



East Multnomah County

Transportation Safety Action Plan

October 30, 2024

alta

Project Timeline

EAST MULTNOMAH COUNTY TRANSPORTATION SAFETY ACTION PLAN TIMELINE



Phase 1: Listen & Learn

Jun - Nov 2024

**Community Storytelling +
Policy and Safety Analysis**



Phase 2: Reflect & Dive In

Mar - Apr 2025

**Develop and
Share Transportation
Safety Improvement
Recommendations**



Phase 3: Refine

Jul - Aug 2025

Prepare Draft Plan



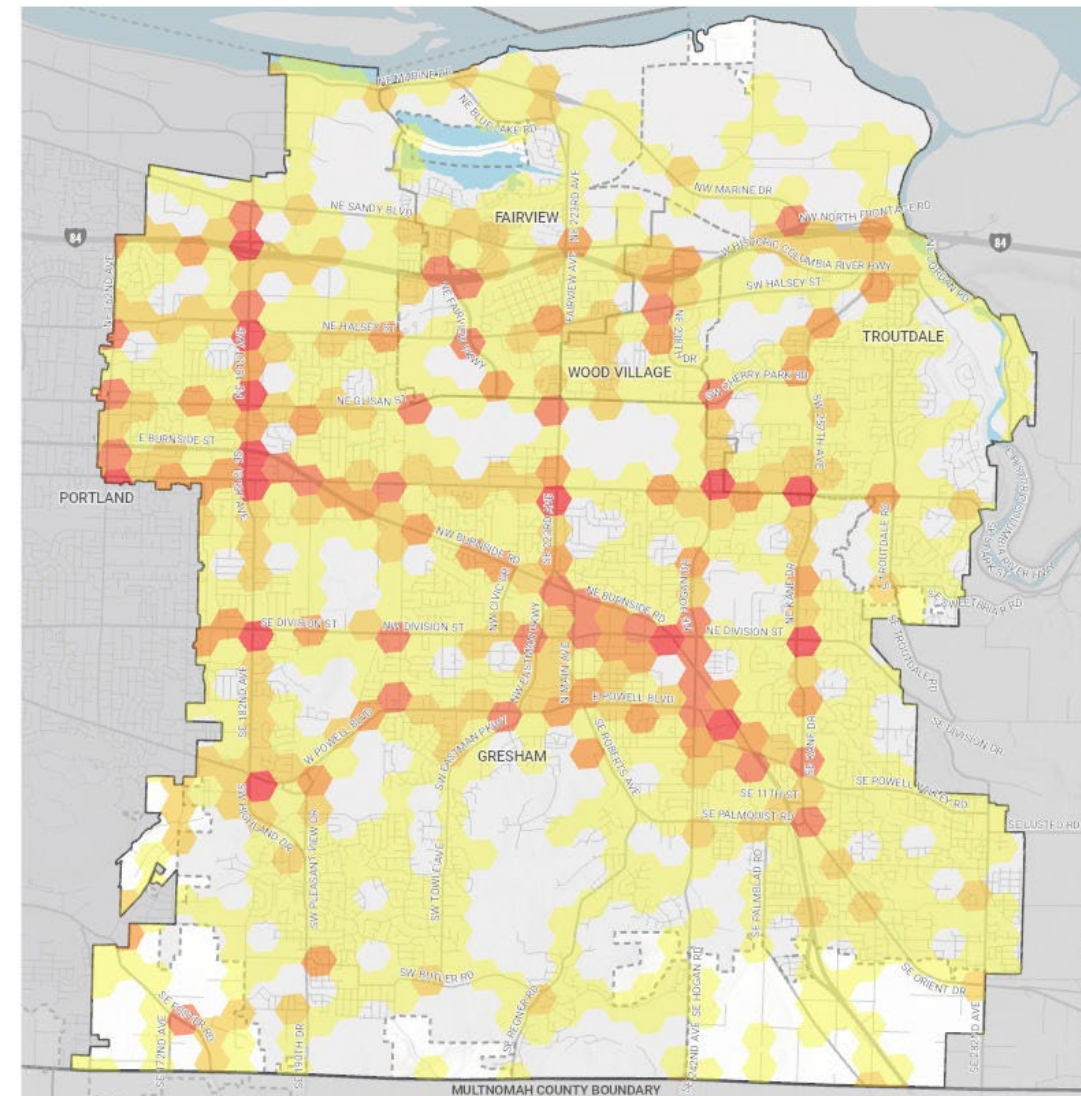
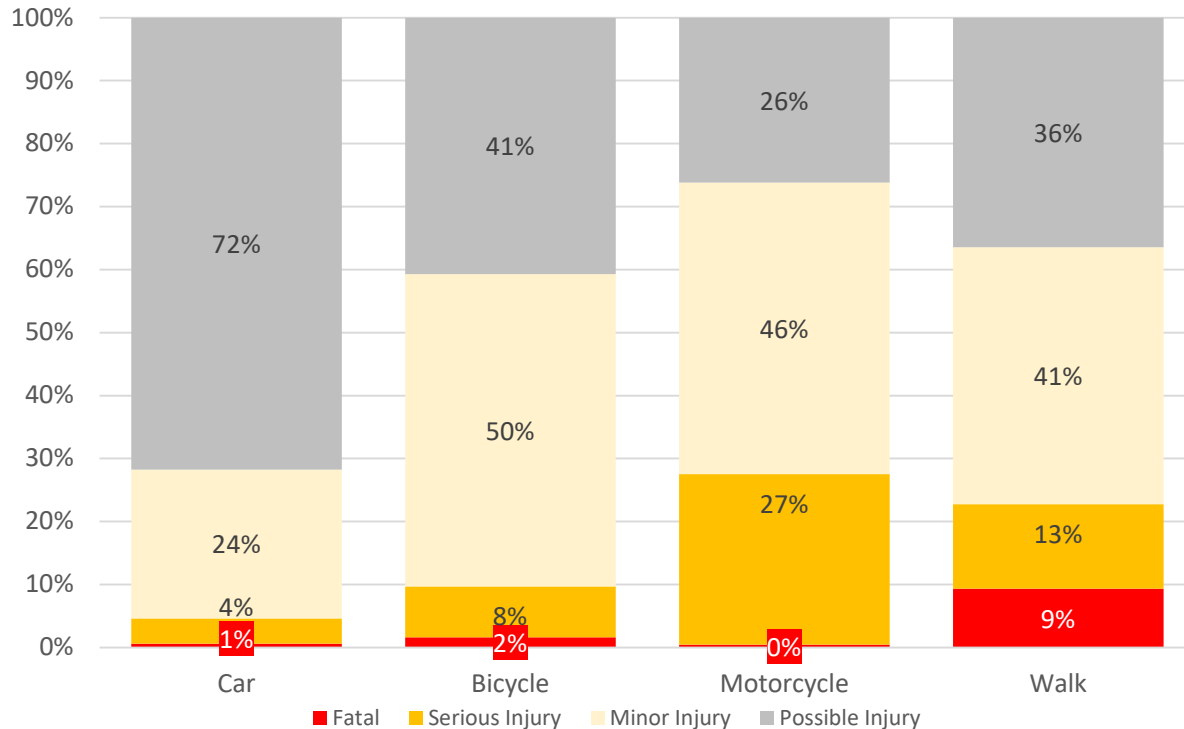
Final Plan Complete

Oct 2025

Key Crash Trends Summary

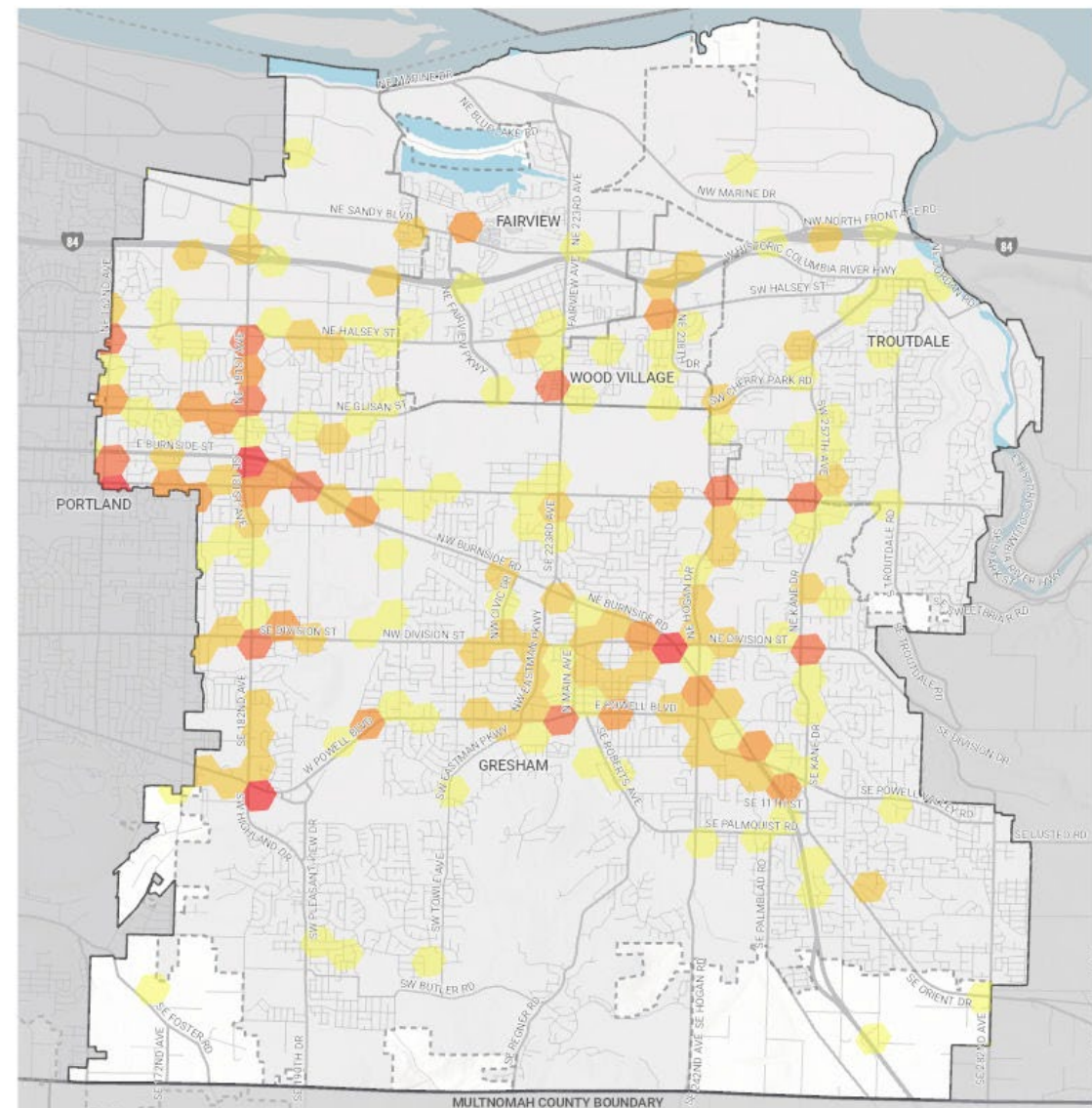
- 8,474 injury crashes occurred in the study area (2013 to 2022)
- Most severe crashes in East Multnomah County are on the arterial network
- People walking, biking and using a motorcycle were more likely to be involved in a serious injury or fatal crash

Crash Severity by Mode



Pedestrian Crash Trends

- The most common cause is failure to yield the ROW
- Second-most common cause is a pedestrian being illegally in the roadway
- The highest concentrations of all pedestrian crashes are surrounding the intersections at NE Division & NE Kane Drive, NE Burnside Rd & NE Division, SE 182nd Avenue & W Powell Boulevard, and E Burnside Street and SE 181st Avenue.
- High pedestrian crash corridors include SE Stark Street, Burnside Road, 181st, 182nd, and NE 162nd Avenues



PEDESTRIAN CRASH DENSITY MAP (2013-2022)

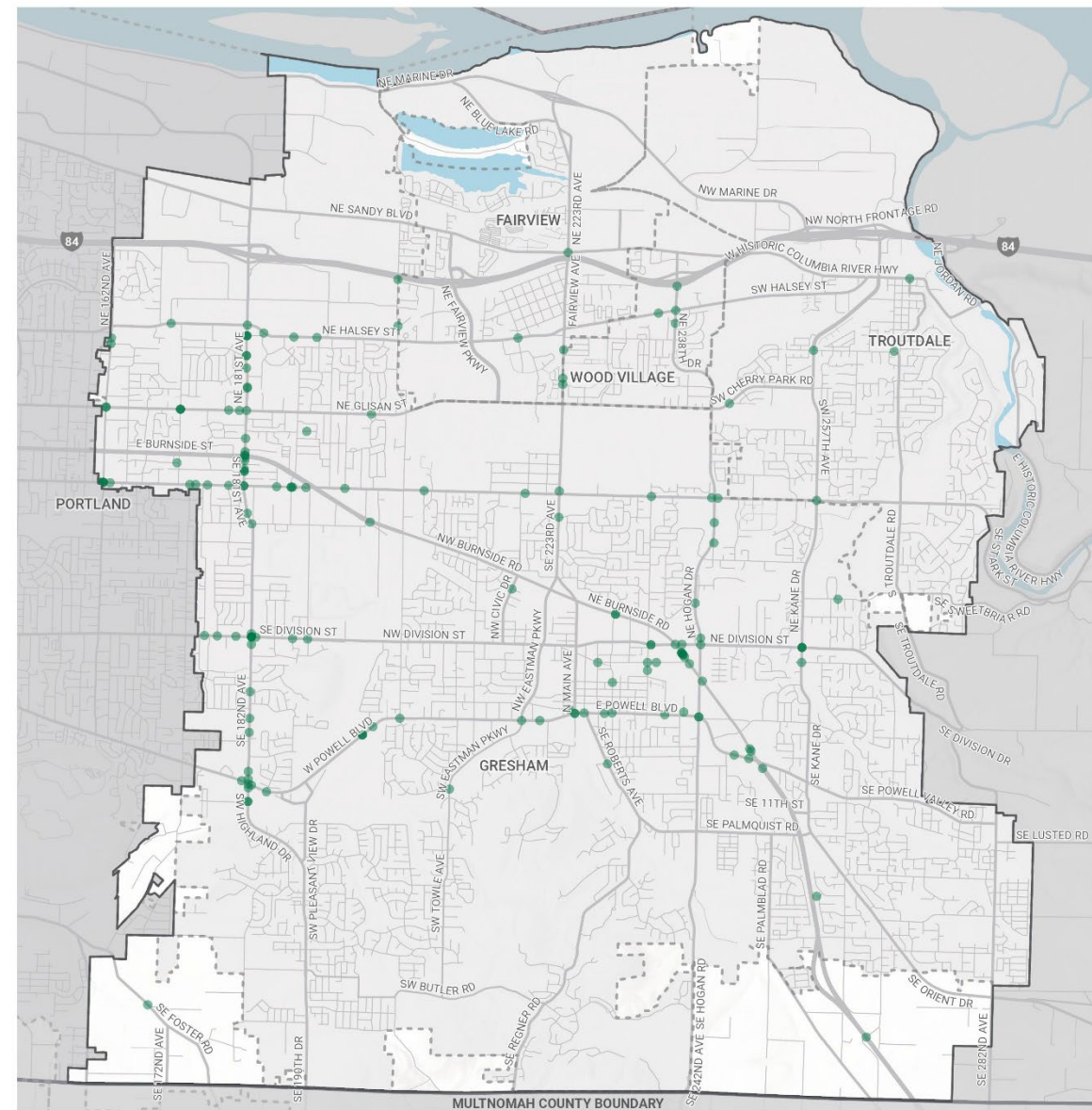
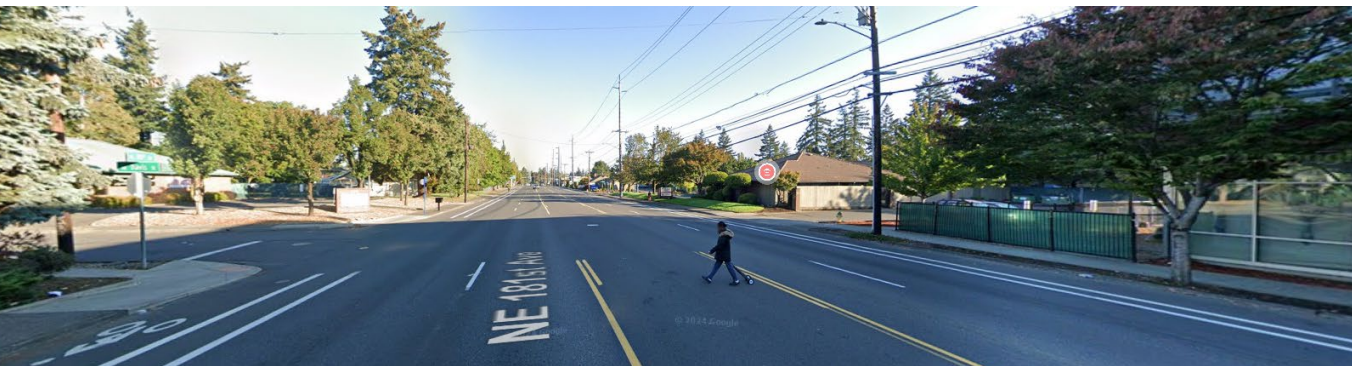
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* The Crash Concentration Index was developed by summing up crash scores weighted by severity inside a respective hexagon.

Crash Profile: Pedestrian Crash, After Dark, On Road with Full or Partial Sidewalk

- 46% of pedestrian fatal and serious injury crashes
- 38% of all pedestrian injury crashes
- Of all modes, crashes involving pedestrians were most likely to occur after dark (with or without streetlights). Pedestrians are vulnerable to poor visibility.
- Clusters near intersection of Burnside St/Division St
- Clusters along NE 181st Ave between NE Halsey St and SE Stark St



CRASH PROFILE 3

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Profile 3: Pedestrian, After Dark,
Road with Sidewalks

FEATURES

- Profile 3 Crash
- City Limits
- Project Area Boundary
- Multnomah County



0 0.5 1 MILES

Crash Profile: Pedestrian Crash, At intersection, with Improper Maneuver by Driver

- 25% of pedestrian fatal and severe injury crashes
- 38% of pedestrian injury crashes
- Equal split between signalized and unsignalized intersections
- Most common cause was failure to yield ROW



CRASH PROFILE 4

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Profile 4: Pedestrian, Improper
Maneuver by Driver, At Intersection

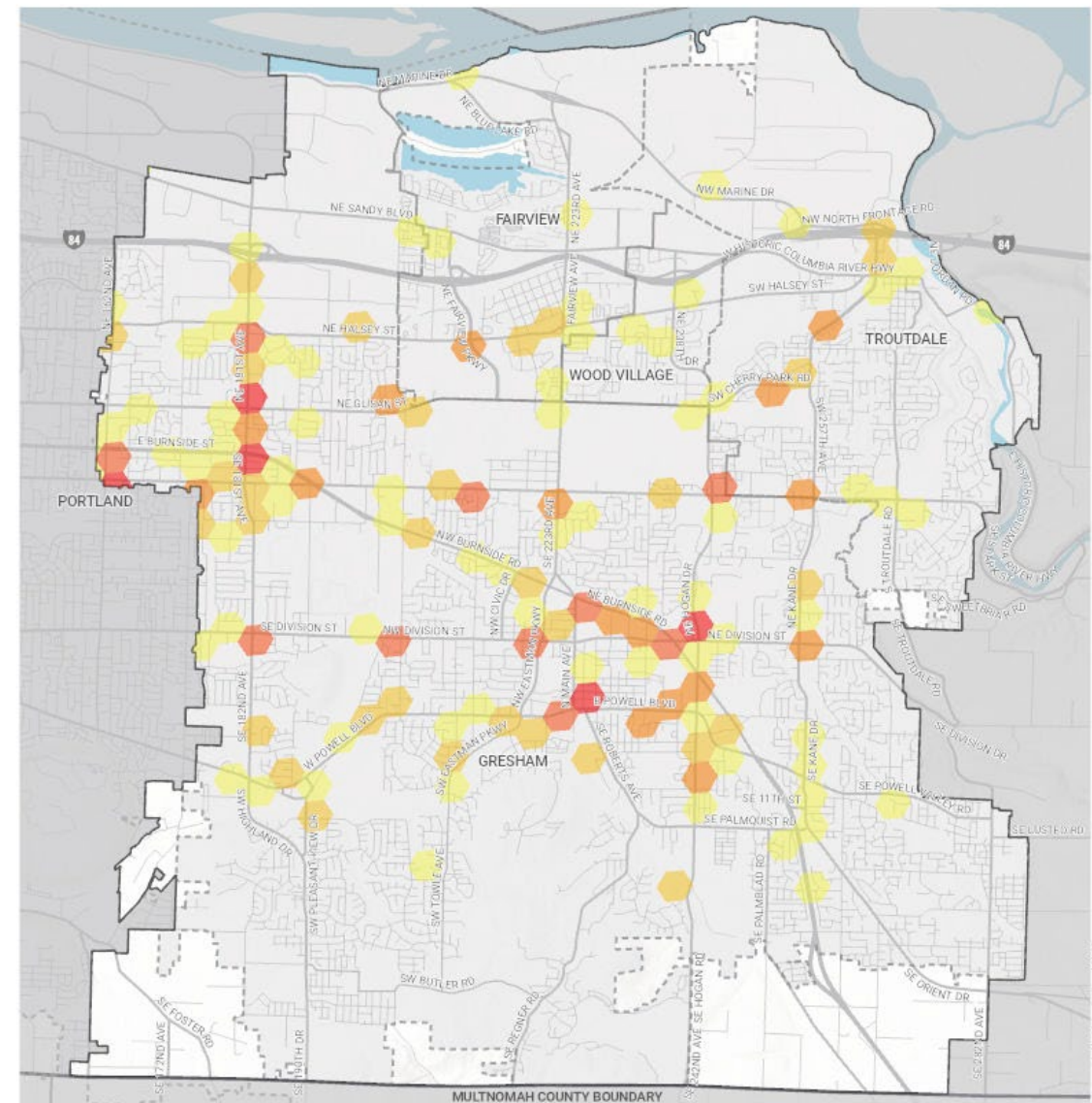
FEATURES

- Profile 4 Crash
- City Limits
- Project Area Boundary
- Multnomah County



Bike Crash Trends

- Bike crashes are concentrated in a few corridors:
 - 181st Avenue
 - Burnside Road
 - Powell Boulevard
 - NE Glisan Street
 - Segments of Powell Blvd, Kane Drive, and NE Halsey Street
 - Intersection of Burnside Road/Division Street



BICYCLE CRASH DENSITY MAP (2013-2022)

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CRASH CONCENTRATION INDEX*



DESTINATIONS + BOUNDARIES



* The Crash Concentration Index was developed by summing up crash scores weighted by severity inside a respective hexagon.

Crash Profile: Bicycle Crash, At Intersection, with a Turning Vehicle, On Road with Dedicated Bike Facility

- Bike facilities are defined as bike lanes (protected and unprotected) and shared-use paths
- People riding bikes are still vulnerable to vehicles turning at intersections, even on dedicated facilities
- 33% of bicycle-involved fatal and serious injury crashes
- 29% of bicycle injury crashes
- In 70% of these crashes the cause was failure to yield ROW
- Crashes are concentrated on NE 181st Ave between NE Halsey St and SE Stark St (unprotected bike lane)



CRASH PROFILE 5

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TSAP

Profile 5: Bicyclist, With Turning
Vehicle, At Intersection, Near
Dedicated Bike Lane or Trail

FEATURES

- Profile 5 Crash
- ▭ City Limits
- ▭ Project Area Boundary
- ▭ Multnomah County



Crash Profile: Motorcyclist Crash, At Intersection, with a Turning Vehicle

- 32% of motorcyclist fatal and serious injury crashes
- 30% of motorcyclist injury crashes
- Leading cause is failure to yield ROW
- 59% of these crashes were at unsignalized intersections
- In half of these crashes, one vehicle was making a left turn



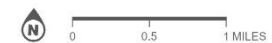
CRASH PROFILE 6

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TSAP

Profile 6: Motorcyclist, With
Turning Vehicle, At Intersection

FEATURES

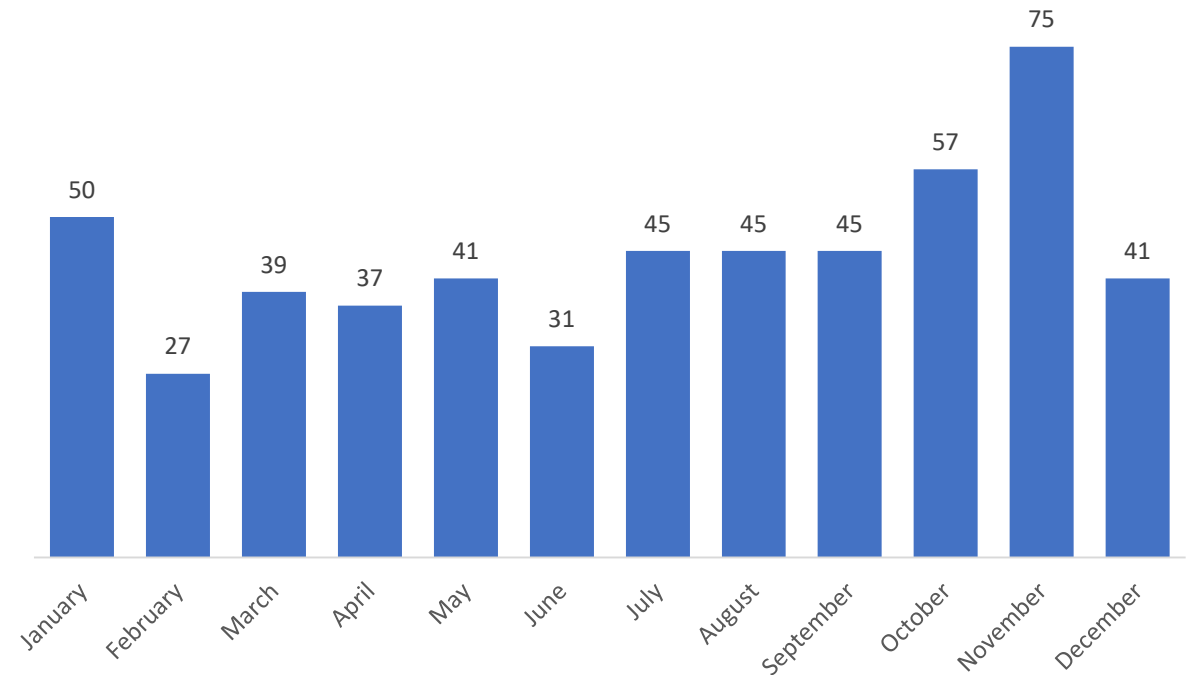
- Profile 6 Crash
- City Limits
- Project Area Boundary
- Multnomah County



Crash Trends by Month

- Serious injury and fatal crashes spike in the winter months for all modes
- Trend cannot be explained just by darkness in winter, since darkness peaks in December
- The large spike in November possibly attributed to Daylight Savings Time change.

Serious Injury and Fatal Crashes by Month, All Modes

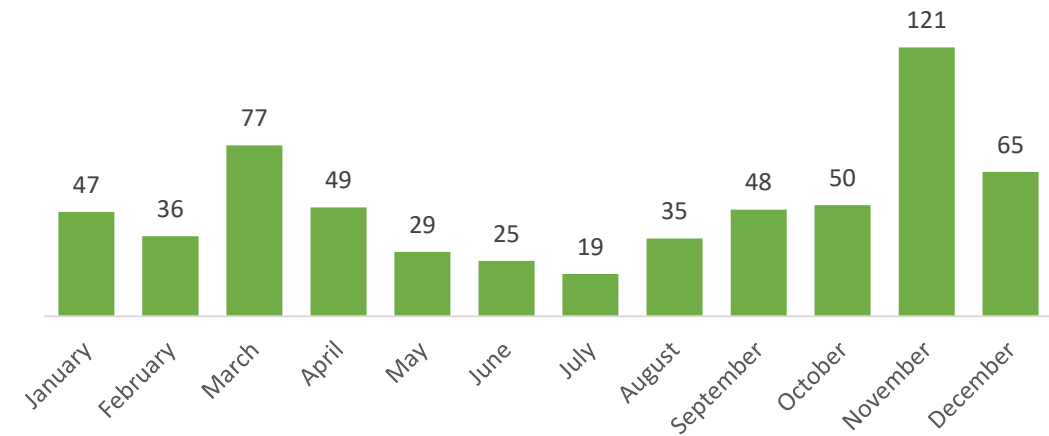


Crash Trends by Month

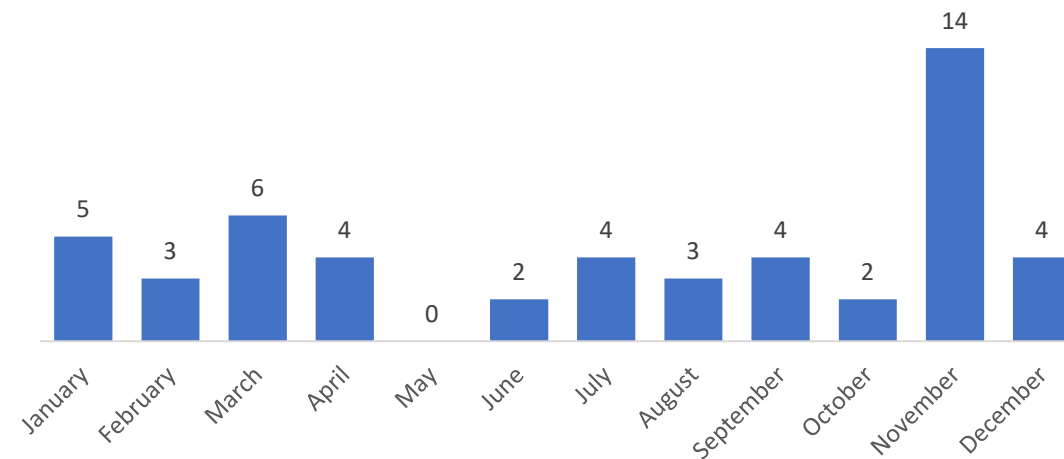
Dusk and Dawn

- Looking at crashes that occurred at dusk/dawn only, November and March both stand out
- The trend coincides with the months of Daylight Savings Time beginning and ending, when the dusk and dawn hours suddenly shift into peak commuting times:
 - November: sunset shifts earlier from about 6pm to 5pm
 - March: sunrise shifts later from about 6:30 am to 7:30 am
- Trend is especially prevalent for bicycle and pedestrian injury crashes at dusk or dawn in November

Injury Crashes at Dusk or Dawn by Month, All Modes

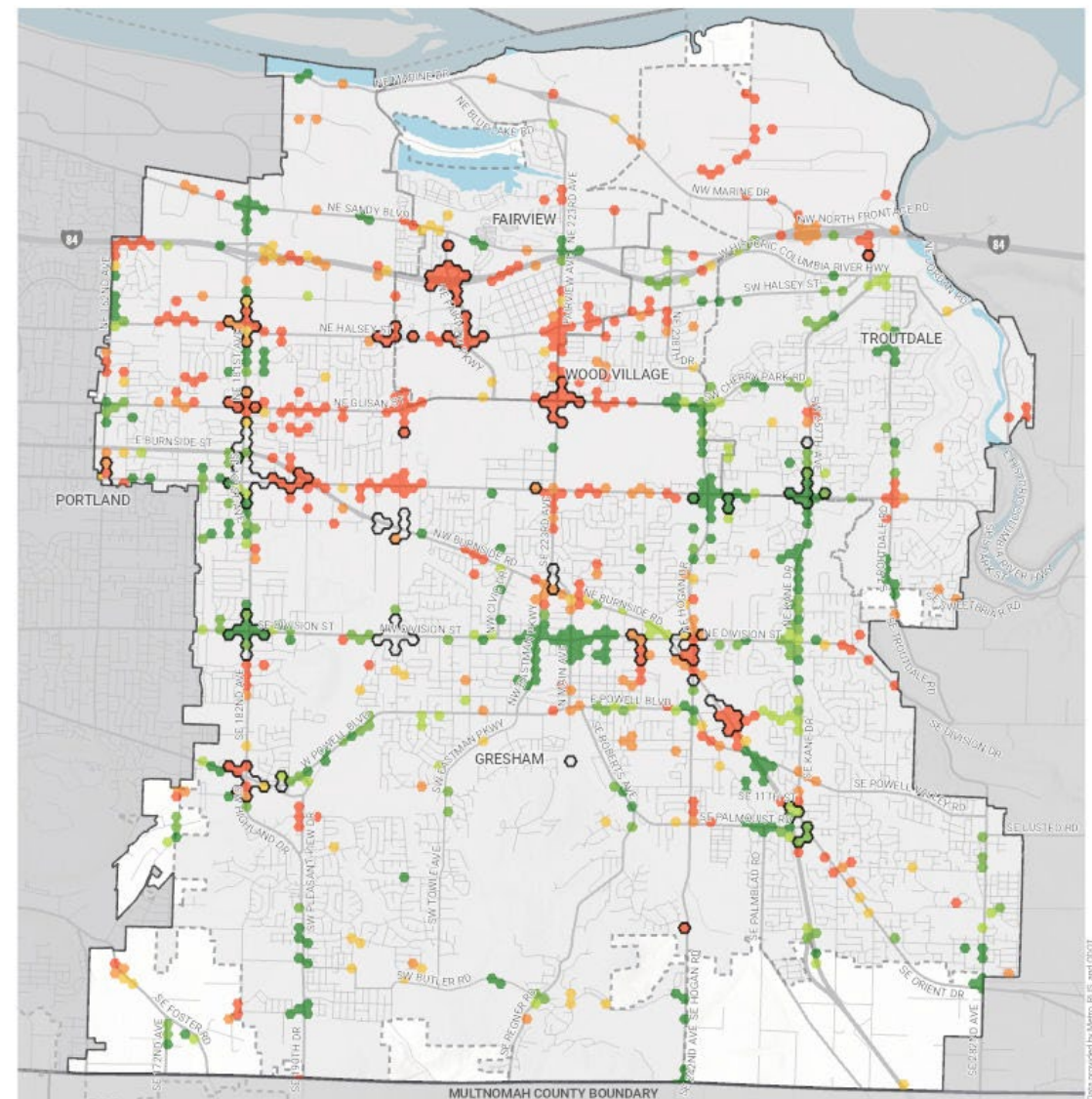


Bicycle and Pedestrian Injury Crashes at Dawn or Dusk



Temporal Crash Trends (2013-2022)

- Red shows upward trend of number of crashes at that location over time
- Green shows downward trend of crashes at that location over time
- Black outline shows identified hot spots that consistently have a high number of crashes over time: communities of Wood Village and Fairview, along Burnside Road and Division Street and the 181st Ave/182nd Ave/Highland Drive corridor
- Crashes have increased over time in the communities of Wood Village and Fairview.
- Crashes have increased over time at the intersections of NE Burnside Road & NE Division Street and SE 181st Ave & SE Stark Street.
- Crashes have decreased over time in the community of Troutdale and along Division Street.



TEMPORAL CRASH HOTSPOT & TREND BIN ANALYSIS (2013-2022)

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RESULTS*

- Identified Hotspots
- Trend Bin Results
 - Downward Trend (99% Confidence)
 - Downward Trend (95% Confidence)
 - Downward Trend (90% Confidence)
 - Upward Trend (90% Confidence)
 - Upward Trend (95% Confidence)
 - Upward Trend (99% Confidence)

DESTINATIONS + BOUNDARIES

- City Limits
- Project Area Boundary

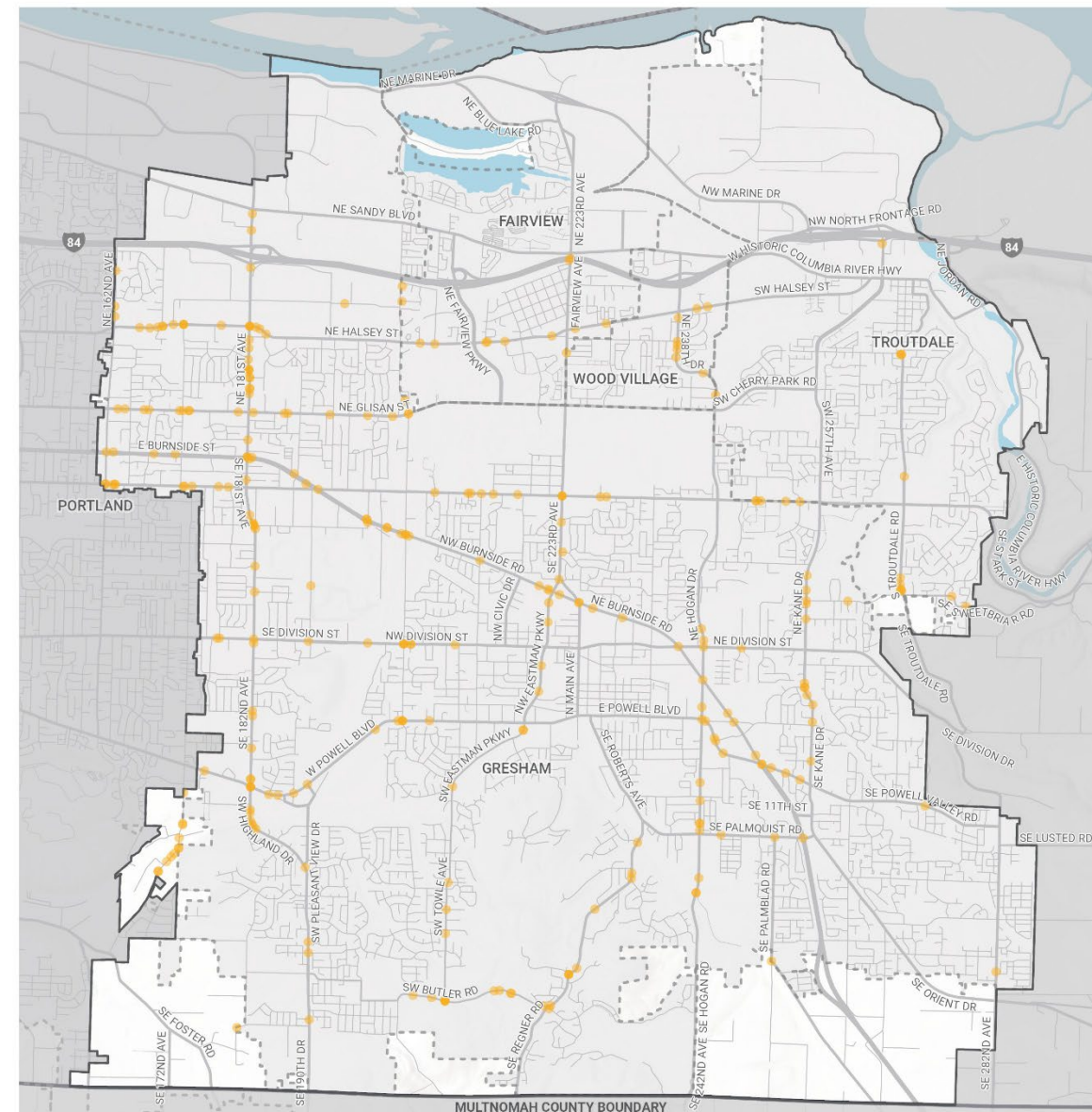


* Hotspots and trend bins were assembled using a space time cube with a time interval of 2 months comparing crashes on a yearly basis. Hotspots only

Data provided by Metro, PLUS and ODOT

Crash Profile: Fixed Object Crashes on 35 MPH Roads

- 9% of all fatal and severe injury crashes
- 3% of all injury crashes
- 35 MPH roads account for 13% of centerline miles overall, but 66% of fatal and severe injury crashes
- NE 181st Ave stands out on the profile map



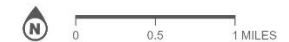
CRASH PROFILE 2

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TSAP

Profile 2: Fixed Object, 35 MPH
road

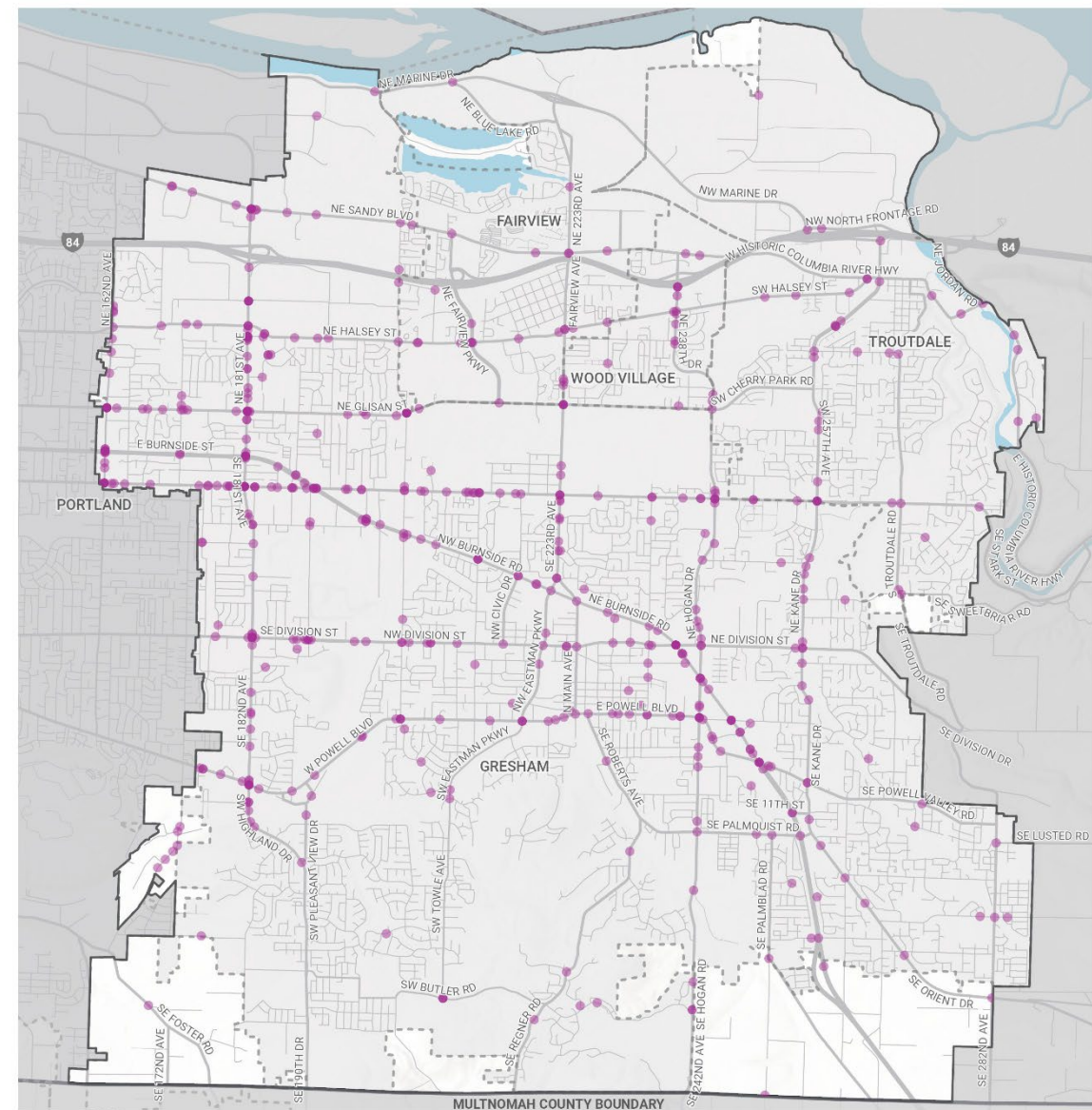
FEATURES

- Profile 2 Crash
- City Limits
- Project Area Boundary
- Multnomah County



Crash Profile: Crashes with Drugs or Alcohol Involved

- Alcohol and drug involved crashes were four times as likely as injury crashes overall to result in a fatal and severe injury crash
- When the crash results in a fatality, about half the time the crash is with a pedestrian
- When the crash results in a serious injury, it is usually because an impaired driver collides with a fixed object
- The majority of all fatalities happen after dark, and of those after-dark fatalities, drug or alcohol impairment is involved in 83% of crashes.



CRASH PROFILE 1
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TSAP
Profile 1: Alcohol or Drugs Involved

- FEATURES
- Profile 1 Crash
 - ▭ City Limits
 - ▭ Project Area Boundary
 - ▭ Multnomah County

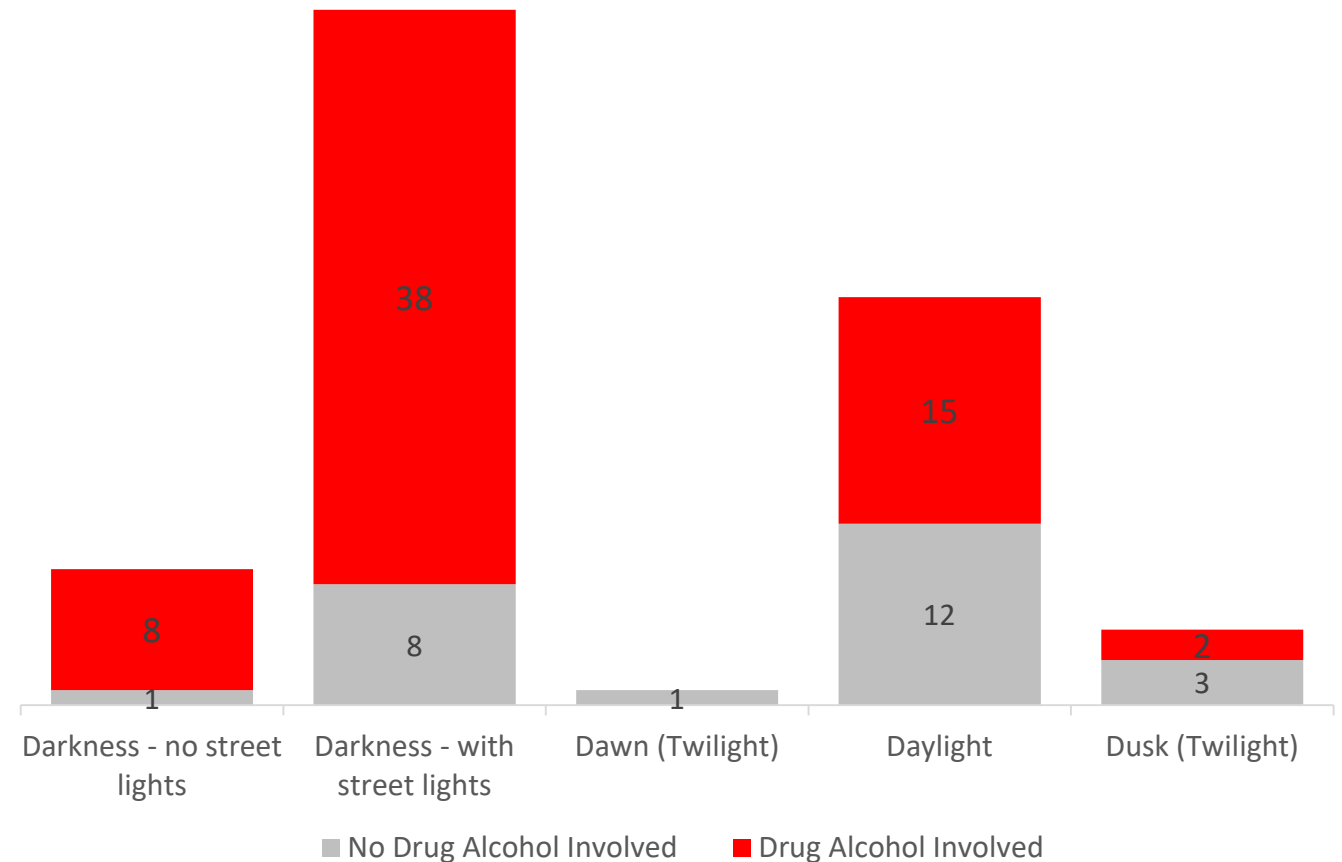


Data provided by Metro and ODOT

Drug and Alcohol Involved at Dark

Fatalities by Time of Day

- While most injury crashes overall happen during daylight hours, the majority of fatalities happen after dark.
- Of these after-dark fatalities, drug or alcohol impairment is involved in 83% of crashes.
- Drug and alcohol impairment significantly increases crash severity in the study area, especially after dark



Next Steps

- Finalize Phase I Engagement Summary and Safety Analysis (Fall)
- Define Additional Analysis Topics (Winter)
- Goal setting (Spring)
- Begin Strategy and Project Selections (Winter/Spring)

Thank you!