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MEMORANDUM

DATE: March 6, 2014

TO: Stephanie Serpico, P.E., HDR

FROM: Chris Maciejewski, P.E., PTOE
Steven Boice, P.E.
Benjamin Chaney, EIT

SUBJECT: Task 3.1 – "Before" Multimodal Data Collection – Bend Galveston Corridor Plan P13198-000

The City of Bend is designing improvements along NW Galveston Avenue from NW 14th Street to the Deschutes River. One of the goals for these improvements is to make the corridor a safer and more attractive environment for multimodal travel. To support this effort, DKS Associates collected traffic data to quantify current multimodal travel along the study corridor. Volumes for bicycles, pedestrians, and motor vehicles was supplemented with observational data quantifying motorist yielding rates to pedestrians crossing the street and the comfort level of bicyclists. A review of recent crash records was also performed to characterize the safety history at the study intersections. The intent is to collect the same data after the preferred design improvements are complete to assess how the project altered traveler behavior.

Study Area

Galveston Avenue serves an important role in Bend's transportation system. As one of only four river crossings to downtown, it connects the west side neighborhoods to Bend's core. Galveston Avenue is classified as a minor arterial roadway in the Bend Urban Area Transportation System Plan (TSP)[1] with a posted speed of 25 miles-per-hour (mph). The bike lanes on Galveston Avenue provide a backbone connection in Bend's Bicycle and Pedestrian System Plan,[2] and the route is part of the Oregon Scenic Bikeway network.[3] Galveston Avenue forms the main east-west bike route through central Bend, connecting with a recently completed project on Riverside Boulevard and Franklin Avenue.[4] The bike network extends north-south through bike lanes on 14th Street and shared roadways at 12th Street and Harmon Boulevard. There are no other projects identified in the TSP in the study area.

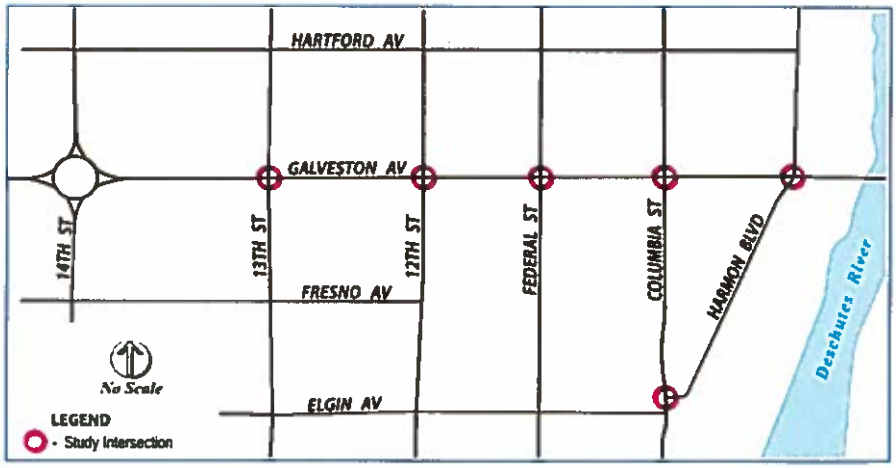


Figure 1: Galveston Avenue Study Area

[1] Bend Urban Area Transportation System Plan. Map Exhibit A: "Bend Urban Area Roadway System Plan." <http://www.ci.bend.or.us/modules/showdocument.aspx?documentid=4091>

[2] Bend Urban Area Transportation System Plan. Map Exhibit B: "Bend Urban Area Bicycle and Pedestrian System Plan." <http://www.ci.bend.or.us/modules/showdocument.aspx?documentid=4091>

[3] Twin Bridges Scenic Bikeway. Oregon Scenic Bikeways. < http://traveloregon.com/pdf/ScenicBikewaysMap.pdf>

[4] Project ST11FA. Adopted 2013-2018 Capital Improvement Program. < http://www.bend.or.us/modules/showdocument.aspx?documentid=14209>

Six intersections were chosen for study as shown in Figure 1. All of the intersections are two-way stop controlled with traffic flowing mostly unrestricted on Galveston Avenue. The exception is the Galveston Avenue/Harmon Boulevard intersection, where westbound vehicles on Galveston Avenue are prohibited from making a left turn, and movements off of Harmon Boulevard are restricted to right turns only. The roadway has one 12-foot travel lane in each direction, with a 10-foot shared two-way left turn lane (TWLTL) beginning just west of Harmon Boulevard and continuing until the splitter islands at the 14th Street roundabout. Parking is prohibited along both sides of the roadway and standard 5-foot bike lanes are present in both directions. Sidewalks are present along most of the roadway with gaps on the south side west of Federal Street to the midblock alley and east of Harmon Boulevard to the bridge.

Bicycle and Pedestrian Volumes

Bicycle and pedestrian volumes were collected at all six study intersections on November 12th and 13th of 2013 and are attached. These counts were taken over a two-hour period from 4-6 p.m. The recorded volumes are shown in Figure 2. Bicycle and Pedestrian volumes vary seasonally, and results from Bend's Bicycle and Pedestrian Documentation Project[5] suggest volumes could be four to five times higher during the summer seasonal peak.

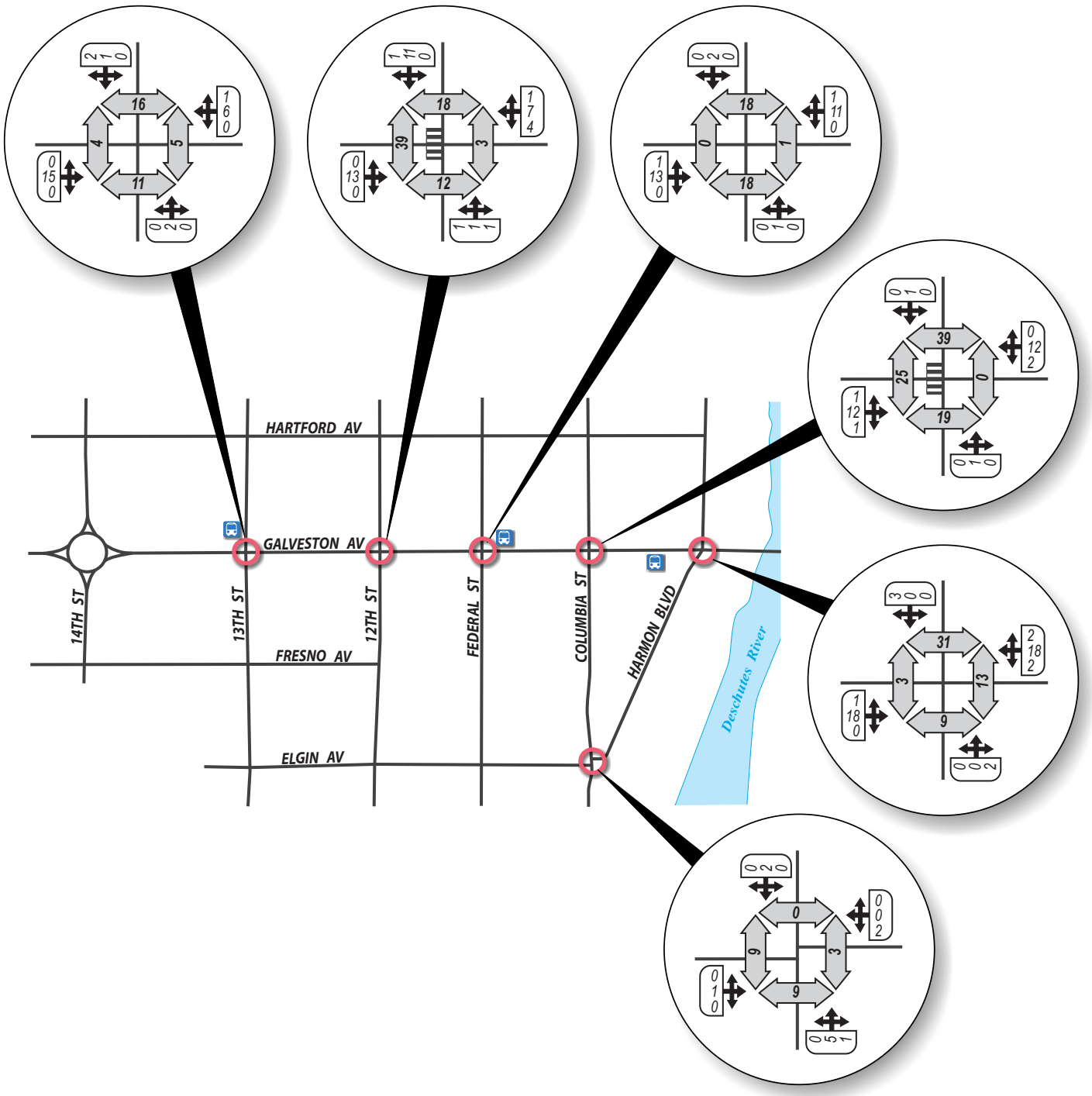
A Cascade East Transit Bus Stop

Two of the intersections, 12th Street and Columbia Street, feature a continental-style painted crosswalk across Galveston Avenue along the west leg of the intersection. There are three transit stops for Cascade East Transit (CET) Route 11 in the study area as shown in Figure 2, scheduled for two arrivals during the peak hour.

The highest pedestrian volumes crossing Galveston Avenue occur at the painted crosswalks, indicating high compliance in using the marked crossings. Bike volumes were highest at Galveston Avenue/Harmon Boulevard, where 46 bikes were recorded entering the intersection. The lowest volumes were at Columbia Street/Elgin Avenue/Harmon Boulevard (11 bikes) and Galveston Avenue/13th Street (27 bikes). Figure 3 shows bicycle movements at each intersection along Galveston Avenue categorized as through, crossing, entering, or exiting the corridor. The roadways of 12th Street and Harmon Boulevard are the most popular places for bicyclists to enter, exit, and cross Galveston Avenue, consistent with their designation as shared roadways.

A Bicyclist Rides along Galveston Ave.

[5] Galveston Bridge Location. During July 2013 weekdays, an average of over 175 bikes and 200 pedestrians were recorded in 2 hrs. <http://www.bendoregon.gov/bikepedcount>



LEGEND

00 **Pedestrian 2 Hour Peak Volume**

Bicycle 2 Hour Peak Volume
- *Right*
- *Through*
- *Left*

- Bus Stop Location
- Striped Pedestrian Crosswalk

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No Scale

Figure **2**

2013 EXISTING BICYCLE & PEDESTRIAN 2 HOUR PM PEAK VOLUMES

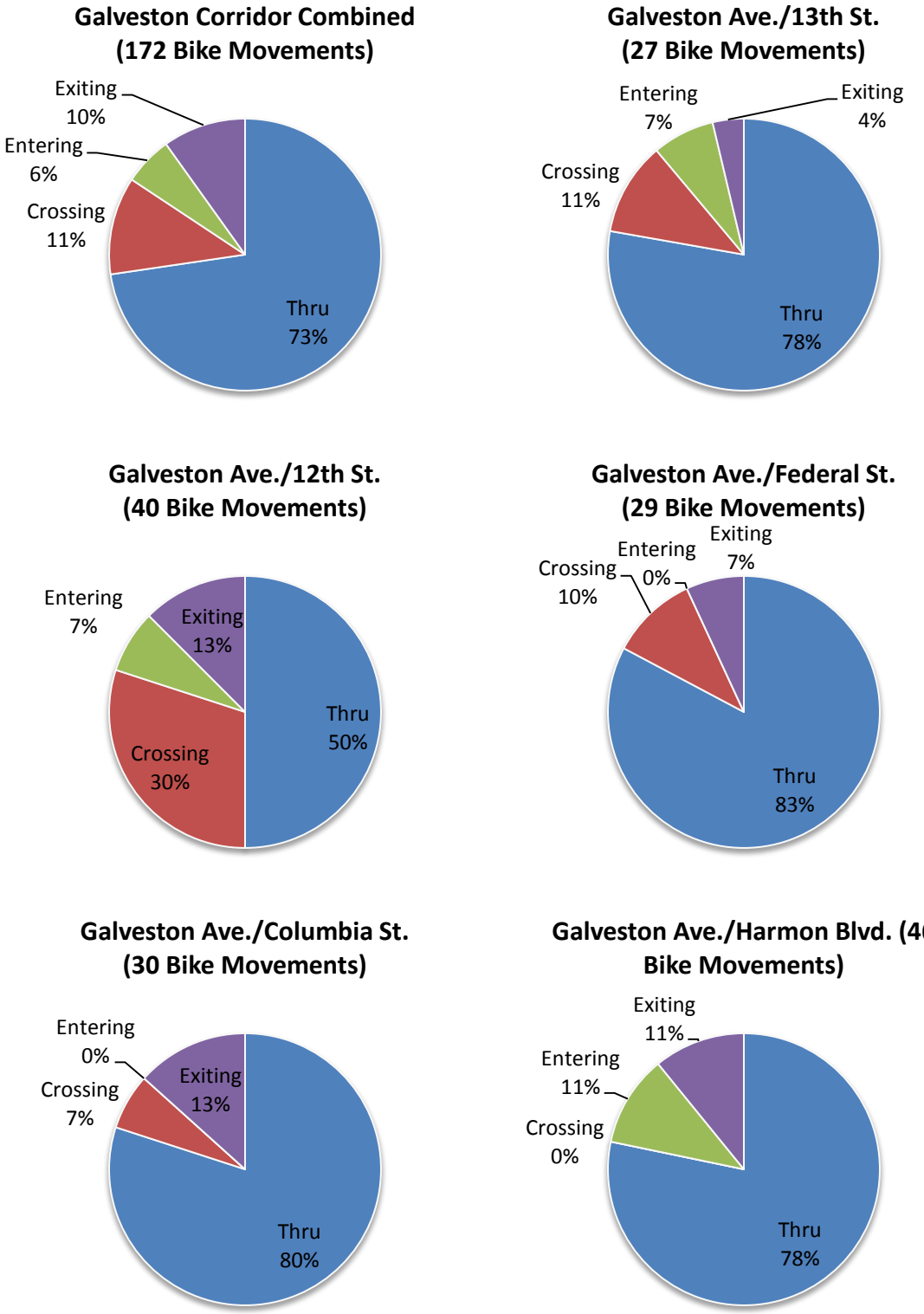


Figure 3: Existing PM Peak Period Bicycle Movements by Intersection along Galveston Ave.

Motor Vehicle Volumes

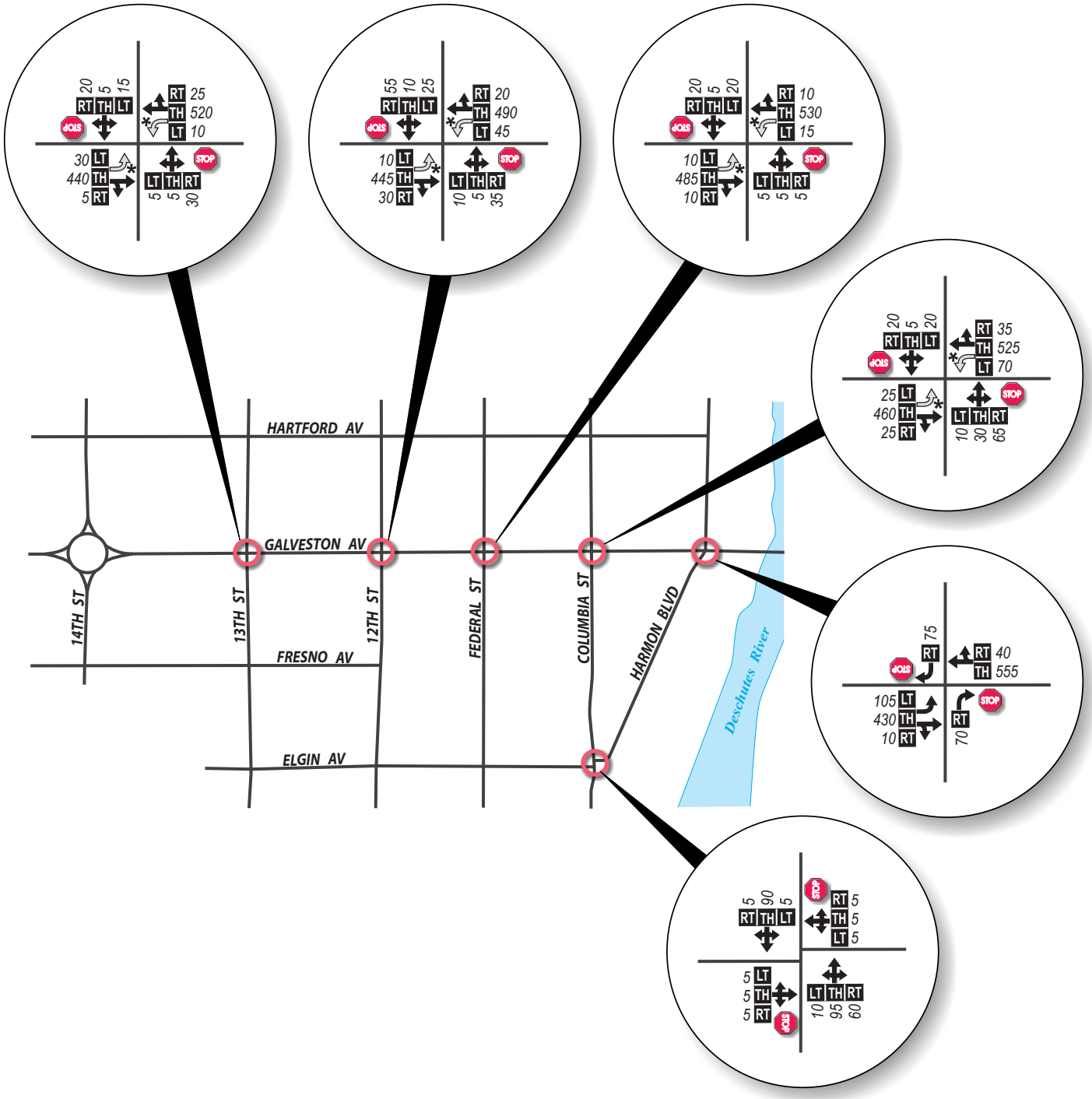
Motor vehicle volumes were collected at all six study intersections on November 12th and 13th of 2013 during the same two-hour period as the bicycle and pedestrian counts and are attached. The volumes for the peak hour are shown in Figure 4. The majority of the traffic volumes on Galveston Avenue travel through the corridor, indicated by the low turn movement volumes. The highest turning volumes are at the intersection of Galveston Avenue/Harmon Boulevard where just over 19% of eastbound traffic turns north. Columbia Street has the most motor vehicles crossing Galveston Avenue.

Using the modeling software Synchro™ 8, traffic operations at the study intersections were evaluated using 2010 Highway Capacity Manual methodology for two-way stop controlled intersections. The results are summarized in Table 1 and computations are attached. The City of Bend sets mobility standards for two-way stop controlled intersections by average delay for the critical lane group, which must be less than or equal to 50 seconds during the peak hour.[6] Currently, the southbound left turn at the intersection of Galveston Avenue/Columbia Street does not meet the City's mobility standard in terms of delay during the p.m. peak hour.

Table 1: Existing Intersection Operations (PM Peak Hour)

Intersection	Critical Lane Group Average Delay (sec./vehicle)	Level of Service (LOS) (Major / Minor)	Critical Lane Group Volume to Capacity (V/C)
Galveston Ave./13th St.	22.4	A/C	0.17
Galveston Ave./12th St.	24.5	A/C	0.34
Galveston Ave./Federal St.	23.1	A/C	0.19
Galveston Ave./Columbia	**53.6**	A/F	0.52
Galveston Ave./Harmon	14.7	A/B	0.18
Elgin Ave./Columbia St./ Harmon Blvd.	10.3	A/B	0.02
Values above Bend's mobility standards are bold and highlighted.			

[6] City of Bend Development Code, Chapter 4.7.400.B.1



LEGEND

- Study Intersection
- Stop Sign
- Lane Configuration
- Shared Two-Way Left Turn Lane
- 000 - PM Peak Hour Traffic Volume
- LT TH RT (Left•Thru•Right) - Volume Turn Movement

DKS

No Scale

Figure 4

2013 EXISTING PM PEAK HOUR TRAFFIC VOLUMES

Vehicle Yielding Rates to Pedestrians

To quantify how the preferred design improvements may alter driver behavior, vehicle yielding rates to pedestrians were collected at two of the study intersections to establish a baseline condition. The intersections at Columbia Street and Federal Street were selected so that both a marked and non-marked crosswalk location would be included. The study protocol was based on methodology described in "TCRP Report 112/NCHRP Report 562: Improving Pedestrian Safety at Signalized Crossings."[7]

A Pedestrian's View of the Crosswalk on Galveston Ave. at Columbia St.

General population pedestrians were observed crossing Galveston Avenue at these two locations on-site and in video recorded as part of the vehicle counts at each intersection. This was supplemented with staged crossings at each location conducted by DKS staff. During the afternoon peak period, 12 – 2 p.m., each intersection was observed for an hour in alternating half-hour periods. When no general population pedestrians were using the intersection, crossings were staged to ensure at least 40 crossing events were captured in the hour. Further observations were recorded for both intersections from two-hour videos recorded from 4 – 6 p.m. as part of the traffic volume counts.

For every crossing the following information was recorded:

- Number of pedestrians and whether it was a staged crossing.
- Time, in seconds, elapsed between visible intent to cross and the first yielding vehicle. If no delay was observed or no vehicles were present a value of zero was recorded.
- Number of yielding vehicles in the near direction of travel (those approaching from the left).
- Number of non-yielding vehicles in the near direction of travel.
- Number of yielding vehicles in the far direction of travel (those approaching from the right).
- Number of non-yielding vehicles in the far direction of travel.

Consistent with Oregon law, the staged pedestrian approached the crossing, made an attempt to cross, and waited until motorists in the closest lane of travel stopped or yielded the right-of-way. An attempt to cross, initiated by placing one foot into the roadway, was only made when approaching vehicles were beyond acceptable stopping sight distance (i.e., far enough from the crossing location) based on the posted speed of the roadway.[8] They then began crossing, but waited to enter the further lanes until motorists had again stopped or yielded. Oregon law requires vehicles, including bicycles, to yield to pedestrians in their lane or in either lane adjacent to theirs. Vehicles that did not stop when required to were counted as not yielding. Vehicles that slowed down without passing through the crosswalk to permit the staged pedestrian to safely cross were considered yielding vehicles. Vehicles that were too close to comfortably stop – estimated as being inside the stopping sight distance – were not counted.

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[7] Transportation Research Board. "TCRP Report 112/NCHRP Report 562: Improving Pedestrian Safety at Unsignalized Crossings." 2006. <http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rpt_562.pdf>. This report is based on Transit Cooperative Research Program Project D-8 and National Cooperative Highway Research Program Project 3-71.

[8] AASHTO. "A Policy on Geometric Design of Highways and Streets." Sixth Edition, 2011.

A summary of the results is shown in Table 2. During the afternoon period, both intersections had yielding rates of over 80%, with yielding rates at Columbia Street (marked crossing) being slightly higher. During evening observations, yielding rates were lower and over 90% of pedestrians crossed at Columbia Street.

Table 2: Vehicle Yield Rates to Pedestrians (4:00-6:00 P.M.)

	Galveston Ave./Federal St. (unmarked)			Galveston Ave./Columbia St. (marked)		
	Afternoon	Evening	Combined	Afternoon	Evening	Combined
Total Observations	45	2	47	44	19	63
Staged Crossings	42	0	42	32	0	32
Total Pedestrians	46	2	48	47	28	75
Total Vehicles	73	3	76	67	26	93
# of Yielding Vehicles	60	0	60	58	20	78
# of Non-yielding Veh.	13	3	16	9	6	15
% Veh. Yielding	82%	0%	79%	87%	77%	84%
% Veh. Not Yielding	18%	100%	21%	13%	23%	16%
% Crossings w/Yield*	84%	0%	81%	93%	68%	86%
% Crossings w/ No-Yield*	20%	50%	21%	20%	21%	21%
Average Yield Time	1.4 Sec	0 Sec	1.3 Sec	2.9 Sec	1.5 sec	2.5 Sec
Median Yield Time	0 Sec	0 Sec	0 Sec	2.75 Sec	0	2.5 Sec

** Note that since each crossing could include a yielding vehicle, non-yielding vehicle, or neither, these fields do not necessarily add to 100%.*

Bicyclist Lateral Positioning

Bicyclist lateral positioning within the bike lane was used to characterize bicyclist comfort along Galveston Avenue. Using in-person observations and recorded video records, each passing bicyclist was classified by their choice of riding location. Three positions were defined within the bike lane – centered, near the curb edge, or near the inside edge (motor vehicle travel lane). Bicyclists riding in the motor vehicle travel lanes or on the sidewalks were also recorded. The position of a bicyclist within the bike lane can indicate their level of comfort and confidence – given a range of available riding positions, more comfortable or confident cyclists will likely ride closer to the traffic side of a bike lane. Bicyclists positioning themselves near the curb or on the sidewalk are thought to be less comfortable or confident. It should be noted that other factors can influence a bicyclist's position such as debris, drains, and adjacent parked cars. These observations were taken prior to the winter season, during which more road debris and gravel collect toward the curb. Drain grates, though bike-friendly in design, are present curbside along the corridor and riders may actively avoid them. On street parking introduces the danger of being hit by opening doors, but this is not an issue for the existing Galveston Avenue conditions.

Curbside Drain Grate in the Bike Lane

During the in-person staged pedestrian crossings described above, bicyclist information was also recorded by DKS staff. This was supplemented with video records taken midblock on Galveston Avenue between 12th Street and Federal Street from 4 – 6 p.m. Results are shown in Figure 5. Over 85% of the 61 observed bicyclists positioned themselves in the center of the bike lane or near the inside edge, divided evenly between the two positions. Driver behavior was also observed in the recorded video, where 10 drivers were seen to pass bicyclists. Of these, all drivers moved away from the bicyclists when passing them and 40% moved over a foot into the TWLTL.

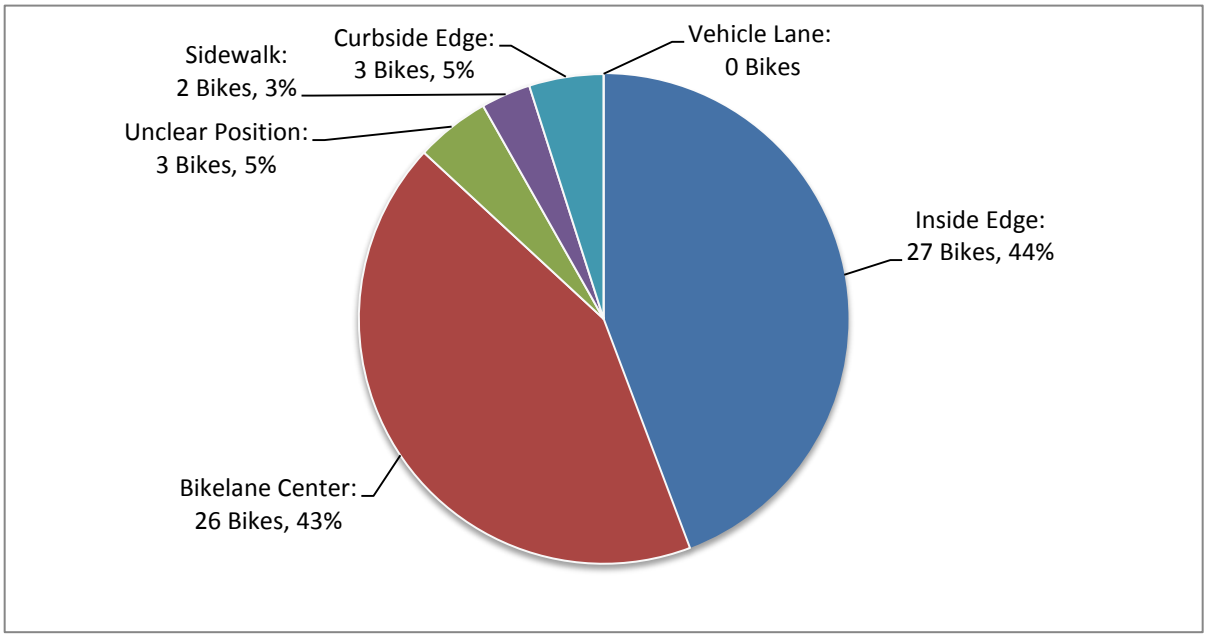


Figure 5: Bicyclist Positioning Results

Crash Records

The City of Bend has undertaken significant recent work to determine the causes, types, and characteristics of crashes in the city, and how reductions to crashes can be achieved given limited resources. Bend undertook a Multimodal Traffic Safety Program[9] in 2012 to screen and evaluate the transportation system and look at countermeasures at locations with the potential to reduce crashes. Bend established five focus areas for reduction: fatal and injury crashes, alcohol-involved crashes, speed-involved crashes, pedestrian and bicyclist crashes, and roadway departure crashes. The program did not identify any high-crash locations within this project's study area, but does provide a context and framework for evaluating road safety in Bend.

Crash records at the study intersections were obtained from the Oregon Department of Transportation (ODOT)[10] for the previous five years (2008 – 2012) and are attached. A total of 15 crashes were recorded during this time period. The collisions are summarized in Table 4 by severity and vehicle movement. The majority of crashes (80%) involved minor or no injuries, and there were no fatal crashes. No crashes involved drugs, alcohol, or speeding. Most crashes involved turns (47%) and rear-end collisions (33%). There were no roadway departure crashes.

There was one crash involving a pedestrian, an injury B crash, at the intersection of Galveston Avenue/Federal Street. An injury B crash involving a bike was recorded at the intersection of Galveston Avenue/13th Street. Both of these crashes occurred during clear days and involved a left turning vehicle failing to yield. In the pedestrian collision the vehicle was turning left onto Galveston Avenue, while the bike was struck by a vehicle turning left off Galveston Avenue. The most severe crash within the study area was an injury A at the intersection of Galveston Avenue/13th Street. Occurring during a clear day, it was an improper left turn off Galveston Avenue resulting in an overturned vehicle.

Crash rates, commonly referred to as crashes per million entering vehicles (MEV), compare the total number of collisions over the last five years to the total volume of traffic that entered the intersection. The crash rates are included in Table 3. It is generally accepted that intersections are flagged for review for crash rates greater than 1.0. Crash rates can also be compared to ODOT's statewide average rates.[11] From 2008 to 2012, minor arterials in urban cities averaged 3.10 crashes per MEV. Based on this, there does not appear to be major safety concerns at any of the study intersections.

[9] City of Bend Multimodal Traffic Safety Program <http://www.ci.bend.or.us/modules/showdocument.aspx?documentid=10378>
[10] ODOT Crash Data System. <zigzag.odot.state.or.us>. 2008 – 2012 covers the five most recent complete years. Crashes that occurred between intersections were analyzed with the intersection assignment provided by ODOT.
[11] ODOT 2012 Crash Rate Table II Revised. <http://www.oregon.gov/ODOT/TD/TDATA/car/docs/Crash_Rate_Table_II.pdf>

Table 3: Crash Record Summary (2008-2012)

Intersection	Severity				Movement			Total Crashes	Crash Rate (per MEV)
	Inj. A	Inj. B	Inj. C	PDO*	Angle	Rear	Turn		
Galveston Ave./12th St.	0	0	1	1	0	0	1	1	0.15
Galveston Ave./13th St.	1	1	3	1	0	1	2	3	0.05
Galveston Ave. /Columbia St.	0	0	5	0	1	2	2	5	0.25
Galveston Ave. /Federal St.	0	1	5	1	1	2	2	5	0.23
Galveston Ave. /Harmon Blvd.	0	0	1	1	0	0	1	1	0.05
Elgin Ave./Columbia St./Harmon Blvd.	0	0	0	0	0	0	0	0	0.00
Total	**1**	**2**	**15**	**4**	**2**	**5**	**8**	**15**	

** PDO = Property Damage Only.*

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: NW 13th St -- NW Galveston Ave

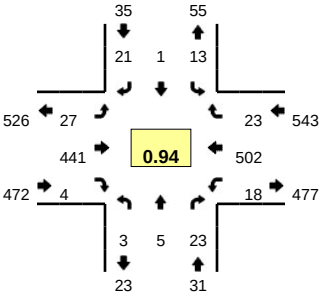
CITY/STATE: Bend, OR

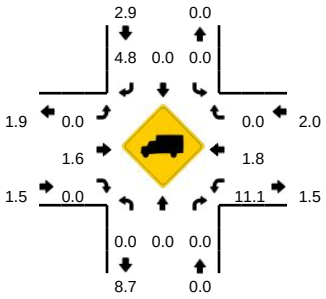
QC JOB #: 11373005

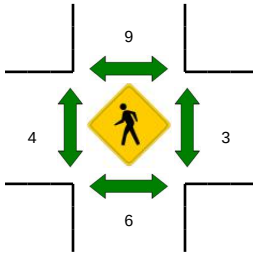
DATE: Tue, Nov 12 2013

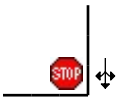
Peak-Hour: 4:45 PM -- 5:45 PM

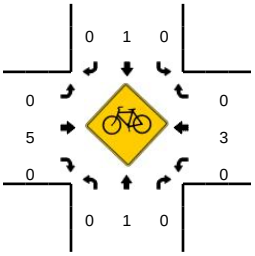
Peak 15-Min: 5:00 PM -- 5:15 PM

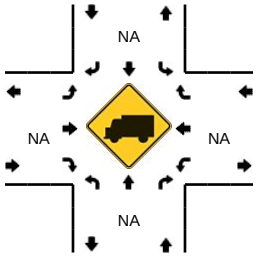


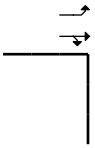


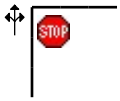


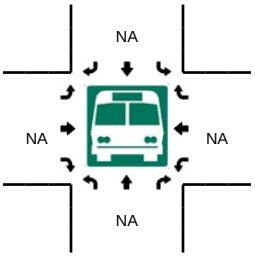












5-Min Count Period Beginning At	NW 13th St (Northbound)				NW 13th St (Southbound)				NW Galveston Ave (Eastbound)				NW Galveston Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	3	0	3	0	2	0	1	26	1	0	2	40	1	0	79	
4:05 PM	0	0	3	0	1	0	2	0	1	36	0	0	3	42	3	0	91	
4:10 PM	1	0	1	0	2	0	2	0	0	33	0	0	0	39	1	0	79	
4:15 PM	0	1	6	0	2	0	4	0	1	26	0	0	0	30	1	0	71	
4:20 PM	0	0	0	0	1	0	3	0	1	29	0	0	2	39	1	0	76	
4:25 PM	0	1	1	0	1	0	1	0	1	26	1	0	0	37	2	0	71	
4:30 PM	0	0	1	0	0	0	2	0	2	21	1	0	3	41	1	0	72	
4:35 PM	0	0	0	0	1	0	0	0	0	28	0	0	2	37	1	0	69	
4:40 PM	0	0	1	0	1	0	1	0	1	36	0	0	3	37	2	0	82	
4:45 PM	0	0	2	0	1	0	1	0	5	40	0	0	0	37	2	0	88	
4:50 PM	0	1	1	0	0	0	1	0	0	34	0	0	2	45	1	0	85	
4:55 PM	0	0	0	0	2	1	1	0	2	43	0	0	2	42	1	0	94	957
5:00 PM	0	1	3	0	0	0	3	0	5	38	1	0	1	38	0	0	90	968
5:05 PM	0	1	4	0	2	0	1	0	2	41	0	0	0	43	1	0	95	972
5:10 PM	1	0	3	0	2	0	4	0	4	49	0	0	0	36	4	0	103	996
5:15 PM	1	0	0	0	0	0	2	0	3	23	0	0	1	45	2	0	77	1002
5:20 PM	0	0	3	0	0	0	2	0	1	38	2	0	3	49	4	0	102	1028
5:25 PM	0	1	3	0	1	0	3	0	3	28	0	0	3	46	1	0	89	1046
5:30 PM	0	0	2	0	2	0	2	0	0	26	1	0	3	49	4	0	89	1063
5:35 PM	0	1	1	0	3	0	1	0	0	34	0	0	1	37	2	0	80	1074
5:40 PM	1	0	1	0	0	0	0	0	2	47	0	0	2	35	1	0	89	1081
5:45 PM	0	0	4	0	2	0	3	0	1	34	0	0	2	35	2	0	83	1076
5:50 PM	0	0	3	0	0	0	0	0	1	30	0	0	0	34	2	0	70	1061
5:55 PM	1	0	2	0	1	1	0	0	0	33	0	0	0	35	0	0	73	1040

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	4	8	40	0	16	0	32	0	44	512	4	0	4	468	20	0	1152
Heavy Trucks	0	0	0		0	0	4		0	4	0		0	0	0		8
Pedestrians		8				8				0				0			16
Bicycles	0	0	0		0	0	0		0	1	0		0	0	0		1
Railroad																	
Stopped Buses																	

Comments:

Report generated on 11/19/2013 5:36 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

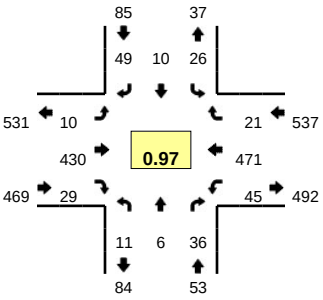
LOCATION: NW 12th St -- NW Galveston Ave

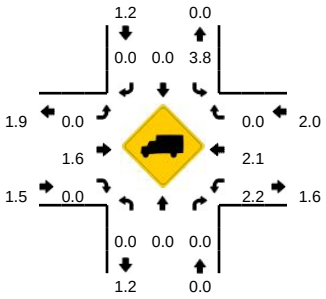
QC JOB #: 11373004

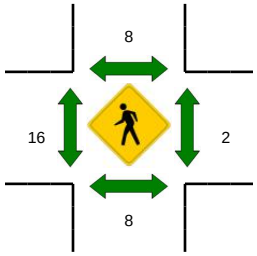
CITY/STATE: Bend, OR

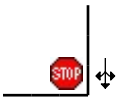
DATE: Tue, Nov 12 2013

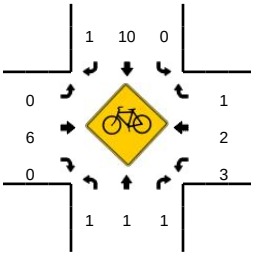
Peak-Hour: 4:45 PM -- 5:45 PM
Peak 15-Min: 5:00 PM -- 5:15 PM

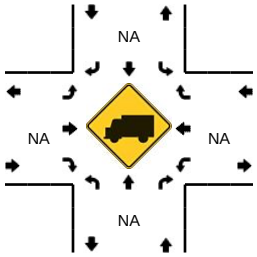


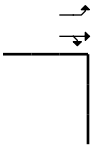


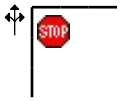


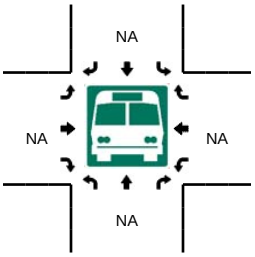












5-Min Count Period Beginning At	NW 12th St (Northbound)				NW 12th St (Southbound)				NW Galveston Ave (Eastbound)				NW Galveston Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	0	0	3	0	5	0	1	27	2	0	0	38	2	0	78	
4:05 PM	0	0	0	0	2	1	6	0	1	38	1	0	1	43	2	0	95	
4:10 PM	1	0	1	0	2	0	2	0	3	34	4	0	1	35	2	0	85	
4:15 PM	1	1	3	0	0	0	3	0	1	34	0	0	5	27	4	0	79	
4:20 PM	0	1	2	0	2	2	2	0	1	28	0	0	3	39	2	0	82	
4:25 PM	0	0	0	0	4	1	2	0	3	25	1	0	1	39	3	0	79	
4:30 PM	0	1	0	0	5	1	2	0	0	20	1	0	4	43	5	0	82	
4:35 PM	0	0	1	0	1	1	5	0	0	28	1	0	5	37	3	0	82	
4:40 PM	0	0	2	0	1	0	4	0	2	34	1	0	2	40	3	0	89	
4:45 PM	1	1	0	0	0	0	4	0	0	42	1	0	8	33	2	0	92	
4:50 PM	0	0	4	0	2	1	3	0	1	33	1	0	4	42	2	0	93	
4:55 PM	2	0	4	0	2	2	3	0	1	40	3	0	3	38	1	0	99	1035
5:00 PM	0	0	3	0	1	0	4	0	1	35	6	0	5	35	3	0	93	1050
5:05 PM	0	0	3	0	3	0	1	0	1	40	3	0	3	43	1	0	98	1053
5:10 PM	2	1	2	0	2	2	4	0	0	47	4	0	4	34	1	0	103	1071
5:15 PM	2	0	6	0	2	2	5	0	1	21	2	0	5	41	4	0	91	1083
5:20 PM	2	0	0	0	0	0	6	0	2	38	1	0	3	44	1	0	97	1098
5:25 PM	0	2	6	0	4	0	4	0	0	24	3	0	2	46	3	0	94	1113
5:30 PM	2	1	3	0	2	1	4	0	2	28	0	0	3	47	0	0	93	1124
5:35 PM	0	0	2	0	4	2	7	0	0	38	1	0	2	33	1	0	90	1132
5:40 PM	0	1	3	0	4	0	4	0	1	44	4	0	3	35	2	0	101	1144
5:45 PM	0	0	0	0	3	2	3	0	1	34	4	0	5	34	1	0	87	1139
5:50 PM	0	2	5	0	2	0	2	0	2	28	2	0	3	36	1	0	83	1129
5:55 PM	0	0	4	0	1	3	4	0	2	34	1	0	3	30	1	0	83	1113

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	8	4	32	0	24	8	36	0	8	488	52	0	48	448	20	0	1176
Heavy Trucks	0	0	0		0	0	0		0	4	0		0	4	0		8
Pedestrians		8				8				8				4			28
Bicycles	0	0	1		0	10	1		0	1	0		0	0	1		14
Railroad																	
Stopped Buses																	

Comments:

Report generated on 11/19/2013 5:36 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: NW Federal St -- NW Galveston Ave

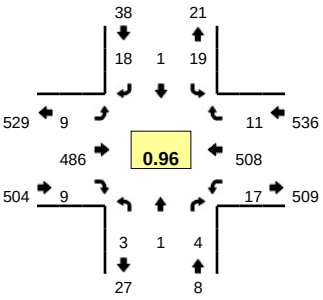
CITY/STATE: Bend, OR

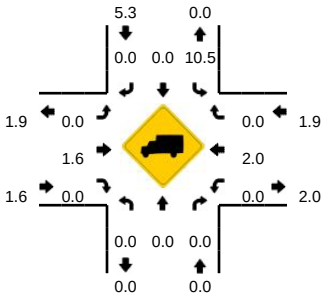
QC JOB #: 11373003

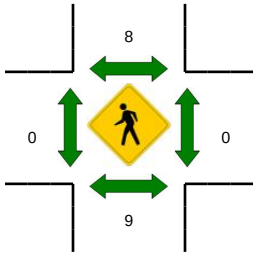
DATE: Tue, Nov 12 2013

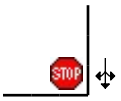
Peak-Hour: 4:45 PM -- 5:45 PM

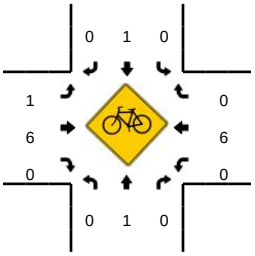
Peak 15-Min: 5:00 PM -- 5:15 PM

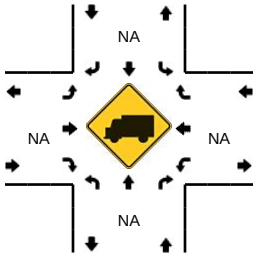


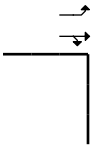


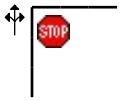


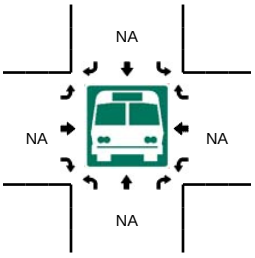












5-Min Count Period Beginning At	NW Federal St (Northbound)				NW Federal St (Southbound)				NW Galveston Ave (Eastbound)				NW Galveston Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	2	0	4	0	1	0	0	32	0	0	2	42	2	0	85	
4:05 PM	0	0	1	0	2	1	5	0	0	41	0	0	1	37	2	0	90	
4:10 PM	0	0	0	0	4	0	1	0	1	33	1	0	1	36	1	0	78	
4:15 PM	0	1	0	0	2	0	2	0	0	34	0	0	0	33	2	0	74	
4:20 PM	0	0	0	0	3	0	0	0	1	34	0	0	2	44	1	0	85	
4:25 PM	0	0	2	0	0	0	2	0	1	28	0	0	0	42	1	0	76	
4:30 PM	0	1	0	0	1	0	0	0	0	26	1	0	2	52	0	0	83	
4:35 PM	0	0	0	0	1	1	2	0	0	29	0	0	0	42	2	0	77	
4:40 PM	1	1	1	0	0	0	2	0	1	37	0	0	0	40	5	0	88	
4:45 PM	0	0	1	0	2	0	2	0	1	45	0	0	3	37	0	0	91	
4:50 PM	0	0	1	0	1	0	1	0	0	38	0	0	0	47	0	0	88	
4:55 PM	1	0	0	0	1	0	1	0	1	46	1	0	1	38	0	0	90	1005
5:00 PM	0	0	0	0	0	0	1	0	0	39	0	0	2	42	2	0	86	1006
5:05 PM	2	0	2	0	3	0	5	0	0	47	2	0	0	40	1	0	102	1018
5:10 PM	0	0	0	0	1	0	1	0	1	48	2	0	1	39	1	0	94	1034
5:15 PM	0	0	0	0	3	0	0	0	1	28	1	0	1	49	1	0	84	1044
5:20 PM	0	0	0	0	0	0	3	0	0	41	0	0	1	45	1	0	91	1050
5:25 PM	0	0	0	0	0	0	1	0	2	32	1	0	2	49	2	0	89	1063
5:30 PM	0	1	0	0	3	1	2	0	1	32	1	0	2	49	1	0	93	1073
5:35 PM	0	0	0	0	2	0	1	0	2	41	0	0	3	35	0	0	84	1080
5:40 PM	0	0	0	0	3	0	0	0	0	49	1	0	1	38	2	0	94	1086
5:45 PM	0	0	0	0	1	1	1	0	0	37	0	0	3	39	1	0	83	1078
5:50 PM	1	0	0	0	1	0	0	0	0	31	1	0	1	39	2	0	76	1066
5:55 PM	0	0	0	0	1	0	2	0	2	40	0	0	2	32	3	0	82	1058

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	8	0	8	0	16	0	28	0	4	536	16	0	12	484	16	0	1128
Heavy Trucks	0	0	0		4	0	0		0	4	0		0	4	0		12
Pedestrians		12				4				0				0			16
Bicycles	0	1	0		0	0	0		0	2	0		0	2	0		5
Railroad																	
Stopped Buses																	

Comments:

Report generated on 11/19/2013 5:36 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: NW Columbia St -- NW Galveston Ave

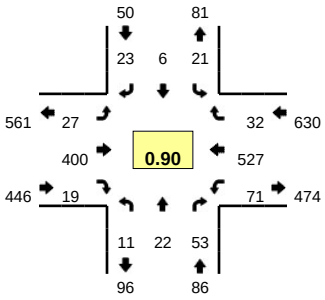
QC JOB #: 11373008

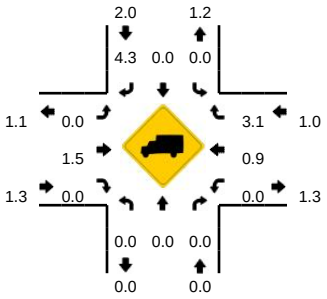
CITY/STATE: Bend, OR

DATE: Wed, Nov 13 2013

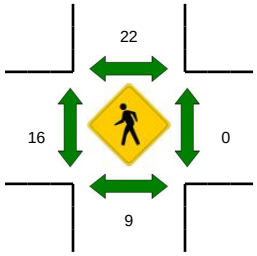
Peak-Hour: 4:30 PM -- 5:30 PM

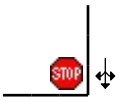
Peak 15-Min: 5:05 PM -- 5:20 PM

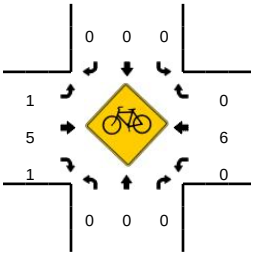


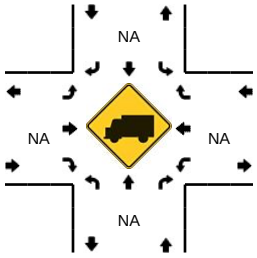


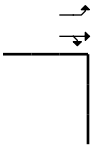
Quality Counts
TRANSPORTATION DATA COLLECTION SERVICES

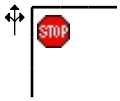


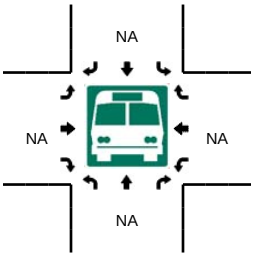












5-Min Count Period Beginning At	NW Columbia St (Northbound)				NW Columbia St (Southbound)				NW Galveston Ave (Eastbound)				NW Galveston Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	2	0	2	0	0	2	0	0	5	39	1	0	9	35	2	0	97	
4:05 PM	1	2	4	0	0	1	0	0	5	33	5	0	2	30	3	0	86	
4:10 PM	0	2	6	0	1	3	2	0	2	44	1	0	17	28	3	0	109	
4:15 PM	1	2	5	0	0	0	4	0	2	28	1	0	7	42	2	0	94	
4:20 PM	2	2	4	0	5	0	1	0	3	36	1	0	10	31	0	0	95	
4:25 PM	0	1	3	0	2	2	2	0	0	30	1	0	3	41	2	0	87	
4:30 PM	0	3	4	0	3	2	0	0	0	23	1	0	9	42	4	0	91	
4:35 PM	1	1	3	0	0	0	1	0	1	37	2	0	1	58	4	0	109	
4:40 PM	1	2	9	0	3	0	2	0	3	31	1	0	4	31	3	0	90	
4:45 PM	0	1	4	0	1	0	2	0	2	24	2	0	9	56	1	0	102	
4:50 PM	2	3	3	0	0	0	5	0	1	36	1	0	5	35	4	0	95	
4:55 PM	0	1	1	0	1	3	2	0	6	32	1	0	6	37	3	0	93	1148
5:00 PM	0	3	8	0	3	1	3	0	2	33	2	0	4	39	0	0	98	1149
5:05 PM	4	2	8	0	1	0	1	0	4	39	0	0	6	49	2	0	116	1179
5:10 PM	1	2	3	0	4	0	2	0	3	53	2	0	2	39	2	0	113	1183
5:15 PM	2	0	7	0	2	0	2	0	0	33	2	0	7	49	3	0	107	1196
5:20 PM	0	2	2	0	1	0	2	0	2	30	1	0	8	46	2	0	96	1197
5:25 PM	0	2	1	0	2	0	1	0	3	29	4	0	10	46	4	0	102	1212
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5:40 PM	1	2	5	0	3	0	0	0	3	38	0	0	4	36	3	0	95	1194
5:45 PM	1	6	2	0	2	2	4	0	0	22	3	0	5	27	4	0	78	1170
5:50 PM	1	1	1	0	2	0	2	0	4	27	4	0	5	29	3	0	79	1154
5:55 PM	1	3	1	0	3	0	2	0	1	25	1	0	3	29	3	0	72	1133

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	28	16	72	0	28	0	20	0	28	500	16	0	60	548	28	0	1344
Heavy Trucks	0	0	0		0	0	0		0	12	0		0	0	0		12
Pedestrians		4				36				32				0			72
Bicycles	0	0	0		0	0	0		0	1	0		0	0	0		1
Railroad																	
Stopped Buses																	

Comments:

Report generated on 11/19/2013 5:36 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

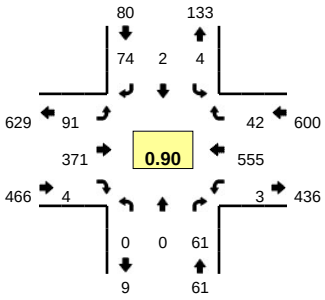
LOCATION: NW Harmon Blvd -- NW Galveston Ave

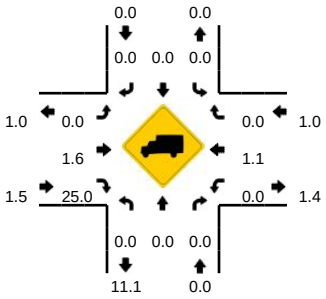
QC JOB #: 11373001

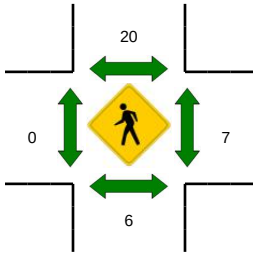
CITY/STATE: Bend, OR

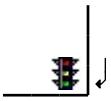
DATE: Wed, Nov 13 2013

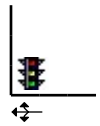
Peak-Hour: 4:30 PM -- 5:30 PM
Peak 15-Min: 5:05 PM -- 5:20 PM

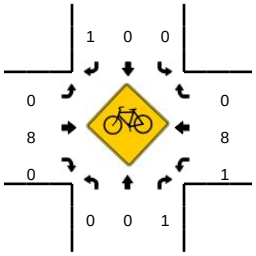


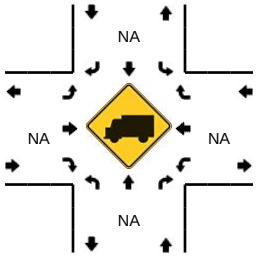


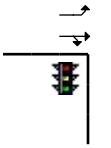


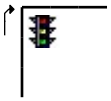


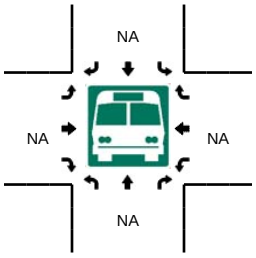












5-Min Count Period Beginning At	NW Harmon Blvd (Northbound)				NW Harmon Blvd (Southbound)				NW Galveston Ave (Eastbound)				NW Galveston Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	3	0	0	0	3	0	1	39	1	0	0	36	5	0	88	
4:05 PM	0	0	7	0	0	1	5	0	3	33	0	0	1	32	2	0	84	
4:10 PM	0	0	2	0	0	0	5	0	6	44	0	0	3	48	5	0	113	
4:15 PM	0	0	4	0	0	0	1	0	3	29	0	0	1	46	1	0	85	
4:20 PM	0	0	3	0	0	1	4	0	7	42	0	0	0	35	3	0	95	
4:25 PM	0	1	3	0	0	0	3	0	2	33	1	0	0	36	4	0	83	
4:30 PM	0	0	3	0	0	1	10	0	7	21	0	0	0	47	3	0	92	
4:35 PM	0	0	7	0	0	0	4	0	4	28	0	0	0	58	4	0	105	
4:40 PM	0	0	6	0	0	0	6	0	14	31	1	0	1	33	3	0	95	
4:45 PM	0	0	4	0	0	0	6	0	5	24	1	0	0	56	2	0	98	
4:50 PM	0	0	3	0	0	0	11	0	5	33	0	0	0	42	5	0	99	
4:55 PM	0	0	6	0	0	0	6	0	4	28	0	0	1	35	1	0	81	1118
5:00 PM	0	0	4	0	1	1	3	0	8	38	0	0	0	42	2	0	99	1129
5:05 PM	0	0	5	0	2	0	6	0	10	32	0	0	0	46	4	0	105	1150
5:10 PM	0	0	8	0	0	0	3	0	7	55	0	0	1	46	7	0	127	1164
5:15 PM	0	0	3	0	1	0	6	0	14	25	0	0	0	52	3	0	104	1183
5:20 PM	0	0	4	0	0	0	5	0	6	28	2	0	0	48	7	0	100	1188
5:25 PM	0	0	8	0	0	0	8	0	7	28	0	0	0	50	1	0	102	1207
5:30 PM	0	0	2	0	1	0	6	0	8	26	0	0	0	39	4	0	86	1201
5:35 PM	0	0	6	0	0	0	5	0	6	29	0	0	1	39	1	0	87	1183
5:40 PM	0	0	8	0	0	0	5	0	9	33	1	0	1	39	1	0	97	1185
5:45 PM	0	0	3	0	1	1	1	0	4	23	0	0	1	35	2	0	71	1158
5:50 PM	0	0	3	0	0	0	8	0	1	26	1	0	0	27	4	0	70	1129
5:55 PM	0	0	2	0	0	0	2	0	3	27	0	0	1	34	1	0	70	1118

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	0	64	0	12	0	60	0	124	448	0	0	4	576	56	0	1344
Heavy Trucks	0	0	0		0	0	0		0	8	0		0	0	0		8
Pedestrians		0				12				0				4			16
Bicycles	0	0	0		0	0	0		0	1	0		0	3	0		4
Railroad Stopped Buses																	

Comments:

Report generated on 11/19/2013 5:36 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

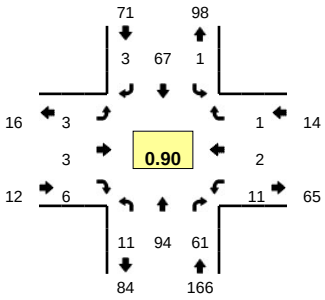
LOCATION: NW Columbia St -- NW Elgin Ave/NW Harmon Blvd

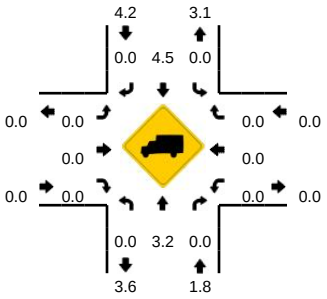
QC JOB #: 11373002

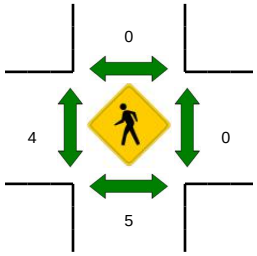
CITY/STATE: Bend, OR

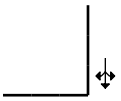
DATE: Tue, Nov 12 2013

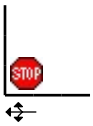
Peak-Hour: 4:35 PM -- 5:35 PM
Peak 15-Min: 5:00 PM -- 5:15 PM

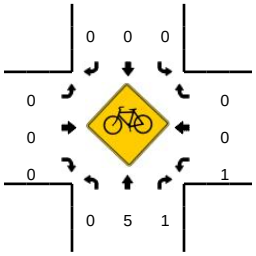


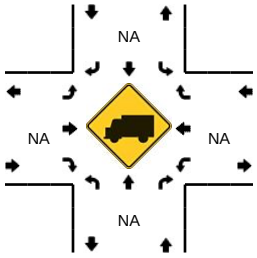


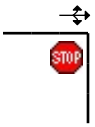


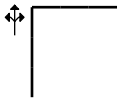


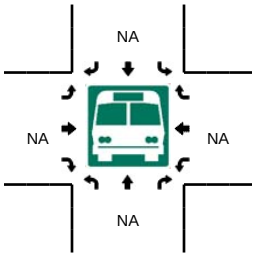












5-Min Count Period Beginning At	NW Columbia St (Northbound)				NW Columbia St (Southbound)				NW Elgin Ave/NW Harmon Blvd (Eastbound)				NW Elgin Ave/NW Harmon Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	1	7	4	0	0	7	0	0	0	0	0	0	2	0	0	0	21	
4:05 PM	0	6	2	0	0	6	0	0	0	0	0	0	1	0	0	0	15	
4:10 PM	2	4	3	0	0	7	1	0	0	0	0	0	0	0	0	0	17	
4:15 PM	0	4	3	0	0	5	0	0	0	0	1	0	0	0	0	0	13	
4:20 PM	0	6	1	0	0	6	1	0	0	0	2	0	1	0	0	0	17	
4:25 PM	0	7	1	0	0	8	0	0	0	1	0	0	0	0	0	0	17	
4:30 PM	0	6	1	0	0	9	0	0	0	0	2	0	0	0	0	0	18	
4:35 PM	0	9	7	0	0	5	1	0	0	0	0	0	1	0	0	0	23	
4:40 PM	0	2	7	0	0	4	0	0	1	0	0	0	0	0	0	0	14	
4:45 PM	1	12	5	0	0	4	0	0	0	1	0	0	0	0	0	0	23	
4:50 PM	0	7	5	0	0	7	0	0	0	0	1	0	1	0	1	0	22	
4:55 PM	2	8	0	0	0	4	0	0	0	0	0	0	0	0	0	0	14	214
5:00 PM	3	8	8	0	0	6	0	0	0	0	1	0	0	0	0	0	26	219
5:05 PM	1	5	7	0	0	9	0	0	0	0	1	0	1	0	0	0	24	228
5:10 PM	1	6	3	0	1	5	0	0	2	0	2	0	3	0	0	0	23	234
5:15 PM	1	13	4	0	0	4	1	0	0	0	1	0	2	0	0	0	26	247
5:20 PM	1	7	4	0	0	5	0	0	0	2	0	0	2	1	0	0	22	252
5:25 PM	0	6	4	0	0	5	1	0	0	0	0	0	0	0	0	0	16	251
5:30 PM	1	11	7	0	0	9	0	0	0	0	0	0	1	1	0	0	30	263
5:35 PM	1	7	5	0	0	8	0	0	0	0	0	0	0	0	0	0	21	261
5:40 PM	0	5	0	0	0	7	0	0	0	0	1	0	0	0	0	0	13	260
5:45 PM	1	11	1	0	0	5	0	0	1	0	2	0	0	0	0	0	21	258
5:50 PM	2	4	2	0	0	3	0	0	0	1	0	0	0	0	0	0	12	248
5:55 PM	0	4	0	0	0	6	0	0	0	0	1	0	0	0	0	0	11	245

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	20	76	72	0	4	80	0	0	8	0	16	0	16	0	0	0	292
Heavy Trucks	0	4	0		0	0	0		0	0	0		0	0	0		4
Pedestrians		0				0				4				0			4
Bicycles	0	1	0		0	0	0		0	0	0		0	0	0		1
Railroad																	
Stopped Buses																	

Comments:

Report generated on 11/19/2013 5:36 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Intersection	
Intersection Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	30	440	5	10	520	25	5	5	30	15	5	20
Conflicting Peds, #/hr	9	0	6	6	0	9	4	0	3	3	0	4
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	125	-	-	-	-	-	-	-	-
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	2	0	11	2	0	0	0	0	0	0	5
Mvmt Flow	32	468	5	11	553	27	5	5	32	16	5	21

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	584	0	0	477	0	0	1144	1144	484	1149	1133	579
Stage 1	-	-	-	-	-	-	539	539	-	592	592	-
Stage 2	-	-	-	-	-	-	605	605	-	557	541	-
Follow-up Headway	2.2	-	-	2.299	-	-	3.5	4	3.3	3.5	4	3.345
Pot Capacity-1 Maneuver	1001	-	-	1040	-	-	179	202	587	177	205	509
Stage 1	-	-	-	-	-	-	530	525	-	496	497	-
Stage 2	-	-	-	-	-	-	488	491	-	518	524	-
Time blocked-Platoon, %		-	-		-	-						
Mov Capacity-1 Maneuver	993	-	-	1032	-	-	161	192	581	157	195	503
Mov Capacity-2 Maneuver	-	-	-	-	-	-	161	192	-	157	195	-
Stage 1	-	-	-	-	-	-	511	506	-	478	490	-
Stage 2	-	-	-	-	-	-	454	484	-	465	505	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0.2	16.1	22.4
HCM LOS			C	C

Minor Lane / Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	368	993	-	-	1032	-	-	249
HCM Lane V/C Ratio	0.116	0.032	-	-	0.01	-	-	0.171
HCM Control Delay (s)	16.1	8.746	-	-	8.525	-	-	22.4
HCM Lane LOS	C	A			A			C
HCM 95th %tile Q(veh)	0.389	0.1	-	-	0.031	-	-	0.604

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	10	445	30	45	490	20	10	5	35	25	10	55
Conflicting Peds, #/hr	8	0	8	8	0	8	16	0	2	2	0	16
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	125	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	0	2	0	2	2	0	0	0	0	4	0	0
Mvmt Flow	10	459	31	46	505	21	10	5	36	26	10	57

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	542	0	0	506	0	0	1169	1146	498	1155	1150	539
Stage 1	-	-	-	-	-	-	511	511	-	624	624	-
Stage 2	-	-	-	-	-	-	658	635	-	531	526	-
Follow-up Headway	2.2	-	-	2.218	-	-	3.5	4	3.3	3.536	4	3.3
Pot Capacity-1 Maneuver	1037	-	-	1059	-	-	172	201	576	172	200	546
Stage 1	-	-	-	-	-	-	549	540	-	470	481	-
Stage 2	-	-	-	-	-	-	457	476	-	528	532	-
Time blocked-Platoon, %		-	-		-	-						
Mov Capacity-1 Maneuver	1030	-	-	1052	-	-	138	185	565	148	184	535
Mov Capacity-2 Maneuver	-	-	-	-	-	-	138	185	-	148	184	-
Stage 1	-	-	-	-	-	-	536	528	-	459	454	-
Stage 2	-	-	-	-	-	-	379	449	-	481	520	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.7	18.9	24.5
HCM LOS			C	C

Minor Lane / Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	310	1030	-	-	1052	-	-	276
HCM Lane V/C Ratio	0.166	0.01	-	-	0.044	-	-	0.336
HCM Control Delay (s)	18.9	8.53	-	-	8.58	-	-	24.5
HCM Lane LOS	C	A			A			C
HCM 95th %tile Q(veh)	0.588	0.03	-	-	0.138	-	-	1.43

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	10	485	10	15	530	10	5	5	5	20	5	20
Conflicting Peds, #/hr	8	0	9	9	0	8	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	100	-	-	100	-	-	-	-	-	-	-	-
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, %	0	2	0	0	2	0	0	0	0	10	0	0
Mvmt Flow	10	505	10	16	552	10	5	5	5	21	5	21

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	563	0	0	516	0	0	1133	1125	519	1125	1125	566
Stage 1	-	-	-	-	-	-	531	531	-	589	589	-
Stage 2	-	-	-	-	-	-	602	594	-	536	536	-
Follow-up Headway	2.2	-	-	2.2	-	-	3.5	4	3.3	3.59	4	3.3
Pot Capacity-1 Maneuver	1019	-	-	1060	-	-	182	207	561	176	207	528
Stage 1	-	-	-	-	-	-	536	529	-	481	499	-
Stage 2	-	-	-	-	-	-	490	496	-	514	527	-
Time blocked-Platoon, %		-	-		-	-						
Mov Capacity-1 Maneuver	1011	-	-	1052	-	-	167	202	557	166	202	524
Mov Capacity-2 Maneuver	-	-	-	-	-	-	167	202	-	166	202	-
Stage 1	-	-	-	-	-	-	531	524	-	476	491	-
Stage 2	-	-	-	-	-	-	455	488	-	495	522	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.2	21.3	23.1
HCM LOS			C	C

Minor Lane / Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	236	1011	-	-	1052	-	-	245
HCM Lane V/C Ratio	0.066	0.01	-	-	0.015	-	-	0.191
HCM Control Delay (s)	21.3	8.598	-	-	8.474	-	-	23.1
HCM Lane LOS	C	A			A			C
HCM 95th %tile Q(veh)	0.211	0.031	-	-	0.045	-	-	0.691

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	5.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	25	460	25	70	525	35	10	30	65	20	5	20
Conflicting Peds, #/hr	22	0	9	9	0	22	16	0	0	0	0	16
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	2	0	0	1	3	0	0	0	0	0	4
Mvmt Flow	28	511	28	78	583	39	11	33	72	22	6	22

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	638	0	0	555	0	0	1385	1391	563	1423	1384	641
Stage 1	-	-	-	-	-	-	597	597	-	774	774	-
Stage 2	-	-	-	-	-	-	788	794	-	649	610	-
Follow-up Headway	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.336
Pot Capacity-1 Maneuver	956	-	-	1026	-	-	122	143	530	115	145	471
Stage 1	-	-	-	-	-	-	493	495	-	394	411	-
Stage 2	-	-	-	-	-	-	387	403	-	462	488	-
Time blocked-Platoon, %		-	-		-	-						
Mov Capacity-1 Maneuver	938	-	-	1007	-	-	100	125	513	70	126	456
Mov Capacity-2 Maneuver	-	-	-	-	-	-	100	125	-	70	126	-
Stage 1	-	-	-	-	-	-	472	474	-	377	374	-
Stage 2	-	-	-	-	-	-	328	367	-	351	467	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	1	37	53.6
HCM LOS			E	F

Minor Lane / Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	225	938	-	-	1007	-	-	122
HCM Lane V/C Ratio	0.519	0.03	-	-	0.077	-	-	0.41
HCM Control Delay (s)	37	8.955	-	-	8.874	-	-	53.6
HCM Lane LOS	E	A			A			F
HCM 95th %tile Q(veh)	2.695	0.091	-	-	0.251	-	-	1.745

Notes
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Intersection	
Intersection Delay, s/veh	2.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	105	430	10	0	555	40	0	0	70	0	0	75
Conflicting Peds, #/hr	20	0	6	6	0	20	0	0	7	7	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	-	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	2	25	0	1	0	0	0	0	0	0	0
Mvmt Flow	117	478	11	0	617	44	0	0	78	0	0	83

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	668	0	0	496	0	0	1370	1392	510	1370	1375	666
Stage 1	-	-	-	-	-	-	724	724	-	646	646	-
Stage 2	-	-	-	-	-	-	646	668	-	724	729	-
Follow-up Headway	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Capacity-1 Maneuver	931	-	-	1078	-	-	125	143	567	125	147	463
Stage 1	-	-	-	-	-	-	420	433	-	464	470	-
Stage 2	-	-	-	-	-	-	464	459	-	420	431	-
Time blocked-Platoon, %		-	-		-	-						
Mov Capacity-1 Maneuver	915	-	-	1060	-	-	90	123	554	95	127	453
Mov Capacity-2 Maneuver	-	-	-	-	-	-	90	123	-	95	127	-
Stage 1	-	-	-	-	-	-	364	375	-	402	467	-
Stage 2	-	-	-	-	-	-	372	456	-	310	374	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.8	0	12.6	14.7
HCM LOS			B	B

Minor Lane / Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	554	915	-	-	1060	-	-	453
HCM Lane V/C Ratio	0.14	0.128	-	-	-	-	-	0.184
HCM Control Delay (s)	12.6	9.509	-	-	0	-	-	14.7
HCM Lane LOS	B	A			A			B
HCM 95th %tile Q(veh)	0.486	0.437	-	-	0	-	-	0.667

Notes
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Intersection	
Intersection Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	5	5	5	5	5	5	10	95	60	5	90	5
Conflicting Peds, #/hr	0	0	5	5	0	0	4	0	0	0	0	4
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0	0	3	0	0	4	0
Mvmt Flow	6	6	6	6	6	6	11	106	67	6	100	6

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	291	318	112	290	288	148	111	0	0	177	0	0
Stage 1	119	119	-	166	166	-	-	-	-	-	-	-
Stage 2	172	199	-	124	122	-	-	-	-	-	-	-
Follow-up Headway	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Capacity-1 Maneuver	665	602	947	666	625	904	1492	-	-	1411	-	-
Stage 1	890	801	-	841	765	-	-	-	-	-	-	-
Stage 2	835	740	-	885	799	-	-	-	-	-	-	-
Time blocked-Platoon, %								-	-		-	-
Mov Capacity-1 Maneuver	645	589	940	646	612	897	1487	-	-	1406	-	-
Mov Capacity-2 Maneuver	645	589	-	646	612	-	-	-	-	-	-	-
Stage 1	879	794	-	831	756	-	-	-	-	-	-	-
Stage 2	814	731	-	866	792	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.3	10.3	0.5	0.4
HCM LOS	B	B		

Minor Lane / Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1487	-	-	696	698	1406	-	-
HCM Lane V/C Ratio	0.007	-	-	0.024	0.024	0.004	-	-
HCM Control Delay (s)	7.439	0	-	10.3	10.3	7.571	0	-
HCM Lane LOS	A	A		B	B	A	A	
HCM 95th %tile Q(veh)	0.023	-	-	0.074	0.073	0.012	-	-

Notes
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OREGON.. DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANAYLYSIS AND REPORTING UNIT
URBAN NON-SYSTEM CRASH LISTING

CITY OF BEND, DESCHUTES COUNTY

GALVESTON AVE at W 12TH ST, City of Bend, Deschutes County, 01/01/2008 to 12/31/2012

Total crash records: 1

SER# / INVEST	S P E D	A L C	R U G S	S C H L	W O R K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR / OWNER	QTY / MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
00430	N	N	N	N	N	04/02/2011	16	GALVESTON AVE	INTER	CROSS	N	N	CLR	O-1TURN	01	NONE	0											32,02
CITY						SA	0	W 12TH ST	CN		UNKNOWN	N	DRY	TURN		PRVTE	TURN-L W -N									000		00
						3P			02	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	42	F	OR-Y OR<25		052,004	000		32,02
															02	NONE	0											
																PRVTE	STRGHT E -W									000		00
																PSNGR CAR		01	DRVR	NONE	22	M	OR-Y OR<25		000	000		00

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CITY OF BEND, DESCHUTES COUNTY

GALVESTON AVE at W 13TH ST, City of Bend, Deschutes County, 01/01/2008 to 12/31/2012

Total crash records: 3

SER# / INVEST	S P E D	A L C	R U G S	S C H L	W O R K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR / OWNER	QTY / TYPE	MOVE / FROM / TO	P#	PRTC / INJ / SVRTY	A G E	S E X	LICNS / RES	PED LOC	ERROR	ACT	EVENT	CAUSE
00884	N	N	N	N	N	07/09/2009	16	GALVESTON AVE	INTER	CROSS	N	N	CLR	O-1TURN	01	NONE	0	TURN-L									010	08
CITY						TH	0	W 13TH ST	CN		NONE	N	DRY	TURN		PRVTE		W -N								000	010	00
						1P			02	0		N	DAY	INJ		PSNGR CAR			01	DRVR	NONE	66	F	OR-Y		004	000		08
																								OR<25					
															02	NONE	0	STRGHT										
																PRVTE		E -W								000		00
																PSNGR CAR			01	DRVR	INJA	18	M	OR-Y		000	000		00
																								OR<25					
00752	N	N	N			06/21/2010	16	GALVESTON AVE	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE	0	STRGHT									004	07
NO RPT						MO	0	W 13TH ST	CN		UNKNOWN	N	DRY	REAR		PRVTE		E -W								000		00
						12P			01	0		N	DAY	PDO		PSNGR CAR			01	DRVR	NONE	18	F	OR-Y		026	000		07
																								OR<25					
															02	NONE	0	STOP										
																PRVTE		E -W								011	004	00
																PSNGR CAR			01	DRVR	NONE	53	M	OR-Y		000	000		00
																								OR<25					
00951	N	N	N	N	N	07/21/2011	16	GALVESTON AVE	INTER	CROSS	N	N	CLR	BIKE	01	NONE	0	TURN-L										02
CITY						TH	0	W 13TH ST	CN		NONE	N	DRY	TURN		PRVTE		E -S								000		00
						5P			03	0		N	DAY	INJ		PSNGR CAR			01	DRVR	NONE	48	M	OTH-Y		027	000		02
																								N-RES					
																		-											
																		STRGHT	01	BIKE	INJB	16	M		I	INRD	000	041	00
																		W E											
															02	NONE	0	STOP										
																PRVTE		S -N								011		00
																PSNGR CAR			01	DRVR	NONE	39	F	OR-Y		000	000		00
																								OR<25					

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CITY OF BEND, DESCHUTES COUNTY

GALVESTON AVE at COLUMBIA ST, City of Bend, Deschutes County, 01/01/2008 to 12/31/2012

Total crash records: 5

SER# / INVEST	S P E D	A L C	R U G S	S C H L	W O R K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
00664	N	N	N			05/22/2012	16	COLUMBIA ST	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										004,013	07
NONE						TU	0	GALVESTON AVE	W		STOP SIGN	N	DRY	REAR		PRVTE	E -W									000		00
						UNK			05	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		026	000		07
																							UNK					
															02	NONE 0	STOP											
																PRVTE	E -W									011	013	00
																PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
																							UNK					
															03	NONE 0	STOP											
																PRVTE	E -W									011	004	00
																PSNGR CAR		01	DRVR	INJC	35	M	OR-Y		000	000		00
																							OR<25					
01583	N	N	N			09/27/2008	17	COLUMBIA ST	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT											02
NO RPT						SA	0	GALVESTON AVE	CN		STOP SIGN	N	DRY	TURN		PRVTE	S -N									015		00
						6P			02	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	17	M	OR-Y		028	000		02
																							OR<25					
															02	NONE	TURN-L											
																PRVTE	E -S									015		00
																MTRCYCLE		01	DRVR	INJC	22	M	OR-Y		000	000		00
																							OR<25					
01932	N	N	N	N	N	12/12/2008	16	COLUMBIA ST	INTER	CROSS	N	N	SNOW	O-1TURN	01	NONE 0	TURN-L											02
CITY						FR	0	GALVESTON AVE	CN		NONE	N	SNO	TURN		PRVTE	E -S									000		00
						6P			04	0		N	DARK	INJ		PSNGR CAR		01	DRVR	NONE	43	F	OR-Y		028	000		02,05
																							OR<25					
															02	NONE 0	STRGHT											
																PRVTE	W -E									000		00
																PSNGR CAR		01	DRVR	INJC	17	F	OR-Y		000	000		00
																							OR<25					
00455	N	N	N			01/04/2011	16	COLUMBIA ST	INTER	CROSS	N	N	CLR	S-1TURN	01	NONE 0	TURN-R											07
CITY						TU	0	GALVESTON AVE	CN		UNKNOWN	N	DRY	REAR		PRVTE	E -N									000		00
						12P			02	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	31	F	OR-Y		042	000		07
																							OR<25					
															02	NONE 0	STRGHT											
																PRVTE	E -W									000		00
																PSNGR CAR		01	DRVR	INJC	32	M	OR-Y		000	000		00
																							OR<25					
01100	N	N	N			08/21/2012	16	COLUMBIA ST	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT											03
NO RPT						TU	0	GALVESTON AVE	CN		STOP SIGN	N	DRY	ANGL		PRVTE	W -E									000		00
						3P			04	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	18	F	OR-Y		021	000		03
																							OR<25					
															02	NONE	STRGHT											
																PRVTE	S -N									000		00
																PSNGR CAR		01	DRVR	NONE	22	F	OR-Y		000	000		00
																							OR<25					
															02	NONE	STRGHT											
																PRVTE	S -N									000		00
																PSNGR CAR		02	PSNG	INJC	23	M			000	000		00
															02	NONE	STRGHT											
																PRVTE	S -N									000		00
																PSNGR CAR		03	PSNG	NO<5	02	F			000	000		00

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CITY OF BEND, DESCHUTES COUNTY

GALVESTON AVE at COLUMBIA ST, City of Bend, Deschutes County, 01/01/2008 to 12/31/2012

Total crash records: 5

SER# / INVEST	S P E D	A L C	U G S	C H L	O R K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
13-0000						01/01/2013 Tuesday 1600	Urban Principal Arterial Other	GALVESTON AVE	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Clear	Rear End	1		Proceeding Straight	1	Not Applicable	Not Applicable								
13-0000						01/01/2013 Tuesday 1600	Urban Principal Arterial Other	GALVESTON AVE	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Clear	Rear End	2		Stopped In Traffic	2	Not Applicable	Not Applicable								
12-0000						01/01/2012 Sunday 1600	Urban Principal Arterial Other	GALVESTON AVE	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Clear	Rear End	1		Proceeding Straight	1	Not Applicable	Not Applicable								
12-0000						01/01/2012 Sunday 1600	Urban Principal Arterial Other	GALVESTON AVE	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Clear	Rear End	2		Stopped In Traffic	2	Not Applicable	Not Applicable								
11-0000						01/01/2011 Saturday 1600	Urban Principal Arterial Other	GALVESTON AVE	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Clear	Rear End	1		Proceeding Straight	1	Not Applicable	Not Applicable								
11-0000						01/01/2011 Saturday 1600	Urban Principal Arterial Other	GALVESTON AVE	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Clear	Rear End	2		Stopped In Traffic	2	Not Applicable	Not Applicable								
10-0000						01/01/2010 Friday 1600	Urban Principal Arterial Other	GALVESTON AVE	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Clear	Rear End	1		Proceeding Straight	1	Not Applicable	Not Applicable								
10-0000						01/01/2010 Friday 1600	Urban Principal Arterial Other	GALVESTON AVE	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Clear	Rear End	2		Stopped In Traffic	2	Not Applicable	Not Applicable								
09-0000						01/01/2009 Thursday 1600	Urban Principal Arterial Other	GALVESTON AVE	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Clear	Rear End	1		Proceeding Straight	1	Not Applicable	Not Applicable								
09-0000						01/01/2009 Thursday 1600	Urban Principal Arterial Other	GALVESTON AVE	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Clear	Rear End	2		Stopped In Traffic	2	Not Applicable	Not Applicable								
08-0000						01/01/2008 Tuesday 1600	Urban Principal Arterial Other	GALVESTON AVE	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Clear	Rear End	1		Proceeding Straight	1	Not Applicable	Not Applicable								
08-0000						01/01/2008 Tuesday 1600	Urban Principal Arterial Other	GALVESTON AVE	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Clear	Rear End	2		Stopped In Traffic	2	Not Applicable	Not Applicable								

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CITY OF BEND, DESCHUTES COUNTY

GALVESTON AVE at FEDERAL ST, City of Bend, Deschutes County, 01/01/2008 to 12/31/2012

Total crash records: 5

SER# / INVEST	SPE	ALC	DRG	SLK	WHR	DATE / DAY / TIME	CLASS / DIST FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF-CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	AGE	SEX	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
01620	N	N	N	N	N	10/15/2008	19	FEDERAL ST	INTER	CROSS	N	N	CLR	PED	01	NONE 0	TURN-L											02
CITY						WE	0	GALVESTON AVE	E		STOP SIGN	N	DRY	PED		PRVTE	N -E										015		00
						8A			05	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	32	F	OR-Y OR<25		029	026		02
																	- STRGHT S N	01	PED	INJB	63	M		I XWK?	000	034		00
00687	N	N	N			05/21/2009	16	FEDERAL ST	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											07
NO RPT						TH	0	GALVESTON AVE	E		UNKNOWN	N	DRY	REAR		PRVTE	E -W									000		00
						2P			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	17	F	OR-Y OR<25		026	000		07
															02	NONE 0	STOP											
																PRVTE	E -W									011		00
																PSNGR CAR		01	DRVR	INJC	60	F	OR-Y OR<25		000	000		00
00888	N	N	N			07/19/2010	16	FEDERAL ST	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										004	07
NO RPT						MO	0	GALVESTON AVE	E		UNKNOWN	N	DRY	REAR		PRVTE	E -W									000		00
						4P			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	16	F	OR-Y OR<25		026	000		07
															02	NONE 0	STOP											
																PRVTE	E -W									011	004	00
																PSNGR CAR		01	DRVR	INJC	53	M	OR-Y OR<25		000	000		00
01620	N	N	N	N	N	12/05/2009	16	FEDERAL ST	INTER	CROSS	N	N	RAIN	ANGL-OTH	01	NONE 0	STRGHT											02
CITY						SA	0	GALVESTON AVE	CN		STOP SIGN	N	WET	ANGL		PRVTE	S -N									015		00
						5P			02	0		N	DARK	INJ		PSNGR CAR		01	DRVR	NONE	80	F	OR-Y OR<25		028	000		02
															02	NONE 0	STRGHT											
																PRVTE	E -W									000		00
																PSNGR CAR		01	DRVR	INJC	42	F	OR-Y OR<25		000	000		00
01414	N	N	N	N	N	10/24/2012	16	FEDERAL ST	INTER	CROSS	N	N	CLD	ANGL-OTH	01	NONE 0	TURN-L										006	08,13
CITY						WE	0	GALVESTON AVE	CN		STOP SIGN	N	DRY	TURN		PRVTE	N -E									007	006	00
						9A			03	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	67	M	OR-Y OR<25		045	000		08,13
															02	NONE 0	STRGHT											
																PRVTE	W -E									000		00
																PSNGR CAR		01	DRVR	NONE	37	M	OR-Y OR<25		000	000		00

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CITY OF BEND, DESCHUTES COUNTY

GALVESTON AVE at HARMON BLVD, City of Bend, Deschutes County, 01/01/2008 to 12/31/2012

Total crash records: 1

SER# / INVEST	S P E D	A L C	R U G S	S C H L	W O R K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR / OWNER	QTY / MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
00532	N	N	N			04/21/2009	16	GALVESTON AVE	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE	0											05
NONE						TU	0	HARMON BLVD	CN		STOP SIGN	N	DRY	TURN		PRVTE	TURN-L S -W											00
						7A			03	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	43	F	OR-Y OR<25		002	000		05
															02	NONE	0											
																PRVTE	TURN-R W -S									000		00
																PSNGR CAR		01	DRVR	NONE	57	F	OR-Y OR<25		000	000		00

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