
MEMORANDUM

To: Project Management Team

From: Tyler Deke

Date: June 16, 2026

Re: Bend Metropolitan Planning Organization Transportation Safety Action Plan Update
Tech Memo #3 Executive Summary

1. Purpose and Context

The Bend Metropolitan Planning Organization (BMPO), in coordination with the City of Bend and regional partners, is updating its **Transportation Safety Action Plan (TSAP)**, last adopted in 2019. This update supports the shared goal of **eliminating fatal and serious injury (FSI) crashes** through targeted, data driven investments and policy actions aligned with Safe System principles.

This technical memorandum documents **existing safety conditions** across the BMPO boundary (Figure 1) by analyzing five years of reported crash data (2019–2023). The analysis serves as the foundation for:

- Identifying **systemic crash emphasis areas** (e.g., speeding, impairment),
- Identifying **intersections and roadway segments with high concentrations of severe crashes**, and
- Informing **project prioritization and strategy development** in subsequent phases of the TSAP update.

The findings reflect crashes on all public and private roads, including state highways, and use industry standard screening techniques consistent with ODOT and national best practice.

2. Systemwide Crash Trends and Key Findings

Overall Crash Summary

- **5,013 reported crashes** occurred within the BMPO boundary from 2019–2023.
- There were **27 fatal crashes** and **175 serious injury crashes**, representing **5% of all crashes**.



- While lower severity crashes dominate in number, **fatal and serious injury crashes have increased substantially over 5 years**, rising from **2.2% of crashes in 2019 to 6.3% in 2023**.
- This post pandemic increase mirrors statewide and national trends, underscoring the urgency to take action.

Where Crashes Occur

- **Intersections account for 64% of all crashes** and about **60% of fatal and serious injury crashes**.
- **State highways**, despite representing just **8% of roadway mileage**, account for **28% of crashes**, highlighting their outsized safety impact and the need for close coordination with ODOT.
- Most crashes occur on **urban arterials**, which carry higher traffic volumes, access activity centers, and involve more conflict points.

Temporal Patterns

- Crashes are more frequent in **fall and early winter** (September–December).
- **Fatal and serious injury crashes occur disproportionately on Thursday through Saturday**.
- The **afternoon peak (3–5 PM)** accounts for nearly one-third of all crashes, reflecting higher traffic volumes and commuter travel conditions.

Collision Types and Contributing Factors

- The most common crash types overall are **rear-end, turning, and angle crashes**.
- **Turning, fixed-object, angle, and rear-end crashes** account for **72% of fatal and serious injury crashes**.
- **Failure to yield right-of-way** is the most frequently reported crash cause.
- **Speeding and impaired driving** are major contributors to severe crashes:
 - Speed involvement is present in about **19% of fatal and serious injury crashes**.
 - **Alcohol or drug impairment** is involved in **20% of fatal and serious injury crashes** and **over 50% of fatal crashes** alone.

Environmental and Roadway Conditions

- Most crashes occur in **dry, clear conditions**, indicating behavioral and design factors rather than weather as the dominant risk drivers.



- **Low-light conditions (dark, dawn, dusk)** account for a disproportionately high share of fatal and serious injury crashes.
 - Signalized intersections are **overrepresented in crashes**, particularly for rear-end and turning movements.
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3. Vulnerable Road Users and Disproportionate Risk

Pedestrians and Bicyclists

- **66 pedestrian crashes** and **109 bicycle crashes** were reported over five years.
 - E-bikes are included in bicycle crashes for 2022 data onward (two out of five study years); before 2022, e-bikes were coded inconsistently.
- Pedestrian and bicycle crashes account for **4% of all crashes** but **12% of fatal and serious injuries**.
- **One in five pedestrian crashes** results in a fatal or serious injury, reflecting the inherent vulnerability of people walking.

Motorcyclists

- Although motorcycle crashes are relatively infrequent, **40% result in fatal or serious injury**, making motorcyclists the single most overrepresented user group in severe outcomes.

Age-Related Risk

- **Drivers aged 65 and older** are involved in a higher share of fatal and serious injury crashes than their proportion of total crashes.
- **Young drivers (ages 15–20)** are also overrepresented, particularly in crashes involving risky behaviors such as speeding and failure to yield.

These findings reinforce the need for **age-responsive strategies**, safe crossings, speed management, and multimodal facility protection.

4. Potential Crash Emphasis Areas

Using statewide comparison and severity screening, the study identified crash attributes that are **predominant, more prevalent than statewide averages, and strongly associated with severe outcomes**. The most critical **potential emphasis areas** include:

- **Young drivers (15–20)**
- **Alcohol and drug impairment**



- **Aging drivers (65+)**
- **Nighttime and low-light conditions**
- Roadway and lane departures
- Speed-related crashes
- Motorcyclist-involved crashes
- Bicyclist- and pedestrian-involved crashes
- Intersections

The memorandum recommends selecting **4–6 emphasis areas** for the TSAP to ensure strategic focus while capturing the most significant contributors to fatal and serious injuries.

5. High-Priority Intersections and Corridors

Network Screening Approach

The study applied the **Equivalent Property Damage Only (EPDO)** methodology, weighting crashes by severity to identify locations with the **greatest societal safety impacts**, not simply the highest crash counts.

Priority Locations

- Over **3,000 intersections** and all roadway segments in between were screened.
- **39 intersections ranked in the top 1%** for crash severity, many of which align with known safety challenges on US 20, US 97, and city arterials.
- Several high-risk locations have already seen improvements (e.g., roundabouts, signal upgrades, lane reconfigurations), while others have **planned or programmed** improvements, indicating progress but also persistent risk.
- **Top corridor segments** with severe crash histories occur primarily along **US 97, US 20, and NE 3rd Street**, reinforcing the importance of multimodal safety treatments on regional routes.

Recent Fatal Crashes (2024–2025)

Preliminary post-study data show **13 fatal crashes** in the BMPO area, many involving:

- Impairment,
- Vulnerable road users,
- Lane-departure crashes, and



- Locations already identified as high-risk in the EPDO analysis.

6. Implications and Next Steps

This memorandum establishes a clear picture of **where, how, and to whom** the most severe traffic crashes occur in the Bend area. Key implications include:

- Severe crashes are increasingly concentrated around **human factors (speed, impairment)** and **system design issues** at intersections and urban arterials.
- Vulnerable users and certain age groups face **disproportionate risk**, requiring targeted protection.
- Data-driven prioritization is already aligning with many ongoing projects, but **additional systemic and site-specific actions are needed**.

The findings will directly inform:

- Selection of **final TSAP emphasis areas**,
- Development of **systemic countermeasures** and **site-specific safety concepts**,
- Positioning the MPO and City for **state and federal safety funding**, including SS4A grants.

This Executive Summary was generated by Microsoft CoPilot and edited and fact-checked by BMPO employee, Tyler Deke.





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