
v/s Ratio Perm						0.11			0.01			
v/c Ratio	0.76	0.19			0.92	0.23		0.24	0.13			
Uniform Delay, d1	29.1	2.0			22.1	14.0		37.1	36.7			
Progression Factor	0.84	1.49			1.00	1.00		1.00	1.00			
Incremental Delay, d2	6.7	0.3			17.9	0.8		0.8	0.4			
Delay (s)	31.3	3.2			40.0	14.7		37.9	37.1			
Level of Service	C	A			D	B		D	D			
Approach Delay (s)		19.1			32.7			37.2			0.0	
Approach LOS		B			C			D			A	

Intersection Summary			
HCM 2000 Control Delay	28.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	71.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	15	440	180	25	80	200	1245	170	40	1700	10
Future Volume (vph)	15	15	440	180	25	80	200	1245	170	40	1700	10
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)		4.0	4.0		4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes		1.00	0.99		1.00		1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00	1.00	1.00	1.00	
Frt		1.00	0.85		0.96		1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.98	1.00		0.97		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1707	1468		1625		1662	3260	1451	1662	3226	
Flt Permitted		0.84	1.00		0.79		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1477	1468		1323		1662	3260	1451	1662	3226	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	16	16	473	194	27	86	215	1339	183	43	1828	11
RTOR Reduction (vph)	0	0	87	0	13	0	0	0	41	0	0	0
Lane Group Flow (vph)	0	32	386	0	294	0	215	1339	142	43	1839	0
Confl. Peds. (#/hr)	1		1	1		1			2	2		
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	3%	0%
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA	Perm	Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8					2			
Actuated Green, G (s)		27.3	27.3		27.3		10.7	59.1	59.1	3.6	52.0	
Effective Green, g (s)		28.3	28.3		28.3		11.7	60.1	60.1	4.6	53.0	
Actuated g/C Ratio		0.27	0.27		0.27		0.11	0.57	0.57	0.04	0.50	
Clearance Time (s)		5.0	5.0		5.0		5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)		2.5	2.5		2.5		2.5	4.8	4.8	2.5	4.8	
Lane Grp Cap (vph)		398	395		356		185	1865	830	72	1628	
v/s Ratio Prot							c0.13	0.41		0.03	c0.57	
v/s Ratio Perm		0.02	c0.26		0.22				0.10			
v/c Ratio		0.08	0.98		0.83		1.16	0.72	0.17	0.60	1.13	
Uniform Delay, d1		28.6	38.0		36.0		46.6	16.3	10.6	49.3	26.0	
Progression Factor		1.00	1.00		1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.1	38.9		14.1		116.6	2.4	0.4	10.6	66.6	
Delay (s)		28.7	76.9		50.1		163.3	18.7	11.1	59.9	92.6	
Level of Service		C	E		D		F	B	B	E	F	
Approach Delay (s)		73.9			50.1			35.8			91.9	
Approach LOS		E			D			D			F	

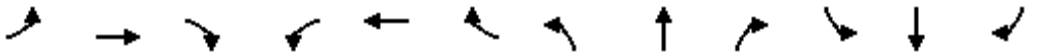
Intersection Summary			
HCM 2000 Control Delay	64.9	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	108.8%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	700	110	105	630	5	230	0	95	5	5	10
Future Volume (vph)	5	700	110	105	630	5	230	0	95	5	5	10
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)		4.0	4.0	4.0	4.0		4.0	4.0			4.0	
Lane Util. Factor		1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Frpb, ped/bikes		1.00	0.98	1.00	1.00		1.00	1.00			0.99	
Flpb, ped/bikes		1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Frt		1.00	0.85	1.00	1.00		1.00	0.85			0.93	
Flt Protected		1.00	1.00	0.95	1.00		0.95	1.00			0.99	
Satd. Flow (prot)		1715	1413	1646	1727		1643	1488			1589	
Flt Permitted		1.00	1.00	0.13	1.00		0.74	1.00			0.95	
Satd. Flow (perm)		1709	1413	228	1727		1286	1488			1520	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	761	120	114	685	5	250	0	103	5	5	11
RTOR Reduction (vph)	0	0	65	0	0	0	0	76	0	0	8	0
Lane Group Flow (vph)	0	766	55	114	690	0	250	27	0	0	13	0
Confl. Peds. (#/hr)			1	1			1					1
Heavy Vehicles (%)	0%	2%	3%	1%	1%	33%	1%	0%	0%	0%	0%	0%
Turn Type	Perm	NA	Perm	pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		2		1	6			8			4	
Permitted Phases	2		2	6			8			4		
Actuated Green, G (s)		25.4	25.4	33.4	33.4		14.0	14.0			14.0	
Effective Green, g (s)		26.4	26.4	34.4	34.4		15.0	15.0			15.0	
Actuated g/C Ratio		0.46	0.46	0.60	0.60		0.26	0.26			0.26	
Clearance Time (s)		5.0	5.0	5.0	5.0		5.0	5.0			5.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		786	649	235	1034		336	388			397	
v/s Ratio Prot				0.03	c0.40			0.02				
v/s Ratio Perm		c0.45	0.04	0.26			c0.19				0.01	
v/c Ratio		0.97	0.09	0.49	0.67		0.74	0.07			0.03	
Uniform Delay, d1		15.2	8.7	10.2	7.7		19.4	15.9			15.8	
Progression Factor		1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2		25.7	0.1	1.6	1.6		8.6	0.1			0.0	
Delay (s)		40.9	8.8	11.8	9.3		28.1	16.0			15.8	
Level of Service		D	A	B	A		C	B			B	
Approach Delay (s)		36.5			9.7			24.6			15.8	
Approach LOS		D			A			C			B	

Intersection Summary			
HCM 2000 Control Delay	23.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	57.4	Sum of lost time (s)	12.0
Intersection Capacity Utilization	107.1%	ICU Level of Service	G
Analysis Period (min)	15		

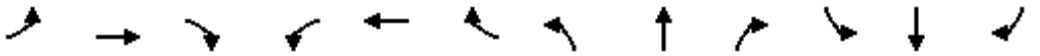
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	180	400	170	255	370	145	85	1200	145	170	845	40
Future Volume (vph)	180	400	170	255	370	145	85	1200	145	170	845	40
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0	5.0	4.0	4.0	5.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.98	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1646	1733	1488	1646	1733	1458	1662	3204		1662	3147	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1646	1733	1488	1646	1733	1458	1662	3204		1662	3147	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	194	430	183	274	398	156	91	1290	156	183	909	43
RTOR Reduction (vph)	0	0	94	0	0	94	0	8	0	0	3	0
Lane Group Flow (vph)	194	430	89	274	398	62	91	1438	0	183	949	0
Confl. Peds. (#/hr)	5					5	5		3	3		5
Heavy Vehicles (%)	1%	1%	0%	1%	1%	0%	0%	2%	0%	0%	5%	0%
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8						
Actuated Green, G (s)	24.0	24.0	24.0	23.0	23.0	23.0	7.9	43.0		10.0	45.1	
Effective Green, g (s)	25.0	25.0	24.0	24.0	24.0	23.0	8.9	44.0		11.0	46.1	
Actuated g/C Ratio	0.21	0.21	0.20	0.20	0.20	0.19	0.07	0.37		0.09	0.38	
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	342	361	297	329	346	279	123	1174		152	1208	
v/s Ratio Prot	0.12	c0.25		0.17	c0.23		0.05	c0.45		c0.11	0.30	
v/s Ratio Perm			0.06			0.04						
v/c Ratio	0.57	1.19	0.30	0.83	1.15	0.22	0.74	1.23		1.20	0.79	
Uniform Delay, d1	42.6	47.5	40.8	46.1	48.0	41.0	54.4	38.0		54.5	32.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.2	110.3	0.6	16.3	95.8	0.4	20.6	109.1		138.2	5.2	
Delay (s)	44.8	157.8	41.4	62.4	143.8	41.4	75.0	147.1		192.7	37.8	
Level of Service	D	F	D	E	F	D	E	F		F	D	
Approach Delay (s)		104.2			97.5			142.8			62.7	
Approach LOS		F			F			F			E	

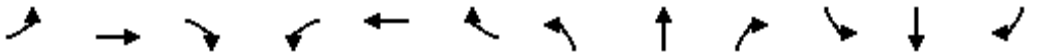
Intersection Summary			
HCM 2000 Control Delay	105.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.19		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	102.8%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	125	745	200	205	490	75	700	860	300	150	1135	340
Future Volume (vph)	125	745	200	205	490	75	700	860	300	150	1135	340
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.98		1.00	0.96		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1614	3104		1630	3184		1646	3095		1630	3137	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1614	3104		1630	3184		1646	3095		1630	3137	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	130	776	208	214	510	78	729	896	312	156	1182	354
RTOR Reduction (vph)	0	15	0	0	7	0	0	23	0	0	18	0
Lane Group Flow (vph)	130	969	0	214	581	0	729	1186	0	156	1518	0
Confl. Peds. (#/hr)	2		1	1		2	1		9	9		1
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	3%	3%	5%	2%	2%	3%	1%	3%	1%	2%	2%	2%
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases												
Actuated Green, G (s)	16.9	41.8		23.7	48.6		23.5	51.2		15.3	43.0	
Effective Green, g (s)	17.4	42.3		24.2	49.1		24.0	51.7		15.8	43.5	
Actuated g/C Ratio	0.12	0.28		0.16	0.33		0.16	0.34		0.11	0.29	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	2.5	2.5		2.5	2.5		2.5	4.3		2.5	4.3	
Lane Grp Cap (vph)	187	875		262	1042		263	1066		171	909	
v/s Ratio Prot	0.08	c0.31		c0.13	0.18		c0.44	0.38		0.10	c0.48	
v/s Ratio Perm												
v/c Ratio	0.70	1.11		0.82	0.56		2.77	1.11		0.91	1.67	
Uniform Delay, d1	63.8	53.9		60.8	41.5		63.0	49.1		66.4	53.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	9.9	64.3		17.2	0.5		807.9	63.9		44.2	306.1	
Delay (s)	73.6	118.1		77.9	42.0		870.9	113.1		110.6	359.4	
Level of Service	E	F		E	D		F	F		F	F	
Approach Delay (s)		112.9			51.6			398.1			336.4	
Approach LOS		F			D			F			F	

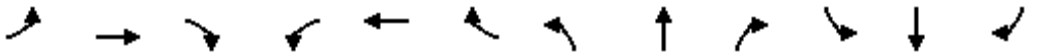
Intersection Summary			
HCM 2000 Control Delay	271.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.53		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	143.0%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	320	180	175	20	60	80	70	615	10	15	1120	315
Future Volume (vph)	320	180	175	20	60	80	70	615	10	15	1120	315
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	0.99		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.91		1.00	1.00		1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1661	1716	1488	1662	1589		1646	3221		1662	3147	
Flt Permitted	0.62	1.00	1.00	0.56	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1077	1716	1488	972	1589		1646	3221		1662	3147	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	356	200	194	22	67	89	78	683	11	17	1244	350
RTOR Reduction (vph)	0	0	71	0	49	0	0	1	0	0	26	0
Lane Group Flow (vph)	356	200	123	22	107	0	78	693	0	17	1568	0
Confl. Peds. (#/hr)	1					1	3		1	1		3
Heavy Vehicles (%)	0%	2%	0%	0%	0%	0%	1%	3%	0%	0%	2%	0%
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8		8	4								
Actuated Green, G (s)	34.5	34.5	34.5	34.5	34.5		5.7	50.3		2.0	46.6	
Effective Green, g (s)	34.5	34.5	34.5	34.5	34.5		5.7	51.5		2.0	47.8	
Actuated g/C Ratio	0.34	0.34	0.34	0.34	0.34		0.06	0.52		0.02	0.48	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	5.2		4.0	5.2	
Vehicle Extension (s)	3.5	3.5	3.5	3.5	3.5		2.5	5.2		2.5	5.2	
Lane Grp Cap (vph)	371	592	513	335	548		93	1658		33	1504	
v/s Ratio Prot		0.12			0.07		c0.05	c0.22		0.01	c0.50	
v/s Ratio Perm	c0.33		0.08	0.02								
v/c Ratio	0.96	0.34	0.24	0.07	0.20		0.84	0.42		0.52	1.04	
Uniform Delay, d1	32.1	24.3	23.4	21.9	23.0		46.7	15.0		48.5	26.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	36.0	0.4	0.3	0.1	0.2		44.5	0.8		9.8	35.2	
Delay (s)	68.0	24.7	23.7	22.0	23.2		91.2	15.8		58.3	61.3	
Level of Service	E	C	C	C	C		F	B		E	E	
Approach Delay (s)		45.0			23.1			23.4			61.3	
Approach LOS		D			C			C			E	

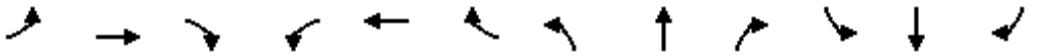
Intersection Summary			
HCM 2000 Control Delay	46.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	90.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



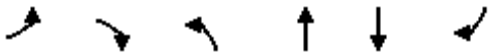
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	15	15	75	20	30	20	460	35	30	980	95
Future Volume (vph)	75	15	15	75	20	30	20	460	35	30	980	95
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0			4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00			1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99			1.00	0.99	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.93			1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00			0.96	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1629	1608			1641	1469	1498	3195		1662	3215	
Flt Permitted	0.64	1.00			0.75	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1094	1608			1276	1469	1498	3195		1662	3215	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	83	17	17	83	22	33	22	511	39	33	1089	106
RTOR Reduction (vph)	0	15	0	0	0	29	0	3	0	0	4	0
Lane Group Flow (vph)	83	19	0	0	105	4	22	547	0	33	1191	0
Confl. Peds. (#/hr)	1		2	2		1	1		3	3		1
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	2%	0%	0%	2%	4%	0%	11%	3%	0%	0%	2%	0%
Turn Type	Perm	NA		Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8						
Actuated Green, G (s)	11.1	11.1			11.1	11.1	3.7	59.8		4.7	60.8	
Effective Green, g (s)	11.6	11.6			11.6	11.6	4.2	61.2		5.2	62.2	
Actuated g/C Ratio	0.13	0.13			0.13	0.13	0.05	0.68		0.06	0.69	
Clearance Time (s)	4.5	4.5			4.5	4.5	4.5	5.4		4.5	5.4	
Vehicle Extension (s)	4.0	4.0			4.0	4.0	4.0	4.2		2.5	4.7	
Lane Grp Cap (vph)	141	207			164	189	69	2172		96	2221	
v/s Ratio Prot		0.01					0.01	0.17		c0.02	c0.37	
v/s Ratio Perm	0.08				c0.08	0.00						
v/c Ratio	0.59	0.09			0.64	0.02	0.32	0.25		0.34	0.54	
Uniform Delay, d1	37.0	34.6			37.2	34.2	41.5	5.6		40.8	6.8	
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	7.2	0.3			9.2	0.1	3.6	0.3		1.6	0.9	
Delay (s)	44.2	34.8			46.4	34.3	45.1	5.8		42.3	7.8	
Level of Service	D	C			D	C	D	A		D	A	
Approach Delay (s)		41.5			43.5			7.3			8.7	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	12.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	52.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	0	385	0	1215	0	0	1965	145
Future Volume (vph)	0	0	0	0	0	385	0	1215	0	0	1965	145
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)						4.0		4.0			4.0	4.0
Lane Util. Factor						1.00		0.95			0.95	1.00
Frt						0.86		1.00			1.00	0.85
Flt Protected						1.00		1.00			1.00	1.00
Satd. Flow (prot)						1484		3260			3260	1458
Flt Permitted						1.00		1.00			1.00	1.00
Satd. Flow (perm)						1484		3260			3260	1458
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	418	0	1321	0	0	2136	158
RTOR Reduction (vph)	0	0	0	0	0	16	0	0	0	0	0	95
Lane Group Flow (vph)	0	0	0	0	0	402	0	1321	0	0	2136	63
Turn Type						Perm		NA			NA	Perm
Protected Phases								2			6	
Permitted Phases						8						6
Actuated Green, G (s)						16.0		16.0			16.0	16.0
Effective Green, g (s)						16.0		16.0			16.0	16.0
Actuated g/C Ratio						0.40		0.40			0.40	0.40
Clearance Time (s)						4.0		4.0			4.0	4.0
Lane Grp Cap (vph)						593		1304			1304	583
v/s Ratio Prot								0.41			c0.66	
v/s Ratio Perm						c0.27						0.04
v/c Ratio						0.68		1.01			1.64	0.11
Uniform Delay, d1						9.9		12.0			12.0	7.5
Progression Factor						1.00		1.00			1.00	1.00
Incremental Delay, d2						6.1		28.2			290.6	0.4
Delay (s)						16.0		40.2			302.6	7.9
Level of Service						B		D			F	A
Approach Delay (s)		0.0			16.0			40.2			282.3	
Approach LOS		A			B			D			F	

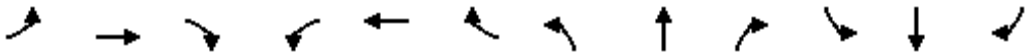
Intersection Summary			
HCM 2000 Control Delay	175.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.16		
Actuated Cycle Length (s)	40.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	69.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	415	0	0	2010	1890	420
Future Volume (vph)	415	0	0	2010	1890	420
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0			4.0	4.0	4.0
Lane Util. Factor	0.97			0.95	0.95	1.00
Frt	1.00			1.00	1.00	0.85
Flt Protected	0.95			1.00	1.00	1.00
Satd. Flow (prot)	3162			3260	3260	1458
Flt Permitted	0.95			1.00	1.00	1.00
Satd. Flow (perm)	3162			3260	3260	1458
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	451	0	0	2185	2054	457
RTOR Reduction (vph)	0	0	0	0	0	116
Lane Group Flow (vph)	451	0	0	2185	2054	341
Turn Type	Prot	Perm	Perm	NA	NA	Perm
Protected Phases	8			6	2	
Permitted Phases		8	6			2
Actuated Green, G (s)	22.4			89.6	89.6	89.6
Effective Green, g (s)	22.4			89.6	89.6	89.6
Actuated g/C Ratio	0.19			0.75	0.75	0.75
Clearance Time (s)	4.0			4.0	4.0	4.0
Vehicle Extension (s)	3.0			3.0	3.0	3.0
Lane Grp Cap (vph)	590			2434	2434	1088
v/s Ratio Prot	c0.14			c0.67	0.63	
v/s Ratio Perm						0.23
v/c Ratio	0.76			0.90	0.84	0.31
Uniform Delay, d1	46.3			11.7	10.4	5.0
Progression Factor	1.00			1.00	1.00	1.00
Incremental Delay, d2	5.9			5.8	3.8	0.8
Delay (s)	52.2			17.4	14.2	5.8
Level of Service	D			B	B	A
Approach Delay (s)	52.2			17.4	12.7	
Approach LOS	D			B	B	

Intersection Summary			
HCM 2000 Control Delay	18.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	79.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)												
Lane Util. Factor												
Frt												
Flt Protected												
Satd. Flow (prot)												
Flt Permitted												
Satd. Flow (perm)												
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)												
Effective Green, g (s)												
Actuated g/C Ratio												
Clearance Time (s)												
Lane Grp Cap (vph)												
v/s Ratio Prot												
v/s Ratio Perm												
v/c Ratio												
Uniform Delay, d1												
Progression Factor												
Incremental Delay, d2												
Delay (s)												
Level of Service												
Approach Delay (s)		0.0			0.0			0.0			0.0	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	0.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.00		
Actuated Cycle Length (s)	40.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	0.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	230	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	0	0	0	0	3	8	0	5	2
Mvmt Flow	0	0	0	0	0	0	0	0	0	0	0	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	1	-	-	0	1	0	0	-	-	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.9	-	-	6.9	4.1	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.3	-	-	3.3	2.2	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	1089	0	0	-	1635	-	-	0	-	-
Stage 1	0	0	-	0	0	-	-	-	-	0	-	-
Stage 2	0	0	-	0	0	-	-	-	-	0	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	-	1089	-	-	-	1635	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	0	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBT	SBR
Capacity (veh/h)	1635	-	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	0	-	-
HCM Lane LOS	A	-	-	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-	-	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	95	800	5	10	650	210	0	5	15	0	0	0
Future Vol, veh/h	95	800	5	10	650	210	0	5	15	0	0	0
Conflicting Peds, #/hr	1	0	1	1	0	1	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	60	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	3	1	0	0	1	2	0	0	0	0	0	0
Mvmt Flow	103	870	5	11	707	228	0	5	16	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	936	0	0	876	0	0	1923	2038	874
Stage 1	-	-	-	-	-	-	1080	1080	-
Stage 2	-	-	-	-	-	-	843	958	-
Critical Hdwy	4.13	-	-	4.1	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	2.227	-	-	2.2	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	728	-	-	779	-	-	74	57	352
Stage 1	-	-	-	-	-	-	329	297	-
Stage 2	-	-	-	-	-	-	426	338	-
Platoon blocked, %		-	-		-	-			
Mov Cap-1 Maneuver	728	-	-	778	-	-	62	0	352
Mov Cap-2 Maneuver	-	-	-	-	-	-	62	0	-
Stage 1	-	-	-	-	-	-	274	0	-
Stage 2	-	-	-	-	-	-	426	0	-

Approach	EB	WB	NB
HCM Control Delay, s	1.1	0.1	15.9
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR
Capacity (veh/h)	352	728	-	-	778	-	-
HCM Lane V/C Ratio	0.062	0.142	-	-	0.014	-	-
HCM Control Delay (s)	15.9	10.8	-	-	9.7	0	-
HCM Lane LOS	C	B	-	-	A	A	-
HCM 95th %tile Q(veh)	0.2	0.5	-	-	0	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	10
Future Vol, veh/h	0	0	0	0	0	10
Conflicting Peds, #/hr	0	1	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	1	0	0	0	0	0
Mvmt Flow	0	0	0	0	0	11

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	6	7	11	0	-	0
Stage 1	6	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.41	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	1018	1081	1621	-	-	-
Stage 1	1020	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1018	1080	1621	-	-	-
Mov Cap-2 Maneuver	1018	-	-	-	-	-
Stage 1	1020	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1621	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Int Delay, s/veh	103

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	40	1165	50	115	790	70	20	0	50	50	5	40
Future Vol, veh/h	40	1165	50	115	790	70	20	0	50	50	5	40
Conflicting Peds, #/hr	2	0	1	1	0	2	0	0	1	1	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	70	-	-	70	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	6	1	0	1	1	7	0	0	0	5	0	0
Mvmt Flow	42	1226	53	121	832	74	21	0	53	53	5	42

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	908	0	0	1280	0	0	2473	2488	1255	2477	2477	871
Stage 1	-	-	-	-	-	-	1338	1338	-	1113	1113	-
Stage 2	-	-	-	-	-	-	1135	1150	-	1364	1364	-
Critical Hdwy	4.16	-	-	4.11	-	-	7.1	6.5	6.2	7.15	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.15	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.15	5.5	-
Follow-up Hdwy	2.254	-	-	2.209	-	-	3.5	4	3.3	3.545	4	3.3
Pot Cap-1 Maneuver	733	-	-	546	-	-	~ 21	30	211	~ 20	30	353
Stage 1	-	-	-	-	-	-	190	224	-	250	286	-
Stage 2	-	-	-	-	-	-	248	275	-	180	218	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	732	-	-	546	-	-	~ 12	22	211	~ 12	22	352
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 12	22	-	~ 12	22	-
Stage 1	-	-	-	-	-	-	179	211	-	235	222	-
Stage 2	-	-	-	-	-	-	166	213	-	127	205	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	1.6	$ 695.5	$ 2063.9
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	37	732	-	-	546	-	-	21
HCM Lane V/C Ratio	1.991	0.058	-	-	0.222	-	-	4.762
HCM Control Delay (s)	$ 695.5	10.2	-	-	13.5	-	-	$ 2063.9
HCM Lane LOS	F	B	-	-	B	-	-	F
HCM 95th %tile Q(veh)	8	0.2	-	-	0.8	-	-	12.8

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	100	1035	870	5	945	745	0	0	60	0	0	20
Future Vol, veh/h	100	1035	870	5	945	745	0	0	60	0	0	20
Conflicting Peds, #/hr	1	0	0	0	0	1	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	Stop	-	-	None
Storage Length	-	-	-	-	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	0	1	4	0	0	5	0	0	6
Mvmt Flow	105	1089	916	5	995	784	0	0	63	0	0	21

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1780	0	0	2005	0	0	-	-	1003	2153	3613	891
Stage 1	-	-	-	-	-	-	-	-	-	1398	1398	-
Stage 2	-	-	-	-	-	-	-	-	-	755	2215	-
Critical Hdwy	4.14	-	-	4.1	-	-	-	-	7	7.5	6.5	7.02
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	6.5	5.5	-
Follow-up Hdwy	2.22	-	-	2.2	-	-	-	-	3.35	3.5	4	3.36
Pot Cap-1 Maneuver	345	-	-	289	-	-	0	0	235	28	5	278
Stage 1	-	-	-	-	-	-	0	0	-	151	209	-
Stage 2	-	-	-	-	-	-	0	0	-	371	82	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	345	-	-	289	-	-	-	-	235	20	5	278
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	20	5	-
Stage 1	-	-	-	-	-	-	-	-	-	151	209	-
Stage 2	-	-	-	-	-	-	-	-	-	271	82	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1	0.1	25.9	19
HCM LOS			D	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	235	345	-	-	289	-	-	278
HCM Lane V/C Ratio	0.269	0.305	-	-	0.018	-	-	0.076
HCM Control Delay (s)	25.9	20	0	-	17.7	0	-	19
HCM Lane LOS	D	C	A	-	C	A	-	C
HCM 95th %tile Q(veh)	1.1	1.3	-	-	0.1	-	-	0.2

Intersection	
Int Delay, s/veh	9.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	120	85	65	330	375	95
Future Vol, veh/h	120	85	65	330	375	95
Conflicting Peds, #/hr	1	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	50	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	77	77	77	77	77	77
Heavy Vehicles, %	3	4	3	3	5	2
Mvmt Flow	156	110	84	429	487	123

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1147	549	610	0	-	0
Stage 1	549	-	-	-	-	-
Stage 2	598	-	-	-	-	-
Critical Hdwy	6.43	6.24	4.13	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.336	2.227	-	-	-
Pot Cap-1 Maneuver	219	532	964	-	-	-
Stage 1	577	-	-	-	-	-
Stage 2	547	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	194	532	964	-	-	-
Mov Cap-2 Maneuver	194	-	-	-	-	-
Stage 1	511	-	-	-	-	-
Stage 2	547	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	48	1.5	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	964	-	194	532	-	-
HCM Lane V/C Ratio	0.088	-	0.803	0.207	-	-
HCM Control Delay (s)	9.1	0	72.4	13.5	-	-
HCM Lane LOS	A	A	F	B	-	-
HCM 95th %tile Q(veh)	0.3	-	5.6	0.8	-	-

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	0	40	5	5	30	95	495	5	60	960	40
Future Vol, veh/h	15	0	40	5	5	30	95	495	5	60	960	40
Conflicting Peds, #/hr	0	0	0	0	0	0	1	0	4	4	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	110	-	115	15	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	3	1	3	17	2	2	0
Mvmt Flow	16	0	43	5	5	32	102	532	5	65	1032	43

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1658	1930	539	1389	1949	273	1076	0	0	541	0	0
Stage 1	1185	1185	-	743	743	-	-	-	-	-	-	-
Stage 2	473	745	-	646	1206	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.96	4.12	-	-	4.14	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.33	2.21	-	-	2.22	-	-
Pot Cap-1 Maneuver	65	67	492	104	65	722	650	-	-	1024	-	-
Stage 1	204	265	-	378	425	-	-	-	-	-	-	-
Stage 2	546	424	-	431	259	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	48	53	492	79	51	720	649	-	-	1021	-	-
Mov Cap-2 Maneuver	48	53	-	79	51	-	-	-	-	-	-	-
Stage 1	172	248	-	318	357	-	-	-	-	-	-	-
Stage 2	433	356	-	368	242	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	48.3	28.3	1.8	0.5
HCM LOS	E	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	649	-	-	140	197	1021	-	-
HCM Lane V/C Ratio	0.157	-	-	0.422	0.218	0.063	-	-
HCM Control Delay (s)	11.6	-	-	48.3	28.3	8.8	-	-
HCM Lane LOS	B	-	-	E	D	A	-	-
HCM 95th %tile Q(veh)	0.6	-	-	1.9	0.8	0.2	-	-

Intersection	
Int Delay, s/veh	13.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	455	30	275	315	50	140
Future Vol, veh/h	455	30	275	315	50	140
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	300	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	1	0	0
Mvmt Flow	506	33	306	350	56	156

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	539	0	1468	506
Stage 1	-	-	-	-	506	-
Stage 2	-	-	-	-	962	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1040	-	142	570
Stage 1	-	-	-	-	610	-
Stage 2	-	-	-	-	374	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1040	-	90	570
Mov Cap-2 Maneuver	-	-	-	-	90	-
Stage 1	-	-	-	-	387	-
Stage 2	-	-	-	-	374	-

Approach	EB	WB	NB
HCM Control Delay, s	0	4.6	77.4
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	237	-	-	1040	-
HCM Lane V/C Ratio	0.891	-	-	0.294	-
HCM Control Delay (s)	77.4	-	-	9.9	0
HCM Lane LOS	F	-	-	A	A
HCM 95th %tile Q(veh)	7.4	-	-	1.2	-

Intersection	
Int Delay, s/veh	29.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	10	555	70	115	245	85	95	25	90	30	5	50
Future Vol, veh/h	10	555	70	115	245	85	95	25	90	30	5	50
Conflicting Peds, #/hr	3	0	0	0	0	3	2	0	0	0	0	2
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	33	0	0	1	1	0	8	0	2	0	0	0
Mvmt Flow	10	578	73	120	255	89	99	26	94	31	5	52

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	347	0	0	651	0	0	1205	1222	615	1238	1214	305
Stage 1	-	-	-	-	-	-	635	635	-	543	543	-
Stage 2	-	-	-	-	-	-	570	587	-	695	671	-
Critical Hdwy	4.43	-	-	4.11	-	-	7.18	6.5	6.22	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.18	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.18	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.497	-	-	2.209	-	-	3.572	4	3.318	3.5	4	3.3
Pot Cap-1 Maneuver	1058	-	-	940	-	-	156	181	491	154	183	740
Stage 1	-	-	-	-	-	-	457	476	-	528	523	-
Stage 2	-	-	-	-	-	-	496	500	-	436	458	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1055	-	-	940	-	-	122	150	491	94	151	737
Mov Cap-2 Maneuver	-	-	-	-	-	-	122	150	-	94	151	-
Stage 1	-	-	-	-	-	-	450	469	-	519	438	-
Stage 2	-	-	-	-	-	-	382	419	-	328	451	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	2.4	172.7	36
HCM LOS			F	E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	186	1055	-	-	940	-	-	202
HCM Lane V/C Ratio	1.176	0.01	-	-	0.127	-	-	0.438
HCM Control Delay (s)	172.7	8.4	0	-	9.4	0	-	36
HCM Lane LOS	F	A	A	-	A	A	-	E
HCM 95th %tile Q(veh)	11.3	0	-	-	0.4	-	-	2

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	465	945	50	50	40
Future Vol, veh/h	0	465	945	50	50	40
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	505	1027	54	54	43

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1081	0	-	0	1559	1054
Stage 1	-	-	-	-	1054	-
Stage 2	-	-	-	-	505	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	645	-	-	-	124	275
Stage 1	-	-	-	-	335	-
Stage 2	-	-	-	-	606	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	645	-	-	-	124	275
Mov Cap-2 Maneuver	-	-	-	-	124	-
Stage 1	-	-	-	-	335	-
Stage 2	-	-	-	-	606	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	55.1
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	645	-	-	-	164
HCM Lane V/C Ratio	-	-	-	-	0.597
HCM Control Delay (s)	0	-	-	-	55.1
HCM Lane LOS	A	-	-	-	F
HCM 95th %tile Q(veh)	0	-	-	-	3.2

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕		↰	↕	
Traffic Vol, veh/h	0	0	0	0	0	0	0	320	0	0	1150	0
Future Vol, veh/h	0	0	0	0	0	0	0	320	0	0	1150	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	10	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0	0	348	0	0	1250	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1598	1598	1250	1598	1598	348	1250	0	0	348	0	0
Stage 1	1250	1250	-	348	348	-	-	-	-	-	-	-
Stage 2	348	348	-	1250	1250	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	86	106	211	86	106	695	557	-	-	1211	-	-
Stage 1	212	244	-	668	634	-	-	-	-	-	-	-
Stage 2	668	634	-	212	244	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	86	106	211	86	106	695	557	-	-	1211	-	-
Mov Cap-2 Maneuver	86	106	-	86	106	-	-	-	-	-	-	-
Stage 1	212	244	-	668	634	-	-	-	-	-	-	-
Stage 2	668	634	-	212	244	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	0	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	557	-	-	-	-	1211	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	0	0	-	-
HCM Lane LOS	A	-	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-	0	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	10	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0	0	0	0	0	0	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1	1	1	-	-	0	1	0	0	0	0	0
Stage 1	1	1	-	-	-	-	-	-	-	-	-	-
Stage 2	0	0	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	7.33	6.53	6.93	-	-	6.23	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.53	5.53	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	3.319	-	-	3.319	2.219	-	-	2.219	-	-
Pot Cap-1 Maneuver	1021	895	1083	0	0	-	1621	-	-	-	-	-
Stage 1	1022	895	-	0	0	-	-	-	-	-	-	-
Stage 2	-	-	-	0	0	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	895	1083	-	-	-	1621	-	-	-	-	-
Mov Cap-2 Maneuver	-	895	-	-	-	-	-	-	-	-	-	-
Stage 1	1022	895	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	0	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1621	-	-	-	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	0	0	0	-	-
HCM Lane LOS	A	-	-	A	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-	-	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	Free	-	-	None	-	-	None
Storage Length	0	-	0	-	-	0	70	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0	0	0	0	0	0	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1	-	1	1	1	-	1	0	-	-	-	0
Stage 1	1	-	-	0	0	-	-	-	-	-	-	-
Stage 2	0	-	-	1	1	-	-	-	-	-	-	-
Critical Hdwy	7.12	-	6.22	7.12	6.52	-	4.12	-	-	-	-	-
Critical Hdwy Stg 1	6.12	-	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	-	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	-	3.318	3.518	4.018	-	2.218	-	-	-	-	-
Pot Cap-1 Maneuver	1022	0	1084	1022	895	0	1622	-	0	0	-	-
Stage 1	1022	0	-	-	-	0	-	-	0	0	-	-
Stage 2	-	0	-	1022	895	0	-	-	0	0	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver	1022	-	1084	1022	895	-	1622	-	-	-	-	-
Mov Cap-2 Maneuver	933	-	-	-	-	-	-	-	-	-	-	-
Stage 1	1022	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	1022	895	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	0	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	WBLn1	WBLn2	SBT	SBR
Capacity (veh/h)	1622	-	-	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-	-	-
HCM Control Delay (s)	0	-	0	0	0	0	-	-
HCM Lane LOS	A	-	A	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1	1	1	0	-	0
Stage 1	1	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	1022	1084	1622	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1022	1084	1622	-	-	-
Mov Cap-2 Maneuver	1022	-	-	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1622	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	750	470	0	0	0
Future Vol, veh/h	0	750	470	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	815	511	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	1326	511
Stage 1	-	-	-	-	511	-
Stage 2	-	-	-	-	815	-
Critical Hdwy	-	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	0	-	-	-	172	563
Stage 1	0	-	-	-	602	-
Stage 2	0	-	-	-	435	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	172	563
Mov Cap-2 Maneuver	-	-	-	-	172	-
Stage 1	-	-	-	-	602	-
Stage 2	-	-	-	-	435	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	-	-	0
HCM Lane LOS	-	-	-	A
HCM 95th %tile Q(veh)	-	-	-	-

Intersection	
Int Delay, s/veh	10.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	750	0	0	470	145	0
Future Vol, veh/h	750	0	0	470	145	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	815	0	0	511	158	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	815	0	1326	815
Stage 1	-	-	-	-	815	-
Stage 2	-	-	-	-	511	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	812	-	172	377
Stage 1	-	-	-	-	435	-
Stage 2	-	-	-	-	602	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	812	-	172	377
Mov Cap-2 Maneuver	-	-	-	-	172	-
Stage 1	-	-	-	-	435	-
Stage 2	-	-	-	-	602	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	101.9
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	172	-	-	812	-
HCM Lane V/C Ratio	0.916	-	-	-	-
HCM Control Delay (s)	101.9	-	-	0	-
HCM Lane LOS	F	-	-	A	-
HCM 95th %tile Q(veh)	6.8	-	-	0	-

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	145	0	0	0	0
Future Vol, veh/h	0	145	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	158	0	0	0	0

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1	0	0	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	1	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	-	-
Pot Cap-1 Maneuver	1022	-	-	0	0	-
Stage 1	-	-	-	0	0	-
Stage 2	1022	-	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	1022	-	-	-	-	-
Mov Cap-2 Maneuver	1022	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	1022	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s		0	0
HCM LOS	-		

Minor Lane/Major Mvmt	NBT	WBLn1	SBT
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	-	-
HCM Lane LOS	-	-	-
HCM 95th %tile Q(veh)	-	-	-

Synchro HCM reports (Future 2040 Build Bundle B Conditions)

Intersection	
Intersection Delay, s/veh	288.8
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	215	410	105	35	405	90	90	285	170	175	200	410
Future Vol, veh/h	215	410	105	35	405	90	90	285	170	175	200	410
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	0	1	0	0	0	0	0	1	0	1	1	2
Mvmt Flow	239	456	117	39	450	100	100	317	189	194	222	456
Number of Lanes	1	1	1	1	1	0	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	3	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	3	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	2	3
HCM Control Delay	164.4	374.3	486.9	209.1
HCM LOS	F	F	F	F

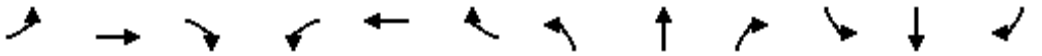
Lane	NBLn1	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	17%	100%	0%	0%	100%	0%	47%	0%
Vol Thru, %	52%	0%	100%	0%	0%	82%	53%	0%
Vol Right, %	31%	0%	0%	100%	0%	18%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	545	215	410	105	35	495	375	410
LT Vol	90	215	0	0	35	0	175	0
Through Vol	285	0	410	0	0	405	200	0
RT Vol	170	0	0	105	0	90	0	410
Lane Flow Rate	606	239	456	117	39	550	417	456
Geometry Grp	8	8	8	8	8	8	8	8
Degree of Util (X)	1.987	0.772	1.411	0.338	0.133	1.785	1.311	1.315
Departure Headway (Hd)	13.801	17.866	17.338	16.554	14.719	14.027	16.499	15.471
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	272	205	214	219	245	264	225	241
Service Time	11.501	15.566	15.038	14.254	12.419	11.727	14.199	13.171
HCM Lane V/C Ratio	2.228	1.166	2.131	0.534	0.159	2.083	1.853	1.892
HCM Control Delay	486.9	63.3	252.4	27.5	19.7	399.4	210.1	208.1
HCM Lane LOS	F	F	F	D	C	F	F	F
HCM 95th-tile Q	37.4	5.3	17.1	1.4	0.5	30.8	15.4	16.2

Intersection	
Intersection Delay, s/veh	0
Intersection LOS	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0	0	0	0	0	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	0	0	0	0
HCM LOS	-	-	-	-

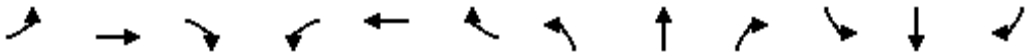
Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	0%	0%	0%
Vol Thru, %	100%	100%	100%	100%
Vol Right, %	0%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	0	0	0	0
LT Vol	0	0	0	0
Through Vol	0	0	0	0
RT Vol	0	0	0	0
Lane Flow Rate	0	0	0	0
Geometry Grp	1	1	1	1
Degree of Util (X)	0	0	0	0
Departure Headway (Hd)	3.934	3.934	3.934	3.934
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	0	0	0	0
Service Time	1.934	1.934	1.934	1.934
HCM Lane V/C Ratio	0	0	0	0
HCM Control Delay	6.9	6.9	6.9	6.9
HCM Lane LOS	N	N	N	N
HCM 95th-tile Q	0	0	0	0



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1800	1750	1750	1750	1750
Total Lost time (s)												
Lane Util. Factor												
Frpb, ped/bikes												
Flpb, ped/bikes												
Frt												
Flt Protected												
Satd. Flow (prot)												
Flt Permitted												
Satd. Flow (perm)												
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Confl. Peds. (#/hr)	1					1			1	1		
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	1%	0%	0%	1%	6%	0%	5%	4%	0%	5%	7%	5%
Turn Type	Prot		Perm	Prot			Prot		custom	Prot		custom
Protected Phases	3	8		7	4		1!	2!	7	5!	6!	3
Permitted Phases			8						1			5
Actuated Green, G (s)												
Effective Green, g (s)												
Actuated g/C Ratio												
Clearance Time (s)												
Vehicle Extension (s)												
Lane Grp Cap (vph)												
v/s Ratio Prot												
v/s Ratio Perm												
v/c Ratio												
Uniform Delay, d1												
Progression Factor												
Incremental Delay, d2												
Delay (s)												
Level of Service												
Approach Delay (s)		0.0			0.0			0.0			0.0	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	0.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.00		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	23.9%	ICU Level of Service	A
Analysis Period (min)	15		

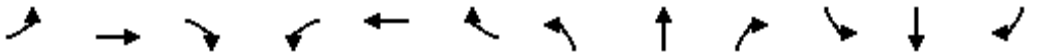
! Phase conflict between lane groups.
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)												
Lane Util. Factor												
Frpb, ped/bikes												
Flpb, ped/bikes												
Frt												
Flt Protected												
Satd. Flow (prot)												
Flt Permitted												
Satd. Flow (perm)												
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Confl. Peds. (#/hr)	1					1			4	4		
Heavy Vehicles (%)	2%	0%	0%	1%	9%	11%	0%	3%	7%	10%	6%	0%
Turn Type	Split		Prot	Split			Prot			Prot		
Protected Phases	4	4	4	8	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)												
Effective Green, g (s)												
Actuated g/C Ratio												
Clearance Time (s)												
Vehicle Extension (s)												
Lane Grp Cap (vph)												
v/s Ratio Prot												
v/s Ratio Perm												
v/c Ratio												
Uniform Delay, d1												
Progression Factor												
Incremental Delay, d2												
Delay (s)												
Level of Service												
Approach Delay (s)		0.0			0.0			0.0			0.0	
Approach LOS		A			A			A			A	

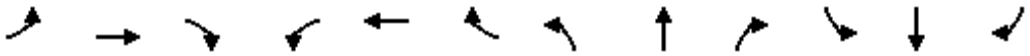
Intersection Summary			
HCM 2000 Control Delay	0.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.00		
Actuated Cycle Length (s)	148.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	26.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



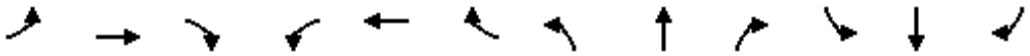
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	1160	565	425	1115	20	0	0	0	10	5	55
Future Volume (vph)	15	1160	565	425	1115	20	0	0	0	10	5	55
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0						4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95						1.00	
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00						1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00						1.00	
Frt	1.00	1.00	0.85	1.00	1.00						0.89	
Flt Protected	0.95	1.00	1.00	0.95	1.00						0.99	
Satd. Flow (prot)	1662	1683	1424	1662	3220						1382	
Flt Permitted	0.95	1.00	1.00	0.95	1.00						0.99	
Satd. Flow (perm)	1662	1683	1424	1662	3220						1382	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	15	1196	582	438	1149	21	0	0	0	10	5	57
RTOR Reduction (vph)	0	0	218	0	1	0	0	0	0	0	53	0
Lane Group Flow (vph)	15	1196	364	438	1169	0	0	0	0	0	19	0
Confl. Peds. (#/hr)	3					3						
Confl. Bikes (#/hr)			4			1						
Heavy Vehicles (%)	0%	4%	3%	0%	3%	0%	0%	0%	0%	20%	0%	12%
Turn Type	Prot	NA	Perm	Prot	NA					Perm	NA	
Protected Phases	5	2		1	6						4	
Permitted Phases			2							4		
Actuated Green, G (s)	1.6	44.2	44.2	27.6	70.2						6.2	
Effective Green, g (s)	1.6	44.2	44.2	27.6	70.2						6.2	
Actuated g/C Ratio	0.02	0.49	0.49	0.31	0.78						0.07	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0						4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0						3.0	
Lane Grp Cap (vph)	29	826	699	509	2511						95	
v/s Ratio Prot	0.01	c0.71		c0.26	0.36							
v/s Ratio Perm			0.26								0.01	
v/c Ratio	0.52	1.45	0.52	0.86	0.47						0.20	
Uniform Delay, d1	43.8	22.9	15.7	29.4	3.4						39.6	
Progression Factor	1.00	1.00	1.00	1.16	0.82						1.00	
Incremental Delay, d2	14.7	208.4	2.8	8.2	0.3						1.0	
Delay (s)	58.5	231.3	18.4	42.3	3.1						40.6	
Level of Service	E	F	B	D	A						D	
Approach Delay (s)		160.7			13.8			0.0			40.6	
Approach LOS		F			B			A			D	

Intersection Summary			
HCM 2000 Control Delay	90.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.14		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	106.4%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



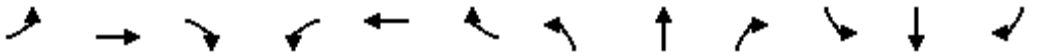
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	145	1025	0	0	1310	265	250	5	510	0	0	0
Future Volume (vph)	145	1025	0	0	1310	265	250	5	510	0	0	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0			4.0	4.0		4.0	5.0			
Lane Util. Factor	1.00	1.00			0.95	1.00		1.00	1.00			
Frpb, ped/bikes	1.00	1.00			1.00	0.97		1.00	1.00			
Flpb, ped/bikes	1.00	1.00			1.00	1.00		1.00	1.00			
Frt	1.00	1.00			1.00	0.85		1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (prot)	1646	1667			3260	1403		1636	1444			
Flt Permitted	0.08	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (perm)	141	1667			3260	1403		1636	1444			
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	156	1102	0	0	1409	285	269	5	548	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	108	0	0	75	0	0	0
Lane Group Flow (vph)	156	1102	0	0	1409	178	0	274	473	0	0	0
Confl. Peds. (#/hr)	3					3						
Confl. Bikes (#/hr)			3			1						
Heavy Vehicles (%)	1%	5%	0%	0%	2%	3%	2%	0%	3%	0%	0%	0%
Turn Type	pm+pt	NA			NA	Perm	Perm	NA	Perm			
Protected Phases	5	2			6			8				
Permitted Phases	2					6	8		8			
Actuated Green, G (s)	55.0	55.0			44.0	44.0		25.0	25.0			
Effective Green, g (s)	56.0	56.0			45.0	45.0		26.0	25.0			
Actuated g/C Ratio	0.62	0.62			0.50	0.50		0.29	0.28			
Clearance Time (s)	5.0	5.0			5.0	5.0		5.0	5.0			
Vehicle Extension (s)	3.0	3.0			3.0	3.0		3.0	3.0			
Lane Grp Cap (vph)	204	1037			1630	701		472	401			
v/s Ratio Prot	0.06	c0.66			0.43							
v/s Ratio Perm	0.41					0.13		0.17	c0.33			
v/c Ratio	0.76	1.06			0.86	0.25		0.58	1.18			
Uniform Delay, d1	18.0	17.0			19.8	12.9		27.3	32.5			
Progression Factor	2.18	0.93			1.00	1.00		1.00	1.00			
Incremental Delay, d2	1.6	30.6			6.4	0.9		1.8	103.7			
Delay (s)	41.0	46.5			26.2	13.7		29.2	136.2			
Level of Service	D	D			C	B		C	F			
Approach Delay (s)		45.8			24.1			100.5			0.0	
Approach LOS		D			C			F			A	

Intersection Summary			
HCM 2000 Control Delay	48.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.14		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	100.4%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	230	245	40	355	500	230	60	1075	190	1195	1310	180
Future Volume (vph)	230	245	40	355	500	230	60	1075	190	1195	1310	180
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1775	1750	1750
Total Lost time (s)	4.0	4.0		4.0	4.0	5.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95		0.97	0.95	1.00	1.00	0.95	1.00	0.97	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.98	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1662	3183		3131	3228	1462	1614	3260	1458	3116	3124	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1662	3183		3131	3228	1462	1614	3260	1458	3116	3124	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	242	258	42	374	526	242	63	1132	200	1258	1379	189
RTOR Reduction (vph)	0	9	0	0	0	195	0	0	64	0	7	0
Lane Group Flow (vph)	242	291	0	374	526	47	63	1132	136	1258	1561	0
Confl. Peds. (#/hr)	3					3						
Confl. Bikes (#/hr)						1						
Heavy Vehicles (%)	0%	2%	4%	3%	3%	0%	3%	2%	2%	5%	5%	1%
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases						4			6			
Actuated Green, G (s)	15.0	23.9		19.5	28.4	28.4	7.8	42.5	42.5	43.6	78.3	
Effective Green, g (s)	16.0	24.9		20.5	29.4	28.4	8.8	44.0	44.0	44.6	79.8	
Actuated g/C Ratio	0.11	0.17		0.14	0.20	0.19	0.06	0.29	0.29	0.30	0.53	
Clearance Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.5	5.5	5.0	5.5	
Vehicle Extension (s)	2.5	2.5		2.5	2.5	2.5	2.5	4.8	4.8	2.5	4.8	
Lane Grp Cap (vph)	177	528		427	632	276	94	956	427	926	1661	
v/s Ratio Prot	c0.15	0.09		c0.12	c0.16		0.04	c0.35		c0.40	0.50	
v/s Ratio Perm						0.03			0.09			
v/c Ratio	1.37	0.55		0.88	0.83	0.17	0.67	1.18	0.32	1.36	0.94	
Uniform Delay, d1	67.0	57.4		63.5	57.9	50.9	69.2	53.0	41.3	52.7	32.9	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	197.0	1.0		17.7	9.0	0.2	15.7	93.6	2.0	168.4	11.8	
Delay (s)	264.0	58.4		81.2	66.9	51.2	84.9	146.6	43.3	221.1	44.6	
Level of Service	F	E		F	E	D	F	F	D	F	D	
Approach Delay (s)		150.2			68.3			129.0			123.2	
Approach LOS		F			E			F			F	

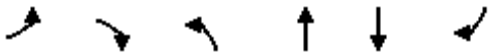
Intersection Summary			
HCM 2000 Control Delay	116.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.19		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	112.0%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	235	255	120	290	240	155	205	1220	155	275	1900	155
Future Volume (vph)	235	255	120	290	240	155	205	1220	155	275	1900	155
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0	5.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00		1.00	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.94		1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1646	1733	1448	3193	1631		1630	3198		1630	3228	1458
Flt Permitted	0.21	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	365	1733	1448	3193	1631		1630	3198		1630	3228	1458
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	255	277	130	315	261	168	223	1326	168	299	2065	168
RTOR Reduction (vph)	0	0	88	0	37	0	0	10	0	0	0	99
Lane Group Flow (vph)	255	277	42	315	392	0	223	1484	0	299	2065	69
Confl. Peds. (#/hr)			5	5					5	5		
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	2%	2%	1%	2%	3%	2%
Turn Type	pm+pt	NA	custom	Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	8		8 1									2
Actuated Green, G (s)	23.0	18.0	31.0	11.0	24.0		8.0	37.0		9.0	38.0	38.0
Effective Green, g (s)	25.0	19.0	31.0	12.0	25.0		9.0	38.0		10.0	39.0	39.0
Actuated g/C Ratio	0.26	0.20	0.33	0.13	0.26		0.09	0.40		0.11	0.41	0.41
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Vehicle Extension (s)	3.0	2.5		3.0	2.5		2.5	4.8		2.5	4.8	4.8
Lane Grp Cap (vph)	176	346	472	403	429		154	1279		171	1325	598
v/s Ratio Prot	c0.09	0.16		c0.10	0.24		0.14	0.46		c0.18	c0.64	
v/s Ratio Perm	c0.29		0.03									0.05
v/c Ratio	1.45	0.80	0.09	0.78	0.91		1.45	1.16		1.75	1.56	0.12
Uniform Delay, d1	33.0	36.2	22.2	40.2	34.0		43.0	28.5		42.5	28.0	17.3
Progression Factor	1.00	1.00	1.00	1.00	1.00		0.96	1.09		1.00	1.00	1.00
Incremental Delay, d2	230.9	12.1	0.1	9.5	23.7		229.1	79.7		359.9	255.1	0.4
Delay (s)	263.9	48.3	22.3	49.7	57.7		270.3	110.7		402.4	283.1	17.7
Level of Service	F	D	C	D	E		F	F		F	F	B
Approach Delay (s)		126.3			54.3			131.4			279.5	
Approach LOS		F			D			F			F	

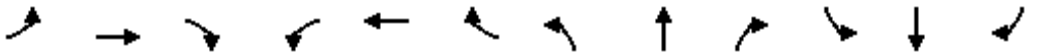
Intersection Summary			
HCM 2000 Control Delay	187.0	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.49		
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	120.8%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



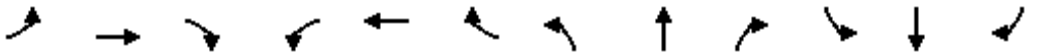
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	600	10	0	980	1680	630
Future Volume (vph)	600	10	0	980	1680	630
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0			4.0	4.0	4.0
Lane Util. Factor	0.97			*0.95	0.95	1.00
Frt	1.00			1.00	1.00	0.85
Flt Protected	0.95			1.00	1.00	1.00
Satd. Flow (prot)	3165			3260	3325	1488
Flt Permitted	0.95			1.00	1.00	1.00
Satd. Flow (perm)	3165			3260	3325	1488
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	652	11	0	1065	1826	685
RTOR Reduction (vph)	1	0	0	0	0	0
Lane Group Flow (vph)	662	0	0	1065	1826	685
Heavy Vehicles (%)	2%	2%	2%	2%	0%	0%
Turn Type	Prot			NA	NA	custom
Protected Phases	8			6	6	8
Permitted Phases					9	2
Actuated Green, G (s)	26.0			69.0	69.0	85.0
Effective Green, g (s)	27.0			70.0	70.0	87.0
Actuated g/C Ratio	0.26			0.67	0.67	0.83
Clearance Time (s)	5.0			5.0	5.0	5.0
Vehicle Extension (s)	2.5			4.8	4.8	2.5
Lane Grp Cap (vph)	813			2173	2216	1289
v/s Ratio Prot	c0.21			0.33	c0.55	0.14
v/s Ratio Perm						0.32
v/c Ratio	0.81			0.49	0.82	0.53
Uniform Delay, d1	36.6			8.7	12.9	2.8
Progression Factor	1.00			1.00	1.00	1.00
Incremental Delay, d2	6.1			0.8	2.6	0.3
Delay (s)	42.7			9.5	15.6	3.1
Level of Service	D			A	B	A
Approach Delay (s)	42.7			9.5	12.2	
Approach LOS	D			A	B	

Intersection Summary			
HCM 2000 Control Delay	16.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	76.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	140	30	845	145	280	55	240	775	145	215	5
Future Volume (vph)	10	140	30	845	145	280	55	240	775	145	215	5
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)		4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes		0.99		1.00	0.99		1.00	1.00	0.99	1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt		0.98		1.00	0.90		1.00	1.00	0.85	1.00	1.00	
Flt Protected		1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1697		1662	1545		1662	1750	1461	1612	1744	
Flt Permitted		1.00		0.95	1.00		0.40	1.00	1.00	0.37	1.00	
Satd. Flow (perm)		1697		1662	1545		706	1750	1461	620	1744	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	11	156	33	939	161	311	61	267	861	161	239	6
RTOR Reduction (vph)	0	6	0	0	57	0	0	0	91	0	1	0
Lane Group Flow (vph)	0	194	0	939	415	0	61	267	770	161	244	0
Confl. Peds. (#/hr)			5	5					1	1		
Confl. Bikes (#/hr)						2			1			
Heavy Vehicles (%)	0%	0%	0%	0%	0%	1%	0%	0%	1%	3%	0%	0%
Turn Type	Split	NA		Split	NA		Perm	NA	pm+ov	Perm	NA	
Protected Phases	8	8		4	4			6	4		2	
Permitted Phases							6		6	2		
Actuated Green, G (s)		16.8		54.1	54.1		27.0	27.0	81.1	27.0	27.0	
Effective Green, g (s)		17.8		55.1	55.1		28.0	28.0	83.1	28.0	28.0	
Actuated g/C Ratio		0.16		0.49	0.49		0.25	0.25	0.74	0.25	0.25	
Clearance Time (s)		5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)		2.5		4.0	4.0		5.2	5.2	4.0	5.2	5.2	
Lane Grp Cap (vph)		267		811	754		175	434	1127	153	432	
v/s Ratio Prot		c0.11		c0.56	0.27			0.15	0.33		0.14	
v/s Ratio Perm							0.09		0.19	c0.26		
v/c Ratio		0.73		1.16	0.55		0.35	0.62	0.68	1.05	0.57	
Uniform Delay, d1		45.2		28.9	20.2		34.9	37.7	7.9	42.5	37.1	
Progression Factor		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		8.9		84.7	1.0		2.7	3.9	1.9	87.3	2.9	
Delay (s)		54.1		113.6	21.3		37.6	41.5	9.8	129.8	40.1	
Level of Service		D		F	C		D	D	A	F	D	
Approach Delay (s)		54.1			82.7			18.3			75.6	
Approach LOS		D			F			B			E	

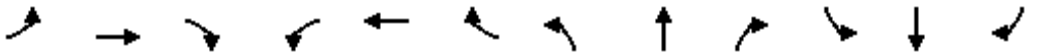
Intersection Summary			
HCM 2000 Control Delay	56.2	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	112.9	Sum of lost time (s)	13.0
Intersection Capacity Utilization	98.4%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	310	415	335	20	610	100	165	210	165	105	30	495
Future Volume (vph)	310	415	335	20	610	100	165	210	165	105	30	495
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)		4.0	4.0		4.0			4.0	4.0	4.0	4.0	4.0
Lane Util. Factor		0.95	1.00		0.95			1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes		1.00	0.97		1.00			1.00	1.00	1.00	1.00	0.99
Flpb, ped/bikes		1.00	1.00		1.00			1.00	1.00	1.00	1.00	1.00
Frt		1.00	0.85		0.98			1.00	0.85	1.00	1.00	0.85
Flt Protected		0.98	1.00		1.00			0.98	1.00	0.95	1.00	1.00
Satd. Flow (prot)		3205	1442		3217			1712	1473	1662	1667	1469
Flt Permitted		0.55	1.00		0.92			0.84	1.00	0.31	1.00	1.00
Satd. Flow (perm)		1794	1442		2978			1475	1473	547	1667	1469
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	344	461	372	22	678	111	183	233	183	117	33	550
RTOR Reduction (vph)	0	0	173	0	16	0	0	0	72	0	0	142
Lane Group Flow (vph)	0	805	199	0	795	0	0	416	111	117	33	408
Confl. Peds. (#/hr)			7	7								
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	1%	2%	0%	4%	1%	1%	0%	0%	1%	0%	5%	0%
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		6			2			8			4	
Permitted Phases	6		6	2			8		8	4		4
Actuated Green, G (s)		35.5	35.5		35.5			22.6	22.6	22.6	22.6	22.6
Effective Green, g (s)		36.5	36.5		36.5			23.6	23.6	23.6	23.6	23.6
Actuated g/C Ratio		0.54	0.54		0.54			0.35	0.35	0.35	0.35	0.35
Clearance Time (s)		5.0	5.0		5.0			5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)		2.5	2.5		2.5			2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)		961	772		1596			511	510	189	577	509
v/s Ratio Prot											0.02	
v/s Ratio Perm		c0.45	0.14		0.27			c0.28	0.08	0.21		0.28
v/c Ratio		1.29dl	0.26		0.50			0.81	0.22	0.62	0.06	0.80
Uniform Delay, d1		13.3	8.5		10.0			20.3	15.7	18.5	14.8	20.1
Progression Factor		1.00	1.00		1.00			1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		6.3	0.1		0.2			9.1	0.1	4.2	0.0	8.3
Delay (s)		19.7	8.6		10.2			29.4	15.8	22.7	14.8	28.4
Level of Service		B	A		B			C	B	C	B	C
Approach Delay (s)		16.2			10.2			25.2			26.8	
Approach LOS		B			B			C			C	

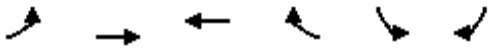
Intersection Summary			
HCM 2000 Control Delay	18.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	68.1	Sum of lost time (s)	8.0
Intersection Capacity Utilization	87.6%	ICU Level of Service	E
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	410	45	5	445	1090	130	0	545
Future Volume (vph)	0	0	0	0	410	45	5	445	1090	130	0	545
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)					4.0			4.0	4.0	4.0		4.0
Lane Util. Factor					1.00			1.00	1.00	1.00		1.00
Frpb, ped/bikes					1.00			1.00	0.99	1.00		0.99
Flpb, ped/bikes					1.00			1.00	1.00	1.00		1.00
Frt					0.99			1.00	0.85	1.00		0.85
Flt Protected					1.00			1.00	1.00	0.95		1.00
Satd. Flow (prot)					1707			1732	1457	1630		1468
Flt Permitted					1.00			1.00	1.00	0.95		1.00
Satd. Flow (perm)					1707			1732	1457	1630		1468
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	0	0	0	456	50	6	494	1211	144	0	606
RTOR Reduction (vph)	0	0	0	0	7	0	0	0	315	0	0	218
Lane Group Flow (vph)	0	0	0	0	499	0	0	500	896	144	0	388
Confl. Peds. (#/hr)	2					2	1		1	1		1
Confl. Bikes (#/hr)						2						
Heavy Vehicles (%)	0%	0%	0%	0%	1%	0%	0%	1%	1%	2%	0%	0%
Turn Type					NA		Split	NA	custom	Prot		Perm
Protected Phases		2			6		8	8	1	4		
Permitted Phases									2 8			4
Actuated Green, G (s)					31.0			27.6	58.6	26.4		26.4
Effective Green, g (s)					32.0			28.6	60.6	27.4		27.4
Actuated g/C Ratio					0.32			0.29	0.61	0.27		0.27
Clearance Time (s)					5.0			5.0	5.0	5.0		5.0
Vehicle Extension (s)					3.0			3.0	3.0	3.0		3.0
Lane Grp Cap (vph)					546			495	941	446		402
v/s Ratio Prot					0.29			c0.29	c0.30	0.09		
v/s Ratio Perm									0.31			c0.26
v/c Ratio					0.91			1.01	0.95	0.32		0.97
Uniform Delay, d1					32.7			35.7	18.3	28.9		35.8
Progression Factor					0.93			1.00	1.00	1.00		1.00
Incremental Delay, d2					18.8			43.0	18.7	0.4		35.6
Delay (s)					49.3			78.7	37.0	29.3		71.5
Level of Service					D			E	D	C		E
Approach Delay (s)		0.0			49.3			49.2			63.4	
Approach LOS		A			D			D			E	

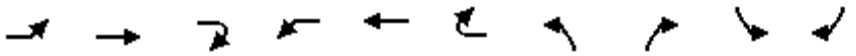
Intersection Summary			
HCM 2000 Control Delay	52.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	98.9%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	840	380	250	370	20	205
Future Volume (vph)	840	380	250	370	20	205
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	0.98	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1646	1716	1733	1437	1568	1473
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1646	1716	1733	1437	1568	1473
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	933	422	278	411	22	228
RTOR Reduction (vph)	0	0	0	278	0	36
Lane Group Flow (vph)	933	422	278	133	22	192
Confl. Bikes (#/hr)				2		
Heavy Vehicles (%)	1%	2%	1%	1%	6%	1%
Turn Type	Prot	NA	NA	Perm	Prot	pm+ov
Protected Phases	5	2	6		7	5
Permitted Phases				6		7
Actuated Green, G (s)	64.0	85.0	17.0	17.0	7.0	71.0
Effective Green, g (s)	64.0	85.0	17.0	17.0	7.0	71.0
Actuated g/C Ratio	0.64	0.85	0.17	0.17	0.07	0.71
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1053	1458	294	244	109	1104
v/s Ratio Prot	c0.57	0.25	c0.16		0.01	c0.11
v/s Ratio Perm				0.09		0.02
v/c Ratio	0.89	0.29	0.95	0.54	0.20	0.17
Uniform Delay, d1	15.0	1.5	41.0	38.0	43.9	4.8
Progression Factor	1.04	0.75	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.5	0.2	40.2	8.5	0.9	0.1
Delay (s)	19.0	1.3	81.3	46.4	44.8	4.9
Level of Service	B	A	F	D	D	A
Approach Delay (s)		13.5	60.5		8.4	
Approach LOS		B	E		A	

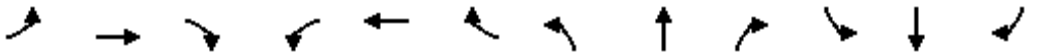
Intersection Summary			
HCM 2000 Control Delay	27.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	82.1%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR2	WBL	WBT	WBR2	NBL	NBR2	SBL	SBR2
Lane Configurations										
Traffic Volume (vph)	255	960	50	100	765	475	65	75	760	215
Future Volume (vph)	255	960	50	100	765	475	65	75	760	215
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	0.97	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1662	3260	1458	1662	3260	1458	1662	1458	3225	1458
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	1662	3260	1458	1662	3260	1458	1662	1458	3225	1458
Peak-hour factor, PHF	0.93	0.93	0.92	0.93	0.93	0.92	0.93	0.92	0.93	0.92
Adj. Flow (vph)	274	1032	54	108	823	516	70	82	817	234
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	274	1032	54	108	823	516	70	82	817	234
Confl. Peds. (#/hr)	2									
Confl. Bikes (#/hr)										
Heavy Vehicles (%)	0%	2%	2%	0%	2%	2%	0%	2%	0%	2%
Turn Type	Prot	NA	Free	Prot	NA	Free	Prot	Free	Prot	Free
Protected Phases	5	2		1	6		4		8	
Permitted Phases			Free			Free		Free		Free
Actuated Green, G (s)	24.1	60.4	120.0	12.4	48.7	120.0	35.2	120.0	35.2	120.0
Effective Green, g (s)	24.1	60.4	120.0	12.4	48.7	120.0	35.2	120.0	35.2	120.0
Actuated g/C Ratio	0.20	0.50	1.00	0.10	0.41	1.00	0.29	1.00	0.29	1.00
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0		4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0		3.0	
Lane Grp Cap (vph)	333	1640	1458	171	1323	1458	487	1458	946	1458
v/s Ratio Prot	c0.16	c0.32		0.06	0.25		0.04		c0.25	
v/s Ratio Perm			0.04			0.35		0.06		0.16
v/c Ratio	0.82	0.63	0.04	0.63	0.62	0.35	0.14	0.06	0.86	0.16
Uniform Delay, d1	45.9	21.7	0.0	51.6	28.3	0.0	31.3	0.0	40.1	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	15.0	1.8	0.0	7.4	2.2	0.7	0.1	0.1	8.2	0.2
Delay (s)	60.9	23.5	0.0	59.0	30.5	0.7	31.4	0.1	48.4	0.2
Level of Service	E	C	A	E	C	A	C	A	D	A
Approach Delay (s)		30.1			22.0					
Approach LOS		C			C					

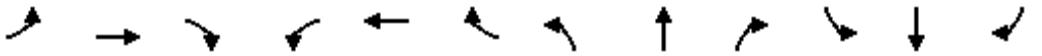
Intersection Summary			
HCM 2000 Control Delay	28.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	71.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	640	165	70	455	0	0	0	0	325	0	320
Future Volume (vph)	0	640	165	70	455	0	0	0	0	325	0	320
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)		4.0		4.0	4.0						4.0	4.0
Lane Util. Factor		1.00		1.00	1.00						1.00	1.00
Frpb, ped/bikes		1.00		1.00	1.00						1.00	1.00
Flpb, ped/bikes		1.00		1.00	1.00						1.00	1.00
Frt		0.97		1.00	1.00						1.00	0.85
Flt Protected		1.00		0.95	1.00						0.95	1.00
Satd. Flow (prot)		1691		1662	1750						1662	1488
Flt Permitted		1.00		0.16	1.00						0.95	1.00
Satd. Flow (perm)		1691		278	1750						1662	1488
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	674	174	74	479	0	0	0	0	342	0	337
RTOR Reduction (vph)	0	9	0	0	0	0	0	0	0	0	0	256
Lane Group Flow (vph)	0	839	0	74	479	0	0	0	0	0	342	81
Confl. Peds. (#/hr)	6					6						
Heavy Vehicles (%)	0%	0%	3%	0%	0%	0%	33%	0%	1%	0%	0%	0%
Turn Type		NA		pm+pt	NA					Split	NA	Perm
Protected Phases		8		7	4					2	2	
Permitted Phases				4								2
Actuated Green, G (s)		59.6		68.3	68.3						21.7	21.7
Effective Green, g (s)		60.6		69.3	69.3						22.7	22.7
Actuated g/C Ratio		0.61		0.69	0.69						0.23	0.23
Clearance Time (s)		5.0		5.0	5.0						5.0	5.0
Vehicle Extension (s)		3.0		3.0	3.0						3.0	3.0
Lane Grp Cap (vph)		1024		257	1212						377	337
v/s Ratio Prot		c0.50		0.01	c0.27						c0.21	
v/s Ratio Perm				0.19								0.05
v/c Ratio		0.82		0.29	0.40						0.91	0.24
Uniform Delay, d1		15.4		11.9	6.5						37.6	31.6
Progression Factor		1.00		0.66	0.49						1.00	1.00
Incremental Delay, d2		7.3		0.5	0.7						24.6	0.4
Delay (s)		22.7		8.4	3.9						62.3	32.0
Level of Service		C		A	A						E	C
Approach Delay (s)		22.7			4.5			0.0			47.2	
Approach LOS		C			A			A			D	

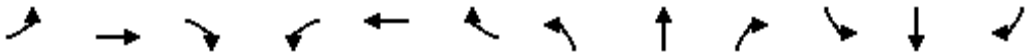
Intersection Summary			
HCM 2000 Control Delay	25.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	81.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	245	720	0	0	490	110	35	0	30	0	0	0
Future Volume (vph)	245	720	0	0	490	110	35	0	30	0	0	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0			4.0			4.0	4.0			
Lane Util. Factor	1.00	1.00			1.00			1.00	1.00			
Frpb, ped/bikes	1.00	1.00			1.00			1.00	1.00			
Flpb, ped/bikes	1.00	1.00			1.00			1.00	1.00			
Frt	1.00	1.00			0.98			1.00	0.85			
Flt Protected	0.95	1.00			1.00			0.95	1.00			
Satd. Flow (prot)	1646	1733			1704			1662	1488			
Flt Permitted	0.17	1.00			1.00			0.95	1.00			
Satd. Flow (perm)	289	1733			1704			1662	1488			
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	258	758	0	0	516	116	37	0	32	0	0	0
RTOR Reduction (vph)	0	0	0	0	9	0	0	0	23	0	0	0
Lane Group Flow (vph)	258	758	0	0	623	0	0	37	9	0	0	0
Confl. Peds. (#/hr)			1	1								
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	1%	1%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt	NA			NA		Perm	NA	Perm			
Protected Phases	3	8			4			6				
Permitted Phases	8						6		6			
Actuated Green, G (s)	62.4	62.4			44.0			27.6	27.6			
Effective Green, g (s)	63.4	63.4			45.0			28.6	28.6			
Actuated g/C Ratio	0.63	0.63			0.45			0.29	0.29			
Clearance Time (s)	5.0	5.0			5.0			5.0	5.0			
Vehicle Extension (s)	3.0	3.0			3.0			3.0	3.0			
Lane Grp Cap (vph)	378	1098			766			475	425			
v/s Ratio Prot	0.10	c0.44			c0.37							
v/s Ratio Perm	0.33							0.02	0.01			
v/c Ratio	0.68	0.69			0.81			0.08	0.02			
Uniform Delay, d1	14.8	11.9			23.8			26.1	25.6			
Progression Factor	1.09	0.98			0.88			1.00	1.00			
Incremental Delay, d2	2.8	1.1			4.1			0.3	0.1			
Delay (s)	18.9	12.7			25.1			26.4	25.7			
Level of Service	B	B			C			C	C			
Approach Delay (s)		14.3			25.1			26.1			0.0	
Approach LOS		B			C			C			A	

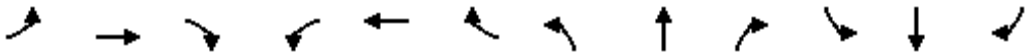
Intersection Summary			
HCM 2000 Control Delay	18.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	63.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	15	440	180	25	80	205	1240	165	35	1710	10
Future Volume (vph)	15	15	440	180	25	80	205	1240	165	35	1710	10
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)		4.0	4.0		4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes		1.00	0.99		1.00		1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00	1.00	1.00	1.00	
Frt		1.00	0.85		0.96		1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.98	1.00		0.97		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1707	1468		1625		1662	3260	1451	1662	3226	
Flt Permitted		0.84	1.00		0.79		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1478	1468		1323		1662	3260	1451	1662	3226	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	16	16	473	194	27	86	220	1333	177	38	1839	11
RTOR Reduction (vph)	0	0	74	0	13	0	0	0	42	0	0	0
Lane Group Flow (vph)	0	32	399	0	294	0	220	1333	135	38	1850	0
Confl. Peds. (#/hr)	1		1	1		1			2	2		
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	3%	0%
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA	Perm	Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8					2			
Actuated Green, G (s)		28.0	28.0		28.0		10.0	59.0	59.0	3.0	52.0	
Effective Green, g (s)		29.0	29.0		29.0		11.0	60.0	60.0	4.0	53.0	
Actuated g/C Ratio		0.28	0.28		0.28		0.10	0.57	0.57	0.04	0.50	
Clearance Time (s)		5.0	5.0		5.0		5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)		2.5	2.5		2.5		2.5	4.8	4.8	2.5	4.8	
Lane Grp Cap (vph)		408	405		365		174	1862	829	63	1628	
v/s Ratio Prot							c0.13	0.41		0.02	c0.57	
v/s Ratio Perm		0.02	c0.27		0.22				0.09			
v/c Ratio		0.08	0.99		0.81		1.26	0.72	0.16	0.60	1.14	
Uniform Delay, d1		28.1	37.8		35.4		47.0	16.3	10.6	49.7	26.0	
Progression Factor		1.00	1.00		1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.1	40.6		11.9		156.6	2.4	0.4	13.0	69.4	
Delay (s)		28.2	78.4		47.2		203.6	18.7	11.1	62.7	95.4	
Level of Service		C	E		D		F	B	B	E	F	
Approach Delay (s)		75.2			47.2			41.4			94.7	
Approach LOS		E			D			D			F	

Intersection Summary			
HCM 2000 Control Delay	68.4	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	109.1%	ICU Level of Service	H
Analysis Period (min)	15		

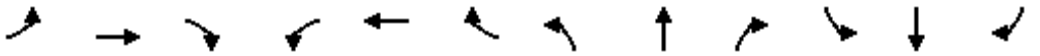
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	180	465	160	275	455	165	105	1185	105	185	790	60
Future Volume (vph)	180	465	160	275	455	165	105	1185	105	185	790	60
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		0.91	0.91		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.96		1.00	0.96		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1646	3174		1498	3019		1662	3221		1662	3139	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1646	3174		1498	3019		1662	3221		1662	3139	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	194	500	172	296	489	177	113	1274	113	199	849	65
RTOR Reduction (vph)	0	28	0	0	26	0	0	6	0	0	5	0
Lane Group Flow (vph)	194	644	0	266	670	0	113	1381	0	199	909	0
Confl. Peds. (#/hr)	5					5	5		3	3		5
Heavy Vehicles (%)	1%	1%	0%	1%	1%	0%	0%	2%	0%	0%	5%	0%
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	23.0	23.0		23.0	23.0		9.7	43.0		11.0	44.3	
Effective Green, g (s)	24.0	24.0		24.0	24.0		10.7	44.0		12.0	45.3	
Actuated g/C Ratio	0.20	0.20		0.20	0.20		0.09	0.37		0.10	0.38	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	329	634		299	603		148	1181		166	1184	
v/s Ratio Prot	0.12	c0.20		0.18	c0.22		0.07	c0.43		c0.12	0.29	
v/s Ratio Perm												
v/c Ratio	0.59	1.02		0.89	1.11		0.76	1.17		1.20	0.77	
Uniform Delay, d1	43.5	48.0		46.7	48.0		53.4	38.0		54.0	32.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.7	39.7		25.8	71.3		20.5	85.7		133.3	4.8	
Delay (s)	46.2	87.7		72.5	119.3		74.0	123.7		187.3	37.5	
Level of Service	D	F		E	F		E	F		F	D	
Approach Delay (s)		78.4			106.3			119.9			64.3	
Approach LOS		E			F			F			E	

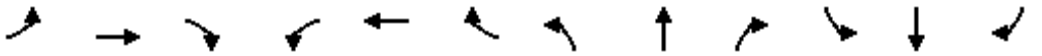
Intersection Summary			
HCM 2000 Control Delay	95.0	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.12		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	102.0%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	135	785	105	210	470	90	460	835	305	165	1075	310
Future Volume (vph)	135	785	105	210	470	90	460	835	305	165	1075	310
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.98		1.00	0.96		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1614	3159		1630	3168		1646	3090		1630	3141	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1614	3159		1630	3168		1646	3090		1630	3141	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	141	818	109	219	490	94	479	870	318	172	1120	323
RTOR Reduction (vph)	0	6	0	0	9	0	0	25	0	0	18	0
Lane Group Flow (vph)	141	921	0	219	575	0	479	1163	0	172	1425	0
Confl. Peds. (#/hr)	2		1	1		2	1		9	9		1
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	3%	3%	5%	2%	2%	3%	1%	3%	1%	2%	2%	2%
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases												
Actuated Green, G (s)	17.9	41.5		24.0	47.6		21.5	57.0		9.5	45.0	
Effective Green, g (s)	18.4	42.0		24.5	48.1		22.0	57.5		10.0	45.5	
Actuated g/C Ratio	0.12	0.28		0.16	0.32		0.15	0.38		0.07	0.30	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	2.5	2.5		2.5	2.5		2.5	4.3		2.5	4.3	
Lane Grp Cap (vph)	197	884		266	1015		241	1184		108	952	
v/s Ratio Prot	0.09	c0.29		c0.13	0.18		c0.29	0.38		0.11	c0.45	
v/s Ratio Perm												
v/c Ratio	0.72	1.04		0.82	0.57		1.99	0.98		1.59	1.50	
Uniform Delay, d1	63.3	54.0		60.7	42.3		64.0	45.8		70.0	52.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	10.9	41.6		17.9	0.6		459.0	22.3		305.7	229.1	
Delay (s)	74.2	95.6		78.6	42.9		523.0	68.0		375.7	281.3	
Level of Service	E	F		E	D		F	E		F	F	
Approach Delay (s)		92.7			52.6			198.8			291.4	
Approach LOS		F			D			F			F	

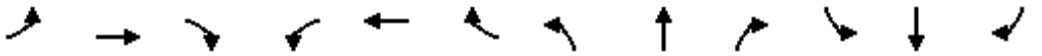
Intersection Summary			
HCM 2000 Control Delay	183.0	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.31		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	123.9%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	230	205	315	30	155	35	165	550	20	20	975	280
Future Volume (vph)	230	205	315	30	155	35	165	550	20	20	975	280
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.97		1.00	0.99		1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1662	1716	1488	1662	1697		1646	3212		1662	3145	
Flt Permitted	0.52	1.00	1.00	0.49	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	909	1716	1488	866	1697		1646	3212		1662	3145	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	256	228	350	33	172	39	183	611	22	22	1083	311
RTOR Reduction (vph)	0	0	120	0	9	0	0	2	0	0	25	0
Lane Group Flow (vph)	256	228	230	33	202	0	183	631	0	22	1369	0
Confl. Peds. (#/hr)	1					1	3		1	1		3
Heavy Vehicles (%)	0%	2%	0%	0%	0%	0%	1%	3%	0%	0%	2%	0%
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8		8	4								
Actuated Green, G (s)	30.7	30.7	30.7	30.7	30.7		13.8	54.1		2.0	42.3	
Effective Green, g (s)	30.7	30.7	30.7	30.7	30.7		13.8	55.3		2.0	43.5	
Actuated g/C Ratio	0.31	0.31	0.31	0.31	0.31		0.14	0.55		0.02	0.44	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	5.2		4.0	5.2	
Vehicle Extension (s)	3.5	3.5	3.5	3.5	3.5		2.5	5.2		2.5	5.2	
Lane Grp Cap (vph)	279	526	456	265	520		227	1776		33	1368	
v/s Ratio Prot		0.13			0.12		c0.11	0.20		0.01	c0.44	
v/s Ratio Perm	c0.28		0.15	0.04								
v/c Ratio	0.92	0.43	0.50	0.12	0.39		0.81	0.36		0.67	1.00	
Uniform Delay, d1	33.4	27.7	28.4	25.0	27.3		41.8	12.4		48.7	28.2	
Progression Factor	0.88	0.82	1.23	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	29.5	0.6	0.9	0.3	0.6		18.0	0.6		37.4	24.4	
Delay (s)	59.0	23.4	35.8	25.2	27.8		59.8	13.0		86.0	52.7	
Level of Service	E	C	D	C	C		E	B		F	D	
Approach Delay (s)		39.5			27.5			23.5			53.2	
Approach LOS		D			C			C			D	

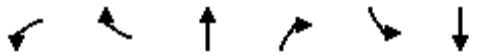
Intersection Summary			
HCM 2000 Control Delay	40.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	87.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



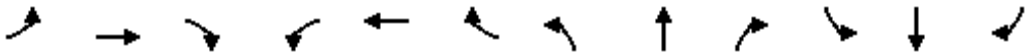
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	15	15	65	20	30	20	500	35	25	1035	95
Future Volume (vph)	75	15	15	65	20	30	20	500	35	25	1035	95
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0			4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00			1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99			1.00	0.99	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.93			1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00			0.96	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1629	1608			1643	1469	1498	3197		1662	3218	
Flt Permitted	0.68	1.00			0.75	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1161	1608			1286	1469	1498	3197		1662	3218	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	83	17	17	72	22	33	22	556	39	28	1150	106
RTOR Reduction (vph)	0	15	0	0	0	29	0	3	0	0	4	0
Lane Group Flow (vph)	83	19	0	0	94	4	22	592	0	28	1252	0
Confl. Peds. (#/hr)	1		2	2		1	1		3	3		1
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	2%	0%	0%	2%	4%	0%	11%	3%	0%	0%	2%	0%
Turn Type	Perm	NA		Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8						
Actuated Green, G (s)	11.1	11.1			11.1	11.1	3.7	61.3		3.2	60.8	
Effective Green, g (s)	11.6	11.6			11.6	11.6	4.2	62.7		3.7	62.2	
Actuated g/C Ratio	0.13	0.13			0.13	0.13	0.05	0.70		0.04	0.69	
Clearance Time (s)	4.5	4.5			4.5	4.5	4.5	5.4		4.5	5.4	
Vehicle Extension (s)	4.0	4.0			4.0	4.0	4.0	4.2		2.5	4.7	
Lane Grp Cap (vph)	149	207			165	189	69	2227		68	2223	
v/s Ratio Prot		0.01					0.01	0.19		c0.02	c0.39	
v/s Ratio Perm	0.07				c0.07	0.00						
v/c Ratio	0.56	0.09			0.57	0.02	0.32	0.27		0.41	0.56	
Uniform Delay, d1	36.8	34.6			36.9	34.2	41.5	5.1		42.1	7.0	
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	5.5	0.3			5.4	0.1	3.6	0.3		2.9	1.0	
Delay (s)	42.3	34.8			42.2	34.3	45.1	5.4		45.0	8.1	
Level of Service	D	C			D	C	D	A		D	A	
Approach Delay (s)		40.1			40.2			6.8			8.9	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	11.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	53.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



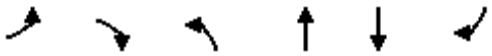
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Total Lost time (s)						
Lane Util. Factor						
Frt						
Flt Protected						
Satd. Flow (prot)						
Flt Permitted						
Satd. Flow (perm)						
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	0	0
Turn Type	Prot					
Protected Phases	8					
Permitted Phases						
Actuated Green, G (s)						
Effective Green, g (s)						
Actuated g/C Ratio						
Clearance Time (s)						
Lane Grp Cap (vph)						
v/s Ratio Prot						
v/s Ratio Perm						
v/c Ratio						
Uniform Delay, d1						
Progression Factor						
Incremental Delay, d2						
Delay (s)						
Level of Service						
Approach Delay (s)	0.0		0.0		0.0	
Approach LOS	A		A		A	

Intersection Summary			
HCM 2000 Control Delay	0.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.00		
Actuated Cycle Length (s)	20.0	Sum of lost time (s)	4.0
Intersection Capacity Utilization	0.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



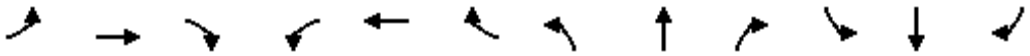
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	0	425	0	1195	0	0	1725	145
Future Volume (vph)	0	0	0	0	0	425	0	1195	0	0	1725	145
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)						4.0		4.0			4.0	
Lane Util. Factor						1.00		0.95			0.95	
Frt						0.86		1.00			0.99	
Flt Protected						1.00		1.00			1.00	
Satd. Flow (prot)						1484		3260			3222	
Flt Permitted						1.00		1.00			1.00	
Satd. Flow (perm)						1484		3260			3222	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	462	0	1299	0	0	1875	158
RTOR Reduction (vph)	0	0	0	0	0	16	0	0	0	0	16	0
Lane Group Flow (vph)	0	0	0	0	0	446	0	1299	0	0	2017	0
Turn Type						Perm		NA			NA	
Protected Phases								2			6	
Permitted Phases						8						
Actuated Green, G (s)						16.0		16.0			16.0	
Effective Green, g (s)						16.0		16.0			16.0	
Actuated g/C Ratio						0.40		0.40			0.40	
Clearance Time (s)						4.0		4.0			4.0	
Lane Grp Cap (vph)						593		1304			1288	
v/s Ratio Prot								0.40			c0.63	
v/s Ratio Perm						c0.30						
v/c Ratio						0.75		1.00			1.57	
Uniform Delay, d1						10.3		12.0			12.0	
Progression Factor						1.00		1.00			1.00	
Incremental Delay, d2						8.5		24.0			258.6	
Delay (s)						18.8		36.0			270.6	
Level of Service						B		D			F	
Approach Delay (s)		0.0			18.8			36.0			270.6	
Approach LOS		A			B			D			F	

Intersection Summary			
HCM 2000 Control Delay	159.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.16		
Actuated Cycle Length (s)	40.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	71.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



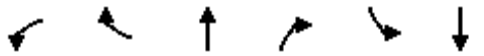
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Total Lost time (s)						
Lane Util. Factor						
Frt						
Flt Protected						
Satd. Flow (prot)						
Flt Permitted						
Satd. Flow (perm)						
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	0	0
Turn Type	Prot	Perm	Perm			
Protected Phases	4			2	6	
Permitted Phases		4	2			
Actuated Green, G (s)						
Effective Green, g (s)						
Actuated g/C Ratio						
Clearance Time (s)						
Lane Grp Cap (vph)						
v/s Ratio Prot						
v/s Ratio Perm						
v/c Ratio						
Uniform Delay, d1						
Progression Factor						
Incremental Delay, d2						
Delay (s)						
Level of Service						
Approach Delay (s)	0.0			0.0	0.0	
Approach LOS	A			A	A	

Intersection Summary			
HCM 2000 Control Delay	0.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.00		
Actuated Cycle Length (s)	40.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	0.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)												
Lane Util. Factor												
Frt												
Flt Protected												
Satd. Flow (prot)												
Flt Permitted												
Satd. Flow (perm)												
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)												
Effective Green, g (s)												
Actuated g/C Ratio												
Clearance Time (s)												
Lane Grp Cap (vph)												
v/s Ratio Prot												
v/s Ratio Perm												
v/c Ratio												
Uniform Delay, d1												
Progression Factor												
Incremental Delay, d2												
Delay (s)												
Level of Service												
Approach Delay (s)		0.0			0.0			0.0			0.0	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	0.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.00		
Actuated Cycle Length (s)	40.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	0.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Total Lost time (s)						
Lane Util. Factor						
Frt						
Flt Protected						
Satd. Flow (prot)						
Flt Permitted						
Satd. Flow (perm)						
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	0	0
Turn Type	Prot					
Protected Phases	8					
Permitted Phases						
Actuated Green, G (s)						
Effective Green, g (s)						
Actuated g/C Ratio						
Clearance Time (s)						
Lane Grp Cap (vph)						
v/s Ratio Prot						
v/s Ratio Perm						
v/c Ratio						
Uniform Delay, d1						
Progression Factor						
Incremental Delay, d2						
Delay (s)						
Level of Service						
Approach Delay (s)	0.0		0.0		0.0	
Approach LOS	A		A		A	

Intersection Summary			
HCM 2000 Control Delay	0.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.00		
Actuated Cycle Length (s)	20.0	Sum of lost time (s)	4.0
Intersection Capacity Utilization	0.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	230	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	0	0	0	0	3	8	0	5	2
Mvmt Flow	0	0	0	0	0	0	0	0	0	0	0	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	1	-	-	0	1	0	0	-	-	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.9	-	-	6.9	4.1	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.3	-	-	3.3	2.2	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	1089	0	0	-	1635	-	-	0	-	-
Stage 1	0	0	-	0	0	-	-	-	-	0	-	-
Stage 2	0	0	-	0	0	-	-	-	-	0	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	-	1089	-	-	-	1635	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	0	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBT	SBR
Capacity (veh/h)	1635	-	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	0	-	-
HCM Lane LOS	A	-	-	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-	-	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	95	780	5	10	650	210	0	0	15	0	0	0
Future Vol, veh/h	95	780	5	10	650	210	0	0	15	0	0	0
Conflicting Peds, #/hr	1	0	1	1	0	1	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	60	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	3	1	0	0	1	2	0	0	0	0	0	0
Mvmt Flow	103	848	5	11	707	228	0	0	16	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	936	0	0	854	0	0	1901	2016	852
Stage 1	-	-	-	-	-	-	1058	1058	-
Stage 2	-	-	-	-	-	-	843	958	-
Critical Hdwy	4.13	-	-	4.1	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	2.227	-	-	2.2	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	728	-	-	794	-	-	77	59	362
Stage 1	-	-	-	-	-	-	337	304	-
Stage 2	-	-	-	-	-	-	426	338	-
Platoon blocked, %		-	-		-	-			
Mov Cap-1 Maneuver	728	-	-	793	-	-	64	0	362
Mov Cap-2 Maneuver	-	-	-	-	-	-	64	0	-
Stage 1	-	-	-	-	-	-	280	0	-
Stage 2	-	-	-	-	-	-	426	0	-

Approach	EB	WB	NB
HCM Control Delay, s	1.2	0.1	15.4
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR
Capacity (veh/h)	362	728	-	-	793	-	-
HCM Lane V/C Ratio	0.045	0.142	-	-	0.014	-	-
HCM Control Delay (s)	15.4	10.8	-	-	9.6	0	-
HCM Lane LOS	C	B	-	-	A	A	-
HCM 95th %tile Q(veh)	0.1	0.5	-	-	0	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	3485	3290	295
Future Vol, veh/h	0	0	0	3485	3290	295
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	100
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	1	0	3	3	1
Mvmt Flow	0	0	0	3788	3576	321

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	1788	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.92	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.31	-	-	-	-
Pot Cap-1 Maneuver	0	71	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	71	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	0	-	-
HCM Lane LOS	-	A	-	-
HCM 95th %tile Q(veh)	-	-	-	-

Intersection	
Int Delay, s/veh	142.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	30	1145	40	120	860	65	10	0	70	50	5	75
Future Vol, veh/h	30	1145	40	120	860	65	10	0	70	50	5	75
Conflicting Peds, #/hr	2	0	1	1	0	2	0	0	1	1	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	70	-	-	70	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	6	1	0	1	1	7	0	0	0	5	0	0
Mvmt Flow	32	1205	42	126	905	68	11	0	74	53	5	79

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	975	0	0	1248	0	0	2524	2518	1228	2521	2505	941
Stage 1	-	-	-	-	-	-	1291	1291	-	1193	1193	-
Stage 2	-	-	-	-	-	-	1233	1227	-	1328	1312	-
Critical Hdwy	4.16	-	-	4.11	-	-	7.1	6.5	6.2	7.15	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.15	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.15	5.5	-
Follow-up Hdwy	2.254	-	-	2.209	-	-	3.5	4	3.3	3.545	4	3.3
Pot Cap-1 Maneuver	692	-	-	561	-	-	19	28	219	~ 18	29	322
Stage 1	-	-	-	-	-	-	203	236	-	225	263	-
Stage 2	-	-	-	-	-	-	219	253	-	188	230	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	691	-	-	561	-	-	~ 9	21	219	~ 10	21	321
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 9	21	-	~ 10	21	-
Stage 1	-	-	-	-	-	-	193	225	-	214	203	-
Stage 2	-	-	-	-	-	-	125	196	-	119	219	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	1.5	$ 420	$ 2439.3
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	56	691	-	-	561	-	-	24
HCM Lane V/C Ratio	1.504	0.046	-	-	0.225	-	-	5.702
HCM Control Delay (s)	$ 420	10.5	-	-	13.3	-	-	$ 2439.3
HCM Lane LOS	F	B	-	-	B	-	-	F
HCM 95th %tile Q(veh)	7.7	0.1	-	-	0.9	-	-	17.1

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	985	805	5	1340	5	0	0	50	0	0	0
Future Vol, veh/h	5	985	805	5	1340	5	0	0	50	0	0	0
Conflicting Peds, #/hr	1	0	0	0	0	1	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	Stop	-	-	None
Storage Length	-	-	-	-	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	0	1	4	0	0	5	0	0	6
Mvmt Flow	5	1037	847	5	1411	5	0	0	53	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1417	0	0	1884	0	0	-	-	942	-	-	709
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	4.14	-	-	4.1	-	-	-	-	7	-	-	7.02
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	2.22	-	-	2.2	-	-	-	-	3.35	-	-	3.36
Pot Cap-1 Maneuver	477	-	-	322	-	-	0	0	258	0	0	368
Stage 1	-	-	-	-	-	-	0	0	-	0	0	-
Stage 2	-	-	-	-	-	-	0	0	-	0	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	477	-	-	322	-	-	-	-	258	-	-	368
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.7	22.5	0
HCM LOS			C	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	258	477	-	-	322	-	-	-
HCM Lane V/C Ratio	0.204	0.011	-	-	0.016	-	-	-
HCM Control Delay (s)	22.5	12.6	-	-	16.4	0.6	-	0
HCM Lane LOS	C	B	-	-	C	A	-	A
HCM 95th %tile Q(veh)	0.7	0	-	-	0.1	-	-	-

Intersection	
Int Delay, s/veh	10.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	135	110	65	280	325	155
Future Vol, veh/h	135	110	65	280	325	155
Conflicting Peds, #/hr	1	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	50	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	77	77	77	77	77	77
Heavy Vehicles, %	3	4	3	3	5	2
Mvmt Flow	175	143	84	364	422	201

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1056	523	623	0	-	0
Stage 1	523	-	-	-	-	-
Stage 2	533	-	-	-	-	-
Critical Hdwy	6.43	6.24	4.13	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.336	2.227	-	-	-
Pot Cap-1 Maneuver	248	550	953	-	-	-
Stage 1	593	-	-	-	-	-
Stage 2	586	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	221	550	953	-	-	-
Mov Cap-2 Maneuver	221	-	-	-	-	-
Stage 1	528	-	-	-	-	-
Stage 2	586	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	41.5	1.7	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	953	-	221	550	-	-
HCM Lane V/C Ratio	0.089	-	0.793	0.26	-	-
HCM Control Delay (s)	9.1	0	64.1	13.8	-	-
HCM Lane LOS	A	A	F	B	-	-
HCM 95th %tile Q(veh)	0.3	-	5.7	1	-	-

Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	0	40	5	0	30	100	415	10	60	975	35
Future Vol, veh/h	15	0	40	5	0	30	100	415	10	60	975	35
Conflicting Peds, #/hr	0	0	0	0	0	0	1	0	4	4	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	110	-	115	15	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	3	1	3	17	2	2	0
Mvmt Flow	16	0	43	5	0	32	108	446	11	65	1048	38

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1637	1875	544	1326	1889	233	1087	0	0	461	0	0
Stage 1	1198	1198	-	672	672	-	-	-	-	-	-	-
Stage 2	439	677	-	654	1217	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.96	4.12	-	-	4.14	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.33	2.21	-	-	2.22	-	-
Pot Cap-1 Maneuver	68	73	488	116	71	766	643	-	-	1096	-	-
Stage 1	200	261	-	416	458	-	-	-	-	-	-	-
Stage 2	572	455	-	427	256	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	54	57	488	88	55	763	642	-	-	1092	-	-
Mov Cap-2 Maneuver	54	57	-	88	55	-	-	-	-	-	-	-
Stage 1	166	245	-	345	380	-	-	-	-	-	-	-
Stage 2	456	378	-	366	240	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	42.6	16	2.2	0.5
HCM LOS	E	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	642	-	-	153	364	1092	-	-
HCM Lane V/C Ratio	0.167	-	-	0.387	0.103	0.059	-	-
HCM Control Delay (s)	11.7	-	-	42.6	16	8.5	-	-
HCM Lane LOS	B	-	-	E	C	A	-	-
HCM 95th %tile Q(veh)	0.6	-	-	1.7	0.3	0.2	-	-

Intersection	
Int Delay, s/veh	5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	410	5	285	285	10	160
Future Vol, veh/h	410	5	285	285	10	160
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	1	0	0
Mvmt Flow	456	6	317	317	11	178

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	462	0	1410	459
Stage 1	-	-	-	-	459	-
Stage 2	-	-	-	-	951	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1110	-	154	606
Stage 1	-	-	-	-	641	-
Stage 2	-	-	-	-	379	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1110	-	101	606
Mov Cap-2 Maneuver	-	-	-	-	101	-
Stage 1	-	-	-	-	419	-
Stage 2	-	-	-	-	379	-

Approach	EB	WB	NB
HCM Control Delay, s	0	4.8	17.8
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	468	-	-	1110	-
HCM Lane V/C Ratio	0.404	-	-	0.285	-
HCM Control Delay (s)	17.8	-	-	9.5	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	1.9	-	-	1.2	-

Intersection	
Int Delay, s/veh	18.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	10	680	70	155	530	90	20	5	90	35	5	50
Future Vol, veh/h	10	680	70	155	530	90	20	5	90	35	5	50
Conflicting Peds, #/hr	3	0	0	0	0	3	2	0	0	0	0	2
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	33	0	0	1	1	0	8	0	2	0	0	0
Mvmt Flow	10	708	73	161	552	94	21	5	94	36	5	52

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	649	0	0	781	0	0	1717	1736	745	1738	1725	604
Stage 1	-	-	-	-	-	-	765	765	-	924	924	-
Stage 2	-	-	-	-	-	-	952	971	-	814	801	-
Critical Hdwy	4.43	-	-	4.11	-	-	7.18	6.5	6.22	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.18	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.18	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.497	-	-	2.209	-	-	3.572	4	3.318	3.5	4	3.3
Pot Cap-1 Maneuver	806	-	-	841	-	-	68	88	414	69	90	502
Stage 1	-	-	-	-	-	-	387	415	-	326	351	-
Stage 2	-	-	-	-	-	-	304	334	-	375	400	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	804	-	-	841	-	-	43	60	414	38	61	500
Mov Cap-2 Maneuver	-	-	-	-	-	-	43	60	-	38	61	-
Stage 1	-	-	-	-	-	-	378	406	-	318	244	-
Stage 2	-	-	-	-	-	-	185	232	-	280	391	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	2.1	87	234.9
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	150	804	-	-	841	-	-	82
HCM Lane V/C Ratio	0.799	0.013	-	-	0.192	-	-	1.143
HCM Control Delay (s)	87	9.5	0	-	10.3	0	-	234.9
HCM Lane LOS	F	A	A	-	B	A	-	F
HCM 95th %tile Q(veh)	5.1	0	-	-	0.7	-	-	6.7

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	0	0	0	220	0	0	1270	0
Future Vol, veh/h	0	0	0	0	0	0	0	220	0	0	1270	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	10	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0	0	239	0	0	1380	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1619	1619	1380	1619	1619	239	1380	0	0	239	0	0
Stage 1	1380	1380	-	239	239	-	-	-	-	-	-	-
Stage 2	239	239	-	1380	1380	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	83	103	177	83	103	800	497	-	-	1328	-	-
Stage 1	178	212	-	764	708	-	-	-	-	-	-	-
Stage 2	764	708	-	178	212	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	83	103	177	83	103	800	497	-	-	1328	-	-
Mov Cap-2 Maneuver	83	103	-	83	103	-	-	-	-	-	-	-
Stage 1	178	212	-	764	708	-	-	-	-	-	-	-
Stage 2	764	708	-	178	212	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	0	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	497	-	-	-	-	1328	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	0	0	-	-
HCM Lane LOS	A	-	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-	0	-	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	0	0	26	436	50	15	735	15
Future Vol, veh/h	0	0	0	0	0	0	26	436	50	15	735	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	10	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0	28	474	54	16	799	16

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1396	1423	408	-	-	501	815	0	0	528	0	0
Stage 1	839	839	-	-	-	-	-	-	-	-	-	-
Stage 2	557	584	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	7.33	6.53	6.93	-	-	6.23	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.53	5.53	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	3.319	-	-	3.319	2.219	-	-	2.219	-	-
Pot Cap-1 Maneuver	109	135	593	0	0	569	810	-	-	1037	-	-
Stage 1	327	380	-	0	0	-	-	-	-	-	-	-
Stage 2	514	497	-	0	0	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	105	128	593	-	-	569	810	-	-	1037	-	-
Mov Cap-2 Maneuver	105	128	-	-	-	-	-	-	-	-	-	-
Stage 1	316	374	-	-	-	-	-	-	-	-	-	-
Stage 2	496	480	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	0.5	0.2
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	810	-	-	-	-	-	1037	-	-
HCM Lane V/C Ratio	0.035	-	-	-	-	-	0.016	-	-
HCM Control Delay (s)	9.6	-	-	0	0	0	8.5	-	-
HCM Lane LOS	A	-	-	A	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	-	-	-	0	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	Free	-	-	None	-	-	None
Storage Length	0	-	0	-	-	0	70	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0	0	0	0	0	0	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1	-	1	1	1	-	1	0	-	-	-	0
Stage 1	1	-	-	0	0	-	-	-	-	-	-	-
Stage 2	0	-	-	1	1	-	-	-	-	-	-	-
Critical Hdwy	7.12	-	6.22	7.12	6.52	-	4.12	-	-	-	-	-
Critical Hdwy Stg 1	6.12	-	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	-	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	-	3.318	3.518	4.018	-	2.218	-	-	-	-	-
Pot Cap-1 Maneuver	1022	0	1084	1022	895	0	1622	-	0	0	-	-
Stage 1	1022	0	-	-	-	0	-	-	0	0	-	-
Stage 2	-	0	-	1022	895	0	-	-	0	0	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver	1022	-	1084	1022	895	-	1622	-	-	-	-	-
Mov Cap-2 Maneuver	933	-	-	-	-	-	-	-	-	-	-	-
Stage 1	1022	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	1022	895	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	0	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	WBLn1	WBLn2	SBT	SBR
Capacity (veh/h)	1622	-	-	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-	-	-
HCM Control Delay (s)	0	-	0	0	0	0	-	-
HCM Lane LOS	A	-	A	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1	1	1	0	-	0
Stage 1	1	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	1022	1084	1622	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1022	1084	1622	-	-	-
Mov Cap-2 Maneuver	1022	-	-	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1622	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1	1	1	0	-	0
Stage 1	1	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	1022	1084	1622	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1022	1084	1622	-	-	-
Mov Cap-2 Maneuver	1022	-	-	-	-	-
Stage 1	1022	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1622	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1	0	-	0	1	1
Stage 1	-	-	-	-	1	-
Stage 2	-	-	-	-	0	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1622	-	-	-	1022	1084
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1622	-	-	-	1022	1084
Mov Cap-2 Maneuver	-	-	-	-	1022	-
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1622	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1	0	2	1
Stage 1	-	-	-	-	1	-
Stage 2	-	-	-	-	1	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1622	-	1021	1084
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	1022	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1622	-	1021	1084
Mov Cap-2 Maneuver	-	-	-	-	1021	-
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	1022	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	1622	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1	0	0	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	1	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	-	-
Pot Cap-1 Maneuver	1022	-	-	0	0	-
Stage 1	-	-	-	0	0	-
Stage 2	1022	-	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	1022	-	-	-	-	-
Mov Cap-2 Maneuver	1022	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	1022	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	WBLn1	SBT
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	0	-
HCM Lane LOS	-	A	-
HCM 95th %tile Q(veh)	-	-	-

Synchro HCM reports (Future 2040 Build Bundle C Conditions)

Intersection	
Intersection Delay, s/veh	186.3
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	640	125	110	635	5	225	0	90	0	5	10
Future Vol, veh/h	0	640	125	110	635	5	225	0	90	0	5	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	0	2	3	1	1	33	1	0	0	0	0	0
Mvmt Flow	0	696	136	120	690	5	245	0	98	0	5	11
Number of Lanes	1	1	0	1	1	0	0	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	2	2
HCM Control Delay	290.7	153.1	20.2	14.3
HCM LOS	F	F	C	B

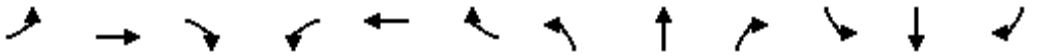
Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	100%	0%	0%	0%	100%	0%	0%
Vol Thru, %	0%	0%	100%	84%	0%	99%	33%
Vol Right, %	0%	100%	0%	16%	0%	1%	67%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	225	90	0	765	110	640	15
LT Vol	225	0	0	0	110	0	0
Through Vol	0	0	0	640	0	635	5
RT Vol	0	90	0	125	0	5	10
Lane Flow Rate	245	98	0	832	120	696	16
Geometry Grp	7	7	7	7	7	7	6
Degree of Util (X)	0.558	0.19	0	1.583	0.242	1.312	0.04
Departure Headway (Hd)	9.342	8.063	7.33	7.247	8.011	7.488	10.868
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	389	448	0	507	451	494	331
Service Time	7.042	5.763	5.03	4.947	5.711	5.188	8.868
HCM Lane V/C Ratio	0.63	0.219	0	1.641	0.266	1.409	0.048
HCM Control Delay	23.2	12.6	10	290.7	13.2	177.1	14.3
HCM Lane LOS	C	B	N	F	B	F	B
HCM 95th-tile Q	3.3	0.7	0	43.1	0.9	27.4	0.1

Intersection	
Intersection Delay, s/veh	246.8
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	265	470	140	25	375	85	80	265	55	170	170	430
Future Vol, veh/h	265	470	140	25	375	85	80	265	55	170	170	430
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	0	1	0	0	0	0	0	1	0	1	1	2
Mvmt Flow	294	522	156	28	417	94	89	294	61	189	189	478
Number of Lanes	1	1	1	1	1	0	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	3	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	3	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	2	3
HCM Control Delay	210.4	347.3	282.4	206.3
HCM LOS	F	F	F	F

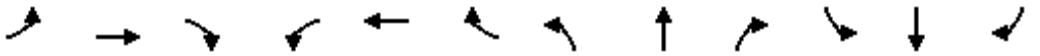
Lane	NBLn1	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	20%	100%	0%	0%	100%	0%	50%	0%
Vol Thru, %	66%	0%	100%	0%	0%	82%	50%	0%
Vol Right, %	14%	0%	0%	100%	0%	18%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	400	265	470	140	25	460	340	430
LT Vol	80	265	0	0	25	0	170	0
Through Vol	265	0	470	0	0	375	170	0
RT Vol	55	0	0	140	0	85	0	430
Lane Flow Rate	444	294	522	156	28	511	378	478
Geometry Grp	8	8	8	8	8	8	8	8
Degree of Util (X)	1.51	0.95	1.616	0.45	0.098	1.706	1.208	1.401
Departure Headway (Hd)	14.104	16.079	15.557	14.782	14.64	13.956	15.149	14.117
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	262	230	240	246	246	266	242	263
Service Time	11.804	13.779	13.257	12.482	12.34	11.656	12.849	11.817
HCM Lane V/C Ratio	1.695	1.278	2.175	0.634	0.114	1.921	1.562	1.817
HCM Control Delay	282.4	91.2	331.6	29	18.9	365.1	166.8	237.6
HCM Lane LOS	F	F	F	D	C	F	F	F
HCM 95th-tile Q	22.7	8.3	23.7	2.2	0.3	28.5	13.9	19.6



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	285	345	15	405	335	155	130	2200	190	300	2090	160
Future Volume (vph)	285	345	15	405	335	155	130	2200	190	300	2090	160
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1800	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	2.0	4.0	4.0	2.0	4.0
Lane Util. Factor	1.00	0.95		0.97	0.95		1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.99	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.99		1.00	0.95		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1646	3302		3193	3029		1583	0	1479	1583	0	1417
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1646	3302		3193	3029		1583	0	1479	1583	0	1417
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	300	363	16	426	353	163	137	2316	200	316	2200	168
RTOR Reduction (vph)	0	2	0	0	39	0	0	0	141	0	0	83
Lane Group Flow (vph)	300	377	0	426	477	0	137	2316	59	316	2200	85
Confl. Peds. (#/hr)	1					1			1	1		
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	1%	0%	0%	1%	6%	0%	5%	4%	0%	5%	7%	5%
Turn Type	Prot	NA		Prot	NA		Prot	NA	custom	Prot	NA	custom
Protected Phases	3	8		7	4		1!	2!	7	5!	6!	3
Permitted Phases									1			5
Actuated Green, G (s)	30.9	32.1		24.1	25.3		17.5	50.3	41.6	40.0	27.8	70.9
Effective Green, g (s)	30.9	32.1		24.1	25.3		17.5	52.3	41.6	40.0	29.8	70.9
Actuated g/C Ratio	0.22	0.23		0.17	0.18		0.12	0.37	0.30	0.29	0.21	0.51
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	363	757		549	547		197	0	439	452	0	758
v/s Ratio Prot	c0.18	0.11		0.13	c0.16		c0.09		0.02	c0.20		0.02
v/s Ratio Perm									0.02			0.04
v/c Ratio	0.83	0.50		0.78	0.87		0.70	no cap	0.14	0.70	no cap	0.11
Uniform Delay, d1	52.0	46.9		55.4	55.8		58.7	Error	36.0	44.6	Error	18.1
Progression Factor	1.00	1.00		1.00	1.00		1.00		1.00	1.00		1.00
Incremental Delay, d2	14.2	0.5		6.8	14.2		10.2	Error	0.1	4.7	Error	0.1
Delay (s)	66.2	47.5		62.2	70.0		68.9	Error	36.2	49.3	Error	18.1
Level of Service	E	D		E	E		E	F	D	D	F	B
Approach Delay (s)		55.7			66.4			Error			Error	
Approach LOS		E			E			F			F	

Intersection Summary			
HCM 2000 Control Delay	Error	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	Err%	ICU Level of Service	H
Analysis Period (min)	15		

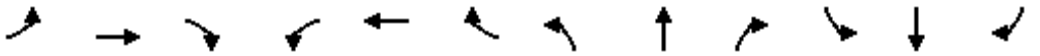
! Phase conflict between lane groups.
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	295	85	130	290	100	45	370	2225	60	85	2430	50
Future Volume (vph)	295	85	130	290	100	45	370	2225	60	85	2430	50
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00		0.97	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.95		1.00	1.00		1.00	1.00	
Flt Protected	0.95	0.97	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1548	1600	1488	1646	1516		3225	3209		1511	3131	
Flt Permitted	0.95	0.97	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1548	1600	1488	1646	1516		3225	3209		1511	3131	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	321	92	141	315	109	49	402	2418	65	92	2641	54
RTOR Reduction (vph)	0	0	117	0	11	0	0	1	0	0	1	0
Lane Group Flow (vph)	205	208	24	315	147	0	402	2482	0	92	2694	0
Confl. Peds. (#/hr)	1					1			4	4		
Heavy Vehicles (%)	2%	0%	0%	1%	9%	11%	0%	3%	7%	10%	6%	0%
Turn Type	Split	NA	Prot	Split	NA		Prot	NA		Prot	NA	
Protected Phases	4	4	4	8	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	23.8	23.8	23.8	28.0	28.0		7.0	59.2		16.0	68.2	
Effective Green, g (s)	24.8	24.8	24.8	29.0	29.0		8.0	61.2		17.0	70.2	
Actuated g/C Ratio	0.17	0.17	0.17	0.20	0.20		0.05	0.41		0.11	0.47	
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	6.0		5.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	259	268	249	322	297		174	1326		173	1485	
v/s Ratio Prot	c0.13	0.13	0.02	c0.19	0.10		c0.12	c0.77		0.06	c0.86	
v/s Ratio Perm												
v/c Ratio	0.79	0.78	0.10	0.98	0.49		2.31	1.87		0.53	1.81	
Uniform Delay, d1	59.1	58.9	52.1	59.2	53.0		70.0	43.4		61.7	38.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	15.1	13.1	0.2	43.8	1.3		607.4	395.1		3.1	369.0	
Delay (s)	74.2	72.1	52.3	102.9	54.3		677.4	438.5		64.9	407.9	
Level of Service	E	E	D	F	D		F	F		E	F	
Approach Delay (s)		67.9			86.7			471.8			396.6	
Approach LOS		E			F			F			F	

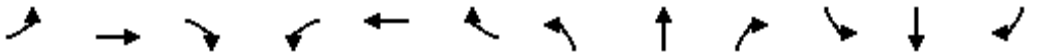
Intersection Summary			
HCM 2000 Control Delay	379.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.47		
Actuated Cycle Length (s)	148.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	128.3%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



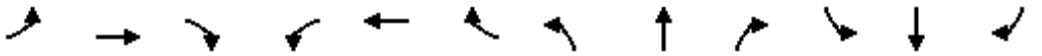
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	1255	555	410	895	5	0	0	0	5	0	20
Future Volume (vph)	5	1255	555	410	895	5	0	0	0	5	0	20
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0		4.0	4.0						4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00						1.00	
Frpb, ped/bikes	1.00	0.99		1.00	1.00						1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00						1.00	
Frt	1.00	0.95		1.00	1.00						0.89	
Flt Protected	0.95	1.00		0.95	1.00						0.99	
Satd. Flow (prot)	1662	1599		1662	1698						1360	
Flt Permitted	0.13	1.00		0.11	1.00						0.99	
Satd. Flow (perm)	227	1599		194	1698						1360	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	5	1294	572	423	923	5	0	0	0	5	0	21
RTOR Reduction (vph)	0	26	0	0	0	0	0	0	0	0	15	0
Lane Group Flow (vph)	5	1840	0	423	928	0	0	0	0	0	11	0
Confl. Peds. (#/hr)	3					3						
Confl. Bikes (#/hr)			4			1						
Heavy Vehicles (%)	0%	4%	3%	0%	3%	0%	0%	0%	0%	20%	0%	12%
Turn Type	Perm	NA		Perm	NA					Perm	NA	
Protected Phases		4			8						6	
Permitted Phases	4			8						6		
Actuated Green, G (s)	36.0	36.0		36.0	36.0						16.0	
Effective Green, g (s)	36.0	36.0		36.0	36.0						16.0	
Actuated g/C Ratio	0.60	0.60		0.60	0.60						0.27	
Clearance Time (s)	4.0	4.0		4.0	4.0						4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0						3.0	
Lane Grp Cap (vph)	136	959		116	1018						362	
v/s Ratio Prot		1.15			0.55							
v/s Ratio Perm	0.02			c2.18							0.01	
v/c Ratio	0.04	1.92		3.65	0.91						0.03	
Uniform Delay, d1	4.9	12.0		12.0	10.6						16.3	
Progression Factor	1.00	1.00		1.12	0.97						1.00	
Incremental Delay, d2	0.1	417.1		1192.9	1.4						0.1	
Delay (s)	5.0	429.1		1206.3	11.6						16.4	
Level of Service	A	F		F	B						B	
Approach Delay (s)		428.0			385.7			0.0			16.4	
Approach LOS		F			F			A			B	

Intersection Summary			
HCM 2000 Control Delay	407.1	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	2.52		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	146.4%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



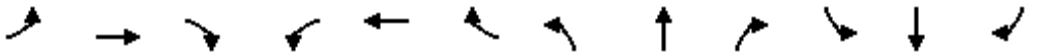
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	210	1050	0	0	1115	420	195	5	515	0	0	0
Future Volume (vph)	210	1050	0	0	1115	420	195	5	515	0	0	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0			4.0	4.0		4.0	5.0			
Lane Util. Factor	1.00	1.00			1.00	1.00		1.00	1.00			
Frpb, ped/bikes	1.00	1.00			1.00	0.97		1.00	1.00			
Flpb, ped/bikes	1.00	1.00			1.00	1.00		1.00	1.00			
Frt	1.00	1.00			1.00	0.85		1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (prot)	1646	1667			1716	1406		1637	1444			
Flt Permitted	0.14	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (perm)	248	1667			1716	1406		1637	1444			
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	226	1129	0	0	1199	452	210	5	554	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	158	0	0	95	0	0	0
Lane Group Flow (vph)	226	1129	0	0	1199	294	0	215	459	0	0	0
Confl. Peds. (#/hr)	3					3						
Confl. Bikes (#/hr)			3			1						
Heavy Vehicles (%)	1%	5%	0%	0%	2%	3%	2%	0%	3%	0%	0%	0%
Turn Type	pm+pt	NA			NA	Perm	Perm	NA	Perm			
Protected Phases	5	2			6			8				
Permitted Phases	2					6	8		8			
Actuated Green, G (s)	35.0	35.0			23.0	23.0		15.0	15.0			
Effective Green, g (s)	36.0	36.0			24.0	24.0		16.0	15.0			
Actuated g/C Ratio	0.60	0.60			0.40	0.40		0.27	0.25			
Clearance Time (s)	5.0	5.0			5.0	5.0		5.0	5.0			
Vehicle Extension (s)	3.0	3.0			3.0	3.0		3.0	3.0			
Lane Grp Cap (vph)	335	1000			686	562		436	361			
v/s Ratio Prot	0.09	c0.68			c0.70							
v/s Ratio Perm	0.32					0.21		0.13	c0.32			
v/c Ratio	0.67	1.13			1.75	0.52		0.49	1.27			
Uniform Delay, d1	11.1	12.0			18.0	13.7		18.6	22.5			
Progression Factor	1.93	0.90			1.00	1.00		1.00	1.00			
Incremental Delay, d2	0.5	59.4			342.5	3.4		0.9	141.9			
Delay (s)	21.9	70.3			360.5	17.1		19.5	164.4			
Level of Service	C	E			F	B		B	F			
Approach Delay (s)		62.2			266.5			123.9			0.0	
Approach LOS		E			F			F			A	

Intersection Summary			
HCM 2000 Control Delay	164.1	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.49		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	102.1%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	115	270	45	300	390	100	120	1040	560	965	1030	135
Future Volume (vph)	115	270	45	300	390	100	120	1040	560	965	1030	135
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1775	1750	1750
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.98		1.00	0.97		1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1662	1674		1614	1652		1614	3260	1458	1606	3125	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1662	1674		1614	1652		1614	3260	1458	1606	3125	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	121	284	47	316	411	105	126	1095	589	1016	1084	142
RTOR Reduction (vph)	0	5	0	0	8	0	0	0	70	0	9	0
Lane Group Flow (vph)	121	326	0	316	508	0	126	1095	519	1016	1217	0
Confl. Peds. (#/hr)	3					3						
Confl. Bikes (#/hr)						1						
Heavy Vehicles (%)	0%	2%	4%	3%	3%	0%	3%	2%	2%	5%	5%	1%
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases									6			
Actuated Green, G (s)	7.5	26.5		13.5	32.5		10.7	25.0	25.0	35.0	49.3	
Effective Green, g (s)	8.5	27.5		14.5	33.5		11.7	26.5	26.5	36.0	50.8	
Actuated g/C Ratio	0.07	0.23		0.12	0.28		0.10	0.22	0.22	0.30	0.42	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.5	5.5	5.0	5.5	
Vehicle Extension (s)	2.5	2.5		2.5	2.5		2.5	4.8	4.8	2.5	4.8	
Lane Grp Cap (vph)	117	382		194	459		156	716	320	479	1317	
v/s Ratio Prot	0.07	0.19		c0.20	c0.31		0.08	0.34		c0.63	0.39	
v/s Ratio Perm									c0.36			
v/c Ratio	1.03	0.85		1.63	1.11		0.81	1.53	1.62	2.12	0.92	
Uniform Delay, d1	56.0	44.6		53.0	43.5		53.3	47.0	47.0	42.2	33.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	92.7	16.6		305.3	74.4		24.8	245.3	293.5	511.5	12.3	
Delay (s)	148.7	61.1		358.3	117.9		78.1	292.3	340.5	553.8	45.3	
Level of Service	F	E		F	F		E	F	F	F	D	
Approach Delay (s)		84.6			209.2			293.1			275.7	
Approach LOS		F			F			F			F	

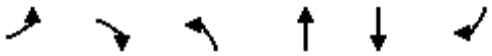
Intersection Summary			
HCM 2000 Control Delay	255.0	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.68		
Actuated Cycle Length (s)	120.5	Sum of lost time (s)	16.0
Intersection Capacity Utilization	138.2%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	230	265	135	345	230	150	200	1270	150	225	1605	115
Future Volume (vph)	230	265	135	345	230	150	200	1270	150	225	1605	115
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0	5.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00		1.00	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.94		1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1646	1733	1449	3193	1630		1630	3202		1630	3228	1458
Flt Permitted	0.21	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	371	1733	1449	3193	1630		1630	3202		1630	3228	1458
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	250	288	147	375	250	163	217	1380	163	245	1745	125
RTOR Reduction (vph)	0	0	86	0	37	0	0	9	0	0	0	85
Lane Group Flow (vph)	250	288	61	375	376	0	217	1534	0	245	1745	40
Confl. Peds. (#/hr)			5	5					5	5		
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	2%	2%	1%	2%	3%	2%
Turn Type	pm+pt	NA	custom	Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	8		8 1									2
Actuated Green, G (s)	26.7	17.7	35.7	14.9	23.6		13.0	31.0		11.4	29.4	29.4
Effective Green, g (s)	28.7	18.7	35.7	15.9	24.6		14.0	32.0		12.4	30.4	30.4
Actuated g/C Ratio	0.30	0.20	0.38	0.17	0.26		0.15	0.34		0.13	0.32	0.32
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Vehicle Extension (s)	3.0	2.5		3.0	2.5		2.5	4.8		2.5	4.8	4.8
Lane Grp Cap (vph)	246	341	544	534	422		240	1078		212	1032	466
v/s Ratio Prot	c0.11	0.17		c0.12	0.23		0.13	0.48		c0.15	c0.54	
v/s Ratio Perm	c0.20		0.04									0.03
v/c Ratio	1.02	0.84	0.11	0.70	0.89		0.90	1.42		1.16	1.69	0.09
Uniform Delay, d1	29.7	36.8	19.3	37.3	33.9		39.8	31.5		41.3	32.3	22.6
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	61.6	16.9	0.1	4.2	20.3		33.5	195.7		110.1	315.1	0.4
Delay (s)	91.3	53.7	19.4	41.5	54.2		73.3	227.2		151.4	347.4	22.9
Level of Service	F	D	B	D	D		E	F		F	F	C
Approach Delay (s)		60.0			48.1			208.2			305.5	
Approach LOS		E			D			F			F	

Intersection Summary			
HCM 2000 Control Delay	204.1	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.24		
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	110.4%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

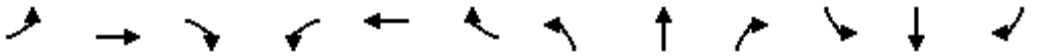


Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	595	10	0	1025	1555	530
Future Volume (vph)	595	10	0	1025	1555	530
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0			4.0	4.0	5.0
Lane Util. Factor	0.97			*0.95	0.95	1.00
Frt	1.00			1.00	1.00	0.85
Flt Protected	0.95			1.00	1.00	1.00
Satd. Flow (prot)	3165			3260	3325	1488
Flt Permitted	0.95			1.00	1.00	1.00
Satd. Flow (perm)	3165			3260	3325	1488
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	647	11	0	1114	1690	576
RTOR Reduction (vph)	1	0	0	0	0	0
Lane Group Flow (vph)	657	0	0	1114	1690	576
Heavy Vehicles (%)	2%	2%	2%	2%	0%	0%
Turn Type	Prot			NA	NA	custom
Protected Phases	8			6	6	8
Permitted Phases					9	2
Actuated Green, G (s)	25.7			69.3	69.3	76.7
Effective Green, g (s)	26.7			70.3	70.3	76.7
Actuated g/C Ratio	0.25			0.67	0.67	0.73
Clearance Time (s)	5.0			5.0	5.0	5.0
Vehicle Extension (s)	2.5			4.8	4.8	2.5
Lane Grp Cap (vph)	804			2182	2226	1157
v/s Ratio Prot	c0.21			0.34	c0.51	0.12
v/s Ratio Perm						0.27
v/c Ratio	0.82			0.51	0.76	0.50
Uniform Delay, d1	36.8			8.7	11.7	6.0
Progression Factor	1.00			1.00	1.00	1.00
Incremental Delay, d2	6.3			0.9	2.5	0.2
Delay (s)	43.1			9.6	14.2	6.2
Level of Service	D			A	B	A
Approach Delay (s)	43.1			9.6	12.1	
Approach LOS	D			A	B	

Intersection Summary			
HCM 2000 Control Delay	16.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	72.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	135	30	745	140	255	60	255	770	180	270	5
Future Volume (vph)	10	135	30	745	140	255	60	255	770	180	270	5
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)		4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes		0.99		1.00	0.99		1.00	1.00	0.99	1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt		0.98		1.00	0.90		1.00	1.00	0.85	1.00	1.00	
Flt Protected		1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1696		1662	1549		1662	1750	1464	1613	1745	
Flt Permitted		1.00		0.95	1.00		0.40	1.00	1.00	0.43	1.00	
Satd. Flow (perm)		1696		1662	1549		692	1750	1464	724	1745	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	11	150	33	828	156	283	67	283	856	200	300	6
RTOR Reduction (vph)	0	6	0	0	51	0	0	0	76	0	1	0
Lane Group Flow (vph)	0	188	0	828	388	0	67	283	780	200	305	0
Confl. Peds. (#/hr)			5	5					1	1		
Confl. Bikes (#/hr)						2			1			
Heavy Vehicles (%)	0%	0%	0%	0%	0%	1%	0%	0%	1%	3%	0%	0%
Turn Type	Split	NA		Split	NA		Perm	NA	pm+ov	Perm	NA	
Protected Phases	8	8		4	4			6	4		2	
Permitted Phases							6		6	2		
Actuated Green, G (s)		14.6		40.7	40.7		31.8	31.8	72.5	31.8	31.8	
Effective Green, g (s)		15.6		41.7	41.7		32.8	32.8	74.5	32.8	32.8	
Actuated g/C Ratio		0.15		0.41	0.41		0.32	0.32	0.73	0.32	0.32	
Clearance Time (s)		5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)		2.5		4.0	4.0		5.2	5.2	4.0	5.2	5.2	
Lane Grp Cap (vph)		259		678	632		222	562	1125	232	560	
v/s Ratio Prot		c0.11		c0.50	0.25			0.16	0.28		0.17	
v/s Ratio Perm							0.10		0.25	c0.28		
v/c Ratio		0.73		1.22	0.61		0.30	0.50	0.69	0.86	0.55	
Uniform Delay, d1		41.2		30.2	23.8		26.0	28.1	7.6	32.5	28.5	
Progression Factor		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		9.1		112.5	2.0		1.7	1.6	2.0	28.6	2.0	
Delay (s)		50.3		142.7	25.9		27.8	29.6	9.6	61.1	30.5	
Level of Service		D		F	C		C	C	A	E	C	
Approach Delay (s)		50.3			102.2			15.3			42.6	
Approach LOS		D			F			B			D	

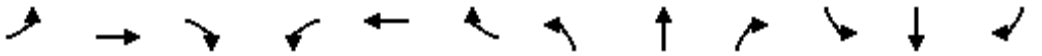
Intersection Summary			
HCM 2000 Control Delay	56.5	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	102.1	Sum of lost time (s)	13.0
Intersection Capacity Utilization	95.1%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	300	465	320	20	560	100	165	245	245	105	20	415
Future Volume (vph)	300	465	320	20	560	100	165	245	245	105	20	415
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)		4.0	4.0		4.0			4.0	4.0	4.0	4.0	4.0
Lane Util. Factor		0.95	1.00		0.95			1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes		1.00	0.97		1.00			1.00	1.00	1.00	1.00	0.99
Flpb, ped/bikes		1.00	1.00		1.00			1.00	1.00	1.00	1.00	1.00
Frt		1.00	0.85		0.98			1.00	0.85	1.00	1.00	0.85
Flt Protected		0.98	1.00		1.00			0.98	1.00	0.95	1.00	1.00
Satd. Flow (prot)		3210	1443		3212			1716	1473	1662	1667	1469
Flt Permitted		0.56	1.00		0.92			0.86	1.00	0.32	1.00	1.00
Satd. Flow (perm)		1844	1443		2959			1503	1473	553	1667	1469
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	333	517	356	22	622	111	183	272	272	117	22	461
RTOR Reduction (vph)	0	0	174	0	15	0	0	0	110	0	0	80
Lane Group Flow (vph)	0	850	182	0	740	0	0	455	162	117	22	381
Confl. Peds. (#/hr)			7	7								
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	1%	2%	0%	4%	1%	1%	0%	0%	1%	0%	5%	0%
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		6			2			8			4	
Permitted Phases	6		6	2			8		8	4		4
Actuated Green, G (s)		30.5	30.5		30.5			24.4	24.4	24.4	24.4	24.4
Effective Green, g (s)		31.5	31.5		31.5			25.4	25.4	25.4	25.4	25.4
Actuated g/C Ratio		0.49	0.49		0.49			0.39	0.39	0.39	0.39	0.39
Clearance Time (s)		5.0	5.0		5.0			5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)		2.5	2.5		2.5			2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)		895	700		1436			588	576	216	652	574
v/s Ratio Prot											0.01	
v/s Ratio Perm		c0.46	0.13		0.25			c0.30	0.11	0.21		0.26
v/c Ratio		1.32dl	0.26		0.52			0.77	0.28	0.54	0.03	0.66
Uniform Delay, d1		15.9	9.8		11.5			17.2	13.5	15.3	12.2	16.2
Progression Factor		1.00	1.00		1.00			1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		18.8	0.1		0.2			5.7	0.1	1.5	0.0	2.2
Delay (s)		34.7	10.0		11.7			23.0	13.6	16.7	12.2	18.5
Level of Service		C	A		B			C	B	B	B	B
Approach Delay (s)		27.4			11.7			19.5			17.9	
Approach LOS		C			B			B			B	

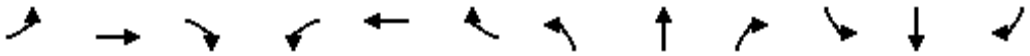
Intersection Summary			
HCM 2000 Control Delay	20.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	64.9	Sum of lost time (s)	8.0
Intersection Capacity Utilization	87.9%	ICU Level of Service	E
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group



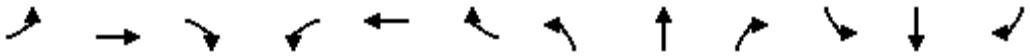
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	390	45	5	435	1035	145	0	610
Future Volume (vph)	0	0	0	0	390	45	5	435	1035	145	0	610
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)					4.0			4.0	4.0	4.0		4.0
Lane Util. Factor					1.00			1.00	1.00	1.00		1.00
Frpb, ped/bikes					1.00			1.00	0.99	1.00		0.99
Flpb, ped/bikes					1.00			1.00	1.00	1.00		1.00
Frt					0.99			1.00	0.85	1.00		0.85
Flt Protected					1.00			1.00	1.00	0.95		1.00
Satd. Flow (prot)					1706			1732	1457	1630		1468
Flt Permitted					1.00			1.00	1.00	0.95		1.00
Satd. Flow (perm)					1706			1732	1457	1630		1468
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	0	0	0	433	50	6	483	1150	161	0	678
RTOR Reduction (vph)	0	0	0	0	7	0	0	0	314	0	0	218
Lane Group Flow (vph)	0	0	0	0	476	0	0	489	836	161	0	460
Confl. Peds. (#/hr)	2					2	1		1	1		1
Confl. Bikes (#/hr)						2						
Heavy Vehicles (%)	0%	0%	0%	0%	1%	0%	0%	1%	1%	2%	0%	0%
Turn Type					NA		Split	NA	custom	Prot		Perm
Protected Phases		2			6		8	8	1	4		
Permitted Phases									2 8			4
Actuated Green, G (s)					30.5			29.5	60.0	27.0		27.0
Effective Green, g (s)					31.5			30.5	62.0	28.0		28.0
Actuated g/C Ratio					0.31			0.30	0.61	0.27		0.27
Clearance Time (s)					5.0			5.0	5.0	5.0		5.0
Vehicle Extension (s)					3.0			3.0	3.0	3.0		3.0
Lane Grp Cap (vph)					526			517	942	447		402
v/s Ratio Prot					0.28			c0.28	c0.27	0.10		
v/s Ratio Perm									0.30			c0.31
v/c Ratio					0.91			0.95	0.89	0.36		1.15
Uniform Delay, d1					33.8			34.9	17.0	29.8		37.0
Progression Factor					1.00			1.00	1.00	1.00		1.00
Incremental Delay, d2					21.7			26.4	10.2	0.5		90.7
Delay (s)					55.5			61.3	27.2	30.3		127.7
Level of Service					E			E	C	C		F
Approach Delay (s)		0.0			55.5			37.4			109.0	
Approach LOS		A			E			D			F	

Intersection Summary			
HCM 2000 Control Delay	60.6	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	102.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	101.5%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1170	120	0	770	250	0	0	0	775	0	230
Future Volume (vph)	0	1170	120	0	770	250	0	0	0	775	0	230
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)		4.0			4.0	4.0				4.0	4.0	
Lane Util. Factor		0.95			1.00	1.00				0.95	0.95	
Frpb, ped/bikes		1.00			1.00	0.99				1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00				1.00	1.00	
Frt		0.99			1.00	0.85				1.00	0.93	
Flt Protected		1.00			1.00	1.00				0.95	0.97	
Satd. Flow (prot)		3208			1716	1440				1548	1475	
Flt Permitted		1.00			1.00	1.00				0.95	0.97	
Satd. Flow (perm)		3208			1716	1440				1548	1475	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	0	1286	132	0	846	275	0	0	0	852	0	253
RTOR Reduction (vph)	0	52	0	0	0	23	0	0	0	0	47	0
Lane Group Flow (vph)	0	1366	0	0	846	252	0	0	0	571	487	0
Confl. Peds. (#/hr)	2		1	1		2						
Confl. Bikes (#/hr)						1						
Heavy Vehicles (%)	0%	2%	2%	0%	2%	2%	0%	0%	0%	2%	0%	2%
Turn Type		NA			NA	pm+ov				Split	NA	
Protected Phases		2			6	4				4	4	
Permitted Phases						6						
Actuated Green, G (s)		32.0			32.0	58.7				26.7	26.7	
Effective Green, g (s)		33.0			33.0	60.7				27.7	27.7	
Actuated g/C Ratio		0.48			0.48	0.88				0.40	0.40	
Clearance Time (s)		5.0			5.0	5.0				5.0	5.0	
Vehicle Extension (s)		5.2			5.2	3.0				3.0	3.0	
Lane Grp Cap (vph)		1540			824	1440				624	594	
v/s Ratio Prot		0.43			c0.49	0.07				c0.37	0.33	
v/s Ratio Perm						0.10						
v/c Ratio		0.89			1.03	0.17				0.92	0.82	
Uniform Delay, d1		16.2			17.9	0.6				19.4	18.3	
Progression Factor		1.00			1.00	1.00				1.00	1.00	
Incremental Delay, d2		7.1			38.3	0.1				18.1	8.7	
Delay (s)		23.3			56.2	0.6				37.5	26.9	
Level of Service		C			E	A				D	C	
Approach Delay (s)		23.3			42.6			0.0			32.4	
Approach LOS		C			D			A			C	

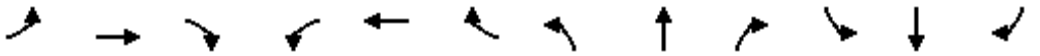
Intersection Summary			
HCM 2000 Control Delay	32.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	68.7	Sum of lost time (s)	8.0
Intersection Capacity Utilization	81.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1015	0	0	410	0	0	1760	55	0	2155	370
Future Volume (vph)	0	1015	0	0	410	0	0	1760	55	0	2155	370
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		0.95			1.00			0.95			0.95	
Frpb, ped/bikes		1.00			1.00			1.00			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		1.00			1.00			1.00			0.98	
Flt Protected		1.00			1.00			1.00			1.00	
Satd. Flow (prot)		3292			1750			3099			3171	
Flt Permitted		1.00			1.00			1.00			1.00	
Satd. Flow (perm)		3292			1750			3099			3171	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	1068	0	0	432	0	0	1853	58	0	2268	389
RTOR Reduction (vph)	0	0	0	0	0	0	0	3	0	0	23	0
Lane Group Flow (vph)	0	1068	0	0	432	0	0	1908	0	0	2634	0
Confl. Peds. (#/hr)	2		1	1		2						
Heavy Vehicles (%)	0%	1%	0%	0%	0%	0%	0%	7%	0%	0%	3%	0%
Turn Type		NA			NA			NA			NA	
Protected Phases		8			4			6			2	
Permitted Phases												
Actuated Green, G (s)		17.0			17.0			32.0			32.0	
Effective Green, g (s)		18.0			18.0			34.0			34.0	
Actuated g/C Ratio		0.30			0.30			0.57			0.57	
Clearance Time (s)		5.0			5.0			6.0			6.0	
Vehicle Extension (s)		2.5			2.5			5.2			5.2	
Lane Grp Cap (vph)		987			525			1756			1796	
v/s Ratio Prot		c0.32			0.25			0.62			c0.83	
v/s Ratio Perm												
v/c Ratio		1.08			0.82			1.09			1.47	
Uniform Delay, d1		21.0			19.5			13.0			13.0	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		53.5			9.9			49.0			213.1	
Delay (s)		74.5			29.4			62.0			226.1	
Level of Service		E			C			E			F	
Approach Delay (s)		74.5			29.4			62.0			226.1	
Approach LOS		E			C			E			F	

Intersection Summary			
HCM 2000 Control Delay	133.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.33		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	114.6%	ICU Level of Service	H
Analysis Period (min)	15		

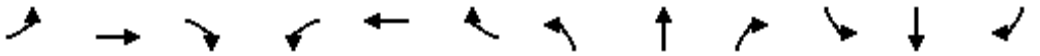
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	15	435	165	25	80	215	1255	180	35	1345	10
Future Volume (vph)	15	15	435	165	25	80	215	1255	180	35	1345	10
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)		4.0	4.0		4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes		1.00	0.99		1.00		1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00	1.00	1.00	1.00	
Frt		1.00	0.85		0.96		1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.98	1.00		0.97		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1707	1468		1623		1662	3260	1451	1662	3225	
Flt Permitted		0.84	1.00		0.79		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1477	1468		1329		1662	3260	1451	1662	3225	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	16	16	468	177	27	86	231	1349	194	38	1446	11
RTOR Reduction (vph)	0	0	173	0	16	0	0	0	35	0	1	0
Lane Group Flow (vph)	0	32	295	0	274	0	231	1349	159	38	1456	0
Confl. Peds. (#/hr)	1		1	1		1			2	2		
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	3%	0%
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA	Perm	Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8					2			
Actuated Green, G (s)		25.2	25.2		25.2		16.8	59.7	59.7	5.1	48.0	
Effective Green, g (s)		26.2	26.2		26.2		17.8	60.7	60.7	6.1	49.0	
Actuated g/C Ratio		0.25	0.25		0.25		0.17	0.58	0.58	0.06	0.47	
Clearance Time (s)		5.0	5.0		5.0		5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)		2.5	2.5		2.5		2.5	4.8	4.8	2.5	4.8	
Lane Grp Cap (vph)		368	366		331		281	1884	838	96	1505	
v/s Ratio Prot							c0.14	0.41		0.02	c0.45	
v/s Ratio Perm		0.02	0.20		c0.21				0.11			
v/c Ratio		0.09	0.81		0.83		0.82	0.72	0.19	0.40	0.97	
Uniform Delay, d1		30.2	37.0		37.3		42.1	15.9	10.5	47.7	27.2	
Progression Factor		1.00	1.00		1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.1	11.8		15.3		17.0	2.4	0.5	2.0	16.7	
Delay (s)		30.3	48.8		52.5		59.1	18.3	11.0	49.6	43.9	
Level of Service		C	D		D		E	B	B	D	D	
Approach Delay (s)		47.6			52.5			22.8			44.1	
Approach LOS		D			D			C			D	

Intersection Summary			
HCM 2000 Control Delay	35.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	97.0%	ICU Level of Service	F
Analysis Period (min)	15		

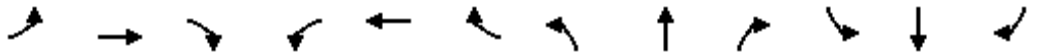
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	195	550	190	280	445	160	110	1205	160	165	760	55
Future Volume (vph)	195	550	190	280	445	160	110	1205	160	165	760	55
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		0.91	0.91		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.96		1.00	0.96		1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1646	3173		1498	3020		1662	3203		1662	3140	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1646	3173		1498	3020		1662	3203		1662	3140	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	210	591	204	301	478	172	118	1296	172	177	817	59
RTOR Reduction (vph)	0	28	0	0	26	0	0	9	0	0	4	0
Lane Group Flow (vph)	210	767	0	271	655	0	118	1459	0	177	872	0
Confl. Peds. (#/hr)	5					5	5		3	3		5
Heavy Vehicles (%)	1%	1%	0%	1%	1%	0%	0%	2%	0%	0%	5%	0%
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	27.0	27.0		17.0	17.0		10.6	45.0		11.0	45.4	
Effective Green, g (s)	28.0	28.0		18.0	18.0		11.6	46.0		12.0	46.4	
Actuated g/C Ratio	0.23	0.23		0.15	0.15		0.10	0.38		0.10	0.39	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	384	740		224	453		160	1227		166	1214	
v/s Ratio Prot	0.13	c0.24		0.18	c0.22		0.07	c0.46		c0.11	0.28	
v/s Ratio Perm												
v/c Ratio	0.55	1.04		1.21	1.44		0.74	1.19		1.07	0.72	
Uniform Delay, d1	40.4	46.0		51.0	51.0		52.7	37.0		54.0	31.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.6	42.7		128.5	212.3		16.2	93.6		88.6	3.7	
Delay (s)	42.0	88.7		179.5	263.3		68.9	130.6		142.6	34.9	
Level of Service	D	F		F	F		E	F		F	C	
Approach Delay (s)		79.0			239.4			126.0			53.0	
Approach LOS		E			F			F			D	

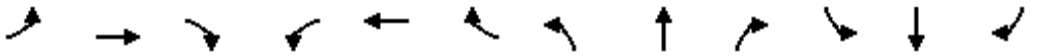
Intersection Summary			
HCM 2000 Control Delay	122.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.18		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	106.8%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	135	790	120	205	470	80	490	800	295	155	1070	305
Future Volume (vph)	135	790	120	205	470	80	490	800	295	155	1070	305
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		0.95			0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00			1.00		1.00	0.99		1.00	1.00	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.98			0.98		1.00	0.96		1.00	0.97	
Flt Protected		0.99			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		3140			3157		1646	3090		1630	3142	
Flt Permitted		0.99			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		3140			3157		1646	3090		1630	3142	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	141	823	125	214	490	83	510	833	307	161	1115	318
RTOR Reduction (vph)	0	7	0	0	6	0	0	25	0	0	18	0
Lane Group Flow (vph)	0	1082	0	0	781	0	510	1115	0	161	1415	0
Confl. Peds. (#/hr)	2		1	1		2	1		9	9		1
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	3%	3%	5%	2%	2%	3%	1%	3%	1%	2%	2%	2%
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	
Protected Phases	3	3		4	4		1	6		5	2	
Permitted Phases												
Actuated Green, G (s)		35.5			34.5		23.5	49.5		12.5	38.5	
Effective Green, g (s)		36.0			35.0		24.0	50.0		13.0	39.0	
Actuated g/C Ratio		0.24			0.23		0.16	0.33		0.09	0.26	
Clearance Time (s)		4.5			4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		2.5			2.5		2.5	4.3		2.5	4.3	
Lane Grp Cap (vph)		753			736		263	1030		141	816	
v/s Ratio Prot		c0.34			c0.25		c0.31	0.36		0.10	c0.45	
v/s Ratio Perm												
v/c Ratio		1.44			1.06		1.94	1.08		1.14	1.73	
Uniform Delay, d1		57.0			57.5		63.0	50.0		68.5	55.5	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		204.3			50.5		436.3	53.0		119.0	335.6	
Delay (s)		261.3			108.0		499.3	103.0		187.5	391.1	
Level of Service		F			F		F	F		F	F	
Approach Delay (s)		261.3			108.0			225.5			370.5	
Approach LOS		F			F			F			F	

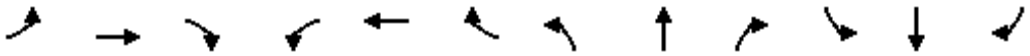
Intersection Summary			
HCM 2000 Control Delay	260.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.53		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	141.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	245	230	385	30	140	35	115	550	10	15	1020	210
Future Volume (vph)	245	230	385	30	140	35	115	550	10	15	1020	210
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.97		1.00	1.00		1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1662	1716	1488	1662	1693		1646	3220		1662	3172	
Flt Permitted	0.55	1.00	1.00	0.46	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	956	1716	1488	802	1693		1646	3220		1662	3172	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	272	256	428	33	156	39	128	611	11	17	1133	233
RTOR Reduction (vph)	0	0	94	0	10	0	0	1	0	0	16	0
Lane Group Flow (vph)	272	256	334	33	185	0	128	621	0	17	1350	0
Confl. Peds. (#/hr)	1					1	3		1	1		3
Heavy Vehicles (%)	0%	2%	0%	0%	0%	0%	1%	3%	0%	0%	2%	0%
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8		8	4								
Actuated Green, G (s)	31.2	31.2	31.2	31.2	31.2		10.8	52.7		2.9	44.8	
Effective Green, g (s)	31.2	31.2	31.2	31.2	31.2		10.8	53.9		2.9	46.0	
Actuated g/C Ratio	0.31	0.31	0.31	0.31	0.31		0.11	0.54		0.03	0.46	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	5.2		4.0	5.2	
Vehicle Extension (s)	3.5	3.5	3.5	3.5	3.5		2.5	5.2		2.5	5.2	
Lane Grp Cap (vph)	298	535	464	250	528		177	1735		48	1459	
v/s Ratio Prot		0.15			0.11		c0.08	0.19		0.01	c0.43	
v/s Ratio Perm	c0.28		0.22	0.04								
v/c Ratio	0.91	0.48	0.72	0.13	0.35		0.72	0.36		0.35	0.93	
Uniform Delay, d1	33.1	27.8	30.5	24.7	26.6		43.2	13.2		47.6	25.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	30.9	0.8	5.5	0.3	0.5		12.8	0.6		3.3	11.4	
Delay (s)	64.0	28.6	36.0	25.0	27.1		56.0	13.7		50.9	36.8	
Level of Service	E	C	D	C	C		E	B		D	D	
Approach Delay (s)		42.0			26.8			21.0			37.0	
Approach LOS		D			C			C			D	

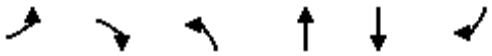
Intersection Summary			
HCM 2000 Control Delay	34.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	83.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	15	15	70	15	30	20	495	35	30	1125	100
Future Volume (vph)	75	15	15	70	15	30	20	495	35	30	1125	100
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.5	4.5			4.5	4.5	4.5	5.4		4.5	5.4	
Lane Util. Factor	1.00	1.00			1.00	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.93			1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00			0.96	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1630	1619			1642	1488	1498	3202		1662	3225	
Flt Permitted	0.70	1.00			0.74	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1193	1619			1267	1488	1498	3202		1662	3225	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	83	17	17	78	17	33	22	550	39	33	1250	111
RTOR Reduction (vph)	0	15	0	0	0	29	0	3	0	0	4	0
Lane Group Flow (vph)	83	19	0	0	95	4	22	586	0	33	1357	0
Heavy Vehicles (%)	2%	0%	0%	2%	4%	0%	11%	3%	0%	0%	2%	0%
Turn Type	Perm	NA		Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8						
Actuated Green, G (s)	11.1	11.1			11.1	11.1	3.7	59.8		4.7	60.8	
Effective Green, g (s)	11.1	11.1			11.1	11.1	3.7	59.8		4.7	60.8	
Actuated g/C Ratio	0.12	0.12			0.12	0.12	0.04	0.66		0.05	0.68	
Clearance Time (s)	4.5	4.5			4.5	4.5	4.5	5.4		4.5	5.4	
Vehicle Extension (s)	4.0	4.0			4.0	4.0	4.0	4.2		2.5	4.7	
Lane Grp Cap (vph)	147	199			156	183	61	2127		86	2178	
v/s Ratio Prot		0.01					0.01	0.18		c0.02	c0.42	
v/s Ratio Perm	0.07				c0.08	0.00						
v/c Ratio	0.56	0.10			0.61	0.02	0.36	0.28		0.38	0.62	
Uniform Delay, d1	37.2	35.0			37.4	34.7	42.0	6.2		41.2	8.2	
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	5.9	0.3			7.6	0.1	4.9	0.3		2.1	1.4	
Delay (s)	43.1	35.3			45.0	34.7	46.9	6.5		43.3	9.5	
Level of Service	D	D			D	C	D	A		D	A	
Approach Delay (s)		40.8			42.3			8.0			10.3	
Approach LOS		D			D			A			B	

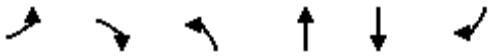
Intersection Summary			
HCM 2000 Control Delay	13.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.4
Intersection Capacity Utilization	57.2%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	375	260	2010	1870	0
Future Volume (vph)	0	375	260	2010	1870	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Total Lost time (s)		4.0	4.0	0.0	4.0	
Lane Util. Factor		0.88	0.97	0.95	0.95	
Frt		0.85	1.00	1.00	1.00	
Flt Protected		1.00	0.95	1.00	1.00	
Satd. Flow (prot)		2567	3162	3260	3260	
Flt Permitted		1.00	0.95	1.00	1.00	
Satd. Flow (perm)		2567	3162	3260	3260	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	408	283	2185	2033	0
RTOR Reduction (vph)	0	15	0	0	0	0
Lane Group Flow (vph)	0	393	283	2185	2033	0
Turn Type		Over	Prot	NA	NA	
Protected Phases		1	1	6	2	
Permitted Phases						
Actuated Green, G (s)		37.0	37.0	120.0	75.0	
Effective Green, g (s)		37.0	37.0	120.0	75.0	
Actuated g/C Ratio		0.31	0.31	1.00	0.62	
Clearance Time (s)		4.0	4.0	2.0	4.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		791	974	3260	2037	
v/s Ratio Prot		0.15	0.09	c0.67	c0.62	
v/s Ratio Perm						
v/c Ratio		0.50	0.29	0.67	1.00	
Uniform Delay, d1		33.9	31.5	0.0	22.4	
Progression Factor		1.00	1.00	1.00	0.88	
Incremental Delay, d2		0.5	0.2	1.1	5.6	
Delay (s)		34.4	31.7	1.1	25.3	
Level of Service		C	C	A	C	
Approach Delay (s)	34.4			4.6	25.3	
Approach LOS	C			A	C	

Intersection Summary			
HCM 2000 Control Delay	15.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	77.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	415	0	0	2010	1890	420
Future Volume (vph)	415	0	0	2010	1890	420
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0			4.0	4.0	
Lane Util. Factor	0.97			0.95	0.95	
Frt	1.00			1.00	0.97	
Flt Protected	0.95			1.00	1.00	
Satd. Flow (prot)	3162			3260	3171	
Flt Permitted	0.95			1.00	1.00	
Satd. Flow (perm)	3162			3260	3171	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	451	0	0	2185	2054	457
RTOR Reduction (vph)	0	0	0	0	13	0
Lane Group Flow (vph)	451	0	0	2185	2498	0
Turn Type	Prot			NA	NA	
Protected Phases	8			6	2	
Permitted Phases						
Actuated Green, G (s)	22.4			89.6	89.6	
Effective Green, g (s)	22.4			89.6	89.6	
Actuated g/C Ratio	0.19			0.75	0.75	
Clearance Time (s)	4.0			4.0	4.0	
Vehicle Extension (s)	3.0			3.0	3.0	
Lane Grp Cap (vph)	590			2434	2367	
v/s Ratio Prot	c0.14			0.67	c0.79	
v/s Ratio Perm						
v/c Ratio	0.76			0.90	1.06	
Uniform Delay, d1	46.3			11.7	15.2	
Progression Factor	1.00			1.00	1.00	
Incremental Delay, d2	5.9			4.4	35.2	
Delay (s)	52.2			16.0	50.4	
Level of Service	D			B	D	
Approach Delay (s)	52.2			16.0	50.4	
Approach LOS	D			B	D	

Intersection Summary			
HCM 2000 Control Delay	36.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	90.8%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Int Delay, s/veh	47.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	220	0	0	10	230	2695	10	0	2795	95
Future Vol, veh/h	0	0	220	0	0	10	230	2695	10	0	2795	95
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	230	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	0	0	0	0	3	8	0	5	2
Mvmt Flow	0	0	234	0	0	11	245	2867	11	0	2973	101

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	1537	-	-	1439	3074	0	0	-	-	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.9	-	-	6.9	4.1	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.3	-	-	3.3	2.2	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	~ 107	0	0	125	~ 109	-	-	0	-	-
Stage 1	0	0	-	0	0	-	-	-	-	0	-	-
Stage 2	0	0	-	0	0	-	-	-	-	0	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	-	~ 107	-	-	125	~ 109	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	$ 629	36.5	51.1	0
HCM LOS	F	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBT	SBR
Capacity (veh/h)	~ 109	-	-	107	125	-	-
HCM Lane V/C Ratio	2.245	-	-	2.187	0.085	-	-
HCM Control Delay (s)	$ 652.5	-	-	$ 629	36.5	-	-
HCM Lane LOS	F	-	-	F	E	-	-
HCM 95th %tile Q(veh)	21.3	-	-	20.2	0.3	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	21.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↱	
Traffic Vol, veh/h	0	640	675	0	200	120
Future Vol, veh/h	0	640	675	0	200	120
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	1	1	0	2	2
Mvmt Flow	0	703	742	0	220	132

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	1445	742
Stage 1	-	-	-	-	742	-
Stage 2	-	-	-	-	703	-
Critical Hdwy	-	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	0	-	-	0	~ 145	416
Stage 1	0	-	-	0	471	-
Stage 2	0	-	-	0	491	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	~ 145	416
Mov Cap-2 Maneuver	-	-	-	-	286	-
Stage 1	-	-	-	-	471	-
Stage 2	-	-	-	-	491	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	111.4
HCM LOS			F

Minor Lane/Major Mvmt	EBT	WBT	SBLn1
Capacity (veh/h)	-	-	324
HCM Lane V/C Ratio	-	-	1.085
HCM Control Delay (s)	-	-	111.4
HCM Lane LOS	-	-	F
HCM 95th %tile Q(veh)	-	-	13.3

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	85	750	5	10	675	185	0	0	15	0	0	0
Future Vol, veh/h	85	750	5	10	675	185	0	0	15	0	0	0
Conflicting Peds, #/hr	1	0	1	1	0	1	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	60	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	3	1	0	0	1	2	0	0	0	0	0	0
Mvmt Flow	92	815	5	11	734	201	0	0	16	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	936	0	0	821	0	0	1860	1961	819
Stage 1	-	-	-	-	-	-	1003	1003	-
Stage 2	-	-	-	-	-	-	857	958	-
Critical Hdwy	4.13	-	-	4.1	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	2.227	-	-	2.2	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	728	-	-	817	-	-	82	64	379
Stage 1	-	-	-	-	-	-	358	322	-
Stage 2	-	-	-	-	-	-	419	338	-
Platoon blocked, %		-	-		-	-			
Mov Cap-1 Maneuver	728	-	-	816	-	-	70	0	379
Mov Cap-2 Maneuver	-	-	-	-	-	-	70	0	-
Stage 1	-	-	-	-	-	-	304	0	-
Stage 2	-	-	-	-	-	-	419	0	-

Approach	EB	WB	NB
HCM Control Delay, s	1.1	0.1	14.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR
Capacity (veh/h)	379	728	-	-	816	-	-
HCM Lane V/C Ratio	0.043	0.127	-	-	0.013	-	-
HCM Control Delay (s)	14.9	10.7	-	-	9.5	0	-
HCM Lane LOS	B	B	-	-	A	A	-
HCM 95th %tile Q(veh)	0.1	0.4	-	-	0	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	3510	3435	295
Future Vol, veh/h	0	0	0	3510	3435	295
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	100
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	1	0	3	3	1
Mvmt Flow	0	0	0	3815	3734	321

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	1867	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.92	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.31	-	-	-	-
Pot Cap-1 Maneuver	0	63	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	63	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	0	-	-
HCM Lane LOS	-	A	-	-
HCM 95th %tile Q(veh)	-	-	-	-

Intersection	
Int Delay, s/veh	120.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	825	355	225	320	15	210
Future Vol, veh/h	825	355	225	320	15	210
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	-	0	260
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	1	2	1	1	6	1
Mvmt Flow	917	394	250	356	17	233

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	606	0	-	0	2656	428
Stage 1	-	-	-	-	428	-
Stage 2	-	-	-	-	2228	-
Critical Hdwy	4.11	-	-	-	6.46	6.21
Critical Hdwy Stg 1	-	-	-	-	5.46	-
Critical Hdwy Stg 2	-	-	-	-	5.46	-
Follow-up Hdwy	2.209	-	-	-	3.554	3.309
Pot Cap-1 Maneuver	977	-	-	-	24	629
Stage 1	-	-	-	-	649	-
Stage 2	-	-	-	-	85	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	977	-	-	-	~ 1	629
Mov Cap-2 Maneuver	-	-	-	-	~ 1	-
Stage 1	-	-	-	-	40	-
Stage 2	-	-	-	-	85	-

Approach	EB	WB	SB
HCM Control Delay, s	25.6	0	$ 907.1
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	977	-	-	-	1	629
HCM Lane V/C Ratio	0.938	-	-	-	16.667	0.371
HCM Control Delay (s)	36.6	-	-	-	$ 13409	14.1
HCM Lane LOS	E	-	-	-	F	B
HCM 95th %tile Q(veh)	15.1	-	-	-	3.7	1.7

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	26

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	1695	250	0	935	35	45	0	185	0	0	40
Future Vol, veh/h	0	1695	250	0	935	35	45	0	185	0	0	40
Conflicting Peds, #/hr	2	0	0	0	0	2	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	0	-	240	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	2	0	0	2	0	0	0	0	0	0	0
Mvmt Flow	0	1823	269	0	1005	38	48	0	199	0	0	43

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	-	-	0	2461	-	1046	-	-	524
Stage 1	-	-	-	-	-	-	1958	-	-	-	-	-
Stage 2	-	-	-	-	-	-	503	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	-	7.5	-	6.9	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	-	3.5	-	3.3	-	-	3.3
Pot Cap-1 Maneuver	0	-	-	0	-	-	~ 16	0	228	0	0	503
Stage 1	0	-	-	0	-	-	67	0	-	0	0	-
Stage 2	0	-	-	0	-	-	524	0	-	0	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	-	-	-	-	-	-	~ 15	-	228	-	-	502
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 15	-	-	-	-	-
Stage 1	-	-	-	-	-	-	67	-	-	-	-	-
Stage 2	-	-	-	-	-	-	479	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	$ 358.4	12.8
HCM LOS			F	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBT	WBR	SBLn1
Capacity (veh/h)	15	228	-	-	-	-	502
HCM Lane V/C Ratio	3.226	0.872	-	-	-	-	0.086
HCM Control Delay (s)	$ 1519.9	75.9	-	-	-	-	12.8
HCM Lane LOS	F	F	-	-	-	-	B
HCM 95th %tile Q(veh)	6.8	7	-	-	-	-	0.3

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	13.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	645	50	65	715	5	370
Future Vol, veh/h	645	50	65	715	5	370
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	50	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	3	0	0	33	1
Mvmt Flow	679	53	68	753	5	389

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	732	0	1595	706
Stage 1	-	-	-	-	706	-
Stage 2	-	-	-	-	889	-
Critical Hdwy	-	-	4.1	-	6.73	6.21
Critical Hdwy Stg 1	-	-	-	-	5.73	-
Critical Hdwy Stg 2	-	-	-	-	5.73	-
Follow-up Hdwy	-	-	2.2	-	3.797	3.309
Pot Cap-1 Maneuver	-	-	882	-	99	438
Stage 1	-	-	-	-	437	-
Stage 2	-	-	-	-	355	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	882	-	91	438
Mov Cap-2 Maneuver	-	-	-	-	91	-
Stage 1	-	-	-	-	403	-
Stage 2	-	-	-	-	355	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.8	63.4
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	417	-	-	882	-
HCM Lane V/C Ratio	0.947	-	-	0.078	-
HCM Control Delay (s)	63.4	-	-	9.4	-
HCM Lane LOS	F	-	-	A	-
HCM 95th %tile Q(veh)	10.9	-	-	0.3	-

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	210	860	355	110	0	55
Future Vol, veh/h	210	860	355	110	0	55
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	1	1	0	1	0	0
Mvmt Flow	221	905	374	116	0	58

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	490	0	-	0	1327	432
Stage 1	-	-	-	-	432	-
Stage 2	-	-	-	-	895	-
Critical Hdwy	4.115	-	-	-	6.6	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.2095	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1078	-	-	-	161	628
Stage 1	-	-	-	-	659	-
Stage 2	-	-	-	-	364	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1078	-	-	-	95	628
Mov Cap-2 Maneuver	-	-	-	-	95	-
Stage 1	-	-	-	-	387	-
Stage 2	-	-	-	-	364	-

Approach	EB	WB	SB
HCM Control Delay, s	2.9	0	11.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1078	-	-	-	628
HCM Lane V/C Ratio	0.205	-	-	-	0.092
HCM Control Delay (s)	9.2	1.3	-	-	11.3
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.8	-	-	-	0.3

Intersection	
Int Delay, s/veh	96.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↱			↱		↑↑	↱		↑↑	↱
Traffic Vol, veh/h	0	0	80	0	0	850	0	1235	200	0	2210	265
Future Vol, veh/h	0	0	80	0	0	850	0	1235	200	0	2210	265
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	-	-	53	-	-	57
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	6	0	0	0	0	6	0	0	4	4
Mvmt Flow	0	0	84	0	0	895	0	1300	211	0	2326	279

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	1163	-	-	650	-	0	0	-	-	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	7.02	-	-	6.9	-	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.36	-	-	3.3	-	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	182	0	0	~ 417	0	-	-	0	-	-
Stage 1	0	0	-	0	0	-	0	-	-	0	-	-
Stage 2	0	0	-	0	0	-	0	-	-	0	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	-	182	-	-	~ 417	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	40.8	$ 544.9	0	0
HCM LOS	E	F		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	WBLn1	SBT	SBR
Capacity (veh/h)	-	-	182	417	-	-
HCM Lane V/C Ratio	-	-	0.463	2.146	-	-
HCM Control Delay (s)	-	-	40.8	$ 544.9	-	-
HCM Lane LOS	-	-	E	F	-	-
HCM 95th %tile Q(veh)	-	-	2.2	64.9	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	30

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	20	485	490	250	240	515
Future Vol, veh/h	20	485	490	250	240	515
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Yield	-	None
Storage Length	-	-	-	50	180	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	6	4	3	1	5	2
Mvmt Flow	21	511	516	263	253	542

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	516	0	-	0	1069	516
Stage 1	-	-	-	-	516	-
Stage 2	-	-	-	-	553	-
Critical Hdwy	4.16	-	-	-	6.45	6.22
Critical Hdwy Stg 1	-	-	-	-	5.45	-
Critical Hdwy Stg 2	-	-	-	-	5.45	-
Follow-up Hdwy	2.254	-	-	-	3.545	3.318
Pot Cap-1 Maneuver	1030	-	-	-	~ 242	559
Stage 1	-	-	-	-	593	-
Stage 2	-	-	-	-	570	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1030	-	-	-	~ 235	559
Mov Cap-2 Maneuver	-	-	-	-	~ 235	-
Stage 1	-	-	-	-	576	-
Stage 2	-	-	-	-	570	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	79.3
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1030	-	-	-	235	559
HCM Lane V/C Ratio	0.02	-	-	-	1.075	0.97
HCM Control Delay (s)	8.6	0	-	-	124.9	58.1
HCM Lane LOS	A	A	-	-	F	F
HCM 95th %tile Q(veh)	0.1	-	-	-	10.9	13.2

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	59.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	290	435	0	0	705	20	35	0	150	0	0	0
Future Vol, veh/h	290	435	0	0	705	20	35	0	150	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	Stop	-	-	None
Storage Length	-	-	-	-	-	-	-	-	300	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	0	-	-	0	-	-	15	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	3	3	0	0	2	6	2	100	2	0	0	0
Mvmt Flow	315	473	0	0	766	22	38	0	163	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	788	0	-	-	-	0	1880	1891	473
Stage 1	-	-	-	-	-	-	1103	1103	-
Stage 2	-	-	-	-	-	-	777	788	-
Critical Hdwy	4.13	-	-	-	-	-	9.42	10.5	7.72
Critical Hdwy Stg 1	-	-	-	-	-	-	8.42	9.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	8.42	9.5	-
Follow-up Hdwy	2.227	-	-	-	-	-	3.518	4.9	3.318
Pot Cap-1 Maneuver	827	-	0	0	-	-	~ 16	8	485
Stage 1	-	-	0	0	-	-	127	77	-
Stage 2	-	-	0	0	-	-	237	150	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	827	-	-	-	-	-	~ 8	0	485
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 8	0	-
Stage 1	-	-	-	-	-	-	61	0	-
Stage 2	-	-	-	-	-	-	237	0	-

Approach	EB	WB	NB
HCM Control Delay, s	4.8	0	$ 504
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT	WBR
Capacity (veh/h)	8	485	827	-	-	-
HCM Lane V/C Ratio	4.755	0.336	0.381	-	-	-
HCM Control Delay (s)	$ 2594.9	16.1	12	0	-	-
HCM Lane LOS	F	C	B	A	-	-
HCM 95th %tile Q(veh)	6.1	1.5	1.8	-	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	109

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	30	1170	40	125	810	65	10	0	70	50	5	40
Future Vol, veh/h	30	1170	40	125	810	65	10	0	70	50	5	40
Conflicting Peds, #/hr	2	0	1	1	0	2	0	0	1	1	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	70	-	-	70	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	6	1	0	1	1	7	0	0	0	5	0	0
Mvmt Flow	32	1232	42	132	853	68	11	0	74	53	5	42

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	923	0	0	1275	0	0	2493	2505	1255	2508	2492	889
Stage 1	-	-	-	-	-	-	1318	1318	-	1153	1153	-
Stage 2	-	-	-	-	-	-	1175	1187	-	1355	1339	-
Critical Hdwy	4.16	-	-	4.11	-	-	7.1	6.5	6.2	7.15	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.15	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.15	5.5	-
Follow-up Hdwy	2.254	-	-	2.209	-	-	3.5	4	3.3	3.545	4	3.3
Pot Cap-1 Maneuver	724	-	-	548	-	-	20	29	211	~ 19	30	345
Stage 1	-	-	-	-	-	-	196	229	-	237	274	-
Stage 2	-	-	-	-	-	-	236	264	-	182	224	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	723	-	-	548	-	-	11	21	211	~ 10	22	344
Mov Cap-2 Maneuver	-	-	-	-	-	-	11	21	-	~ 10	22	-
Stage 1	-	-	-	-	-	-	187	219	-	226	207	-
Stage 2	-	-	-	-	-	-	153	200	-	113	214	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	1.7	$ 328.1	$ 2475.2
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	64	723	-	-	548	-	-	18
HCM Lane V/C Ratio	1.316	0.044	-	-	0.24	-	-	5.556
HCM Control Delay (s)	$ 328.1	10.2	-	-	13.6	-	-	$ 2475.2
HCM Lane LOS	F	B	-	-	B	-	-	F
HCM 95th %tile Q(veh)	7	0.1	-	-	0.9	-	-	13.1

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	105	965	810	5	955	470	0	0	50	5	0	15
Future Vol, veh/h	105	965	810	5	955	470	0	0	50	5	0	15
Conflicting Peds, #/hr	1	0	0	0	0	1	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	Stop	-	-	None
Storage Length	-	-	-	-	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	0	1	4	0	0	5	0	0	6
Mvmt Flow	111	1016	853	5	1005	495	0	0	53	5	0	16

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1501	0	0	1869	0	0	-	-	935	1994	3355	751
Stage 1	-	-	-	-	-	-	-	-	-	1264	1264	-
Stage 2	-	-	-	-	-	-	-	-	-	730	2091	-
Critical Hdwy	4.14	-	-	4.1	-	-	-	-	7	7.5	6.5	7.02
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	6.5	5.5	-
Follow-up Hdwy	2.22	-	-	2.2	-	-	-	-	3.35	3.5	4	3.36
Pot Cap-1 Maneuver	442	-	-	327	-	-	0	0	261	37	8	345
Stage 1	-	-	-	-	-	-	0	0	-	182	243	-
Stage 2	-	-	-	-	-	-	0	0	-	384	95	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	442	-	-	327	-	-	-	-	261	26	7	345
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	26	7	-
Stage 1	-	-	-	-	-	-	-	-	-	182	209	-
Stage 2	-	-	-	-	-	-	-	-	-	307	95	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.9	0.8	22.2	60.8
HCM LOS			C	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	261	442	-	-	327	-	-	85
HCM Lane V/C Ratio	0.202	0.25	-	-	0.016	-	-	0.248
HCM Control Delay (s)	22.2	15.8	0	-	16.2	1.1	-	60.8
HCM Lane LOS	C	C	A	-	C	A	-	F
HCM 95th %tile Q(veh)	0.7	1	-	-	0	-	-	0.9

Intersection	
Int Delay, s/veh	8.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	145	110	50	205	355	155
Future Vol, veh/h	145	110	50	205	355	155
Conflicting Peds, #/hr	1	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	50	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	77	77	77	77	77	77
Heavy Vehicles, %	3	4	3	3	5	2
Mvmt Flow	188	143	65	266	461	201

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	959	562	662	0	-	0
Stage 1	562	-	-	-	-	-
Stage 2	397	-	-	-	-	-
Critical Hdwy	6.43	6.24	4.13	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.336	2.227	-	-	-
Pot Cap-1 Maneuver	284	523	922	-	-	-
Stage 1	569	-	-	-	-	-
Stage 2	677	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	260	523	922	-	-	-
Mov Cap-2 Maneuver	260	-	-	-	-	-
Stage 1	522	-	-	-	-	-
Stage 2	677	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	33.7	1.8	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	922	-	260	523	-	-
HCM Lane V/C Ratio	0.07	-	0.724	0.273	-	-
HCM Control Delay (s)	9.2	0	48.2	14.5	-	-
HCM Lane LOS	A	A	E	B	-	-
HCM 95th %tile Q(veh)	0.2	-	5	1.1	-	-

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	0	40	5	0	30	100	420	5	60	1070	40
Future Vol, veh/h	15	0	40	5	0	30	100	420	5	60	1070	40
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	110	-	115	15	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	3	1	3	17	2	2	0
Mvmt Flow	16	0	43	5	0	32	108	452	5	65	1151	43

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1745	1976	597	1377	1995	229	1194	0	0	457	0	0
Stage 1	1303	1303	-	671	671	-	-	-	-	-	-	-
Stage 2	442	673	-	706	1324	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.96	4.12	-	-	4.14	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.33	2.21	-	-	2.22	-	-
Pot Cap-1 Maneuver	56	63	451	106	61	770	586	-	-	1100	-	-
Stage 1	173	233	-	417	458	-	-	-	-	-	-	-
Stage 2	570	457	-	397	227	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	44	48	451	79	47	770	586	-	-	1100	-	-
Mov Cap-2 Maneuver	44	48	-	79	47	-	-	-	-	-	-	-
Stage 1	141	219	-	340	374	-	-	-	-	-	-	-
Stage 2	445	373	-	338	214	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	55.3	16.8	2.4	0.4
HCM LOS	F	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	586	-	-	128	342	1100	-	-
HCM Lane V/C Ratio	0.183	-	-	0.462	0.11	0.059	-	-
HCM Control Delay (s)	12.5	-	-	55.3	16.8	8.5	-	-
HCM Lane LOS	B	-	-	F	C	A	-	-
HCM 95th %tile Q(veh)	0.7	-	-	2.1	0.4	0.2	-	-

Intersection	
Int Delay, s/veh	120.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	155	45	795	55	340	55
Future Vol, veh/h	155	45	795	55	340	55
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	15	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	172	50	883	61	378	61

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	944	0	-	0	1308	914
Stage 1	-	-	-	-	914	-
Stage 2	-	-	-	-	394	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	727	-	-	-	~ 176	331
Stage 1	-	-	-	-	391	-
Stage 2	-	-	-	-	681	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	727	-	-	-	~ 134	331
Mov Cap-2 Maneuver	-	-	-	-	~ 226	-
Stage 1	-	-	-	-	~ 298	-
Stage 2	-	-	-	-	681	-

Approach	EB	WB	SB
HCM Control Delay, s	8.9	0	$ 437.7
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	727	-	-	-	236
HCM Lane V/C Ratio	0.237	-	-	-	1.86
HCM Control Delay (s)	11.5	-	-	-	-$ 437.7
HCM Lane LOS	B	-	-	-	F
HCM 95th %tile Q(veh)	0.9	-	-	-	30.7

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	11.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	10	605	70	145	490	85	35	5	65	25	5	50
Future Vol, veh/h	10	605	70	145	490	85	35	5	65	25	5	50
Conflicting Peds, #/hr	3	0	0	0	0	3	2	0	0	0	0	2
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	33	0	0	1	1	0	8	0	2	0	0	0
Mvmt Flow	10	630	73	151	510	89	36	5	68	26	5	52

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	602	0	0	703	0	0	1574	1591	667	1583	1583	560
Stage 1	-	-	-	-	-	-	687	687	-	860	860	-
Stage 2	-	-	-	-	-	-	887	904	-	723	723	-
Critical Hdwy	4.43	-	-	4.11	-	-	7.18	6.5	6.22	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.18	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.18	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.497	-	-	2.209	-	-	3.572	4	3.318	3.5	4	3.3
Pot Cap-1 Maneuver	841	-	-	899	-	-	86	108	459	89	110	532
Stage 1	-	-	-	-	-	-	427	450	-	353	376	-
Stage 2	-	-	-	-	-	-	331	358	-	421	434	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	839	-	-	899	-	-	58	79	459	57	80	530
Mov Cap-2 Maneuver	-	-	-	-	-	-	58	79	-	57	80	-
Stage 1	-	-	-	-	-	-	418	441	-	345	280	-
Stage 2	-	-	-	-	-	-	218	266	-	348	425	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	2	105.4	68.3
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	130	839	-	-	899	-	-	134
HCM Lane V/C Ratio	0.841	0.012	-	-	0.168	-	-	0.622
HCM Control Delay (s)	105.4	9.3	0	-	9.8	0	-	68.3
HCM Lane LOS	F	A	A	-	A	A	-	F
HCM 95th %tile Q(veh)	5.2	0	-	-	0.6	-	-	3.3

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	115	0	1815	1780	375
Future Vol, veh/h	0	115	0	1815	1780	375
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	125	0	1973	1935	408

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	1172	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	185	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	185	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	57.5	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	185	-	-
HCM Lane V/C Ratio	-	0.676	-	-
HCM Control Delay (s)	-	57.5	-	-
HCM Lane LOS	-	F	-	-
HCM 95th %tile Q(veh)	-	4.1	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	0	0	1255	0	0
Future Vol, veh/h	5	0	0	1255	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	16979	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	0	0	1364	0	0

Major/Minor	Minor2		Major1	
Conflicting Flow All	1364	-	-	0
Stage 1	0	-	-	-
Stage 2	1364	-	-	-
Critical Hdwy	6.42	-	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-
Follow-up Hdwy	3.518	-	-	-
Pot Cap-1 Maneuver	163	0	0	-
Stage 1	-	0	0	-
Stage 2	238	0	0	-
Platoon blocked, %				-
Mov Cap-1 Maneuver	163	-	-	-
Mov Cap-2 Maneuver	163	-	-	-
Stage 1	-	-	-	-
Stage 2	238	-	-	-

Approach	EB	NB
HCM Control Delay, s	27.8	0
HCM LOS	D	

Minor Lane/Major Mvmt	NBT	EBLn1
Capacity (veh/h)	-	163
HCM Lane V/C Ratio	-	0.033
HCM Control Delay (s)	-	27.8
HCM Lane LOS	-	D
HCM 95th %tile Q(veh)	-	0.1

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕		↰	↕	
Traffic Vol, veh/h	0	0	0	0	0	0	0	465	0	0	975	0
Future Vol, veh/h	0	0	0	0	0	0	0	465	0	0	975	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	10	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0	0	505	0	0	1060	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1565	1565	1060	1565	1565	505	1060	0	0	505	0	0
Stage 1	1060	1060	-	505	505	-	-	-	-	-	-	-
Stage 2	505	505	-	1060	1060	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	90	111	272	90	111	567	657	-	-	1060	-	-
Stage 1	271	301	-	549	540	-	-	-	-	-	-	-
Stage 2	549	540	-	271	301	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	90	111	272	90	111	567	657	-	-	1060	-	-
Mov Cap-2 Maneuver	90	111	-	90	111	-	-	-	-	-	-	-
Stage 1	271	301	-	549	540	-	-	-	-	-	-	-
Stage 2	549	540	-	271	301	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	0	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	657	-	-	-	-	1060	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	0	0	-	-
HCM Lane LOS	A	-	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-	0	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	Free	-	-	None	-	-	None
Storage Length	0	-	0	-	-	0	70	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0	0	0	0	0	0	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1	-	1	1	1	-	1	0	-	-	-	0
Stage 1	1	-	-	0	0	-	-	-	-	-	-	-
Stage 2	0	-	-	1	1	-	-	-	-	-	-	-
Critical Hdwy	7.12	-	6.22	7.12	6.52	-	4.12	-	-	-	-	-
Critical Hdwy Stg 1	6.12	-	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	-	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	-	3.318	3.518	4.018	-	2.218	-	-	-	-	-
Pot Cap-1 Maneuver	1022	0	1084	1022	895	0	1622	-	0	0	-	-
Stage 1	1022	0	-	-	-	0	-	-	0	0	-	-
Stage 2	-	0	-	1022	895	0	-	-	0	0	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver	1022	-	1084	1022	895	-	1622	-	-	-	-	-
Mov Cap-2 Maneuver	933	-	-	-	-	-	-	-	-	-	-	-
Stage 1	1022	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	1022	895	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	0	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	WBLn1	WBLn2	SBT	SBR
Capacity (veh/h)	1622	-	-	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-	-	-
HCM Control Delay (s)	0	-	0	0	0	0	-	-
HCM Lane LOS	A	-	A	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-	-	-	-

Intersection	
Int Delay, s/veh	15.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	320	1705	55	0	2525
Future Vol, veh/h	0	320	1705	55	0	2525
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	348	1853	60	0	2745

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	957	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	~ 258	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	~ 258	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	218.1	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	258	-
HCM Lane V/C Ratio	-	-	1.348	-
HCM Control Delay (s)	-	-	218.1	-
HCM Lane LOS	-	-	F	-
HCM 95th %tile Q(veh)	-	-	18.3	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Vistro HCM reports (Future 2040 Build Bundle A Conditions)

US 97 Bend Parkway Future No Build

Vistro File: X:\...\Existing_Roundabouts_Future_Bundle A.vistro
Scenario: Base Scenario

Report File: X:\...\Existing_Roundabouts_Future_Bundle A.pdf
7/12/2019

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Reed Market and Brookswood	Roundabout	HCM 6th Edition	SEB Thru		519.9	F
2	Powers Rd and Brookswood Blvd	Roundabout	HCM 6th Edition	SB Thru		81.5	F
3	Murphy Rd and 3rd St	Roundabout	HCM 6th Edition	EB Thru		218.2	F

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Reed Market and Brookswood

Control Type:	Roundabout	Delay (sec / veh):	519.9
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes		

Intersection Setup

Name												
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	265	285	200	460	620	75	155	415	280	85	595	350
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	1.00	5.00	1.00	1.00	0.00	2.00	1.00	3.00	0.00	1.00	1.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	265	285	200	460	620	75	155	415	280	85	595	350
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	68	73	52	119	160	19	40	107	72	22	153	90
Total Analysis Volume [veh/h]	273	294	206	474	639	77	160	428	289	88	613	361
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1			1		
Circulating Flow Rate [veh/h]	1186			868			658			1287		
Exiting Flow Rate [veh/h]	1173			683			1314			782		
Demand Flow Rate [veh/h]	265	285	200	460	620	75	155	415	280	85	595	350
Adjusted Demand Flow Rate [veh/h]	273	294	206	474	639	77	160	428	289	88	613	361

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	0.98	0.99	0.98	0.99
Entry Flow Rate [veh/h]	786	1202	894	1072
Capacity of Entry and Bypass Lanes [veh/h]	412	570	706	372
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	405	564	693	368
X, volume / capacity	1.91	2.11	1.27	2.89

Movement, Approach, & Intersection Results

Lane LOS	F	F	F	F
95th-Percentile Queue Length [veh]	51.63	83.61	33.00	91.14
95th-Percentile Queue Length [ft]	1290.67	2090.32	825.11	2278.50
Approach Delay [s/veh]	440.87	523.05	150.97	878.73
Approach LOS	F	F	F	F
Intersection Delay [s/veh]	519.95			
Intersection LOS	F			

Intersection Level Of Service Report
Intersection 2: Powers Rd and Brookswood Blvd

Control Type:	Roundabout	Delay (sec / veh):	81.5
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes		

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	5	470	120	450	615	60	60	65	5	190	85	115
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	2.00	1.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	470	120	450	615	60	60	65	5	190	85	115
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	129	33	124	169	16	16	18	1	52	23	32
Total Analysis Volume [veh/h]	5	516	132	495	676	66	66	71	5	209	93	126
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1			1		
Circulating Flow Rate [veh/h]	632			309			1394			597		
Exiting Flow Rate [veh/h]	904			721			166			699		
Demand Flow Rate [veh/h]	5	470	120	450	615	60	60	65	5	190	85	115
Adjusted Demand Flow Rate [veh/h]	5	516	132	495	676	66	66	71	5	209	93	126

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	0.98	0.99	1.00	0.99
Entry Flow Rate [veh/h]	665	1251	142	433
Capacity of Entry and Bypass Lanes [veh/h]	725	1008	334	751
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	712	997	334	743
X, volume / capacity	0.92	1.24	0.43	0.58

Movement, Approach, & Intersection Results

Lane LOS	E	F	C	B
95th-Percentile Queue Length [veh]	12.41	41.32	2.05	3.73
95th-Percentile Queue Length [ft]	310.19	1032.94	51.32	93.14
Approach Delay [s/veh]	40.43	133.51	20.73	14.10
Approach LOS	E	F	C	B
Intersection Delay [s/veh]	81.52			
Intersection LOS	F			

Intersection Level Of Service Report
Intersection 3: Murphy Rd and 3rd St

Control Type:	Roundabout	Delay (sec / veh):	218.2
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes		

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	15	270	35	295	735	195	240	445	65	350	260	245
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	3.00	11.00	2.00	2.00	0.00	2.00	1.00	0.00	3.00	1.00	1.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	15	270	35	295	735	195	240	445	65	350	260	245
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	73	10	80	200	53	65	121	18	95	71	67
Total Analysis Volume [veh/h]	16	293	38	321	799	212	261	484	71	380	283	266
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1			1		
Circulating Flow Rate [veh/h]	1082			693			1534			584		
Exiting Flow Rate [veh/h]	1277			837			514			858		
Demand Flow Rate [veh/h]	15	270	35	295	735	195	240	445	65	350	260	245
Adjusted Demand Flow Rate [veh/h]	16	293	38	321	799	212	261	484	71	380	283	266

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1420.00	1420.00	1420.00	1420.00	1380.00
B (coefficient)	0.00102	0.00091	0.00091	0.00091	0.00091	0.00102
HV Adjustment Factor	0.96	0.98	0.98	0.99	1.00	0.98
Entry Flow Rate [veh/h]	360	328	1027	756	71	946
Capacity of Entry and Bypass Lanes [veh/h]	458	756	756	352	352	761
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	442	741	744	347	352	748
X, volume / capacity	0.79	0.43	1.36	2.15	0.20	1.24

Movement, Approach, & Intersection Results

Lane LOS	E	B	F	F	B	F
95th-Percentile Queue Length [veh]	6.95	2.20	42.34	54.85	0.74	33.22
95th-Percentile Queue Length [ft]	173.68	55.04	1058.44	1371.16	18.58	830.55
Approach Delay [s/veh]	36.12	145.27		503.63		140.07
Approach LOS	E	F		F		F
Intersection Delay [s/veh]	218.20					
Intersection LOS	F					

Vistro HCM reports (Future 2040 Build Bundle B Conditions)

US 97 Bend Parkway Future Build B

Vistro File: X:\...\Existing_Roundabouts_Future_Bundle B_AMD.vistro
Scenario: Base Scenario

Report File: X:\...\Existing_Roundabouts_Future_Bundle B.pdf
8/26/2019

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Reed Market and Brookswood	Roundabout	HCM 6th Edition	SEB Thru		519.0	F
2	Powers Rd and Brookswood Blvd	Roundabout	HCM 6th Edition	SB Thru		117.4	F
3	Murphy Rd and 3rd St	Roundabout	HCM 6th Edition	EB Thru		212.0	F
1012	NE Butler Market and US 97 SB Ramp	Roundabout	HCM 6th Edition	SEB Thru		11.2	B
1017	Butler Market Rd and 4th Street	Roundabout	HCM 6th Edition	NWB Thru		15.5	C
1022	Baker Rd / Knott Rd and US 97 SB Ramps	Roundabout	HCM 6th Edition	SWB Right		13.5	B
1027	Baker Rd / Knott Rd and US 97 NB Ramps	Roundabout	HCM 6th Edition	NWB Thru		13.1	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Reed Market and Brookswood

Control Type:	Roundabout	Delay (sec / veh):	519.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes		

Intersection Setup

Name												
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	270	285	205	465	605	80	185	430	330	85	545	345
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	1.00	5.00	1.00	1.00	0.00	2.00	1.00	3.00	0.00	1.00	1.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	270	285	205	465	605	80	185	430	330	85	545	345
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	70	73	53	120	156	21	48	111	85	22	140	89
Total Analysis Volume [veh/h]	278	294	211	479	624	82	191	443	340	88	562	356
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1			1		
Circulating Flow Rate [veh/h]	1139			920			663			1309		
Exiting Flow Rate [veh/h]	1185			735			1273			807		
Demand Flow Rate [veh/h]	270	285	205	465	605	80	185	430	330	85	545	345
Adjusted Demand Flow Rate [veh/h]	278	294	211	479	624	82	191	443	340	88	562	356

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	0.98	0.99	0.98	0.99
Entry Flow Rate [veh/h]	797	1197	993	1016
Capacity of Entry and Bypass Lanes [veh/h]	432	540	702	364
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	425	535	689	360
X, volume / capacity	1.84	2.22	1.41	2.80

Movement, Approach, & Intersection Results

Lane LOS	F	F	F	F
95th-Percentile Queue Length [veh]	50.61	86.41	43.96	85.19
95th-Percentile Queue Length [ft]	1265.31	2160.37	1098.97	2129.87
Approach Delay [s/veh]	411.19	570.80	212.95	838.26
Approach LOS	F	F	F	F
Intersection Delay [s/veh]	519.01			
Intersection LOS	F			

Intersection Level Of Service Report
Intersection 2: Powers Rd and Brookswood Blvd

Control Type:	Roundabout	Delay (sec / veh):	117.4
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes		

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	5	390	190	470	595	40	50	100	5	335	85	180
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	2.00	1.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	390	190	470	595	40	50	100	5	335	85	180
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	107	52	129	163	11	14	27	1	92	23	49
Total Analysis Volume [veh/h]	5	429	209	516	654	44	55	110	5	368	93	198
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1			1		
Circulating Flow Rate [veh/h]	681			468			1551			498		
Exiting Flow Rate [veh/h]	1040			695			144			837		
Demand Flow Rate [veh/h]	5	390	190	470	595	40	50	100	5	335	85	180
Adjusted Demand Flow Rate [veh/h]	5	429	209	516	654	44	55	110	5	368	93	198

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	0.98	0.99	1.00	0.99
Entry Flow Rate [veh/h]	654	1227	170	665
Capacity of Entry and Bypass Lanes [veh/h]	689	857	284	831
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	678	848	284	824
X, volume / capacity	0.95	1.43	0.60	0.80

Movement, Approach, & Intersection Results

Lane LOS	E	F	D	C
95th-Percentile Queue Length [veh]	13.51	54.24	3.58	8.50
95th-Percentile Queue Length [ft]	337.67	1355.91	89.59	212.54
Approach Delay [s/veh]	47.51	217.21	33.01	23.38
Approach LOS	E	F	D	C
Intersection Delay [s/veh]	117.37			
Intersection LOS	F			

Intersection Level Of Service Report
Intersection 3: Murphy Rd and 3rd St

Control Type:	Roundabout	Delay (sec / veh):	212.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes		

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	10	150	60	320	865	205	205	405	85	320	260	215
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	3.00	11.00	2.00	2.00	0.00	2.00	1.00	0.00	3.00	1.00	1.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	150	60	320	865	205	205	405	85	320	260	215
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	41	16	87	235	56	56	110	23	87	71	58
Total Analysis Volume [veh/h]	11	163	65	348	940	223	223	440	92	348	283	234
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1			1		
Circulating Flow Rate [veh/h]	1027			655			1672			406		
Exiting Flow Rate [veh/h]	1409			632			520			872		
Demand Flow Rate [veh/h]	10	150	60	320	865	205	205	405	85	320	260	215
Adjusted Demand Flow Rate [veh/h]	11	163	65	348	940	223	223	440	92	348	283	234

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1420.00	1420.00	1420.00	1420.00	1380.00
B (coefficient)	0.00102	0.00091	0.00091	0.00091	0.00091	0.00102
HV Adjustment Factor	0.95	0.98	0.98	0.99	1.00	0.98
Entry Flow Rate [veh/h]	251	355	1182	672	92	881
Capacity of Entry and Bypass Lanes [veh/h]	485	783	783	311	311	912
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	462	767	770	306	311	896
X, volume / capacity	0.52	0.45	1.51	2.17	0.30	0.97

Movement, Approach, & Intersection Results

Lane LOS	C	B	F	F	C	E
95th-Percentile Queue Length [veh]	2.92	2.38	56.82	49.64	1.21	16.20
95th-Percentile Queue Length [ft]	72.92	59.60	1420.61	1240.96	30.30	404.89
Approach Delay [s/veh]	18.47	196.92		496.49		43.64
Approach LOS	C	F		F		E
Intersection Delay [s/veh]	212.04					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 1012: NE Butler Market and US 97 SB Ramp

Control Type:	Roundabout	Delay (sec / veh):	11.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name						
Approach	Southwestbound		Northwestbound		Southeastbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		35.00		35.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	195	80	650	0	0	685
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.00	2.00	1.00	2.00	2.00	1.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	195	80	650	0	0	685
Peak Hour Factor	0.9100	0.9100	0.9100	1.0000	1.0000	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	54	22	179	0	0	188
Total Analysis Volume [veh/h]	214	88	714	0	0	753
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Number of Conflicting Circulating Lanes	1		1		1	
Circulating Flow Rate [veh/h]	721		0		216	
Exiting Flow Rate [veh/h]	0		977		811	
Demand Flow Rate [veh/h]	195	80	650	0	0	685
Adjusted Demand Flow Rate [veh/h]	214	88	714	0	0	753

Lanes

Overwrite Calculated Critical Headway	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102
HV Adjustment Factor	0.99	0.99	0.99
Entry Flow Rate [veh/h]	306	722	761
Capacity of Entry and Bypass Lanes [veh/h]	662	1380	1107
Pedestrian Impedance	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	653	1367	1097
X, volume / capacity	0.46	0.52	0.69

Movement, Approach, & Intersection Results

Lane LOS	B	A	B
95th-Percentile Queue Length [veh]	2.45	3.16	5.80
95th-Percentile Queue Length [ft]	61.13	79.03	145.03
Approach Delay [s/veh]	12.48	8.09	13.60
Approach LOS	B	A	B
Intersection Delay [s/veh]	11.18		
Intersection LOS	B		

Intersection Level Of Service Report
Intersection 1017: Butler Market Rd and 4th Street

Control Type:	Roundabout	Delay (sec / veh):	15.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes		

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Northwestbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	235	0	100	0	5	10	0	670	125	105	625	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	3.00	1.00	1.00	33.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	235	0	100	0	5	10	0	670	125	105	625	5
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	64	0	27	0	1	3	0	182	34	29	170	1
Total Analysis Volume [veh/h]	255	0	109	0	5	11	0	728	136	114	679	5
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1			1		
Circulating Flow Rate [veh/h]	743			1058			120			258		
Exiting Flow Rate [veh/h]	260			7			954			852		
Demand Flow Rate [veh/h]	235	0	100	0	5	10	0	670	125	105	625	5
Adjusted Demand Flow Rate [veh/h]	255	0	109	0	5	11	0	728	136	114	679	5

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	0.99	1.00	0.98	0.99
Entry Flow Rate [veh/h]	367	16	883	808
Capacity of Entry and Bypass Lanes [veh/h]	648	469	1221	1062
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	643	469	1196	1049
X, volume / capacity	0.57	0.03	0.72	0.76

Movement, Approach, & Intersection Results

Lane LOS	C	A	B	C
95th-Percentile Queue Length [veh]	3.56	0.11	6.73	7.67
95th-Percentile Queue Length [ft]	88.92	2.65	168.34	191.65
Approach Delay [s/veh]	15.50	8.12	14.05	17.22
Approach LOS	C	A	B	C
Intersection Delay [s/veh]	15.50			
Intersection LOS	C			

Intersection Level Of Service Report
Intersection 1022: Baker Rd / Knott Rd and US 97 SB Ramps

Control Type:	Roundabout	Delay (sec / veh):	13.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name						
Approach	Southwestbound		Northwestbound		Southeastbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		35.00		35.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	95	500	490	220	60	510
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	4.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	95	500	490	220	60	510
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	25	132	129	58	16	134
Total Analysis Volume [veh/h]	100	526	516	232	63	537
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Number of Conflicting Circulating Lanes	1		1		1	
Circulating Flow Rate [veh/h]	516		63		100	
Exiting Flow Rate [veh/h]	295		637		1063	
Demand Flow Rate [veh/h]	95	500	490	220	60	510
Adjusted Demand Flow Rate [veh/h]	100	526	516	232	63	537

Lanes

Overwrite Calculated Critical Headway	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102
HV Adjustment Factor	0.97	1.00	1.00
Entry Flow Rate [veh/h]	647	748	600
Capacity of Entry and Bypass Lanes [veh/h]	816	1295	1247
Pedestrian Impedance	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	789	1295	1247
X, volume / capacity	0.79	0.58	0.48

Movement, Approach, & Intersection Results

Lane LOS	C	A	A
95th-Percentile Queue Length [veh]	8.21	3.89	2.70
95th-Percentile Queue Length [ft]	205.35	97.19	67.39
Approach Delay [s/veh]	23.62	9.41	7.95
Approach LOS	C	A	A
Intersection Delay [s/veh]	13.47		
Intersection LOS	B		

Intersection Level Of Service Report
Intersection 1027: Baker Rd / Knott Rd and US 97 NB Ramps

Control Type:	Roundabout	Delay (sec / veh):	13.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name												
Approach	Southbound			Northeastbound			Northwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	150.00	100.00	100.00	100.00
Speed [mph]		30.00			30.00			30.00			30.00	
Grade [%]		0.00			0.00			0.00			0.00	
Crosswalk		Yes			Yes			Yes			Yes	

Volumes

Name												
Base Volume Input [veh/h]	0	0	0	35	0	160	0	675	310	350	255	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	3.00	1.00	6.00	4.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	35	0	160	0	675	310	350	255	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.9200	0.9200	0.9200	1.0000	0.9200	0.9200	0.9200	0.9200	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	10	0	43	0	183	84	95	69	0
Total Analysis Volume [veh/h]	0	0	0	38	0	174	0	734	337	380	277	0
Pedestrian Volume [ped/h]		0			0			0			0	

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1			1						
Circulating Flow Rate [veh/h]	795			691			442			0						
Exiting Flow Rate [veh/h]	743			0			466			795						
Demand Flow Rate [veh/h]	0	0	0	35	0	160	0	675	310	350	255	0				
Adjusted Demand Flow Rate [veh/h]	0	0	0	38	0	174	0	734	337	380	277	0				

Lanes

Overwrite Calculated Critical Headway		No	No	No	No	
User-Defined Critical Headway [s]		4.00	4.00	4.00	4.00	
Overwrite Calculated Follow-Up Time		No	No	No	No	
User-Defined Follow-Up Time [s]		3.00	3.00	3.00	3.00	
A (intercept)		1380.00	1420.00	1420.00	1380.00	
B (coefficient)		0.00102	0.00091	0.00091	0.00102	
HV Adjustment Factor		0.98	0.97	0.99	0.95	
Entry Flow Rate [veh/h]		217	757	341	691	
Capacity of Entry and Bypass Lanes [veh/h]		683	951	951	1380	
Pedestrian Impedance		1.00	1.00	1.00	1.00	
Capacity per Entry Lane [veh/h]		669	923	941	1313	
X, volume / capacity		0.32	0.80	0.36	0.50	

Movement, Approach, & Intersection Results

Lane LOS		A	C	A	A
95th-Percentile Queue Length [veh]		1.36	8.57	1.64	2.90
95th-Percentile Queue Length [ft]		34.00	214.21	40.98	72.60
Approach Delay [s/veh]	0.00	9.45	16.94		7.96
Approach LOS	A	A	C		A
Intersection Delay [s/veh]	13.08				
Intersection LOS	B				

Vistro HCM reports (Future 2040 Build Bundle C Conditions)

US 97 Bend Parkway Future No Build

Vistro File: X:\...\Existing_Roundabouts_Future_Bundle C.vistro
Scenario: Base Scenario

Report File: X:\...\Existing_Roundabouts_Future_Bundle C.pdf
7/12/2019

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Reed Market and Brookswood	Roundabout	HCM 6th Edition	SEB Thru		488.4	F
2	Powers Rd and Brookswood Blvd	Roundabout	HCM 6th Edition	SB Thru		92.3	F
3	Murphy Rd and 3rd St	Roundabout	HCM 6th Edition	EB Thru		179.7	F

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Reed Market and Brookswood

Control Type:	Roundabout	Delay (sec / veh):	488.4
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes		

Intersection Setup

Name												
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	255	275	190	465	590	80	165	400	295	90	585	335
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	1.00	5.00	1.00	1.00	0.00	2.00	1.00	3.00	0.00	1.00	1.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	255	275	190	465	590	80	165	400	295	90	585	335
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	66	71	49	120	152	21	43	103	76	23	151	86
Total Analysis Volume [veh/h]	263	284	196	479	608	82	170	412	304	93	603	345
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1			1		
Circulating Flow Rate [veh/h]	1186			853			643			1271		
Exiting Flow Rate [veh/h]	1136			693			1299			761		
Demand Flow Rate [veh/h]	255	275	190	465	590	80	165	400	295	90	585	335
Adjusted Demand Flow Rate [veh/h]	263	284	196	479	608	82	170	412	304	93	603	345

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	0.98	0.99	0.98	0.99
Entry Flow Rate [veh/h]	756	1180	903	1051
Capacity of Entry and Bypass Lanes [veh/h]	412	579	717	378
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	405	574	704	374
X, volume / capacity	1.83	2.04	1.26	2.78

Movement, Approach, & Intersection Results

Lane LOS	F	F	F	F
95th-Percentile Queue Length [veh]	48.05	79.97	32.94	87.83
95th-Percentile Queue Length [ft]	1201.30	1999.30	823.48	2195.70
Approach Delay [s/veh]	408.12	491.23	148.15	832.14
Approach LOS	F	F	F	F
Intersection Delay [s/veh]	488.41			
Intersection LOS	F			

Intersection Level Of Service Report
Intersection 2: Powers Rd and Brookswood Blvd

Control Type:	Roundabout	Delay (sec / veh):	92.3
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes		

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	5	380	190	50	600	420	50	75	5	315	85	175
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	2.00	1.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	380	190	50	600	420	50	75	5	315	85	175
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	104	52	14	165	115	14	21	1	87	23	48
Total Analysis Volume [veh/h]	5	418	209	55	659	462	55	82	5	346	93	192
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1			1		
Circulating Flow Rate [veh/h]	192			446			1073			486		
Exiting Flow Rate [veh/h]	1023			677			562			348		
Demand Flow Rate [veh/h]	5	380	190	50	600	420	50	75	5	315	85	175
Adjusted Demand Flow Rate [veh/h]	5	418	209	55	659	462	55	82	5	346	93	192

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102	0.00102
HV Adjustment Factor	0.98	0.99	1.00	0.99
Entry Flow Rate [veh/h]	643	1190	142	637
Capacity of Entry and Bypass Lanes [veh/h]	1135	876	462	841
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1117	867	462	833
X, volume / capacity	0.57	1.36	0.31	0.76

Movement, Approach, & Intersection Results

Lane LOS	B	F	B	C
95th-Percentile Queue Length [veh]	3.69	47.94	1.29	7.28
95th-Percentile Queue Length [ft]	92.28	1198.41	32.26	181.97
Approach Delay [s/veh]	10.18	184.64	12.76	20.27
Approach LOS	B	F	B	C
Intersection Delay [s/veh]	92.28			
Intersection LOS	F			

Intersection Level Of Service Report
Intersection 3: Murphy Rd and 3rd St

Control Type:	Roundabout	Delay (sec / veh):	179.7
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes		

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	50	330	85	300	760	210	245	435	20	195	275	225
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	3.00	11.00	2.00	2.00	0.00	2.00	1.00	0.00	3.00	1.00	1.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	50	330	85	300	760	210	245	435	20	195	275	225
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	14	90	23	82	207	57	67	118	5	53	75	61
Total Analysis Volume [veh/h]	54	359	92	326	826	228	266	473	22	212	299	245
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1			1		
Circulating Flow Rate [veh/h]	1082			574			1393			695		
Exiting Flow Rate [veh/h]	1083			889			584			912		
Demand Flow Rate [veh/h]	50	330	85	300	760	210	245	435	20	195	275	225
Adjusted Demand Flow Rate [veh/h]	54	359	92	326	826	228	266	473	22	212	299	245

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1380.00	1420.00	1420.00	1420.00	1420.00	1380.00
B (coefficient)	0.00102	0.00091	0.00091	0.00091	0.00091	0.00102
HV Adjustment Factor	0.96	0.98	0.98	0.99	1.00	0.98
Entry Flow Rate [veh/h]	526	333	1071	750	22	768
Capacity of Entry and Bypass Lanes [veh/h]	458	842	842	400	400	680
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	441	826	830	395	400	669
X, volume / capacity	1.15	0.39	1.27	1.87	0.06	1.13

Movement, Approach, & Intersection Results

Lane LOS	F	A	F	F	A	F
95th-Percentile Queue Length [veh]	18.40	1.90	38.41	48.78	0.17	23.15
95th-Percentile Queue Length [ft]	460.01	47.51	960.25	1219.45	4.35	578.76
Approach Delay [s/veh]	119.30	116.12		414.32		99.73
Approach LOS	F	F		F		F
Intersection Delay [s/veh]	179.66					
Intersection LOS	F					

HCS reports (Future 2040 Build Bundle A Conditions)

HCS7 Freeway Facilities Report

Project Information

Analyst	DKS	Agency	ODOT
Jurisdiction	Bend	Time Period Analyzed	2040
Analysis Year	2040	Date	9/21/2018
Project Description	US97 Bend Parkway Study - Segment 4 (SB Revere to Colorado)		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	4
Total Time Periods	1	Time Period Duration, min	15

Segment Geometric Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Diverge	Diverge	SB Colorado Ramp - Off	5145	2
2	Basic	Basic	US 97 SB	1400	2
3	Merge	Basic	SB Colorado Ramp - On	750	3
4	Basic	Basic	US 97 SB	5280	2

Facility Segment Data

Segment 1: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.93	0.961	0.992	3559	775	3568	1878	1.00	0.41	42.4	42.4	42.0	31.7	D

Segment 2: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.947	2808	4132	0.68	46.3	30.3	D

Segment 3: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.92	0.947	0.989	3286	478	6197	1690	0.45	0.28	47.5	-	23.1	-	C

Segment 4: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.947	3297	4132	0.80	46.3	35.6	E

Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	44.8	36.5	34.8	3.2	E

Facility Overall Results			
Space Mean Speed, mi/h	44.8	Density, veh/mi/ln	34.8
Average Travel Time, min	3.2	Density, pc/mi/ln	36.5

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HCS7 Freeway Facilities Report

Project Information

Analyst	DKS	Agency	ODOT
Jurisdiction	Bend	Time Period Analyzed	2040
Analysis Year	2040	Date	9/21/2018
Project Description	US97 Parkway Study - Segment 2 (SB Division - Revere)		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	2
Total Time Periods	1	Time Period Duration, min	15

Segment Geometric Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Merge	Merge	SB Division Ramp - On	3550	2
2	Diverge	Diverge	SB Revere Ramp - Off	1100	2

Facility Segment Data

Segment 1: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.96	0.94	0.961	0.976	3176	545	3568	1878	1.04	0.29	45.4	45.4	35.0	27.1	F

Segment 2: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.96	0.94	0.961	0.990	3176	462	3568	1878	1.04	0.25	44.8	44.8	35.4	30.3	F

Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	45.3	35.1	33.7	1.2	F

Facility Overall Results

Space Mean Speed, mi/h	45.3	Density, veh/mi/ln	33.7
Average Travel Time, min	1.2	Density, pc/mi/ln	35.1

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HCS7 Freeway Facilities Report

Project Information

Analyst	DKS	Agency	ODOT
Jurisdiction	Bend	Time Period Analyzed	2040
Analysis Year	2040	Date	9/21/2018
Project Description	US97 Bend Parkway Study - Segment 4 (SB Revere to Colorado)		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	4
Total Time Periods	1	Time Period Duration, min	15

Segment Geometric Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Diverge	Diverge	SB Colorado Ramp - Off	5145	2
2	Basic	Basic	US 97 SB	1400	2
3	Merge	Basic	SB Colorado Ramp - On	750	3
4	Basic	Basic	US 97 SB	5280	2

Facility Segment Data

Segment 1: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.93	0.961	0.992	3559	775	3568	1878	1.00	0.41	42.4	42.4	42.0	31.7	D

Segment 2: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.947	2808	4132	0.68	46.3	30.3	D

Segment 3: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.92	0.947	0.989	3286	478	6197	1690	0.45	0.28	47.5	-	23.1	-	C

Segment 4: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.947	3297	4132	0.80	46.3	35.6	E

Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	44.8	36.5	34.8	3.2	E

Facility Overall Results			
Space Mean Speed, mi/h	44.8	Density, veh/mi/ln	34.8
Average Travel Time, min	3.2	Density, pc/mi/ln	36.5

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HCS7 Freeway Facilities Report

Project Information

Analyst	DKS	Agency	ODOT
Jurisdiction	Bend	Time Period Analyzed	2040
Analysis Year	2040	Date	9/21/2018
Project Description	US97 Parkway Study - Segment 2 (SB Division - Revere)		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	2
Total Time Periods	1	Time Period Duration, min	15

Segment Geometric Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Merge	Merge	SB Division Ramp - On	3550	2
2	Diverge	Diverge	SB Revere Ramp - Off	1100	2

Facility Segment Data

Segment 1: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.96	0.94	0.961	0.976	3176	545	3568	1878	1.04	0.29	45.4	45.4	35.0	27.1	F

Segment 2: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.96	0.94	0.961	0.990	3176	462	3568	1878	1.04	0.25	44.8	44.8	35.4	30.3	F

Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	45.3	35.1	33.7	1.2	F

Facility Overall Results

Space Mean Speed, mi/h	45.3	Density, veh/mi/ln	33.7
Average Travel Time, min	1.2	Density, pc/mi/ln	35.1

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HCS7 Freeway Facilities Report

Project Information

Analyst	DKS	Agency	ODOT
Jurisdiction	Bend	Time Period Analyzed	2040
Analysis Year	2040	Date	9/21/2018
Project Description	US97 Bend Parkway Study - Segment 5 (NB Colorado to Revere)		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	5
Total Time Periods	1	Time Period Duration, min	15

Segment Geometric Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	NB US 97	3650	2
2	Diverge	Basic	NB Colorado Ramp - Off	350	3
3	Basic	Overlap	NB US 97	1000	2
4	Merge	Basic	NB Colorado Ramp - On	350	3
5	Basic	Basic	NB US 97	2000	2

Facility Segment Data

Segment 1: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.953	2813	4132	0.68	46.3	30.4	D

Segment 2: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.92	0.953	0.991	2813	346	6197	1690	0.45	0.20	47.5	-	19.7	-	C

Segment 3: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.953	2461	4132	0.60	46.3	26.6	D

Segment 4: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.92	0.953	0.990	3839	1378	6197	1878	0.40	0.73	47.5	-	26.9	-	D

Segment 5: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS

1	0.94	0.953	3862	4132	0.93	46.3	41.7	E

Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	46.4	31.9	30.4	1.8	D

Facility Overall Results

Space Mean Speed, mi/h	46.4	Density, veh/mi/ln	30.4
Average Travel Time, min	1.8	Density, pc/mi/ln	31.9

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HCS reports (Future 2040 Build Bundle B Conditions)

HCS7 Freeway Facilities Report

Project Information

Analyst	DKS	Agency	ODOT
Jurisdiction	Bend	Time Period Analyzed	2040
Analysis Year	2040	Date	9/21/2018
Project Description	US97 Bend Parkway Study - Segment 4 (SB Revere to Colorado)		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	2
Total Time Periods	1	Time Period Duration, min	15

Segment Geometric Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Diverge	Diverge	SB Colorado Ramp - Off	5145	2
2	Merge	Merge	SB Colorado Ramp - On	1500	2

Facility Segment Data

Segment 1: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.93	0.961	0.992	3568	732	3568	1878	1.02	0.39	39.6	42.4	45.0	33.4	F

Segment 2: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.92	0.947	0.989	3568	539	3568	1690	0.97	0.32	45.1	45.1	39.6	28.1	D

Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	40.9	43.8	42.0	1.8	F

Facility Overall Results

Space Mean Speed, mi/h	40.9	Density, veh/mi/ln	42.0
Average Travel Time, min	1.8	Density, pc/mi/ln	43.8

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HCS7 Freeway Facilities Report

Project Information

Analyst	DKS	Agency	ODOT
Jurisdiction	Bend	Time Period Analyzed	2040
Analysis Year	2040	Date	9/21/2018
Project Description	US97 Bend Parkway Study - Segment 4 (SB Revere to Colorado)		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	2
Total Time Periods	1	Time Period Duration, min	15

Segment Geometric Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Diverge	Diverge	SB Colorado Ramp - Off	5145	2
2	Merge	Merge	SB Colorado Ramp - On	1500	2

Facility Segment Data

Segment 1: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.93	0.961	0.992	3568	732	3568	1878	1.02	0.39	39.6	42.4	45.0	33.4	F

Segment 2: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.92	0.947	0.989	3568	539	3568	1690	0.97	0.32	45.1	45.1	39.6	28.1	D

Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	40.9	43.8	42.0	1.8	F

Facility Overall Results

Space Mean Speed, mi/h	40.9	Density, veh/mi/ln	42.0
Average Travel Time, min	1.8	Density, pc/mi/ln	43.8

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HCS7 Freeway Facilities Report

Project Information

Analyst	DKS	Agency	ODOT
Jurisdiction	Bend	Time Period Analyzed	2040
Analysis Year	2040	Date	9/21/2018
Project Description	US97 Bend Parkway Study - Segment 5 (NB Colorado to Revere)		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	4
Total Time Periods	1	Time Period Duration, min	15

Segment Geometric Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Diverge	Diverge	NB Colorado Ramp - Off	4000	2
2	Merge	Merge	NB Colorado Ramp - On	450	2
3	Diverge	Diverge	NB Revere Ramp - Off	4160	2
4	Merge	Merge	NB Revere Ramp - On	640	2

Facility Segment Data

Segment 1: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.92	0.953	0.991	2732	247	3568	1690	0.78	0.15	43.9	43.9	31.1	24.6	C

Segment 2: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.92	0.953	0.990	3323	1329	3568	1878	1.08	0.71	45.3	45.3	36.7	27.7	F

Segment 3: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.97	0.953	0.990	3323	562	3568	1878	1.09	0.30	44.7	44.7	37.2	31.6	F

Segment 4: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.92	0.953	0.983	3187	426	3568	1878	1.04	0.23	45.4	45.4	35.1	26.3	F

Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	44.5	34.4	32.8	2.4	F

Facility Overall Results

Space Mean Speed, mi/h	44.5	Density, veh/mi/ln	32.8
Average Travel Time, min	2.4	Density, pc/mi/ln	34.4

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HCS7 Freeway Facilities Report

Project Information

Analyst	DKS	Agency	ODOT
Jurisdiction	Bend	Time Period Analyzed	2040
Analysis Year	2040	Date	9/21/2018
Project Description	US97 Bend Parkway Study - Segment 3 (NB Reed Mrkt)		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	3
Total Time Periods	1	Time Period Duration, min	15

Segment Geometric Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	NB US 97	850	2
2	Merge	Basic	NB Reed Market Ramp - EB On	550	3
3	Basic	Basic	NB US 97	4000	2

Facility Segment Data

Segment 1: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.953	1976	4132	0.48	42.1	23.5	C

Segment 2: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.92	0.953	1.000	2769	793	6197	1878	0.32	0.42	42.8	-	21.6	-	C

Segment 3: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	2660	4400	0.60	44.3	30.0	D

Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	43.9	27.8	27.5	1.4	D

Facility Overall Results

Space Mean Speed, mi/h	43.9	Density, veh/mi/ln	27.5
Average Travel Time, min	1.4	Density, pc/mi/ln	27.8

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HCS7 Freeway Facilities Report

Project Information

Analyst	DKS	Agency	ODOT
Jurisdiction	Bend	Time Period Analyzed	2040
Analysis Year	2040	Date	5/13/2019
Project Description	US97 Parkway Study - Segment 1 (NB 3rd St On Ramp-Sister's Loop)		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	6
Total Time Periods	1	Time Period Duration, min	15

Segment Geometric Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	US 97 NB	4800	2
2	Merge	Basic	NB 3rd St Ramp - On	970	3
3	Merge	Basic	NB Butler Mkt Ramp - On	800	4
4	Basic	Overlap	NB US 97	600	4
5	Diverge	Basic	NB Empire Ramp - Off	800	3
6	Basic	Basic	US 97 NB	2700	2

Facility Segment Data

Segment 1: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.97	0.971	3536	4132	0.86	45.8	38.6	E

Segment 2: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.97	0.92	0.970	0.967	4129	590	6197	1878	0.57	0.31	47.5	-	29.0	-	D

Segment 3: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.97	0.79	0.970	0.977	4492	395	8263	1878	0.50	0.21	47.5	-	23.6	-	C

Segment 4: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.97	0.971	4417	8263	0.53	45.8	24.1	C

Segment 5: Diverge

Time	PHF	fHV	Flow Rate	Capacity	d/c	Speed	Density	LOS

Period					(pc/h)		(pc/h)		Ratio		(mi/h)		(pc/mi/ln)		
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.97	0.94	0.970	0.976	4421	834	6197	1972	0.71	0.42	47.5	-	31.0	-	D

Segment 6: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.97	0.971	3605	4132	0.87	45.8	39.3	E

Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	46.2	33.8	32.8	2.6	D

Facility Overall Results

Space Mean Speed, mi/h	46.2	Density, veh/mi/ln	32.8
Average Travel Time, min	2.6	Density, pc/mi/ln	33.8

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HCS7 Freeway Facilities Report

Project Information

Analyst	DKS	Agency	ODOT
Jurisdiction	Bend	Time Period Analyzed	2040
Analysis Year	2040	Date	9/21/2018
Project Description	US97 Parkway Study - Segment 2 (SB Division - Revere)		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	2
Total Time Periods	1	Time Period Duration, min	15

Segment Geometric Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Merge	Merge	SB Division Ramp - On	3550	2
2	Diverge	Diverge	SB Revere Ramp - Off	1100	2

Facility Segment Data

Segment 1: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.96	0.94	0.961	0.976	3127	583	3568	1878	1.04	0.31	45.4	45.4	34.4	26.7	F

Segment 2: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.96	0.94	0.961	0.990	3127	392	3568	1878	1.04	0.21	44.8	44.8	34.9	29.9	F

Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	45.3	34.5	33.2	1.2	F

Facility Overall Results

Space Mean Speed, mi/h	45.3	Density, veh/mi/ln	33.2
Average Travel Time, min	1.2	Density, pc/mi/ln	34.5

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HCS7 Freeway Facilities Report

Project Information

Analyst	DKS	Agency	ODOT
Jurisdiction	Bend	Time Period Analyzed	2040
Analysis Year	2040	Date	9/21/2018
Project Description	US97 Bend Parkway Study - Segment 4 (SB Revere to Colorado)		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	3
Total Time Periods	1	Time Period Duration, min	15

Segment Geometric Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	SB US 97	1300	2
2	Merge	Basic	SB Revere Ramp - On	740	3
3	Basic	Basic	SB US 97	1300	2

Facility Segment Data

Segment 1: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.962	3378	4132	0.82	42.1	40.1	E

Segment 2: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.92	0.961	0.989	3964	582	6197	1878	0.55	0.31	42.8	-	30.9	-	D

Segment 3: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.948	4023	4132	0.97	46.3	43.5	E

Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	43.9	38.5	36.9	0.9	E

Facility Overall Results

Space Mean Speed, mi/h	43.9	Density, veh/mi/ln	36.9
Average Travel Time, min	0.9	Density, pc/mi/ln	38.5

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HCS7 Freeway Facilities Report

Project Information

Analyst	DKS	Agency	ODOT
Jurisdiction	Bend	Time Period Analyzed	2040
Analysis Year	2040	Date	9/21/2018
Project Description	US97 Bend Parkway Study - Segment 5 (NB Colorado to Revere)		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	4
Total Time Periods	1	Time Period Duration, min	15

Segment Geometric Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Diverge	Diverge	NB Colorado Ramp - Off	4000	2
2	Merge	Merge	NB Colorado Ramp - On	450	2
3	Diverge	Diverge	NB Revere Ramp - Off	4160	2
4	Merge	Merge	NB Revere Ramp - On	640	2

Facility Segment Data

Segment 1: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.92	0.953	0.991	2732	247	3568	1690	0.78	0.15	43.9	43.9	31.1	24.6	C

Segment 2: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.92	0.953	0.990	3323	1329	3568	1878	1.08	0.71	45.3	45.3	36.7	27.7	F

Segment 3: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.97	0.953	0.990	3323	562	3568	1878	1.09	0.30	44.7	44.7	37.2	31.6	F

Segment 4: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.92	0.953	0.983	3187	426	3568	1878	1.04	0.23	45.4	45.4	35.1	26.3	F

Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	44.5	34.4	32.8	2.4	F

Facility Overall Results

Space Mean Speed, mi/h	44.5	Density, veh/mi/ln	32.8
Average Travel Time, min	2.4	Density, pc/mi/ln	34.4

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HCS7 Freeway Facilities Report

Project Information

Analyst	DKS	Agency	ODOT
Jurisdiction	Bend	Time Period Analyzed	2040
Analysis Year	2040	Date	9/21/2018
Project Description	US97 Bend Parkway Study - Segment 3 (NB Reed Mrkt)		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	3
Total Time Periods	1	Time Period Duration, min	15

Segment Geometric Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	NB US 97	850	2
2	Merge	Basic	NB Reed Market Ramp - EB On	550	3
3	Basic	Basic	NB US 97	4000	2

Facility Segment Data

Segment 1: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.953	1976	4132	0.48	42.1	23.5	C

Segment 2: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.92	0.953	1.000	2769	793	6197	1878	0.32	0.42	42.8	-	21.6	-	C

Segment 3: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	1.000	2660	4400	0.60	44.3	30.0	D

Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	43.9	27.8	27.5	1.4	D

Facility Overall Results

Space Mean Speed, mi/h	43.9	Density, veh/mi/ln	27.5
Average Travel Time, min	1.4	Density, pc/mi/ln	27.8

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HCS7 Freeway Facilities Report

Project Information

Analyst	DKS	Agency	ODOT
Jurisdiction	Bend	Time Period Analyzed	2040
Analysis Year	2040	Date	5/13/2019
Project Description	US97 Parkway Study - Segment 1 (NB 3rd St On Ramp-Sister's Loop)		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	6
Total Time Periods	1	Time Period Duration, min	15

Segment Geometric Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	US 97 NB	4800	2
2	Merge	Basic	NB 3rd St Ramp - On	970	3
3	Merge	Basic	NB Butler Mkt Ramp - On	800	4
4	Basic	Overlap	NB US 97	600	4
5	Diverge	Basic	NB Empire Ramp - Off	800	3
6	Basic	Basic	US 97 NB	2700	2

Facility Segment Data

Segment 1: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.97	0.971	3536	4132	0.86	45.8	38.6	E

Segment 2: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.97	0.92	0.970	0.967	4129	590	6197	1878	0.57	0.31	47.5	-	29.0	-	D

Segment 3: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.97	0.79	0.970	0.977	4492	395	8263	1878	0.50	0.21	47.5	-	23.6	-	C

Segment 4: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.97	0.971	4417	8263	0.53	45.8	24.1	C

Segment 5: Diverge

Time	PHF	fHV	Flow Rate	Capacity	d/c	Speed	Density	LOS

Period					(pc/h)		(pc/h)		Ratio		(mi/h)		(pc/mi/ln)		
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.97	0.94	0.970	0.976	4421	834	6197	1972	0.71	0.42	47.5	-	31.0	-	D

Segment 6: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.97	0.971	3605	4132	0.87	45.8	39.3	E

Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	46.2	33.8	32.8	2.6	D

Facility Overall Results

Space Mean Speed, mi/h	46.2	Density, veh/mi/ln	32.8
Average Travel Time, min	2.6	Density, pc/mi/ln	33.8

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HCS7 Freeway Facilities Report

Project Information

Analyst	DKS	Agency	ODOT
Jurisdiction	Bend	Time Period Analyzed	2040
Analysis Year	2040	Date	9/21/2018
Project Description	US97 Parkway Study - Segment 2 (SB Division - Revere)		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	2
Total Time Periods	1	Time Period Duration, min	15

Segment Geometric Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Merge	Merge	SB Division Ramp - On	3550	2
2	Diverge	Diverge	SB Revere Ramp - Off	1100	2

Facility Segment Data

Segment 1: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.96	0.94	0.961	0.976	3127	583	3568	1878	1.04	0.31	45.4	45.4	34.4	26.7	F

Segment 2: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.96	0.94	0.961	0.990	3127	392	3568	1878	1.04	0.21	44.8	44.8	34.9	29.9	F

Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	45.3	34.5	33.2	1.2	F

Facility Overall Results

Space Mean Speed, mi/h	45.3	Density, veh/mi/ln	33.2
Average Travel Time, min	1.2	Density, pc/mi/ln	34.5

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HCS7 Freeway Facilities Report

Project Information

Analyst	DKS	Agency	ODOT
Jurisdiction	Bend	Time Period Analyzed	2040
Analysis Year	2040	Date	9/21/2018
Project Description	US97 Bend Parkway Study - Segment 4 (SB Revere to Colorado)		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	3
Total Time Periods	1	Time Period Duration, min	15

Segment Geometric Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	SB US 97	1300	2
2	Merge	Basic	SB Revere Ramp - On	740	3
3	Basic	Basic	SB US 97	1300	2

Facility Segment Data

Segment 1: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.962	3378	4132	0.82	42.1	40.1	E

Segment 2: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.92	0.961	0.989	3964	582	6197	1878	0.55	0.31	42.8	-	30.9	-	D

Segment 3: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.948	4023	4132	0.97	46.3	43.5	E

Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	43.9	38.5	36.9	0.9	E

Facility Overall Results

Space Mean Speed, mi/h	43.9	Density, veh/mi/ln	36.9
Average Travel Time, min	0.9	Density, pc/mi/ln	38.5

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HCS reports (Future 2040 Build Bundle C Conditions)

HCS7 Freeway Facilities Report

Project Information

Analyst	DKS	Agency	ODOT
Jurisdiction	Bend	Time Period Analyzed	2040
Analysis Year	2040	Date	9/21/2018
Project Description	US97 Bend Parkway Study - Segment 5 (NB Colorado to Revere)		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	4
Total Time Periods	1	Time Period Duration, min	15

Segment Geometric Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Diverge	Diverge	NB Colorado Ramp - Off	4000	2
2	Merge	Merge	NB Colorado Ramp - On	450	2
3	Diverge	Diverge	NB Revere Ramp - Off	4160	2
4	Merge	Merge	NB Revere Ramp - On	640	2

Facility Segment Data

Segment 1: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.92	0.953	0.991	2733	247	3568	1690	0.81	0.15	29.4	43.9	46.4	26.0	F

Segment 2: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.92	0.953	0.990	3323	1257	3568	1878	1.09	0.67	45.3	45.3	36.7	27.8	F

Segment 3: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.97	0.953	0.990	3323	682	3568	1878	1.10	0.36	44.7	44.7	37.2	31.6	F

Segment 4: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.92	0.953	0.983	3039	398	3568	1878	1.00	0.21	45.5	45.5	33.4	25.1	F

Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	37.4	40.9	39.0	2.8	F

Facility Overall Results

Space Mean Speed, mi/h	37.4	Density, veh/mi/ln	39.0
Average Travel Time, min	2.8	Density, pc/mi/ln	40.9

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HCS7 Freeway Facilities Report

Project Information

Analyst	DKS	Agency	ODOT
Jurisdiction	Bend	Time Period Analyzed	2040
Analysis Year	2040	Date	9/21/2018
Project Description	US97 Bend Parkway Study - Segment 3 (NB Reed Mrkt)		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	2
Total Time Periods	1	Time Period Duration, min	15

Segment Geometric Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Merge	Merge	NB Reed Market Ramp - EB On	2800	2
2	Merge	Merge	NB Division St Ramp -WB RM On	1000	2

Facility Segment Data

Segment 1: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.92	0.953	1.000	2276	272	3568	1878	0.64	0.14	42.6	42.6	26.7	18.3	B

Segment 2: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.92	0.953	0.992	2880	597	3568	1878	0.81	0.32	45.6	45.6	31.6	23.8	C

Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	43.5	28.0	26.6	1.0	D

Facility Overall Results

Space Mean Speed, mi/h	43.5	Density, veh/mi/ln	26.6
Average Travel Time, min	1.0	Density, pc/mi/ln	28.0

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HCS7 Freeway Facilities Report

Project Information

Analyst	DKS	Agency	ODOT
Jurisdiction	Bend	Time Period Analyzed	2040
Analysis Year	2040	Date	9/21/2018
Project Description	US97 Parkway Study - Segment 1 (NB 3rd St On Ramp-Sister's Loop)		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	4
Total Time Periods	1	Time Period Duration, min	15

Segment Geometric Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Merge	Merge	NB 3rd St Ramp - On	4870	2
2	Merge	Merge	NB Butler Mkt Ramp - On	985	2
3	Diverge	Diverge	NB Empire Ramp - Off	1420	2
4	Weaving	Weaving	NB Empire Ramp - On/Sisters Loop - Off	3000	3

Facility Segment Data

Segment 1: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.97	0.92	0.970	0.967	3023	568	3568	1878	1.12	0.30	22.5	44.8	67.2	32.9	F

Segment 2: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.97	0.92	0.970	0.977	3323	300	3568	1878	1.19	0.16	45.3	45.3	36.7	29.4	F

Segment 3: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.97	0.94	0.970	0.976	3323	779	3568	1972	1.19	0.40	45.3	45.3	36.7	31.3	F

Segment 4: Weaving

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.97	0.970	3334	5452	0.61	35.6	31.2	C

Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS

1	28.8	47.2	45.8	4.1	F

Facility Overall Results

Space Mean Speed, mi/h	28.8	Density, veh/mi/ln	45.8
Average Travel Time, min	4.1	Density, pc/mi/ln	47.2

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HCS7 Freeway Facilities Report

Project Information

Analyst	DKS	Agency	ODOT
Jurisdiction	Bend	Time Period Analyzed	2040
Analysis Year	2040	Date	9/21/2018
Project Description	US97 Bend Parkway Study - Segment 4 (SB Revere to Colorado)		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	2
Total Time Periods	1	Time Period Duration, min	15

Segment Geometric Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Diverge	Diverge	SB Colorado Ramp - Off	5145	2
2	Merge	Merge	SB Colorado Ramp - On	1500	2

Facility Segment Data

Segment 1: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.93	0.961	0.992	3568	818	3568	1878	1.07	0.44	39.6	42.4	45.0	34.3	F

Segment 2: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.92	0.947	0.989	3568	528	3568	1690	0.99	0.31	45.1	45.1	39.6	28.1	D

Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	40.9	43.8	42.0	1.8	F

Facility Overall Results

Space Mean Speed, mi/h	40.9	Density, veh/mi/ln	42.0
Average Travel Time, min	1.8	Density, pc/mi/ln	43.8

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HCS7 Freeway Facilities Report

Project Information

Analyst	DKS	Agency	ODOT
Jurisdiction	Bend	Time Period Analyzed	2040
Analysis Year	2040	Date	9/21/2018
Project Description	US97 Parkway Study - Segment 2 (SB Division - Revere)		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	2
Total Time Periods	1	Time Period Duration, min	15

Segment Geometric Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Merge	Merge	SB Division Ramp - On	3550	2
2	Diverge	Diverge	SB Revere Ramp - Off	1150	2

Facility Segment Data

Segment 1: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.96	0.94	0.961	0.976	3431	545	3568	1878	1.11	0.29	45.2	45.2	38.0	29.1	F

Segment 2: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.96	0.94	0.961	0.990	3431	489	3568	1878	1.11	0.26	44.8	44.8	38.3	32.5	F

Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	45.1	38.1	36.6	1.2	F

Facility Overall Results

Space Mean Speed, mi/h	45.1	Density, veh/mi/ln	36.6
Average Travel Time, min	1.2	Density, pc/mi/ln	38.1

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HCS7 Freeway Facilities Report

Project Information

Analyst	DKS	Agency	ODOT
Jurisdiction	Bend	Time Period Analyzed	2040
Analysis Year	2040	Date	9/21/2018
Project Description	US97 Bend Parkway Study - Segment 4 (SB Revere to Colorado)		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	3
Total Time Periods	1	Time Period Duration, min	15

Segment Geometric Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	SB US 97	1300	2
2	Merge	Merge	SB Revere Ramp - On	740	2
3	Basic	Basic	SB US 97	1300	2

Facility Segment Data

Segment 1: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.962	2751	4132	0.86	14.7	93.5	F

Segment 2: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.92	0.961	0.989	3323	572	3568	1878	1.16	0.30	37.4	42.5	39.1	25.1	F

Segment 3: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.961	3323	4132	1.00	41.2	36.9	E

Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	24.8	59.4	57.1	1.5	F

Facility Overall Results

Space Mean Speed, mi/h	24.8	Density, veh/mi/ln	57.1
Average Travel Time, min	1.5	Density, pc/mi/ln	59.4

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HCS7 Freeway Facilities Report

Project Information

Analyst	DKS	Agency	ODOT
Jurisdiction	Bend	Time Period Analyzed	2040
Analysis Year	2040	Date	9/21/2018
Project Description	US97 Bend Parkway Study - Segment 5 (NB Colorado to Revere)		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	4
Total Time Periods	1	Time Period Duration, min	15

Segment Geometric Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Diverge	Diverge	NB Colorado Ramp - Off	4000	2
2	Merge	Merge	NB Colorado Ramp - On	450	2
3	Diverge	Diverge	NB Revere Ramp - Off	4160	2
4	Merge	Merge	NB Revere Ramp - On	640	2

Facility Segment Data

Segment 1: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.92	0.953	0.991	2733	247	3568	1690	0.81	0.15	29.4	43.9	46.4	26.0	F

Segment 2: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.92	0.953	0.990	3323	1257	3568	1878	1.09	0.67	45.3	45.3	36.7	27.8	F

Segment 3: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.97	0.953	0.990	3323	682	3568	1878	1.10	0.36	44.7	44.7	37.2	31.6	F

Segment 4: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.92	0.953	0.983	3039	398	3568	1878	1.00	0.21	45.5	45.5	33.4	25.1	F

Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	37.4	40.9	39.0	2.8	F

Facility Overall Results

Space Mean Speed, mi/h	37.4	Density, veh/mi/ln	39.0
Average Travel Time, min	2.8	Density, pc/mi/ln	40.9

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HCS7 Freeway Facilities Report

Project Information

Analyst	DKS	Agency	ODOT
Jurisdiction	Bend	Time Period Analyzed	2040
Analysis Year	2040	Date	9/21/2018
Project Description	US97 Bend Parkway Study - Segment 3 (NB Reed Mrkt)		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	2
Total Time Periods	1	Time Period Duration, min	15

Segment Geometric Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Merge	Merge	NB Reed Market Ramp - EB On	2800	2
2	Merge	Merge	NB Division St Ramp -WB RM On	1000	2

Facility Segment Data

Segment 1: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.92	0.953	1.000	2276	272	3568	1878	0.64	0.14	42.6	42.6	26.7	18.3	B

Segment 2: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.92	0.953	0.992	2880	597	3568	1878	0.81	0.32	45.6	45.6	31.6	23.8	C

Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	43.5	28.0	26.6	1.0	D

Facility Overall Results

Space Mean Speed, mi/h	43.5	Density, veh/mi/ln	26.6
Average Travel Time, min	1.0	Density, pc/mi/ln	28.0

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HCS7 Freeway Facilities Report

Project Information

Analyst	DKS	Agency	ODOT
Jurisdiction	Bend	Time Period Analyzed	2040
Analysis Year	2040	Date	9/21/2018
Project Description	US97 Parkway Study - Segment 1 (NB 3rd St On Ramp-Sister's Loop)		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	4
Total Time Periods	1	Time Period Duration, min	15

Segment Geometric Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Merge	Merge	NB 3rd St Ramp - On	4870	2
2	Merge	Merge	NB Butler Mkt Ramp - On	985	2
3	Diverge	Diverge	NB Empire Ramp - Off	1420	2
4	Weaving	Weaving	NB Empire Ramp - On/Sisters Loop - Off	3000	3

Facility Segment Data

Segment 1: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.97	0.92	0.970	0.967	3023	568	3568	1878	1.12	0.30	22.5	44.8	67.2	32.9	F

Segment 2: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.97	0.92	0.970	0.977	3323	300	3568	1878	1.19	0.16	45.3	45.3	36.7	29.4	F

Segment 3: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.97	0.94	0.970	0.976	3323	779	3568	1972	1.19	0.40	45.3	45.3	36.7	31.3	F

Segment 4: Weaving

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.97	0.970	3334	5452	0.61	35.6	31.2	C

Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS

1	28.8	47.2	45.8	4.1	F

Facility Overall Results

Space Mean Speed, mi/h	28.8	Density, veh/mi/ln	45.8
Average Travel Time, min	4.1	Density, pc/mi/ln	47.2

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HCS7 Freeway Facilities Report

Project Information

Analyst	DKS	Agency	ODOT
Jurisdiction	Bend	Time Period Analyzed	2040
Analysis Year	2040	Date	9/21/2018
Project Description	US97 Bend Parkway Study - Segment 4 (SB Revere to Colorado)		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	2
Total Time Periods	1	Time Period Duration, min	15

Segment Geometric Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Diverge	Diverge	SB Colorado Ramp - Off	5145	2
2	Merge	Merge	SB Colorado Ramp - On	1500	2

Facility Segment Data

Segment 1: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.93	0.961	0.992	3568	818	3568	1878	1.07	0.44	39.6	42.4	45.0	34.3	F

Segment 2: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.92	0.947	0.989	3568	528	3568	1690	0.99	0.31	45.1	45.1	39.6	28.1	D

Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	40.9	43.8	42.0	1.8	F

Facility Overall Results

Space Mean Speed, mi/h	40.9	Density, veh/mi/ln	42.0
Average Travel Time, min	1.8	Density, pc/mi/ln	43.8

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HCS7 Freeway Facilities Report

Project Information

Analyst	DKS	Agency	ODOT
Jurisdiction	Bend	Time Period Analyzed	2040
Analysis Year	2040	Date	9/21/2018
Project Description	US97 Parkway Study - Segment 2 (SB Division - Revere)		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	2
Total Time Periods	1	Time Period Duration, min	15

Segment Geometric Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Merge	Merge	SB Division Ramp - On	3550	2
2	Diverge	Diverge	SB Revere Ramp - Off	1150	2

Facility Segment Data

Segment 1: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.96	0.94	0.961	0.976	3431	545	3568	1878	1.11	0.29	45.2	45.2	38.0	29.1	F

Segment 2: Diverge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.96	0.94	0.961	0.990	3431	489	3568	1878	1.11	0.26	44.8	44.8	38.3	32.5	F

Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	45.1	38.1	36.6	1.2	F

Facility Overall Results

Space Mean Speed, mi/h	45.1	Density, veh/mi/ln	36.6
Average Travel Time, min	1.2	Density, pc/mi/ln	38.1

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HCS7 Freeway Facilities Report

Project Information

Analyst	DKS	Agency	ODOT
Jurisdiction	Bend	Time Period Analyzed	2040
Analysis Year	2040	Date	9/21/2018
Project Description	US97 Bend Parkway Study - Segment 4 (SB Revere to Colorado)		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	3
Total Time Periods	1	Time Period Duration, min	15

Segment Geometric Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	SB US 97	1300	2
2	Merge	Merge	SB Revere Ramp - On	740	2
3	Basic	Basic	SB US 97	1300	2

Facility Segment Data

Segment 1: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.962	2751	4132	0.86	14.7	93.5	F

Segment 2: Merge

Time Period	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R	Freeway	Ramp	
1	0.94	0.92	0.961	0.989	3323	572	3568	1878	1.16	0.30	37.4	42.5	39.1	25.1	F

Segment 3: Basic

Time Period	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.961	3323	4132	1.00	41.2	36.9	E

Facility Time Period Results

T	Speed, mi/h	Density, pc/mi/ln	Density, veh/mi/ln	Travel Time, min	LOS
1	24.8	59.4	57.1	1.5	F

Facility Overall Results

Space Mean Speed, mi/h	24.8	Density, veh/mi/ln	57.1
Average Travel Time, min	1.5	Density, pc/mi/ln	59.4

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DKS

US 97 Future 2040 Build Vissim Results Report

MEMORANDUM

DATE: October 24, 2019

TO: Rick Williams | Oregon Department of Transportation

FROM: John Bosket, PE | DKS Associates
Aaron Berger, PE (WA) | DKS Associates
Kamilah Buker, EIT | DKS Associates

SUBJECT: ODOT US 97 Parkway Plan Phase 2 – Future Build Vissim Model Results Memorandum

Project # 17008-001

This memorandum documents the development of the 2040 Build Average Weekday (AWD) Vissim models (Bundles A, B, C). This memorandum also documents the performance measures reported by the 2040 Build Vissim models.

The Methods and Assumptions memorandum[1] documented the details of model development that were assumed going into this task. This memorandum documents future network improvements that were added to the models as part of the Build Bundle assumptions. In parallel with the 2040 Build Vissim models development, DKS is also performing 2040 Build intersection operations analysis using Highway Capacity Manual (HCM) methods, the details of which are documented in the Second Level Alternatives Evaluation memorandum[2].

MODEL DEVELOPMENT SUMMARY

The 2040 Build Vissim models were built off the calibrated 2040 No-Build conditions model detailed in the Future Conditions Calibration and Results memo.[3] The models development process used the following two documents as guidelines - The Federal Highway Administration's (FHWA's) Traffic Analysis Toolbox Volume III: Guidelines for Applying Traffic Microsimulation Modeling Software[4] and the Oregon Department of Transportation (ODOT), Protocol for Vissim Simulation[5].This section describes the steps completed to create the 2040 Build models from the Future Conditions model.

Network Coding

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[1] US 97 Parkway Plan Phase 2 Methodology Memorandum, July 2018, DKS Associates.
[2] US 97 Parkway Plan Phase 2 Second Level Screening Evaluation. September 2019, DKS Associates.
[3] US 97 Parkway Plan Phase 2 Future Conditions Vissim Model Calibration Methodology and Result Memorandum, September 2018, DKS Associates
[4] Traffic Analysis Toolbox Volume III: Guidelines for Applying Traffic Microsimulation Modeling Software, Federal Highway Administration, August 2003.
[5] Protocol for Vissim Simulation, ODOT, June 2011

For all models, the already coded Future Conditions Model was used as a base network. The projects with significant impacts on the Parkway Plan project study area are listed in the Preliminary Alternatives memorandum.[6] Of the projects included in this document, the following had direct geometric impacts on the Vissim model:

- Bundle C:
    - Closure/removal of RIRO access at Lafayette, Truman, and Reed Lane. Closure of right turn onto the Parkway from Hawthorne
    - Single lane ramp meters at on-ramps from Empire, Butler Market, Division, 3rd, Revere, Colorado, Reed Market, Powers (at existing entrance yield bars) and Murphy. Maximum metering rates applied at 900 vph (Colorado NB, Empire SB), with lower rates used at the lower volume on-ramps.
- Bundle A:
    - All Bundle C network changes
    - Auxiliary Lane from Empire Boulevard to Butler Market Road (Southbound): An auxiliary lane was added to connect Empire Boulevard to Butler Market Road.
    - Auxiliary Lane from 3rd Street to Empire Boulevard (Northbound): An auxiliary lane was added to connect 3rd Street to Empire Boulevard.
    - Intersection Improvement at Butler Market Road and 4th Street: A signal was added at this intersection.
    - Revere Avenue Lane Re-channelization: Modified Revere Avenue from Wall Street to 4th Street from a 4-lane to a 3-lane cross section, with exclusive turn lanes at the Division Street and 3rd Street intersections.
    - Southbound Frontage Road Connection at the Butler Market Southbound ramp terminal: New two-lane frontage road from Butler Market southbound ramp terminal to US 20 (3rd Street) ramp. New signal at Butler Market Southbound ramp terminal intersection included as well.
    - Colorado Avenue Diamond Interchange: The Colorado Avenue Interchange was reconfigured as a complete diamond interchange. The overcrossing consists of a four-lane cross section connected by signalized ramp terminals, and includes a dual EBL onto the northbound on-ramp, requiring a ramp merge from two lanes to one
    - Exclusive left turns at Reed Market and 3rd: Exclusive left turn lanes were added at this intersection along with removing the split phasing.
    - Widen Northbound Off-ramp at Reed Market Road Interchange: The off ramp from US 97 to the Reed Market northbound ramp terminal was widened to two lanes. A signal was added at the ramp terminal as well.

[6] US 97 Parkway Plan Phase 2 Preliminary Alternatives, February 2019, DKS Associates

    - Powers Road Overcrossing: The Powers Road interchange was removed and replaced with a three-lane overcrossing.
    - China Hat Road Overcrossing: The intersection of US 97/China Hat Road/Ponderosa Street was closed and replaced with a two-lane overcrossing.
    - China Hat Road Frontage Road: New two-lane frontage road from China Hat Road to Baker Road located west of US 97.
    - Intersection Improvement at US 97 Ramps at Baker Road/Knott Road Interchange: Signals were added at both ramp terminals.
- Bundle B:
    - All Bundle C network changes
    - Auxiliary Lane from Empire Boulevard to Butler Market Road (Southbound): An auxiliary lane was added to connect Empire Boulevard to Butler Market Road.
    - Auxiliary Lane from 3rd Street to Empire Boulevard (Northbound): An auxiliary lane was added to connect 3rd Street to Empire Boulevard.
    - Intersection Improvement at Butler Market Road and 4th Street: A roundabout was added at this intersection.
    - Intersection Improvement at US 97 Northbound Ramps and Colorado Avenue: A signal was added at the northbound ramp terminal.
    - Reed Market Road SPUI: The Reed Market Road Interchange was reconfigured as a Single Point Urban Interchange. The overcrossing consists of a five-lane cross-section with a centralized signal. All right turn movements are signalized. Lastly, two southbound left turn lanes were required to connect US 97 to Reed Market Road eastbound.
    - Powers Road Diamond Interchange: The Powers Road Interchange was reconfigured as a complete diamond interchange. The overcrossing consists of a three-lane cross section connected by signalized ramp terminals. Each ramp terminal consists of a separate right and left turn lane onto Powers Road. Exclusive left turn lanes are provided for traffic entering the Parkway at both terminals as well.
    - China Hat Road Overcrossing: The intersection of US 97/China Hat Road/Ponderosa Street was closed and replaced with a two-lane overcrossing.
    - Intersection Improvement at US 97 Ramps at Baker Road/Knott Road Interchange: Roundabouts were added at both ramp terminals, with single lane approaches at the southbound ramp and a westbound right-turn slip lane at the northbound ramps.

Traffic Demand and Routing

The 2040 Future Build PM peak hour AWD volume sets were developed by post-processing link volumes from the Bend-Redmond Model (BRM) for 2010 and 2040 with the AWD 2017 counts, as detailed in the Future Traffic Forecast memo.[6] Balanced two-hour volumes were developed from the future forecasts using the factor

developed from the counts (1.98) and presented in the Methodology memo.[7] The Build volumes for each model were developed in the same way, based off full BRM model assignments.

As with existing conditions and future no-build conditions, Matrix Estimation (TFlowFuzzy) was used in Visum to develop an O-D matrix based on the 2-hour balanced turning movement forecasts. A sub-area model from the BRM model run for each Bundle (A, B, and C) was used for the initial seed trip distribution. The end result of this process were calibrated O-D matrices for each project bundle that matched the balanced turn forecast data while preserving trip distributions from the BRM for major travel patterns.

Vissim's Dynamic Traffic Assignment (DTA) feature was used in combination with the O-D matrix (based on the BRM and forecast turn volumes) to generate motor vehicle inputs and routing through the networks. The DTA assignment was then converted to static vehicle inputs and complete O-D routes. The roadway network extents in the Vissim models were such that there was only one possible route for each O-D pair.

The pedestrian volumes were used as is from future no-build conditions. New crosswalks were assumed to served 10 pedestrians per hour.

Traffic Volume Peaking Profile

The peaking profiles developed for existing conditions were maintained for the Future Build Vissim models volumes.

Vehicle Compositions

The heavy vehicle percentages developed for existing conditions were maintained for the Future Build Vissim models.

Simulation Period and Seeding Period

As for existing and future no-build conditions, the model analysis period was two hours (4:00-6:00 PM) with an assumed system-wide peak hour of 4:30-5:30 PM. The Vissim simulation period included the 30-minute seeding period (initialization period, same as existing conditions) followed by the entire two-hour analysis period (4-6 PM). As with existing conditions, the volume rate for the 4:00-4:15 period was used for the seeding period flow rate. Measures of effectiveness were collected for the one-hour system peak period (4:30 to 5:30 PM).

Error Checking

The error checking portion of the model development focused on fixing coding errors before the model validation began. Error checking is a process that includes a review of the coded data and a review of the animation. All coded data (geometry, speeds, signal timing data, stop and yield controls, transit data, and forecasted traffic volumes) was reviewed by the model developer and quality control reviewer.

A review of the animation was conducted to determine locations where additional conflict areas or intersection keep clear zones might be need.

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[7] US 97 Parkway Plan Phase 2 Methodology Memorandum, July 2018, DKS Associates.

VALIDATION

Upon the completion of the error checking, DKS validated the model, verifying that the intersections causing the system bottlenecks were forecasted to operate at v/c>1.0 under future conditions. Upon visually verifying that this was indeed the case, the simulation model was run following the “Traffic Throughput and Queuing Calibration Criteria” in the ODOT Simulation Protocol. The model validation was based on 15 simulation runs to account for variation.

As with existing conditions, the following measures were pulled from the simulation results for further model validation:

- A quantitative comparison between forecasted data and model output using the GEH statistic for intersections and model entries and exits.

The GEH statistic was calculated for all study intersections. Given the amount of unserved demand generated by the model, the GEH statistics were much higher than the typical calibration target of 5.0, an expected outcome for a model where the demand exceeds the capacity. The forecast traffic volume GEH results are documented in the Vissim AWD GEH reports (Future Build Conditions) Appendix.

FUTURE BUILD MODEL MEASURES OF EFFECTIVENESS

The total demand in each model is summarized as follows:

- No-Build: 71,800 vehicles (4-6 PM)
- Bundle A: 68,140 vehicles (4-6 PM)
- Bundle B: 69,810 vehicles (4-6 PM)
- Bundle C: 67,980 vehicles (4-6 PM)

The overall system performance for each alternative is summarized in Table 1, including total system delay, unserved demand (vehicles unable to enter the network (does not include vehicles with the model but stuck in queues at the end of the simulations), and the percent of the demand that is unable to enter the network. These measures were pulled for each Project Bundle and compared against the Future No-Build Average Weekday model results.

Table 1: System Measures (by Project Bundle)

Model	Unserved System Demand (4-6 PM)	% Unserved System Demand (4-6 PM)	Total Delay (vehicle-hours, 4-6 PM)
No-Build (AWD)	7,170	10.0%	12,930
Bundle A (AWD)	5,312	7.8%	8,490
Bundle B (AWD)	6,256	9.0%	10,200
Bundle C (AWD)	4,640	6.8%	8,687

The following measures of effectiveness were collected from the Future Build models and summarized in the appendices:

- Vissim AWD Delay reports (Future 2040 Build Bundles A, B, and C) Appendix - Overall intersection delay and individual turn movement delay at study intersections for motor vehicles
- Vissim AWD Queue reports (Future 2040 Build Conditions for Bundles A, B, and C) Appendix - Average and 95th percentile motor vehicle queue lengths
- Vissim AWD Travel Time Results (Future 2040 Build Bundles A, B, and C) Appendix - Corridor travel times for motor vehicles along the US 97 Corridor

As with existing and future no-build conditions, the delay measurements were calculated over the entire peak hour interval (4:30-5:30 PM) for each simulation run. Delay reported for a study intersection is measured upstream to the next study intersection and not through. To calculate 95th percentile queues, queue length data was collected from Vissim using queue counters on critical approaches and a 120-second interval to reflect queues that form while traffic flow is impeded. The 95th percentile queue was then calculated using a percentile function. The travel times were measured over segments within the study area based on the entering and exiting time stamp of each vehicle traversing the selected segment. The travel times from the Vissim model are compared against the existing conditions modeled travel times and are shown in Table 2.

Table 2. Future Build and Future No-Build PM Peak Hour Travel Time Comparison (AWD)

From	To	Direction	Distance (miles)	Travel Time (minutes)	Vissim vehicles measured (4:30-5:30)	% of demand served
Future No-Build						
Empire Avenue SB On-Ramp	Knott Road NB Off-Ramp	Southbound	7.3	23:01	156	69%
Knott Road NB Off-Ramp	Empire Avenue NB Off-Ramp	Northbound	7.6	14:33	256	81%
Future Build Bundle A						
Empire Avenue SB On-Ramp	Knott Road NB Off-Ramp	Southbound	7.3	9:24	273	100%
Knott Road NB Off-Ramp	Empire Avenue NB Off-Ramp	Northbound	7.6	9:36	406	99%
Future Build Bundle B						
Empire Avenue SB On-Ramp	Knott Road NB Off-Ramp	Southbound	7.3	9:22	275	100%
Knott Road NB Off-Ramp	Empire Avenue NB Off-Ramp	Northbound	7.6	9:40	415	99%
Future Build Bundle C						

From	To	Direction	Distance (miles)	Travel Time (minutes)	Vissim vehicles measured (4:30-5:30)	% of demand served
Empire Avenue SB On-Ramp	Knott Road NB Off-Ramp	Southbound	7.3	15:10	243	81%
Knott Road NB Off-Ramp	Empire Avenue NB Off-Ramp	Northbound	7.6	10:06	471	99%

While the existing conditions system peak hour occurred from 4:30 to 5:30 PM, under future conditions with the demand exceeding capacity the travel times continue to increase throughout the 4-6 PM analysis interval. The average travel times from the Future Build Vissim models are shown in Figures 1, 2, 3.

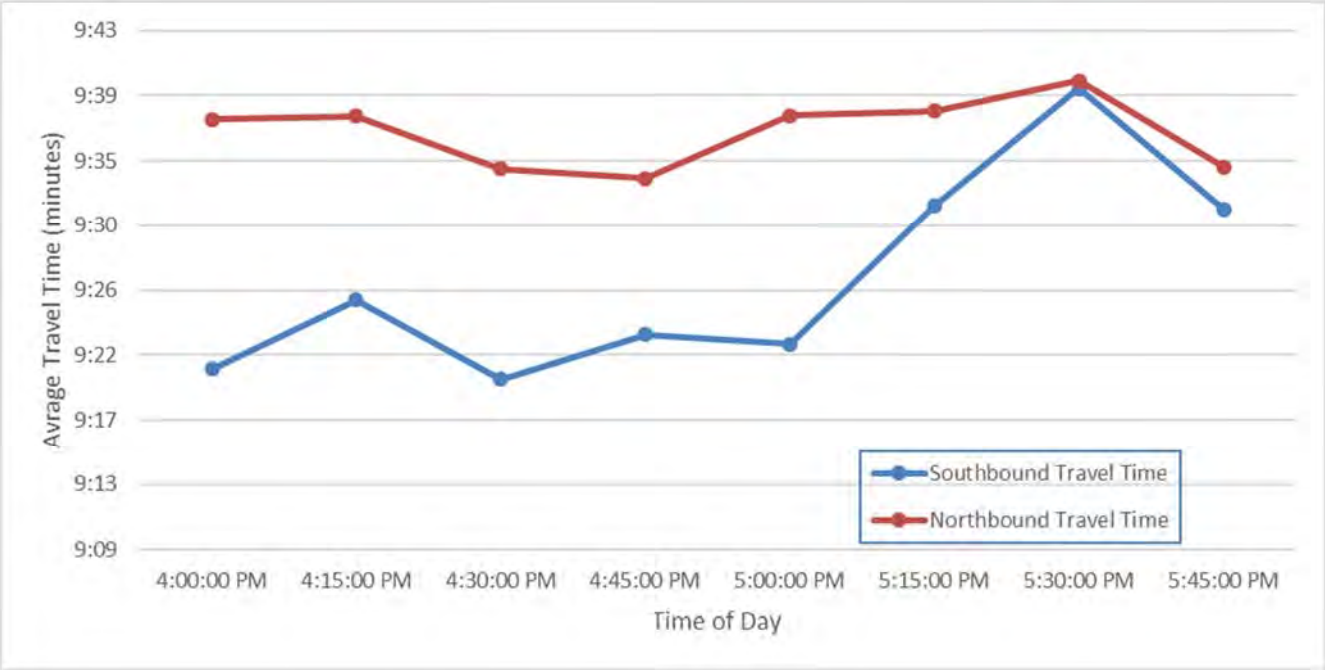


Figure 1: Temporal Future Build - Bundle A Travel Time Distribution

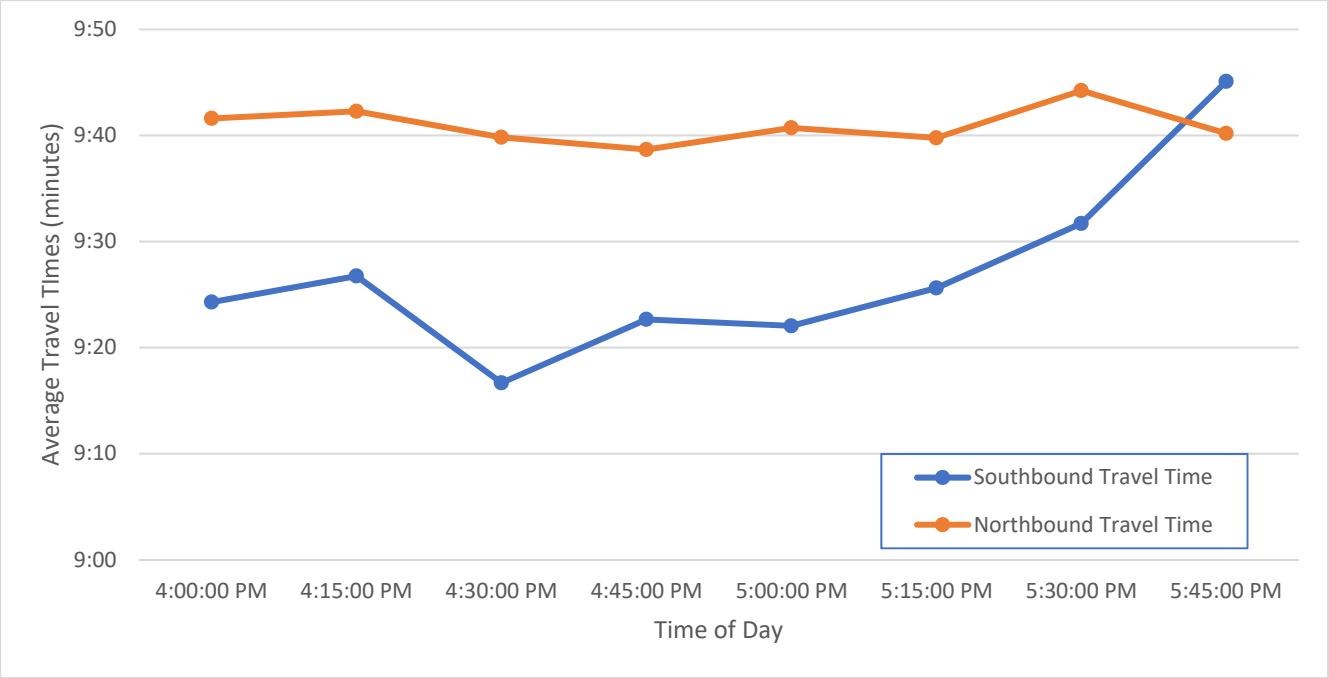


Figure 2: Temporal Future Build - Bundle B Travel Time Distribution

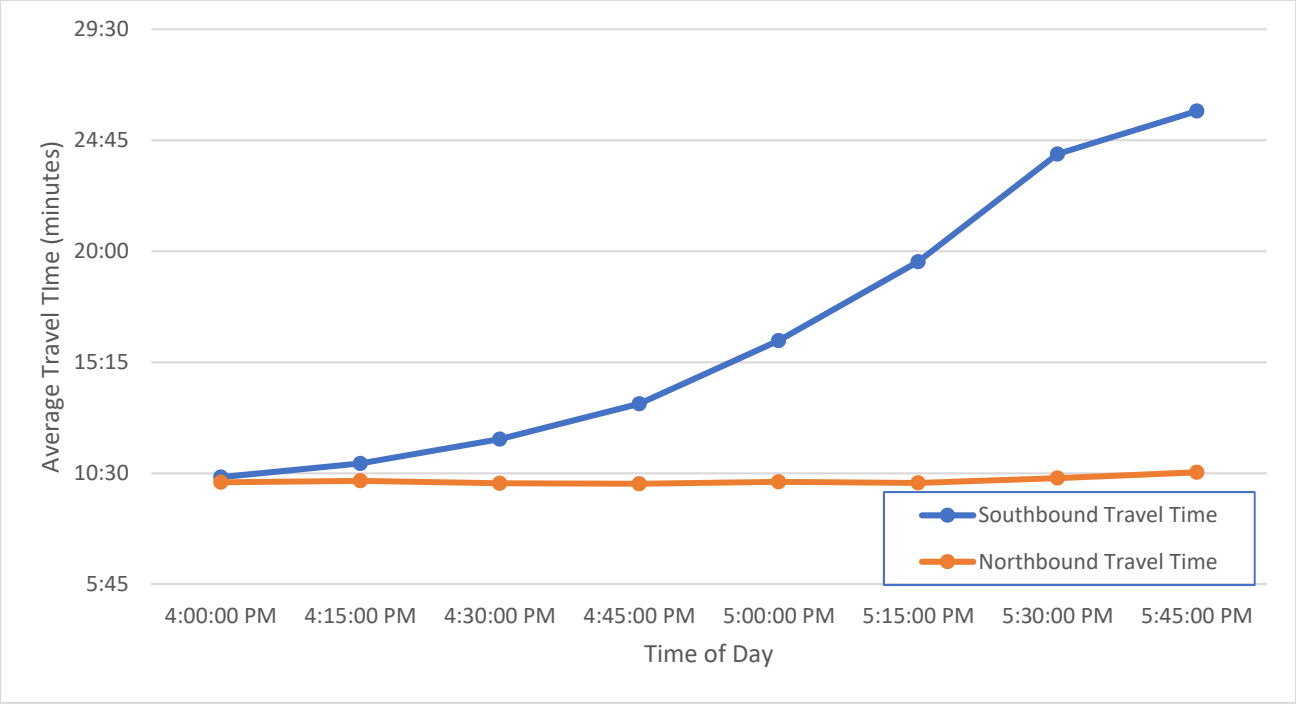


Figure 3: Temporal Future Build - Bundle C Travel Time Distribution

As shown in Figures 1, 2, and 3 the travel times are very similar between the three bundles in the northbound direction, with significant improvement over No-Build. Bundle C has the highest travel time, especially in the southbound direction with almost 25 minutes of travel time. For all bundles, the travel time is trending higher as the 6:00 PM hour approaches.

Queuing

The simulation model was also used to measure delay relative to desired speed as an indicator of queue length. The figures shown in Vissim AWD Queue plots (Future 2040 Build Bundles A, B, and C) Appendix show the relative delay (queues) for each 15-minute interval during the 4:00-6:00 PM analysis period, as averaged over 15 simulations. The colors shown in these figures indicate the following approximate queue states:

1. Dark Green = Free flow, no delay
2. Light Green = Slight slowing
3. Yellow = Increased slowing, but not yet stop and go
4. Orange = Furthest extent of stop and go queues
5. Red = Fluctuates between low speed flow and stopped queue
6. Dark Red = Stop and go queue during the entire 15-minute peak interval

FUTURE BUILD OPERATIONS SUMMARY

Based on the analysis results from the Vissim simulations, the following findings were made for the Future Build analysis at US 97 Corridor intersections.

- In the Future No-Build model, operations analysis indicated that both the Division Street and Butler Market Road intersections with US 20 (3rd Street) would experience demand well above their capacity. This finding is still true in all three of the Build models. However, queues in Bundle A are significantly shorter due to the added frontage road connection from the Butler Market Road southbound ramp terminal to 3rd Street/US 20. These findings are supported by the simulation analysis, which shows the following capacity breakdown issues at these two intersections:
    - Similar to No-Build, the southbound and westbound movements at the 3rd Street and Butler Market Road queue up immediately at 4:00 PM for Bundles B and C. Only southbound movements queue up immediately at 4:00 PM in Bundle A. With the diverted westbound traffic onto the frontage connection, queueing in the westbound direction is not as severe. For Bundles B and C, the westbound queues spill back to the US 97 southbound off-ramp onto Butler Market Road, which in turn queues onto southbound US 97 past the Empire Boulevard ramps. However, Bundle B does not queue back on to US 97 until about 5:00 PM and is cleared by 6:00 PM. This is due to the ramp terminal improvement (roundabout) more efficiently dispersing volume at Butler Market Road, combined with the operational benefits of the roundabout at Butler Market and 4th Street.
    - In the Future No-Build model, the 3rd Street and O.B. Riley Road intersection acts as a meter for southbound traffic approaching the 3rd Street and Butler Market intersection. By 4:15 PM, the O.B. Riley intersection is over capacity and remains over capacity for the remainder of the analysis time period. This is still the case for all three bundles. However, the southbound demand is much higher in Bundles A and B due to the impacts for the FEIS, which keeps more traffic on SB 3rd Street (US 20).
- US 97 Southbound Ramps/Wall Street & Revere Avenue – The Future No-Build model showed that the northbound approach (Wall Street) queued out of the Vissim model by 4:15 PM. This was due to the increased demand and capacity constraints at the other east-west connections across the Bend

Parkway. This was still the case for Bundle B, as the existing configuration at this intersection combined with additional demand to the Revere Avenue southbound off-ramp (caused by demand shifts from the FEIS) continue to increase queuing. Bundles A and C performed better, with the reconfiguration of Revere Avenue from a 4-lane to a 3-lane cross sections providing some signal efficiency benefits for Bundle A (and a corresponding drop in demand) while Bundle C benefits the most from decrease in Parkway Ramp volumes due to the ramp meters.

- US 97 Northbound & Southbound Ramps & Colorado Avenue – Similarly to the No-Build model, all three Bundles queue back from northbound ramp terminal (traveling in the eastbound direction) through the Southbound Ramps intersection by 4:00 PM. This is mainly due to the ramp meter added at the Colorado Avenue northbound on-ramp for all three models, which was coded to operate at the maximum single lane rate of 900 vehicle per hour. In addition, the revised signal phasing for the diamond interchange configuration at the northbound ramp terminal included in Bundle A disproportionally benefited the eastbound left turn movements at the expense of the westbound right turn, leading to queuing issues and unserved demand ono Scott Avenue.
- US 97 northbound and southbound ramps & Reed Market Road – In the Future No-Build model, bottleneck issues were centered at the 3rd Street and Reed Market Road intersection. The queue spillback from this intersection impacted both the northbound and the southbound off-ramps, leading to queues that extend onto the Parkway mainline by 4:15 PM. This issue still occurs in all three of the Bundles. However, in Bundle B (which includes the SPUI), queueing does not spill back onto US 97 until about 5:30 PM. This is due to the interchange enhancement at Reed Market. In additional, the southbound off-ramp queues in Bundle A only extend to between Colorado and Hawthorne by 6:00 PM, a large improvement over No-Build, mainly due to eastbound operational benefits gained from the removal of the split phasing at the 3rd Street and Reed Market. Note also that the demand on the southbound off-ramp is higher for Bundle A versus Bundle B due to the removal of access at Powers Road (Powers Overcrossing) in Bundle A.
- US 97 & Powers Road – In the Future No-Build model it was found that the northbound queue spillback from the northbound off-ramp at Reed Market Road reached the Powers Road southbound jug handle movement by 4:45 PM, accelerating queues for the other movements. This is still the case for Bundle C. In addition, the congestions issues at the Reed Market interchange are partially mitigated by the ramp meters in Bundle C, which result in the southbound left turn movement at the Powers Interchange failing earlier, as a significant portion of the southbound US 97 demand starved out at Reed Market now reaches Powers. The southbound queues from Powers extend up the length of the Parkway beyond Empire by 6 PM. In Bundle A the Powers Road interchange is removed and replaced with an overcrossing. This forces volume to use alternative routes to enter/exit US 97 such as Murphy Road, Reed Market Road, and Colorado Avenue. The northern two interchanges along with the local system experience increased congestion due to the diverted traffic. As for Bundle B, with the improved operations at Reed Market Road, queue spill back does not affect Powers Road and the new modeled interchange operates smoothly.
- US 97 & Baker Road/Knott Road ramp terminals do not experience any capacity issues for any of the three models.

Based on the results from the Vissim simulations, the following findings were made at study intersections on the parallel State and local system. The full queuing analysis tables are included in the Appendix.

- 4th Street & Butler Market Road – It was found that the westbound queues at this intersection extended out of the model by 4:15 PM and continued to build unserved demand until the end of the analysis time period in the Future No-Build model. This is still the case for Bundle C, however, the queues do not spill out of the network until around 5:00 PM due to reduced demand at the Butler Market interchange. For

Bundles A and B, the intersection operates near or below capacity with added improvements (signal and roundabout respectively).

- 3rd Street and 4th Street & Revere Avenue – In the Future No-Build model, queues spilled back from the 4th Street intersection to create northbound and southbound queues on 3rd Street, which also experienced demand beyond the intersection's capacity. Westbound demand on Revere Avenue increased as well. The 3rd Street intersection did not provide sufficient capacity for the increased demand, leading to westbound queues that extended out of the model by 5:00 PM. Bundle A includes the Revere Avenue lane rechannelization, which both reduces demand and improves operations on the corridor due to removal of split timing at the Revere Avenue/SB Ramps/Division Street intersection.
- Brookswood Road/Bond Street/Reed Market Road – Similarly to Future No-Build, the roundabout continues to experience demand that exceeds the intersection capacity, with the northbound and southbound Brookswood Boulevard and Reed Market eastbound approaches queuing out of the model by 4:15 PM for all three of the bundles.
- 3rd Street & Reed Market Road – In the Future No-Build model it was found that this intersection experienced increased east-west demand, with the northbound approach queueing out of the model at 4:00 PM, the eastbound approach queued through the US 97 ramps also by 4:00 PM, and the southbound Reed Market approach queuing out of the model by 5:00 PM. This is still the case for Bundle C. With the SPUI, Bundle B the eastbound queue is less severe and does not reach the ramp terminals. Both the northbound and southbound queues extend out of the model around 4:45 PM. Bundle A also show improved operations due to the removal of the split phasing a 3rd and Reed Market. However, Bundle A also experiences increased demand due to the reduction in access at Powers Road, leading to more queueing than Bundle B.

Vissim GEH reports (Future Build Bundle A Conditions)

AWD Future 2040 Build Bundle A PM GEH (4-6 p.m.) - Intersection					
Intersection Number	**Intersection Name**	**Movement**	**Input Volume**	**VISSIM Output Volume**	**GEH**
1	NB and SB Ramps Empire	NBT	5980	5165	10.9
		NBR	1360	1179	5.1
		SBT	3610	3589	0.4
		EBR	1740	1750	0.2
		Total	12690	11682	9.1
2	SB off & NB on Ramp Butler Market	NBT	6810	5815	12.5
		SBT	4825	4847	0.3
		SBR	525	527	0.1
		WBR	530	526	0.2
		Total	12690	11716	8.8
3	O.B. Riley and US 20	NBL	355	354	0.1
		NBT	2290	2312	0.5
		NBR	320	324	0.2
		SBL	75	48	3.4
		SBT	2855	1909	19.4
		SBR	25	16	2.0
		EBL	25	25	0.0
		EBT	25	24	0.2
		EBR	825	795	1.1
		WBL	340	343	0.2
		WBT	40	37	0.5
		WBR	140	135	0.4
		Total	7315	6323	12.0
4	Butler Market and Riverview	NBT	5	5	0.0
		NBR	80	76	0.5
		SBL	30	27	0.6
		SBR	5	5	0.0
		EBL	0	0	0.0
		EBT	1145	1133	0.4
		WBL	50	42	1.2
		WBT	975	903	2.3
		WBR	30	31	0.2
		Total	2320	2224	2.0
5	Butler Market and US 20	NBL	280	283	0.2
		NBT	2195	2221	0.6
		NBR	310	307	0.2
		SBL	450	365	4.2
		SBT	3115	2563	10.4
		SBR	455	360	4.7
		EBL	320	309	0.6
		EBT	465	464	0.0
		EBR	470	476	0.3
		WBL	35	34	0.2
		WBT	320	333	0.7
		WBR	450	452	0.1
		Total	8865	8166	7.6
6	Butler Market and Bend River Promenade Drwy	SBR	10	16	1.7
		SBL	5	0	3.2
		EBT	1225	1137	2.6
		WBT	795	801	0.2
		WBR	75	74	0.1
		Total	2110	2029	1.8
		SBL	345	346	0.1

AWD Future 2040 Build Bundle A PM GEH (4-6 p.m.) - Intersection					
Intersection Number	**Intersection Name**	**Movement**	**Input Volume**	**VISSIM Output Volume**	**GEH**
7	Butler Market and SB Ramp Off	SBT	100	108	0.8
		SBR	80	75	0.6
		EBT	1225	1139	2.5
		EBR	5	0	3.2
		WBL	340	322	1.0
		WBT	790	800	0.4
		Total	2885	2790	1.8
8	Butler Market and NB Ramp	NBT	5	5	0.0
		NBR	30	27	0.6
		EBL	160	156	0.3
		EBT	1400	1321	2.1
		EBR	10	9	0.3
		WBL	15	16	0.3
		WBT	1130	1119	0.3
		WBR	365	362	0.2
		Total	3115	3015	1.8
9	Butler Market and 4th St	NBL	435	430	0.2
		NBT	0	0	0.0
		NBR	180	182	0.1
		SBL	5	5	0.0
		SBT	5	4	0.5
		SBR	25	22	0.6
		EBL	5	4	0.5
		EBT	1180	1093	2.6
		EBR	245	252	0.4
		WBL	175	181	0.4
		WBT	1050	1033	0.5
		WBR	5	4	0.5
		Total	3310	3213	1.7
10	3rd St On Ramp NB	NBT	5835	4862	13.3
		WBR	975	955	0.6
		Total	6810	5817	12.5
11	Division and 3rd St	NBT	1725	1742	0.4
		SBT	2630	2196	8.8
		SBR	990	864	4.1
		EBL	1060	1027	1.0
		EBR	35	38	0.5
		WBL	390	393	0.2
		WBT	55	40	2.2
		WBR	0	0	0.0
		Total	6885	6300	7.2
12	3rd St On Ramp NB	WBT	1725	1726	0.0
		WBR	975	943	1.0
		Total	2700	2669	0.6
13	3rd St On Ramp SB	SBT	4825	4854	0.4
		EBR	920	813	3.6
		Total	5745	5666	1.0
14	Revere SB Ramp Off	SBT	5060	4985	1.1
		SBR	685	683	0.1
		Total	5745	5668	1.0
15	Revere and Harriman	NBT	0	0	0.0
		NBR	35	43	1.3
		SBL	110	91	1.9

AWD Future 2040 Build Bundle A PM GEH (4-6 p.m.) - Intersection					
Intersection Number	**Intersection Name**	**Movement**	**Input Volume**	**VISSIM Output Volume**	**GEH**
15	Revere and Harriman	WBL	80	78	0.2
		WBR	235	184	3.5
		Total	460	396	3.1
16	Revere and SB Ramps	NBL	105	99	0.6
		NBT	370	364	0.3
		NBR	1405	1383	0.6
		SBL	250	255	0.3
		SBT	430	427	0.1
		SBR	5	5	0.0
		EBL	20	11	2.3
		EBT	70	91	2.3
		EBR	55	32	3.5
		WBL	1325	1305	0.6
		WBT	205	157	3.6
		WBR	415	400	0.7
		Total	4655	4528	1.9
17	Revere and NB Ramps	NBL	260	206	3.5
		NBT	400	316	4.4
		NBR	265	239	1.6
		SBL	175	182	0.5
		SBT	45	43	0.3
		SBR	805	797	0.3
		EBL	545	561	0.7
		EBT	675	670	0.2
		EBR	505	508	0.1
		WBL	35	36	0.2
		WBT	880	854	0.9
		WBR	160	156	0.3
		Total	4750	4568	2.7
18	Revere and Lytle	NBR	275	229	2.9
		SBR	100	98	0.2
		EBT	1115	1091	0.7
		EBR	0	0	0.0
		WBT	975	946	0.9
		Total	2465	2364	2.1
19	Revere and 3rd	NBL	180	173	0.5
		NBT	2245	2214	0.7
		NBR	245	240	0.3
		SBL	335	330	0.3
		SBT	1560	1571	0.3
		SBR	120	120	0.0
		EBL	340	346	0.3
		EBT	740	690	1.9
		EBR	310	305	0.3
		WBL	460	460	0.0
		WBT	675	652	0.9
		WBR	255	244	0.7
		Total	7465	7346	1.4
20	Revere and Albertson Drvwy	SBR	0	0	
		EBT	1180	1131	1.4
		EBR	140	134	0.5
		WBT	1390	1357	0.9
		WBR	0	0	

AWD Future 2040 Build Bundle A PM GEH (4-6 p.m.) - Intersection					
Intersection Number	**Intersection Name**	**Movement**	**Input Volume**	**VISSIM Output Volume**	**GEH**
		Total	2710	2622	1.7
21	Revere and 4th	NBL	130	117	1.2
		NBT	545	487	2.6
		NBR	110	101	0.9
		SBL	310	281	1.7
		SBT	485	452	1.5
		SBR	625	583	1.7
		EBL	110	105	0.5
		EBT	880	843	1.3
		EBR	190	183	0.5
		WBL	105	94	1.1
		WBT	635	560	3.1
		WBR	180	155	1.9
		Total	4305	3963	5.3
22	Revere On Ramps	NBT	5250	4269	14.2
		SBT	5060	4989	1.0
		EBR	805	778	1.0
		WBR	585	587	0.1
		Total	11700	10622	10.2
23	NB Off Ramp to Revere	NBT	5250	4267	14.3
		NBR	925	762	5.6
		Total	6175	5029	15.3
25	Hawthorne	SBT	5380	5318	0.8
		SBR	485	448	1.7
		Total	5865	5766	1.3
26	Colorado SB Ramp off_NB Ramp on	NBT	4035	3305	12.1
		SBT	4025	3977	0.8
		SBR	1355	1345	0.3
		WBR	2140	1717	9.6
		Total	11555	10345	11.6
27	Colorado and SB ramps	SBL	335	343	0.4
		SBR	1020	1002	0.6
		EBT	1900	1314	14.6
		EBR	630	489	8.3
		WBL	140	118	1.9
		WBT	820	723	3.5
		Total	4845	3939	13.7
28	Colorado and NB ramps	NBL	510	450	2.7
		NBR	105	100	0.5
		EBL	1540	1196	9.3
		EBT	695	631	2.5
		WBT	450	389	3.0
		WBR	600	522	3.3
		Total	3900	3287	10.2
29	Aune and Scott	NBL	15	13	0.5
		NBR	25	22	0.6
		EBT	775	708	2.5
		EBR	25	21	0.8
		WBL	45	40	0.8
		WBT	1035	859	5.7
		Total	1920	1663	6.1
		NBL	450	390	2.9
		NBT	565	490	3.3

AWD Future 2040 Build Bundle A PM GEH (4-6 p.m.) - Intersection					
Intersection Number	**Intersection Name**	**Movement**	**Input Volume**	**VISSIM Output Volume**	**GEH**
32	Reed Market and Brookswood	NBR	360	328	1.7
		SBL	860	389	18.8
		SBT	1180	558	21.1
		SBR	170	82	7.8
		EBL	170	116	4.5
		EBT	1130	754	12.3
		EBR	665	463	8.5
		WBL	355	321	1.8
		WBT	880	803	2.7
		WBR	585	447	6.1
		Total	7370	5140	28.2
33	Reed Market and Silver Lake	NBL	40	41	0.2
		NBT	0	0	0.0
		NBR	95	91	0.4
		SBL	90	83	0.8
		SBT	10	10	0.0
		SBR	70	71	0.1
		EBL	80	57	2.8
		EBT	2190	1444	17.5
		EBR	80	52	3.4
		WBL	195	179	1.2
		WBT	1710	1473	5.9
		WBR	105	102	0.3
		Total	4665	3603	16.5
34	Reed Market and SB Ramps	SBL	1675	1618	1.4
		SBR	430	429	0.0
		EBT	2190	1504	16.0
		EBR	185	111	6.1
		WBT	1580	1326	6.7
		WBR	170	145	2.0
		Total	6230	5133	14.6
35	Reed Market and NB Ramps	NBL	35	33	0.3
		NBR	230	229	0.1
		SBR	65	63	0.3
		EBT	3415	2770	11.6
		EBR	450	351	4.9
		WBT	1650	1402	6.3
		WBR	60	59	0.1
		Total	5905	4907	13.6
36	Reed Market and Division	NBR	100	91	0.9
		SBL	10	7	1.0
		SBT	0	0	0.0
		SBR	35	33	0.3
		EBL	165	92	6.4
		EBT	1925	1559	8.8
		EBR	1555	1345	5.5
		WBL	10	9	0.3
		WBT	1675	1435	6.1
		WBR	1415	958	13.3
		Total	6890	5530	17.3
37	Reed Market and RK Drvwy	NBR	25	22	0.6
		SBR	385	343	2.2
		EBT	1830	1465	9.0

AWD Future 2040 Build Bundle A PM GEH (4-6 p.m.) - Intersection					
Intersection Number	**Intersection Name**	**Movement**	**Input Volume**	**VISSIM Output Volume**	**GEH**
37	Reed Market and BK Drvwy	EBR	205	193	0.9
		WBT	2715	2054	13.5
		Total	5160	4076	16.0
38	Reed Market and 3rd St	NBL	1245	641	19.7
		NBT	1535	826	20.6
		NBR	495	265	11.8
		SBL	260	187	4.9
		SBT	1945	1441	12.2
		SBR	565	409	7.1
		EBL	215	210	0.3
		EBT	1265	968	8.9
		EBR	375	312	3.4
		WBL	375	362	0.7
		WBT	905	883	0.7
		WBR	130	122	0.7
		Total	9310	6627	30.1
39	Reed Market SB Off Ramp and Division On ramp	NBT	3070	2797	5.0
		SBT	2690	2556	2.6
		SBR	2105	2050	1.2
		WBR	1580	1052	14.6
		Total	9445	8455	10.5
40	Reed Market NB off and SB on Ramps	NBT	2620	2441	3.6
		NBR	265	263	0.1
		SBT	2690	2558	2.6
		EBR	355	256	5.7
		Total	5930	5517	5.5
41	Reed Ln	NBT	2885	2702	3.5
		SBT	3045	2816	4.2
		Total	5930	5518	5.4
44	Powers and Brookswood	NBL	10	11	0.3
		NBT	940	933	0.2
		NBR	185	190	0.4
		SBL	795	756	1.4
		SBT	1055	1024	1.0
		SBR	85	83	0.2
		EBL	95	89	0.6
		EBT	150	156	0.5
		EBR	5	6	0.4
		WBL	295	288	0.4
		WBT	155	152	0.2
		WBR	230	322	5.5
		Total	4000	4009	0.1
45	Powers and Blakely	NBL	160	154	0.5
		NBT	5	6	0.4
		NBR	105	108	0.3
		SBL	40	40	0.0
		SBT	10	12	0.6
		SBR	85	79	0.7
		EBL	25	25	0.0
		EBT	985	979	0.2
		EBR	120	124	0.4
		WBL	205	203	0.1
		WBT	435	528	4.2

AWD Future 2040 Build Bundle A PM GEH (4-6 p.m.) - Intersection					
Intersection Number	**Intersection Name**	**Movement**	**Input Volume**	**VISSIM Output Volume**	**GEH**
		WBR	155	153	0.2
		Total	2330	2411	1.7
47	Powers at-grade	NBT	2885	2700	3.5
		SBT	3045	2817	4.2
		EBT	1130	1128	0.1
		WBT	795	886	3.1
		Total	7855	7531	3.7
49	Powers and 3rd St	NBL	85	84	0.1
		NBT	1205	1203	0.1
		NBR	20	19	0.2
		SBL	35	223	16.6
		SBT	2030	2073	0.9
		SBR	545	638	3.8
		EBL	560	551	0.4
		EBT	315	319	0.2
		EBR	255	257	0.1
		WBL	30	32	0.4
		WBT	165	160	0.4
		WBR	130	128	0.2
		Total	5375	5688	4.2
50	Powers and Parrell	NBL	55	54	0.1
		NBT	595	585	0.4
		SBT	670	667	0.1
		SBR	270	266	0.2
		EBL	210	399	10.8
		EBR	160	163	0.2
		Total	1960	2134	3.8
54	Badger at-grade	NBT	2885	2698	3.5
		SBT	3045	2820	4.2
		Total	5930	5519	5.4
57	Pinebrook at-grade	NBT	2885	2696	3.6
		SBT	3045	2823	4.1
		Total	5930	5519	5.4
60	Murphy and 3rd St	NBL	30	30	0.0
		NBT	275	280	0.3
		NBR	60	63	0.4
		SBL	505	247	13.3
		SBT	1440	703	22.5
		SBR	355	170	11.4
		SBU	0	4	2.8
		EBL	405	428	1.1
		EBT	765	812	1.7
		EBR	125	132	0.6
		WBL	475	425	2.4
		WBT	525	470	2.5
		WBR	325	288	2.1
		Total	5285	4052	18.0
61	Murphy NB off and SB on Ramps	NBT	2165	2140	0.5
		NBR	365	372	0.4
		SBT	1765	1641	3.0
		WBL	1320	713	19.0
		Total	5615	4866	10.3
		NBL	100	100	0.0

AWD Future 2040 Build Bundle A PM GEH (4-6 p.m.) - Intersection					
Intersection Number	**Intersection Name**	**Movement**	**Input Volume**	**VISSIM Output Volume**	**GEH**
63	China Hat and Parrell	NBR	290	286	0.2
		EBT	770	1119	11.4
		EBR	55	79	2.9
		WBL	550	540	0.4
		WBT	505	500	0.2
		Total	2270	2624	7.2
64	Knott Rd SB off and NB on Ramps	NBT	1425	1431	0.2
		SBT	2155	1673	11.0
		SBR	930	687	8.5
		WBR	1105	1072	1.0
		Total	5615	4862	10.4
65	Baker and SB Ramps	SBL	145	76	6.6
		SBR	785	610	6.6
		EBL	80	80	0.0
		EBT	790	766	0.9
		WBT	775	775	0.0
		WBR	360	364	0.2
		Total	2935	2671	5.0
66	Knott and NB Ramps	NBL	45	46	0.1
		NBT	5	0	3.2
		NBR	295	301	0.3
		EBL	460	434	1.2
		EBT	475	410	3.1
		WBT	1090	1087	0.1
		WBR	640	633	0.3
		Total	3010	2912	1.8
67	Baker Rd SB On Ramp	SBT	2155	1672	11.0
		EBR	440	445	0.2
		Total	2595	2117	9.8
68	Knott NB Off Ramp	NBT	1425	1425	0.0
		NBR	345	347	0.1
		Total	1770	1773	0.1

AWD Future 2040 Build Bundle A Entry GEH (4-6 PM)						
#	Intersection	Approach	Input Volume	VISSIM Output Volume	GEH	Percent Unserved Demand
1	NB and SB Ramps Empire	North Entry	3610	3589	0.4	1%
1	NB and SB Ramps Empire	West Entry	1740	1750	0.2	-1%
3	O.B. Riley and US 20	North Entry	2955	1973	19.8	33%
4	Butler Market and Riverview	South Entry	85	81	0.4	5%
4	Butler Market and Riverview	North Entry	35	32	0.5	9%
4	Butler Market and Riverview	West Entry	1145	1133	0.4	1%
6	Butler Market and Bend River Promenade Drwy	North Entry	10	16	1.7	-60%
8	Butler Market and NB Ramp	South Entry	35	32	0.5	9%
9	Butler Market and 4th St	South Entry	615	612	0.1	0%
9	Butler Market and 4th St	North Entry	35	31	0.7	11%
9	Butler Market and 4th St	East Entry	1230	1218	0.3	0%
11	Division and 3rd St	West Entry	1095	1065	0.9	3%
12	3rd St On Ramp NB	East Entry	2700	2669	0.6	1%
15	Revere and Harriman	South Entry	35	43	1.3	-23%
15	Revere and Harriman	North Entry	110	91	1.9	17%
16	Revere and SB Ramps	South Entry	1880	1846	0.8	2%
17	Revere and NB Ramps	North Entry	850	840	0.3	1%
18	Revere and Lytle	South Entry	275	229	2.9	17%
18	Revere and Lytle	North Entry	100	98	0.2	2%
19	Revere and 3rd	South Entry	2670	2627	0.8	2%
19	Revere and 3rd	North Entry	335	330	0.3	1%
20	Revere and Albertson Drvwy	South Entry	0	0	0.0	0%
20	Revere and Albertson Drvwy	North Entry	0	0	0.0	0%
21	Revere and 4th	South Entry	0	0	0.0	0%
21	Revere and 4th	North Entry	625	583	1.7	7%
21	Revere and 4th	East Entry	740	654	3.3	12%
27	Colorado and SB ramps	West Entry	2530	1803	15.6	29%
29	Aune and Scott	South Entry	40	35	0.8	13%
29	Aune and Scott	East Entry	1080	899	5.8	17%
32	Reed Market and Brookswood	South Entry	1375	1208	4.6	12%
32	Reed Market and Brookswood	North Entry	2210	1029	29.3	53%
32	Reed Market and Brookswood	West Entry	1965	1333	15.6	32%
33	Reed Market and Silver Lake	South Entry	135	132	0.3	2%
33	Reed Market and Silver Lake	North Entry	170	164	0.5	4%
35	Reed Market and NB Ramps	North Entry	65	63	0.3	3%
36	Reed Market and Division	South Entry	100	91	0.9	9%
37	Reed Market and BK Drvwy	South Entry	25	22	0.6	0%
37	Reed Market and BK Drvwy	North Entry	385	343	2.2	11%
38	Reed Market and 3rd St	South Entry	3275	1732	30.8	47%
38	Reed Market and 3rd St	North Entry	2770	2037	15.0	26%
38	Reed Market and 3rd St	East Entry	1410	1367	1.2	3%
44	Powers and Brookswood	South Entry	1135	1134	0.0	0%
44	Powers and Brookswood	North Entry	1935	1863	1.7	4%
44	Powers and Brookswood	West Entry	250	251	0.1	0%
45	Powers and Blakely	South Entry	270	268	0.1	0%
45	Powers and Blakely	North Entry	135	131	0.3	3%
49	Powers and 3rd St	South Entry	1310	1306	0.1	0%
49	Powers and 3rd St	North Entry	2610	2934	6.2	-12%
50	Powers and Parrell	South Entry	650	639	0.4	2%
50	Powers and Parrell	North Entry	940	933	0.2	1%
60	Murphy and 3rd St	North Entry	2300	1120	28.5	51%

AWD Future 2040 Build Bundle A Entry GEH (4-6 PM)						
#	Intersection	Approach	Input Volume	VISSIM Output Volume	GEH	Percent Unserved Demand
60	Murphy and 3rd St	West Entry	1295	1372	2.1	-6%
60	Murphy and 3rd St	East Entry	1325	1183	4.0	11%
63	China Hat and Parrell	North Entry	390	386	0.2	1%
63	China Hat and Parrell	East Entry	1055	1040	0.5	1%
65	Baker and SB Ramps	West Entry	870	846	0.8	3%
66	Knott and NB Ramps	East Entry	1730	1720	0.2	1%
68	Knott NB Off Ramp	South Entry	1770	1772	0.0	0%

AWD Future 2040 Build Bundle A Exit GEH (4-6 PM)						
#	Intersection	Approach	Input Volume	VISSIM Output Volume	GEH	Percent Unserved Demand
1	NB and SB Ramps Empire	North Exit	5980	5165	10.9	14%
1	NB and SB Ramps Empire	East Exit	1360	1179	5.1	13%
3	O.B. Riley and US 20	North Exit	2455	2472	0.3	-1%
4	Butler Market and Riverview	North Exit	35	36	0.2	-3%
4	Butler Market and Riverview	West Exit	980	908	2.3	7%
4	Butler Market and Riverview	South Exit	50	42	1.2	16%
6	Butler Market and Bend River Promenade Drwy	North Exit	75	74	0.1	0%
8	Butler Market and NB Ramp	South Exit	25	25	0.0	0%
9	Butler Market and 4th St	North Exit	10	8	0.7	20%
9	Butler Market and 4th St	East Exit	1365	1280	2.3	6%
9	Butler Market and 4th St	South Exit	180	185	0.4	-3%
11	Division and 3rd St	East Exit	2715	2960	0.5	-9%
15	Revere and Harriman	North Exit	235	184	3.5	22%
15	Revere and Harriman	South Exit	80	78	0.2	3%
16	Revere and SB Ramps	South Exit	1810	1764	1.1	3%
17	Revere and NB Ramps	North Exit	1105	1033	2.2	7%
18	Revere and Lytle	South Exit	0	0	0.0	0%
18	Revere and Lytle	North Exit	0	0	0.0	0%
19	Revere and 3rd	North Exit	2840	2804	0.7	1%
19	Revere and 3rd	South Exit	2330	2336	0.1	0%
20	Revere and Albertson Drvwy	South Exit	140	134	0.5	4%
20	Revere and Albertson Drvwy	North Exit	0	0	0.0	0%
21	Revere and 4th	North Exit	0	0	0.0	0%
21	Revere and 4th	East Exit	0	0	0.0	0%
21	Revere and 4th	South Exit	0	0	0.0	0%
25	Hawthorne	West Exit	485	448	1.7	8%
27	Colorado and SB ramps	West Exit	1840	1725	2.7	6%
29	Aune and Scott	East Exit	800	730	2.5	9%
29	Aune and Scott	South Exit	70	61	1.1	0%
32	Reed Market and Brookswood	West Exit	1500	1275	6.0	15%
32	Reed Market and Brookswood	North Exit	1320	1053	7.8	20%
32	Reed Market and Brookswood	South Exit	2200	1342	20.4	39%
33	Reed Market and Silver Lake	North Exit	185	159	2.0	14%
33	Reed Market and Silver Lake	South Exit	285	241	2.7	15%
35	Reed Market and NB Ramps	North Exit	60	59	0.1	2%
36	Reed Market and Division	South Exit	1565	1354	5.5	13%
37	Reed Market and BK Drvwy	South Exit	205	193	0.9	6%
37	Reed Market and BK Drvwy	North Exit	0	0	0.0	0%
38	Reed Market and 3rd St	North Exit	1880	1158	18.5	38%
38	Reed Market and 3rd St	East Exit	2020	1420	14.5	30%
38	Reed Market and 3rd St	South Exit	2695	2115	11.8	22%
44	Powers and Brookswood	West Exit	250	246	0.3	2%
44	Powers and Brookswood	North Exit	1265	1344	2.2	-6%
44	Powers and Brookswood	South Exit	1355	1318	1.0	3%
45	Powers and Blakely	North Exit	185	184	0.1	1%
45	Powers and Blakely	South Exit	335	339	0.2	-1%
49	Powers and 3rd St	North Exit	1895	1882	0.3	1%

AWD Future 2040 Build Bundle A Exit GEH (4-6 PM)						
#	Intersection	Approach	Input Volume	VISSIM Output Volume	GEH	Percent Unserved Demand
49	Powers and 3rd St	South Exit	2315	2362	1.0	-2%
50	Powers and Parrell	North Exit	805	984	6.0	-22%
50	Powers and Parrell	South Exit	830	830	0.0	0%
60	Murphy and 3rd St	West Exit	910	670	8.5	26%
60	Murphy and 3rd St	North Exit	1005	996	0.3	1%
60	Murphy and 3rd St	East Exit	1330	1122	5.9	16%
63	China Hat and Parrell	East Exit	345	365	1.1	-6%
63	China Hat and Parrell	North Exit	1320	1659	8.8	-26%
65	Baker and SB Ramps	West Exit	1560	1385	4.6	11%
66	Knott and NB Ramps	East Exit	770	711	2.2	8%
67	Baker Rd SB On Ramp	South Exit	2595	2117	9.8	18%

Vissim GEH reports (Future Build Bundle B Conditions)

AWD Future 2040 Build Bundle B PM GEH (4-6 p.m.) - Intersection					
Intersection Number	**Intersection Name**	**Movement**	**Input Volume**	**VISSIM Output Volume**	**GEH**
1	NB and SB Ramps Empire	NBT	6075	5464	8.0
		NBR	1270	1113	4.5
		SBT	3610	3586	0.4
		EBR	1755	1726	0.7
		Total	12710	11890	7.4
2	SB off & NB on Ramp Butler Market	NBT	6810	6049	9.5
		SBT	4865	4848	0.2
		SBR	500	499	0.0
		WBR	535	529	0.3
		Total	12710	11925	7.1
3	O.B. Riley and US 20	NBL	360	325	1.9
		NBT	2295	2096	4.2
		NBR	315	296	1.1
		SBL	75	37	5.1
		SBT	2870	1428	31.1
		SBR	25	12	3.0
		EBL	25	21	0.8
		EBT	25	19	1.3
		EBR	820	666	5.6
		WBL	340	342	0.1
		WBT	40	38	0.3
		WBR	140	135	0.4
		Total	7330	5415	24.0
4	Butler Market and Riverview	NBL	0	1	1.4
		NBT	5	5	0.0
		NBR	80	77	0.3
		SBL	30	27	0.6
		SBT	0	0	0.0
		SBR	5	5	0.0
		EBL	0	0	0.0
		EBT	1125	1112	0.4
		EBR	0	0	0.0
		WBL	50	41	1.3
		WBT	965	760	7.0
		WBR	30	31	0.2
		Total	2290	2058	5.0
5	Butler Market and US 20	NBL	290	267	1.4
		NBT	2175	1940	5.2
		NBR	325	310	0.8
		SBL	410	276	7.2
		SBT	3095	2062	20.3
		SBR	525	330	9.4
		EBL	345	334	0.6
		EBT	440	445	0.2
		EBR	450	455	0.2
		WBL	510	516	0.3
		WBT	230	233	0.2
		WBR	450	443	0.3
		Total	9245	7612	17.8
6	Butler Market and Bend River Promenade Drwy	SBL	5	0	3.2
		SBR	10	8	0.7
		EBT	1175	1032	4.3
		WBT	1180	1180	0.0

AWD Future 2040 Build Bundle B PM GEH (4-6 p.m.) - Intersection					
Intersection Number	**Intersection Name**	**Movement**	**Input Volume**	**VISSIM Output Volume**	**GEH**
		WBR	75	77	0.2
		Total	2445	2297	3.0
7	Butler Market and SB Ramp Off	SBL	350	346	0.2
		SBR	150	154	0.3
		EBT	1180	1033	4.4
		WBT	1105	1103	0.1
		Total	2785	2636	2.9
8	Butler Market and NB Ramp	NBT	5	5	0.0
		NBR	30	27	0.6
		EBL	160	155	0.4
		EBT	1360	1217	4.0
		EBR	10	9	0.3
		WBL	15	16	0.3
		WBT	1105	1100	0.2
		WBR	370	366	0.2
		Total	3055	2894	3.0
9	Butler Market and 4th St	NBL	440	438	0.1
		NBT	0	0	0.0
		NBR	180	182	0.1
		SBL	5	5	0.0
		SBT	5	4	0.5
		SBR	25	22	0.6
		EBL	5	3	1.0
		EBT	1135	993	4.4
		EBR	250	247	0.2
		WBL	170	177	0.5
		WBT	1025	1011	0.4
		WBR	5	6	0.4
		Total	3245	3090	2.8
10	3rd St On Ramp NB	NBT	5835	5231	8.1
		WBR	975	818	5.2
		Total	6810	6049	9.5
11	Division and 3rd St	SBL	2070	1504	13.4
		SBT	900	677	7.9
		EBL	1060	979	2.5
		EBT	0	0	0.0
		EBR	30	30	0.0
		WBR	1730	1487	6.1
		Total	5790	4677	
12	3rd St On Ramp NB	WBT	1730	1392	8.6
		WBR	975	757	7.4
		Total	2705	2149	11.3
13	3rd St On Ramp SB	SBT	4865	4856	0.1
		EBR	930	708	7.8
		Total	5795	5564	3.1
14	Revere SB Ramp Off	SBT	5170	4940	3.2
		SBR	625	624	0.0
		Total	5795	5565	3.1
15	Revere and Harriman	NBT	0	0	0.0
		NBR	35	43	1.3
		SBL	110	89	2.1
		WBL	80	67	1.5
		WBR	235	192	2.9

AWD Future 2040 Build Bundle B PM GEH (4-6 p.m.) - Intersection					
Intersection Number	**Intersection Name**	**Movement**	**Input Volume**	**VISSIM Output Volume**	**GEH**
		Total	460	392	3.3
16	Revere and SB Ramps	NBL	100	66	3.7
		NBT	350	228	7.2
		NBR	1490	976	14.6
		SBL	240	242	0.1
		SBT	380	377	0.2
		SBR	5	5	0.0
		EBL	20	10	2.6
		EBT	70	89	2.1
		EBR	55	33	3.3
		WBL	1475	1427	1.3
		WBT	210	184	1.9
		WBR	460	437	1.1
		Total	4855	4075	11.7
17	Revere and NB Ramps	NBL	280	243	2.3
		NBT	390	374	0.8
		NBR	300	290	0.6
		SBL	190	192	0.1
		SBT	45	43	0.3
		SBR	835	828	0.2
		EBL	545	397	6.8
		EBT	750	630	4.6
		EBR	505	353	7.3
		WBL	35	34	0.2
		WBT	1030	970	1.9
		WBR	170	151	1.5
		Total	5075	4505	8.2
18	Revere and Lytle	NBR	280	275	0.3
		SBR	100	98	0.2
		EBT	1240	1114	3.7
		EBR	0	0	0.0
		WBT	1135	1057	2.4
		Total	2755	2544	4.1
19	Revere and 3rd	NBL	175	140	2.8
		NBT	2230	1844	8.6
		NBR	285	229	3.5
		SBL	375	239	7.8
		SBT	1455	1030	12.1
		SBR	120	83	3.7
		EBL	340	263	4.4
		EBT	900	844	1.9
		EBR	280	282	0.1
		WBL	505	504	0.0
		WBT	840	807	1.1
		WBR	295	282	0.8
		Total	7800	6546	14.8
20	Revere and Albertson Drvwy	SBR	20	16	0.9
		EBT	1420	1258	4.4
		EBR	140	112	2.5
		WBT	1620	1577	1.1
		WBR	0	0	0.0
		Total	3200	2963	4.3
		NBL	145	136	0.8

AWD Future 2040 Build Bundle B PM GEH (4-6 p.m.) - Intersection					
Intersection Number	**Intersection Name**	**Movement**	**Input Volume**	**VISSIM Output Volume**	**GEH**
21	Revere and 4th	NBT	520	488	1.4
		NBR	85	82	0.3
		SBL	295	283	0.7
		SBT	380	378	0.1
		SBR	750	736	0.5
		EBL	145	134	0.9
		EBT	1020	887	4.3
		EBR	255	237	1.1
		WBL	50	41	1.3
		WBT	725	632	3.6
		WBR	175	150	2.0
		Total	4545	4185	5.4
22	Revere On Ramps	NBT	5250	4789	6.5
		SBT	5170	4942	3.2
		EBR	830	692	5.0
		WBR	585	429	6.9
		Total	11835	10853	9.2
23	NB Off Ramp to Revere	NBT	5250	4789	6.5
		NBR	970	908	2.0
		Total	6220	5698	6.8
25	Hawthorne	SBT	5520	5230	4.0
		SBR	480	405	3.6
		Total	6000	5634	4.8
26	Colorado SB Ramp off_NB Ramp on	NBT	4170	3943	3.6
		SBT	4250	3993	4.0
		SBR	1270	1237	0.9
		WBR	2050	1750	6.9
		Total	11740	10923	7.7
27	Colorado and SB ramps	NBL	15	11	1.1
		NBT	675	470	8.6
		NBR	1925	1359	14.0
		SBL	250	251	0.1
		SBR	1020	987	1.0
		WBT	740	731	0.3
		WBR	105	99	0.6
		Total	4730	3909	12.5
28	Colorado and NB ramps	SBL	35	27	1.4
		SBR	360	361	0.1
		EBL	1445	1164	7.8
		EBT	730	640	3.4
		WBT	485	467	0.8
		WBR	605	587	0.7
		Total	3660	3247	7.0
29	Aune and Scott	NBL	15	11	1.1
		NBR	25	24	0.2
		EBT	740	638	3.9
		EBR	25	29	0.8
		WBL	45	44	0.1
		WBT	1075	1029	1.4
		Total	1925	1775	3.5
30	Colorado SB on and NB off Ramps	NBT	4170	3941	3.6
		NBR	395	388	0.4
		SBT	4250	3992	4.0

AWD Future 2040 Build Bundle B PM GEH (4-6 p.m.) - Intersection					
Intersection Number	**Intersection Name**	**Movement**	**Input Volume**	**VISSIM Output Volume**	**GEH**
		EBR	780	647	5.0
		Total	9595	8967	6.5
32	Reed Market and Brookswood	NBL	455	413	2.0
		NBT	560	516	1.9
		NBR	330	299	1.7
		SBL	875	414	18.2
		SBT	1155	555	20.5
		SBR	175	87	7.7
		EBL	170	124	3.8
		EBT	1145	822	10.3
		EBR	660	481	7.5
		WBL	350	293	3.2
		WBT	890	783	3.7
		WBR	615	555	2.5
		Total	7380	5341	25.6
33	Reed Market and Silver Lake	NBL	20	20	0.0
		NBT	5	5	0.0
		NBR	125	123	0.2
		SBL	90	86	0.4
		SBT	10	10	0.0
		SBR	70	68	0.2
		EBL	80	65	1.8
		EBT	2190	1516	15.7
		EBR	80	57	2.8
		WBL	200	169	2.3
		WBT	1765	1550	5.3
		WBR	105	102	0.3
		Total	4740	3772	14.8
35	Reed Market SPUI	NBL	100	100	0.0
		NBR	170	165	0.4
		SBL	1270	1208	1.8
		SBR	380	361	1.0
		EBL	595	495	4.3
		EBT	1720	1169	14.5
		EBR	90	62	3.2
		WBL	180	145	2.7
		WBT	1590	1372	5.7
		WBR	855	745	3.9
		Total	6950	5821	14.1
36	Reed Market and Division	NBR	95	90	0.5
		SBL	15	0	5.5
		SBT	0	0	0.0
		SBR	70	84	1.6
		EBL	10	7	1.0
		EBT	1710	1347	9.3
		EBR	1440	1188	7.0
		WBL	10	9	0.3
		WBT	2535	2178	7.4
		WBR	10	10	0.0
		Total	5895	4913	13.4
37	Reed Market and BK Drvwy	SBR	385	255	7.3
		EBT	1635	1325	8.1
		EBR	185	111	6.1

AWD Future 2040 Build Bundle B PM GEH (4-6 p.m.) - Intersection					
Intersection Number	**Intersection Name**	**Movement**	**Input Volume**	**VISSIM Output Volume**	**GEH**
		WBT	2170	1905	5.9
		Total	4375	3596	12.3
38	Reed Market and 3rd St	NBL	790	604	7.0
		NBT	1500	1204	8.1
		NBR	510	432	3.6
		SBL	290	219	4.5
		SBT	1840	1437	10.0
		SBR	510	394	5.5
		EBL	210	200	0.7
		EBT	1275	983	8.7
		EBR	150	144	0.5
		WBL	385	362	1.2
		WBT	870	830	1.4
		WBR	160	152	0.6
		Total	8490	6961	17.4
39	Reed Market SB Off Ramp and Division On ramp	NBT	3115	3091	0.4
		SBT	3380	3072	5.4
		SBR	1650	1571	2.0
		WBR	1450	1238	5.8
		Total	9595	8973	6.5
40	Reed Market NB off and SB on Ramps	NBT	3115	3356	4.2
		SBT	3380	3074	5.4
		EBR	270	207	4.1
		Total	6765	6636	1.6
42	Powers NB On Ramp	NBT	2790	2783	0.1
		WBR	595	570	1.0
		Total	3385	3353	0.6
44	Powers and Brookswood	NBL	10	10	0.0
		NBT	790	788	0.1
		NBR	345	352	0.4
		SBL	815	759	2.0
		SBT	1025	990	1.1
		SBR	60	56	0.5
		EBL	70	70	0.0
		EBT	170	172	0.2
		EBR	5	4	0.5
		WBL	585	544	1.7
		WBT	180	187	0.5
		WBR	395	387	0.4
		Total	4450	4320	2.0
45	Powers and Blakely	NBL	30	32	0.4
		NBT	5	5	0.0
		NBR	155	151	0.3
		SBL	45	45	0.0
		SBT	5	6	0.4
		SBR	85	79	0.7
		EBL	20	23	0.6
		EBT	1190	1181	0.3
		EBR	120	117	0.3
		WBL	275	260	0.9
		WBT	1045	1006	1.2
		WBR	165	166	0.1
		Total	3140	3071	1.2

AWD Future 2040 Build Bundle B PM GEH (4-6 p.m.) - Intersection					
Intersection Number	**Intersection Name**	**Movement**	**Input Volume**	**VISSIM Output Volume**	**GEH**
46	Powers and SB Ramps	SBL	530	496	1.5
		SBR	625	580	1.8
		EBT	1190	1177	0.4
		EBR	200	203	0.2
		WBL	65	67	0.2
		WBT	860	851	0.3
		Total	3470	3374	1.6
48	Powers and NB Ramps	NBL	70	72	0.2
		NBR	60	63	0.4
		EBL	375	354	1.1
		EBT	1345	1321	0.7
		WBT	855	847	0.3
		WBR	220	216	0.3
		Total	2925	2873	1.0
49	Powers and 3rd St	NBL	290	288	0.1
		NBT	1080	1077	0.1
		NBR	50	49	0.1
		SBL	30	27	0.6
		SBT	1775	1762	0.3
		SBR	455	449	0.3
		EBL	425	415	0.5
		EBT	375	358	0.9
		EBR	605	611	0.2
		WBL	45	46	0.1
		WBT	330	325	0.3
		WBR	50	49	0.1
		Total	5510	5455	0.7
50	Powers and Parrell	NBL	80	79	0.1
		NBT	510	503	0.3
		SBT	570	568	0.1
		SBR	345	340	0.3
		EBL	240	233	0.5
		EBR	215	202	0.9
		Total	1960	1925	0.8
52	Powers and SB on Ramp	SBT	2495	2209	5.9
		EBR	265	270	0.3
		Total	2760	2479	5.5
60	Murphy and 3rd St	NBL	25	26	0.2
		NBT	250	250	0.0
		NBR	95	95	0.0
		SBL	545	526	0.8
		SBT	1395	1275	3.3
		SBR	375	360	0.8
		SBU	0	4	2.8
		EBL	355	337	1.0
		EBT	690	658	1.2
		EBR	140	148	0.7
		WBL	435	468	1.6
		WBT	520	531	0.5
		WBR	395	382	0.7
		Total	5220	5060	2.2
		NBT	2280	2293	0.3
		NBR	370	370	0.0

AWD Future 2040 Build Bundle B PM GEH (4-6 p.m.) - Intersection					
Intersection Number	**Intersection Name**	**Movement**	**Input Volume**	**VISSIM Output Volume**	**GEH**
61	Murphy NB off and SB on Ramps	SBT	1750	1575	4.3
		WBL	1330	1343	0.4
		Total	5730	5580	2.0
62	Ponderosa_China Hat	NBT	2650	2664	0.3
		SBT	3080	2919	2.9
		EBT	695	697	0.1
		WBT	460	460	0.0
		Total	6885	6740	1.8
63	China Hat and Parrell	SBL	330	326	0.2
		SBR	15	15	0.0
		EBL	10	10	0.0
		EBT	685	690	0.2
		WBT	445	442	0.1
		WBR	570	558	0.5
		Total	2055	2041	0.3
64	Knott Rd SB off and NB on Ramps	NBT	1430	1439	0.2
		SBT	2150	2050	2.2
		SBR	930	873	1.9
		WBR	1220	1216	0.1
		Total	5730	5577	2.0
65	Baker and SB Ramps	SBL	145	146	0.1
		SBR	785	728	2.1
		EBL	85	85	0.0
		EBT	880	875	0.2
		WBT	820	818	0.1
		WBR	360	363	0.2
		Total	3075	3015	1.1
66	Knott and NB Ramps	NBL	50	52	0.3
		NBT	5	0	3.2
		NBR	285	291	0.4
		EBL	515	513	0.1
		EBT	510	511	0.0
		WBT	1130	1124	0.2
		WBR	700	699	0.0
		Total	3195	3190	0.1
67	Baker Rd SB On Ramp	SBT	2150	2051	2.2
		EBR	445	449	0.2
		Total	2595	2500	1.9
68	Knott NB Off Ramp	NBT	1430	1434	0.1
		NBR	340	342	0.1
		Total	1770	1776	0.1

AWD Future 2040 Build Bundle B Entry GEH (4-6 PM)						
#	Intersection	Approach	Input Volume	VISSIM Output Volume	GEH	Percent Unserved Demand
1	NB and SB Ramps Empire	North Entry	3610	3586	0.4	1%
1	NB and SB Ramps Empire	West Entry	1755	1726	0.7	2%
3	O.B. Riley and US 20	North Entry	2970	1477	31.7	50%
4	Butler Market and Riverview	South Entry	85	82	0.3	4%
4	Butler Market and Riverview	North Entry	35	32	0.5	9%
4	Butler Market and Riverview	West Entry	1125	1112	0.4	1%
6	Butler Market and Bend River Promenade Drwy	North Entry	10	8	0.7	20%
8	Butler Market and NB Ramp	South Entry	35	32	0.5	9%
9	Butler Market and 4th St	South Entry	620	620	0.0	0%
9	Butler Market and 4th St	North Entry	35	31	0.7	11%
9	Butler Market and 4th St	East Entry	1200	1194	0.2	1%
11	Division and 3rd St	West Entry	1060	979	2.5	8%
12	3rd St On Ramp NB	East Entry	2705	2149	11.3	21%
15	Revere and Harriman	South Entry	35	43	1.3	-23%
15	Revere and Harriman	North Entry	110	89	2.1	19%
16	Revere and SB Ramps	South Entry	1940	1270	16.7	35%
17	Revere and NB Ramps	North Entry	1070	1063	0.2	1%
18	Revere and Lytle	South Entry	280	275	0.3	2%
18	Revere and Lytle	North Entry	100	98	0.2	2%
19	Revere and 3rd	South Entry	2690	2213	9.6	18%
19	Revere and 3rd	North Entry	1950	1352	14.7	31%
20	Revere and Albertson Drvwy	South Entry	0	0	0.0	0%
20	Revere and Albertson Drvwy	North Entry	20	16	0.0	0%
21	Revere and 4th	South Entry	750	706	1.6	0%
21	Revere and 4th	North Entry	1425	1397	0.7	2%
21	Revere and 4th	East Entry	950	823	4.3	13%
27	Colorado and SB ramps	South Entry	2615	1840	16.4	30%
29	Aune and Scott	South Entry	40	35	0.8	13%
29	Aune and Scott	East Entry	1120	1073	1.4	4%
32	Reed Market and Brookswood	South Entry	1345	1228	3.3	9%
32	Reed Market and Brookswood	North Entry	2205	1056	28.5	52%
32	Reed Market and Brookswood	West Entry	1975	1427	13.3	28%
33	Reed Market and Silver Lake	South Entry	150	148	0.2	1%
33	Reed Market and Silver Lake	North Entry	170	164	0.5	4%
35	Reed Market SPUI	North Entry	380	361	1.0	5%
36	Reed Market and Division	South Entry	95	90	0.5	5%
37	Reed Market and BK Drvwy	South Entry	0	0	0.0	0%
37	Reed Market and BK Drvwy	North Entry	385	255	7.3	34%
38	Reed Market and 3rd St	South Entry	2800	2240	11.2	20%
38	Reed Market and 3rd St	North Entry	2640	2050	12.2	22%
38	Reed Market and 3rd St	East Entry	1415	1344	1.9	5%
44	Powers and Brookswood	South Entry	1145	1150	0.1	0%
44	Powers and Brookswood	North Entry	1900	1805	2.2	5%
44	Powers and Brookswood	West Entry	245	246	0.1	0%
45	Powers and Blakely	South Entry	190	188	0.1	0%
45	Powers and Blakely	North Entry	135	130	0.4	4%
49	Powers and 3rd St	South Entry	1420	1414	0.2	0%
49	Powers and 3rd St	North Entry	2260	2238	0.5	1%
50	Powers and Parrell	South Entry	590	582	0.3	1%
50	Powers and Parrell	North Entry	915	908	0.2	1%
60	Murphy and 3rd St	North Entry	2315	2161	3.3	7%

AWD Future 2040 Build Bundle B Entry GEH (4-6 PM)						
#	Intersection	Approach	Input Volume	VISSIM Output Volume	GEH	Percent Unserved Demand
60	Murphy and 3rd St	West Entry	1185	1143	1.2	4%
60	Murphy and 3rd St	East Entry	1350	1381	0.8	-2%
63	China Hat and Parrell	North Entry	345	341	0.2	1%
63	China Hat and Parrell	East Entry	1015	1000	0.5	1%
65	Baker and SB Ramps	West Entry	965	960	0.2	1%
66	Knott and NB Ramps	East Entry	1830	1823	0.2	0%
68	Knott NB Off Ramp	South Entry	1770	1776	0.1	0%

AWD Future 2040 Build Bundle B Exit GEH (4-6 PM)						
#	Intersection	Approach	Input Volume	VISSIM Output Volume	GEH	Percent Unserved Demand
1	NB and SB Ramps Empire	North Exit	6075	5464	8.0	10%
1	NB and SB Ramps Empire	East Exit	1270	1113	4.5	12%
3	O.B. Riley and US 20	North Exit	2460	2252	4.3	8%
4	Butler Market and Riverview	North Exit	35	36	0.2	-3%
4	Butler Market and Riverview	West Exit	970	765	7.0	21%
4	Butler Market and Riverview	South Exit	50	41	1.3	18%
6	Butler Market and Bend River Promenade Drwy	North Exit	75	77	0.2	0%
8	Butler Market and NB Ramp	South Exit	25	25	0.0	0%
9	Butler Market and 4th St	North Exit	10	9	0.3	10%
9	Butler Market and 4th St	East Exit	1320	1180	4.0	11%
9	Butler Market and 4th St	South Exit	425	428	0.1	-1%
11	Division and 3rd St	East Exit	2070	1504	13.4	27%
15	Revere and Harriman	North Exit	235	192	2.9	18%
15	Revere and Harriman	South Exit	80	67	1.5	16%
16	Revere and SB Ramps	South Exit	1910	1837	1.7	4%
17	Revere and NB Ramps	North Exit	1105	922	5.7	17%
18	Revere and Lytle	South Exit	0	0	0.0	0%
18	Revere and Lytle	North Exit	0	0	0.0	0%
19	Revere and 3rd	North Exit	2865	2389	9.3	17%
19	Revere and 3rd	South Exit	2240	1816	9.4	19%
20	Revere and Albertson Drvwy	South Exit	140	112	2.5	20%
20	Revere and Albertson Drvwy	North Exit	0	0	0.0	0%
21	Revere and 4th	North Exit	840	772	2.4	8%
21	Revere and 4th	East Exit	1400	1252	4.1	11%
21	Revere and 4th	South Exit	685	656	1.1	4%
25	Hawthorne	West Exit	480	405	3.6	16%
27	Colorado and SB ramps	West Exit	1775	1729	1.1	3%
29	Aune and Scott	East Exit	765	662	3.9	13%
29	Aune and Scott	South Exit	70	73	0.4	0%
32	Reed Market and Brookswood	West Exit	1520	1283	6.3	16%
32	Reed Market and Brookswood	North Exit	1345	1195	4.2	11%
32	Reed Market and Brookswood	South Exit	2165	1329	20.0	39%
33	Reed Market and Silver Lake	North Exit	190	172	1.3	9%
33	Reed Market and Silver Lake	South Exit	290	236	3.3	19%
35	Reed Market SPUI	North Exit	855	745	3.9	13%
36	Reed Market and Division	South Exit	1450	1197	7.0	17%
37	Reed Market and BK Drvwy	South Exit	185	111	6.1	40%
37	Reed Market and BK Drvwy	North Exit	0	0	0.0	0%
38	Reed Market and 3rd St	North Exit	1870	1556	7.6	17%
38	Reed Market and 3rd St	East Exit	2075	1634	10.2	21%
38	Reed Market and 3rd St	South Exit	2375	1943	9.3	18%
44	Powers and Brookswood	West Exit	250	253	0.2	-1%
44	Powers and Brookswood	North Exit	1255	1245	0.3	1%
44	Powers and Brookswood	South Exit	1615	1538	1.9	5%
45	Powers and Blakely	North Exit	190	194	0.3	-2%
45	Powers and Blakely	South Exit	400	383	0.9	4%
49	Powers and 3rd St	North Exit	1555	1541	0.4	1%

AWD Future 2040 Build Bundle B Exit GEH (4-6 PM)						
#	Intersection	Approach	Input Volume	VISSIM Output Volume	GEH	Percent Unserved Demand
49	Powers and 3rd St	South Exit	2425	2419	0.1	0%
50	Powers and Parrell	North Exit	750	736	0.5	2%
50	Powers and Parrell	South Exit	785	770	0.5	2%
60	Murphy and 3rd St	West Exit	920	917	0.1	0%
60	Murphy and 3rd St	North Exit	1000	969	1.0	3%
60	Murphy and 3rd St	East Exit	1330	1279	1.4	4%
63	China Hat and Parrell	East Exit	1015	1016	0.0	0%
63	China Hat and Parrell	North Exit	580	568	0.5	2%
65	Baker and SB Ramps	West Exit	1605	1546	1.5	4%
66	Knott and NB Ramps	East Exit	795	802	0.2	-1%
67	Baker Rd SB On Ramp	South Exit	2595	2500	1.9	4%

Vissim GEH reports (Future Build Bundle C Conditions)

AWD Future 2040 Build Bundle C PM GEH (4-6 p.m.) - Intersection					
Intersection Number	**Intersection Name**	**Movement**	**Input Volume**	**VISSIM Output Volume**	**GEH**
1	NB and SB Ramps Empire	NBT	5780	5376	5.4
		NBR	1295	1187	3.1
		SBT	4250	4057	3.0
		EBR	1665	1638	0.7
		Total	12990	12258	6.5
2	SB off & NB on Ramp Butler Market	NBT	6625	6118	6.4
		SBT	5320	5139	2.5
		SBR	595	565	1.2
		WBR	450	446	0.2
		Total	12990	12267	6.4
3	O.B. Riley and US 20	NBL	375	378	0.2
		NBT	2395	2425	0.6
		NBR	345	341	0.2
		SBL	70	56	1.8
		SBT	2250	1871	8.3
		SBR	20	17	0.7
		EBL	25	25	0.0
		EBT	30	29	0.2
		EBR	815	786	1.0
		WBL	315	315	0.0
		WBT	45	45	0.0
		WBR	150	143	0.6
		Total	6835	6431	5.0
4	Butler Market and Riverview	NBL	0	1	1.4
		NBT	5	4	0.5
		NBR	80	78	0.2
		SBL	30	27	0.6
		SBR	5	5	0.0
		EBT	1160	1143	0.5
		WBL	50	49	0.1
		WBT	955	910	1.5
		WBR	30	29	0.2
		Total	2315	2247	1.4
5	Butler Market and US 20	NBL	310	320	0.6
		NBT	2255	2301	1.0
		NBR	305	309	0.2
		SBL	335	311	1.3
		SBT	2605	2484	2.4
		SBR	440	406	1.7
		EBL	345	338	0.4
		EBT	455	458	0.1
		EBR	470	477	0.3
		WBL	575	540	1.5
		WBT	285	261	1.5
		WBR	515	506	0.4
		Total	8895	8711	2.0
6	Butler Market and Bend River Promenade Drwy	SBR	50	18	5.5
		EBT	1095	1078	0.5
		WBT	1325	1286	1.1
		WBR	50	50	0.0
		Total	2520	2431	1.8
		SBL	360	336	1.3
		SBR	235	227	0.5

AWD Future 2040 Build Bundle C PM GEH (4-6 p.m.) - Intersection					
Intersection Number	**Intersection Name**	**Movement**	**Input Volume**	**VISSIM Output Volume**	**GEH**
7	Butler Market and SB Ramp Off	EBT	1095	1079	0.5
		WBT	1140	1134	0.2
		Total	2830	2777	1.0
8	Butler Market and NB Ramp	NBT	5	5	0.0
		NBR	30	27	0.6
		EBL	135	134	0.1
		EBT	1310	1277	0.9
		EBR	10	9	0.3
		WBL	15	15	0.0
		WBT	1140	1136	0.1
		WBR	310	307	0.2
		Total	2955	2908	0.9
9	Butler Market and 4th St	NBL	420	421	0.0
		NBT	0	0	
		NBR	170	172	0.2
		SBL	5	6	0.4
		SBT	5	4	0.5
		SBR	25	22	0.6
		EBL	5	5	0.0
		EBT	1085	1055	0.9
		EBR	250	250	0.0
		WBL	185	182	0.2
		WBT	1020	978	1.3
		WBR	5	6	0.4
		Total	3175	3100	1.3
10	3rd St On Ramp NB	NBT	5690	5206	6.6
		WBR	935	915	0.7
		Total	6625	6120	6.3
11	Division and 3rd St	SBL	1915	1844	1.6
		SBT	840	776	2.3
		EBL	1060	1081	0.6
		EBT	0	0	0.0
		EBR	25	26	0.2
		WBR	1810	1837	0.6
		Total	5650	5564	1.1
12	3rd St On Ramp NB	WBT	1810	1820	0.2
		WBR	935	909	0.9
		Total	2745	2729	0.3
13	3rd St On Ramp SB	SBT	5320	5103	3.0
		EBR	865	797	2.4
		Total	6185	5900	3.7
14	Revere SB Ramp Off	SBT	5420	5160	3.6
		SBR	765	725	1.5
		Total	6185	5885	3.9
15	Revere and Harriman	NBT	0	0	0.0
		NBR	35	43	1.3
		SBL	110	84	2.6
		WBL	80	76	0.5
		WBR	235	212	1.5
		Total	460	416	2.1
		NBL	105	104	0.1
		NBT	385	379	0.3
		NBR	1470	1453	0.4

AWD Future 2040 Build Bundle C PM GEH (4-6 p.m.) - Intersection					
Intersection Number	**Intersection Name**	**Movement**	**Input Volume**	**VISSIM Output Volume**	**GEH**
16	Revere and SB Ramps	SBL	285	266	1.1
		SBT	475	455	0.9
		SBR	5	5	0.0
		EBL	20	10	2.6
		EBT	70	84	1.6
		EBR	55	33	3.3
		WBL	1285	1249	1.0
		WBT	205	178	2.0
		WBR	420	401	0.9
		Total	4780	4618	2.4
17	Revere and NB Ramps	NBL	280	228	3.3
		NBT	445	368	3.8
		NBR	405	365	2.0
		SBL	190	191	0.1
		SBT	40	38	0.3
		SBR	680	678	0.1
		EBL	515	521	0.3
		EBT	825	804	0.7
		EBR	485	489	0.2
		WBL	35	32	0.5
		WBT	950	919	1.0
		WBR	170	152	1.4
		Total	5020	4785	3.4
18	Revere and Lytle	NBR	280	276	0.2
		SBR	90	87	0.3
		EBT	1420	1361	1.6
		EBR	0	0	0.0
		WBT	1065	1016	1.5
		Total	2855	2740	2.2
19	Revere and 3rd	NBL	175	134	3.3
		NBT	2255	1801	10.1
		NBR	280	218	3.9
		SBL	335	233	6.1
		SBT	1395	1122	7.7
		SBR	105	84	2.2
		EBL	375	376	0.1
		EBT	975	922	1.7
		EBR	350	331	1.0
		WBL	510	517	0.3
		WBT	785	773	0.4
		WBR	285	275	0.6
		Total	7825	6784	12.2
20	Revere and Albertson Drvwy	SBR	0	0	0.0
		EBT	1460	1309	4.1
		EBR	130	114	1.4
		WBT	1580	1566	0.4
		WBR	0	0	0.0
		Total	3170	2989	3.3
		NBL	125	122	0.3
		NBT	495	488	0.3
		NBR	70	70	0.0
		SBL	285	271	0.8
		SBT	315	306	0.5

AWD Future 2040 Build Bundle C PM GEH (4-6 p.m.) - Intersection					
Intersection Number	**Intersection Name**	**Movement**	**Input Volume**	**VISSIM Output Volume**	**GEH**
21	Revere and 4th	SBR	790	777	0.5
		EBL	175	156	1.5
		EBT	1050	938	3.6
		EBR	235	211	1.6
		WBL	35	35	0.0
		WBT	665	635	1.2
		WBR	175	168	0.5
		Total	4415	4176	3.6
22	Revere On Ramps	NBT	5130	4641	7.0
		SBT	5420	5152	3.7
		EBR	825	795	1.1
		WBR	560	560	0.0
		Total	11935	11148	7.3
23	NB Off Ramp to Revere	NBT	5130	4641	7.0
		NBR	1130	961	5.2
		Total	6260	5602	8.5
25	Hawthorne	SBT	5730	5442	3.9
		SBR	515	445	3.2
		Total	6245	5887	4.6
26	Colorado SB Ramp off_NB Ramp on	NBT	4240	3649	9.4
		SBT	4315	4071	3.8
		SBR	1415	1342	2.0
		WBR	2020	1951	1.5
		Total	11990	11013	9.1
27	Colorado and SB ramps	NBL	15	13	0.5
		NBT	655	584	2.9
		NBR	1885	1682	4.8
		SBL	280	274	0.4
		SBR	1135	1069	2.0
		WBT	740	682	2.2
		WBR	105	97	0.8
		Total	4815	4401	6.1
28	Colorado and NB ramps	SBL	40	23	3.0
		SBR	365	303	3.4
		EBL	1435	1364	1.9
		EBT	730	710	0.7
		WBT	480	474	0.3
		WBR	585	588	0.1
		Total	3635	3461	2.9
29	Aune and Scott	NBL	15	14	0.3
		NBR	25	24	0.2
		EBT	745	709	1.3
		EBR	25	23	0.4
		WBL	45	46	0.1
		WBT	1050	1041	0.3
		Total	1905	1857	1.1
30	Colorado SB on and NB off Ramps	NBT	4240	3648	9.4
		NBR	405	326	4.1
		SBT	4315	4061	3.9
		EBR	760	723	1.4
		Total	9720	8758	10.0
		NBL	425	397	1.4
		NBT	540	516	1.0

AWD Future 2040 Build Bundle C PM GEH (4-6 p.m.) - Intersection					
Intersection Number	**Intersection Name**	**Movement**	**Input Volume**	**VISSIM Output Volume**	**GEH**
32	Reed Market and Brookswood	NBR	330	315	0.8
		SBL	875	447	16.6
		SBT	1120	584	18.4
		SBR	175	93	7.1
		EBL	170	123	3.9
		EBT	1145	806	10.9
		EBR	635	450	7.9
		WBL	350	301	2.7
		WBT	905	791	3.9
		WBR	615	490	5.3
		Total	7285	5311	24.9
33	Reed Market and Silver Lake	NBL	20	21	0.2
		NBT	0	0	0.0
		NBR	125	121	0.4
		SBL	90	86	0.4
		SBT	10	11	0.3
		SBR	70	69	0.1
		EBL	80	70	1.2
		EBT	2190	1521	15.5
		EBR	80	62	2.1
		WBL	210	190	1.4
		WBT	1780	1496	7.0
		WBR	105	95	1.0
		Total	4760	3742	15.6
34	Reed Market and SB Ramps	SBL	1285	1180	3.0
		SBT	0	0	0.0
		SBR	390	352	2.0
		EBT	2270	1644	14.2
		EBR	135	84	4.9
		WBT	1705	1430	6.9
		WBR	135	128	0.6
		Total	5920	4818	15.0
35	Reed Market and NB Ramps	NBL	65	51	1.8
		NBR	290	262	1.7
		SBR	65	59	0.8
		EBT	3105	2448	12.5
		EBR	450	372	3.8
		WBT	1710	1454	6.4
		WBR	60	57	0.4
		Total	5745	4702	14.4
36	Reed Market and Division	NBR	90	84	0.6
		SBL	10	7	1.0
		SBT	0	0	0.0
		SBR	35	34	0.2
		EBL	175	130	3.6
		EBT	1770	1384	9.7
		EBR	1450	1195	7.0
		WBL	10	10	0.0
		WBT	1735	1477	6.4
		WBR	885	669	7.7
		Total	6160	4990	15.7
		SBR	385	378	0.4
		EBT	1685	1371	8.0

AWD Future 2040 Build Bundle C PM GEH (4-6 p.m.) - Intersection					
Intersection Number	**Intersection Name**	**Movement**	**Input Volume**	**VISSIM Output Volume**	**GEH**
37	Reed Market and BK Drvwy	EBR	185	106	6.5
		WBT	2245	1774	10.5
		Total	4500	3630	13.6
38	Reed Market and 3rd St	NBL	860	497	13.9
		NBT	1425	852	17.0
		NBR	485	283	10.3
		SBL	265	179	5.8
		SBT	1840	1292	13.8
		SBR	515	358	7.5
		EBL	215	185	2.1
		EBT	1290	1015	8.1
		EBR	180	174	0.5
		WBL	375	358	0.9
		WBT	870	822	1.7
		WBR	145	140	0.4
		Total	8465	6156	27.0
39	Reed Market SB Off Ramp and Division On ramp	NBT	3585	3177	7.0
		SBT	3400	3125	4.8
		SBR	1675	1531	3.6
		WBR	1060	796	8.7
		Total	9720	8629	11.4
40	Reed Market NB off and SB on Ramps	NBT	3135	2801	6.1
		NBR	355	314	2.2
		SBT	3400	3048	6.2
		EBR	270	211	3.8
		Total	7160	6375	9.5
41	Reed Ln	NBT	3490	3108	6.7
		SBT	3670	3176	8.4
		Total	7160	6283	10.7
42	Powers NB On Ramp	NBT	2960	2607	6.7
		WBR	530	503	1.2
		Total	3490	3110	6.6
43	Powers and NB off Ramp	NBT	2960	2607	6.7
		NBR	70	51	2.4
		Total	3030	2657	7.0
44	Powers and Brookswood	NBL	15	15	0.0
		NBT	770	769	0.0
		NBR	325	334	0.5
		SBL	730	691	1.5
		SBT	1025	995	0.9
		SBR	65	63	0.3
		EBL	75	75	0.0
		EBT	175	175	0.0
		EBR	5	5	0.0
		WBL	515	455	2.7
		WBT	175	161	1.1
		WBR	325	310	0.8
		Total	4200	4048	2.4
		NBL	60	63	0.4
		NBT	5	5	0.0
		NBR	115	111	0.4
		SBL	45	44	0.1
		SBT	10	12	0.6

AWD Future 2040 Build Bundle C PM GEH (4-6 p.m.) - Intersection					
Intersection Number	**Intersection Name**	**Movement**	**Input Volume**	**VISSIM Output Volume**	**GEH**
45	Powers and Blakely	SBR	85	82	0.3
		EBL	20	20	0.0
		EBT	1090	1072	0.5
		EBR	120	129	0.8
		WBL	255	234	1.3
		WBT	870	782	3.1
		WBR	160	142	1.5
		Total	2835	2695	2.7
46	Powers and SB Ramps	NBL	15	0	5.5
		NBR	545	469	3.4
		EBT	1225	1201	0.7
		EBR	25	27	0.4
		WBL	55	56	0.1
		WBT	1270	1157	3.2
		Total	3135	2909	4.1
47	Powers at-grade	NBT	3030	2658	7.0
		NBR	60	45	2.1
		SBT	3060	2601	8.6
		SBR	610	532	3.3
		EBT	1770	1669	2.4
		WBT	715	682	1.2
		Total	9245	8186	11.3
48	Powers and NB Ramps	SBR	70	50	2.6
		EBL	365	338	1.4
		EBT	1465	1377	2.3
		WBT	645	633	0.5
		WBR	165	165	0.0
		Total	2710	2563	2.9
49	Powers and 3rd St	NBL	185	180	0.4
		NBT	1070	1072	0.1
		NBR	55	53	0.3
		SBL	35	34	0.2
		SBT	1850	1836	0.3
		SBR	340	336	0.2
		EBL	425	397	1.4
		EBT	395	356	2.0
		EBR	645	624	0.8
		WBL	55	54	0.1
		WBT	285	280	0.3
		WBR	55	55	0.0
		Total	5395	5277	1.6
50	Powers and Parrell	NBL	60	59	0.1
		NBT	380	377	0.2
		SBT	630	631	0.0
		SBR	335	329	0.3
		EBL	270	249	1.3
		EBR	215	193	1.5
		Total	1890	1838	1.2
51	Powers and SB off Ramp	SBT	2500	2130	7.7
		SBR	560	470	4.0
		Total	3060	2599	8.7
52	Powers and SB on Ramp	SBT	2500	2129	7.7
		EBR	80	83	0.3

AWD Future 2040 Build Bundle C PM GEH (4-6 p.m.) - Intersection					
Intersection Number	**Intersection Name**	**Movement**	**Input Volume**	**VISSIM Output Volume**	**GEH**
		Total	2580	2212	7.5
54	Badger at-grade	NBT	3090	2694	7.4
		SBT	2580	2208	7.6
		Total	5670	4902	10.6
57	Pinebrook at-grade	NBT	3090	2692	7.4
		SBT	2580	2210	7.6
		Total	5670	4903	10.5
60	Murphy and 3rd St	NBL	90	74	1.8
		NBT	390	285	5.7
		NBR	110	62	5.2
		SBL	525	514	0.5
		SBT	1370	1287	2.3
		SBR	430	414	0.8
		SBU	0	4	2.8
		EBL	425	416	0.4
		EBT	745	723	0.8
		EBR	50	54	0.6
		WBL	255	280	1.5
		WBT	540	541	0.0
		WBR	405	398	0.3
		Total	5335	5051	3.9
61	Murphy NB off and SB on Ramps	NBT	2755	2371	7.6
		NBR	590	419	7.6
		SBT	2320	1985	7.2
		WBL	1340	1347	0.2
		Total	7005	6122	10.9
62	Ponderosa_China Hat	NBT	1885	1895	0.2
		NBR	100	104	0.4
		SBT	3240	2938	5.4
		SBR	420	398	1.1
		EBR	130	129	0.1
		WBR	1460	894	16.5
		Total	7235	6358	10.6
63	China Hat and Parrell	SBL	655	648	0.3
		SBR	65	65	0.0
		EBL	90	93	0.3
		EBT	10	11	0.3
		WBT	1395	669	22.6
		WBR	105	53	5.9
		Total	2320	1539	17.8
64	Knott Rd SB off and NB on Ramps	NBT	1435	1443	0.2
		SBT	2165	1986	3.9
		SBR	1205	1083	3.6
		WBR	550	549	0.0
		Total	5355	5062	4.1
65	Baker and SB Ramps	SBL	410	370	2.0
		SBR	795	710	3.1
		EBL	25	27	0.4
		EBT	850	845	0.2
		WBT	825	814	0.4
		WBR	405	411	0.3
		Total	3310	3178	2.3
		NBL	50	50	0.0

AWD Future 2040 Build Bundle C PM GEH (4-6 p.m.) - Intersection					
Intersection Number	**Intersection Name**	**Movement**	**Input Volume**	**VISSIM Output Volume**	**GEH**
66	Knott and NB Ramps	NBT	5	0	3.2
		NBR	280	286	0.4
		EBL	505	506	0.0
		EBT	755	711	1.6
		WBT	1180	1171	0.3
		WBR	40	42	0.3
		Total	2815	2766	0.9
67	Baker Rd SB On Ramp	SBT	2165	1986	3.9
		EBR	430	438	0.4
		Total	2595	2424	3.4
68	Knott NB Off Ramp	NBT	1435	1437	0.1
		NBR	335	335	0.0
		Total	1770	1772	0.0

AWD Future 2040 Build Bundle C Entry GEH (4-6 PM)						
#	Intersection	Approach	Input Volume	VISSIM Output Volume	GEH	Percent Unserved Demand
1	NB and SB Ramps Empire	North Entry	4250	4057	3.0	5%
1	NB and SB Ramps Empire	West Entry	1665	1638	0.7	2%
3	O.B. Riley and US 20	North Entry	2340	1944	8.6	17%
4	Butler Market and Riverview	South Entry	85	82	0.3	4%
4	Butler Market and Riverview	North Entry	35	32	0.5	9%
4	Butler Market and Riverview	West Entry	1160	1143	0.5	1%
6	Butler Market and Bend River Promenade Drwy	North Entry	50	18	5.5	64%
8	Butler Market and NB Ramp	South Entry	35	32	0.5	9%
9	Butler Market and 4th St	South Entry	590	593	0.1	0%
9	Butler Market and 4th St	North Entry	35	32	0.5	9%
9	Butler Market and 4th St	East Entry	1210	1166	1.3	4%
11	Division and 3rd St	West Entry	1085	1107	0.7	-2%
12	3rd St On Ramp NB	East Entry	2745	2729	0.3	1%
15	Revere and Harriman	South Entry	35	43	1.3	-23%
15	Revere and Harriman	North Entry	110	84	2.6	24%
16	Revere and SB Ramps	South Entry	1960	1936	0.5	1%
17	Revere and NB Ramps	North Entry	910	907	0.1	0%
18	Revere and Lytle	South Entry	280	276	0.2	1%
18	Revere and Lytle	North Entry	90	87	0.3	3%
19	Revere and 3rd	South Entry	2710	2153	11.3	21%
19	Revere and 3rd	North Entry	1835	1439	9.8	22%
20	Revere and Albertson Drvwy	South Entry	0	0	0.0	0%
20	Revere and Albertson Drvwy	North Entry	0	0	0.0	0%
21	Revere and 4th	South Entry	690	680	0.4	0%
21	Revere and 4th	North Entry	1390	1354	1.0	3%
21	Revere and 4th	East Entry	875	838	1.3	4%
27	Colorado and SB ramps	South Entry	2555	2279	5.6	11%
29	Aune and Scott	South Entry	40	38	0.3	5%
29	Aune and Scott	East Entry	1095	1087	0.2	1%
32	Reed Market and Brookswood	South Entry	1295	1228	1.9	5%
32	Reed Market and Brookswood	North Entry	2170	1124	25.8	48%
32	Reed Market and Brookswood	West Entry	1950	1379	14.0	29%
33	Reed Market and Silver Lake	South Entry	145	142	0.3	2%
33	Reed Market and Silver Lake	North Entry	170	166	0.3	2%
35	Reed Market and NB Ramps	North Entry	65	59	0.8	9%
36	Reed Market and Division	South Entry	90	84	0.6	7%
37	Reed Market and BK Drvwy	South Entry	0	0	0.0	0%
37	Reed Market and BK Drvwy	North Entry	385	378	0.4	2%
38	Reed Market and 3rd St	South Entry	2770	1632	24.3	41%
38	Reed Market and 3rd St	North Entry	2620	1829	16.8	30%
38	Reed Market and 3rd St	East Entry	1390	1320	1.9	5%
44	Powers and Brookswood	South Entry	1110	1118	0.2	0%
44	Powers and Brookswood	North Entry	1820	1749	1.7	4%
44	Powers and Brookswood	West Entry	255	255	0.0	0%
45	Powers and Blakely	South Entry	180	179	0.1	0%
45	Powers and Blakely	North Entry	140	138	0.2	1%
49	Powers and 3rd St	South Entry	1310	1305	0.1	0%
49	Powers and 3rd St	North Entry	2225	2206	0.4	1%
50	Powers and Parrell	South Entry	440	436	0.2	1%
50	Powers and Parrell	North Entry	965	960	0.2	1%
60	Murphy and 3rd St	North Entry	2325	2215	2.3	5%

AWD Future 2040 Build Bundle C Entry GEH (4-6 PM)						
#	Intersection	Approach	Input Volume	VISSIM Output Volume	GEH	Percent Unserved Demand
60	Murphy and 3rd St	West Entry	1220	1193	0.8	2%
60	Murphy and 3rd St	East Entry	1200	1219	0.5	-2%
62	Ponderosa_China Hat	West Entry	130	129	0.1	1%
63	China Hat and Parrell	North Entry	720	713	0.3	1%
63	China Hat and Parrell	East Entry	1500	722	23.3	52%
65	Baker and SB Ramps	West Entry	875	872	0.1	0%
66	Knott and NB Ramps	East Entry	1220	1213	0.2	1%
68	Knott NB Off Ramp	South Entry	1770	1772	0.0	0%

AWD Future 2040 Build Bundle C Exit GEH (4-6 PM)						
#	Intersection	Approach	Input Volume	VISSIM Output Volume	GEH	Percent Unserved Demand
1	NB and SB Ramps Empire	North Exit	5780	5376	5.4	7%
1	NB and SB Ramps Empire	East Exit	1295	1187	3.1	8%
3	O.B. Riley and US 20	North Exit	2570	2593	0.5	-1%
4	Butler Market and Riverview	North Exit	35	33	0.3	6%
4	Butler Market and Riverview	West Exit	960	915	1.5	5%
4	Butler Market and Riverview	South Exit	50	49	0.1	2%
6	Butler Market and Bend River Promenade Drwy	North Exit	50	50	0.0	0%
8	Butler Market and NB Ramp	South Exit	25	24	0.2	0%
9	Butler Market and 4th St	North Exit	10	11	0.3	-10%
9	Butler Market and 4th St	East Exit	1260	1233	0.8	2%
9	Butler Market and 4th St	South Exit	440	436	0.2	1%
11	Division and 3rd St	East Exit	895	895	0.0	0%
15	Revere and Harriman	North Exit	235	212	1.5	10%
15	Revere and Harriman	South Exit	80	76	0.5	5%
16	Revere and SB Ramps	South Exit	1815	1737	1.9	4%
17	Revere and NB Ramps	North Exit	1130	1041	2.7	8%
18	Revere and Lytle	South Exit	0	0	0.0	0%
18	Revere and Lytle	North Exit	0	0	0.0	0%
19	Revere and 3rd	North Exit	2915	2452	8.9	16%
19	Revere and 3rd	South Exit	2255	1970	6.2	13%
20	Revere and Albertson Drvwy	South Exit	130	114	1.4	12%
20	Revere and Albertson Drvwy	North Exit	0	0	0.0	0%
21	Revere and 4th	North Exit	845	812	1.1	4%
21	Revere and 4th	East Exit	1405	1279	3.4	9%
21	Revere and 4th	South Exit	585	552	1.4	6%
25	Hawthorne	West Exit	515	445	3.2	14%
27	Colorado and SB ramps	West Exit	1890	1764	2.9	7%
29	Aune and Scott	East Exit	770	733	1.3	5%
29	Aune and Scott	South Exit	70	69	0.1	0%
32	Reed Market and Brookswood	West Exit	1505	1281	6.0	15%
32	Reed Market and Brookswood	North Exit	1325	1129	5.6	15%
32	Reed Market and Brookswood	South Exit	2105	1335	18.6	37%
33	Reed Market and Silver Lake	North Exit	185	165	1.5	11%
33	Reed Market and Silver Lake	South Exit	300	263	2.2	12%
35	Reed Market and NB Ramps	North Exit	60	57	0.4	5%
36	Reed Market and Division	South Exit	1460	1205	7.0	17%
37	Reed Market and BK Drvwy	South Exit	185	106	6.5	43%
37	Reed Market and BK Drvwy	North Exit	0	0	0.0	0%
38	Reed Market and 3rd St	North Exit	1785	1177	15.8	34%
38	Reed Market and 3rd St	East Exit	2040	1477	13.4	28%
38	Reed Market and 3rd St	South Exit	2395	1824	12.4	24%
44	Powers and Brookswood	West Exit	255	239	1.0	6%
44	Powers and Brookswood	North Exit	1170	1154	0.5	1%
44	Powers and Brookswood	South Exit	1545	1455	2.3	6%
45	Powers and Blakely	North Exit	185	167	1.4	10%
45	Powers and Blakely	South Exit	385	375	0.5	3%
49	Powers and 3rd St	North Exit	1550	1524	0.7	2%

AWD Future 2040 Build Bundle C Exit GEH (4-6 PM)						
#	Intersection	Approach	Input Volume	VISSIM Output Volume	GEH	Percent Unserved Demand
49	Powers and 3rd St	South Exit	2550	2514	0.7	1%
50	Powers and Parrell	North Exit	650	626	1.0	4%
50	Powers and Parrell	South Exit	845	824	0.7	2%
60	Murphy and 3rd St	West Exit	1060	1029	1.0	3%
60	Murphy and 3rd St	North Exit	1220	1099	3.6	10%
60	Murphy and 3rd St	East Exit	1380	1299	2.2	6%
62	Ponderosa_China Hat	West Exit	420	398	1.1	5%
63	China Hat and Parrell	East Exit	665	659	0.2	1%
63	China Hat and Parrell	North Exit	195	146	3.8	25%
65	Baker and SB Ramps	West Exit	1620	1524	2.4	6%
66	Knott and NB Ramps	East Exit	1035	997	1.2	4%
67	Baker Rd SB On Ramp	South Exit	2595	2424	3.4	7%

Vissim Queue reports (Future 2040 Build Bundle A Conditions)

Queuing Results for PM Peak Hour - AWD

Future Build (Bundle A) Conditions 95th Percentile Queue (Available Storage)(ft)

Study Intersection No.		7	8	16	17	24	25
Approach	**Movement**	**Butler Market and SB Ramp Off**	**Butler Market and NB Ramp**	**Revere and SB Ramps**	**Revere and NB Ramps**	**Lafayette Ave**	**Hawthorne**
NB	Left	-	-	114(515)	-	-	-
	Thru	-	26(N/A)	459(1200)	444(500)	-	-
	Right	-	-	943(1200)	445(200)	-	-
SB	Left	218(150)	-	186(620)	807(N/A)	-	-
	Thru	114(845)	-	271(640)	235(N/A)	-	-
	Right	-	-	-	596(140)	-	-
EB	Left	-	84(370)	118(27)	715(640)	-	-
	Thru	524(350)	-	114(300)	740(640)	-	-
	Right	-	-	-	109(155)	-	-
WB	Left	285(375)	124(590)	754(749)	626(125)	-	-
	Thru	382(375)	-	196(630)	861(800)	-	-
	Right	-	-	-	-	-	-

Queuing Results for PM Peak Hour - AWD

Future Build (Bundle A) Conditions 95th Percentile Queue (Available Storage)(ft)

Study Intersection No.		27	28	31	34	35	41
Approach	**Movement**	**Colorado and SB ramps**	**Colorado and NB ramps**	**Truman Ave**	**Reed Market and SB Ramps**	**Reed Market and NB Ramps**	**Reed Ln**
NB	Left	-	250(400)	-	-	53(215)	-
	Thru	-	-	-	-	-	-
	Right	-	44(100)	-	-	121(840)	-
SB	Left	215(335)	-	-	3086(285)	-	-
	Thru	-	-	-	-	-	-
	Right	-	-	-	-	46(50)	-
EB	Left	-	520(310)	-	-	-	-
	Thru	-	490(400)	-	2297(1750)	-	-
	Right	3026(150)	-	-	-	-	-
WB	Left	421(150)	-	-	-	-	-
	Thru	444(670)	1461(300)	-	902(1420)	-	-
	Right	-	1468(300)	-	-	-	-

Queuing Results for PM Peak Hour - AWD

Future Build (Bundle A) Conditions 95th Percentile Queue (Available Storage)(ft)

Study Intersection No.		46	47	48	62	65	66
Approach	**Movement**	**Powers and SB Ramps**	**Powers at-grade**	**Powers and NB Ramps**	**Ponderosa_China Hat**	**Baker and SB Ramps**	**Knott and NB Ramps**
NB	Left	-	-	-	-	-	-
	Thru	-	-	-	-	-	78(730)
	Right	-	-	-	-	-	117(270)
SB	Left	-	-	-	-	50(375)	-
	Thru	-	-	-	-	-	-
	Right	-	-	-	-	202(1060)	-
EB	Left	-	-	-	-	59(80)	138(150)
	Thru	-	-	-	-	114(1500)	82(700)
	Right	-	-	-	-	-	-
WB	Left	-	-	-	-	-	-
	Thru	-	-	-	-	285(1100)	344(1400)
	Right	-	-	-	-	280(1100)	263(150)

Queuing Results for PM Peak Hour - AWD

Future Build (Bundle A) Conditions 95th Percentile Queue (Available Storage)(ft)

Study Intersection No.		3	5	9	11	19	21	32
Approach	**Movement**	**O.B. Riley and US 20**	**Butler Market and US 20**	**Butler Market and 4th St**	**Division and 3rd St**	**Revere and 3rd**	**Revere and 4th**	**Reed Market and Brookswood**
NB	Left	688(550)	519(165)	229(220)	-	1728(295)	-	-
	Thru	681(780)	529(375)	59(N/A)	630(N/A)	1724(880)	879(885)	971(N/A)
	Right	489(120)	-	-	-	-	-	-
SB	Left	2487(450)	359(590)	-	-	646(300)	-	-
	Thru	2484(670)	911(780)	27(N/A)	559(410)	551(N/A)	762(N/A)	2714(N/A)
	Right	-	158(120)	-	505(200)	-	760(140)	-
EB	Left	-	1115(250)	336(330)	-	1117(285)	2143(145)	-
	Thru	904(250)	1110(N/A)	92(300)	1535(N/A)	1113(795)	2140(385)	2927(N/A)
	Right	-	1115(75)	105(300)	-	1116(150)	2144(150)	-
WB	Left	527(115)	235(275)	422(760)	241(500)	487(350)	1818(80)	-
	Thru	523(115)	237(370)	-	-	486(385)	1816(N/A)	1867(1750)
	Right	-	245(300)	-	-	487(200)	-	-

Queuing Results for PM Peak Hour - AWD

Future Build (Bundle A) Conditions 95th Percentile Queue (Available Storage)(ft)

Study Intersection No.		33	36	38	44	45	49	50
Approach	**Movement**	**Reed Market and Silver Lake**	**Reed Market and Division**	**Reed Market and 3rd St**	**Powers and Brookswood**	**Powers and Blakely**	**Powers and 3rd St**	**Powers and Parrell**
NB	Left	-	-	1637(500)	-	-	89(500)	-
	Thru	103(N/A)	-	1638(705)	359(N/A)	154(N/A)	234(N/A)	-
	Right	-	68(740)	-	-	-	-	-
SB	Left	-	-	1387(220)	-	-	493(550)	-
	Thru	91(N/A)	26(N/A)	1383(N/A)	1036(N/A)	81(N/A)	1385(N/A)	-
	Right	-	-	-	-	-	-	-
EB	Left	1804(130)	-	-	-	-	-	208(400)
	Thru	-	-	668(390)	219(N/A)	-	369(785)	-
	Right	-	-	-	-	-	351(65)	200(650)
WB	Left	551(110)	-	-	-	-	42(175)	-
	Thru	-	-	539(N/A)	144(940)	-	165(650)	-
	Right	-	-	-	-	-	-	-

Queuing Results for PM Peak Hour - AWD

Future Build (Bundle A) Conditions 95th Percentile Queue (Available Storage)(ft)

Study Intersection No.		56	59	60	63
Approach	**Movement**	**Badger and 3rd St**	**Pinebrook and 3rd St**	**Murphy and 3rd St**	**China Hat and Parrell**
NB	Left	0(500)	0(360)	-	-
	Thru	0(N/A)	-	139(2040)	-
	Right	-	-	-	-
SB	Left	52(260)	0(330)	-	-
	Thru	18(N/A)	-	108(630)	469(N/A)
	Right	-	-	-	-
EB	Left	0(125)	-	-	-
	Thru	0(845)	0(585)	625(850)	-
	Right	-	-	-	-
WB	Left	-	-	-	-
	Thru	0(650)	0(N/A)	304(N/A)	-
	Right	0(505)	-	-	-

Vissim Queue reports (Future 2040 Build Bundle B Conditions)

Queuing Results for PM Peak Hour - AWD

Future Build (Bundle B) Conditions 95th Percentile Queue (Available Storage)(ft)

Study Intersection No.		7	8	16	17	24	25
Approach	**Movement**	**Butler Market and SB Ramp Off**	**Butler Market and NB Ramp**	**Revere and SB Ramps**	**Revere and NB Ramps**	**Lafayette Ave**	**Hawthorne**
NB	Left	-	-	1324(515)	-	-	-
	Thru	-	25(N/A)	1321(1200)	345(500)	-	-
	Right	-	-	1321(1200)	345(200)	-	-
SB	Left	-	-	186(620)	837(N/A)	-	-
	Thru	1418(845)	-	253(640)	835(N/A)	-	-
	Right	-	-	-	840(140)	-	-
EB	Left		86(370)	-	-	-	-
	Thru	294(350)	-	96(300)	264(640)	-	-
	Right	-	-	-	42(155)	-	-
WB	Left	-	563(590)	1025(749)	-	-	-
	Thru	977(N/A)	-	978(630)	-	-	-
	Right	-	-	-	-	-	-

Queuing Results for PM Peak Hour - AWD

Future Build (Bundle B) Conditions 95th Percentile Queue (Available Storage)(ft)

Study Intersection No.		27	28	31	35	41	46
Approach	**Movement**	**Colorado and SB ramps**	**Colorado and NB ramps**	**Truman Ave**	**Reed Market SPUI**	**Reed Ln**	**Powers and SB Ramps**
NB	Left	-	-	-	107(750)	-	-
	Thru	2757(1925)	-	-	-	-	-
	Right	2779(1925)	-	-	82(300)	-	-
SB	Left	696(335)	45(310)	-	1802(325)	-	466(900)
	Thru	-	-	-	-	-	-
	Right	738(1200)	89(700)	-	63(375)	-	470(900)
EB	Left	-	824(310)	-	337(260)	-	-
	Thru	-	139(400)	-	317(N/A)	-	802(N/A)
	Right	-	-	-	22(320)	-	-
WB	Left	-	-	-	1152(260)	-	348(65)
	Thru	562(670)	1445(N/A)	-	1144(N/A)	-	360(N/A)
	Right	-	-	-	1106(265)	-	-

Queuing Results for PM Peak Hour - AWD

Future Build (Bundle B) Conditions 95th Percentile Queue (Available Storage)(ft)

Study Intersection No.		47	48	62	65	66
Approach	**Movement**	**Powers at-grade**	**Powers and NB Ramps**	**Ponderosa_China Hat**	**Baker and SB Ramps**	**Knott and NB Ramps**
NB	Left	-	89(900)	-	-	-
	Thru	-	-	-	127(900)	127(730)
	Right	-	94(900)	-	-	-
SB	Left	-	-	-	-	-
	Thru	-	-	-	-	-
	Right	-	-	-	-	-
EB	Left	-	262(390)	-	-	-
	Thru	-	328(N/A)	-	143(N/A)	192(N/A)
	Right	-	-	-	-	-
WB	Left	-	-	-	-	-
	Thru	-	265(N/A)	-	280(N/A)	1098(N/A)
	Right	-	-	-	-	-

Queuing Results for PM Peak Hour - AWD

Future Build (Bundle B) Conditions 95th Percentile Queue (Available Storage)(ft)

Study Intersection No.		3	5	9	11	19	21	32
Approach	**Movement**	**O.B. Riley and US 20**	**Butler Market and US 20**	**Butler Market and 4th St**	**Division and 3rd St**	**Revere and 3rd**	**Revere and 4th**	**Reed Market and Brookswood**
NB	Left	649(550)	526(165)	-	-	1743(295)	-	-
	Thru	799(780)	541(375)	190(N/A)	2311(N/A)	1740(880)	879(885)	968(N/A)
	Right	347(120)	-	-	-	-	-	-
SB	Left	2477(450)	206(590)	-	-	1474(300)	-	-
	Thru	2483(670)	912(780)	0(N/A)	528(410)	1469(N/A)	761(N/A)	875(N/A)
	Right	-	879(120)	-	-	-	759(140)	-
EB	Left	-	1116(250)	-	-	521(285)	510(145)	-
	Thru	904(250)	1110(N/A)	359(N/A)	1483(795)	583(795)	506(385)	2915(N/A)
	Right	-	1115(75)	-	-	-	505(385)	-
WB	Left	527(115)	482(275)	-	-	-	1821(80)	-
	Thru	521(115)	487(370)	637(N/A)	-	497(385)	1818(N/A)	2381(1750)
	Right	-	-	-	-	-	-	-

Queuing Results for PM Peak Hour - AWD

Future Build (Bundle B) Conditions 95th Percentile Queue (Available Storage)(ft)

Study Intersection No.		33	36	38	44	45	49	50
Approach	**Movement**	**Reed Market and Silver Lake**	**Reed Market and Division**	**Reed Market and 3rd St**	**Powers and Brookswood**	**Powers and Blakely**	**Powers and 3rd St**	**Powers and Parrell**
NB	Left	-	-	1626(500)	-	-	159(500)	-
	Thru	101(N/A)	-	1615(705)	311(N/A)	103(N/A)	189(N/A)	-
	Right	-	48(740)	-	-	-	-	-
SB	Left	-	-	1378(220)	-	-	45(550)	-
	Thru	62(N/A)	50(N/A)	1374(N/A)	1054(N/A)	71(N/A)	698(N/A)	-
	Right	-	-	-	-	-	-	-
EB	Left	35(130)	-	-	-	-	227(300)	162(400)
	Thru	-	-	933(390)	251(N/A)	-	403(785)	-
	Right	-	-	-	-	-	382(65)	154(650)
WB	Left	1064(110)	-	-	-	-	47(175)	-
	Thru	-	-	908(N/A)	239(940)	-	190(650)	-
	Right	-	-	-	-	-	-	-

Queuing Results for PM Peak Hour - AWD

Future Build (Bundle B) Conditions 95th Percentile Queue (Available Storage)(ft)

Study Intersection No.		56	59	60	63
Approach	**Movement**	**Badger and 3rd St**	**Pinebrook and 3rd St**	**Murphy and 3rd St**	**China Hat and Parrell**
NB	Left	0(500)	0(360)	-	-
	Thru	0(N/A)	-	112(2040)	-
	Right	-	-	-	-
SB	Left	0(260)	0(330)	-	-
	Thru	0(N/A)	-	323(630)	115(N/A)
	Right	-	-	-	-
EB	Left	0(125)	-	-	-
	Thru	0(845)	0(585)	1382(850)	-
	Right	-	-	-	-
WB	Left	-	-	-	-
	Thru	0(650)	0(N/A)	350(N/A)	-
	Right	0(505)	-	-	-

Vissim Queue reports (Future 2040 Build Bundle C Conditions)

Queuing Results for PM Peak Hour - AWD

Future Build (Bundle C) Conditions 95th Percentile Queue (Available Storage)(ft)

Study Intersection No.		7	8	16	17	24	25
Approach	**Movement**	**Butler Market and SB Ramp Off**	**Butler Market and NB Ramp**	**Revere and SB Ramps**	**Revere and NB Ramps**	**Lafayette Ave**	**Hawthorne**
NB	Left	-	-	683(515)	-	-	-
	Thru	-	26(N/A)	678(1200)	451(500)	-	-
	Right	-	-	-	447(200)	-	-
SB	Left	-	-	238(620)	269(N/A)	-	-
	Thru	4420(845)	-	322(640)	241(N/A)	-	-
	Right	-	-	-	252(140)	-	-
EB	Left	-	80(370)	-	-	-	-
	Thru	-	-	103(300)	492(640)	-	-
	Right	-	-	-	111(155)	-	-
WB	Left	-	1953(590)	-	-	-	-
	Thru	-	-	545(630)	348(800)	-	-
	Right	-	-	-	-	-	-

Queuing Results for PM Peak Hour - AWD

Future Build (Bundle C) Conditions 95th Percentile Queue (Available Storage)(ft)

Study Intersection No.		27	28	31	34	35	41
Approach	**Movement**	**Colorado and SB ramps**	**Colorado and NB ramps**	**Truman Ave**	**Reed Market and SB Ramps**	**Reed Market and NB Ramps**	**Reed Ln**
NB	Left	-	-	-	-	48(215)	-
	Thru	2735(1925)	-	-	-	-	-
	Right	2757(1925)	-	-	-	116(840)	-
SB	Left	6720(335)	32(310)	-	341(285)	-	-
	Thru	-	-	-	-	-	-
	Right	6723(1200)	109(700)	-	-	40(50)	-
EB	Left	-	813(310)	-	-	-	-
	Thru	-	-	-	1100(1750)	-	-
	Right	-	-	-	-	-	-
WB	Left	-	-	-	-	-	-
	Thru	726(670)	-	-	1021(1420)	-	-
	Right	-	-	-	-	-	-

Queuing Results for PM Peak Hour - AWD

Future Build (Bundle C) Conditions 95th Percentile Queue (Available Storage)(ft)

Study Intersection No.		46	47	48	62	65	66
Approach	**Movement**	**Powers and SB Ramps**	**Powers at-grade**	**Powers and NB Ramps**	**Ponderosa_China Hat**	**Baker and SB Ramps**	**Knott and NB Ramps**
NB	Left	-	-	-	-	-	-
	Thru	56(350)	369(N/A)	-	-	-	60(730)
	Right	-	-	-	-	-	103(270)
SB	Left	-	-	-	-	149(375)	-
	Thru	-	1529(N/A)	-	-	-	-
	Right	-	-	58(450)	-	293(1060)	-
EB	Left	-	-	386(390)	-	-	-
	Thru	-	652(260)	-	-	-	-
	Right	-	-	-	59(225)	-	-
WB	Left	39(95)	-	-	-	-	-
	Thru	-	273(370)	-	-	-	-
	Right	-	-	-	1331(N/A)	-	-

Queuing Results for PM Peak Hour - AWD

Future Build (Bundle C) Conditions 95th Percentile Queue (Available Storage)(ft)

Study Intersection No.		3	5	9	11	19	21	32
Approach	**Movement**	**O.B. Riley and US 20**	**Butler Market and US 20**	**Butler Market and 4th St**	**Division and 3rd St**	**Revere and 3rd**	**Revere and 4th**	**Reed Market and Brookswood**
NB	Left	657(550)	526(165)	-	-	1761(295)	-	-
	Thru	692(780)	541(375)	596(N/A)	370(N/A)	1757(880)	823(885)	967(N/A)
	Right	107(120)	-	-	-	-	-	-
SB	Left	2486(450)	367(590)	-	-	1473(300)	-	-
	Thru	2486(670)	928(780)	26(N/A)	483(410)	1468(N/A)	761(N/A)	2714(N/A)
	Right	-	-	-	-	-	759(140)	-
EB	Left	-	-	21(330)	-	923(285)	2171(145)	-
	Thru	904(250)	1114(N/A)	-	1092(795)	919(795)	2168(385)	2928(N/A)
	Right	-	-	-	-	-	-	-
WB	Left	362(115)	4817(275)	1244(760)	-	-	1100(80)	-
	Thru	358(115)	4822(370)	-	-	487(385)	1096(N/A)	1832(1750)
	Right	-	-	-	-	-	-	-

Queuing Results for PM Peak Hour - AWD

Future Build (Bundle C) Conditions 95th Percentile Queue (Available Storage)(ft)

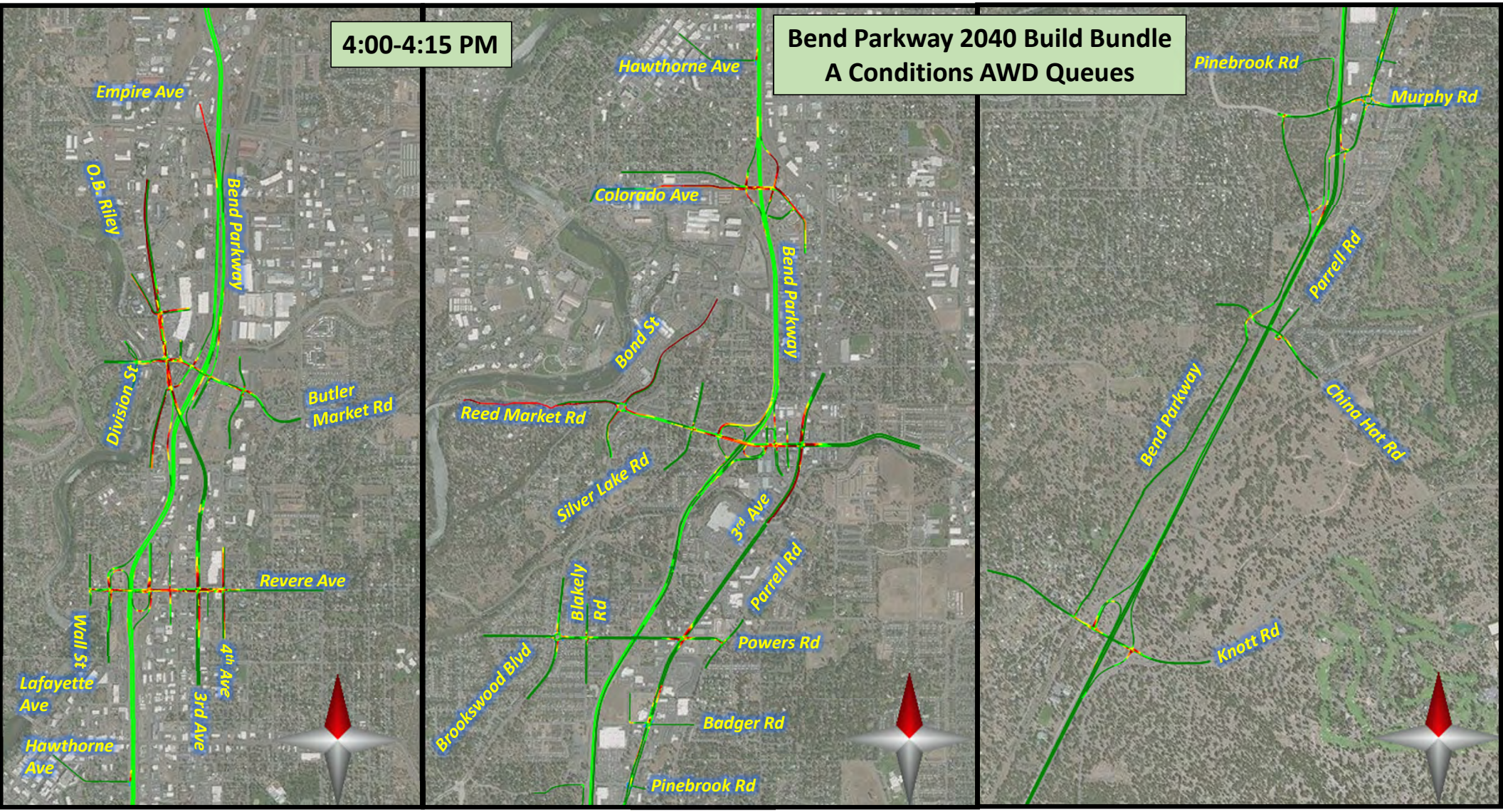
Study Intersection No.		33	36	38	44	45	49	50
Approach	**Movement**	**Reed Market and Silver Lake**	**Reed Market and Division**	**Reed Market and 3rd St**	**Powers and Brookswood**	**Powers and Blakely**	**Powers and 3rd St**	**Powers and Parrell**
NB	Left	-	-	1642(500)	-	-	145(500)	-
	Thru	81(N/A)	-	1642(705)	322(N/A)	104(N/A)	197(N/A)	-
	Right	-	63(740)	-	-	-	-	-
SB	Left	-	-	1379(220)	-	-	49(550)	-
	Thru	67(N/A)	26(N/A)	1375(N/A)	1040(N/A)	63(N/A)	605(N/A)	-
	Right	-	-	-	-	-	-	-
EB	Left	607(130)	-	-	-	-	-	139(400)
	Thru	-	-	1553(390)	240(N/A)	-	774(785)	-
	Right	-	-	-	-	-	756(65)	130(650)
WB	Left	516(110)	-	-	-	-	52(175)	-
	Thru	-	-	689(N/A)	179(940)	-	197(650)	-
	Right	-	-	-	-	-	-	-

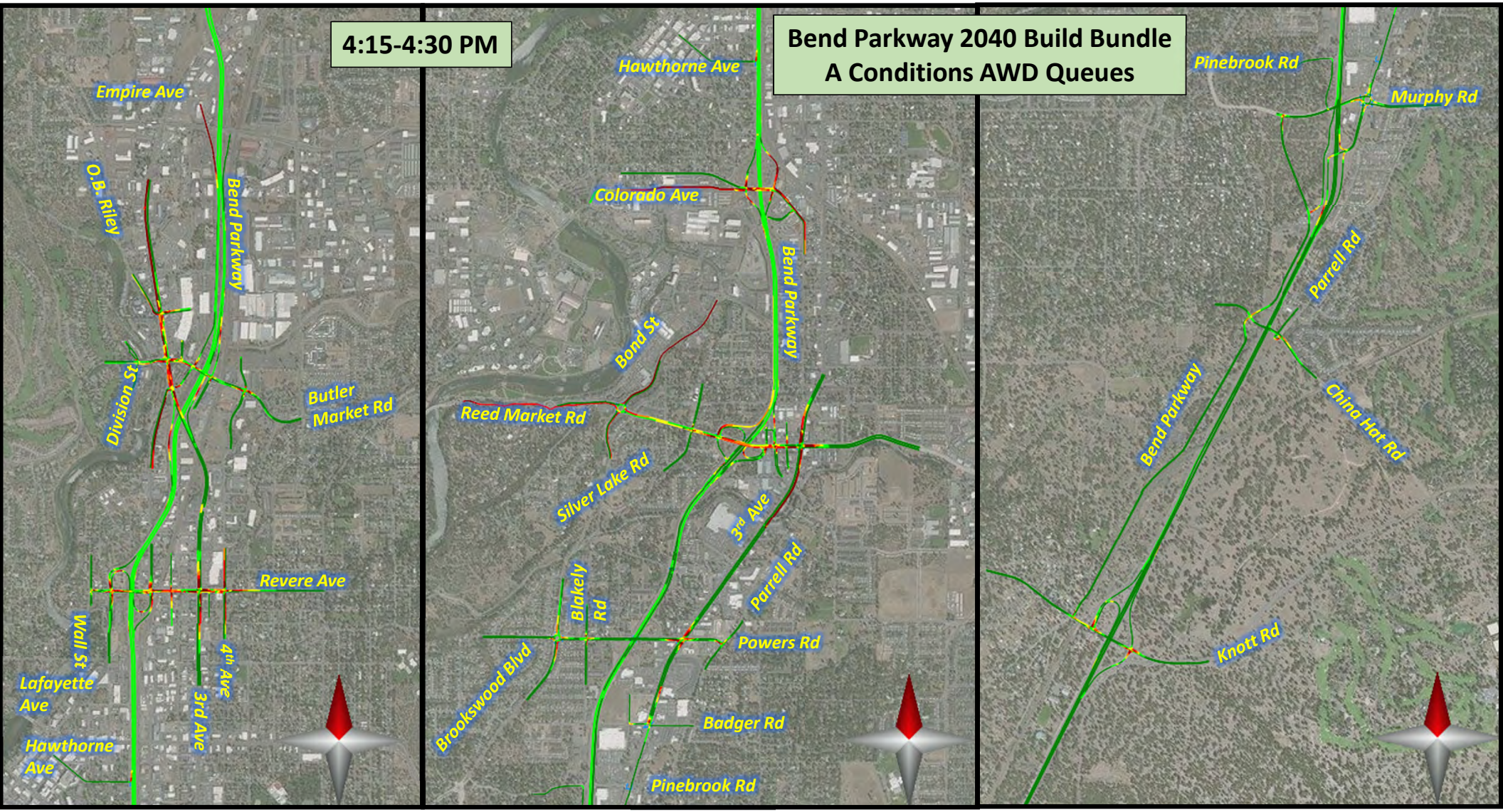
Queuing Results for PM Peak Hour - AWD

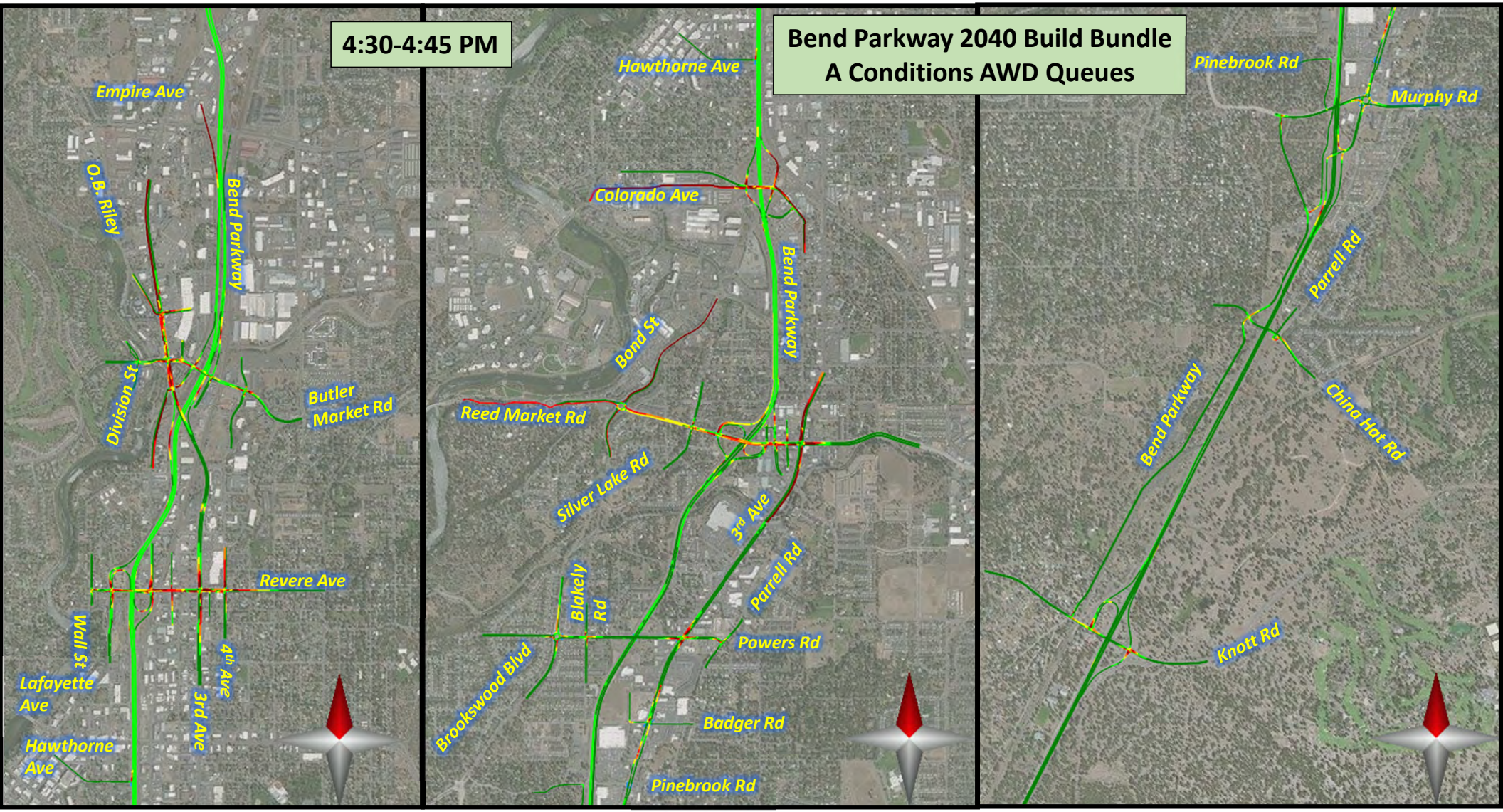
Future Build (Bundle C) Conditions 95th Percentile Queue (Available Storage)(ft)

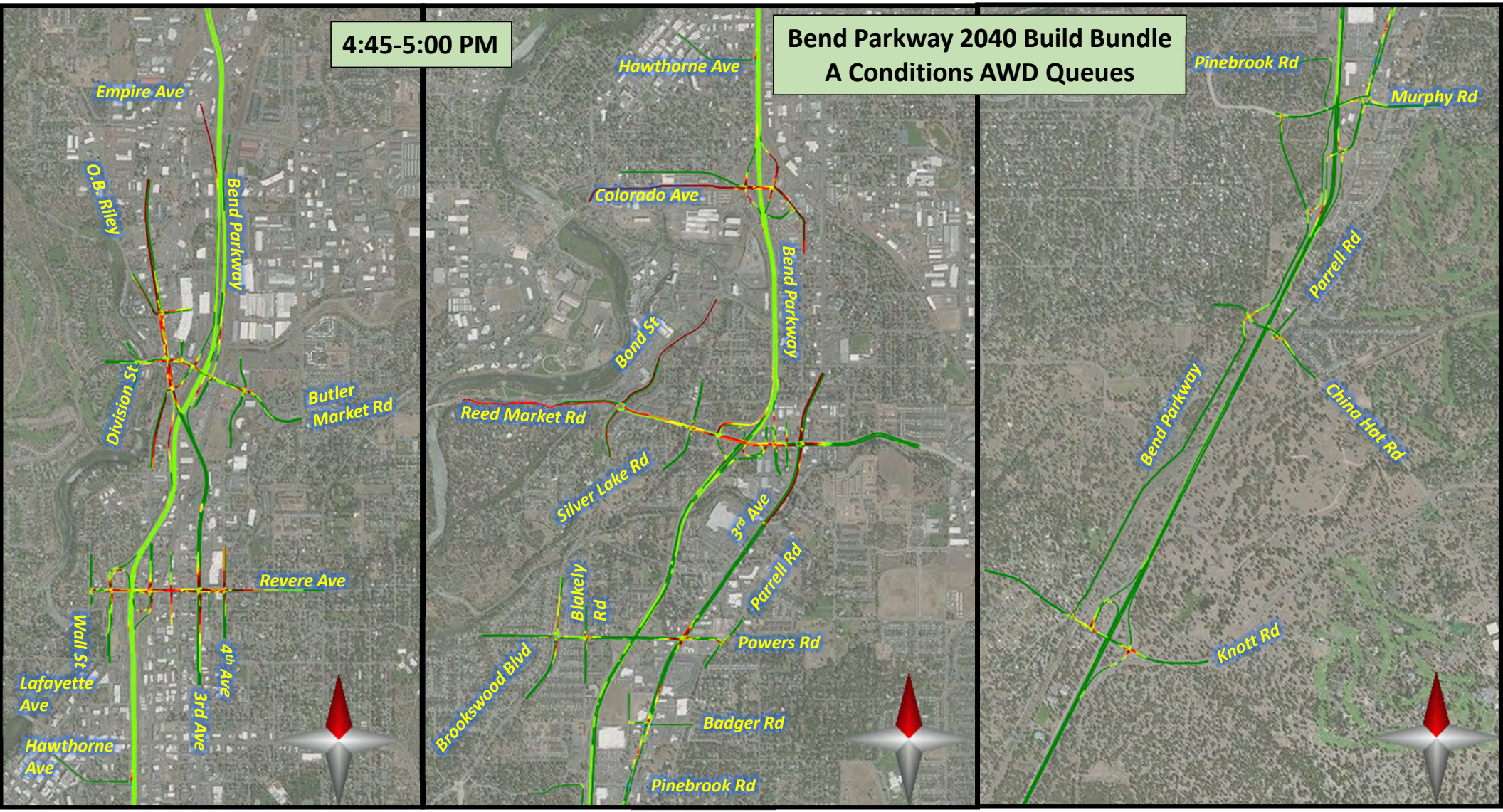
Study Intersection No.		56	59	60	63
Approach	**Movement**	**Badger and 3rd St**	**Pinebrook and 3rd St**	**Murphy and 3rd St**	**China Hat and Parrell**
NB	Left	0(500)	0(360)	-	-
	Thru	0(N/A)	-	127(2040)	-
	Right	-	-	-	-
SB	Left	0(260)	0(330)	-	-
	Thru	0(N/A)	-	327(630)	369(N/A)
	Right	-	-	-	-
EB	Left	0(125)	-	-	-
	Thru	0(845)	0(585)	1382(850)	-
	Right	-	-	-	-
WB	Left	-	-	-	-
	Thru	0(650)	0(N/A)	330(N/A)	-
	Right	0(505)	-	-	-

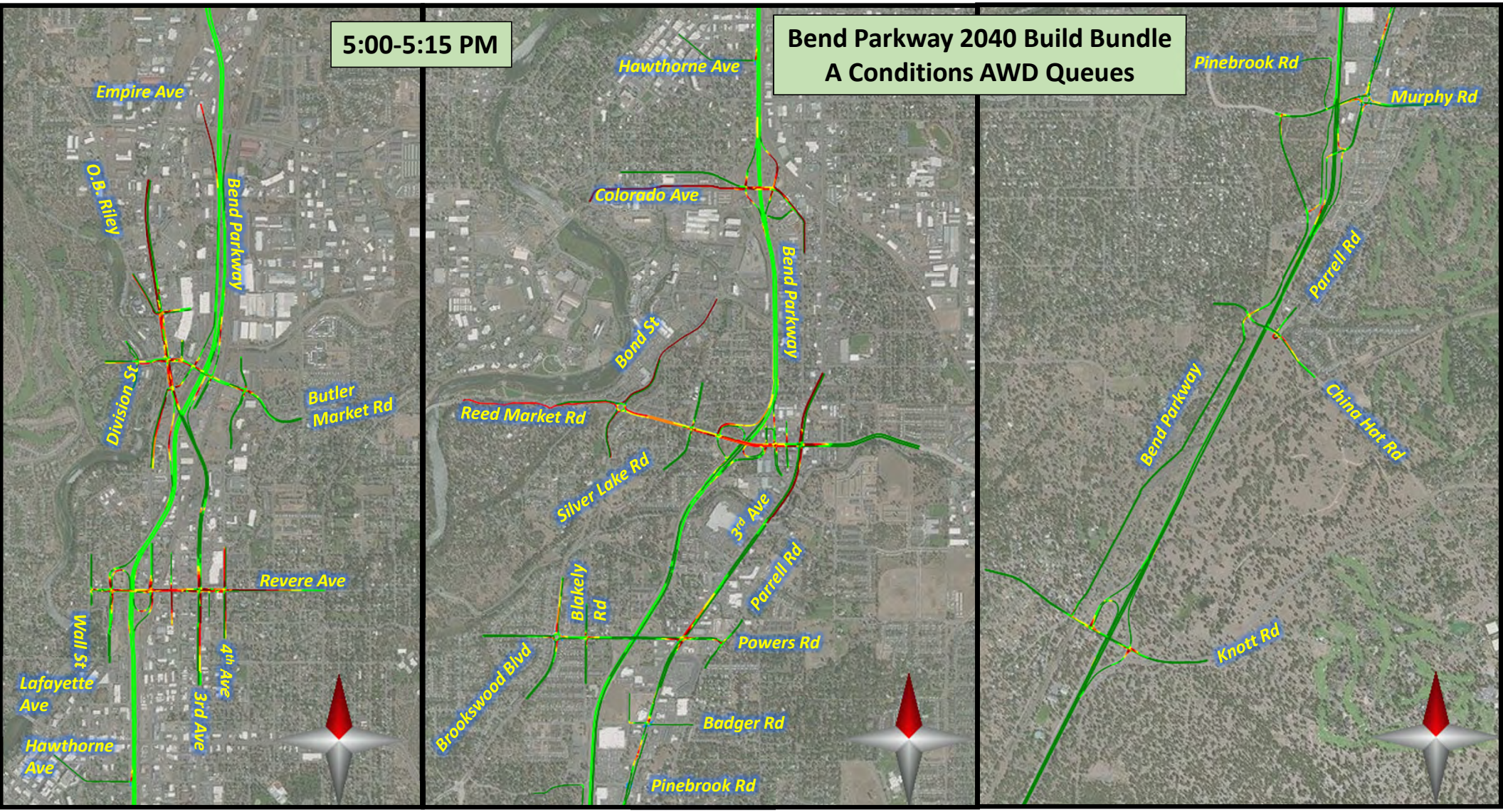
Vissim Queue plots (Future 2040 Build Bundle A Conditions)

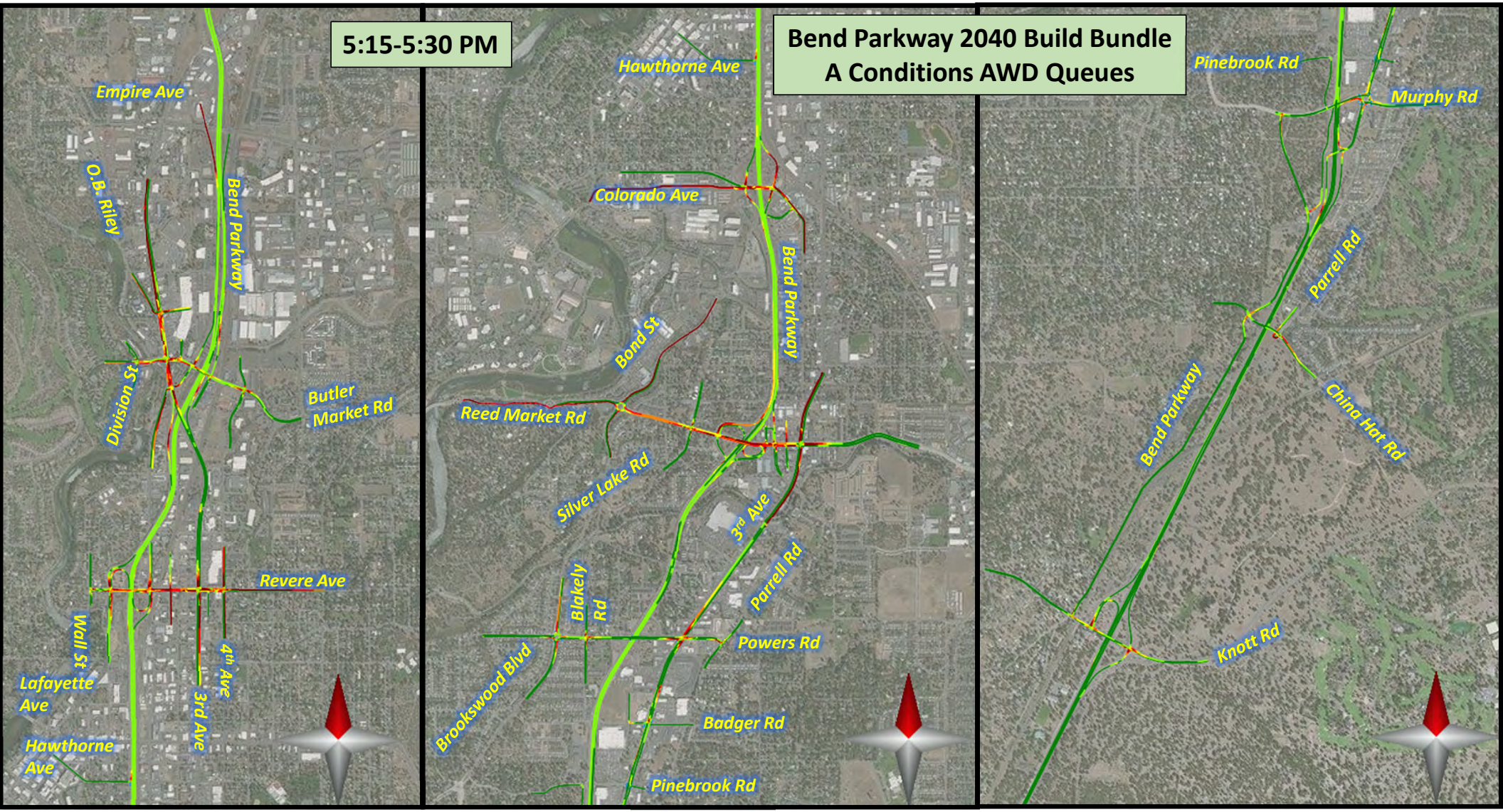

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Bend Parkway 2040 Build Bundle
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Empire Ave
O.B. Riley
Bend Parkway
Division St
Butler Market Rd
Revere Ave
Wall St
4th Ave
3rd Ave
Lafayette Ave
Hawthorne Ave
Hawthorne Ave
Colorado Ave
Bend Parkway
Bond St
Reed Market Rd
Silver Lake Rd
3rd Ave
Parrell Rd
Blakely Rd
Powers Rd
Brookswood Blvd
Badger Rd
Pinebrook Rd
Pinebrook Rd
Murphy Rd
Parrell Rd
Bend Parkway
China Hat Rd
Knott Rd

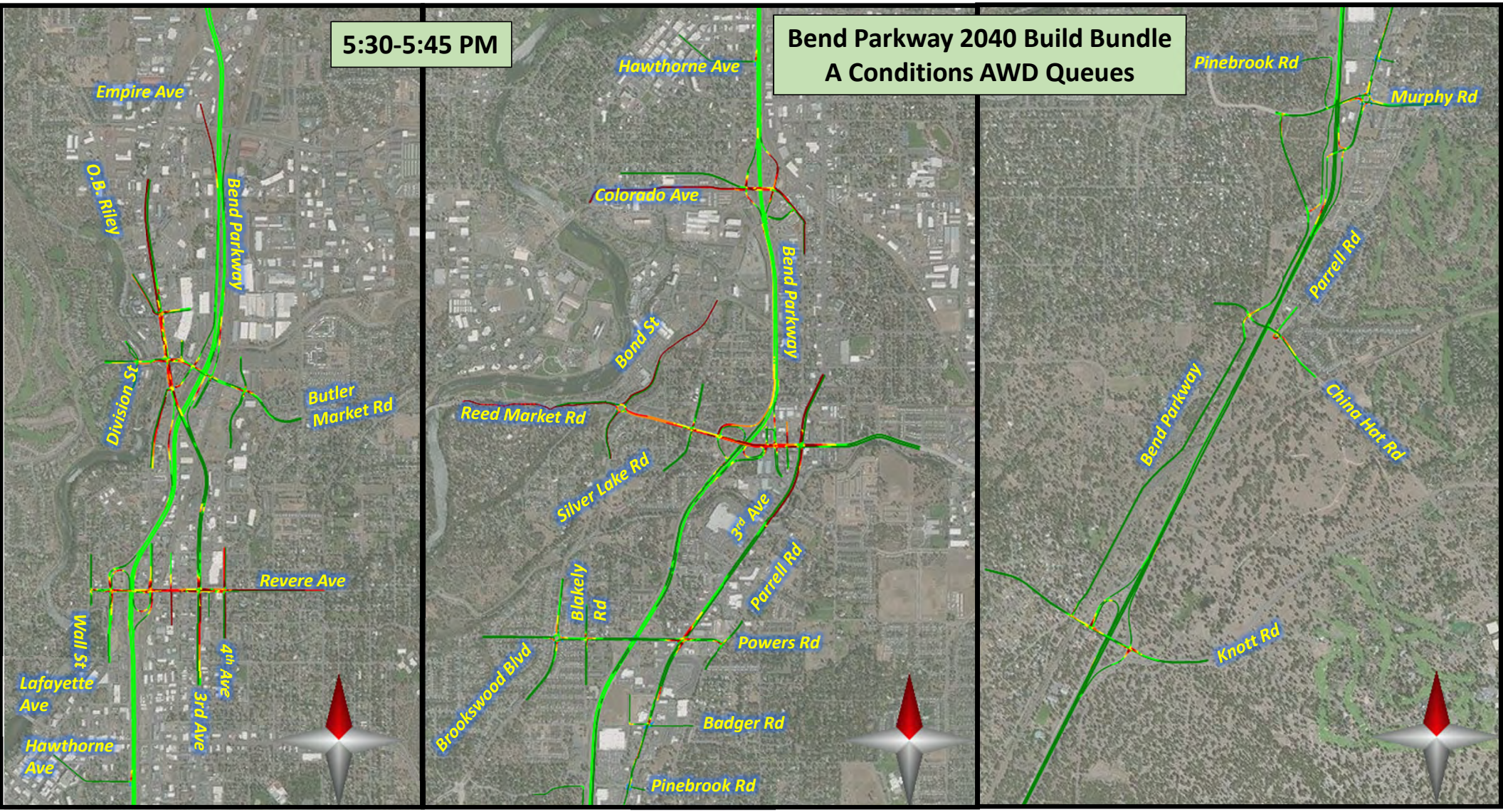

4:15-4:30 PM
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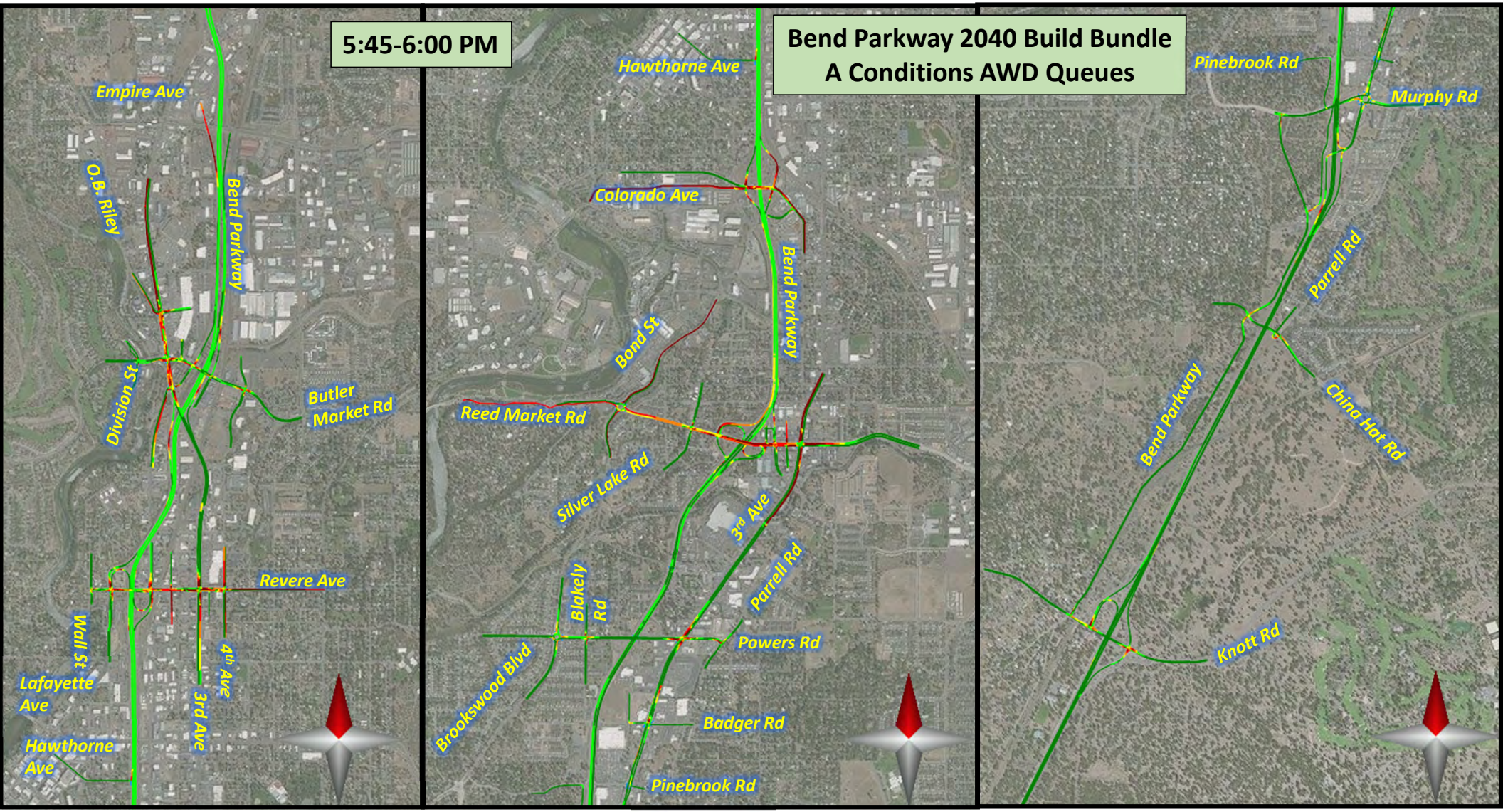

4:30-4:45 PM
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4:45-5:00 PM
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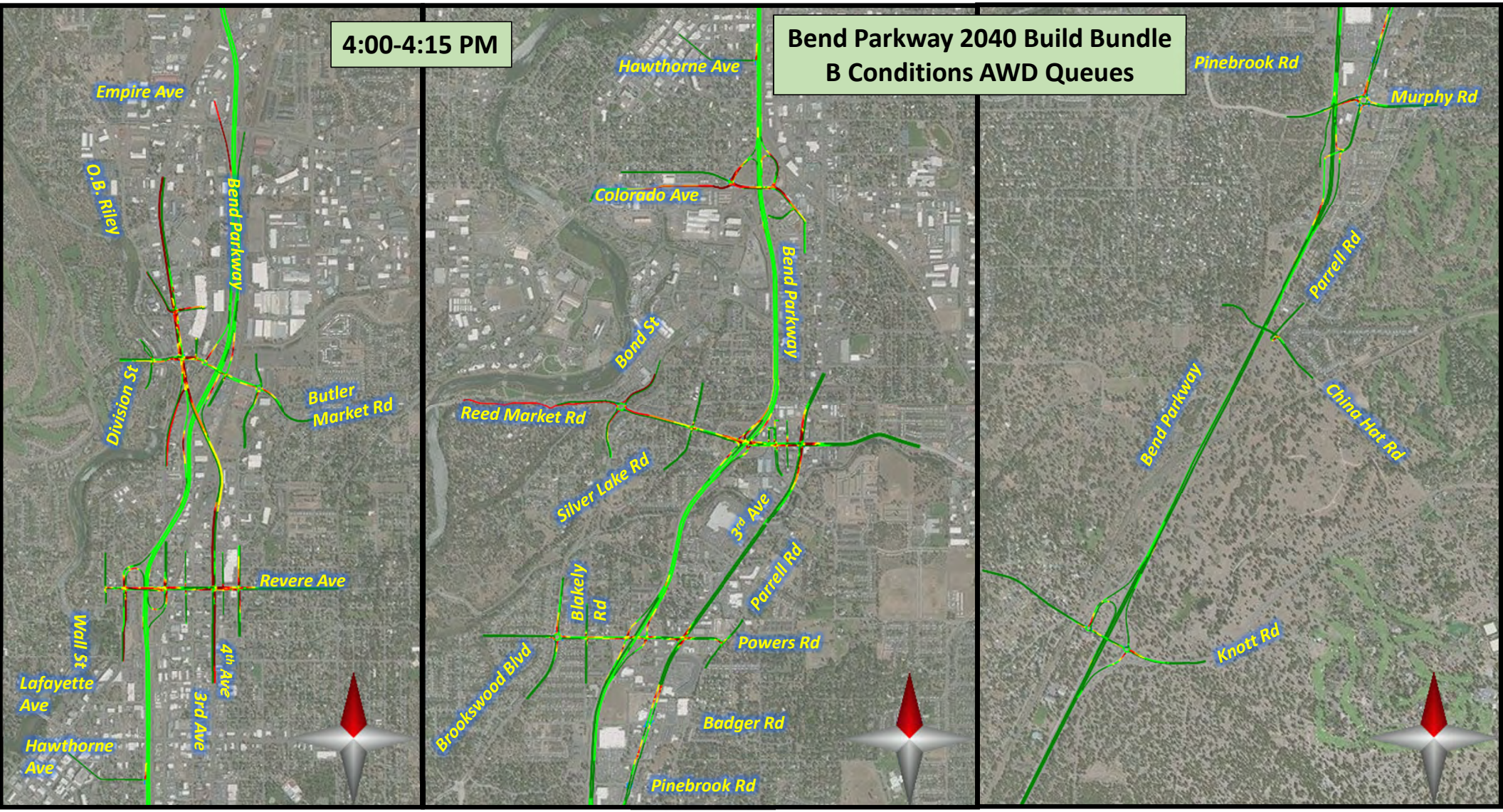

5:00-5:15 PM
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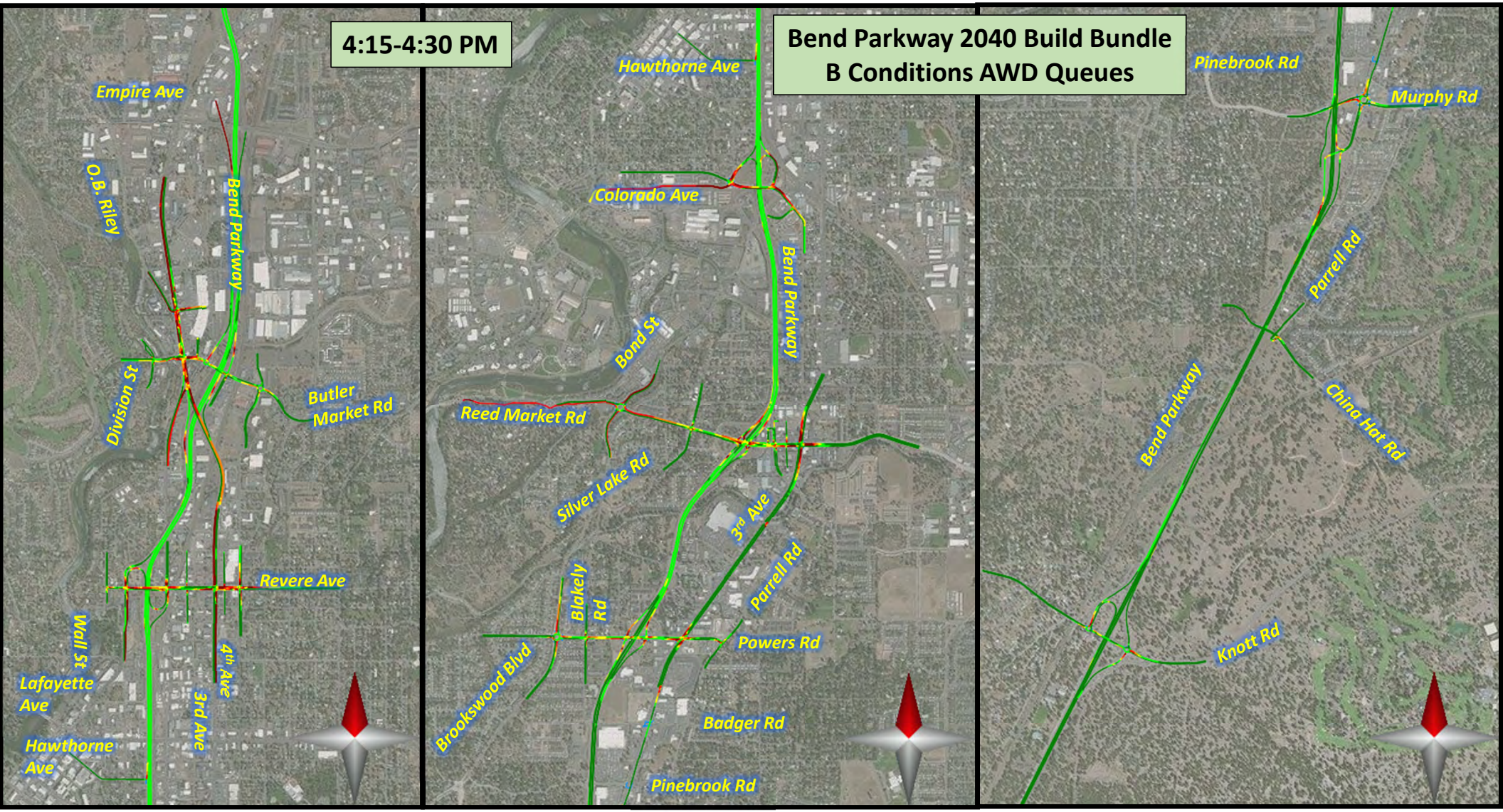

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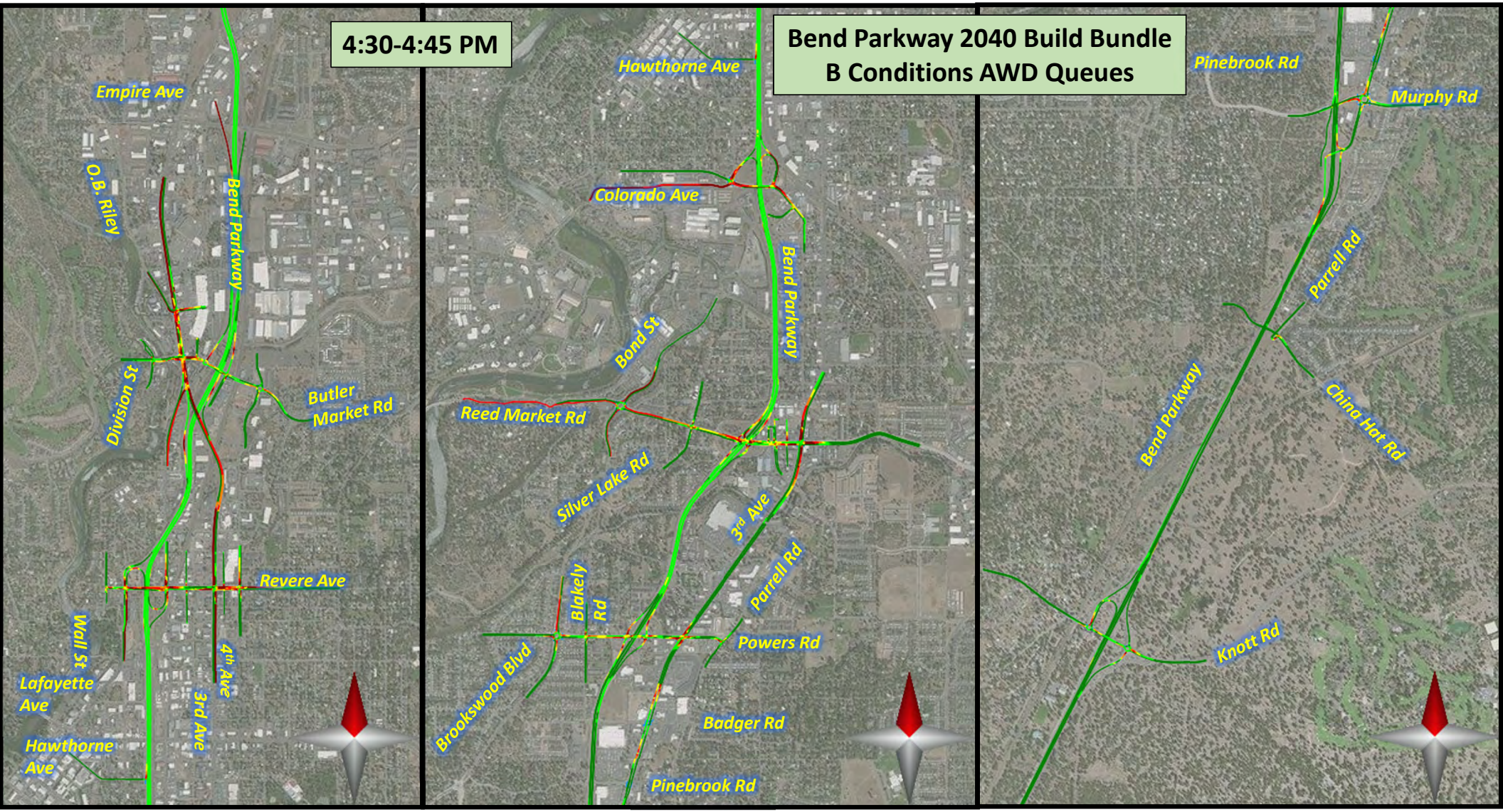

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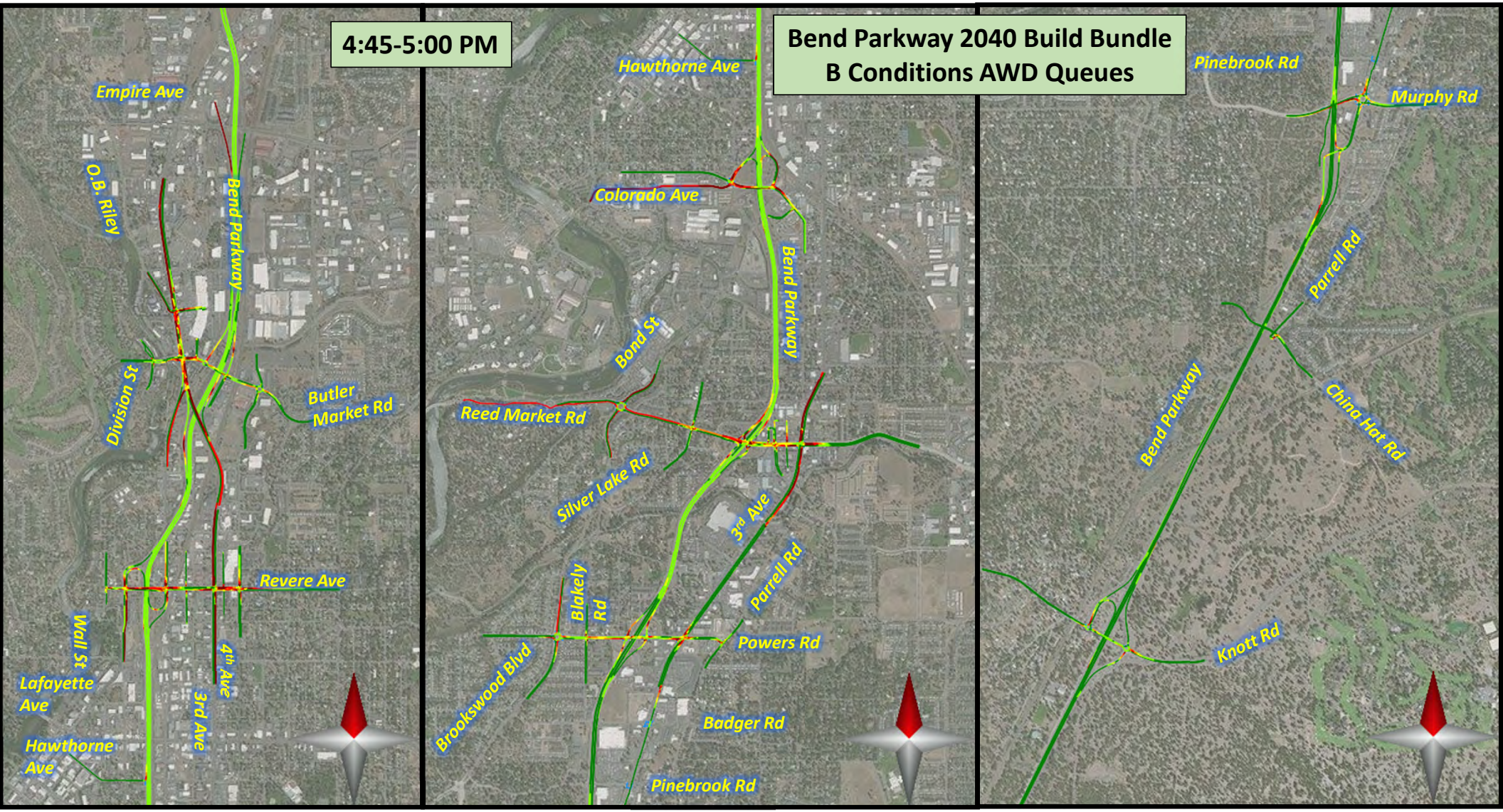

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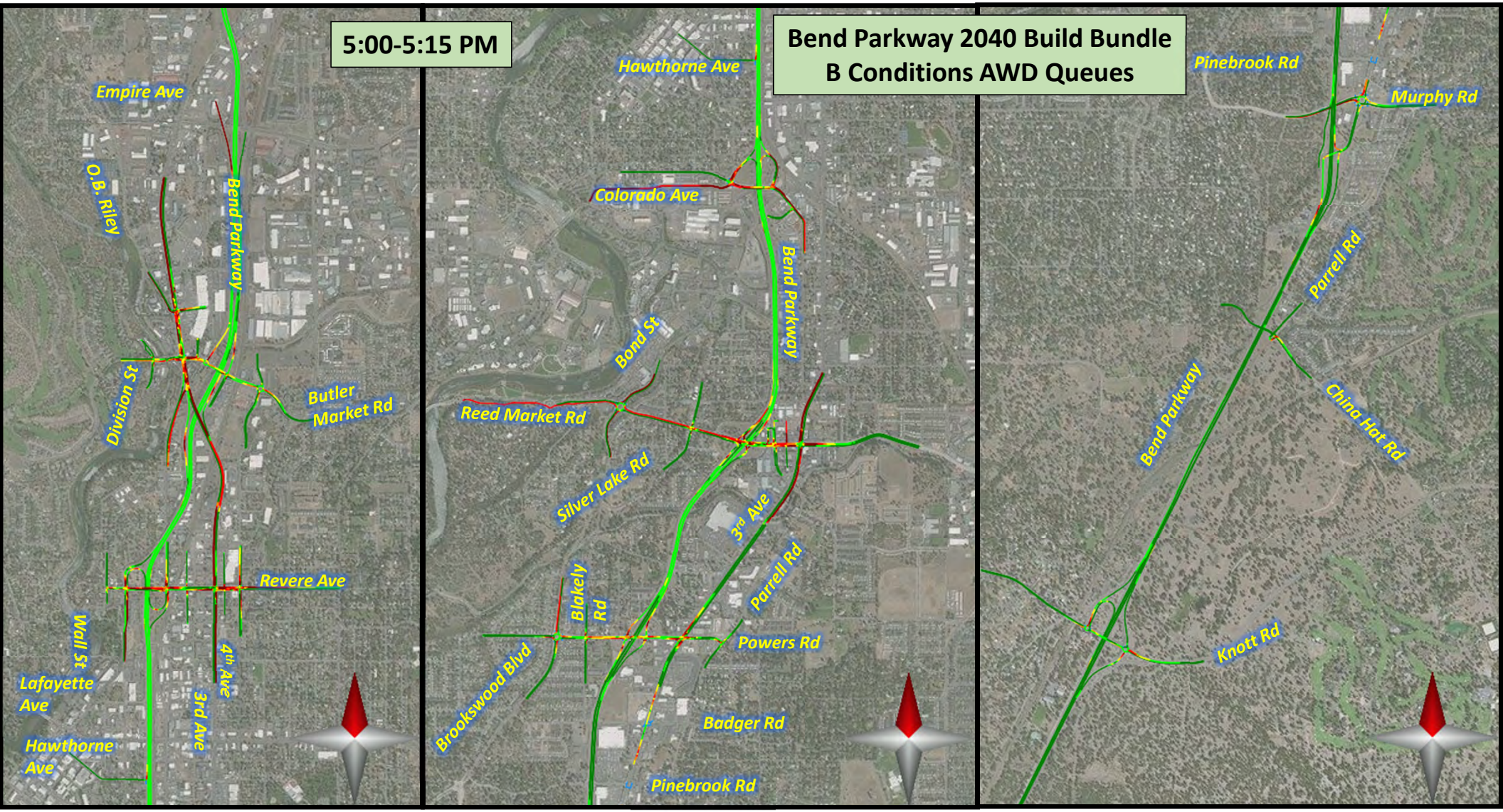
Vissim Queue plots (Future 2040 Build Bundle B Conditions)

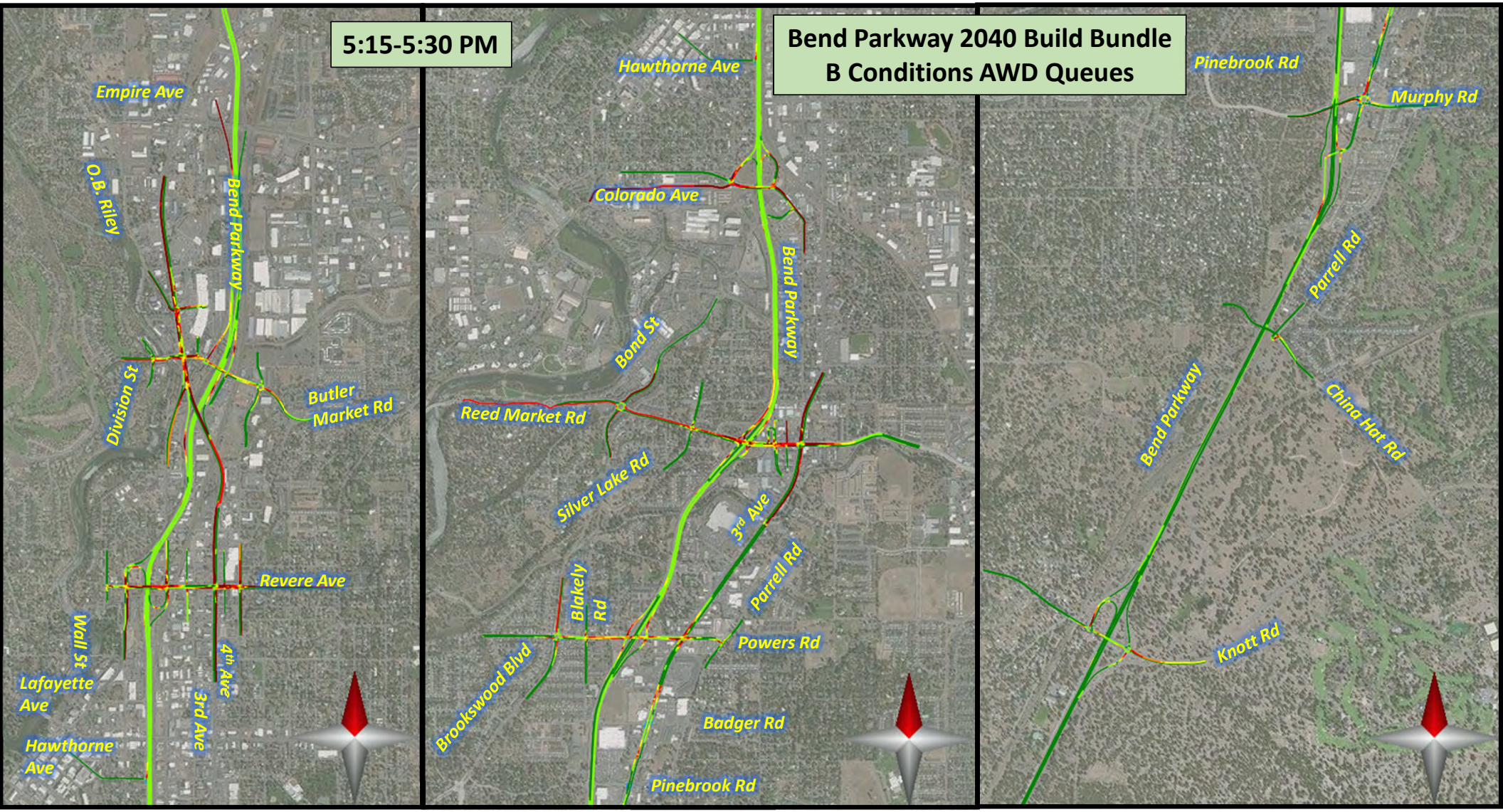

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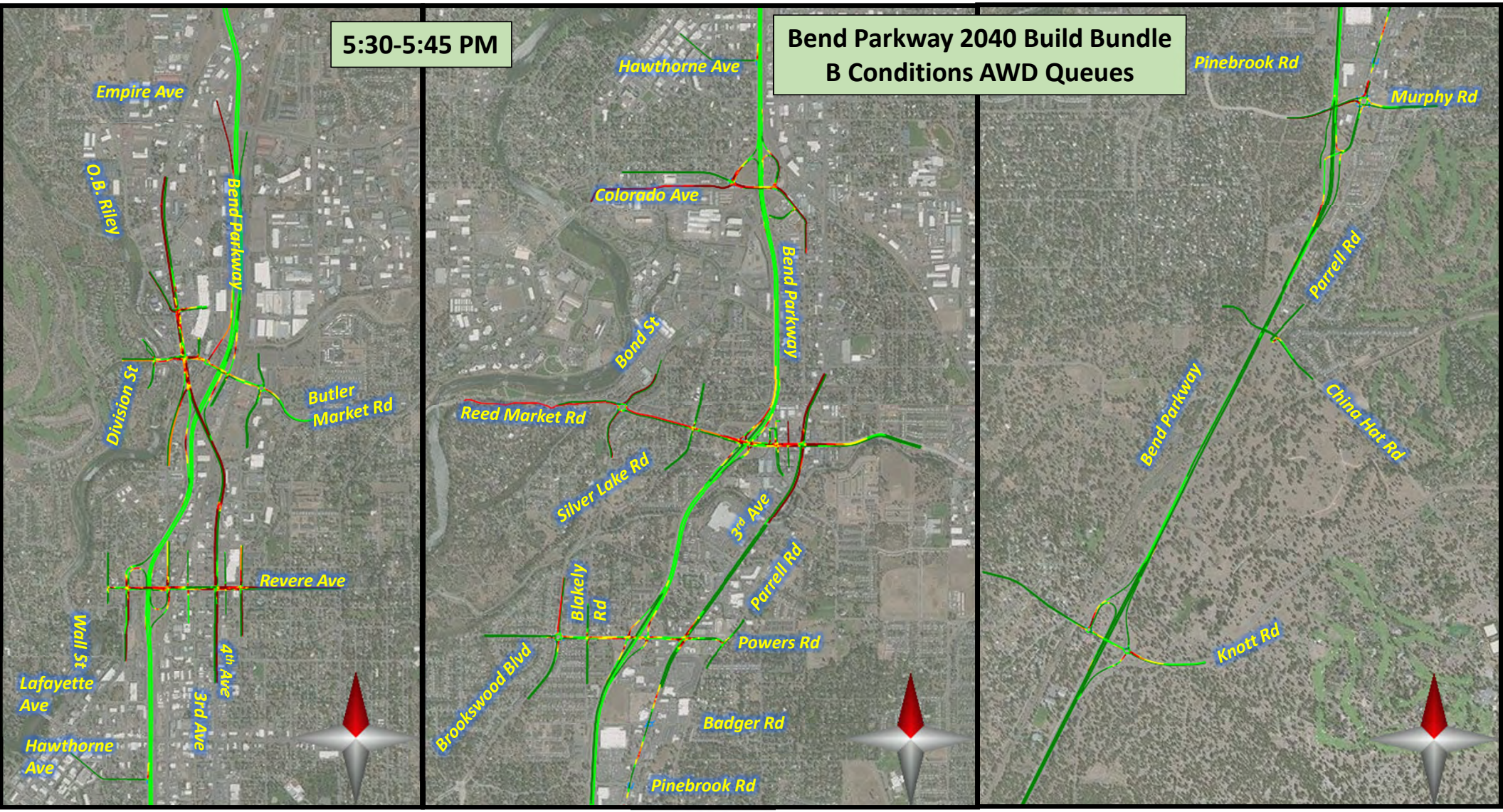

4:15-4:30 PM
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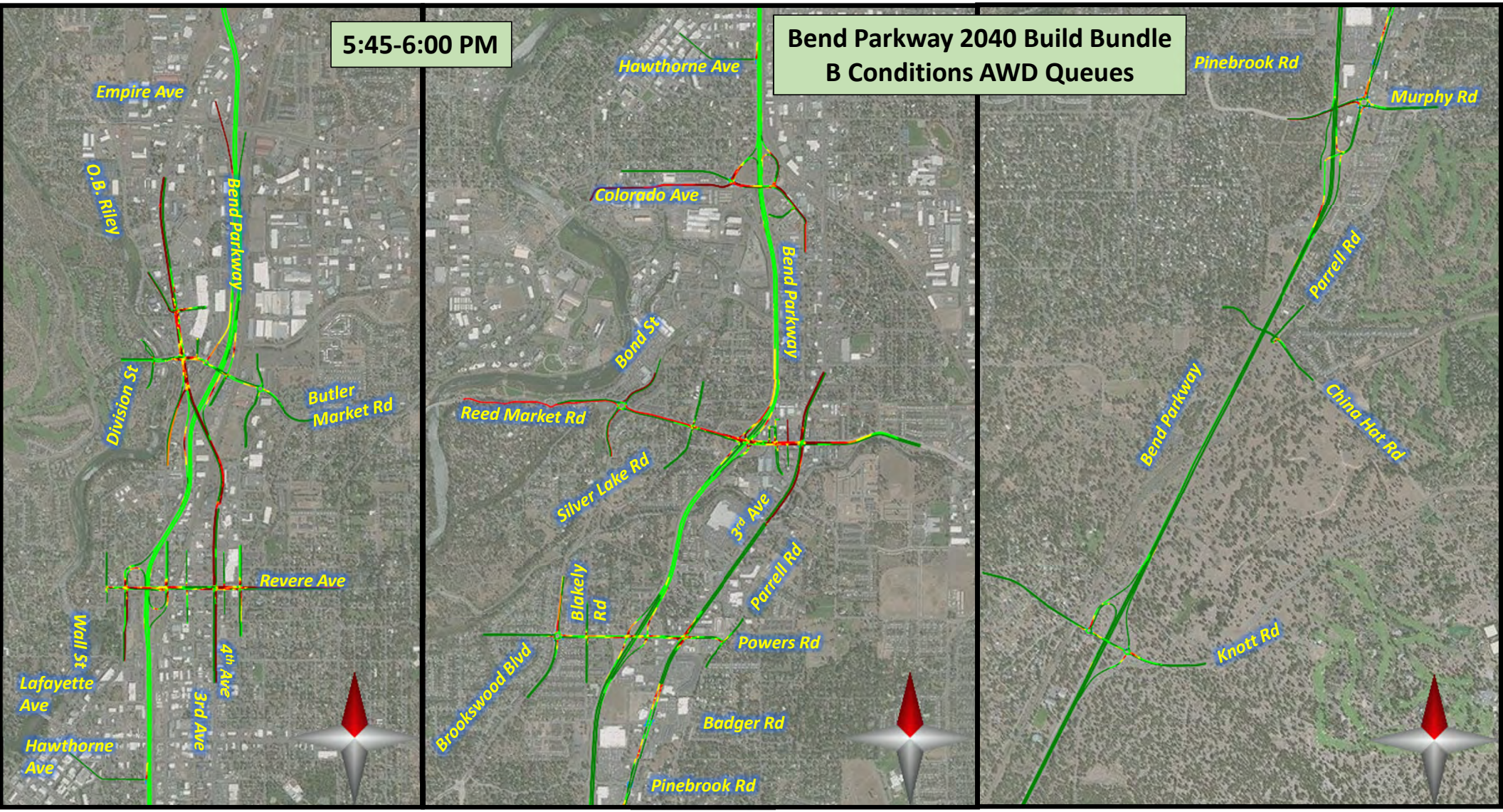

4:30-4:45 PM
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4:45-5:00 PM
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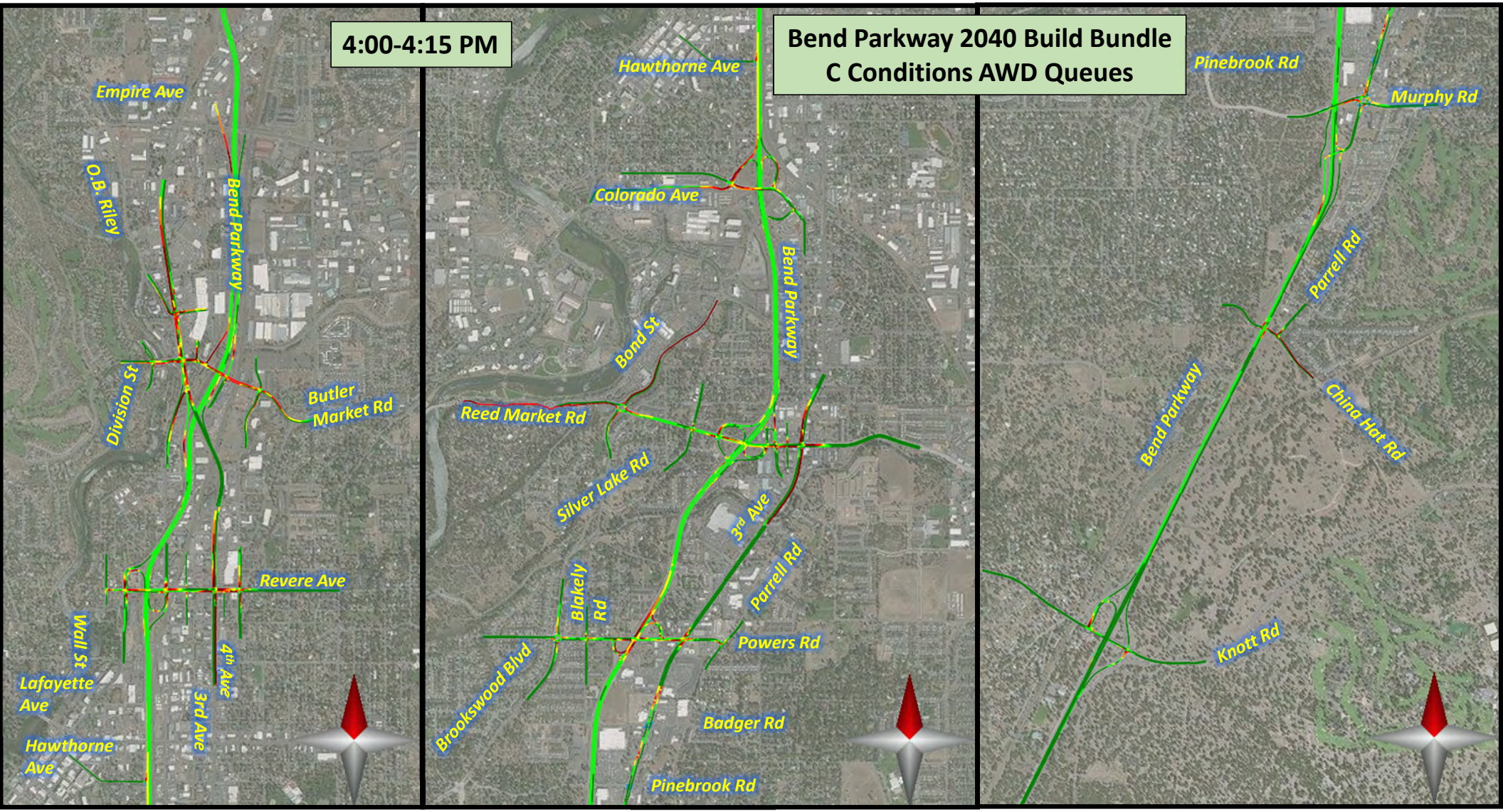

5:00-5:15 PM
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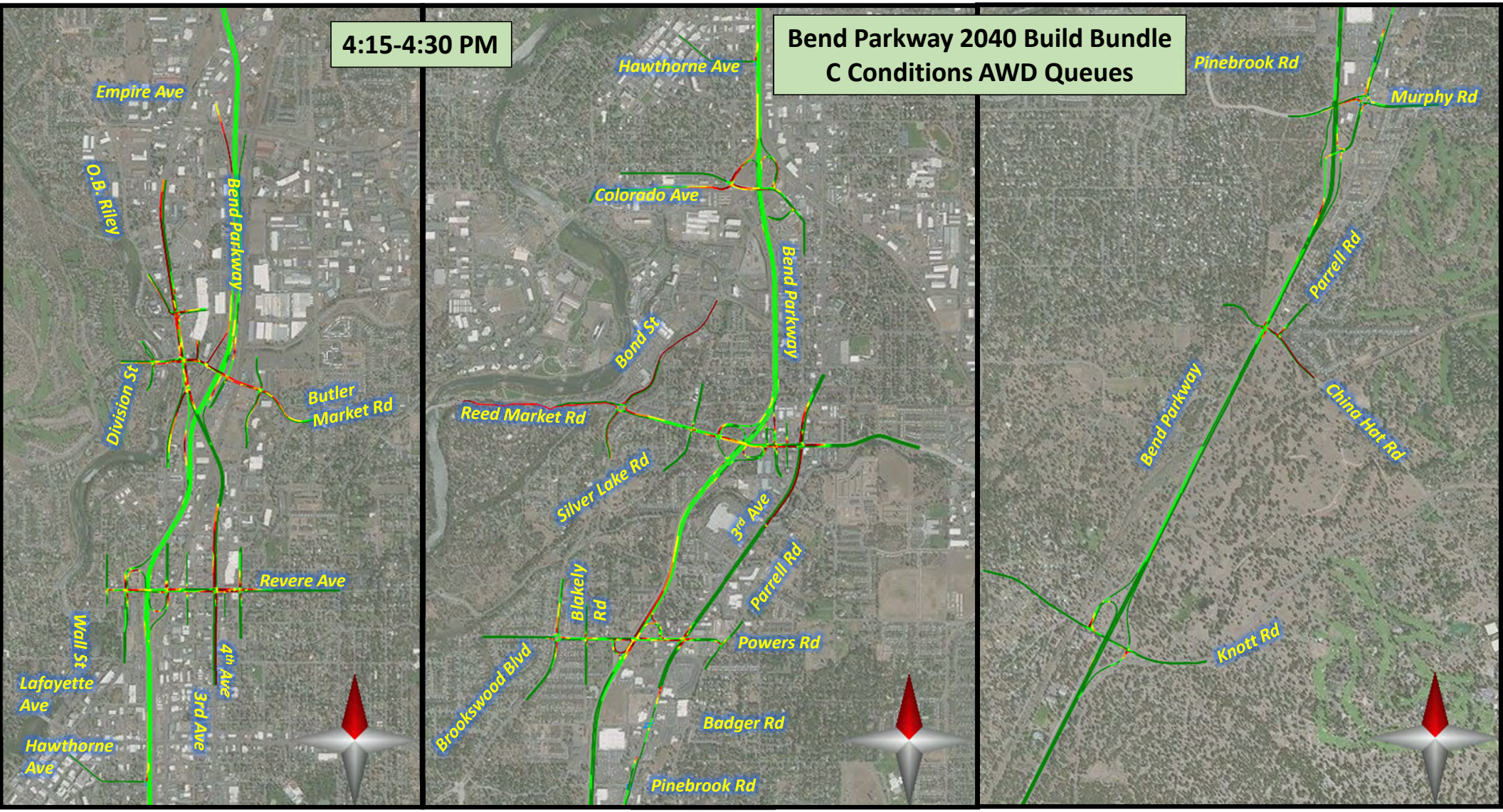

5:15-5:30 PM
Bend Parkway 2040 Build Bundle
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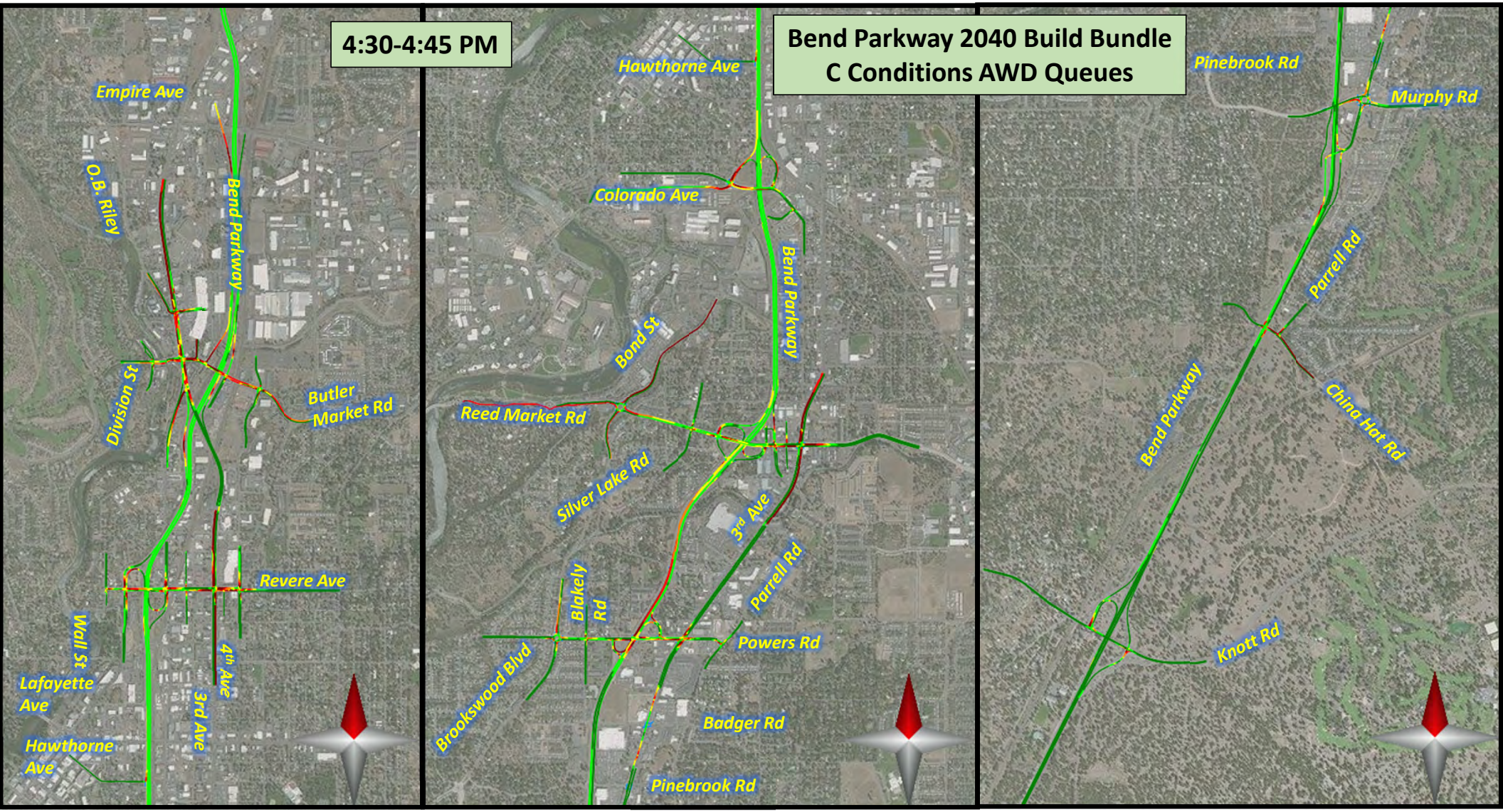

5:30-5:45 PM
Bend Parkway 2040 Build Bundle
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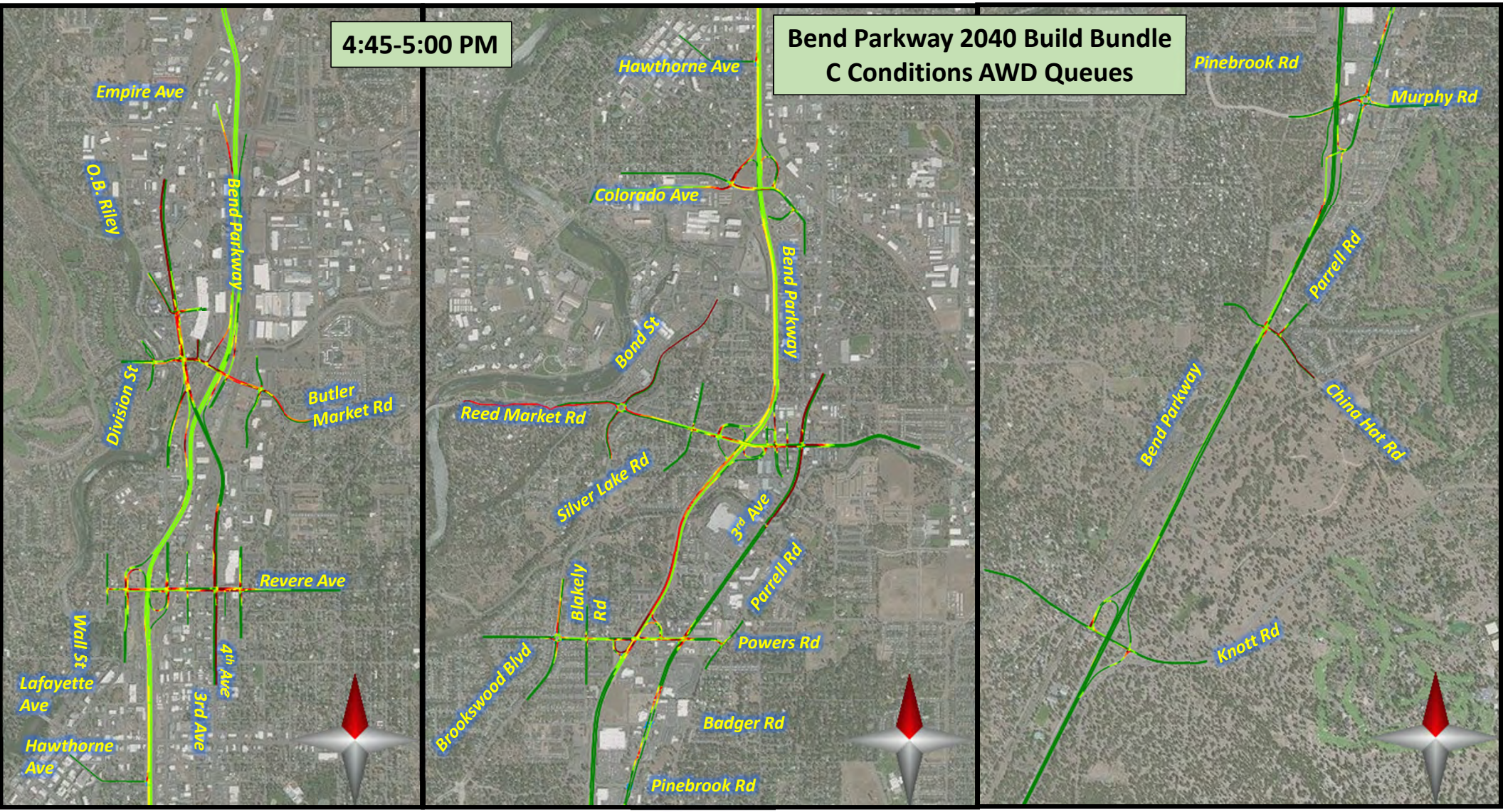

5:45-6:00 PM
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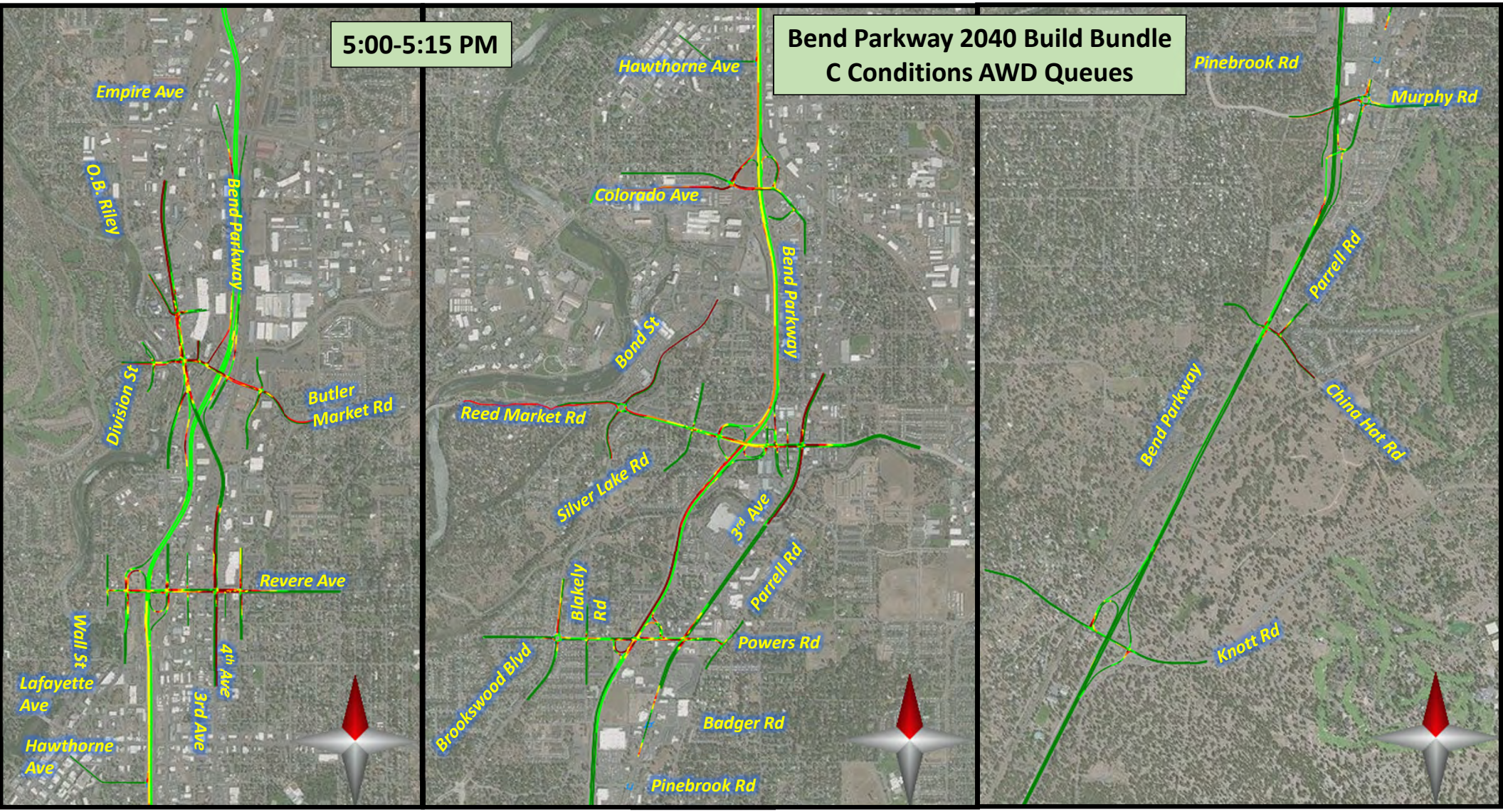
Vissim Queue plots (Future 2040 Build Bundle C Conditions)

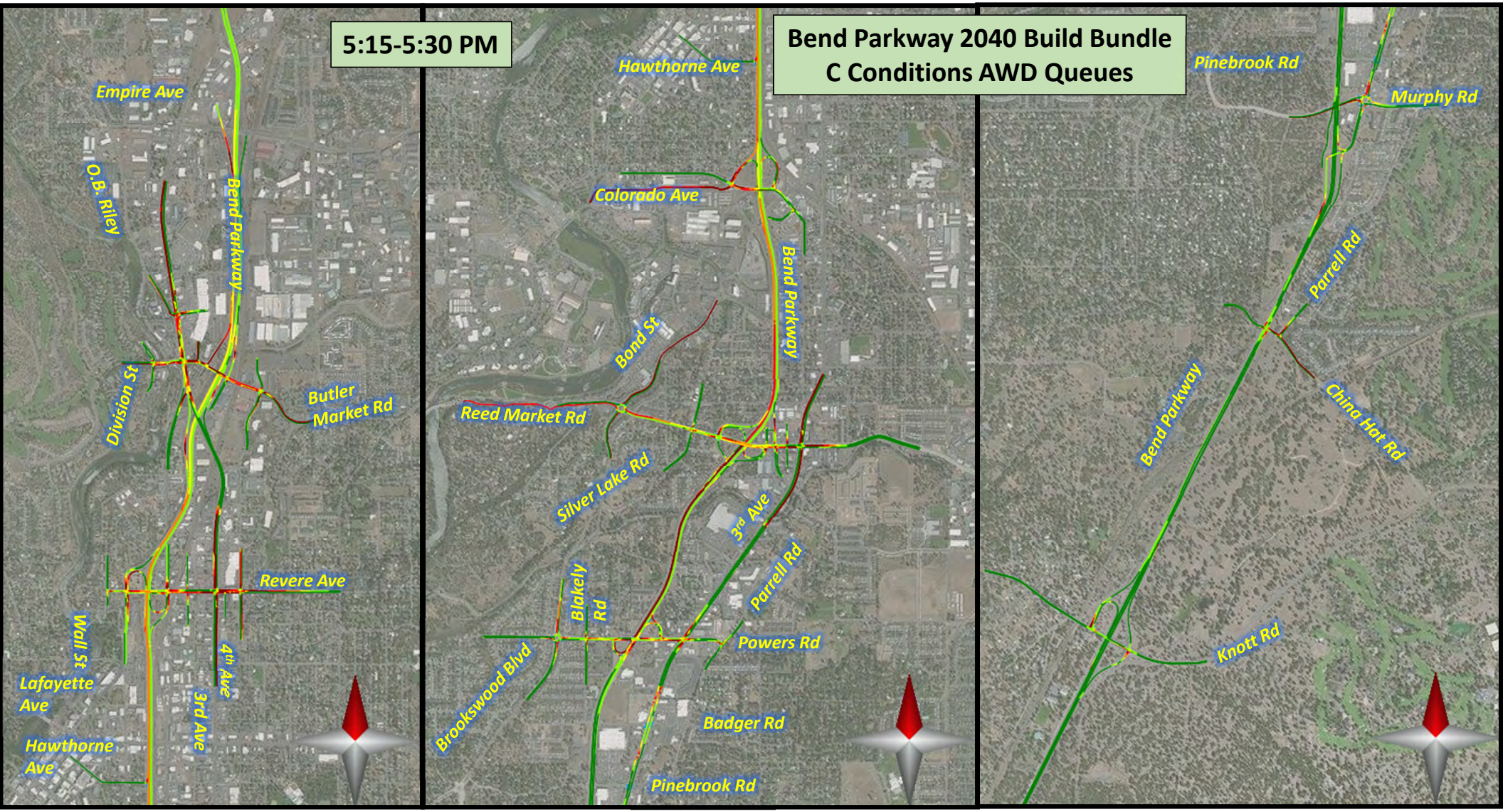

4:00-4:15 PM
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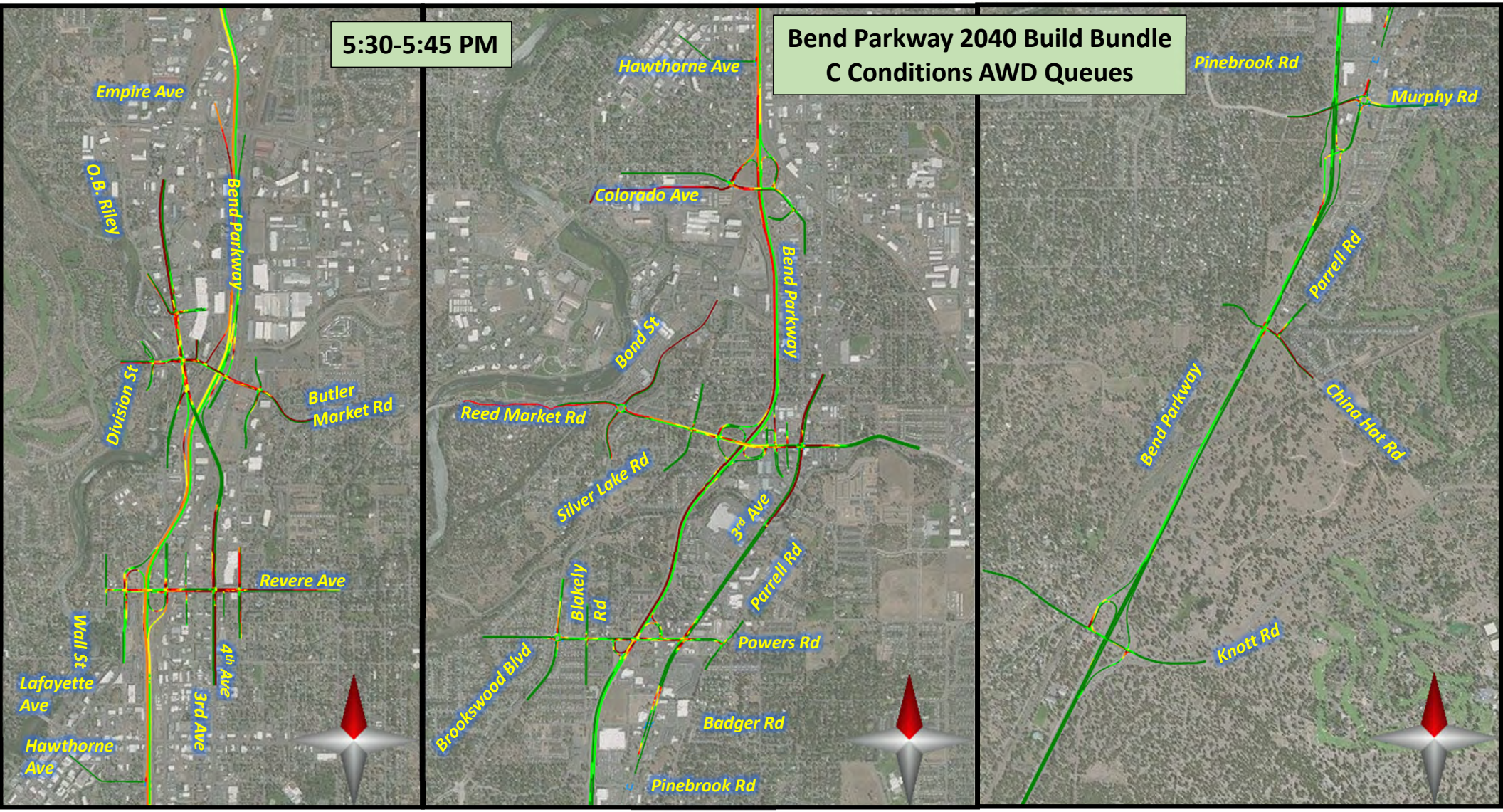

4:15-4:30 PM
Bend Parkway 2040 Build Bundle
C Conditions AWD Queues
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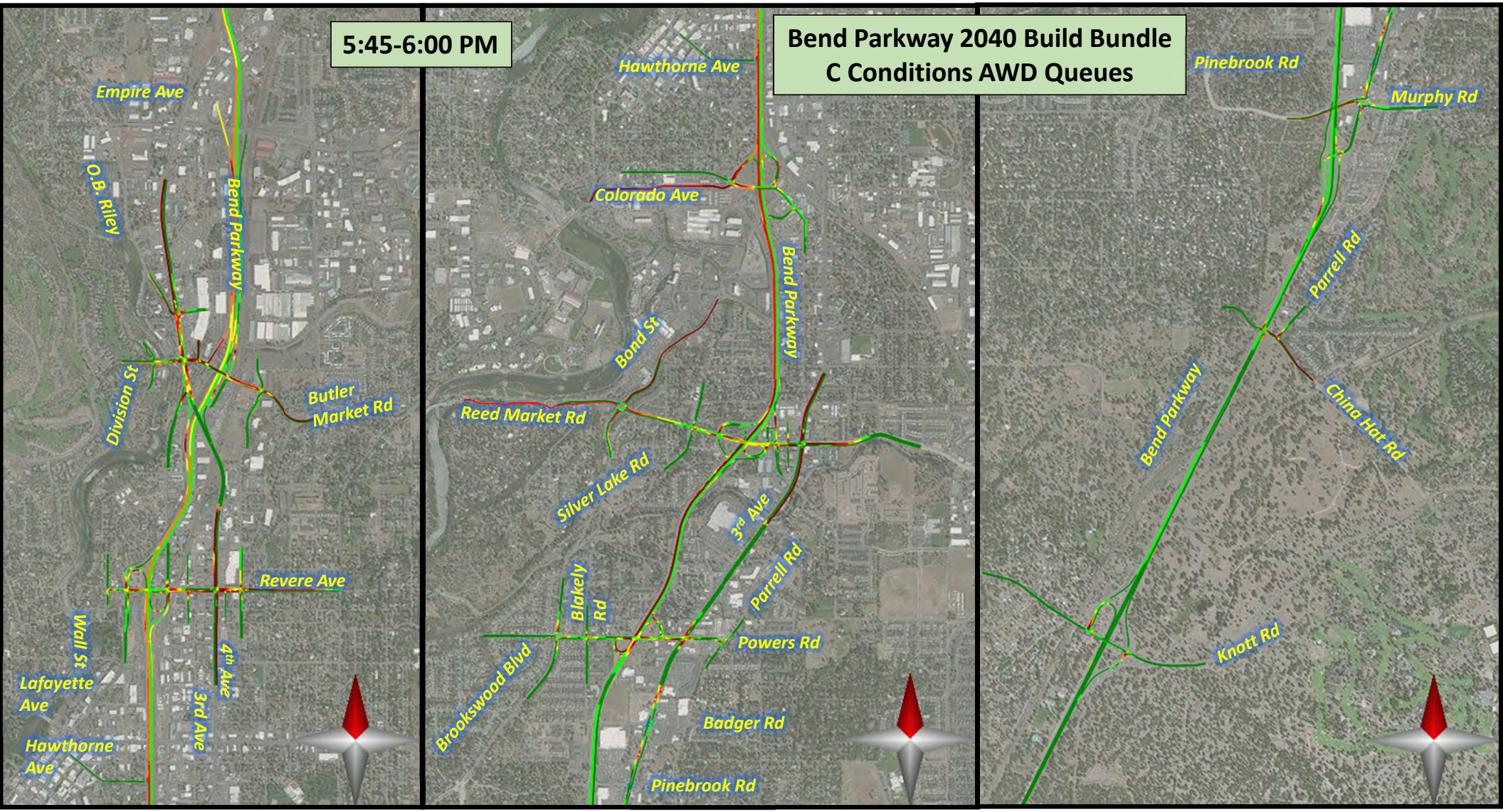

4:30-4:45 PM
Bend Parkway 2040 Build Bundle
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4:45-5:00 PM
Bend Parkway 2040 Build Bundle
C Conditions AWD Queues
Empire Ave
O.B. Riley
Bend Parkway
Division St
Butler Market Rd
Revere Ave
Wall St
4th Ave
Lafayette Ave
3rd Ave
Hawthorne Ave
Hawthorne Ave
Colorado Ave
Bend Parkway
Bond St
Reed Market Rd
Silver Lake Rd
3rd Ave
Parrell Rd
Blakely Rd
Powers Rd
Brookswood Blvd
Badger Rd
Pinebrook Rd
Pinebrook Rd
Murphy Rd
Parrell Rd
China Hat Rd
Bend Parkway
Knott Rd


5:00-5:15 PM
Bend Parkway 2040 Build Bundle
C Conditions AWD Queues
Empire Ave
O.B. Riley
Bend Parkway
Division St
Butler Market Rd
Revere Ave
Wall St
4th Ave
Lafayette Ave
3rd Ave
Hawthorne Ave
Hawthorne Ave
Colorado Ave
Bend Parkway
Bond St
Reed Market Rd
Silver Lake Rd
3rd Ave
Parrell Rd
Blakely Rd
Brookswood Blvd
Powers Rd
Badger Rd
Pinebrook Rd
Pinebrook Rd
Murphy Rd
Parrell Rd
China Hat Rd
Bend Parkway
Knott Rd


5:15-5:30 PM
Bend Parkway 2040 Build Bundle
C Conditions AWD Queues
Empire Ave
O.B. Riley
Bend Parkway
Division St
Butler Market Rd
Revere Ave
Wall St
4th Ave
Lafayette Ave
3rd Ave
Hawthorne Ave
Hawthorne Ave
Colorado Ave
Bend Parkway
Bond St
Reed Market Rd
Silver Lake Rd
3rd Ave
Parrell Rd
Blakely Rd
Powers Rd
Brookswood Blvd
Badger Rd
Pinebrook Rd
Pinebrook Rd
Murphy Rd
Parrell Rd
Bend Parkway
China Hat Rd
Knott Rd


5:30-5:45 PM
Bend Parkway 2040 Build Bundle
C Conditions AWD Queues
Empire Ave
O.B. Riley
Bend Parkway
Division St
Butler Market Rd
Revere Ave
Wall St
4th Ave
Lafayette Ave
3rd Ave
Hawthorne Ave
Hawthorne Ave
Colorado Ave
Bend Parkway
Bond St
Reed Market Rd
Silver Lake Rd
3rd Ave
Parrell Rd
Blakely Rd
Powers Rd
Brookswood Blvd
Badger Rd
Pinebrook Rd
Pinebrook Rd
Murphy Rd
Parrell Rd
Bend Parkway
China Hat Rd
Knott Rd


5:45-6:00 PM
Bend Parkway 2040 Build Bundle
C Conditions AWD Queues
Empire Ave
O.B. Riley
Bend Parkway
Division St
Butler Market Rd
Revere Ave
Wall St
4th Ave
Lafayette Ave
3rd Ave
Hawthorne Ave
Hawthorne Ave
Colorado Ave
Bend Parkway
Bond St
Reed Market Rd
Silver Lake Rd
3rd Ave
Parrell Rd
Blakely Rd
Powers Rd
Brookswood Blvd
Badger Rd
Pinebrook Rd
Pinebrook Rd
Murphy Rd
Parrell Rd
China Hat Rd
Bend Parkway
Knott Rd

Vissim Delay reports (Future 2040 Build Bundle A Conditions)

Delay Results for PM Peak Hour - AWD

Future Build Bundle A Conditions Delay (Sec)

Study Intersection No.		7	8	16	17	24	25	27
Approach	**Movement**	**Butler Market and SB Ramp Off**	**Butler Market and NB Ramp**	**Revere and SB Ramps**	**Revere and NB Ramps**	**Lafayette Ave**	**Hawthorne**	**Colorado and SB ramps**
NB	Left	-	0	43	55	-	-	-
	Thru	-	29	49	52	-	-	-
	Right	-	9	16	26	-	-	-
SB	Left	23	-	58	70	-	-	39
	Thru	23	-	31	39	-	8	0
	Right	10	-	22	17	-	9	10
EB	Left	-	12	18	24	-	-	-
	Thru	0	1	28	4	-	-	377
	Right	11	0	57	19	-	-	561
WB	Left	16	6	19	20	-	-	-
	Thru	7	2	14	45	-	-	23
	Right	-	2	10	36	-	-	-
Intersection Total		**12**	**2**	**24**	**29**	**-**	**8**	**236**

Delay Results for PM Peak Hour - AWD Future Build Bundle A Conditions Delay (Sec)								
Study Intersection No.		28	31	34	35	41	42	46
Approach	**Movement**	**Colorado and NB ramps**	**Truman Ave**	**Reed Market and SB Ramps**	**Reed Market and NB Ramps**	**Reed Ln**	**Powers NB On Ramp**	**Powers and SB Ramps**
NB	Left	-	-	-	39	-	-	-
	Thru	-	-	-	-	-	-	-
	Right	5	-	-	20	-	-	-
SB	Left	-	-	60	-	-	-	-
	Thru	-	-	0	-	-	-	-
	Right	32	-	66	13	-	-	-
EB	Left	115	-	-	-	-	-	-
	Thru	-	-	66	59	-	-	-
	Right	20	-	53	53	-	-	-
WB	Left	-	-	-	-	-	-	-
	Thru	80	-	73	15	-	-	-
	Right	169	-	23	3	-	-	-
Intersection Total		**87**	**-**	**61**	**39**	**-**	**-**	**-**

Delay Results for PM Peak Hour - AWD

Future Build Bundle A Conditions Delay (Sec)

Study Intersection No.		47	48	52	54	57	62	65
Approach	**Movement**	**Powers at-grade**	**Powers and NB Ramps**	**Powers and SB on Ramp**	**Badger at-grade**	**Pinebrook at-grade**	**Ponderosa/ China Hat**	**Baker and SB Ramps**
NB	Left	-	-	-	-	-	-	-
	Thru	1	-	-	1	1	-	-
	Right	-	-	-	-	-	-	-
SB	Left	-	-	-	-	-	-	14
	Thru	1	-	-	2	1	-	-
	Right	-	-	-	-	-	-	17
EB	Left	-	-	-	-	-	-	9
	Thru	-	-	-	-	-	-	-
	Right	0	-	-	-	-	-	7
WB	Left	-	-	-	-	-	-	-
	Thru	0	-	-	-	-	-	5
	Right	-	-	-	-	-	-	4
Intersection Total		**1**	**-**	**-**	**1**	**1**	**-**	**8**

Delay Results for PM Peak Hour - AWD Future Build Bundle A Conditions Delay (Sec)		
Study Intersection No.		66
Approach	**Movement**	**Knott and NB Ramps**
NB	Left	16
	Thru	0
	Right	7
SB	Left	-
	Thru	-
	Right	-
EB	Left	11
	Thru	-
	Right	4
WB	Left	-
	Thru	10
	Right	6
Intersection Total		**8**

Delay Results for PM Peak Hour - AWD

Future Build Bundle A Conditions Delay (Sec)

Study Intersection No.		3	5	9	11	19	21	29
Approach	**Movement**	**O.B. Riley and US 20**	**Butler Market and US 20**	**Butler Market and 4th St**	**Division and 3rd St**	**Revere and 3rd**	**Revere and 4th**	**Aune and Scott**
NB	Left	52	75	25	-	127	107	51
	Thru	25	34	0	-	103	95	-
	Right	14	35	8	-	102	96	11
SB	Left	397	74	23	-	133	77	-
	Thru	425	69	17	28	29	77	-
	Right	430	43	4	-	29	71	-
EB	Left	175	51	12	416	84	12	-
	Thru	152	39	5	-	39	11	1
	Right	149	51	8	-	79	35	1
WB	Left	93	41	16	-	45	162	144
	Thru	55	39	8	9	29	183	155
	Right	39	15	6	40	42	174	-
Intersection Total		**170**	**49**	**10**	**97**	**70**	**88**	**84**

Delay Results for PM Peak Hour - AWD

Future Build Bundle A Conditions Delay (Sec)

Study Intersection No.		32	33	36	38	44	45	49
Approach	**Movement**	**Reed Market and Brookswood**	**Reed Market and Silver Lake**	**Reed Market and Division**	**Reed Market and 3rd St**	**Powers and Brookswood**	**Powers and Blakely**	**Powers and 3rd St**
NB	Left	127	46	-	430	10	24	33
	Thru	125	0	-	177	11	24	17
	Right	122	29	18	152	9	17	13
SB	Left	488	27	27	238	17	15	77
	Thru	489	19	0	194	16	19	29
	Right	479	23	10	195	16	9	30
EB	Left	322	41	29	90	33	3	35
	Thru	318	40	4	35	20	1	17
	Right	322	42	10	49	35	1	33
WB	Left	58	22	26	107	5	12	26
	Thru	56	6	5	61	4	5	30
	Right	53	5	3	56	3	4	14
Intersection Total		**224**	**24**	**6**	**158**	**14**	**5**	**28**

Delay Results for PM Peak Hour - AWD Future Build Bundle A Conditions Delay (Sec)				
Study Intersection No.		50	60	63
Approach	**Movement**	**Powers and Parrell**	**Murphy and 3rd St**	**China Hat and Parrell**
NB	Left	5	10	-
	Thru	0	9	-
	Right	-	6	-
SB	Left	-	4	40
	Thru	1	4	-
	Right	1	4	61
EB	Left	23	17	12
	Thru	11	10	-
	Right	-	16	12
WB	Left	-	6	-
	Thru	-	6	16
	Right	-	6	26
Intersection Total		**6**	**9**	**21**

Vissim Delay reports (Future 2040 Build Bundle B Conditions)

Delay Results for PM Peak Hour - AWD

Future Build Bundle B Conditions Delay (Sec)

Study Intersection No.		7	8	16	17	24	25	27
Approach	**Movement**	**Butler Market and SB Ramp Off**	**Butler Market and NB Ramp**	**Revere and SB Ramps**	**Revere and NB Ramps**	**Lafayette Ave**	**Hawthorne**	**Colorado and SB ramps**
NB	Left	-	0	229	26	-	-	381
	Thru	-	26	221	21	-	-	354
	Right	-	8	239	8	-	-	441
SB	Left	76	-	48	41	-	-	60
	Thru	-	-	38	38	-	7	-
	Right	67	-	26	40	-	9	35
EB	Left	-	18	18	31	-	-	-
	Thru	-	1	25	4	-	-	-
	Right	3	1	45	17	-	-	-
WB	Left	-	8	35	24	-	-	-
	Thru	15	5	36	22	-	-	35
	Right	-	5	24	21	-	-	30
Intersection Total		**20**	**4**	**95**	**24**	**-**	**7**	**216**

Delay Results for PM Peak Hour - AWD Future Build Bundle B Conditions Delay (Sec)								
Study Intersection No.		28	31	35	41	42	46	47
Approach	**Movement**	**Colorado and NB ramps**	**Truman Ave**	**Reed Market SPUI**	**Reed Ln**	**Powers NB On Ramp**	**Powers and SB Ramps**	**Powers at-grade**
NB	Left	-	-	-	-	-	-	-
	Thru	-	-	1	-	4	-	-
	Right	-	-	12	-	-	-	-
SB	Left	51	-	77	-	-	30	-
	Thru	-	-	0	-	-	-	-
	Right	5	-	26	-	-	20	-
EB	Left	91	-	52	-	-	-	-
	Thru	-	-	2	-	-	17	-
	Right	8	-	19	-	-	21	-
WB	Left	-	-	53	-	-	22	-
	Thru	72	-	97	-	-	13	-
	Right	88	-	13	-	-	-	-
Intersection Total		**62**	**-**	**26**	**-**	**4**	**20**	**-**

Delay Results for PM Peak Hour - AWD Future Build Bundle B Conditions Delay (Sec)								
Study Intersection No.		48	52	54	57	62	65	66
Approach	**Movement**	**Powers and NB Ramps**	**Powers and SB on Ramp**	**Badger at-grade**	**Pinebrook at-grade**	**Ponderosa/ China Hat**	**Baker and SB Ramps**	**Knott and NB Ramps**
NB	Left	47	-	-	-	-	-	8
	Thru	-	-	-	-	2	-	0
	Right	12	-	-	-	-	-	9
SB	Left	-	-	-	-	-	16	-
	Thru	-	4	-	-	1	-	-
	Right	-	-	-	-	-	17	-
EB	Left	7	-	-	-	-	4	5
	Thru	-	3	-	-	-	-	-
	Right	3	-	-	-	1	4	4
WB	Left	-	-	-	-	-	-	-
	Thru	6	-	-	-	0	4	18
	Right	7	-	-	-	-	4	9
Intersection Total		**6**	**4**	**-**	**-**	**1**	**8**	**11**

Delay Results for PM Peak Hour - AWD

Future Build Bundle B Conditions Delay (Sec)

Study Intersection No.		3	5	9	11	19	21	29
Approach	**Movement**	**O.B. Riley and US 20**	**Butler Market and US 20**	**Butler Market and 4th St**	**Division and 3rd St**	**Revere and 3rd**	**Revere and 4th**	**Aune and Scott**
NB	Left	40	63	10	-	277	78	43
	Thru	34	60	0	-	255	67	-
	Right	17	56	8	-	254	67	10
SB	Left	617	58	14	23	654	37	-
	Thru	668	109	8	22	320	39	-
	Right	675	72	13	-	304	33	-
EB	Left	289	41	5	393	54	18	-
	Thru	281	44	5	415	65	11	1
	Right	293	65	6	0	74	40	1
WB	Left	103	71	16	-	46	160	50
	Thru	58	42	16	-	38	157	57
	Right	41	30	23	272	28	155	-
Intersection Total		**239**	**70**	**11**	**185**	**187**	**65**	**35**

Delay Results for PM Peak Hour - AWD

Future Build Bundle B Conditions Delay (Sec)

Study Intersection No.		32	33	36	38	44	45	49
Approach	**Movement**	**Reed Market and Brookswood**	**Reed Market and Silver Lake**	**Reed Market and Division**	**Reed Market and 3rd St**	**Powers and Brookswood**	**Powers and Blakely**	**Powers and 3rd St**
NB	Left	118	52	-	280	11	23	29
	Thru	119	45	-	111	10	45	11
	Right	117	17	12	102	8	16	9
SB	Left	144	11	0	205	53	24	49
	Thru	143	12	0	170	52	24	24
	Right	141	31	24	181	52	13	22
EB	Left	280	20	14	88	64	7	37
	Thru	279	2	8	-	55	1	12
	Right	280	2	6	51	66	1	31
WB	Left	92	56	20	120	6	18	23
	Thru	90	53	14	79	6	10	28
	Right	87	52	18	76	4	10	14
Intersection Total		**158**	**29**	**11**	**132**	**30**	**8**	**22**

Delay Results for PM Peak Hour - AWD

Future Build Bundle B Conditions Delay (Sec)

Study Intersection No.		50	53	56	59	60	63
Approach	**Movement**	**Powers and Parrell**	**Badger and Blakely**	**Badger and 3rd St**	**Pinebrook and 3rd St**	**Murphy and 3rd St**	**China Hat and Parrell**
NB	Left	5	0	0	0	9	-
	Thru	0	0	8	0	8	-
	Right	-	-	0	0	5	-
SB	Left	-	-	0	0	12	11
	Thru	1	0	36	17	15	-
	Right	1	0	0	0	15	17
EB	Left	16	0	0	0	115	0
	Thru	11	0	0	0	90	-
	Right	-	-	0	0	117	0
WB	Left	-	-	0	0	7	-
	Thru	-	-	0	0	6	3
	Right	-	-	0	0	6	6
Intersection Total		**4**	**-**	**22**	**8**	**34**	**4**

Vissim Delay reports (Future 2040 Build Bundle C Conditions)

Delay Results for PM Peak Hour - AWD

Future Build Bundle C Conditions Delay (Sec)

Study Intersection No.		7	8	16	17	24	25	27
Approach	**Movement**	**Butler Market and SB Ramp Off**	**Butler Market and NB Ramp**	**Revere and SB Ramps**	**Revere and NB Ramps**	**Lafayette Ave**	**Hawthorne**	**Colorado and SB ramps**
NB	Left	-	0	48	34	-	-	146
	Thru	-	22	46	33	-	-	151
	Right	-	9	16	26	-	-	173
SB	Left	269	-	54	33	-	-	86
	Thru	-	-	35	20	-	48	-
	Right	280	-	25	11	-	49	74
EB	Left	-	14	21	30	-	-	-
	Thru	-	9	16	5	-	-	-
	Right	2	14	46	19	-	-	-
WB	Left	-	43	16	17	-	-	-
	Thru	52	42	32	12	-	-	40
	Right	-	36	22	13	-	-	35
Intersection Total		**77**	**27**	**25**	**19**	**-**	**48**	**117**

Delay Results for PM Peak Hour - AWD

Future Build Bundle C Conditions Delay (Sec)

Study Intersection No.		28	31	34	35	41	42	46
Approach	**Movement**	**Colorado and NB ramps**	**Truman Ave**	**Reed Market and SB Ramps**	**Reed Market and NB Ramps**	**Reed Ln**	**Powers NB On Ramp**	**Powers and SB Ramps**
NB	Left	-	-	-	33	-	-	0
	Thru	-	-	-	-	2	1	-
	Right	-	-	-	17	-	-	166
SB	Left	15	-	21	-	-	-	-
	Thru	-	-	16	-	137	-	-
	Right	10	-	15	6	-	-	-
EB	Left	40	-	-	-	-	-	-
	Thru	-	-	0	21	-	-	2
	Right	9	-	20	19	-	-	3
WB	Left	-	-	-	-	-	-	8
	Thru	2	-	30	2	-	-	0
	Right	3	-	5	1	-	6	-
Intersection Total		**19**	**-**	**21**	**14**	**70**	**2**	**28**

Delay Results for PM Peak Hour - AWD Future Build Bundle C Conditions Delay (Sec)								
Study Intersection No.		47	48	52	54	57	62	65
Approach	**Movement**	**Powers at-grade**	**Powers and NB Ramps**	**Powers and SB on Ramp**	**Badger at-grade**	**Pinebrook at-grade**	**Ponderosa/ China Hat**	**Baker and SB Ramps**
NB	Left	-	-	-	-	-	-	-
	Thru	16	-	-	1	1	2	-
	Right	15	-	-	-	-	3	-
SB	Left	-	-	-	-	-	-	22
	Thru	125	-	0	1	1	2	-
	Right	260	6	-	-	-	4	20
EB	Left	-	4	-	-	-	-	3
	Thru	-	-	1	-	-	7	-
	Right	22	7	-	-	-	-	1
WB	Left	-	-	-	-	-	-	-
	Thru	18	1	-	-	-	-	1
	Right	-	3	-	-	-	50	2
Intersection Total		**68**	**5**	**0**	**1**	**1**	**9**	**8**

Delay Results for PM Peak Hour - AWD Future Build Bundle C Conditions Delay (Sec)		
Study Intersection No.		66
Approach	**Movement**	**Knott and NB Ramps**
NB	Left	15
	Thru	0
	Right	9
SB	Left	-
	Thru	-
	Right	-
EB	Left	7
	Thru	-
	Right	3
WB	Left	-
	Thru	1
	Right	1
Intersection Total		**4**

Delay Results for PM Peak Hour - AWD

Future Build Bundle C Conditions Delay (Sec)

Study Intersection No.		3	5	9	11	19	21	29
Approach	**Movement**	**O.B. Riley and US 20**	**Butler Market and US 20**	**Butler Market and 4th St**	**Division and 3rd St**	**Revere and 3rd**	**Revere and 4th**	**Aune and Scott**
NB	Left	46	84	77	-	285	59	12
	Thru	17	32	0	-	263	53	-
	Right	8	30	30	-	268	53	8
SB	Left	354	82	9	6	927	36	-
	Thru	387	70	7	6	161	35	-
	Right	391	43	14	-	157	36	-
EB	Left	148	64	29	145	65	21	-
	Thru	137	50	33	138	73	53	1
	Right	154	80	34	0	85	66	0
WB	Left	62	65	102	-	46	109	3
	Thru	38	63	121	-	39	122	1
	Right	19	46	114	19	30	123	-
Intersection Total		**148**	**56**	**71**	**38**	**172**	**63**	**1**

Delay Results for PM Peak Hour - AWD Future Build Bundle C Conditions Delay (Sec)								
Study Intersection No.		32	33	36	38	44	45	49
Approach	**Movement**	**Reed Market and Brookswood**	**Reed Market and Silver Lake**	**Reed Market and Division**	**Reed Market and 3rd St**	**Powers and Brookswood**	**Powers and Blakely**	**Powers and 3rd St**
NB	Left	89	29	-	539	7	22	43
	Thru	87	0	-	260	8	22	11
	Right	85	14	14	231	6	14	8
SB	Left	414	14	27	246	19	17	48
	Thru	415	14	0	207	19	22	21
	Right	412	18	7	215	19	9	19
EB	Left	310	18	28	42	32	5	35
	Thru	307	4	3	34	22	1	32
	Right	309	5	7	42	31	1	47
WB	Left	46	13	16	90	4	10	23
	Thru	44	4	1	88	4	4	27
	Right	42	3	3	84	3	4	14
Intersection Total		**201**	**6**	**4**	**181**	**13**	**4**	**24**

Delay Results for PM Peak Hour - AWD Future Build Bundle C Conditions Delay (Sec)				
Study Intersection No.		50	60	63
Approach	**Movement**	**Powers and Parrell**	**Murphy and 3rd St**	**China Hat and Parrell**
NB	Left	5	12	-
	Thru	0	11	-
	Right	-	6	-
SB	Left	-	10	24
	Thru	1	12	-
	Right	1	12	33
EB	Left	14	97	3
	Thru	10	73	-
	Right	-	97	0
WB	Left	-	7	-
	Thru	-	7	243
	Right	-	6	228
Intersection Total		**4**	**30**	**125**

Vissim Travel Time Results (Future 2040 Build Bundle A Conditions)

Travel Time Results

AWD PM Peak Hour (4:30-5:30 PM) Travel Time Results - Bundle A											
Future 2040 Build PM Peak				Travel Time (Sec)				Model Average Speed (mph)	Model 85th Percentile (mph)	Model Average Delay (min)	Peak Hour Volume
Route	From	To	Distance (ft)	15-Run Average	Standard Deviation	Min	Max				
US 97 SB	Empire Ave. SB On-Ramp	Knott Rd. NB Off-Ramp	38352	9:24	0:44	7:34	14:31	46	50	0:46	273
US 97 NB	Knott Rd. NB Off-Ramp	Empire Ave. NB Off-Ramp	40156	9:36	0:42	7:58	13:52	48	51	0:38	406

Vissim Travel Time Results (Future 2040 Build Bundle B Conditions)

Travel Time Results

AWD PM Peak Hour (4:30-5:30 PM) Travel Time Results - Bundle B											
Future 2040 Build PM Peak				Travel Time (Sec)				Model Average Speed (mph)	Model 85th Percentile (mph)	Model Average Delay (min)	Peak Hour Volume
Route	From	To	Distance (ft)	10-Run Average	Standard Deviation	Min	Max				
US 97 SB	Empire Ave. SB On-Ramp	Knott Rd. NB Off-Ramp	38352	9:22	0:39	7:44	11:50	47	50	0:45	275
US 97 NB	Knott Rd. NB Off-Ramp	Empire Ave. NB Off-Ramp	40156	9:40	0:40	8:09	12:10	47	50	0:43	415

Vissim Travel Time Results (Future 2040 Build Bundle C Conditions)

Travel Time Results

AWD PM Peak Hour (4:30-5:30 PM) Travel Time Results - Bundle C											
Future 2040 Build PM Peak				Travel Time (Sec)				Model Average Speed (mph)	Model 85th Percentile (mph)	Model Average Delay (min)	Peak Hour Volume
Route	From	To	Distance (ft)	15-Run Average	Standard Deviation	Min	Max				
US 97 SB	Empire Ave. SB On-Ramp	Knott Rd. NB Off-Ramp	38352	15:10	4:45	8:29	34:40	29	37	6:32	243
US 97 NB	Knott Rd. NB Off-Ramp	Empire Ave. NB Off-Ramp	40156	10:06	0:41	8:23	13:39	45	48	1:04	467