Bend Metropolitan Planning Organization
710 NW Wall Street
Bend, OR 97703

AGENDA

BMPO Policy Board

Date: April 17, 2026

Start Time: 12:00 p.m.

- **Meeting Format:** in accordance with Oregon state law, this meeting is open to the public and can be accessed and attended in person or remotely.
- **In-person Attendance:** board members and members of the public may attend in person at the Baney Conference Room, Oregon Department of Transportation (ODOT) Region 4 Headquarters, Building M, 63055 N. Highway 97, Bend, OR 97703.
- **Remote Attendance:** board members and members of the public may attend remotely via Zoom webinar. Members of the public may also view the meeting via YouTube livestream.
    - **Zoom webinar link**
    - Zoom webinar phone: dial 1-888-788-0099 and enter webinar ID# 869 6285 9152
    - **YouTube livestream link**

BMPO Policy Board Meeting

Start Time	Item	Information	Presenters
12:00	1. Call to Order & Introductions		Chair Méndez
12:05	2. Hybrid Meeting Guidelines		Tyler Deke, BMPO
12:07	3. Public Comment	Time for members of the public to provide comments. Additional time for comment will be provided prior to adjournment.	Chair
12:10	4. Meeting Minutes	**Attachments/Links** Attachment A: Draft Policy Board meeting minutes, February 20, 2026. **Action Requested**	Chair

Start Time	Item	Information	Presenters
		Review and approve the draft meeting minutes from February 20th. Recommended language for motion: *I move approval of the February 20, 2026, draft Policy Board meeting minutes, as presented.*	
12:15	5. Fiscal Year 2027 (FY27) Budget – Public Hearing & Adoption	**Background** A public meeting of the BMPO Budget Committee was held on March 17, 2026. The committee approved the FY27 Budget and recommended it for Policy Board adoption. The Policy Board will hold a public hearing to review the approved budget, receive comments, and adopt the approved FY27 Budget. **Attachments/Links** Attachment B: Resolution 2026-01 to adopt the FY27 Budget. Link to **BMPO Work Plan & Budget webpage** where the approved FY27 BMPO Budget is posted. **Action Requested** Hold public hearing and receive public comments. Review and consider approval of the FY27 BMPO Budget, with an increase of $2,300 in Intergovernmental Revenue and an increase of $2,300 in BMPO Program appropriations. Recommended language for motion: *I move to adopt the BMPO fiscal year 2027 annual budget, as proposed and by way of Resolution 2026-01, with the following amendment:* • *Increase Resources in Intergovernmental Revenue by $2,300 and increase BMPO Program appropriations by $2,300.*	Tyler Deke Tory Carr, City of Bend

Start Time	Item	Information	Presenters
12:25	6. Fiscal Years 2026 and 2027 (FY26-FY27) Unified Planning Work Program (UPWP) Midcycle Amendment – Adoption	**Background** The UPWP outlines all planning activities to be undertaken in the BMPO area each fiscal year. The FY26-FY27 UPWP covers two state fiscal years and was adopted in April 2025. This is an amendment to include updated project and program information for FY27. ODOT, the Federal Highway Administration, the Federal Transit Administration, BMPO Policy Board, and BMPO Technical Advisory Committee have reviewed the proposed FY26-FY27 UPWP amendment. Staff will review the proposed changes and comments received. **Attachments/Links** Attachment C: Resolution 2026-02 to adopt the FY26-FY27 UPWP Midcycle Amendment. Link to **BMPO Work Plan & Budget webpage** where the proposed FY26-FY27 UPWP Midcycle Amendment is posted. **Action Requested** Review and consider adoption of the BMPO FY26-FY27 UPWP Midcycle Amendment. Recommended language for motion: *I move to adopt the amended BMPO Unified Planning Work Program for fiscal years 2026 and 2027, as proposed and by way of Resolution 2026-02, with the following amendment:* • *Revise FY27 budget information to match the FY27 Budget, as adopted.*	Tyler Deke Andrea Napoli, BMPO
12:30	7. 2027-2030 Metropolitan Transportation Improvement	**Background** The proposed 2027-2030 MTIP identifies BMPO area transportation projects and programs that are scheduled in federal fiscal years 2027-2030. Federally funded projects	Tyler Deke

Start Time	Item	Information	Presenters
	Program (MTIP) – Adoption	anticipated by local agencies and ODOT are included in the MTIP. Staff will review the proposed MTIP and comments received. **Attachments/Links** Attachment D: Resolution 2026-03 to adopt the 2027-2030 MTIP. Link to **BMPO MTIP webpage** where the proposed 2027-2030 MTIP is posted. **Action Requested** Review and approve the proposed 2027-2030 MTIP. Recommended language for motion: *I move to adopt the 2027-2030 Metropolitan Transportation Improvement Program, as presented, by way of Resolution 2026-03.*	
12:40	8. Bend Transportation Safety Action Plan (TSAP) – Project Review #2	**Background** Staff will present the findings from the crash data analysis, review current and upcoming community engagement opportunities, and discuss next steps. **Attachments/Links** Attachment E: Tech Memo #3 – Existing Conditions. Link to **Bend TSAP Update Online Open House webpage**. **Action Requested** Review and provide input on Tech Memo #3.	Matt Kittelson, Kittelson & Associates (KAI) Miranda Barrus, KAI Joel McCarroll, DKS Associates Andrea Napoli
1:50	9. Other Business	**Policy Board Updates/Requests** • Updates on projects/planning efforts • Future agenda topic requests **BMPO Staff Updates** • Updates on projects/planning efforts ○ Safe Streets and Roads for All Grant Agreement – amendment	Chair & Staff

Start Time	Item	Information	Presenters
		○ June Policy Board meeting (June 26, 2026) – confirm or reschedule • Upcoming agenda topics: ○ BMPO Committees – Community Member Reappointment ○ 2024-2027 MTIP Amendment ○ Deschutes County TSAP Overview ○ CET Update	
1:55	10. Public Comment	Additional time for members of the public to provide comment.	Chair
2:00	11. Next Meeting & Adjournment	The next meeting of the BMPO Policy Board is scheduled for May 15, 2026, at 12:00 p.m.	Chair

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Attachment A

Meeting Minutes

BMPO Policy Board

Location: Baney Conference Room (ODOT Region 4 Headquarters, Building M)
63055 N. Highway 97, Bend, Oregon
Date: February 20, 2026
Time: 12:00 p.m.
Prepared by: ABC Transcription Services, LLC.

In Attendance

Members

1. Chair Ariel "Ari" Méndez, Bend City Councilor
2. Mike Riley, Bend City Councilor, arrived at 12:30 p.m.
3. Emerald Shirley, Oregon Department of Transportation (ODOT) Interim Central Oregon and Lower John Day Area Manager

Non-voting Members

1. Bob Townsend, Cascades East Transit (CET) Director

Member Alternates

1. Tarik Rawlings, Deschutes County

BMPO Staff and Other Attendees

1. Tyler Deke, BMPO Manager
2. Kelli Kennedy, BMPO Program Coordinator
3. Kymala Lutz, City of Bend, left at 12:17 p.m.
4. David Abbas, City of Bend
5. Jovi Arellano, ODOT

Notes

1. **Call to Order and Introductions**
   Chair Méndez called the meeting to order at 12:05 p.m. with a quorum established.

2. **Hybrid Meeting Guidelines**
   Manager Deke reviewed the meeting guidelines.

3. **Public Comment**
   There were no public comments.

   The Board proceeded to Agenda Item 5 at this time.

4. Elect Chair and Vice Chair for 2026

This item was addressed directly following Agenda Item 8.

The Board briefly discussed Chair and Vice Chair nominations for 2026.

Motion 4: Mike Riley moved that Ariel Méndez serve as Chair and Mike Riley serve as Vice Chair of the BMPO Policy Board for 2026. Emerald Shirley seconded the motion which passed 3 to 0 to 1.
(Ayes: Méndez (City of Bend), Shirley (ODOT), Riley (City of Bend). Nays: None. Abstain: Rawlings (Deschutes County).)

The Board proceeded to Agenda Item 9 at this time.

5. Meeting Minutes

Materials referenced: January 16, 2026, BMPO Policy Board draft meeting minutes (Attachment A in agenda packet).

This item was addressed directly following Agenda Item 3.

Motion 1: Emerald Shirley moved approval of the January 16, 2026, Policy Board draft meeting minutes as presented. Ariel Méndez seconded the motion which passed 3 to 0.
(Ayes: Méndez (City of Bend), Shirley (ODOT), Rawlings (Deschutes County). Nays: None.)

6. Fiscal Year 2025 (FY25) Annual Financial Report

Materials referenced: A link was provided to the **BMPO Work Program & Budget webpage**

Kymala Lutz provided a brief overview of the audited financial statements for the fiscal year that ended on June 30, 2025. The audit, performed by Baker Tilly under contract with the City of Bend, returned unmodified with no issues noted. She encouraged Board members to read the Management Discussion and Analysis portion of the audit report. Due to structural changes at ODOT, the BMPO would maintain a positive net position for the foreseeable future.

Staff confirmed remaining COVID funds would be expended before the deadline in 2029.

Motion 2: Emerald Shirley moved to accept the fiscal year 2024 – 2025 BMPO Annual Financial Report. Ariel Méndez seconded the motion which passed 3 to 0.
(Ayes: Méndez (City of Bend), Shirley (ODOT), Rawlings (Deschutes County). Nays: None.)

7. 2024 – 2027 Metropolitan Transportation Improvement Program (MTIP) Amendment

Materials referenced: A link was provided to the **Transportation News Release.** The full 2024 – 2027 MTIP document was available on the **BMPO MTIP webpage.**

Kelli Kennedy presented a proposed 2024 – 2027 MTIP amendment which would advance delivery of the preliminary engineering phase of ODOT's US-97 Corridor Phase 2 project from 2027 to 2026. No comments were received during the public comment period.

Emerald Shirley explained the project would address as many poor and failing culverts along the US-97 corridor as possible with the available funding.

Motion 3: Emerald Shirley moved to approve the proposed amendment to the 2024 – 2027 MTIP, as presented. Ariel Méndez seconded the motion which passed 3 to 0.
(Ayes: Méndez (City of Bend), Shirley (ODOT), Rawlings (Deschutes County). Nays: None.)

8. 2027 – 2030 MTIP – Draft Review

Materials referenced: Links were provided to the **Draft 2027 - 2030 MTIP** and the **BMPO MTIP webpage.**

Manager Deke presented an overview of the draft 2027 – 2030 Metropolitan Transportation Improvement Program (MTIP) document which identified transportation projects and programs scheduled in the BMPO area over the next four years. He shared a project summary list and confirmed all the City's listed projects had construction funding identified except the Big Sky Trail planning study. He shared a table of total draft funding amounts, outlined the MTIP adoption timeline and requested that two Board members volunteer to review the full 2027 – 2030 MTIP document.

Emerald Shirley explained the project summary list only included ODOT's 2027 projects. ODOT had changed to adopting projects year-by-year and planned to present an amendment each year to add more projects or project phases to the MTIP. Some projects or project phases were fully funded but would not be programmed into the MTIP until later. For example, funding was shown for the Knott Rd project phase that would occur in 2027, but construction funds were being held until the construction phase, which would be added to the MTIP in 2028. She shared a scoping exhibit of the Knott Rd multiuse path and noted ODOT was working with Bend Parks and Recreation to consider potentially connecting to the Lava Butte multiuse path along US-97.

Discussion ensued over the potential for the City to cohesively address the entire Knott Rd corridor in conjunction with ODOT's work on the multiuse path at Knott Rd, and the possibility to connect to other paths to avoid leaving gaps. Staff would return with more information about the future plans for the Knott Rd corridor.

Questions were addressed about seeking locations in Bend for two Mobility Points, which were funded through the Carbon Reduction Program, in addition to the Mobility Hubs funded through the GO Bond, and the split between federal transit funding and other federal funding passed through local entities like CET or Central Oregon Intergovernmental Council (COIC), which often served as the required match funds for receiving federal dollars.

Chair Méndez and Mike Riley volunteered to review the full draft 2027 – 2030 MTIP document. All Board members were encouraged to review the draft MTIP document, or sections of interest, and provide comments to Staff by March 3, 2026.

The Board returned to Agenda Item 4 at this time.

9. Federal Safety Targets

Materials referenced: Safety Targets Memo (Attachment B in agenda packet).

This item was addressed directly following Agenda Item 4.

Manager Deke reviewed federal safety performance measures that the BMPO was federally required to monitor and report. ODOT was required to establish safety performance measure targets yearly, and the BMPO could support ODOT's safety performance measure targets or create its own targets by the end of February. Staff recommended adopting ODOT's targets and applying them to Bend's Transportation Safety Action Plan (TSAP) Update data in the future to create local safety performance measure targets.

Questions were addressed about the goal to develop local safety performance measure targets in 2027 based on Bend's TSAP data; ODOT's safety performance measure targets currently being reviewed during the statewide TSAP update; anticipated crash trends based on the existing statewide TSAP; safety targets being set initially in the statewide TSAP and reviewed by ODOT yearly; the applicability of ODOT's safety target methodology to the local area; the City's recent safety investments making crash reductions potentially achievable; and ODOT's safety targets being unrealistic due to the inability to invest in large safety improvement projects.

Motion 5: Mike Riley moved to support the adopted ODOT safety performance measure targets. Emerald Shirley seconded the motion which passed 4 to 0.
(Ayes: Méndez (City of Bend), Shirley (ODOT), Riley (City of Bend), Rawlings (Deschutes County) Nays: None.)

10. State Legislative Bill Letter of Support

Materials referenced: Senate Bill 1544 draft letter of support (Attachment C in agenda packet).

Manager Deke provided an overview of SB 1544 which would modify the list of qualified entities eligible to receive and distribute Statewide Transportation Improvement Fund (STIF) revenues to include intergovernmental entities such as COIC. If approved, COIC could directly manage regional STIF dollars which could potentially reduce administrative costs, streamline decision-making, and unify the regional approach between jurisdictions, though other sections of the bill had concerning language. The letter of support was worded to focus specifically on the language regarding qualified entities.

Mike Riley had testified to the Senate Transportation Committee on behalf of the City of Bend regarding SB 1544 and he reported the Committee had recommended passing the bill. He had emailed a copy of amendment package five to Policy Board members. There had been some resistance to SB 1544, and concern had been expressed about changing language in the bill from "county" to "counties" to ensure multiple counties would be served. Legal advice was being sought, and there would probably be a final amendment at some point. He supported advocating for SB 1544 amendment package five, despite problems in the rest of the bill.

Bob Townsend described how ambiguity in the amendment language could impact funding for counties and local tribes. He stated Senate President Wagner had sent SB 1544 to Ways and Means, which could potentially delay or derail the bill.

The Board agreed on reflecting the BMPO's support for Amendment Package 5 by referring to "SB 1544-5" in subject lines and throughout the letter, adding a sentence to clarify that the ODOT representative on the Policy Board abstained, and adding the title "MPO Chair".

Motion 6: Mike Riley moved approval of the letter of support for the Senate Bill 1544-5 Qualified Entities, as amended. Ariel Méndez seconded the motion which passed 3 to 0 to 1. (Ayes: Méndez (City of Bend), Riley (City of Bend), Rawlings (Deschutes County) Nays: None. Abstain: Shirley (ODOT).)

11. Deschutes County & ODOT BUILD Applications – BMPO Letters of Support

Materials referenced: Deschutes County project flyer (Attachment D in agenda packet).
Deschutes County BUILD application draft letter of support (Attachment E in agenda packet).
ODOT BUILD application draft letter of support (Attachment F in agenda packet).

Manager Deke stated the Better Utilizing Investments to Leverage Development (BUILD) Grant program provided funding for surface transportation infrastructure projects with significant local or regional impact. Deschutes County would be submitting a planning grant application for the proposed US-97 Deschutes River Woods (DRW) interchange to conduct planning, complete preliminary design, and obtain environmental clearances. ODOT would submit a grant application to construct safety improvements on US-97 between Terrebonne and Madras.

Chair Méndez supported wildfire planning and egress for DRW but questioned applying for a $43 million grant to put a freeway interchange in a rural community neighborhood without sidewalks or urban street standards, potentially increasing VMTs and undermining safety and carbon reduction goals; however, he would support the letter based on previous discussions.

Emerald Shirley shared a scope exhibit of ODOT's US-97 safety improvement project which would install a barrier and widen the road shoulder on US-97 along Juniper Butte just south of Madras, as identified in a recent safety study. She confirmed the project had received support from Central Oregon Area Commission on Transportation (COACT).

Motion 7: Mike Riley moved approval of the letters of support for the Deschutes County and ODOT BUILD grant applications. Emerald Shirley seconded the motion which passed 4 to 0. (Ayes: Méndez (City of Bend), Shirley (ODOT), Riley (City of Bend), Rawlings (Deschutes County) Nays: None.)

12. Federal Fiscal Year 2025 (FFY25) Annual Obligation Report

Materials referenced: A link was provided to the **FFY25 Annual Obligation Report**

Kelli Kennedy provided an overview of the FFY25 Annual Obligation Report, which was required for all BMPO area projects and programs that received federal transportation funding obligations between October 1, 2024, and September 30, 2025. She reviewed FFY25 obligations funding sources and projects.

13. Other Business

Federal surface transportation legislation update: Manager Deke stated current federal surface transportation legislation would expire at the end of September 2026 and Congress was beginning to build the next multi-year transportation bill. The Association of MPOs, National League of Cities, National Association of Counties, and other agencies were collaborating to influence the developing legislation and had created a toolkit to help MPOs easily provide input or draft letters of support. A draft piece of legislation called the Basics Act was introduced in the last week with a focus on maintenance and preserving infrastructure, streamlining grant programs, and completing safety projects. House and Senate leadership were showing interest in moving forward due to anticipating changes after the November election.

Emerald Shirley confirmed ODOT did not want to cancel projects due to federal funding obligations. ODOT was already reducing urbanization type capital projects in the future. She stated the Basics Act would amend the formula to make it easier to support local, rural, and regional planning directly.

Oregon legislative session update: Manager Deke did not believe ODOT's funding issues were being addressed in a meaningful way. Emerald Shirley expected there would be a budget bill rather than a transportation funding bill. Chair Méndez described political tactics being used such as denying quorum.

<u>Policy Board member agenda item requests:</u>
Staff would return with more information about draft letters for providing input on federal transportation legislation at an upcoming Policy Board meeting.

The next scheduled meeting of the Policy Board would be March 31, 2026, at 1:00 p.m. Potential topics for the next meeting were reviewed. The BMPO Budget Committee was scheduled to meet March 17, 2026 at 12:30 p.m. at City Hall.

14. Public Comment

There was none.

15. Adjourn

Chair Méndez adjourned the meeting at 1:46 p.m.

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Resolution 2026-01

Bend Metropolitan Planning Organization (BMPO) Policy Board

A RESOLUTION ADOPTING THE BUDGET FOR THE FISCAL YEAR 2026-2027 (FY27)

THE BMPO DOES RESOLVE AS FOLLOWS:

To adopt the fiscal year 2026-2027 budget as approved by the BMPO Budget Committee pursuant to ORS 294.900 to 294.930, and;

That the amount for the fiscal year beginning July 1, 2026, for the purpose shown below, is hereby appropriated as follows:

Table 1: BMPO Fund

Category	FY27 Budget
BMPO Program	$ 866,900
COVID Relief Program	185,000
State Highway Fund (SHF) Program	1,102,100
Total Program	**$ 2,154,000**
Loan Repayment	100,000
Contingency	100,000
Reserves	373,000
Total Requirements	**$ 2,727,000**

Adopted by the BMPO on the 17th of April 2026.

Yes: _____ No: _____ Abstain: _____

Authenticated by the Chair this 17th of April 2026

_____
Ariel Méndez, BMPO Chair

Witness:

_____
Tyler Deke, BMPO Manager

Resolution 2026-02

Bend Metropolitan Planning Organization (BMPO) Policy Board

For the purpose of adopting the amended BMPO Unified Planning Work Program (UPWP) for fiscal years 2026 and 2027.

WHEREAS, the U.S. Department of Commerce, Bureau of Census has declared that the City of Bend and the adjoining areas in Deschutes County form an Urbanized Area, named the Bend Urbanized Area; and

WHEREAS, the U.S. Department of Transportation and the Oregon Department of Transportation (ODOT) have designated representatives of the said areas, together with a representative of ODOT, as the BMPO to conduct the Metropolitan Transportation Planning Process; and

WHEREAS, the BMPO must prepare an annual or biennial UPWP that identifies program activities and expenditures; and

WHEREAS, the BMPO Policy Board did review and hold a public comment period on the UPWP for fiscal years 2026 and 2027.

NOW, THEREFORE, BE IT RESOLVED, that the BMPO Policy Board approves and adopts the amended UPWP for fiscal years 2026 and 2027.

Adopted by the BMPO the 17th of April 2026.

Yes: _____ No: _____ Abstain: _____

Authenticated by the Chair this 17th of April 2026

_____
Ariel Méndez, BMPO Chair

Witness:

_____
Tyler Deke, BMPO Manager

Resolution 2026-03

Bend Metropolitan Planning Organization (BMPO) Policy Board

For the purpose of adopting the Metropolitan Transportation Improvement Program (MTIP) for federal fiscal years 2027 through 2030 (FFY27-FFY30).

WHEREAS, the U.S. Department of Commerce, Bureau of Census has declared that the City of Bend and the adjoining areas in Deschutes County form an urban area, named the Bend Urbanized Area; and

WHEREAS, the State of Oregon has designated representatives of the said areas, together with a representative of the Oregon Department of Transportation (ODOT), as the BMPO Policy Board to carry out the metropolitan transportation planning process; and

WHEREAS, among the major requirements of the metropolitan transportation planning process is the development of an MTIP that enumerates priority transportation projects in the Bend Urbanized Area; and

WHEREAS, the BMPO has developed a FFY27-FFY30 MTIP in coordination with ODOT and the local transit provider in compliance with all applicable federal and state requirements; and

WHEREAS, the FFY27-FFY30 MTIP meets the federal requirement of financial constraint; and

WHEREAS, the public has been notified and afforded reasonable opportunity to review and comment on the content of the FFY27-FFY30 MTIP.

NOW, THEREFORE, BE IT RESOLVED, that the BMPO Policy Board approves and adopts the FFY27-FFY30 MTIP and directs staff to submit the document to ODOT for inclusion in the FFY27-FFY30 Statewide Transportation Improvement Program.

Adopted by the BMPO on the 17th of April 2026.

Yes: _____ No: _____ Abstain: _____

Authenticated by the Chair this 17th of April 2026.

_____
Ariel Méndez, BMPO Chair

Witness:

_____
Tyler Deke, BMPO Manager

Bend Metropolitan Planning Organization
710 NW Wall Street
Bend, OR 97703

MEMORANDUM

To: Project Advisory Committee
From: Matt Kittelson, PE, Miranda Barrus, PE, Eza Andrews, PE, Robert Olney; Joel McCarroll, PE, Lacy Brown, PhD, PE, RSP_{2I} , Anders Hart, RSP_1
Date: March 31, 2026
Re: Bend Metropolitan Planning Organization TSAP Update
Draft Tech Memo #3: Existing Conditions

Introduction

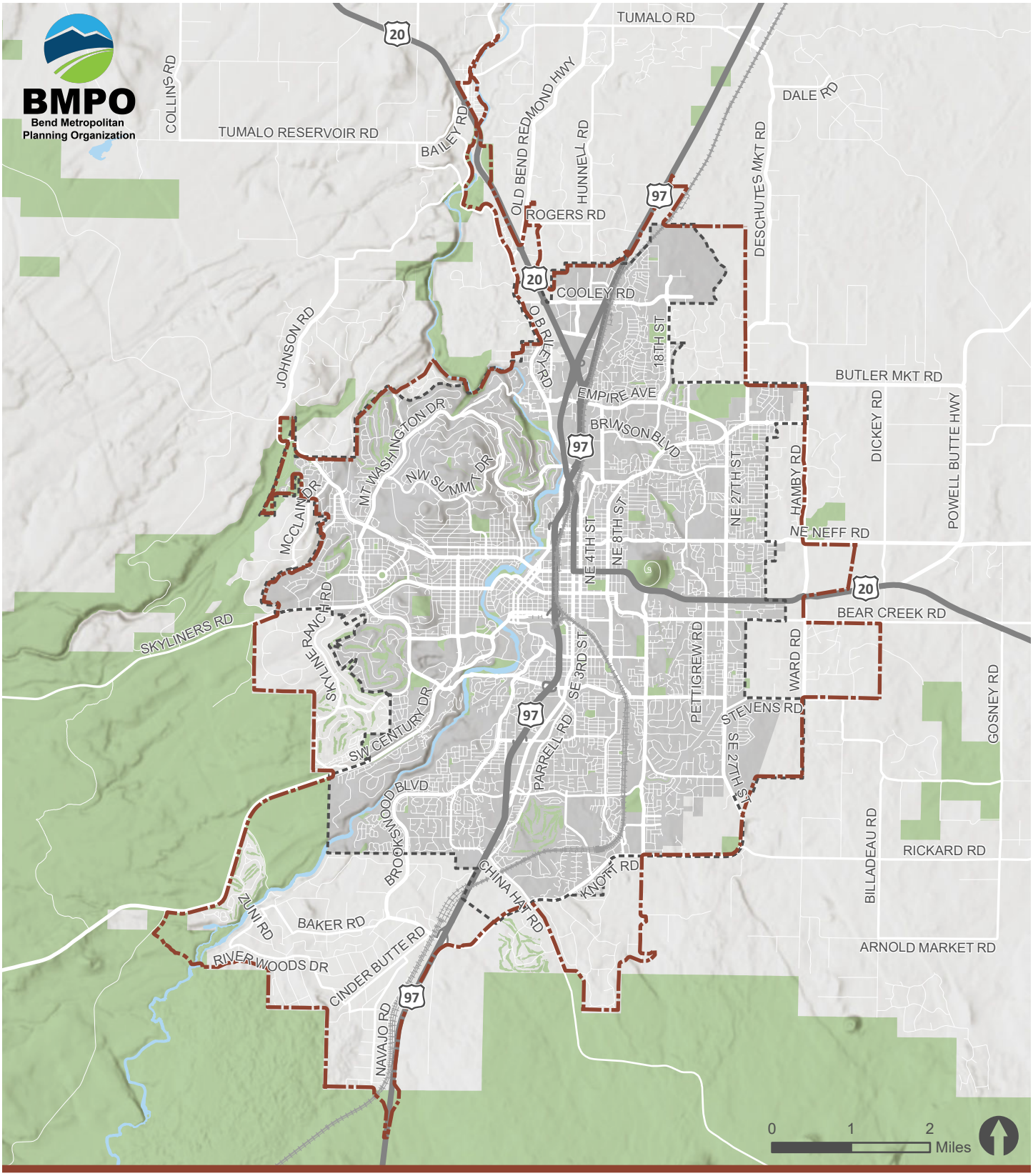
The Bend Metropolitan Planning Organization (MPO), in partnership with the City of Bend (City), is updating its Transportation Safety Action Plan (TSAP), which was last updated in 2019. The purpose of the TSAP Update is to help the MPO and its partners eliminate fatal and serious injury crashes from the transportation system through site-specific and systemic countermeasures and multidisciplinary actions. This memorandum summarizes the crash history within the MPO boundary, including crash patterns and locations where crashes may be concentrating.

The crash history analysis is a foundation for identifying crash emphasis areas (e.g., speeding) that may be addressed through systemwide strategies, as well as specific locations that could be prioritized for individual safety projects, which will be explored in *Tech Memo #4 (Strategies)*. This memorandum also documents the safety projects that the City has implemented from the 2019 Bend TSAP.

Together with input from the MPO, City, agency partners, and community, the findings in this memorandum will support the development of systemic, site-specific, and non-infrastructure safety strategies within the study area, defined by the Bend MPO boundary and illustrated in Figure 1.

Crash Data Analysis

The crash data analysis summarized in the following sections is based on the most recent five years of crash data (January 1, 2019 through December 31, 2023) that were available at the time the evaluation was conducted, obtained from the Oregon Department of Transportation (ODOT). The crash data analysis evaluates historical crash patterns and locations where crashes have concentrated within the study area, with an emphasis on more serious injury crashes. This data may encompass crash information at locations where the City has since made safety improvements or where improvements are programmed or planned. These instances will be identified in this memorandum accordingly.



Bend MPO Boundary (Study Area)
Bend Urban Growth Boundary
City of Bend
National Forest, Park, or Golf Course

Figure 1 - Study Area

Bend MPO TSAP

The severity of a crash is determined based on the most serious injury of a person involved in the crash. Crash severities have five categories that are abbreviated as KABCO:

- **Fatal (K)**: Any injury that results in death within 30 days of the crash.
- **Suspected Serious Injury (A)**: Typically, life-altering injuries such as broken limbs, dislocation, severe lacerations, paralysis, or organ damage, but also includes unconsciousness, head injuries, and significant loss of blood.
- **Suspected Minor Injury (B)**: Other visible injuries that are evident at the scene of the crash, including minor lacerations, bruising, and rashes.
- **Possible Injury (C)**: Any injury that is not fatal, serious, or minor. Includes complaint of non-visible pain/injury, such as confusion, limping, and soreness.
- **Property Damage Only (PDO, O)**: A collision without injury or complaint of pain but resulting in property damage to a vehicle or another object, commonly referred to as a "fender bender."

Serious injuries and fatalities not only have life-changing impacts on people involved in and adjacent to these crashes, but they also impart a high cost onto them and the overall region.

The crash analysis summarized herein investigates serious crashes through two primary methods:

1. ***Crash Pattern Assessment*** – identifies the history and patterns of crashes on all public and private roads in the study area, including characteristics like crash severity and location, temporal trends, collision types (e.g., rear-end, bicycle) and contributing factors, road features (e.g., lack of pedestrian infrastructure), driver behaviors (e.g., speeding), and external conditions (e.g., low lighting, weather). The results of this analysis help to identify the MPO's crash Emphasis Areas, presented later in this section.
2. ***Network Screening Evaluation*** – screens the transportation network within the study area for higher concentrations of crashes, particularly serious crashes, to later identify the MPO's High Injury Network. The Equivalent Property Damage Only (EPDO) performance measure, described in *Tech Memo #2 (Safety Analysis Framework)*, assigns weights to the five crash severities ('100' for Injury K and A crashes, '10' for Injury B and C crashes, and '1' for Injury O crashes) to help locate intersections and street corridors within the entire system that exhibit the most frequent and serious crashes.

Crash Pattern Assessment

This section summarizes the historic crash patterns observed within the study area based on the categories below:

- Crash Severity
- Intersection and Segment Crashes
- Crashes by Roadway Owner
- Temporal Trends
- Crash Types and Contributing Factors
- Roadway Characteristics
- Behavioral Characteristics
- Vulnerable Road Users

This analysis includes reported crashes on all public and private roads in the study area, including highway facilities owned by ODOT.

This section also lists the data provided in the 2019 City Bend TSAP where it overlaps with the data provided in this document. The 2019 City of Bend TSAP only covered the area in the City of Bend's urban growth boundary (UGB) and covered the years of 2012 to 2016, so it is not directly comparable to the data shown here, which is for the entire area in the MPO and for 2019 to 2023.

Crash Severity

5,013 crashes[1] were reported within the study area over the five-year study period (2019-2023). Of these, 27 were fatal and 175 were serious injury crashes for a combined 5% of total crashes. Possible injury and PDO crashes were the most common, totaling 3,919 crashes in these combined severity categories (78% of total crashes). Table 1 presents the severity breakdown of reported crashes for the study period.

The 2019 City of Bend TSAP reported that only 2% of crashes resulted in a fatal or serious injury, compared to 5% shown here.

Table 1. 2019-2023 Crashes by Severity in the Bend MPO Boundary

Severity	Number of Crashes	Percentage of Crashes
Fatal (K)	27	1%
Suspected Serious Injury (A)	175	4%
Suspected Minor Injury (B)	892	18%
Possible Injury (C)	1,273	25%
PDO (O)	2,646	53%
Total	**5,013**	**100%***
*** The individual percentages do not add to 100% due to rounding.**		

Intersection and Segment Crashes

As shown in Chart 1, roughly twice as many crashes occur at intersections (64%) than street segments (36%) within the study area. This split holds true across severity levels, with approximately 60% of fatal and serious injury crashes occurring at intersections compared to 40% along segments. This kind of result is common in urban areas due to intersections typically being closely spaced together. Table 2 further demonstrates this for crashes across all modes.

The 2019 City of Bend TSAP showed a higher proportion of intersection crashes (88%) than in the MPO (64%).

[1] Some crashes (especially ones that do not result in injuries or result in damage less than $2,500) are not reported, so this figure is an underestimate of the true number.

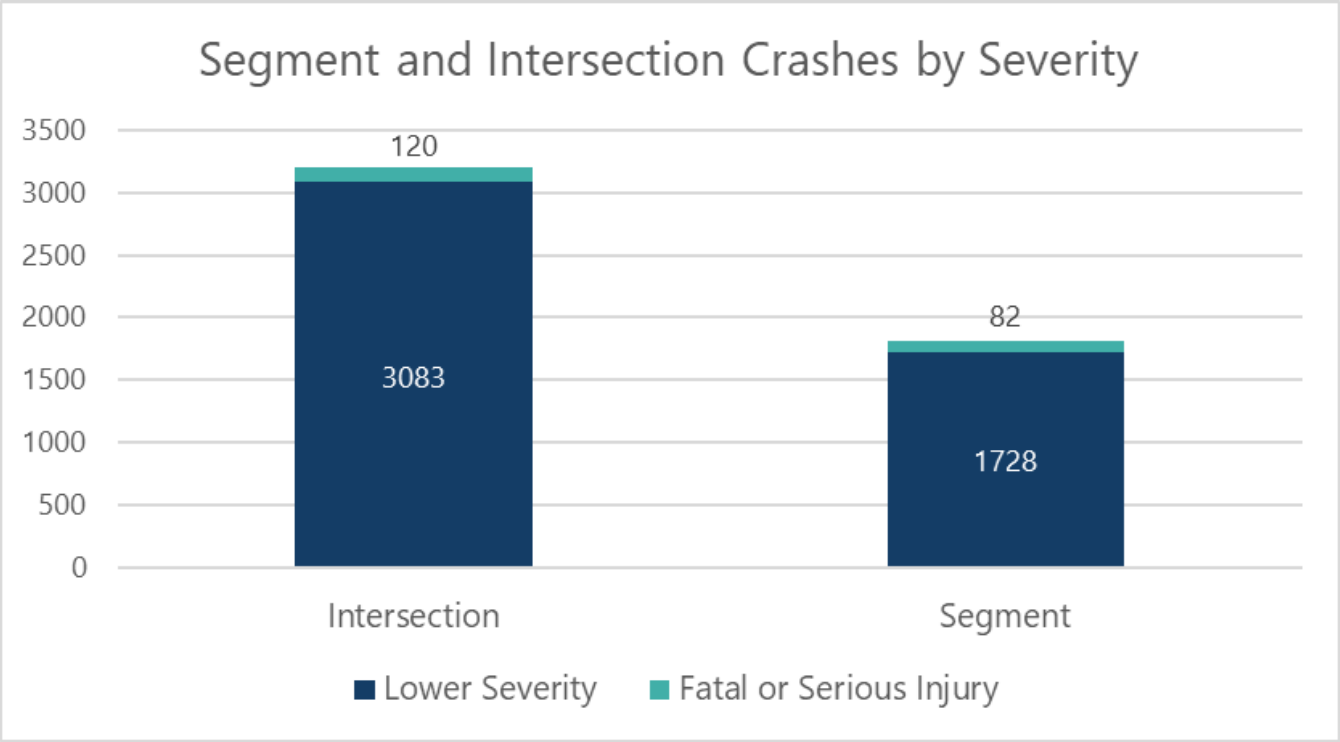


Chart 1. Intersection and Street Segment Crashes by Severity (2019-2023)

Table 2. 2019-2023 Crashes by Mode in the Bend MPO

Mode	Intersections	Segments	Total
Pedestrian Crashes	41	25	66
Bicyclist Crashes	80	28	108
Motorcycle Crashes	48	35	83
Motor Vehicle-Only Crashes	3,034	1,722	4,756
Total Crashes	**3,203**	**1,810**	**5,013**

Crashes by Roadway Owner

Chart 2 summarizes the number of crashes that occurred on state highways versus County, local, or Federal roads. Non-state roads account for 92% of road miles within the study area and 72% of crashes. State highways account for only 8% of road miles but 28% of crashes, indicating that these facilities are overrepresented among crashes. Note that this comparison reflects the centerline miles of roadway and does not capture the differences in traffic volume (or vehicle miles travelled) on each roadway type. Regardless of the reason, the large proportion of crashes occurring on state highways highlights the importance of coordination and partnership with ODOT as the MPO and City aim to improve safety for residents and visitors.

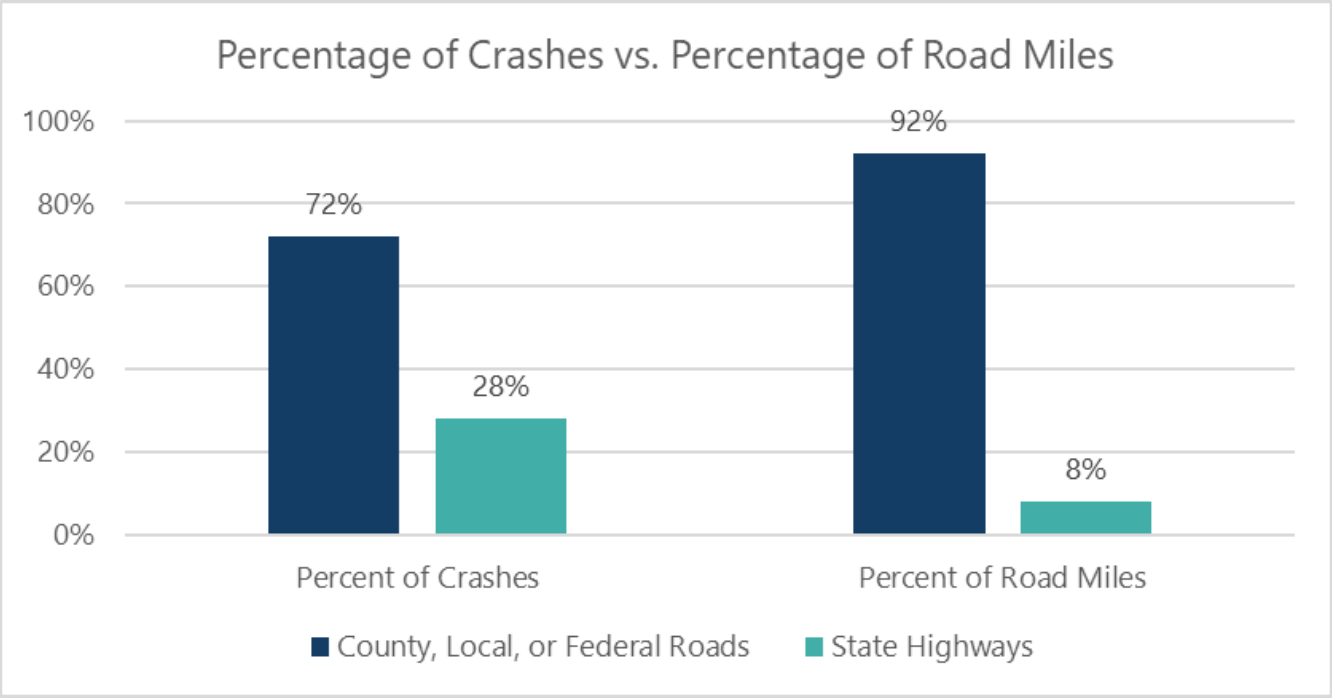


Chart 2. Crashes and Road Miles by Road Ownership

Note: County, local, and federal roads include approximately 21 miles of US Forest Service and Bureau of Land Management roads where no crashes were reported between 2019 and 2023. They includes approximately 80 miles of roadway, where ownership is unknown, that accounted for 78 crashes between 2019 and 2023. Roads with unknown ownership may include private streets.

Assessment of Crashes on the Highway System Versus the Local System

Project stakeholders asked the evaluation team to assess whether crashes on the state highway system show distinct patterns that could influence the overall assessment of crashes within the MPO boundary study area. Specifically, they questioned if including highway crash data in the broader study area assessment might mask important trends that are more relevant to the local system.

However, based on the crash analyses presented in this memorandum, the project team found the following:

- While there are several designated state highways within the study area, most of them function similarly to the local transportation system. For example, 3rd Street is part of the US 20 alignment in northern Bend and then transitions to City operated south of Greenwood Avenue. The roadway context and crash patterns are consistent across both sections, with no noticeable differences.
- The Parkway (US 97) and US 20 entering Bend from the northwest are the most prominent highway sections in the community. However, crash trends on these roads do not appear to skew the overall results toward highway-focused crash patterns. Instead, the project team identified notable urban crash emphasis areas, which are discussed in this document.

Based on these findings, the project team has not separated crash trends specifically for highway related crashes. The MPO and its agency partners may continue to use the information presented in this memorandum and subsequent analysis documents as appropriate to prioritize investments and set priorities for either the highway or local roadway system.

Temporal Trends

The following section summarizes temporal crash trends, describing reported crashes by year, month, day of the week, and time of day within the five-year period.

Crashes by Year

5,103 crashes over the five-year period equates to an average of 1,021 crashes per year. The total number of annual crashes has remained relatively constant since 2019, except for a dip in 2020 that was likely caused by changing travel patterns during the COVID-19 pandemic (Chart 3). However, the number and proportion of fatal and serious injury crashes have more than doubled since 2019. Fatal and serious injury crashes made up 2.2% of all crashes in 2019 compared to 6.3% of crashes in 2023. This trend is not unique to the Bend area. Jurisdictions in Oregon and across the US experienced a significant increase in high-severity crashes following the COVID-19 pandemic.

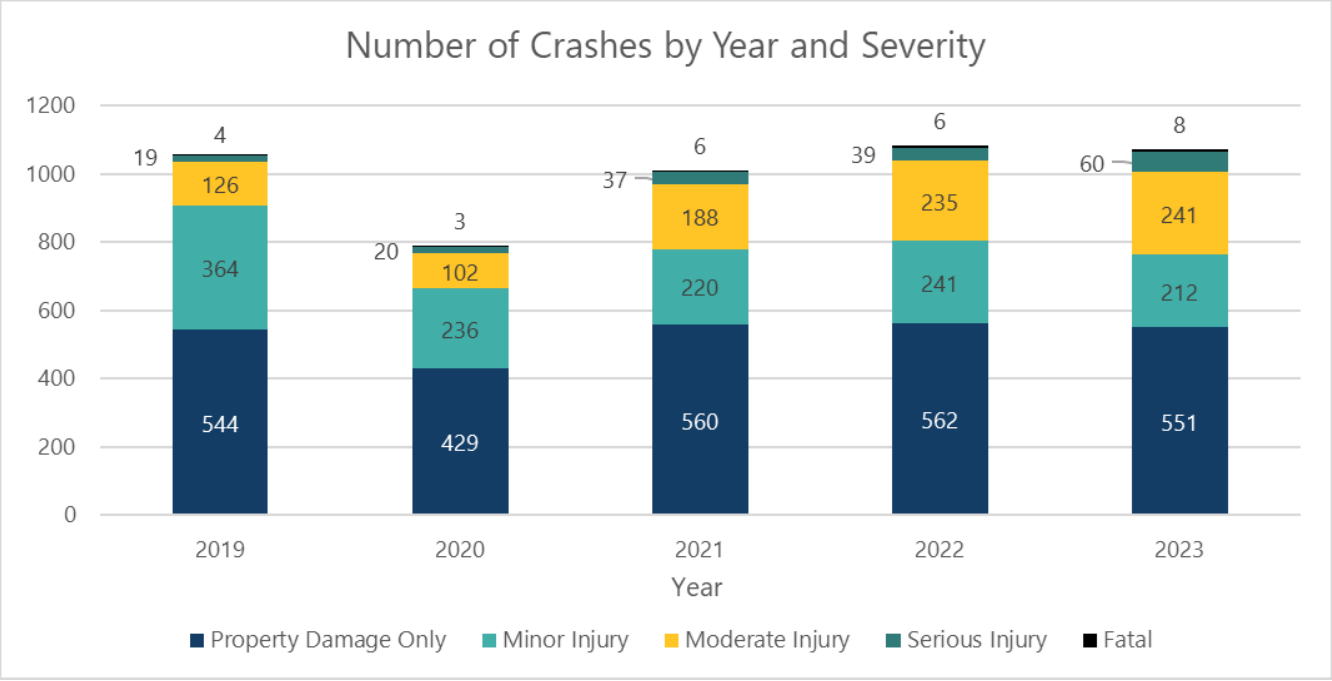


Chart 3. Crashes by Year and Severity (2019-2023)

Crashes by Month

As shown in Chart 4, the highest number of crashes reported during the five-year period occurred during the months of September, October, November, and December while March, April, and May had the fewest crashes. Fatal and serious injury crashes occurred most frequently in June, September, and November.

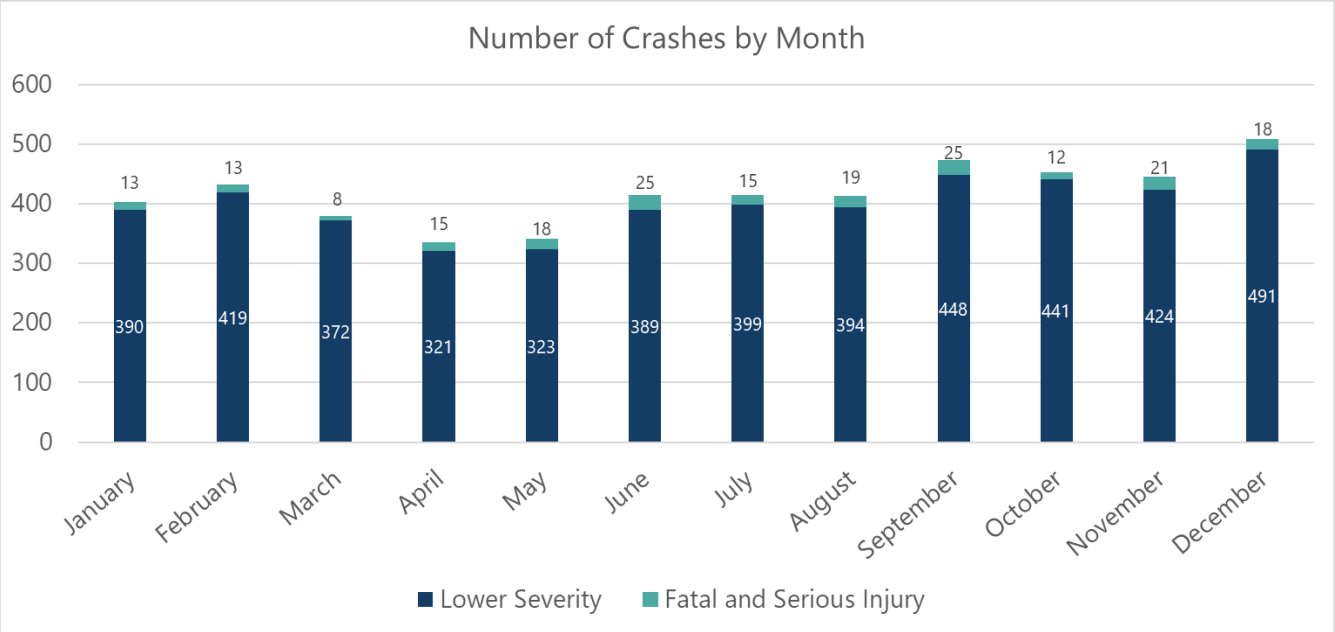


Chart 4. Crashes by Month (2019-2023)

Crashes by Day of Week

As shown in Chart 5, lower severity crashes occur most often on weekdays when traffic volumes are likely highest, with a significant decrease on weekends. In contrast, the occurrence of fatal and serious injury crashes is notably higher on Thursdays, Fridays, and Saturdays.

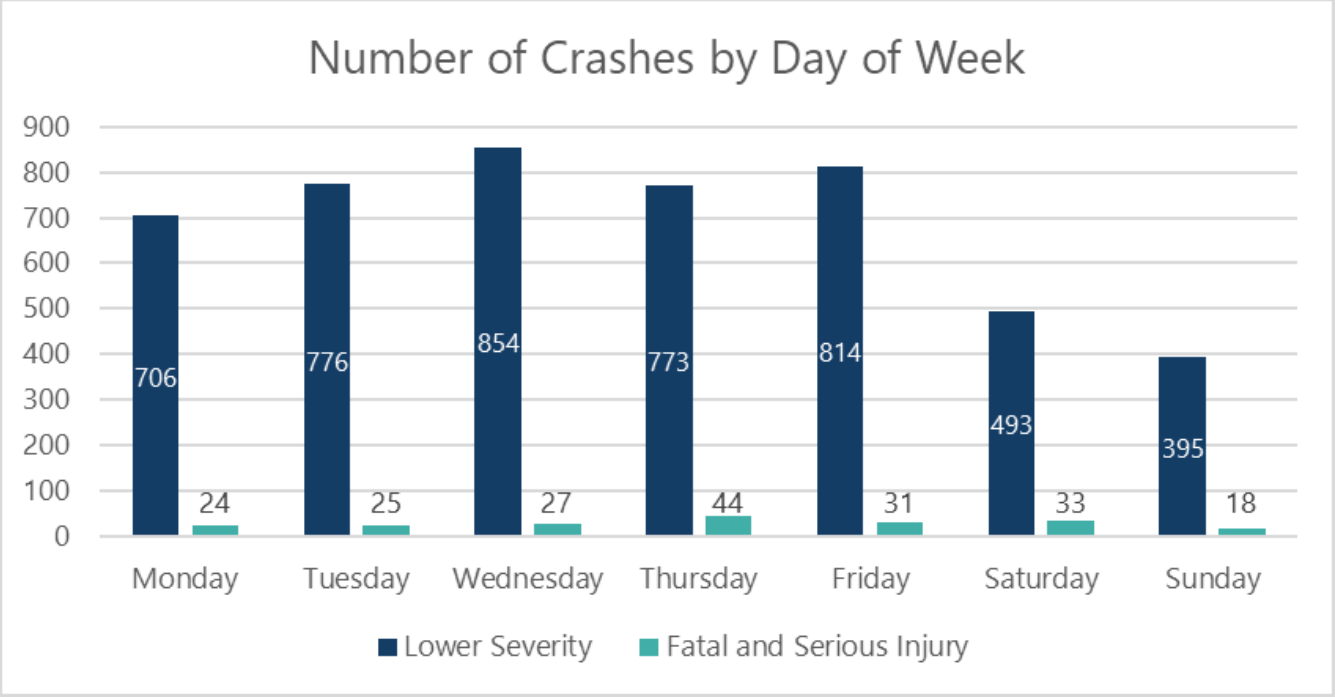


Chart 5. Crashes by Day of Week (2019-2023)

Crashes by Time of Day

Chart 6 illustrates the number of crashes across a 24-hour day within the five-year study period. Crashes most often occurred from 3PM to 5PM (29%), consistent with typical afternoon commuter travel periods. While some time periods experienced slightly higher occurrences of fatal and serious injury crashes over the study period, the data does not provide discernable trends as to when such crashes might be more or less frequent over the course of the day.

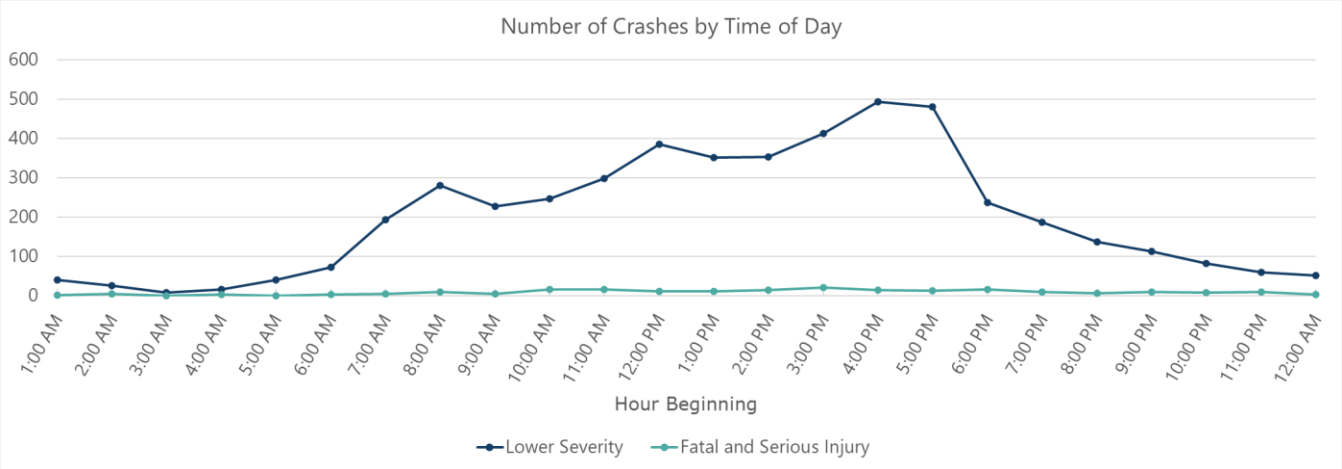


Chart 6. Crashes by Time of Day and Severity (2019-2023)

Crash Types and Contributing Factors

This section summarizes crash types, causes, and contributing factors to crashes reported in the study area over the five-year period.

Crash Type

Chart 7 and Chart 8 summarize the crash types for all crash severities and for only fatal and serious injury crashes, respectively.

Top 5 crash types (all severities), accounting for 87% of all crashes:

- Rear End
- Turning
- Angle
- Fixed Object
- Sideswipe-Overtaking

Top 5 crash types (fatal and serious injury), accounting for 79% of high-severity crashes:

- Turning
- Fixed Object
- Angle
- Rear End
- Pedestrian-Involved[2]

Turning, fixed-object, angle, rear end, and pedestrian made up higher proportions of fatal and serious injury crashes compared to the proportions of total crashes, indicating that these crash types are more likely to result in severe outcomes.

[2] This only includes crashes in which a pedestrian was struck as the first harmful crash event, not crashes when a pedestrian was struck after the first harmful event. See the **ODOT 2024 Motor Vehicle Traffic Crash Analysis and Code Manual** (p. 103) for more details.

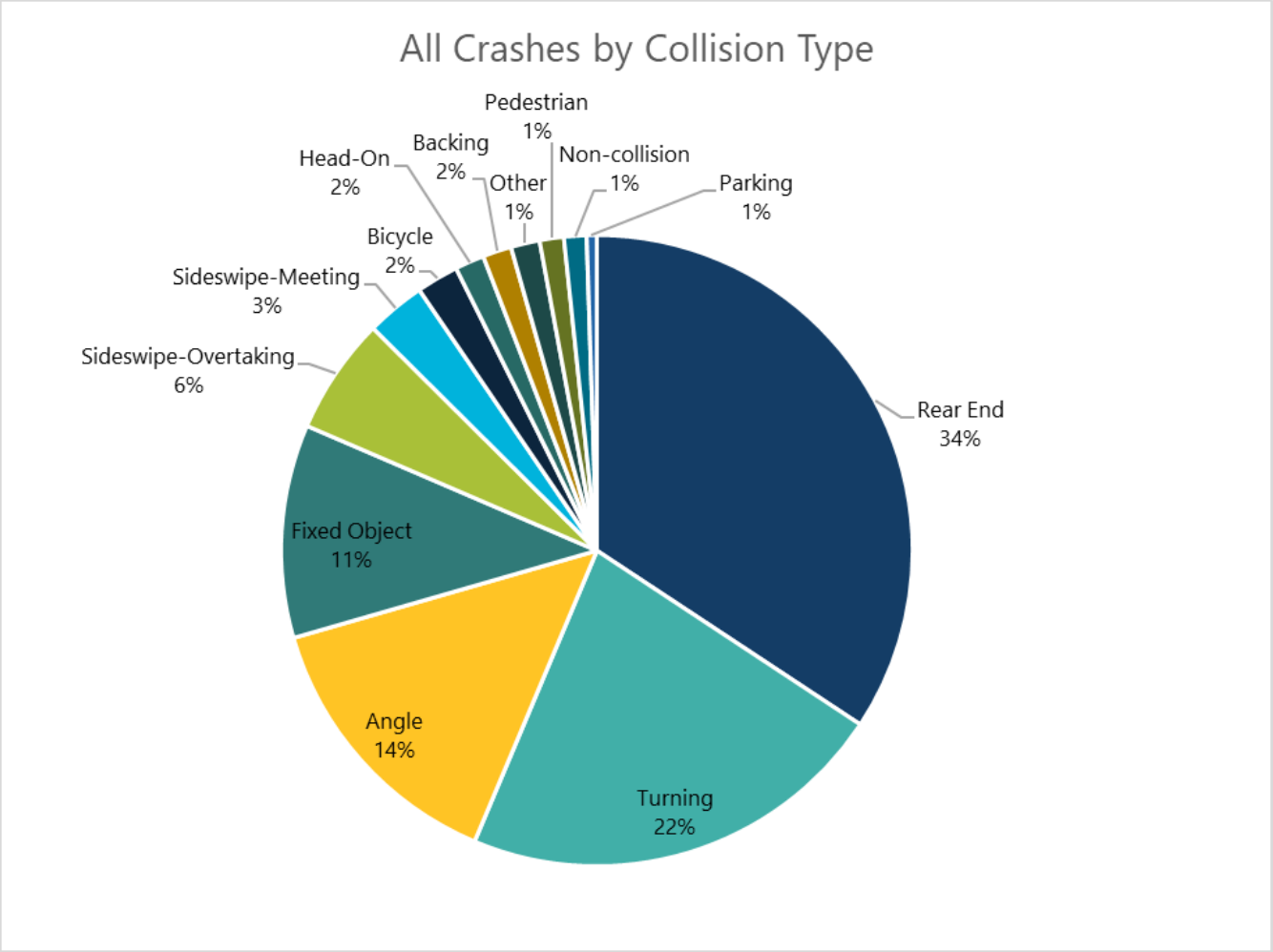


Chart 7. Crashes by Collision Type

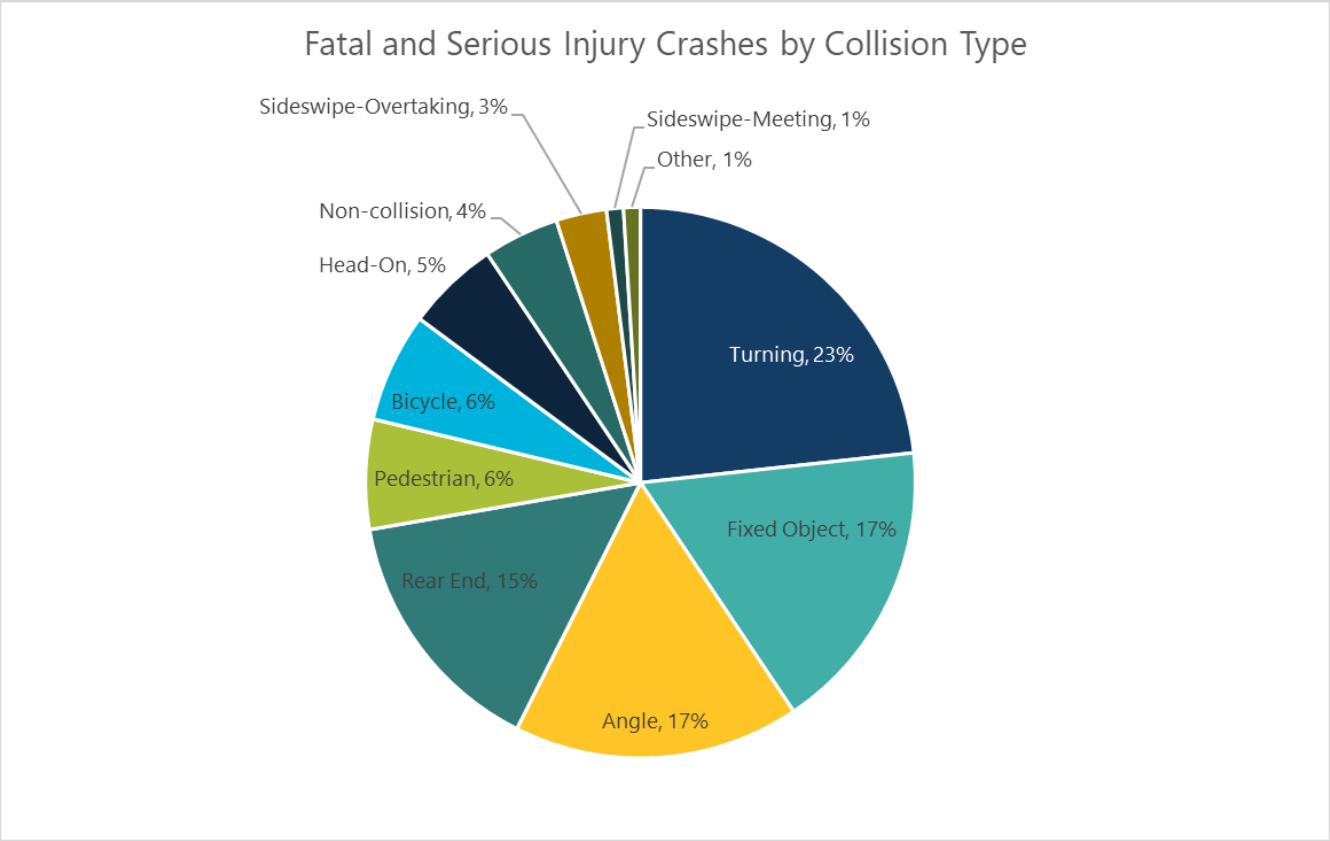


Chart 8. Fatal and Serious Injury Crashes by Collision Type

Crash Cause

As shown in Chart 9, the most reported crash cause was failure to yield the right of way (24% of lower severity crashes and 27% of fatal and serious injury crashes). Other common causes of fatal and serious injury crashes were careless driving[3] (9% of fatal and serious injury crashes), and speeding (16% combined from driving too fast for conditions (8% of fatal and serious injury crashes), and speeding (8% of fatal and serious injury crashes)).

[3] Careless driving refers to situation in which multiple poor driving choices were involved. See the **ODOT 2024 Motor Vehicle Traffic Crash Analysis and Code Manual** (p. 301) for more details.

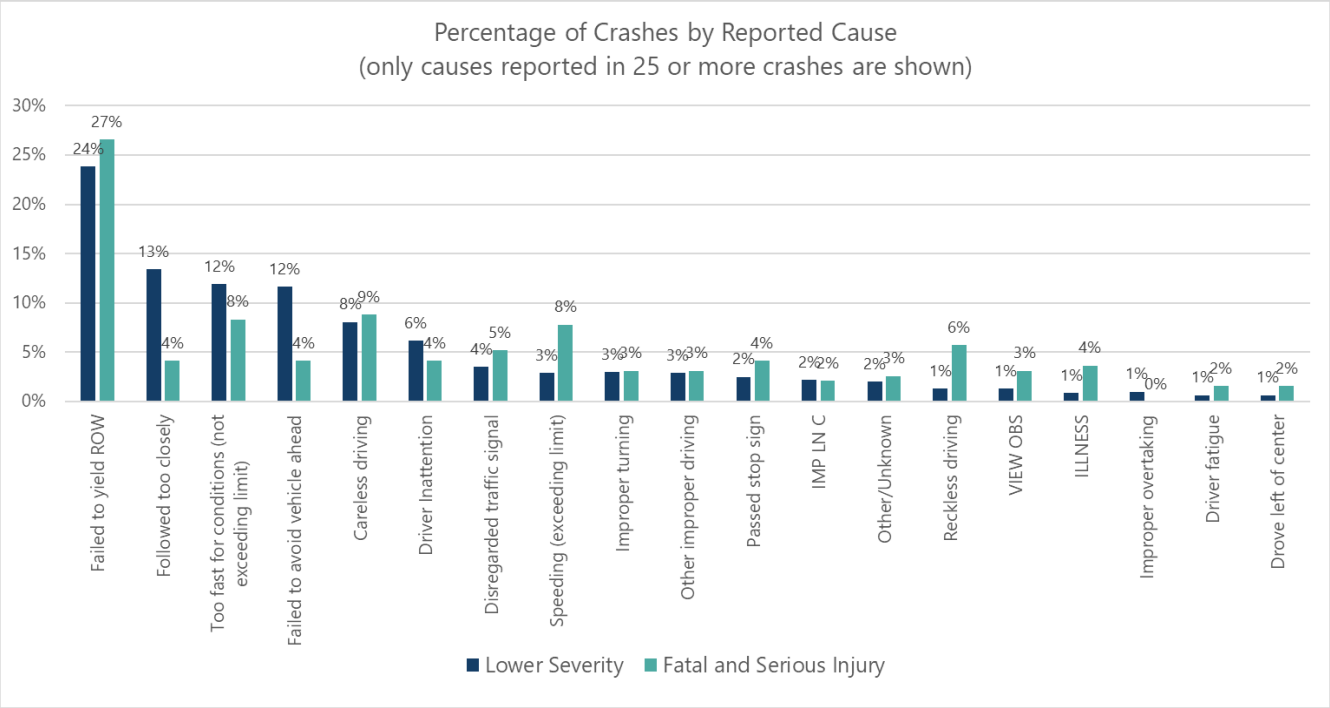


Chart 9. Crashes by Cause and Severity (2019-2023)

Weather and Road Surface Conditions

As shown in Chart 10 and Chart 11, the majority of all crashes occurred under dry, clear conditions. Inclement weather, and more specifically a wet, snowy, or icy road surface was present in 21% of all crashes, compared to 13% of fatal and serious injury crashes. While this trend may be counterintuitive, it likely reflects the vehicle speeds during such conditions, not a direct correlation between less severe outcomes and inclement weather.

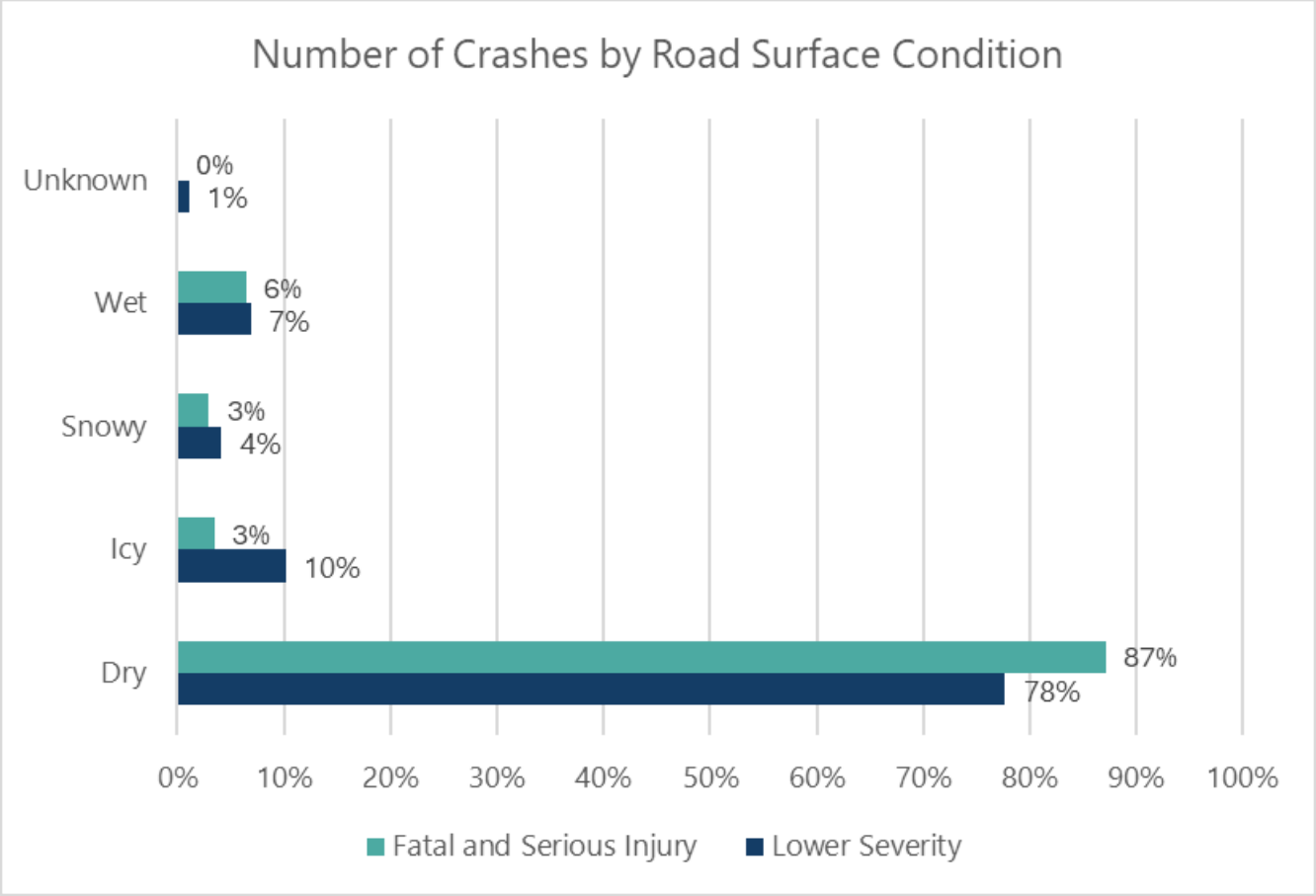


Chart 10. Crashes by Road Surface Condition (2019-2023)

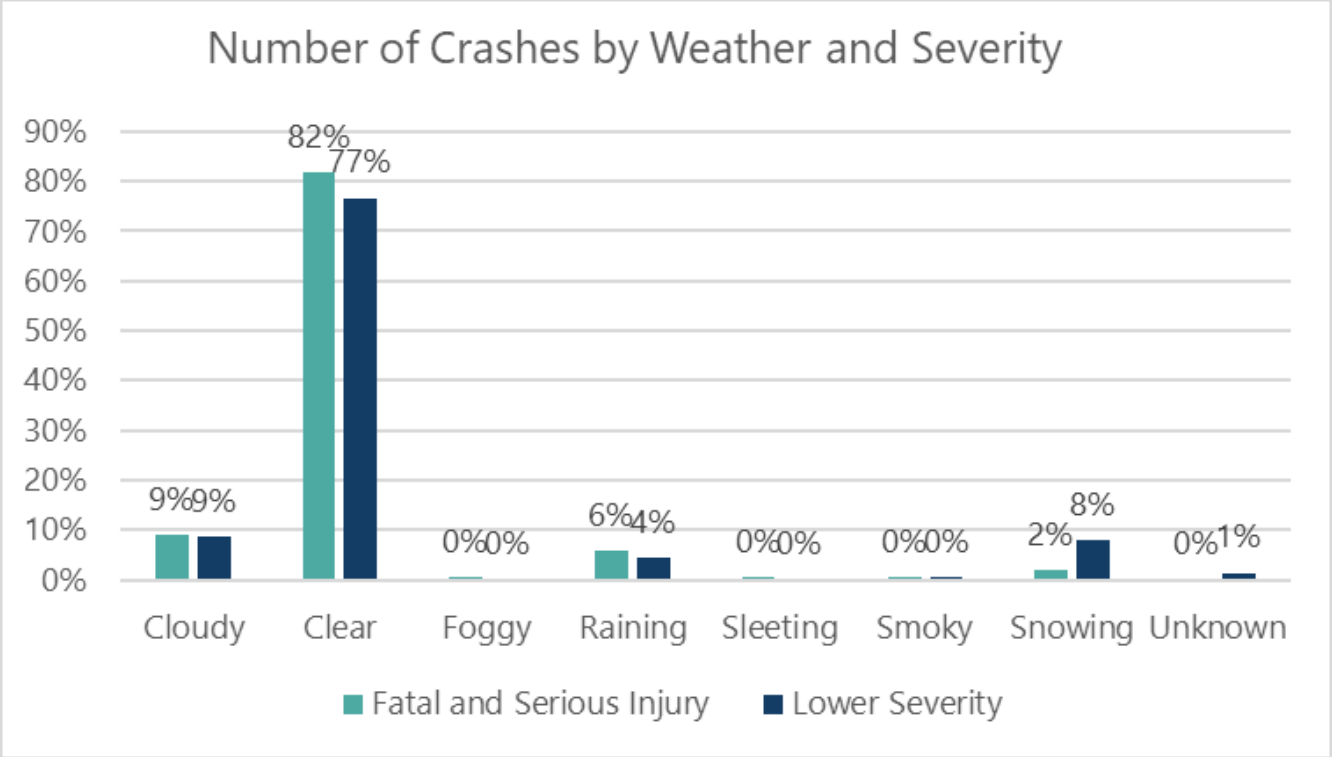


Chart 11. Crashes by Weather Condition and Severity (2019-2023)

Roadway Characteristics

This section summarizes crashes by roadway features, including street functional classification, intersection traffic control devices, and lighting conditions.

Functional Classification

Throughout the five-year period, the largest proportion of crashes occurred on urban arterials (Chart 12), accounting for 73% of lower severity crashes and 80% of fatal and serious injury crashes. These roadway classifications are derived from ODOT's crash database and may not align with the MPO's corresponding classifications.

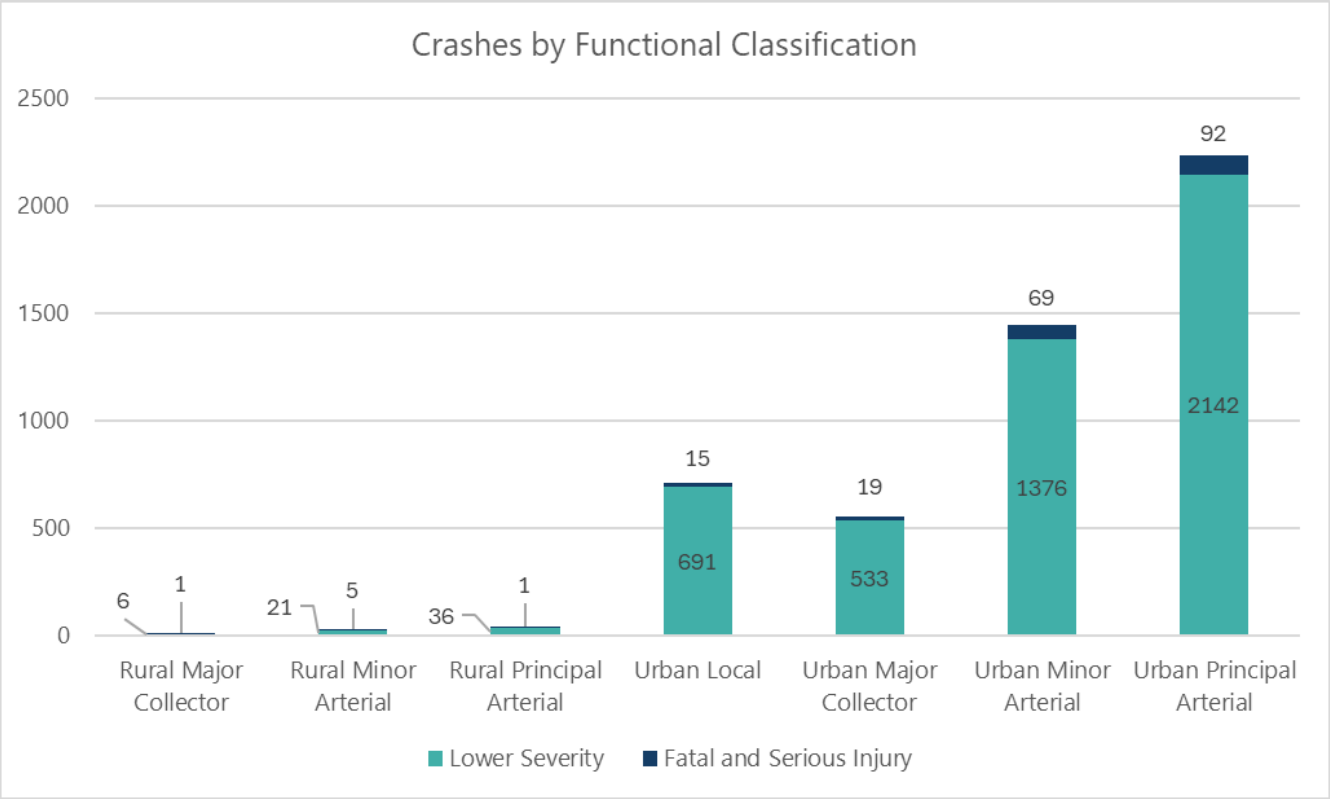


Chart 12. Crashes by Functional Classification and Severity (2019-2023) [4]

Note: Rural local and rural minor collector streets are not included because they had no fatal or serious injury crashes and fewer than 10 total crashes.

[4] These classifications are based on Federal Highway Administration **guidance**. FHWA defines these classifications as:
Principal Arterial: Serve major centers of metropolitan areas, provide a high degree of mobility through urban or rural areas, and serve abutting land use directly.
Minor Arterials: provide service for trips of moderate length, serve geographic areas that are smaller than their higher Arterial counterparts and offer connectivity to the higher Arterial system.
Major and Minor Collectors: Provide land access, traffic circulation, and connections to the Arterial system. Have longer lengths, fewer driveways, and higher speed limits than Minor Collectors.
Local Roads: Intended for short distances and a high degree of access to abutting land uses. Usually have low speed limits and may discourage through traffic.

Intersection Traffic Control

As shown in Chart 13, 50% of intersection crashes occurred at stop-controlled intersections while 26% occurred at traffic signals. However, less than 2% of intersections in the study area are signalized, likely demonstrating an overrepresentation of crashes for this traffic control. Of crashes at traffic signals, 38% were rear-ends and 35% were turning crashes. Other less common traffic control types include yield control and pedestrian signals. Roundabout intersections are not distinctly defined in ODOT's crash data currently, and therefore they are not specifically shown in Chart 13. Roundabouts are sometimes represented by the "Yield Sign" category but not always.

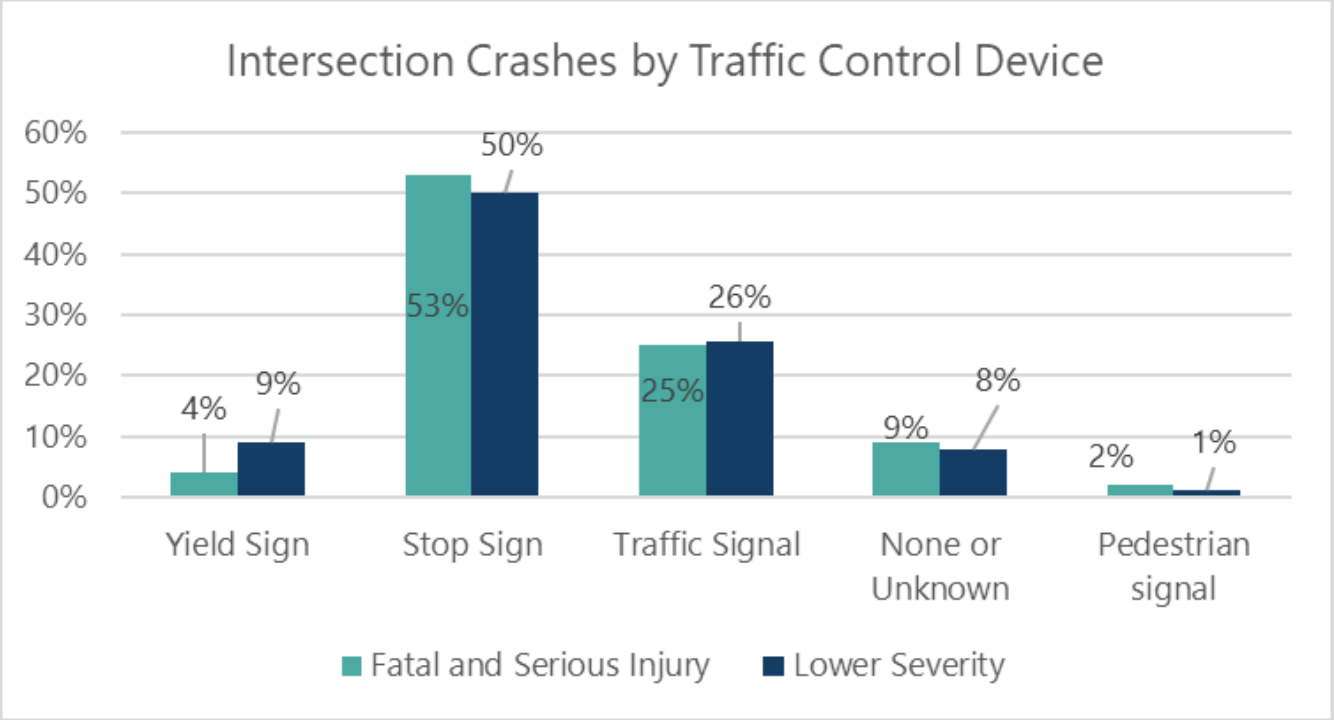


Chart 13. Intersection Crashes by Traffic Control Device (2019-2023)

In the 2019 City of Bend TSAP, a similar proportion of crashes occurred at each of these traffic control devices, with the exception of a lower proportion at stop signs (43% compared to 53% in the MPO) and a higher proportion at signals (32% compared to 25% in the MPO). This pattern may be due to the fact that the MPO includes more outlying areas with stop-controlled intersections that are not in the City of Bend.

Lighting Conditions

As shown in Chart 14, crashes primarily occurred under daylight conditions, followed by darkness with streetlights. The proportions of crashes occurring during dark (with or without streetlights), dawn, and dusk conditions are higher among fatal and serious injury crashes compared to all crash severities (31% and 24%, respectively).

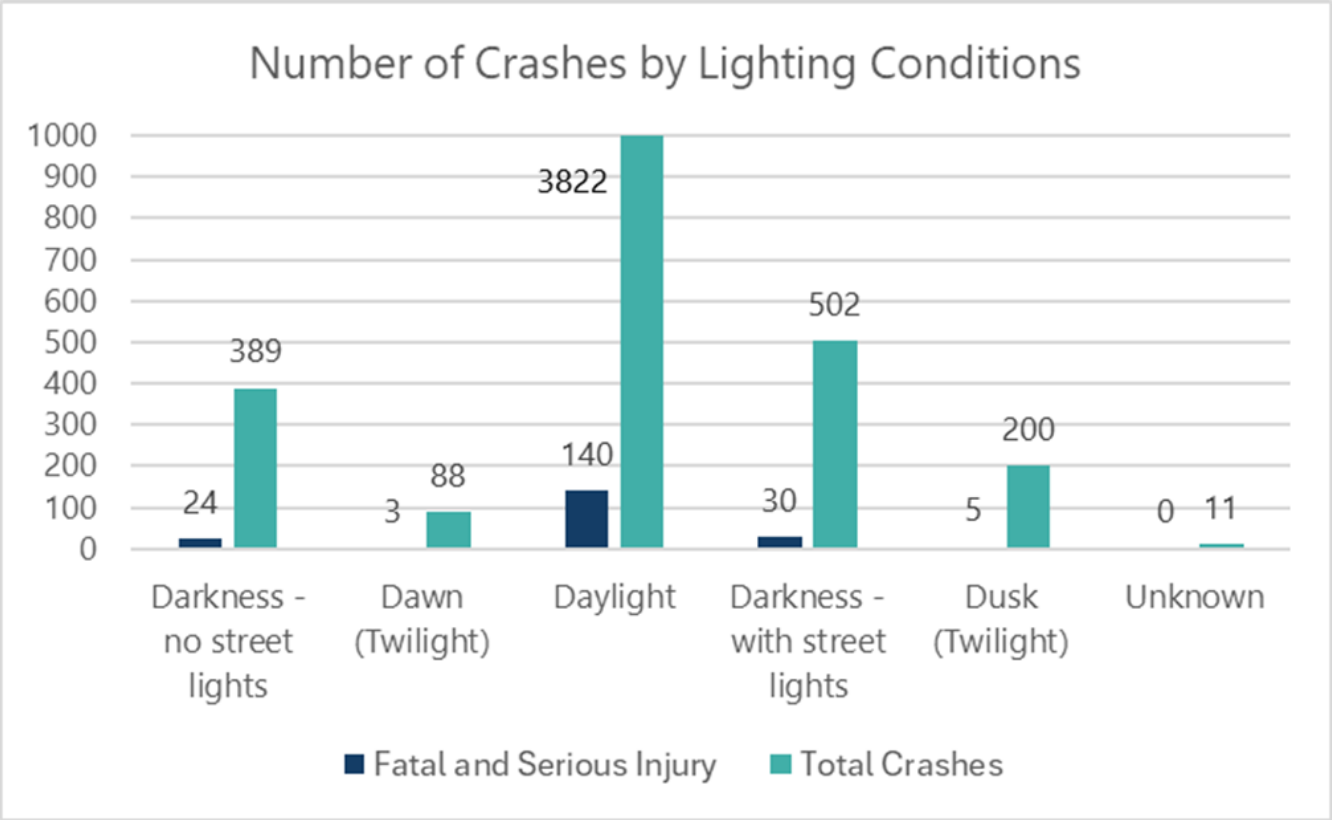


Chart 14. Crashes by Lighting Condition (2019-2023)

Note: The y-axis scale has been adjusted to show the number of crashes for the non-daylight categories.

Behavioral Characteristics

This section summarizes driver behavioral characteristics reported in the five-year crash dataset, including speeding, impaired and/or distracted driving, and use of protective equipment.

Speeding

Crashes flagged as "speed-involved" include drivers who were exceeding the posted speed or driving too fast for conditions (but not exceeding the posted speed limit). Approximately 19% of fatal and serious injury crashes involved speeding, which is similar to the overall percentage of speed-involved crashes (17%).

Impaired Driving

Based on how ODOT's crash data is structured, impairment includes being under the influence of drugs, alcohol, and/or marijuana. Alcohol impairment is most prevalent, contributing to 18% of fatal and serious injury crashes and 6% of all crashes. As illustrated in Chart 15, 20 percent of fatal and serious injury crashes involved some sort of impairment. That proportion is more than double when considering fatal crashes only, of which 56% involved impaired driving.

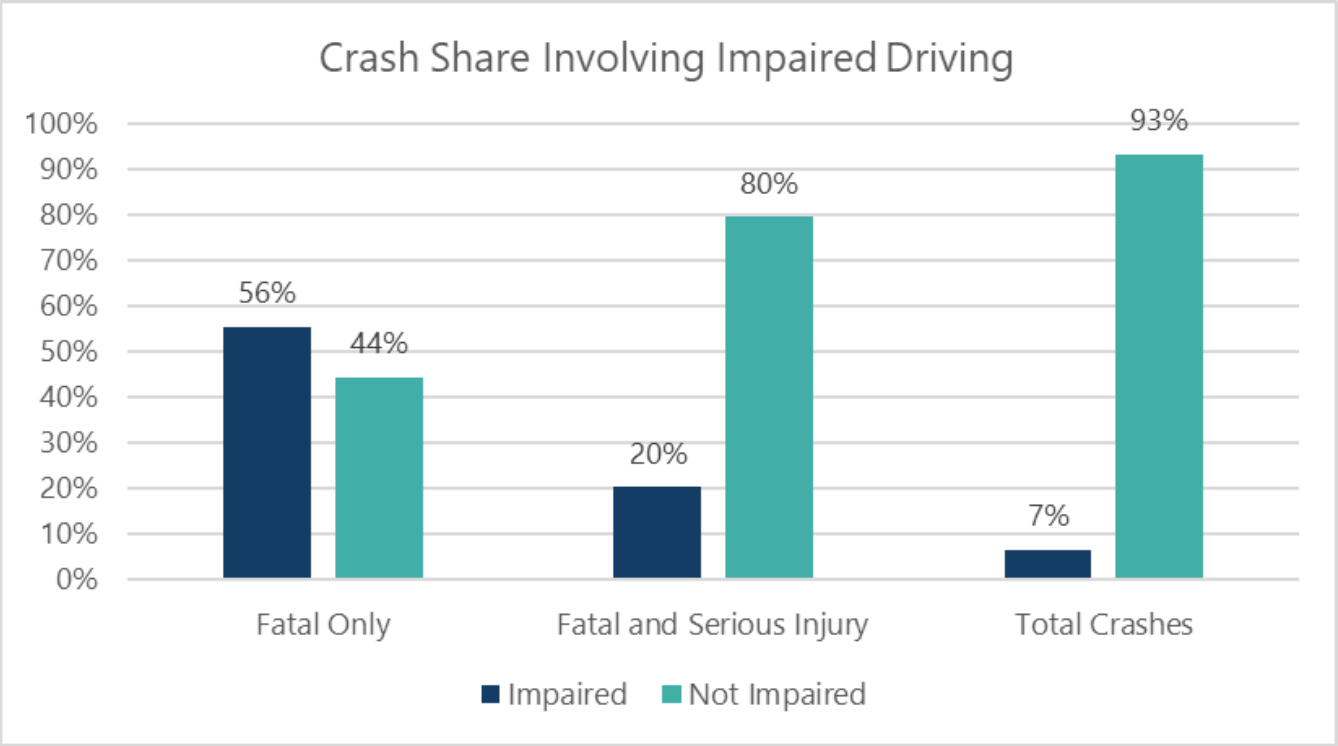


Chart 15. Impairment Crashes by Severity (2019-2023)

Distracted Driving

Six percent (6%) of all fatal and serious injury crashes were reported to involve distracted driving[5]. While distracted driving is a risky driving behavior nationwide, distracted driving often goes unreported (particularly in self-reporting states, like Oregon, where drivers must admit to distraction) and therefore these numbers likely do not accurately reflect distracted driving in the study area.

Vulnerable Road Users

Vulnerable road users are typically users that are at a greater risk of fatalities and serious injuries when involved in a roadway crash. For the purpose of this analysis, vulnerable road users include pedestrians, bicyclists, motorcyclists, people younger than 18, or people older than 65.

Pedestrian and Bicycle Crashes

Throughout the five-year period, there were 66 pedestrian crashes and 109 bicycle crashes[6]. As shown in Chart 16, 13 of the pedestrian crashes (20%) and 13 of the bicycle crashes (12%) were fatal or serious injury crashes. While pedestrian and bicycle crashes made up 4% of all crashes, they accounted for 12% of fatal and serious injury crashes.

[5] Careless driving refers to situation in which multiple poor driving choices were involved. See the **ODOT 2024 Motor Vehicle Traffic Crash Analysis and Code Manual** (p. 301) for more details.
[6] E-bikes are included in bicycle crashes for 2022 data onward; previous to 2022, e-bikes were coded inconsistently in the crash data.

The data in the 2019 City of Bend TSAP showed that among pedestrian crashes, 24% were fatal or serious injury compared to 20% for the MPO for 2019-2023. However, the 2019 City of Bend TSAP also showed a lower percentage of bicycle crashes resulted in fatal or serious injuries compared to this MPO data (7% compared to 12%).

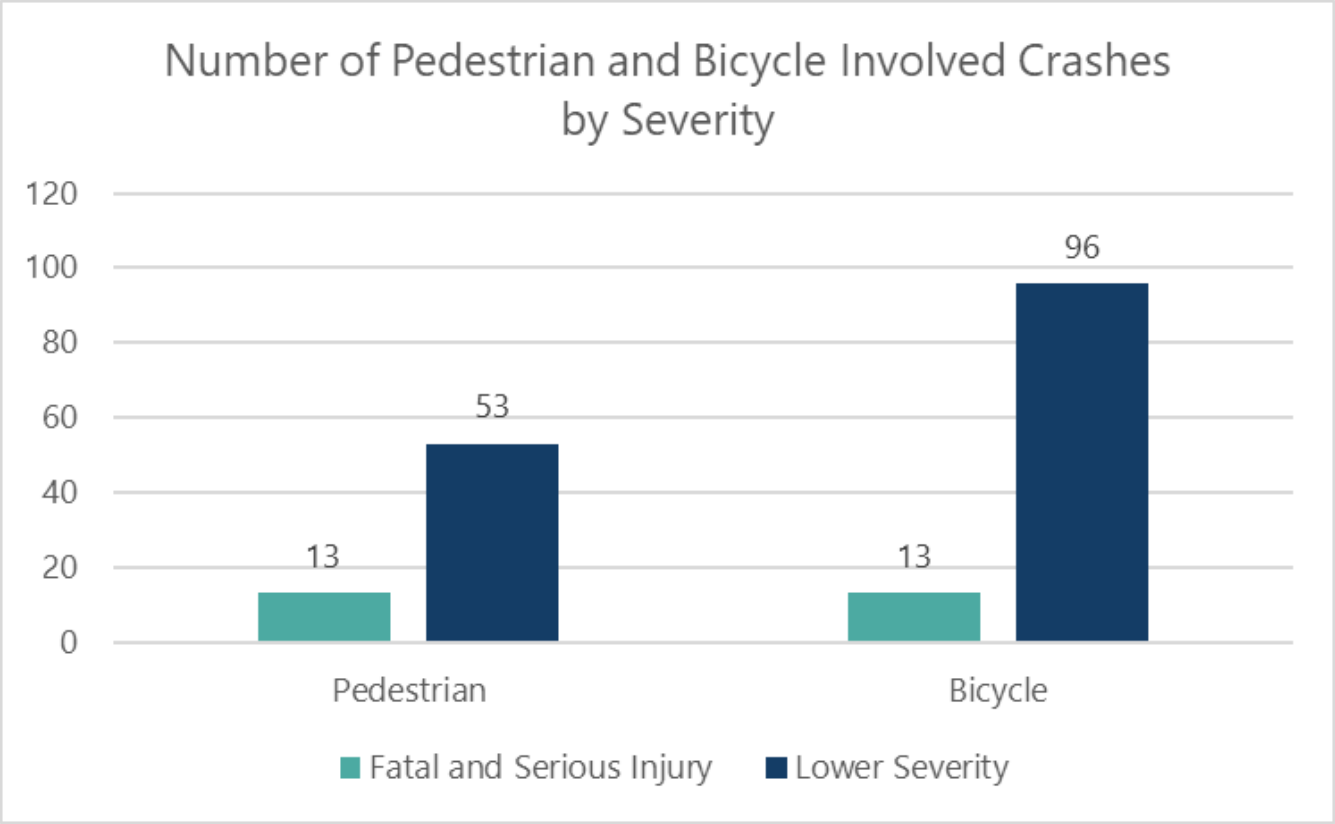


Chart 16. Pedestrian and Bicycle Crashes by Severity (2019-2023)

Motorcycle Crashes

Chart 17 summarizes the share of motorcycle crashes and all crashes by severity. Forty percent (40%) of motorcycle crashes resulted in a fatal or serious injury, compared to 4% of all crashes. This pattern indicates that special attention may be needed to prevent motorcycle crashes.

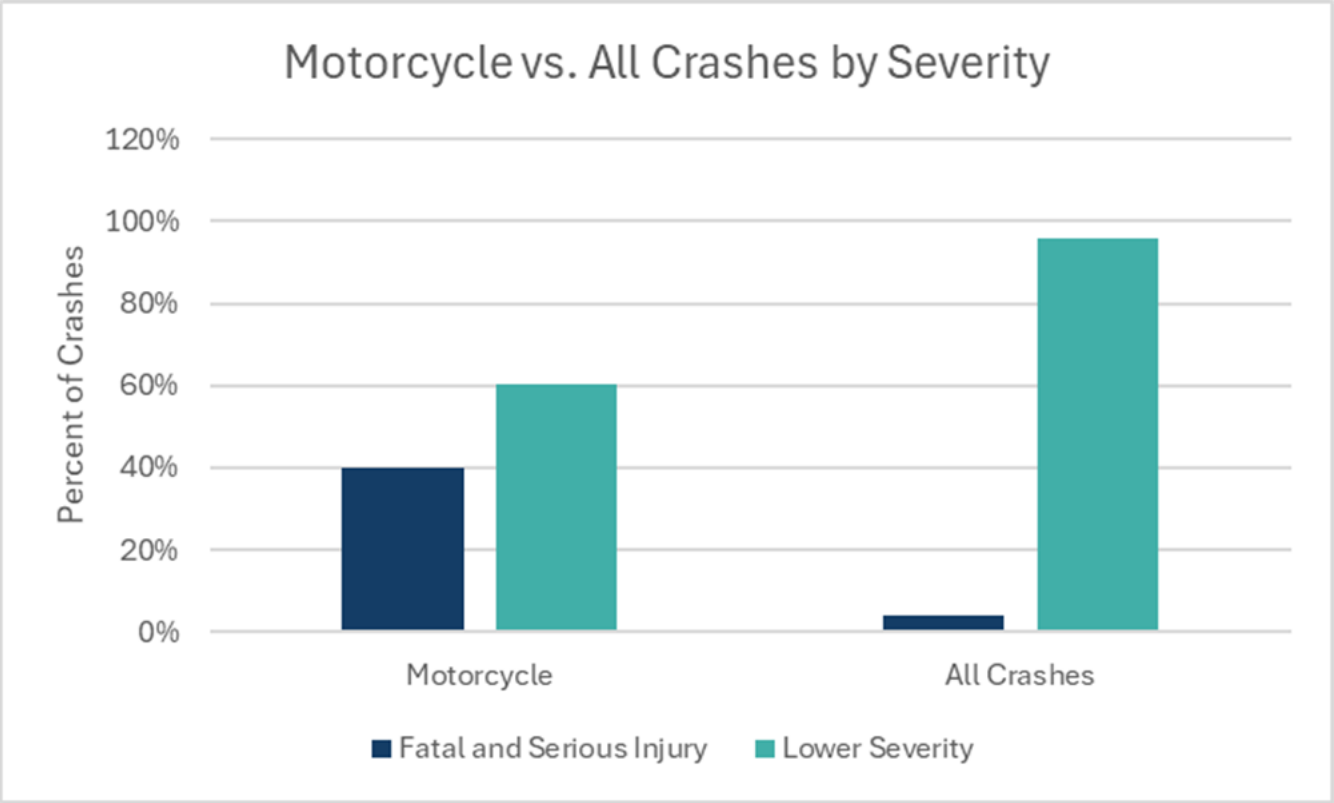


Chart 17. Proportion of fatal and serious injury crashes vs. lower severity crashes for motorcycle crashes and all crashes (2019-2023)

Driver Age

Participant-level information, like age, is not reported for property damage only (PDO) crashes. Therefore, the following key findings related to driver age apply only to fatal and injury crashes. This section reflects individuals (drivers), not crashes, because a single crash can involve more than one driver.

Chart 18 summarizes the share of drivers involved in crashes by age group and crash severity, as well as the respective proportion of the area's population in each age group. This chart highlights that drivers in the 65+ age group are involved in a higher proportion of fatal and serious injury crashes than the proportion of their involvement in total crashes (all severities). Additionally, drivers between 18 and 24 are involved in a disproportionate number of crashes relative to their share of population.

When considering the primary contributing causes of crashes, failure to yield the right-of-way is the most common among all age groups (Chart *19*).

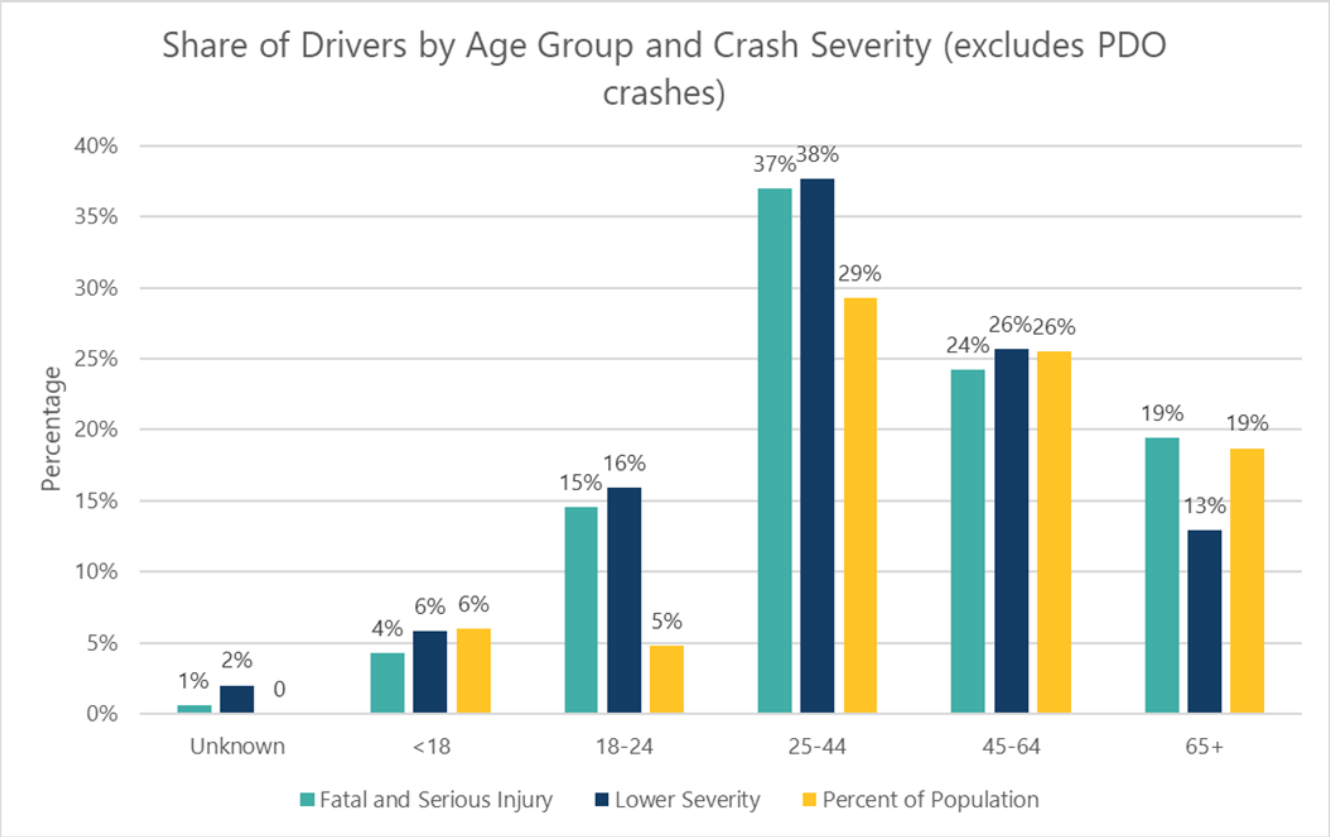


Chart 18. Share of Drivers by Age Group and Crash Severity (2019-2023)

Note: The percentage of the population is from 2024 American Community Survey 5-year estimate data (Table S0101) for the Bend Census county division, which approximates the Bend MPO boundary. Population data for the <18 age category is shown for the 15-19 age range.

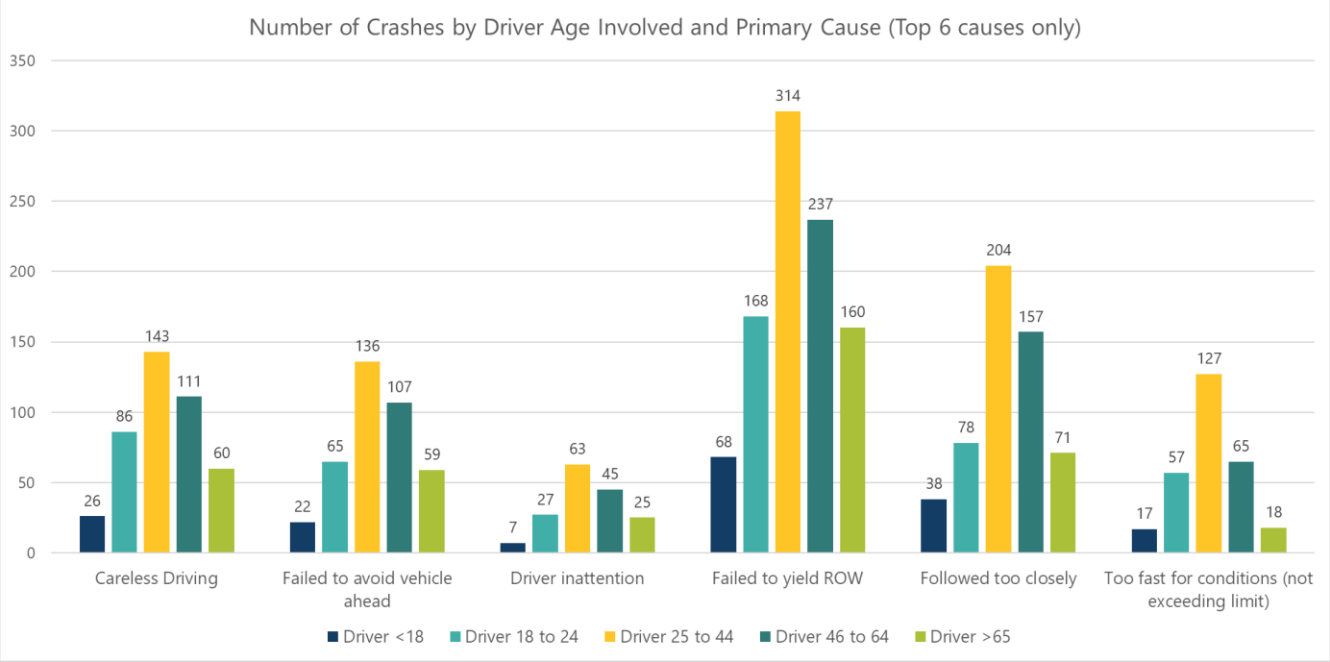


Chart 19. Share of Drivers by Age Group and Cause (2019-2023)

Emphasis Areas

Emphasis areas are commonly developed by studying the crash characteristics that are most predominant or that are over-represented in fatal and serious injury crashes compared to all crashes. For example, motorcycle-involved crashes may represent a small percentage of all crashes, but comprise a much higher percentage of fatal and serious injuries. If so, an agency may choose to focus on motorcycle safety as an emphasis area as they are more likely to be seriously injured or killed when involved in a crash.

The in-progress 2026 Oregon TSAP contains a comprehensive crash attribute table for the State of Oregon that was used as a comparison for the MPO's crash patterns. The comparison was performed by assigning the following "flags" to crash attributes when they meet specific criteria.

- **Flag 1 – Predominant Crash Attribute:** The crash attribute is present in more than 10% of fatal and serious injury crashes in the study area.
- **Flag 2 – More Prevalent than Statewide:** The proportion of fatal and serious injury crashes for the crash attribute in the study area is greater than what is reported statewide in the 2026 Oregon TSAP.
- **Flag – 3 High Severity Indicator:** The crash attribute has a higher share of fatal and serious injury crashes in the study area than its overall share of total crashes (e.g., pedestrian crashes contribute to 6% of all fatal and serious injury crashes but only 1% of all crashes).

Table 3 below indicates whether the "flags" are true for each crash attribute in the study, with respect to the criteria listed above. The more flags a given attribute has, the more likely that attribute is contributing to fatal and serious injury crashes.

Table 3. Emphasis Area Flags

Crash Attribute	Flag 1: Predominant Crash Attribute	Flag 2: More Prevalent than Statewide	Flag 3: High Severity Indicator
Roadway / Lane Departures	✓		✓
Alcohol and/or Drug Use Involved	✓		✓
Speed-Related	✓		✓
Young Drivers (15-20) Involved	✓	✓	✓
Alcohol Use Only	✓	✓	✓
Motorcyclists Involved	✓		✓
Distracted Driving Involved			
Work Zones Involved		✓	✓
School Bus / School Zone Involved			✓
Aging Drivers (65+) Involved	✓	✓	✓
Bicyclists Involved		✓	✓
Pedestrians Involved			✓
Intersections	✓	✓	
Nighttime (Dark/Dawn/Dusk) Conditions	✓	✓	✓

Based on the screening in Table 3, the following crash attributes were flagged as contributing to a high proportion of fatal and serious injury crashes, or are attributes more likely to result in fatal or serious injuries when a crash occurs, and could be considered as potential emphasis areas for the MPO. Bold attributes were flagged three times, while non-bold attributes were flagged twice.

- ***Young drivers (15-20) involved***
- ***Alcohol impairment***
- ***Aging drivers (over 65)***
- ***Nighttime (dark/dawn/dusk)***
- Roadway or lane departure
- Alcohol and/or drug impairment
- Speed-related
- Motorcycle involved
- Work zones
- Bicyclist involved
- Intersections

There is no requirement for emphasis areas to be derived solely from the crash data, and final selection of emphasis areas should reflect the priorities of MPO and City staff and the community. The selected emphasis areas will provide a guiding framework for the TSAP and, ultimately, future investment in safety strategies and projects by the MPO and City. It is recommended that between 4 and 6 emphasis areas be selected. Too many emphasis areas can dilute the value of the plan as too many strategies and actions can be infeasible to implement. However, too few emphasis areas can result in missed opportunities to reduce fatal and serious injury crash risks. The MPO and City may also elect to combine related emphasis areas into one (e.g., a "Risky Behaviors" emphasis area may include impairment, speeding, and distraction).

Network Screening Evaluation

The network screening evaluation helps to identify intersections and segments within the study area transportation network that have the greatest need for site-specific safety improvements. As indicated in *Tech Memo #2 (Safety Analysis Framework)*, the network screening evaluation applies the *Highway Safety Manual* (*HSM*) EPDO performance measure to intersections and street segments to identify locations within the system that have the highest overall ranking, based on both their quantity and severity of crashes. The following sections describe the analysis and present the results.

This information helps inform which locations within the study area should be prioritized for safety improvements. The following sections also compare the safety performance of the study area's transportation system today with that of 2019, as documented in the current TSAP. This includes:

- Assessing 2019 Bend TSAP priority locations where recommended strategies have been implemented and if those strategies have reduced crashes, as applicable; and,
- Evaluating today's most severe locations to understand if and how these have changed since 2019 and if there is a relationship to safety projects implemented prior to this effort.

EPDO Analysis

The EPDO analysis was completed for all public and private streets within the study area using Geographic Information System (GIS) software. The performance of intersections was evaluated separately from that of street segments. The EPDO analysis results in an overall crash severity score for intersections and roadway segments so that they can be ranked based on the frequency and severity of their crash histories. The crash severity scores are determined by weighting crashes according to their severity, as shown in Table 4. These weights are based on the ODOT's Safety Priority Index System (SPIS), an industry-standard methodology used statewide to prioritize locations with higher crash severity.

Table 4. Analysis Weights by Crash Severity

Crash Severity Score Weight	Crash Severity Score Weight
Fatal (K)	100
Serious Injury (A)	100
Major Injury (B)	10
Minor Injury (C)	10
PDO (O)	1

Source: ODOT SPIS

These weights are estimated relative to the cost that a single property-damage-only (PDO) crash has on society (e.g., cost of infrastructure repair, medical costs, work-loss costs, value of quality of life, etc.), which is the lowest cost out of all the severities.

As shown in Table 4, serious injury and fatal crashes have the greatest cost to society and are weighed similarly. The weights prioritize fatal and serious injury crashes equally to recognize that a death versus a serious injury is often a function of the health of the individual involved and/or of the emergency response time. The following sections describe how the evaluation was completed for intersections and street segments separately.

Intersections

Crashes were defined as intersection or segment related based on their proximity to an intersection. For this evaluation, an intersection crash is defined as any crash that occurred within 100 feet of an intersection that is not roundabout controlled. Given that the footprint of roundabouts tend to be larger in size compared to other intersection traffic control, roundabout locations were reviewed in greater detail to determine the appropriate size of boundaries to capture intersection crashes. These boundaries ranged between 250 and 500 feet to ensure all roundabout-related crashes were captured. Where intersections were less than 100, 250, or 500 feet from each other, crashes were assigned to the nearest of the two intersections. Crashes occurring outside of these parameters were used in the segment analysis summarized in the next section.

A crash severity score was calculated for each intersection in the street network by multiplying each weight and the total crashes for the associated severity (by intersection type) and summing the results, as follows:

$$\begin{aligned}\boldsymbol{Crash\ Severity\ Score} &= (Fatal\ Weight \times \#\ of\ Fatal\ Crashes) \\ &+ (Serious\ Injury\ Weight \times \#of\ Serious\ Injury\ Crashes) \\ &+ (Major\ Injury\ Weight \times \#of\ Major\ Injury\ Crashes) \\ &+ (Minor\ Injury\ Weight \times \#of\ Minor\ Injury\ Crashes) \\ &+ (PDO\ Weight \times \#of\ PDO\ Crashes)\end{aligned}$$

The crash severity score was annualized by dividing it by the number of years (five) of crash data used in the analysis. The intersection EPDO analysis results are summarized and illustrated under the High Priority Locations section below.

Segments

An EPDO analysis was completed for street segments based on reported crashes that occurred outside of the intersection boundaries described above. The street network was split into overlapping half-mile segments, spaced every quarter mile, or a ‘sliding window’. This method allows each location along the corridor to be evaluated within the context of adjacent roadway conditions. Because these segments were overlapping, each crash could be assigned to more than one segment; as a result, cumulative crash totals across all segments are higher than the number of unique crashes. This duplication is intentional and does not indicate additional crashes but rather helps identify consistent spatial patterns and concentrations of crash severity along the corridor. As with the intersection methodology described above, crashes were summarized by severity and crash totals were multiplied by the crash severity weights in Table 4. The weighted crash severity scores were totaled and annualized by the number of

years of crash data (five) to generate an annualized crash severity score. The segment EPDO network screening results are summarized and illustrated under the High Priority Locations section below.

High Priority Locations

This section presents the results of the EPDO analysis described above, highlighting the intersections and segments with the highest crash severity scores that could serve as the basis for the MPO and City to select its 10 priority locations to develop site-specific projects, including five improvement concepts, in the TSAP Update.

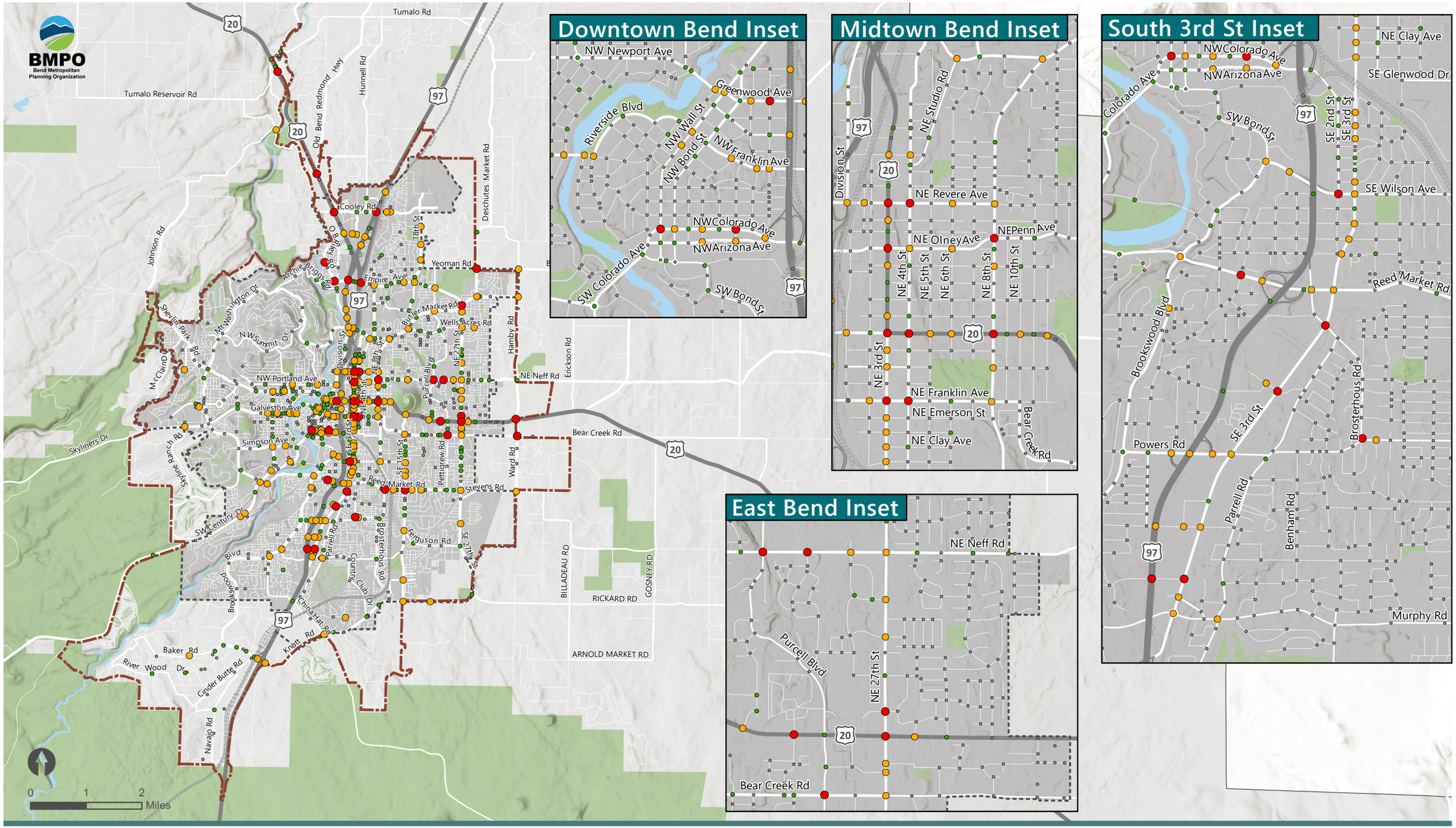
Intersections

The intersection EPDO analysis was performed at over 3,000 intersections of all public and private streets in the study area to understand intersection safety needs; the results are presented in

Figure 2. The accompanying tables provide the following:

- Table 5 lists the intersections from
- Figure 2 that are ranked in the top 1% of crash severity scores. Table 5 also indicates if a top 1% intersection has received an improvement since 2019 (the first year of the crash data analyzed for this study) that could change the observed crash trends at that location (e.g., construction of a roundabout).
- Table 6 compares the top 1% intersections from Table 5 with their counterparts from the 2019 TSAP. Of the 39 intersections in the 2026 top 1% sites, 9 also appeared previously in the 2019 top 1% list, shown in bold. Some intersections have dropped off the list, while new ones have been added. Similarly, this table highlights if intersections have been improved or plan to be improved.

Attachment A contains the list of sites ranking in the top 5% (includes top 1% sites).



- Top 1% (30.5 or Greater)
- Top 5% (6.4 to 30.4)
- Top 10% (6.3 to 2.0)
- Bottom 90% (1.9 or Less)
- Bend MPO Boundary
- Bend Urban Growth Boundary
- City of Bend
- National Forest, Park, or Golf Course

Bend MPO TSAP

Figure 2 – Network Screening Evaluation – Intersection EPDO Analysis

Table 5. Intersections with Highest Crash Severity Scores (Top 1% Sites)

Rank	Intersection	Existing Traffic Control	Jurisdiction	Crash Severity Score	Total Crashes			Intersection Improvement Status
					Fatal / Serious Injury	Major / Minor Injury	PDO	
1	NE Greenwood Ave / US 20 / SE 27th St	Signalized	ODOT	105.8	3	21	19	Project planned[1].
2	Cook Ave / US 20 / O.B. Riley Rd	Roundabout	ODOT	104.6	3	21	13	Roundabout constructed in 2023[1].
3	3rd St / SE Division St / Brosterhous Rd	Signalized	City of Bend	87.4	2	22	17	Signal timing modifications implemented in 2024. Additional project planned[1].
4	US 20 / NE Greenwood Ave / Dean Swift Rd	TWSC	ODOT	78.8	3	9	4	
5	NW Colorado Ave / NW Sisemore St	TWSC	City of Bend	76.2	3	7	11	Modal filter constructed in 2026[1].
6	SE Reed Market Rd / American Ln	Signalized	City of Bend	75.8	3	7	9	Project planned as part of Reed Market Overcrossing Project[1].
7	US 97 / NE Cooley Rd	Signalized	ODOT	67.2	2	12	16	Intersection is no longer on US 97 mainline after North Corridor Project completed in 2024.
8	US 20 / Old Bend Redmond Hwy	Roundabout	ODOT	66.8	2	13	4	Roundabout constructed in 2023[1].
9	SE 15th St / Reed Market Rd	Roundabout	City of Bend	66.4	1	21	22	Project programmed to increase to double lane[1].
10	Brosterhous Rd / Chase Rd / News Ln	None/No connection	City of Bend	62.2	3	1	1	Roundabout is programmed[1].
11	SE Wilson Ave / SE 2nd St	TWSC	City of Bend	61.8	2	10	9	Modal filter and turning movement restriction improvements completed in 2024[1].
12	NE 3rd St / US 97 Business / NE Franklin Ave	Signalized	City of Bend	61.0	1	19	15	Signal, bike, and lane modifications completed in 2019[1]. Additional changes currently being implemented as part of the Midtown Crossings and Crosstown Bikeway projects[1].
13	Cooley Rd / US 20	Roundabout	ODOT	59.0	2	9	5	Roundabout constructed in 2023[1].
14	NE 27th St / Butler Market Rd / Empire Ave	Roundabout	City of Bend	57.2	0	23	56	Empire Avenue extension (north leg) added and roundabout constructed in 2020[1].
15	NE 3rd St / US 20 / NE Olney Ave	Signalized	ODOT	55.8	2	7	9	Project planned[1].

Rank	Intersection	Existing Traffic Control	Jurisdiction	Crash Severity Score	Total Crashes			Intersection Improvement Status
					Fatal / Serious Injury	Major / Minor Injury	PDO	
16	NE 4th St / NE Greenwood Ave / US 20	TWSC	ODOT	55.4	2	7	7	Median island and RRFB constructed in 2024/2025[1].
17	NW Greenwood Ave / NW Hill St	TWSC	City of Bend	53.2	2	6	6	Intersection lanes reconfigured in 2024[1].
18	NE Greenwood Ave / US 20 / NE 8th St	Signalized	ODOT	46.8	1	12	14	Project planned. ADA improvements constructed in 2023[1].
19	Deschutes Market Rd / Yeoman Rd	Roundabout	City of Bend	46.4	2	3	2	Roundabout constructed in 2025[1].
20	NE 27th St / Micks Dr / Grand Way	Signalized	City of Bend	45.2	1	11	16	
21	SW Pinebrook Blvd / US 97	TWSC	ODOT	44.8	2	2	4	
22	NE Neff Rd / NE Williamson Blvd	TWSC	City of Bend	44.0	2	2	0	Pedestrian and bicycle improvements programmed[1].
23	NE 3rd St / US 20 / NE Revere Ave	Signalized	ODOT	43.0	1	11	5	
24	NE Olney Ave / NE Penn Ave / NE 8th St	Signalized	City of Bend	41.4	1	10	7	Project programmed, likely a roundabout[1].
25	O.B. Riley Rd / Firerock Rd	TWSC	City of Bend	40.0	2	0	0	Street restriped to narrow lanes and add buffered bike lane in 2024[1].
26	O.B. Riley Rd / NW Crusher Ave / Empire Ave	TWSC	City of Bend	39.6	1	9	8	Roundabout programmed.; converted to interim all way stop in 2024[1].
27	NE Empire Ave / US 97 NB Off-Ramp / US 97 NB On-Ramp	Signalized	ODOT	38.8	1	8	14	Project programmed[1].
28	Bear Creek Rd / Pettigrew Rd / Purcell Blvd	Roundabout	City of Bend	36.6	1	7	13	Roundabout constructed in 2025[1].
29	Empire Ave / US 20	Signalized	ODOT	36.2	1	7	11	Project planned[1].
30	NE Greenwood Ave / US 20 / NE 3rd St / US 97 Business	Signalized	ODOT	36.0	1	7	10	
31	NE Revere Ave / NE 4th St	AWSC	City of Bend	35.4	1	7	7	Project programmed, likely a signal[1].
32	US 97 Business / Reed Ln / Meyer Drive	Signalized	City of Bend	34.8	1	7	4	
33	SW Pinebrook Blvd / NE 3rd St / US 97 Business	TWSC	City of Bend	33.6	1	6	8	RRFB and lane channelization constructed in 2023[1].
34	NE Purcell Blvd / NE Neff Rd	Signalized	City of Bend	33.6	1	6	8	Multimodal improvements constructed in 2023[1]. Bicycle and pedestrian improvements programmed[1].

Rank	Intersection	Existing Traffic Control	Jurisdiction	Crash Severity Score	Total Crashes			Intersection Improvement Status
					Fatal / Serious Injury	Major / Minor Injury	PDO	
35	Hamby Rd / US 20 / Ward Rd	Roundabout	ODOT	33.4	0	16	7	Roundabout constructed in 2022[1].
36	NE 4th St / NE Franklin Ave	TWSC	City of Bend	33.2	1	6	6	Multimodal improvements constructed in 2025[1]. Additional changes currently being implemented as part of the Midtown Crossings and Crosstown Bikeway projects[1].
37	Bear Creek Rd / Ward Rd	TWSC	City of Bend	33.0	1	6	5	
38	NW Colorado Ave / NW Wall St	Signalized	City of Bend	32.4	1	6	2	
39	SW Reed Marked Rd / SW Silverlake Blvd	TWSC	City of Bend	32.2	1	6	1	

AWSC = All-way stop control

TWSC = Two-way stop control at 4-legged intersections and one-way stop control at "T" intersections

[1] Project constructed, programmed, or planned may or may not include sufficient provisions to address crash patterns; investigating additional safety improvements may be needed.

Table 6. Comparison of EPDO Scores of 2019 and 2026 Top 1% Sites

2019 Top 1% Sites				2026 Top 1% Sites			
Rank	**Intersection**	**Crash Severity Score**	**Intersection Improvement Status**	**Rank**	**Intersection**	**Crash Severity Score**	**Intersection Improvement Status**
1	**NE Greenwood Ave / US 20 / SE 27th St**	87.8	Project planned[1].	**1**	**NE Greenwood Ave / US 20 / SE 27th St**	105.8	Project planned[1].
2	**NE Greenwood Ave / US 20 / NE 8th St**	77.6	Project planned[1]. ADA improvements constructed in 2023[1].	2	Cook Ave / US 20 / O.B. Riley Rd	104.6	Roundabout constructed in 2023[1].
3	**Purcell Blvd / Pettigrew Rd / Bear Creek Rd**	71.2	Roundabout constructed in 2025[1].	3	3rd St / SE Division St / Brosterhous Rd	87.4	Signal timing modifications implemented in 2024. Additional project planned[1].
4	NE 3rd St / US 97 Business/ Butler Market Rd / Mt Washington Dr	66.6	Project programmed[1].	4	US 20 / NE Greenwood Ave / Dean Swift Rd	78.8	
5	**NE 3rd St / US 20 / NE Olney Ave**	65.8	Project planned[1].	5	NW Colorado Ave / NW Sisemore St	76.2	Modal filter and curb extensions constructed[1].
6	SE 3rd St / US 97 Business/ Reed Market Rd	63.4	Red light cameras programmed for 2026[1]. Lighting improvements constructed in 2023[1].	6	SE Reed Market Rd / American Ln	75.8	Project planned as part of Reed Market Overcrossing Project[1].
7	US 97 / Powers Rd	59.8	Project programmed[1]. ADA and lighting improvements constructed in 2022[1].	**7**	**US 97 / NE Cooley Rd**	67.2	Intersection is no longer on US 97 mainline after North Corridor Project completed in 2024.
8	**NE 3rd St / US 97 Business/ NE Franklin Ave**	58.0	Signal, bike, and lane modifications completed in 2019[1]. Planned improvements as part of Midtown Crossing and Crosstown Bikeway projects[1].	8	US 20 / Old Bend Redmond Hwy	66.8	Roundabout constructed in 2023[1].
9	US 20 / NE Greenwood Ave / NE Purcell Blvd	56.4	Project planned[1]. ADA improvements constructed in 2023[1].	9	SE 15th St / Reed Market Rd	66.4	Project programmed to increase to double lane[1].
10	SE Wilson Ave / SE 3rd St / US 97 Business	55.8	Signal timing and intersection improvements completed in 2024[1].	10	Brosterhous Rd / Chase Rd / News Ln	62.2	Roundabout is programmed[1].
11	3rd St / US 97 Business / Powers Rd	55.4	Red light cameras programmed for 2026[1].	11	SE Wilson Ave / SE 2nd St	61.8	Modal filter and turning movement restriction improvements completed in 2024[1].
12	Miller Avenue / 3rd St / US 97 Business	53.2	Project planned[1].	**12**	**NE 3rd St / US 97 Business / NE Franklin Ave**	61.0	Signal, bike, and lane modifications completed in 2019[1]. Additional changes currently being implemented

2019 Top 1% Sites				2026 Top 1% Sites			
Rank	**Intersection**	**Crash Severity Score**	**Intersection Improvement Status**	**Rank**	**Intersection**	**Crash Severity Score**	**Intersection Improvement Status**
							as part of the Midtown Crossings and Crosstown Bikeway projects[1].
13	**Neff Rd / Purcell Blvd**	53.2	Multimodal improvements constructed in 2023[1]. Bicycle and pedestrian improvements programmed[1].	13	Cooley Rd / US 20	59.0	Roundabout constructed in 2023[1].
14	**NW Greenwood Ave / NW Hill St**	50.2	Intersection lanes reconfigured in 2024[1].	14	NE 27th St / Butler Market Rd / Empire Ave	57.2	Empire Avenue extension (north leg) added and roundabout constructed in 2020[1].
15	2nd St / Franklin Ave	48.6	Project planned[1].	**15**	**NE 3rd St / US 20 / NE Olney Ave**	55.8	Project planned[1].
16	NE 27th St / Neff Rd	47.0	Red light cameras planned for 2026[1].	16	NE 4th St / NE Greenwood Ave / US 20	55.4	Median island and RRFB constructed in 2024/2025[1].
17	US 97 / Robal Ln	46.2	Intersection is no longer on US 97 mainline after North Corridor Project completed in 2024.	**17**	**NW Greenwood Ave / NW Hill St**	53.2	Intersection lanes reconfigured in 2024[1].
18	NE Greenwood Ave / US 20 / NE 15th St	42.8	Project planned[1]. ADA improvements constructed in 2023[1].	**18**	**NE Greenwood Ave / US 20 / NE 8th St**	46.8	Project planned. ADA improvements constructed in 2023[1].
19	**US 97 / NE Cooley Rd**	39.2	Intersection is no longer on US 97 mainline after North Corridor Project completed in 2024.	19	Deschutes Market Rd / Yeoman Rd	46.4	Roundabout constructed in 2025[1].
20	**SW Pinebrook Blvd / NE 3rd St / US 97 Business**	37.6	RRFB constructed in 2023[1].	20	NE 27th St / Micks Dr / Grand Way	45.2	
21	NE Medical Center Dr / NE Neff Rd	37.6	Signal timing improvements completed in 2022[1]. Pedestrian and bicycle project programmed[1].	21	SW Pinebrook Blvd / US 97	44.8	
22	US 20 / NE Greenwood Ave / NE 10th St	37.4	Project planned[1]. ADA improvements constructed in 2023[1].	22	NE Neff Rd / NE Williamson Blvd	44.0	Pedestrian and bicycle improvements programmed[1].
23	SW Columbia St / SW Colorado St	37.2	Roundabout constructed in 2021[1].	23	NE 3rd St / US 20 / NE Revere Ave	43.0	
24	Cooley Rd / US 20	36.4	Roundabout constructed in 2023[1].	24	NE Olney Ave / NE Penn Ave / NE 8th St	41.4	Project programmed, likely a roundabout[1].
25	Division St / NE Revere Ave / US 97 NB Off-Ramp / US 97 NB On-Ramp	36.2	Project planned[1].	25	O.B. Riley Rd / Firerock Rd	40.0	Street restriped to narrow lanes and add buffered bike lane in 2024[1].

2019 Top 1% Sites				2026 Top 1% Sites			
Rank	Intersection	Crash Severity Score	Intersection Improvement Status	Rank	Intersection	Crash Severity Score	Intersection Improvement Status
Fewer intersections were identified in the 2019 TSAP list of Top 1% sites compared to this 2026 study sites because the 2019 study area was smaller (confined to the Urban Growth Boundary as opposed to the MPO boundary), resulting fewer intersections to analyze.				26	O.B. Riley Rd / NW Crusher Ave / Empire Ave	39.6	Roundabout programmed.; converted to interim all way stop in 2024[1].
				27	NE Empire Ave / US 97 NB Off-Ramp / US 97 NB On-Ramp	38.8	Project programmed[1].
				28	**Bear Creek Rd / Pettigrew Rd / Purcell Blvd**	36.6	Roundabout constructed in 2025[1].
				29	Empire Ave / US 20	36.2	Project planned[1].
				30	NE Greenwood Ave / US 20 / NE 3rd St / US 97 Business	36.0	
				31	NE Revere Ave / NE 4th St	35.4	Project programmed, likely a signal[1].
				32	US 97 Business / Reed Ln / Meyer Drive	34.8	
				33	**SW Pinebrook Blvd / NE 3rd St / US 97 Business**	33.6	RRFB and lane channelization constructed in 2023[1].
				34	**NE Purcell Blvd / NE Neff Rd**	33.6	Multimodal improvements constructed in 2023[1]. Bicycle and pedestrian improvements programmed[1].
				35	Hamby Rd / US 20 / Ward Rd	33.4	Roundabout constructed in 2022[1].
				36	NE 4th St / NE Franklin Ave	33.2	Multimodal improvements constructed in 2025[1]. Additional changes currently being implemented as part of the Midtown Crossings and Crosstown Bikeway projects[1].
				37	Bear Creek Rd / Ward Rd	33.0	
				38	NW Colorado Ave / NW Wall St	32.4	
				39	SW Reed Marked Rd / SW Silverlake Blvd	32.2	

[1] Project constructed, planned, or programmed may or may not include sufficient provisions to address crash patterns; additional safety improvements may be needed.

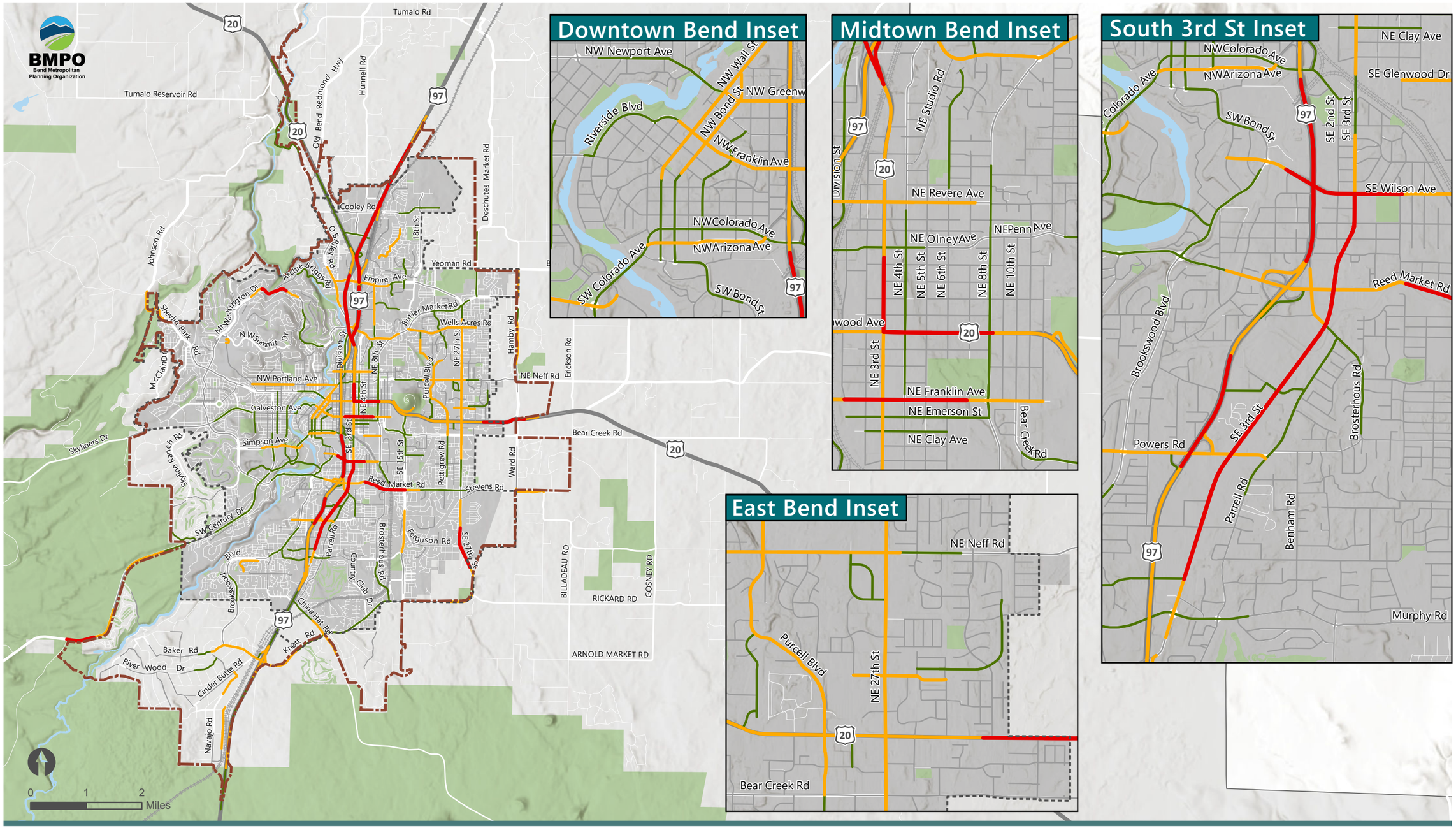
Segments

Similar to the intersection EPDO analysis, the segment EPDO analysis was performed for segments of all public and private streets in the study area to understand street segment safety needs. The results of this analysis are illustrated in Figure 3 and summarized in Table 7. Top 1% crash severity scores for roadway segments are not available in the 2019 TSAP, and therefore, comparison tables like those presented for highly-ranked intersections are not provided.

Several segments in the top 1% occur on US 97 and US 20, both of which are owned and maintained by ODOT. While these state highway segments would not necessarily be prioritized for countermeasures within the BMPO TSAP update, they are important to acknowledge given their high severity performance. These locations highlight critical safety needs on key regional corridors and provide valuable context for coordination with ODOT.

Notably of the analysis period of the study overlaps with completion of the Bend North Corridor Project which included significant reconfiguration of both US 20 and US 97 in the northern part of the city. These improvements were under construction from 2022 to 2024. As such, analysis results presented here consider before and during construction conditions, but are not reflective of the final reconfigured transportation network.

Several of the half-mile segments in the top 1% connect, so they are presented as corridors in Table 7, where applicable, rather than as individual segments.



Bend MPO TSAP

Figure 3 – Network Screening Evaluation – Segment EPDO Analysis

Table 7. Roadway Segments with Highest Crash Severity Scores (Top 1% Sites)

Rank	Roadway	Extents	Length (Miles)	Crash Severity Score	Total Crashes			Segment Improvement Status
					Fatal / Serious Injury	Major / Minor Injury	PDO	
1	US 20 / US 97 Business	Empire Avenue to 300 feet north of NW Clausen Road (MP 133.85 to 135.46)[1]	1.61	115.2 - 58.6	5	71	57	
2	NE 3rd Street / US 97 Business	SW Pinebrook Boulevard to SE Wilson Avenue (MP 1.09 to MP 2.84)	1.75	112.8 - 38.6	5	49	37	CIP project programmed[2].
3	US 20	475 feet north of Empire Avenue to 300 feet north of railroad crossing (MP 18.75 to MP 19.90)	1.15	98.2 – 41.2	4	31	17	
4	US 97	150 feet north of NE Butler Market Road to 400 feet south of NE Empire Avenue (MP 135.54 to MP 136.30)	0.76	78.4 – 54.0	3	10	16	
5	US 20	150 feet north of NE Norton Avenue to NE 8th Street (McKenzie-Bend Hwy No. 017 MP 20.70 to MP 20.99 to Central Oregon Hwy No. 007 MP 0.51 to MP 0.96)	0.43	65.0 – 61.2	2	13	22	CIP project programmed[2].
6	SE 27th Street	975 feet south of Diamond Back Lane to 400 feet south of Wilderness Way (MP 0.50 to MP 1.26)	0.76	64.2 - 46.2	3	3	1	Bicycle and pedestrian project planned[2].
7	US 97	415 feet north of Fort Thompson Lane to 470 feet south of NW Clausen Drive (MP 132.74 to MP 133.99)	1.25	57.8 – 42.2	3	20	21	
8	NE Franklin Avenue	NE 1st Street to NE 7th Street (MP 0.58 to MP 1.09)	0.51	55.6	2	7	8	Project programmed as part of the Midtown Crossings and Crosstown Bikeway projects[2].
9	US 97	130 feet south of NE Scott Street to 260 feet north of SW Reed Market Road (MP 138.29 to MP 139.04)	0.75	50.6 - 48.6	3	8	3	
10	NW Mount Washington Drive	NW Wild Rye Circle to 700 feet west of NW Yosemite Drive (MP 1.84 to MP 2.35)	0.51	47.2	2	3	6	
11	SE Reed Market Road	70 feet west of SE 5th Street to SE 15th Street (MP 0.41 to MP 1.12)	0.71	44.2 – 42.6	1	16	16	Project programmed for 5th street RRFB and railroad overcrossing[2].
12	US 20	1065 feet east of NE Dalton Street to 235 feet east of Hamby Road (MP 3.00 to MP 3.76)	0.76	44.2 – 44.0	3	2	1	
13	SW Century Drive	135 feet east of Seventh Mountain Resort Road to NFD Road 41 (MP 7.10 to MP 7.59)	0.49	42.4	2	1	2	Project planned[2].

Rank	Roadway	Extents	Length (Miles)	Crash Severity Score	Total Crashes			Segment Improvement Status
					Fatal / Serious Injury	Major / Minor Injury	PDO	
14	NE 3rd Street / US 97 Business Off Ramp	NE 3rd Street / US 97 Business Off Ramp Exit to US 97 NB On Ramp (MP 19.96 to MP 20.30)	0.34	42.0	2	1	0	
15	US 97	770 feet north of Reed Lane to Powers Road SB Off Ramp Interchange (MP 139.54 to MP 140.04)	0.50	41.6	1	12	11	Operational and safety improvements planned[2].
16	SE Wilson Avenue	85 feet west of SW Hill Street to 40 feet east of SE 5th Street (MP 0.10 to MP 0.60)	0.50	41.2	1	10	6	Project programmed[2].

[1] Part of this segment no longer exists due to the completion of the Bend North Corridor Project.

[2] Project constructed, planned, or programmed may or may not include sufficient provisions to address crash patterns; additional safety improvements may be needed.

Latest Data on Fatal Crashes

ODOT manages a website tool, (Crash Analysis & Reporting) CAR Unit Initial Fatal Crash Information Viewer, that provides preliminary information on fatal crashes in Oregon for the years 2024, 2025, and 2026. The information is subject to change daily as more information becomes available and is evaluated by ODOT. The current information on recent fatal crashes indicates that twelve have been reported in the BMPO boundary in the last three years, beyond the study period for the TSAP. Those crashes are summarized in Table 8 as they relate to the crash pattern and EPDO analysis results summarized in previous sections of this memorandum.

Table 8. Reported Fatal Crashes from 2024 to March 2026 (Subject to Change)

Year	Location	Key Characteristics	Proximity to High-Crash Locations
2024	NE 3rd Street / NE Revere Avenue	• 82 year-old • Drugs/alcohol flagged • Angle crash	Crash was at a top 1% intersection
2024	Highway 20 west of NE Dalton Street	• Drugs/alcohol flagged • Motorcyclist crash • Angle crash	Crash was within a top 5% segment
2024	Bear Creek Road / Dean Swift Road	• Drugs/alcohol flagged • Head-on crash	Crash was within a top 10% segment
2024	SE Cessna Drive / SE Piper Drive	• Drugs/alcohol flagged	Crash was within a top 10% segment
2024	Knott Road west of China Hat Road	• Drugs/alcohol involved • 64 year-old / 61 year-old • Sideswipe crash ('lane departure')	Crash was within a top 10% segment
2025	NE Jones Road / NE Hoover Loop	• 86 year-old • Fixed-object crash ('roadway departure')	Crash not within a top reported segment or intersection
2025	NE 3rd Street / NE Underwood Avenue	• Drugs/alcohol flagged • Bicyclist crash	Crash was at a top 5% intersection

Year	Location	Key Characteristics	Proximity to High-Crash Locations
2025	US 97 south of Murphy Road	• Drugs/alcohol flagged • Overturn crash ('roadway departure')	Crash was within a top 5% segment
2025	3rd Street near Murphy Road Ramps	• Drugs/alcohol flagged • Motorcyclist crash	Crash was within a top 5% segment
2025	Knott Road / Newcastle Drive	• Drugs/alcohol flagged • Fixed-object crash ('roadway departure') • Motorcyclist crash	Crash was at a top 10% intersection
2025	US 97 north of FS 1801	• Head-on crash	Crash was within a top 5% segment
2025	US 97 north of FS 1801	• Drugs/alcohol flagged • 64 year-old • Fixed-object crash ('roadway departure')	Crash was within a top 5% segment

Next Steps

This memorandum documents the crash patterns, emphasis areas, and potential priority locations for the Bend TSAP Update based on the most recent five-year crash history in the study area. Based on feedback from the Project Management Team (PMT), Project Advisory Committee (PAC), BMPO Policy Board, Bend City Council, and community engagement, this memorandum will be refined and serve as the basis for developing systemic safety countermeasures to address the emphasis areas across the study area, as well as potential project recommendations for priority locations selected by the PMT. Countermeasures will be developed from ODOT's crash reduction factor list to prepare for future funding through the All Roads Transportation Safety (ARTS) and Safe Streets and Roads for All (SS4A) grant programs.

Attachment A: Top 5% Sites

OBJECTID *	Shape *	Intersection	FatalCr	SevCr	ModCr	MinCr	PDOCr	TOT_CRASH	CRASH_FREQ	FATAL_FREQ	SEV_FREQ	MINOR_FREQ	POS_FREQ	PDO_FREQ	FatalScore	SevScore	ModScore	MinScore	PDOScore	EqPDO	Percentile
1	Point	3436_27TH ST & Hwy 20	0	3	9	12	19	43	8.6	0	0.6	1.8	2.4	3.8	0	60	18	24	3.8	105.8	Top 1%
2	Point	COOK AVE & Hwy 20 & OB RILEY RD	1	2	12	9	13	37	7.4	0.2	0.4	2.4	1.8	2.6	20	40	24	18	2.6	104.6	Top 1%
3	Point	1898_3RD ST (Business Hwy 97) & BROSTERHOUS RD & DIVISION S	0	2	6	16	17	41	8.2	0	0.4	1.2	3.2	3.4	0	40	12	32	3.4	87.4	Top 1%
4	Point	3237_DEAN SWIFT RD & Hwy 20	1	2	5	4	4	16	3.2	0.2	0.4	1	0.8	0.8	20	40	10	8	0.8	78.8	Top 1%
5	Point	1663_COLORADO AVE & SISEMORE ST	0	3	3	4	11	21	4.2	0	0.6	0.6	0.8	2.2	0	60	6	8	2.2	76.2	Top 1%
6	Point	2507_AMERICAN LN & REED MARKET RD	1	2	4	3	9	19	3.8	0.2	0.4	0.8	0.6	1.8	20	40	8	6	1.8	75.8	Top 1%
7	Point	2363_Business US 97 & COOLEY RD	0	2	3	9	16	30	6	0	0.4	0.6	1.8	3.2	0	40	6	18	3.2	67.2	Top 1%
8	Point	Hwy 20 & OLD BEND REDMOND HWY	0	2	8	5	4	19	3.8	0	0.4	1.6	1	0.8	0	40	16	10	0.8	66.8	Top 1%
9	Point	15TH ST & REED MARKET RD	0	1	4	17	22	44	8.8	0	0.2	0.8	3.4	4.4	0	20	8	34	4.4	66.4	Top 1%
10	Point	2028_BROSTERHOUS RD & CHASE RD & NEWS LN	0	3	0	1	1	5	1	0	0.6	0	0.2	0.2	0	60	0	2	0.2	62.2	Top 1%
11	Point	1939_2ND ST & WILSON AVE	0	2	4	6	9	21	4.2	0	0.4	0.8	1.2	1.8	0	40	8	12	1.8	61.8	Top 1%
12	Point	2006_3RD ST (Business Hwy 97) & FRANKLIN AVE	0	1	7	12	15	35	7	0	0.2	1.4	2.4	3	0	20	14	24	3	61	Top 1%
13	Point	COOLEY RD & Hwy 20	1	1	8	1	5	16	3.2	0.2	0.2	1.6	0.2	1	20	20	16	2	1	59	Top 1%
14	Point	27TH ST & BUTLER MARKET RD & EMPIRE AVE	0	0	8	15	56	79	15.8	0	0	1.6	3	11.2	0	0	16	30	11.2	57.2	Top 1%
15	Point	2016_Hwy 20 & OLNEY AVE	1	1	2	5	9	18	3.6	0.2	0.2	0.4	1	1.8	20	20	4	10	1.8	55.8	Top 1%
16	Point	2080_4TH ST & Hwy 20	0	2	3	4	7	16	3.2	0	0.4	0.6	0.8	1.4	0	40	6	8	1.4	55.4	Top 1%
17	Point	1782_GREENWOOD AVE & HILL ST	0	2	1	5	6	14	2.8	0	0.4	0.2	1	1.2	0	40	2	10	1.2	53.2	Top 1%
18	Point	2396_8TH ST & Hwy 20	0	1	5	7	14	27	5.4	0	0.2	1	1.4	2.8	0	20	10	14	2.8	46.8	Top 1%
19	Point	DESCHUTES MARKET RD & YEOMAN RD	0	2	0	3	2	7	1.4	0	0.4	0	0.6	0.4	0	40	0	6	0.4	46.4	Top 1%
20	Point	3433_27TH ST & GRAND WAY & MICKS DR	0	1	4	7	16	28	5.6	0	0.2	0.8	1.4	3.2	0	20	8	14	3.2	45.2	Top 1%
21	Point	1360_Bend Pkwy/Hwy 97 & PINEBROOK BLVD	0	2	2	0	4	8	1.6	0	0.4	0.4	0	0.8	0	40	4	0	0.8	44.8	Top 1%
22	Point	3262_NEFF RD & WILLIAMSON BLVD	0	2	0	2	0	4	0.8	0	0.4	0	0.4	0	0	40	0	4	0	44	Top 1%
23	Point	2019_Hwy 20 & REVERE AVE	0	1	2	9	5	17	3.4	0	0.2	0.4	1.8	1	0	20	4	18	1	43	Top 1%
24	Point	2402_8TH ST & OLNEY AVE & PENN AVE	0	1	5	5	7	18	3.6	0	0.2	1	1	1.4	0	20	10	10	1.4	41.4	Top 1%
25	Point	1619_FIREROCK RD & OB RILEY RD	1	1	0	0	0	2	0.4	0.2	0.2	0	0	0	20	20	0	0	0	40	Top 1%
26	Point	1749_EMPIRE AVE & OB RILEY RD & CRUSHER AVE	0	1	4	5	8	18	3.6	0	0.2	0.8	1	1.6	0	20	8	10	1.6	39.6	Top 1%
27	Point	2111_EMPIRE AVE & NB PARKWAY OFFRAMP 135B & NB PARKWAY	0	1	4	4	14	23	4.6	0	0.2	0.8	0.8	2.8	0	20	8	8	2.8	38.8	Top 1%
28	Point	BEAR CREEK RD & PETTIGREW RD & PURCELL BLVD	0	1	1	6	13	21	4.2	0	0.2	0.2	1.2	2.6	0	20	2	12	2.6	36.6	Top 1%
29	Point	1911_EMPIRE AVE & Hwy 20	0	1	3	4	11	19	3.8	0	0.2	0.6	0.8	2.2	0	20	6	8	2.2	36.2	Top 1%
30	Point	2013_3RD ST (Business Hwy 97) & Hwy 20 & GREENWOOD AVE	0	1	4	3	10	18	3.6	0	0.2	0.8	0.6	2	0	20	8	6	2	36	Top 1%
31	Point	2090_4TH ST & REVERE AVE	0	1	2	5	7	15	3	0	0.2	0.4	1	1.4	0	20	4	10	1.4	35.4	Top 1%
32	Point	1766_3RD ST (Business Hwy 97) & REED LN	0	1	0	7	4	12	2.4	0	0.2	0	1.4	0.8	0	20	0	14	0.8	34.8	Top 1%
33	Point	1471_3RD ST (Business Hwy 97) & PINEBROOK BLVD	0	1	4	2	8	15	3	0	0.2	0.8	0.4	1.6	0	20	8	4	1.6	33.6	Top 1%
34	Point	3159_NEFF RD & PURCELL BLVD	0	1	2	4	8	15	3	0	0.2	0.4	0.8	1.6	0	20	4	8	1.6	33.6	Top 1%
35	Point	HAMBY RD & Hwy 20 & WARD RD	0	0	11	5	7	23	4.6	0	0	2.2	1	1.4	0	0	22	10	1.4	33.4	Top 1%
36	Point	2075_4TH ST & FRANKLIN AVE	0	1	5	1	6	13	2.6	0	0.2	1	0.2	1.2	0	20	10	2	1.2	33.2	Top 1%
37	Point	3824_BEAR CREEK RD & WARD RD	0	1	2	4	5	12	2.4	0	0.2	0.4	0.8	1	0	20	4	8	1	33	Top 1%
38	Point	1428_COLORADO AVE & WALL ST	0	1	2	4	2	9	1.8	0	0.2	0.4	0.8	0.4	0	20	4	8	0.4	32.4	Top 1%
39	Point	1651_REED MARKET RD & SILVER LAKE BLVD	0	1	3	3	1	8	1.6	0	0.2	0.6	0.6	0.2	0	20	6	6	0.2	32.2	Top 1%
40	Point	15TH ST & BEAR CREEK RD	1	0	1	4	4	10	2	0.2	0	0.2	0.8	0.8	20	0	2	8	0.8	30.8	Top 5%
41	Point	2810_15TH ST & Hwy 20	0	1	3	2	1	7	1.4	0	0.2	0.6	0.4	0.2	0	20	6	4	0.2	30.2	Top 5%
42	Point	2010_3RD ST (Business Hwy 97) & IRVING AVE	0	1	1	3	9	14	2.8	0	0.2	0.2	0.6	1.8	0	20	2	6	1.8	29.8	Top 5%
43	Point	3441_27TH ST & NEFF RD	0	0	6	8	9	23	4.6	0	0	1.2	1.6	1.8	0	0	12	16	1.8	29.8	Top 5%
44	Point	1488_Bend Pkwy/Hwy 97 & POWERS RD	0	1	3	1	8	13	2.6	0	0.2	0.6	0.2	1.6	0	20	6	2	1.6	29.6	Top 5%
45	Point	1743_FRANKLIN AVE & HARRIMAN ST	0	1	2	2	3	8	1.6	0	0.2	0.4	0.4	0.6	0	20	4	4	0.6	28.6	Top 5%
46	Point	1853_DIVISION ST & REED MARKET RD	0	1	1	3	3	8	1.6	0	0.2	0.2	0.6	0.6	0	20	2	6	0.6	28.6	Top 5%
47	Point	1626_3RD ST (Business Hwy 97) & POWERS RD	0	0	3	10	9	22	4.4	0	0	0.6	2	1.8	0	0	6	20	1.8	27.8	Top 5%
48	Point	1228_RIVERSIDE BLVD & TUMALO AVE	1	0	1	2	3	7	1.4	0.2	0	0.2	0.4	0.6	20	0	2	4	0.6	26.6	Top 5%
49	Point	1739_MEYER DR & REED LN	0	1	2	1	2	6	1.2	0	0.2	0.4	0.2	0.4	0	20	4	2	0.4	26.4	Top 5%
50	Point	2186_Business US 97 & ROBAL LN	0	0	5	7	12	24	4.8	0	0	1	1.4	2.4	0	0	10	14	2.4	26.4	Top 5%
51	Point	3443_27TH ST & CONNERS AVE	1	0	0	3	2	6	1.2	0.2	0	0	0.6	0.4	20	0	0	6	0.4	26.4	Top 5%
52	Point	18TH ST & EMPIRE AVE	0	1	2	1	2	6	1.2	0	0.2	0.4	0.2	0.4	0	20	4	2	0.4	26.4	Top 5%
53	Point	2512_Bend Pkwy/Hwy 97 & GRANDVIEW DR	0	1	1	2	1	5	1	0	0.2	0.2	0.4	0.2	0	20	2	4	0.2	26.2	Top 5%
54	Point	2905_NEWBERRY DR & REED MARKET RD	0	1	1	2	1	5	1	0	0.2	0.2	0.4	0.2	0	20	2	4	0.2	26.2	Top 5%
55	Point	1168_9TH ST & PORTLAND AVE	0	0	2	10	7	19	3.8	0	0	0.4	2	1.4	0	0	4	20	1.4	25.4	Top 5%
56	Point	2009_3RD ST (Business Hwy 97) & HAWTHORNE AVE	0	0	5	7	5	17	3.4	0	0	1	1.4	1	0	0	10	14	1	25	Top 5%
57	Point	1633_GREENWOOD AVE & NEWPORT AVE & WALL ST	0	1	0	2	4	7	1.4	0	0.2	0	0.4	0.8	0	20	0	4	0.8	24.8	Top 5%
58	Point	2023_Hwy 20 & UNDERWOOD AVE	0	1	2	0	4	7	1.4	0	0.2	0.4	0	0.8	0	20	4	0	0.8	24.8	Top 5%
59	Point	2400_8TH ST & NORTON AV	0	1	1	1	4	7	1.4	0	0.2	0.2	0.2	0.8	0	20	2	2	0.8	24.8	Top 5%
60	Point	2775_15TH ST & FERGUSON RD & SHERWOOD FOREST DR	0	1	0	2	3	6	1.2	0	0.2	0	0.4	0.6	0	20	0	4	0.6	24.6	Top 5%
61	Point	1197_GALVESTON AVE & RIVERFRONT ST & RIVERSIDE BLVD	0	1	0	2	2	5	1	0	0.2	0	0.4	0.4	0	20	0	4	0.4	24.4	Top 5%
62	Point	1662_ARIZONA AVE & SISEMORE ST	0	1	2	0	2	5	1	0	0.2	0.4	0	0.4	0	20	4	0	0.4	24.4	Top 5%
63	Point	3449_27TH ST & WELLS ACRES RD	0	0	5	7	2	14	2.8	0	0	1	1.4	0.4	0	0	10	14	0.4	24.4	Top 5%
64	Point	27TH ST & WILDERNESS WAY & WILDERNESS WY	0	1	0	2	2	5	1	0	0.2	0	0.4	0.4	0	20	0	4	0.4	24.4	Top 5%
65	Point	1987_3RD ST (Business Hwy 97) & WILSON AVE	0	0	2	10	1	13	2.6	0	0	0.4	2	0.2	0	0	4	20	0.2	24.2	Top 5%

66	Point	2004_3RD ST (Business Hwy 97) & DE KALB AVE	0	1	1	1	1	4	0.8	0	0.2	0.2	0.2	0.2	0	20	2	2	0.2	24.2 Top 5%
67	Point	2237_6TH ST & REVERE AVE	0	1	1	1	1	4	0.8	0	0.2	0.2	0.2	0.2	0	20	2	2	0.2	24.2 Top 5%
68	Point	1872_DIVISION ST & NB PARKWAY OFFRAMP 137 & NB PARKWAY C	0	0	4	7	10	21	4.2	0	0	0.8	1.4	2	0	0	8	14	2	24 Top 5%
69	Point	1604_CHINA HAT RD & KNOTT RD	1	0	0	1	6	8	1.6	0.2	0	0	0.2	1.2	20	0	0	2	1.2	23.2 Top 5%
70	Point	2233_6TH ST & OLNEY AVE	0	1	0	1	2	4	0.8	0	0.2	0	0.2	0.4	0	20	0	2	0.4	22.4 Top 5%
71	Point	2586_12TH ST & Hwy 20	0	1	0	1	2	4	0.8	0	0.2	0	0.2	0.4	0	20	0	2	0.4	22.4 Top 5%
72	Point	2845_NEFF RD & SHEPARD RD	0	1	1	0	2	4	0.8	0	0.2	0.2	0	0.4	0	20	2	0	0.4	22.4 Top 5%
73	Point	3451_27TH ST & JILL AVE & JILL CT	0	1	1	0	2	4	0.8	0	0.2	0.2	0	0.4	0	20	2	0	0.4	22.4 Top 5%
74	Point	14TH ST & NEWPORT AVE	1	0	0	1	2	4	0.8	0.2	0	0	0.2	0.4	20	0	0	2	0.4	22.4 Top 5%
75	Point	1836_Bend Pkwy/Hwy 97 & HAWTHORNE AVE	0	0	1	7	31	39	7.8	0	0	0.2	1.4	6.2	0	0	2	14	6.2	22.2 Top 5%
76	Point	1977_3RD ST (Business Hwy 97) & MCKINLEY AVE	0	1	1	0	1	3	0.6	0	0.2	0.2	0	0.2	0	20	2	0	0.2	22.2 Top 5%
77	Point	3846_	0	1	1	0	1	3	0.6	0	0.2	0.2	0	0.2	0	20	2	0	0.2	22.2 Top 5%
78	Point	433_CAMPBELL RD & CENTURY DR & MT BACHELOR DR	1	0	0	1	1	3	0.6	0.2	0	0	0.2	0.2	20	0	0	2	0.2	22.2 Top 5%
79	Point	MURPHY RD & PARRELL RD	0	1	1	0	1	3	0.6	0	0.2	0.2	0	0.2	0	20	2	0	0.2	22.2 Top 5%
80	Point	1128_GALVESTON AVE & HARMON BLVD	0	1	0	1	0	2	0.4	0	0.2	0	0.2	0	0	20	0	2	0	22 Top 5%
81	Point	1420_BROOKSWOOD BLVD & HILLWOOD CT	0	1	1	0	0	2	0.4	0	0.2	0.2	0	0	0	20	2	0	0	22 Top 5%
82	Point	2068_BROSTERHOUS RD & DAYBREAK CT	1	0	0	1	0	2	0.4	0.2	0	0	0.2	0	20	0	0	2	0	22 Top 5%
83	Point	COLUMBIA ST & SIMPSON AVE	0	1	0	0	10	11	2.2	0	0.2	0	0	2	0	20	0	0	2	22 Top 5%
84	Point	1788_REVERE AVE & SB PARKWAY OFFRAMP 137 & SB PARKWAY O	0	0	6	3	17	26	5.2	0	0	1.2	0.6	3.4	0	0	12	6	3.4	21.4 Top 5%
85	Point	1998_3RD ST (Business Hwy 97) & MILLER AVE	0	0	3	7	6	16	3.2	0	0	0.6	1.4	1.2	0	0	6	14	1.2	21.2 Top 5%
86	Point	2018_Hwy 20 & QUIMBY AVE	0	1	0	0	4	5	1	0	0.2	0	0	0.8	0	20	0	0	0.8	20.8 Top 5%
87	Point	3843_HILL ST & FRANKLIN AVE	0	1	0	0	3	4	0.8	0	0.2	0	0	0.6	0	20	0	0	0.6	20.6 Top 5%
88	Point	1916_3RD ST (Business Hwy 97) & REED MARKET RD	0	0	4	5	12	21	4.2	0	0	0.8	1	2.4	0	0	8	10	2.4	20.4 Top 5%
89	Point	2265_BUTLER MARKET RD & STUDIO RD	0	1	0	0	2	3	0.6	0	0.2	0	0	0.4	0	20	0	0	0.4	20.4 Top 5%
90	Point	2529_COOLEY RD & HUNTERS CIR	0	1	0	0	2	3	0.6	0	0.2	0	0	0.4	0	20	0	0	0.4	20.4 Top 5%
91	Point	BUTLER MARKET RD & PURCELL BLVD	0	0	4	6	2	12	2.4	0	0	0.8	1.2	0.4	0	0	8	12	0.4	20.4 Top 5%
92	Point	1365_BADGER RD & Bend Pkwy/Hwy 97	0	0	3	6	11	20	4	0	0	0.6	1.2	2.2	0	0	6	12	2.2	20.2 Top 5%
93	Point	1920_LYTLE ST & REVERE AVE	0	1	0	0	1	2	0.4	0	0.2	0	0	0.2	0	20	0	0	0.2	20.2 Top 5%
94	Point	1976_COSTCO DR & ROBAL LN	0	1	0	0	1	2	0.4	0	0.2	0	0	0.2	0	20	0	0	0.2	20.2 Top 5%
95	Point	2794_15TH ST & BRONZEWOOD AVE	0	1	0	0	1	2	0.4	0	0.2	0	0	0.2	0	20	0	0	0.2	20.2 Top 5%
96	Point	3014_18TH ST & CANAL VIEW DR & RORICK DR	0	1	0	0	1	2	0.4	0	0.2	0	0	0.2	0	20	0	0	0.2	20.2 Top 5%
97	Point	592_CENTURY DR & MAMMOTH DR	0	1	0	0	1	2	0.4	0	0.2	0	0	0.2	0	20	0	0	0.2	20.2 Top 5%
98	Point	973_13TH ST & GALVESTON AVE	0	1	0	0	1	2	0.4	0	0.2	0	0	0.2	0	20	0	0	0.2	20.2 Top 5%
99	Point	MT BACHELOR DR & REED MARKET RD	0	1	0	0	1	2	0.4	0	0.2	0	0	0.2	0	20	0	0	0.2	20.2 Top 5%
100	Point	118_CHIANTI LN & LOBINIE CT	0	1	0	0	0	1	0.2	0	0.2	0	0	0	0	20	0	0	0	20 Top 5%
101	Point	138_BAKER RD & SIOUX LN	0	1	0	0	0	1	0.2	0	0.2	0	0	0	0	20	0	0	0	20 Top 5%
102	Point	1470_BADGER RD & COOMBS PL	0	1	0	0	0	1	0.2	0	0.2	0	0	0	0	20	0	0	0	20 Top 5%
103	Point	1884_MOUNTAIN HIGH LOOP & TETON CT	0	1	0	0	0	1	0.2	0	0.2	0	0	0	0	20	0	0	0	20 Top 5%
104	Point	199_CHARBONNEAU ST & YORK DR	1	0	0	0	0	1	0.2	0.2	0	0	0	0	20	0	0	0	0	20 Top 5%
105	Point	2393_8TH ST & HAWTHORNE AVE	0	1	0	0	0	1	0.2	0	0.2	0	0	0	0	20	0	0	0	20 Top 5%
106	Point	2590_COOLEY RD & HIGH STANDARD DR & STACY LN	0	1	0	0	0	1	0.2	0	0.2	0	0	0	0	20	0	0	0	20 Top 5%
107	Point	2796_15TH ST & LOSTINE CIR	0	1	0	0	0	1	0.2	0	0.2	0	0	0	0	20	0	0	0	20 Top 5%
108	Point	3018_18TH ST & EGYPT DR	0	1	0	0	0	1	0.2	0	0.2	0	0	0	0	20	0	0	0	20 Top 5%
109	Point	3596_ALPENGLOW PL & WELLS ACRES RD & ZWECKAL PL	1	0	0	0	0	1	0.2	0.2	0	0	0	0	20	0	0	0	0	20 Top 5%
110	Point	3852_OB RILEY RD & TUMALO RESERVOIR RD	0	1	0	0	0	1	0.2	0	0.2	0	0	0	0	20	0	0	0	20 Top 5%
111	Point	853_15TH ST & GALVESTON AVE	0	1	0	0	0	1	0.2	0	0.2	0	0	0	0	20	0	0	0	20 Top 5%
112	Point	15TH ST & CALDERA DR	0	1	0	0	0	1	0.2	0	0.2	0	0	0	0	20	0	0	0	20 Top 5%
113	Point	2640_9TH ST & REED MARKET RD	0	0	6	2	15	23	4.6	0	0	1.2	0.4	3	0	0	12	4	3	19 Top 5%
114	Point	3507_BENSON WAY & Hwy 20	0	0	5	4	4	13	2.6	0	0	1	0.8	0.8	0	0	10	8	0.8	18.8 Top 5%
115	Point	1714_GREENWOOD AVE & HARRIMAN ST	0	0	2	7	3	12	2.4	0	0	0.4	1.4	0.6	0	0	4	14	0.6	18.6 Top 5%
116	Point	CENTURY DR & SIMPSON AVE	0	0	1	7	3	11	2.2	0	0	0.2	1.4	0.6	0	0	2	14	0.6	16.6 Top 5%
117	Point	3RD ST (Business Hwy 97) & MURPHY RD	0	0	3	4	13	20	4	0	0	0.6	0.8	2.6	0	0	6	8	2.6	16.6 Top 5%
118	Point	1870_1ST ST & GREENWOOD AVE	0	0	2	6	2	10	2	0	0	0.4	1.2	0.4	0	0	4	12	0.4	16.4 Top 5%
119	Point	BUTLER MARKET RD & ROXY PL & WELLS ACRES RD	0	0	3	4	7	14	2.8	0	0	0.6	0.8	1.4	0	0	6	8	1.4	15.4 Top 5%
120	Point	2335_BOYD ACRES RD & EMPIRE AVE	0	0	2	5	6	13	2.6	0	0	0.4	1	1.2	0	0	4	10	1.2	15.2 Top 5%
121	Point	2408_8TH ST & REVERE AVE	0	0	2	5	6	13	2.6	0	0	0.4	1	1.2	0	0	4	10	1.2	15.2 Top 5%
122	Point	2094_4TH ST & UNDERWOOD AVE	0	0	3	4	5	12	2.4	0	0	0.6	0.8	1	0	0	6	8	1	15 Top 5%
123	Point	2045_HUNNEL RD & ROBAL LN	0	0	6	1	4	11	2.2	0	0	1.2	0.2	0.8	0	0	12	2	0.8	14.8 Top 5%
124	Point	2497_10TH ST & Hwy 20	0	0	1	6	4	11	2.2	0	0	0.2	1.2	0.8	0	0	2	12	0.8	14.8 Top 5%
125	Point	3439_27TH ST & MEDICAL CENTER DR	0	0	2	5	4	11	2.2	0	0	0.4	1	0.8	0	0	4	10	0.8	14.8 Top 5%
126	Point	1946_2ND ST & FRANKLIN AVE	0	0	0	7	3	10	2	0	0	0	1.4	0.6	0	0	0	14	0.6	14.6 Top 5%
127	Point	1569_ARIZONA AVE & COLORADO AVE	0	0	4	2	11	17	3.4	0	0	0.8	0.4	2.2	0	0	8	4	2.2	14.2 Top 5%
128	Point	Hwy 20 & ROBAL LN	0	0	1	5	6	12	2.4	0	0	0.2	1	1.2	0	0	2	10	1.2	13.2 Top 5%
129	Point	1429_POWERS RD & SB PARKWAY ONRAMP POWERS RD	0	0	0	6	5	11	2.2	0	0	0	1.2	1	0	0	0	12	1	13 Top 5%
130	Point	1435_Hwy 20 & OB RILEY RD	0	0	0	6	5	11	2.2	0	0	0	1.2	1	0	0	0	12	1	13 Top 5%
131	Point	1474_BOND ST & COLORADO AVE	0	0	2	4	5	11	2.2	0	0	0.4	0.8	1	0	0	4	8	1	13 Top 5%

132	Point	747_BAKER RD & HIGHWAY 97 RAMPS KNOTT & BAKER CT	0	0	1	5	5	11	2.2	0	0	0.2	1	1	0	0	2	10	1	13	Top 5%
133	Point	1891_Hwy 20 & RIVER MALL AVE	0	0	4	2	3	9	1.8	0	0	0.8	0.4	0.6	0	0	8	4	0.6	12.6	Top 5%
134	Point	2112_Business US 97 & NELS ANDERSON PL	0	0	3	3	3	9	1.8	0	0	0.6	0.6	0.6	0	0	6	6	0.6	12.6	Top 5%
135	Point	1455_3RD ST (Business Hwy 97) & OLD MURPHY RD	0	0	3	3	2	8	1.6	0	0	0.6	0.6	0.4	0	0	6	6	0.4	12.4	Top 5%
136	Point	1840_Bend Pkwy/Hwy 97 & LAFAYETTE AVE	0	0	3	2	12	17	3.4	0	0	0.6	0.4	2.4	0	0	6	4	2.4	12.4	Top 5%
137	Point	1882_Hwy 20 & MERVIN SAMPLES	0	0	3	3	2	8	1.6	0	0	0.6	0.6	0.4	0	0	6	6	0.4	12.4	Top 5%
138	Point	3437_27TH ST & LIVINGSTON DR	0	0	5	1	2	8	1.6	0	0	1	0.2	0.4	0	0	10	2	0.4	12.4	Top 5%
139	Point	9TH ST & WILSON AVE	0	0	3	3	2	8	1.6	0	0	0.6	0.6	0.4	0	0	6	6	0.4	12.4	Top 5%
140	Point	1525_3RD ST (Business Hwy 97) & BADGER RD	0	0	3	3	1	7	1.4	0	0	0.6	0.6	0.2	0	0	6	6	0.2	12.2	Top 5%
141	Point	1913_BUTLER MARKET RD & Hwy 20 & MT. WASHINGTON DR	0	0	1	4	10	15	3	0	0	0.2	0.8	2	0	0	2	8	2	12	Top 5%
142	Point	1769_OLNEY AVE & PORTLAND AVE & WALL ST	0	0	3	2	8	13	2.6	0	0	0.6	0.4	1.6	0	0	6	4	1.6	11.6	Top 5%
143	Point	COLORADO AVE & COLUMBIA ST	0	0	4	1	7	12	2.4	0	0	0.8	0.2	1.4	0	0	8	2	1.4	11.4	Top 5%
144	Point	3440_27TH ST & BEAR CREEK RD	0	0	3	2	6	11	2.2	0	0	0.6	0.4	1.2	0	0	6	4	1.2	11.2	Top 5%
145	Point	820_HIGHWAY 97 RAMPS KNOTT & KNOTT RD	0	0	3	2	6	11	2.2	0	0	0.6	0.4	1.2	0	0	6	4	1.2	11.2	Top 5%
146	Point	3111_AZURE DR & Hwy 20	0	0	5	0	5	10	2	0	0	1	0	1	0	0	10	0	1	11	Top 5%
147	Point	1979_BUTLER MARKET RD & SB PARKWAY OFFRAMP 136	0	0	1	4	4	9	1.8	0	0	0.2	0.8	0.8	0	0	2	8	0.8	10.8	Top 5%
148	Point	2011_Hwy 20 & KEARNEY AVE	0	0	2	3	4	9	1.8	0	0	0.4	0.6	0.8	0	0	4	6	0.8	10.8	Top 5%
149	Point	3435_27TH ST & MARY ROSE PL	0	0	0	5	4	9	1.8	0	0	0	1	0.8	0	0	0	10	0.8	10.8	Top 5%
3918	Point	YEOMAN RD & BUTLER MKT RD	0	0	3	2	4	9	1.8	0	0	0.6	0.4	0.8	0	0	6	4	0.8	10.8	Top 5%
150	Point	3438_27TH ST & TWIN KNOLLS DR	0	0	1	4	3	8	1.6	0	0	0.2	0.8	0.6	0	0	2	8	0.6	10.6	Top 5%
151	Point	BOND ST & WILSON AVE	0	0	1	4	3	8	1.6	0	0	0.2	0.8	0.6	0	0	2	8	0.6	10.6	Top 5%
152	Point	3020_ADMIRAL WAY & REED MARKET RD	0	0	1	4	2	7	1.4	0	0	0.2	0.8	0.4	0	0	2	8	0.4	10.4	Top 5%
153	Point	2015_Hwy 20 & NORTON AV	0	0	4	1	1	6	1.2	0	0	0.8	0.2	0.2	0	0	8	2	0.2	10.2	Top 5%
154	Point	2145_5TH ST & Hwy 20	0	0	3	2	1	6	1.2	0	0	0.6	0.4	0.2	0	0	6	4	0.2	10.2	Top 5%
155	Point	1530_FRANKLIN AVE & WALL ST	0	0	1	4	0	5	1	0	0	0.2	0.8	0	0	0	2	8	0	10	Top 5%
156	Point	1999_3RD ST & 3RD ST (Business Hwy 97) & DAVIS AVE	0	0	3	2	0	5	1	0	0	0.6	0.4	0	0	0	6	4	0	10	Top 5%
157	Point	CENTURY DR & MT. WASHINGTON DR & REED MARKET RD	0	0	2	2	6	10	2	0	0	0.4	0.4	1.2	0	0	4	4	1.2	9.2	Top 5%
158	Point	8TH ST & FRANKLIN AVE	0	0	2	2	6	10	2	0	0	0.4	0.4	1.2	0	0	4	4	1.2	9.2	Top 5%
159	Point	8TH ST & BUTLER MARKET RD	0	0	1	3	5	9	1.8	0	0	0.2	0.6	1	0	0	2	6	1	9	Top 5%
160	Point	15TH ST & WILSON AVE	0	0	3	1	5	9	1.8	0	0	0.6	0.2	1	0	0	6	2	1	9	Top 5%
161	Point	EMPIRE AVE & PURCELL BLVD	0	0	1	3	5	9	1.8	0	0	0.2	0.6	1	0	0	2	6	1	9	Top 5%
162	Point	1511_AWBREY RD & PORTLAND AVE	0	0	0	4	4	8	1.6	0	0	0	0.8	0.8	0	0	0	8	0.8	8.8	Top 5%
163	Point	1985_3RD ST (Business Hwy 97) & ROOSEVELT AVE	0	0	2	2	4	8	1.6	0	0	0.4	0.4	0.8	0	0	4	4	0.8	8.8	Top 5%
164	Point	2002_3RD ST (Business Hwy 97) & CLAY AVE	0	0	2	2	4	8	1.6	0	0	0.4	0.4	0.8	0	0	4	4	0.8	8.8	Top 5%
165	Point	2086_4TH ST & OLNEY AVE	0	0	1	3	4	8	1.6	0	0	0.2	0.6	0.8	0	0	2	6	0.8	8.8	Top 5%
166	Point	3827_BUTLER MARKET RD & HAMBY RD	0	0	3	1	4	8	1.6	0	0	0.6	0.2	0.8	0	0	6	2	0.8	8.8	Top 5%
167	Point	3348_MEDICAL CENTER DR & NEFF RD	0	0	2	2	3	7	1.4	0	0	0.4	0.4	0.6	0	0	4	4	0.6	8.6	Top 5%
168	Point	879_BROOKSWOOD BLVD & LODGEPOLE DR	0	0	2	2	3	7	1.4	0	0	0.4	0.4	0.6	0	0	4	4	0.6	8.6	Top 5%
169	Point	15TH ST & KNOTT RD & TEKAMPE RD	0	0	2	2	3	7	1.4	0	0	0.4	0.4	0.6	0	0	4	4	0.6	8.6	Top 5%
170	Point	BUTLER MARKET RD & DESCHUTES MARKET RD	0	0	2	2	3	7	1.4	0	0	0.4	0.4	0.6	0	0	4	4	0.6	8.6	Top 5%
171	Point	1657_FRANKLIN AVE & LAVA RD	0	0	1	3	2	6	1.2	0	0	0.2	0.6	0.4	0	0	2	6	0.4	8.4	Top 5%
172	Point	1965_3RD ST (Business Hwy 97) & CLEVELAND AVE	0	0	1	3	1	5	1	0	0	0.2	0.6	0.2	0	0	2	6	0.2	8.2	Top 5%
173	Point	1553_ARIZONA AVE & LAVA RD	0	0	0	4	0	4	0.8	0	0	0	0.8	0	0	0	0	8	0	8	Top 5%
174	Point	2226_6TH ST & Hwy 20	0	0	2	2	0	4	0.8	0	0	0.4	0.4	0	0	0	4	4	0	8	Top 5%
175	Point	3007_18TH ST & BRIGHTWATER PL & MORNINGSTAR DR	0	0	1	3	0	4	0.8	0	0	0.2	0.6	0	0	0	2	6	0	8	Top 5%
176	Point	3419_27TH ST & REED MARKET RD	0	0	2	1	7	10	2	0	0	0.4	0.2	1.4	0	0	4	2	1.4	7.4	Top 5%
177	Point	1552_NB PARKWAY ONRAMP POWERS RD & POWERS RD	0	0	0	3	6	9	1.8	0	0	0	0.6	1.2	0	0	0	6	1.2	7.2	Top 5%
178	Point	1810_HILL ST & WILSON AVE	0	0	1	2	6	9	1.8	0	0	0.2	0.4	1.2	0	0	2	4	1.2	7.2	Top 5%
179	Point	1715_REED MARKET RD & SB PARKWAY OFFRAMP 139	0	0	1	2	5	8	1.6	0	0	0.2	0.4	1	0	0	2	4	1	7	Top 5%
180	Point	2773_EMPIRE AVE & HIGH DESERT LN	0	0	1	2	5	8	1.6	0	0	0.2	0.4	1	0	0	2	4	1	7	Top 5%
181	Point	CENTURY DR & CHANDLER AVE & COLORADO AVE	0	0	0	3	5	8	1.6	0	0	0	0.6	1	0	0	0	6	1	7	Top 5%
182	Point	BROOKSWOOD BLVD & LARKWOOD DR & MURPHY RD	0	0	0	3	5	8	1.6	0	0	0	0.6	1	0	0	0	6	1	7	Top 5%
183	Point	1610_BROOKS ST & NEWPORT AVE	0	0	1	2	4	7	1.4	0	0	0.2	0.4	0.8	0	0	2	4	0.8	6.8	Top 5%
184	Point	1988_3RD ST (Business Hwy 97) & YEW LN	0	0	2	1	4	7	1.4	0	0	0.4	0.2	0.8	0	0	4	2	0.8	6.8	Top 5%
185	Point	SKYLINE RANCH RD & SKYLINERS RD	0	0	1	2	4	7	1.4	0	0	0.2	0.4	0.8	0	0	2	4	0.8	6.8	Top 5%
186	Point	11TH ST & NEWPORT AVE	0	0	2	1	4	7	1.4	0	0	0.4	0.2	0.8	0	0	4	2	0.8	6.8	Top 5%
187	Point	BOND ST & BROOKSWOOD BLVD & REED MARKET RD	0	0	1	2	4	7	1.4	0	0	0.2	0.4	0.8	0	0	2	4	0.8	6.8	Top 5%
188	Point	1494_LOUISIANA AVE & WALL ST	0	0	1	2	3	6	1.2	0	0	0.2	0.4	0.6	0	0	2	4	0.6	6.6	Top 5%
189	Point	1554_COLORADO AVE & LAVA RD	0	0	0	3	3	6	1.2	0	0	0	0.6	0.6	0	0	0	6	0.6	6.6	Top 5%
190	Point	1927_Hwy 20 & SB PARKWAY ONRAMP 136 & DIVISION ST	0	0	3	0	3	6	1.2	0	0	0.6	0	0.6	0	0	6	0	0.6	6.6	Top 5%
191	Point	1997_3RD ST (Business Hwy 97) & WOODLAND BLVD	0	0	3	0	3	6	1.2	0	0	0.6	0	0.6	0	0	6	0	0.6	6.6	Top 5%
192	Point	2001_3RD ST (Business Hwy 97) & BURNSIDE AVE	0	0	1	2	3	6	1.2	0	0	0.2	0.4	0.6	0	0	2	4	0.6	6.6	Top 5%
193	Point	2005_3RD ST (Business Hwy 97) & EMERSON AVE	0	0	1	2	3	6	1.2	0	0	0.2	0.4	0.6	0	0	2	4	0.6	6.6	Top 5%
194	Point	3816_STEVENS RD & WARD RD	0	0	2	1	3	6	1.2	0	0	0.4	0.2	0.6	0	0	4	2	0.6	6.6	Top 5%