



**CITY OF KIRKLAND**  
**Public Works Department**  
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## **MEMORANDUM**

**To:** Transportation Commission

**From:** Kim Scrivner, Transportation Planner  
Joel Pfundt, Transportation Manager

**Date:** February 19, 2021

**Subject:** VISION ZERO WORKSHOP

### **Staff Recommendation**

Staff will walk through the proposal for the Vision Zero Action Plan with the Transportation Commission in a workshop style format. The Transportation Commission is being asked to provide feedback to staff on the various elements presented.

### **Background**

Vision Zero policy was adopted in 2015 as part of the Transportation Master Plan. This goal states that by 2035, eliminate all transportation related fatal and serious injury crashes in Kirkland.

The four key elements of the Vision Zero Safety Plan include:

- **Emphasis:** On crashes resulting in fatalities and serious injuries, with a date specific goal.
- **Partnerships:** Policy makers, Enforcement, Education, Advocacy, Engineering, Emergency Medical Services, Vehicle Manufacturers all work together.
- **System Approach:** Rather than exclusively faulting drivers and other users of the transportation system, Vision Zero places the core responsibility for crashes on the overall system design.
- **Data:** Carefully analyze crashes and use data to make decisions for improvements.

Staff is now working on developing a Vision Zero Action Plan that includes these elements. The point of a zero-based safety plan is to raise awareness by setting aspirational goals going beyond typical engineering and enforcement-based efforts using a multi-faceted approach.

### **Vision Zero Workshop format**

The workshop will walk the Transportation Commission through various elements of the Vision Zero Action Plan. This presentation will include:

- An introduction to Vision Zero, Kirkland's Vision Zero policy and progress made so far.

- Staff will also review the crash data for 2015 – 2019 trends and observations in the data. The analysis will also include high accident corridors and contributing circumstances.
- Discuss how Vision Zero will be a multi-department effort. Staff will discuss how departments plan to coordinate and their various roles in implementing Vision Zero strategies.
- Identify the various components of a Vision Zero Action Plan including proposed objectives and strategies.
- Demonstrate how the Vision Zero Action Plan will be used to aid in decision-making.

**Attachment**

- Vision Zero Workshop Presentation



# VISION ZERO

## KIRKLAND

February 24, 2021  
Transportation Commission  
VISION ZERO WORKSHOP



# Overview

# What is Vision Zero?

The Vision Zero concept was created in Sweden in 1997 and is widely credited with a significant reduction in fatal and serious crashes on Sweden's roads since that time. Cities across the United States are adopting bold Vision Zero initiatives that share common principles:

- Traffic deaths are preventable and unacceptable.
- Street design should anticipate error and reduce risk.
- Design the most vulnerable users of the system.
- Speed is a fundamental factor in crash survival.
- Safe human behaviors, education and enforcement are essential contributors to a safe system.

# What's the risk?



Ineffective Design  
Impairment



Distraction



Uncontrolled Intersections



Comfort levels on roads encourage speeding



Failure to Yield



# Solutions

Maximize  
separation  
as much as  
possible



Minimize conflict  
points between  
modes

Reduce  
Speeds



Education



Enforcement



# Language Matters

Status quo	Better practice	Effect of status quo
<b>Accident:</b> "Pedestrian killed in <u>accident</u> on Main Street."	<b>Crash:</b> "Pedestrian killed in <u>crash</u> on Main Street."	Obscures preventable nature of crashes
<b>Non-agentive:</b> "A pedestrian was hit and killed." (no agent)	<b>Agentive:</b> "A pedestrian was hit and killed <u>by a car</u> ."	Obscures role of a human actor

"Words Matter," a [presentation](#) (and [video recording](#)) by Barb Chamberlain, WSDOT Active Transportation Division Director (December 2019)



# Vision Zero Policy in Kirkland

City of Kirkland



TRANSPORTATION  
MASTER PLAN

Kirkland adopted Vision Zero policy in 2015 as part of the Transportation Master Plan.

## Goal T-0: Zero traffic fatalities and serious injuries by 2035.

### 4 Key elements

1. **Emphasis:** On crashes resulting in fatalities and serious injuries, with a date specific goal.
2. **Partnerships:** Policy makers, Enforcement, Education, Advocacy, Engineering, Emergency Medical Services, Vehicle Manufactures all work together.
3. **System Approach:** Rather than exclusively faulting drivers and other users of the transportation system, Vision Zero places the core responsibility for accidents on the overall system design.
4. **Data:** Carefully analyze crashes and use data to make decisions for improvements.

# Where we are now

- Kirkland's Vision Zero Service Team Charter was developed
- Logo concepts and initial outlines created
- Ongoing safety improvements through Capital Improvement Program and Neighborhood Services
- Purchase of Crossroads Analytics Software and ongoing improvements to data and database (coordination with GIS/IT department)
- Safer Routes to School Action Plan adopted
- Police Active Involvement in King County Target Zero Task Force
- Ongoing staff training and coordination with neighboring cities



# What Kirkland Has Done Well

## DUI Prevention



## Greenways



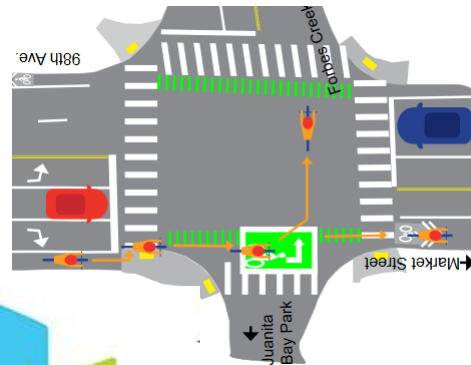
## Transportation Master Plan



**Goal T-0 Safety** By 2035 eliminate all transportation-related fatalities in Kirkland.

**Goal T-1 Walking** - Complete a safe network of comfortable and the first choice for many trips.

**Goal T-2 Biking** - Interconnect bicycle facilities for people of all ages and abilities.



## Complete Streets Policy

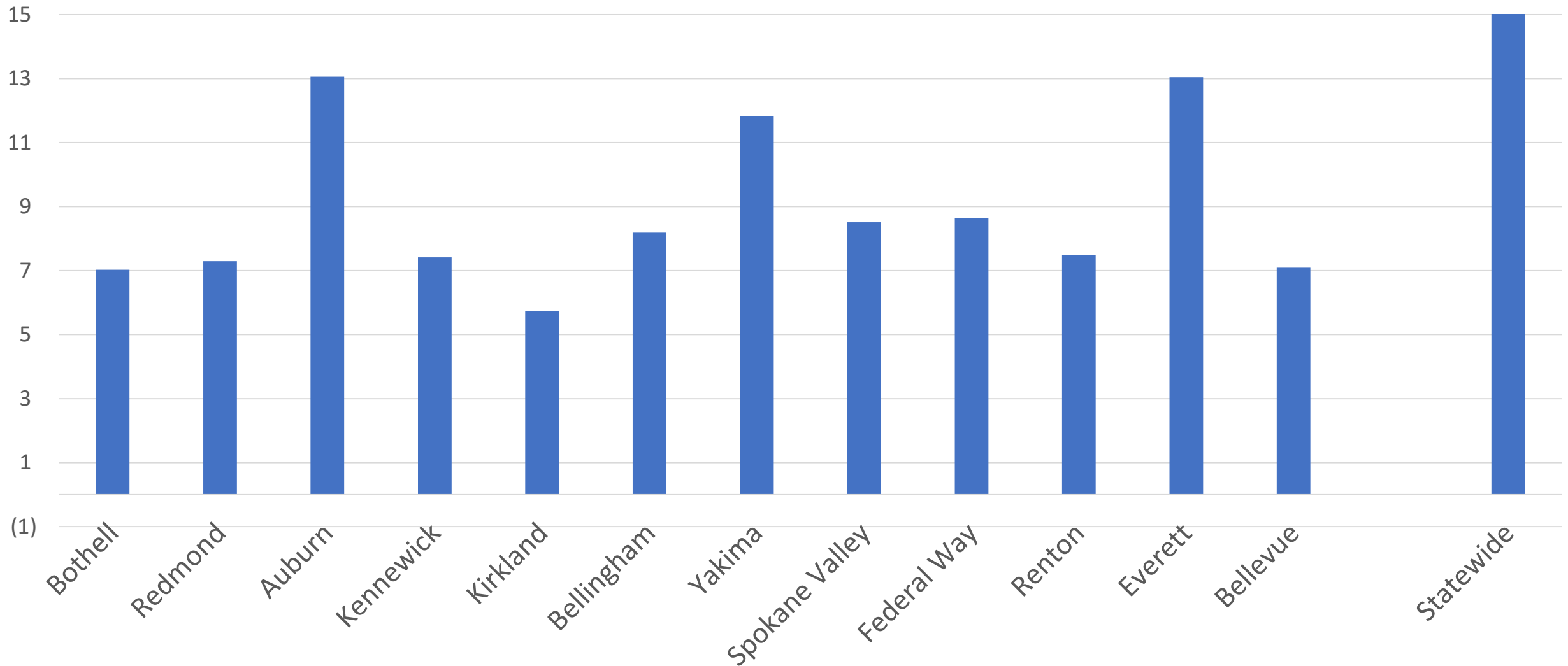
## Safer Routes to School Action Plans



## Neighborhood Safety Program



# City and State Comparison - Rate per 10,000 people Serious Injuries and Fatalities

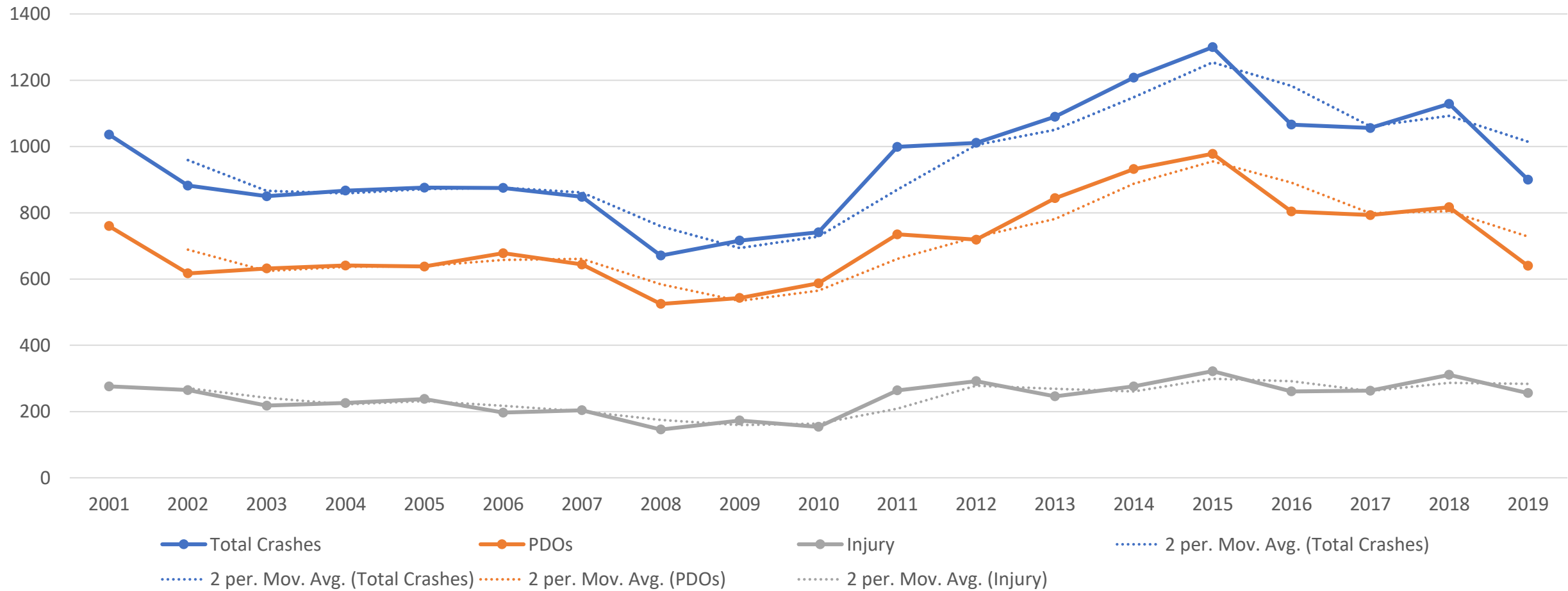




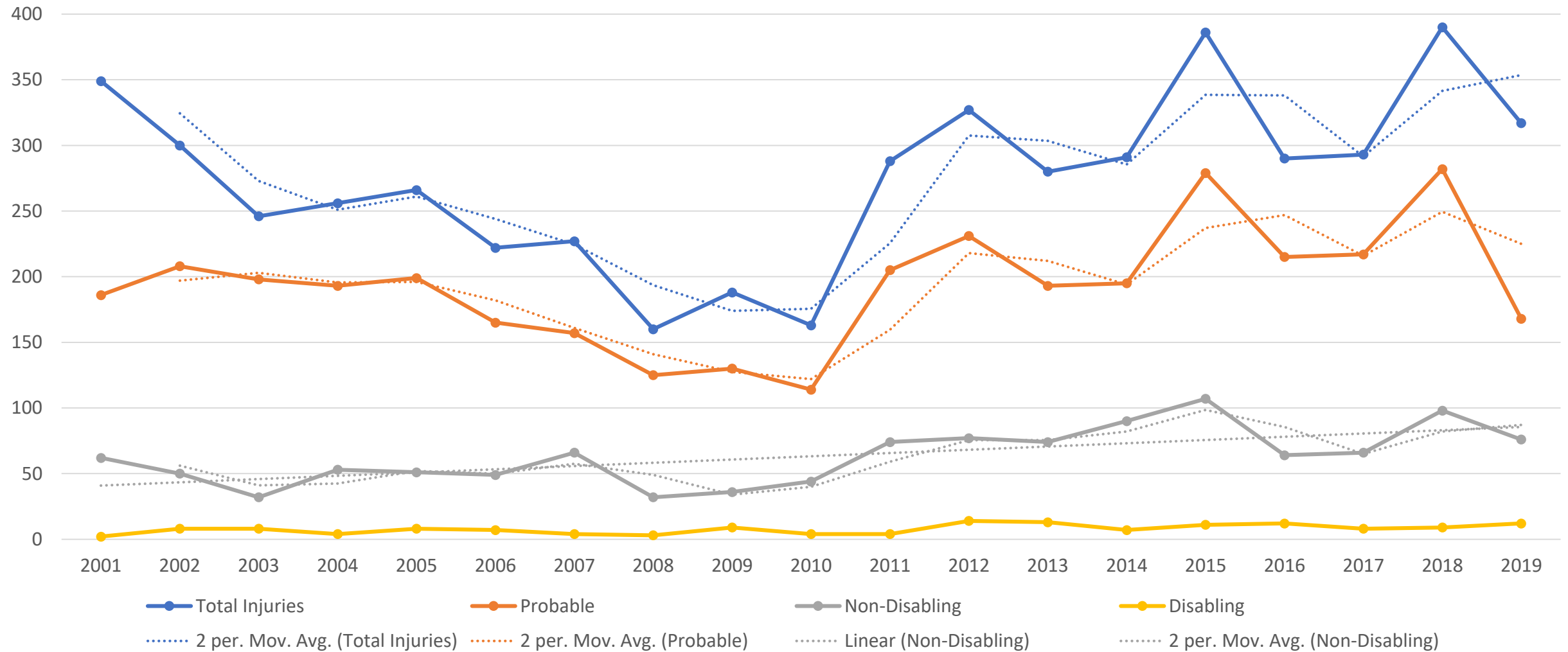
# Crash Data Analysis



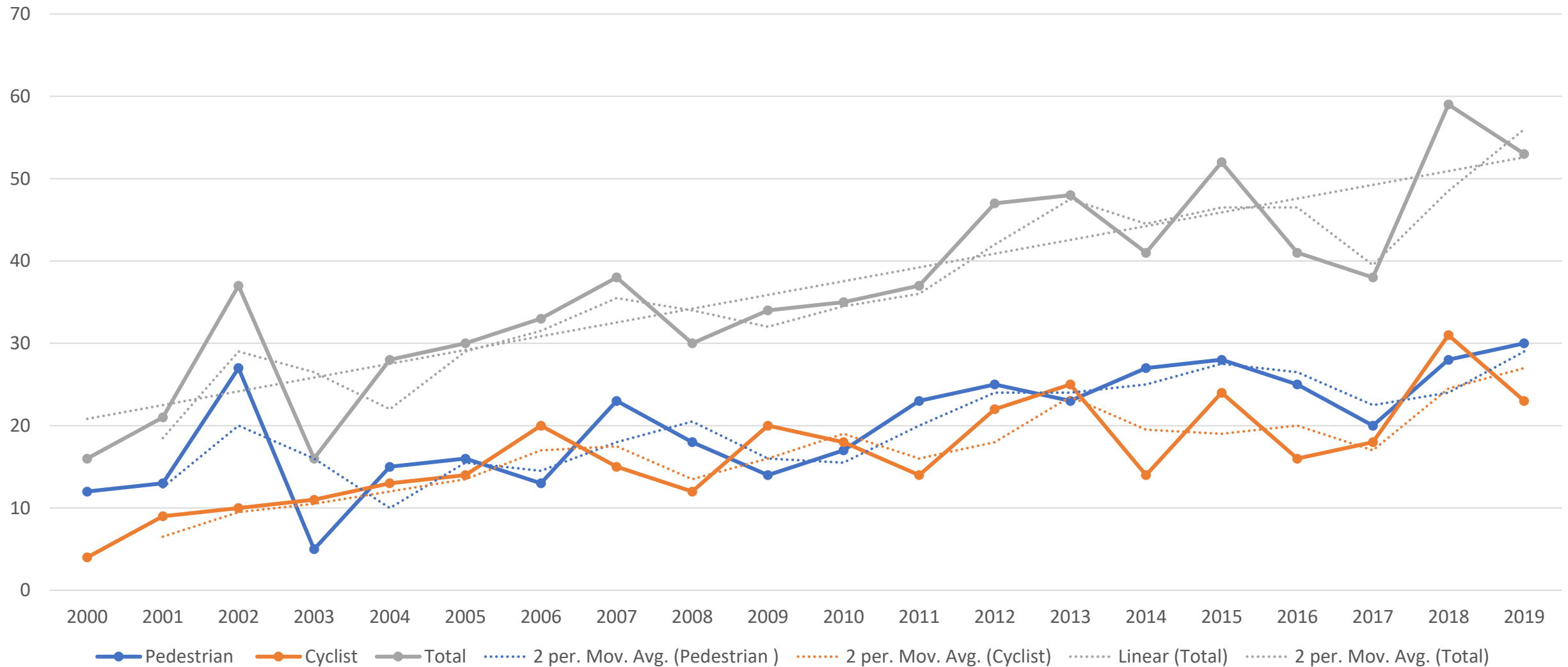
# Crashes by Type (2000-2019)



# Injuries by Severity Type (2000-2019)

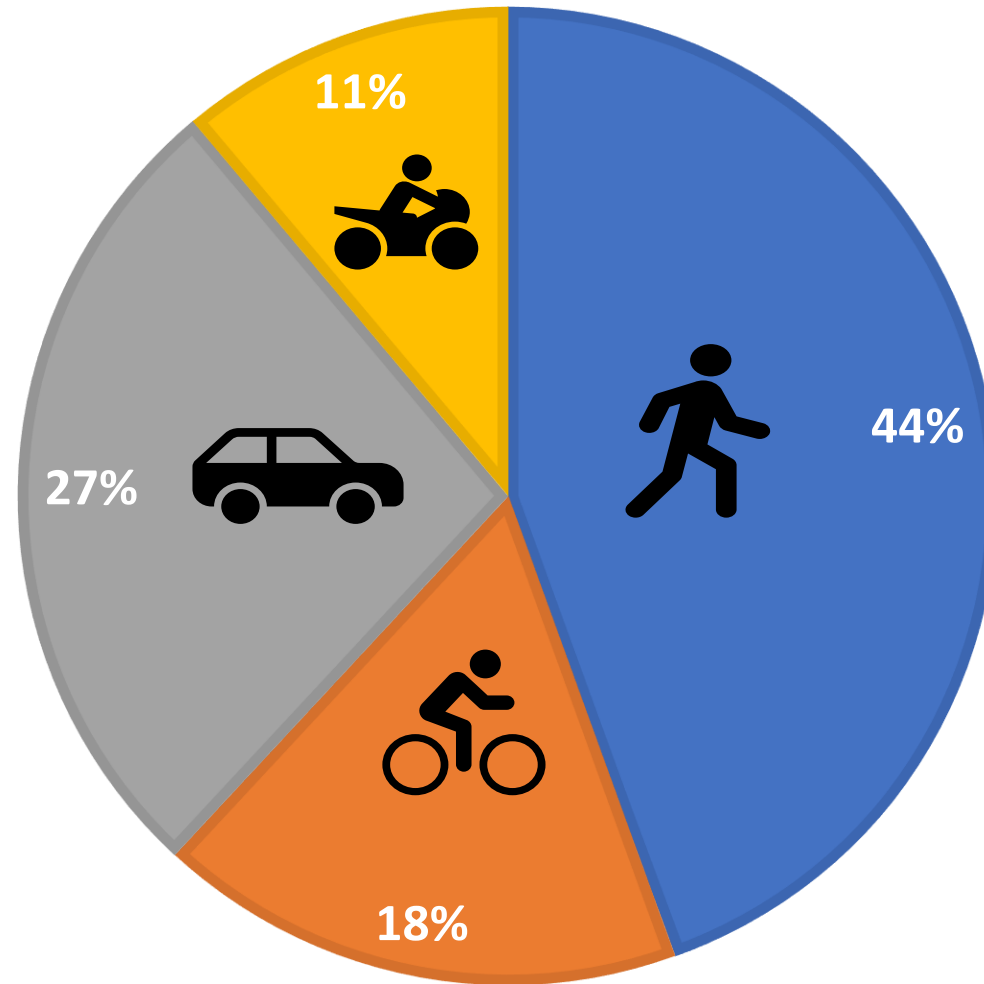


# Pedestrian and Cyclist Crashes on Public Right of Way (2000-2019)



# Fatal and Serious Injury Crashes by Mode

## 2015-2019

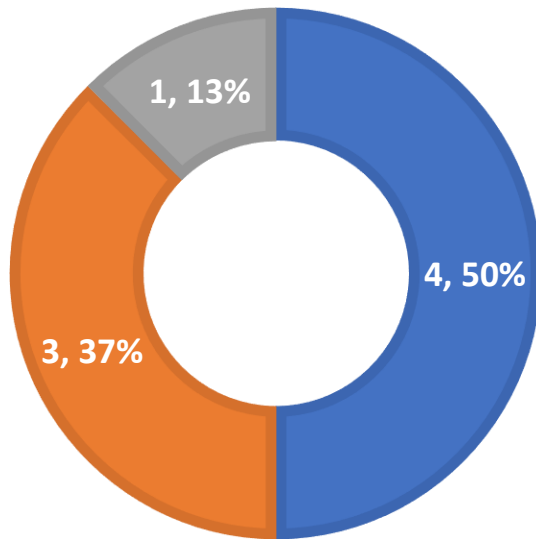


# Fatal and Serious Injuries by Crash Type 2015-2019



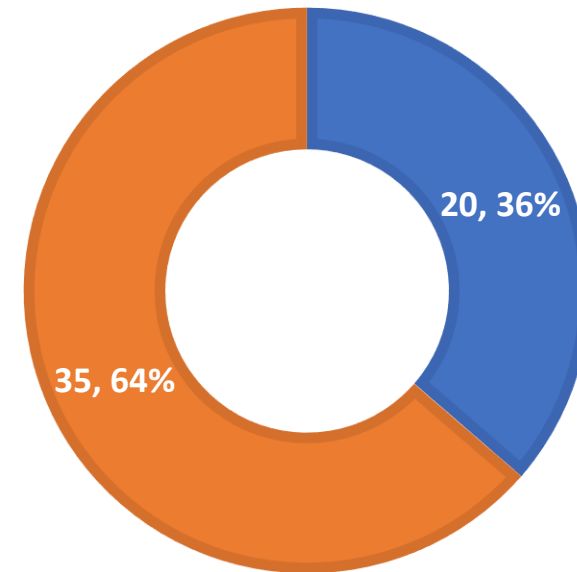
## FATALITIES

- Parked Vehicle / Fixed Object
- Pedestrian / Bicycle Involved
- Rear-End



## SERIOUS INJURIES

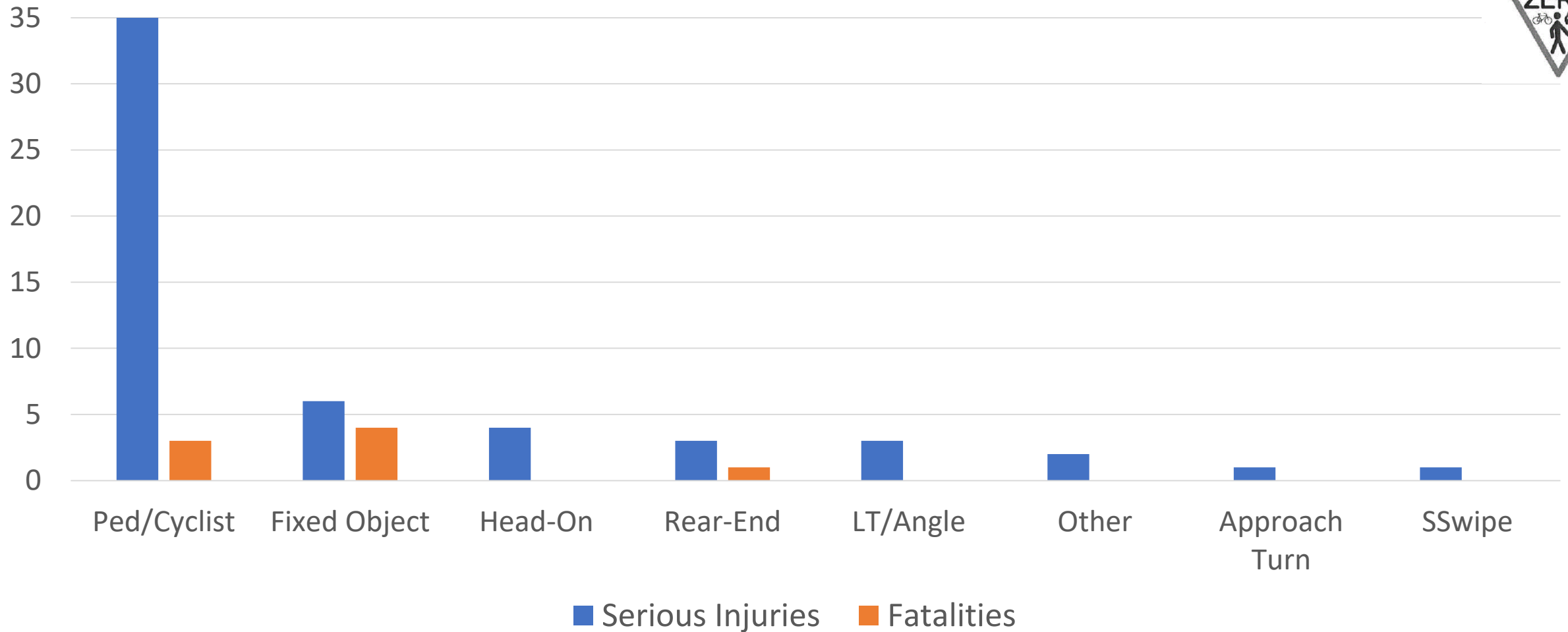
- All other contributing factors
- Pedestrian / Bicycle Involved



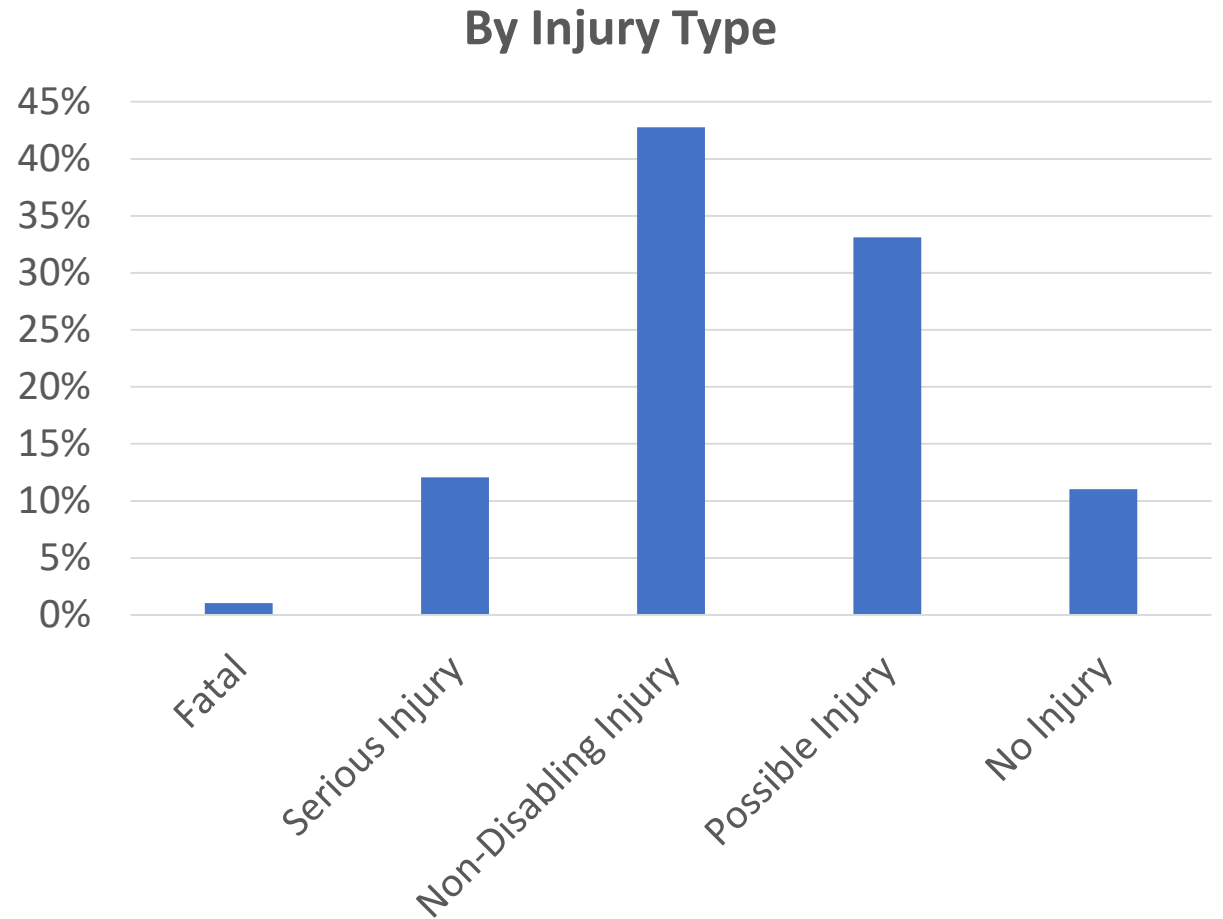
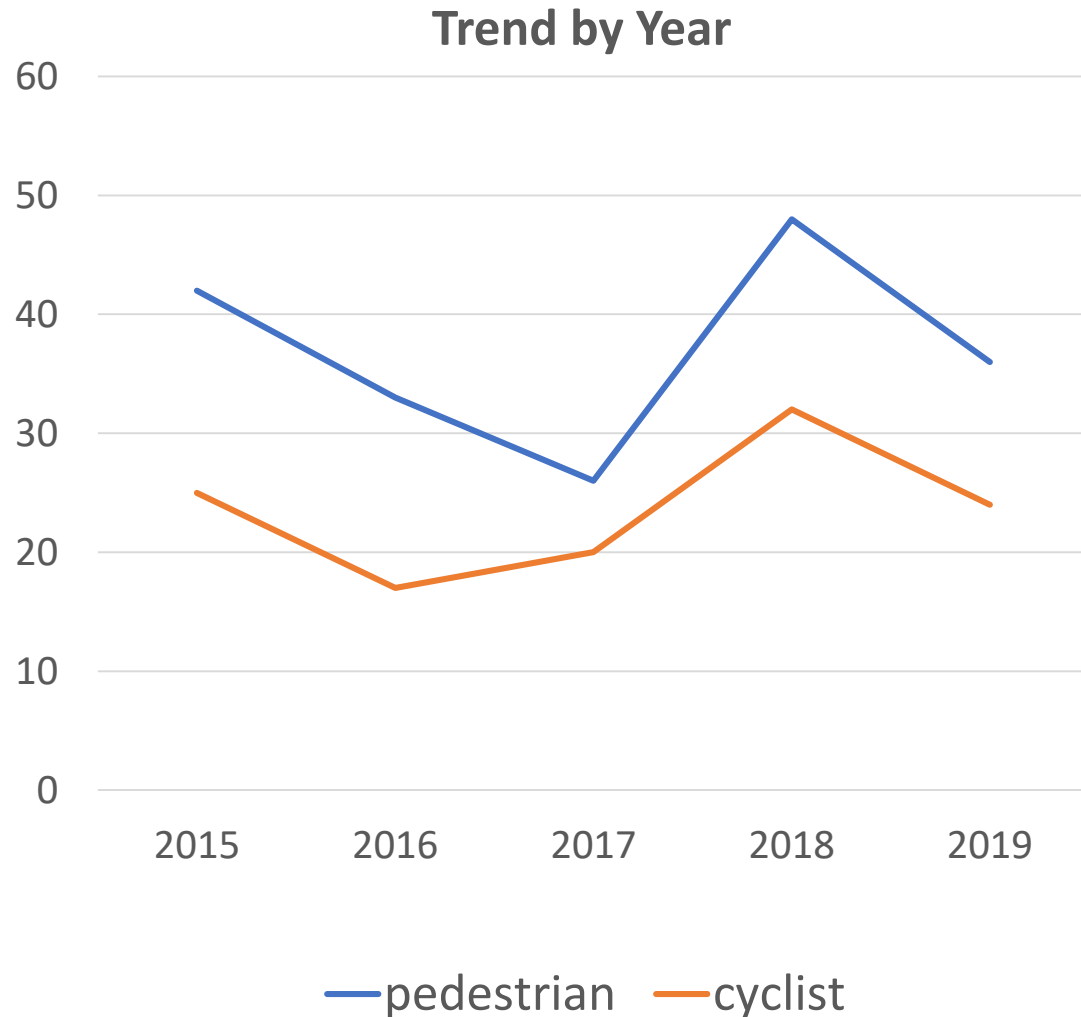


# Fatal and Serious Injuries by Crash Type

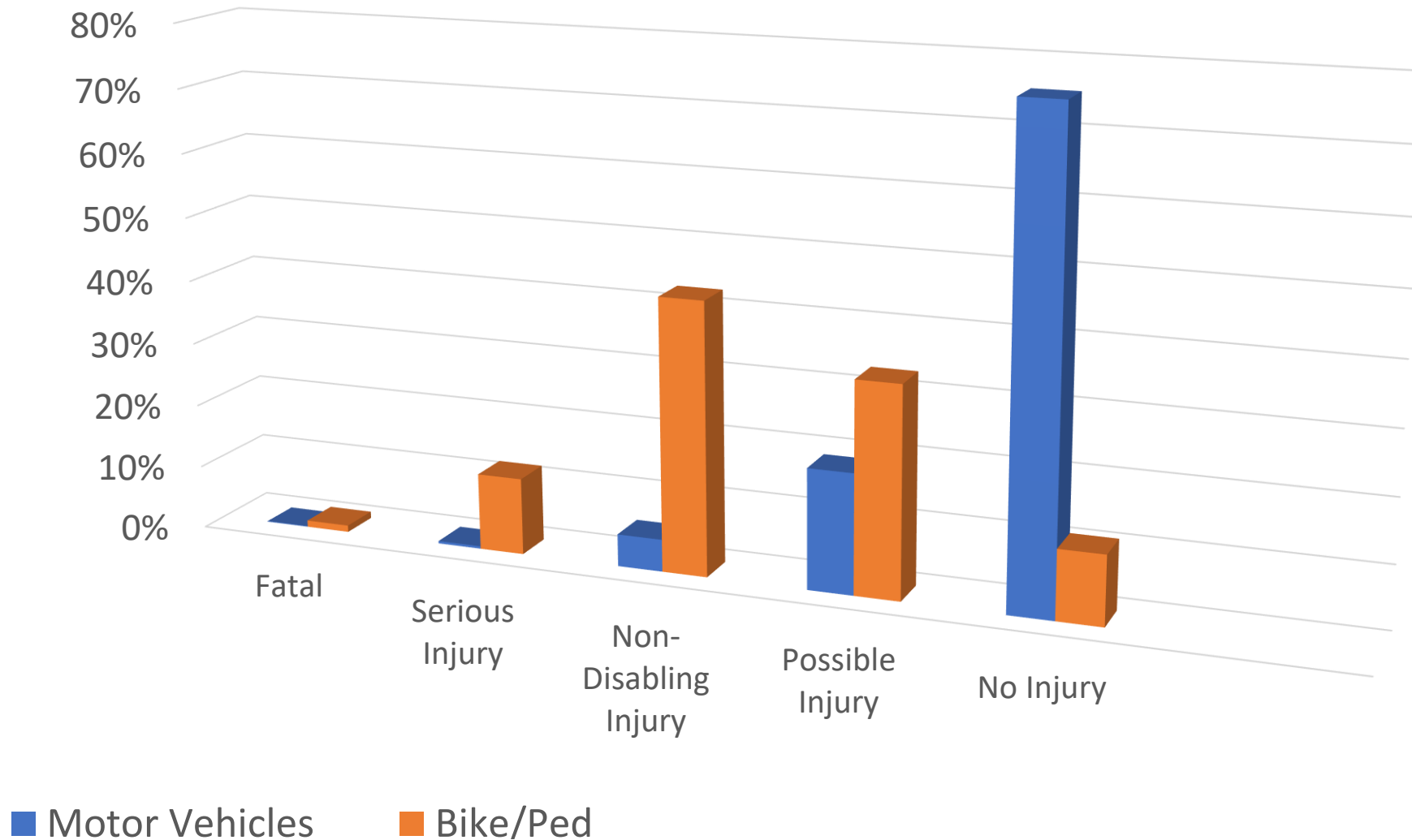
## 2015-2019



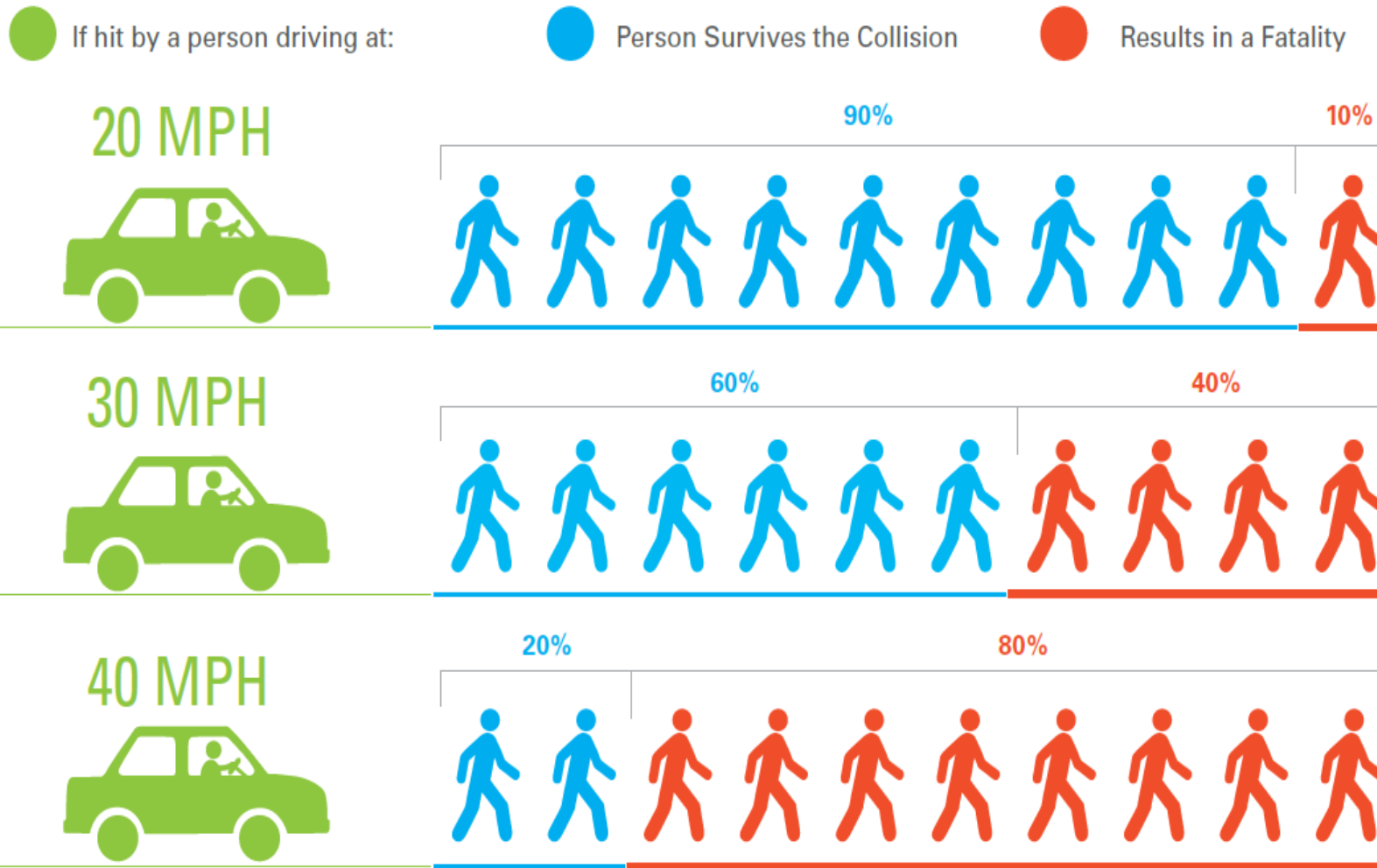
# All Pedestrian/ Bicyclist Collisions (2015-2019)



# All Collisions by injury type (2015-2019)

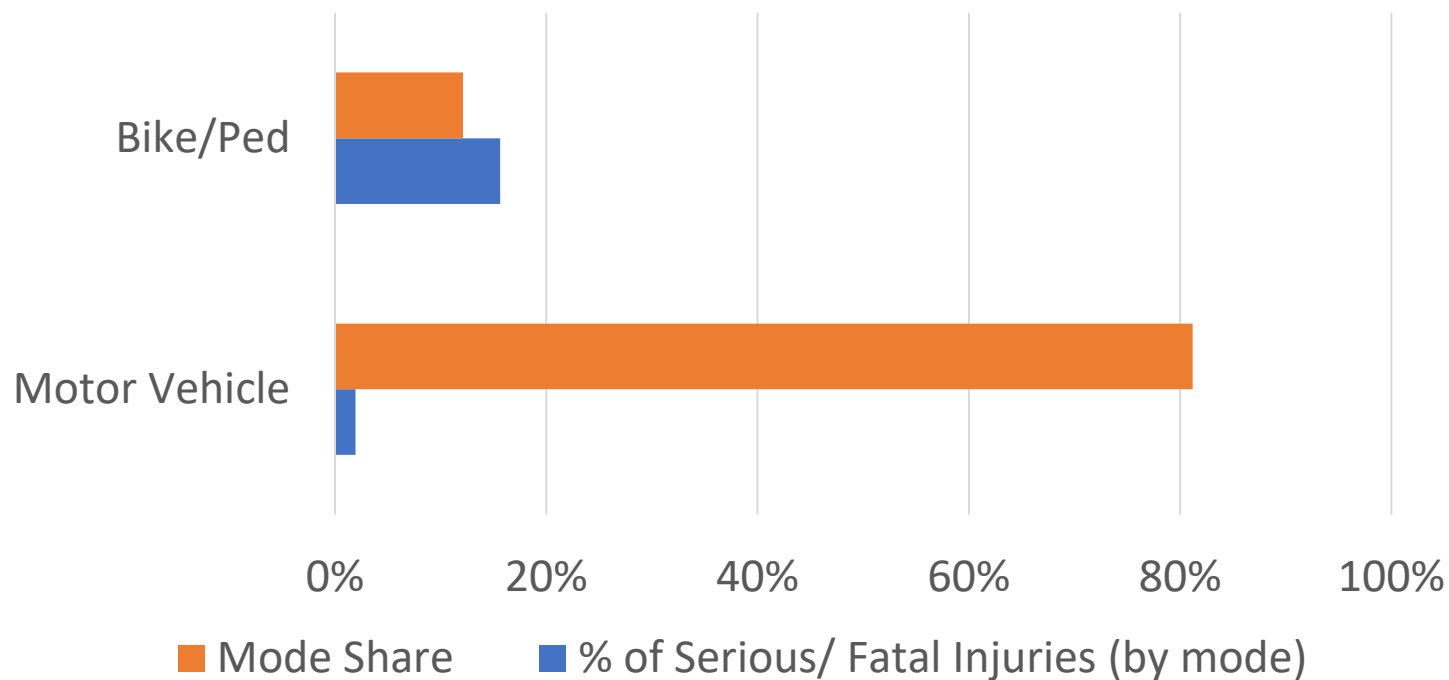


# The Speed Effect



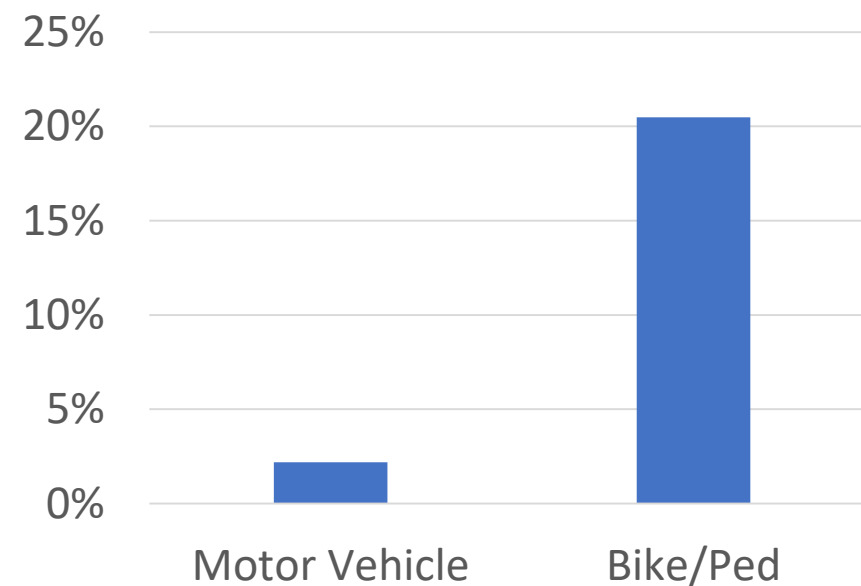
# Crash Comparisons by Mode (Measure of Risk)

Share of Serious/ Fatal Crashes Compared to  
Share of All Trips – Puget Sound Region



Source: PSRC 2017/2019 Household Travel Survey mode share  
WSDOT (Puget Sound Region – 2019)

Share of serious injuries/ fatalities  
(by mode) – Washington State



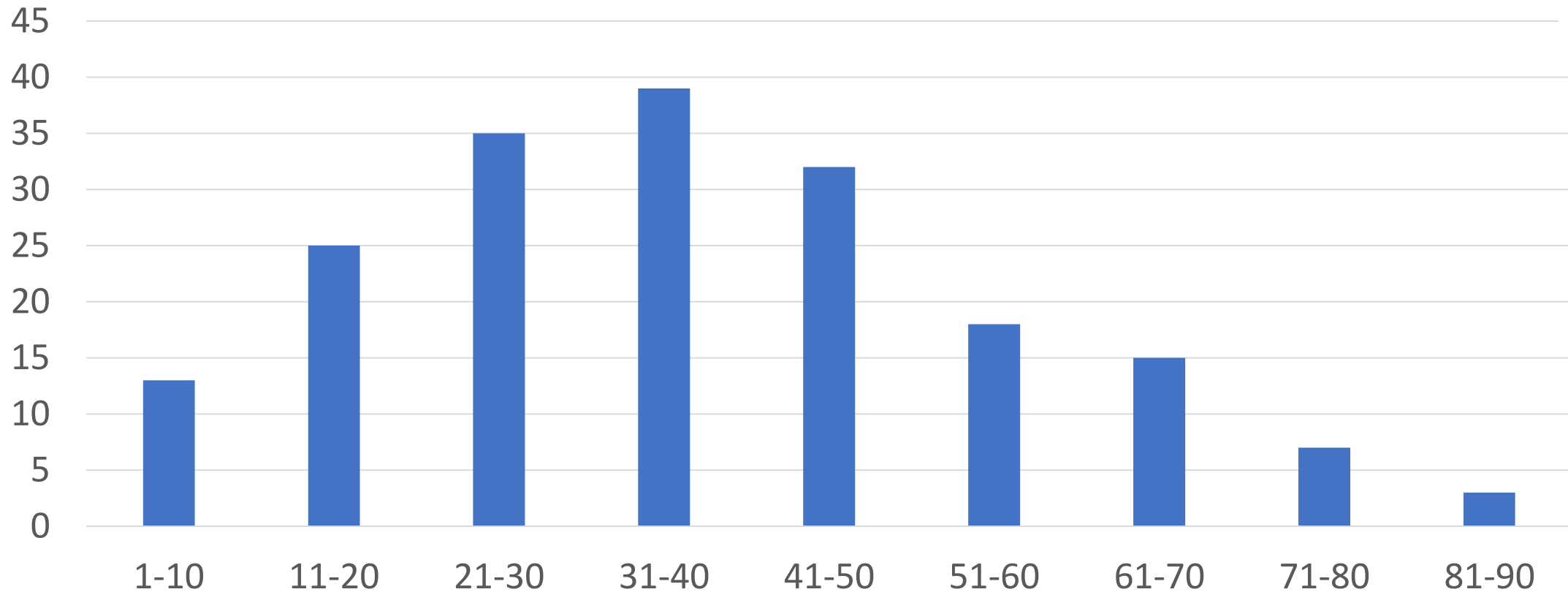
Source: WSDOT (Statewide – 2019)



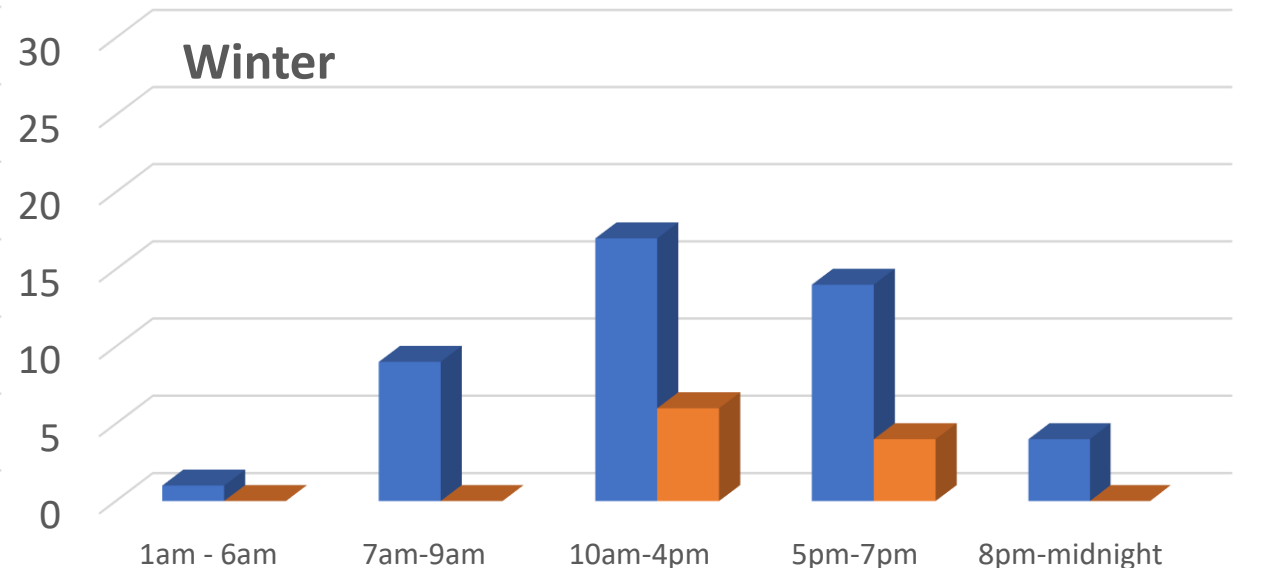
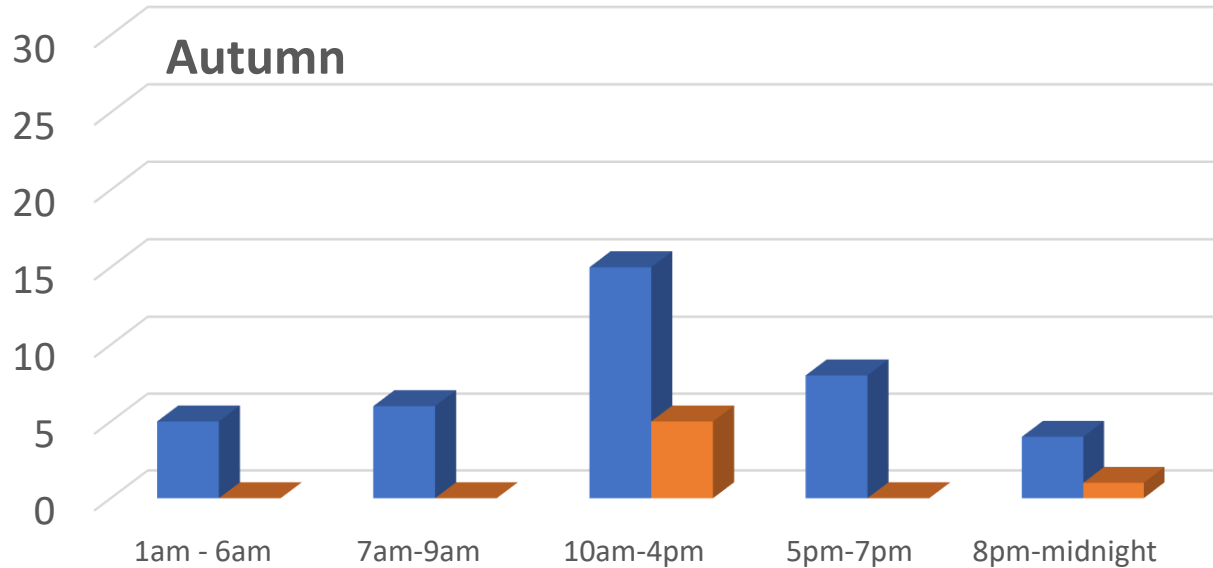
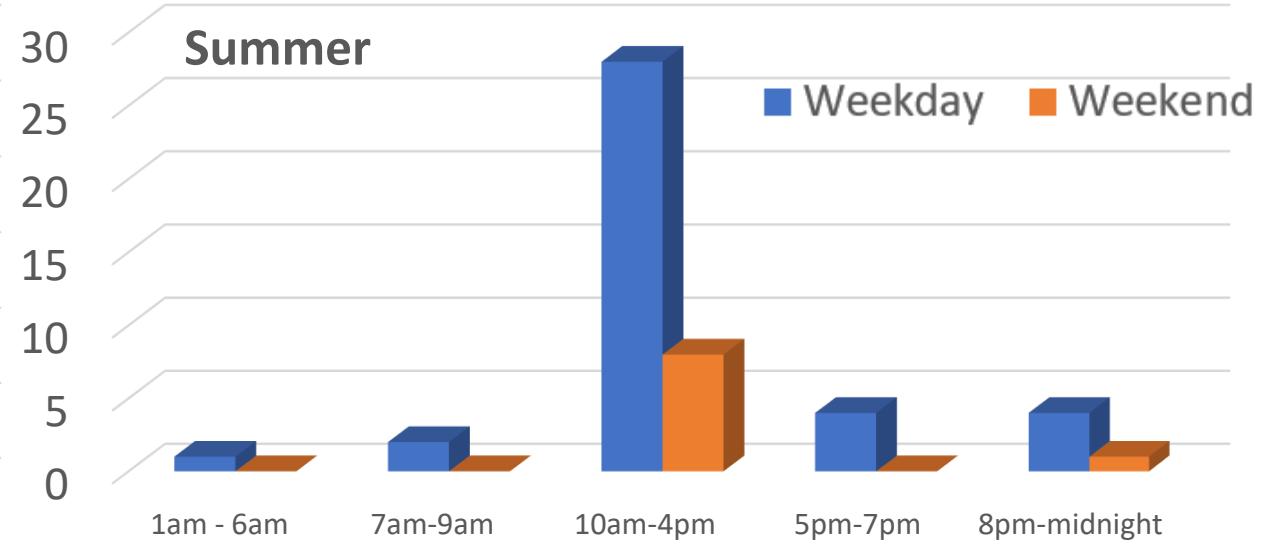
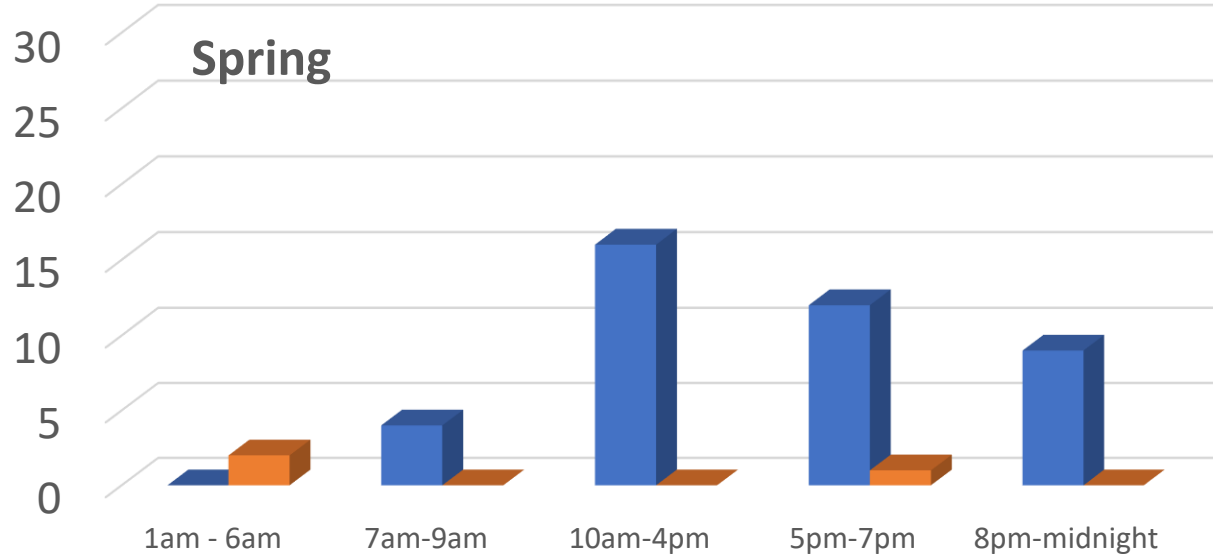
# All Injury Pedestrian Crashes by Age



Pedestrian Crashes - Age



# Pedestrian Crashes by Season/ Time of Day



# Risk/ Contributing Factors

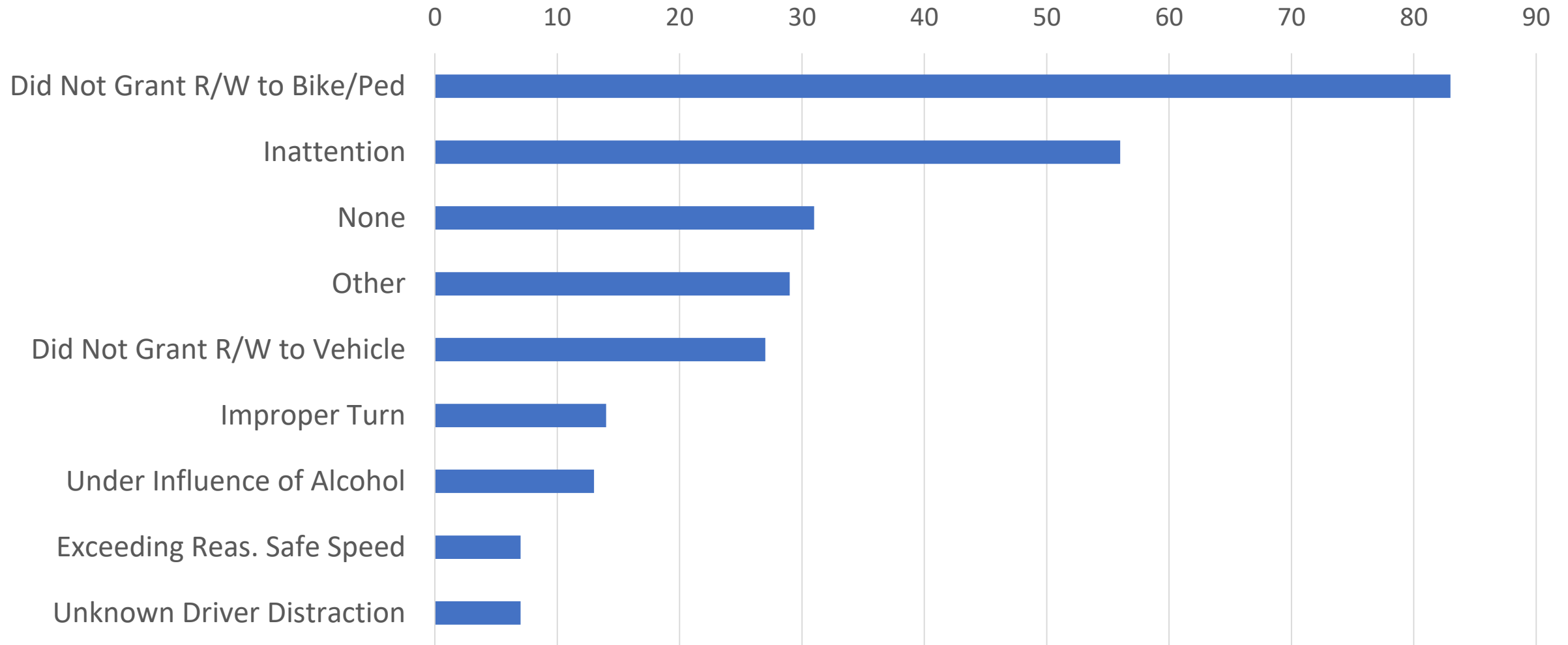
## Roadway Characteristics



## Human Element

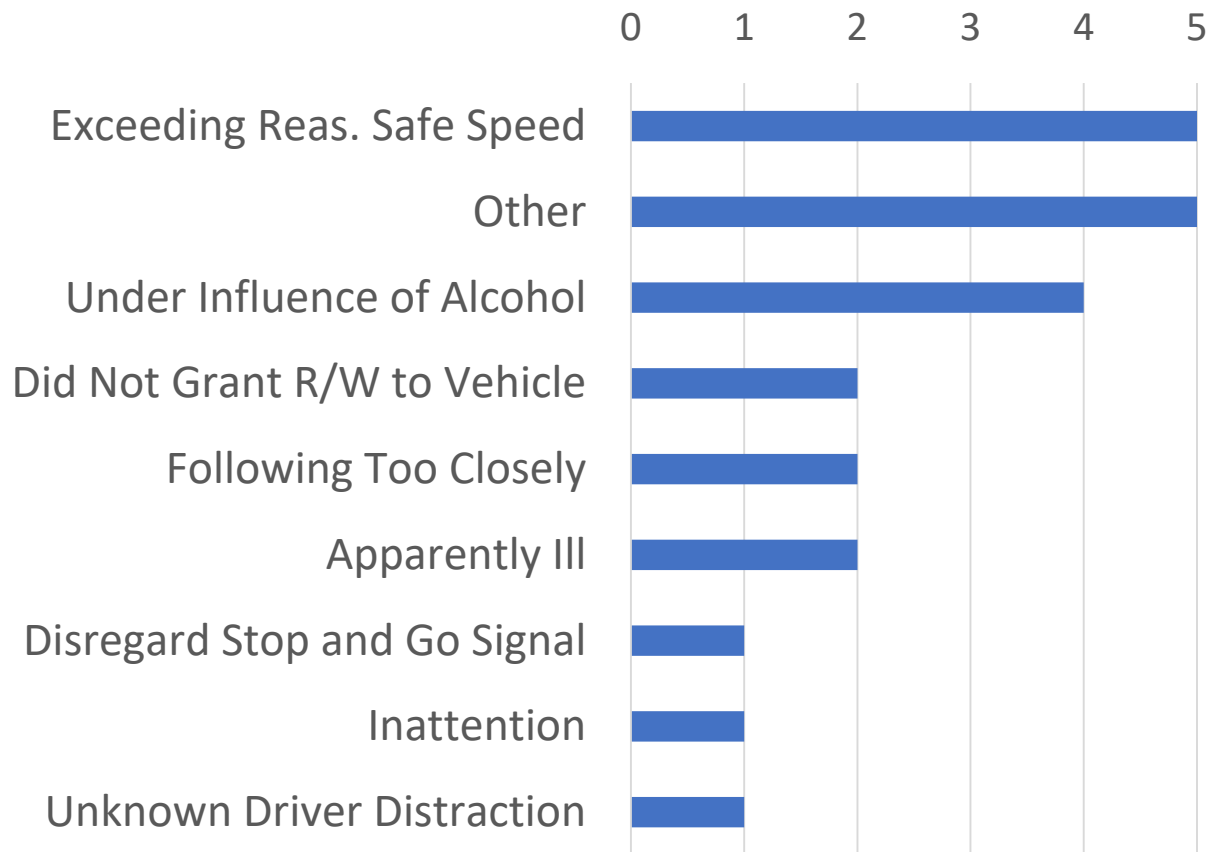


# All Fatal, Serious Injuries and Bike/Ped Other Injuries: Top Contributing Factors

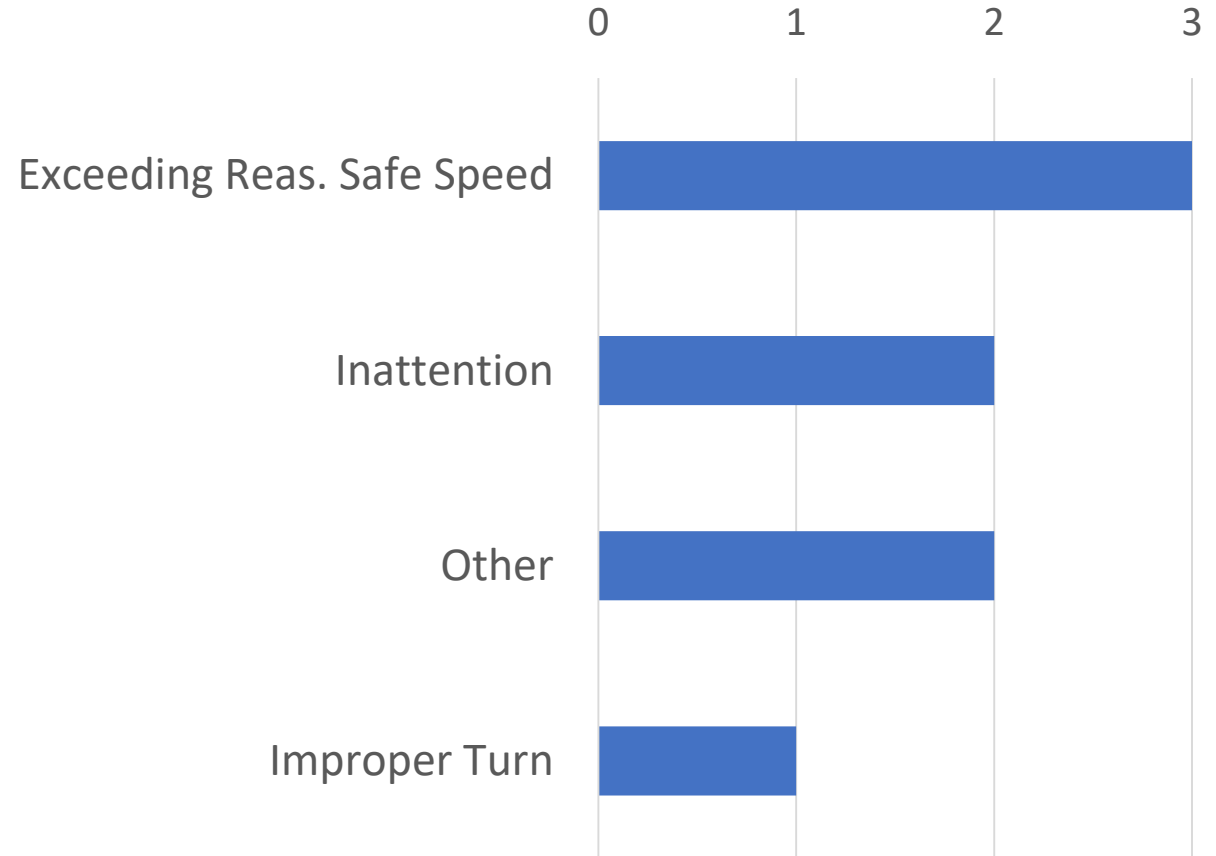


# Contributing Factors - Serious/ Fatal by Mode

## Motor Vehicle



## Motorcycle





# Contributing Factors - Serious/ Fatal by Mode

## Cyclists

0 5 10 15 20 25

Did Not Grant R/W to Vehicle



None

Inattention

Did Not Grant R/W to Cyclist

Improper Turn

Other

Unknown Driver Distraction

Driver Not Distracted

Disregard Stop Sign / Flashing Red

Driver Distractions Outside...

Improper Parking Location

Improper passing

## Pedestrians

0 10 20 30 40 50 60 70

Did Not Grant R/W to Pedestrian



Inattention

Other

None

Under Influence of Alcohol

Improper Backing

Exceeding Reas. Safe Speed

Unknown Driver Distraction

Apparently Ill

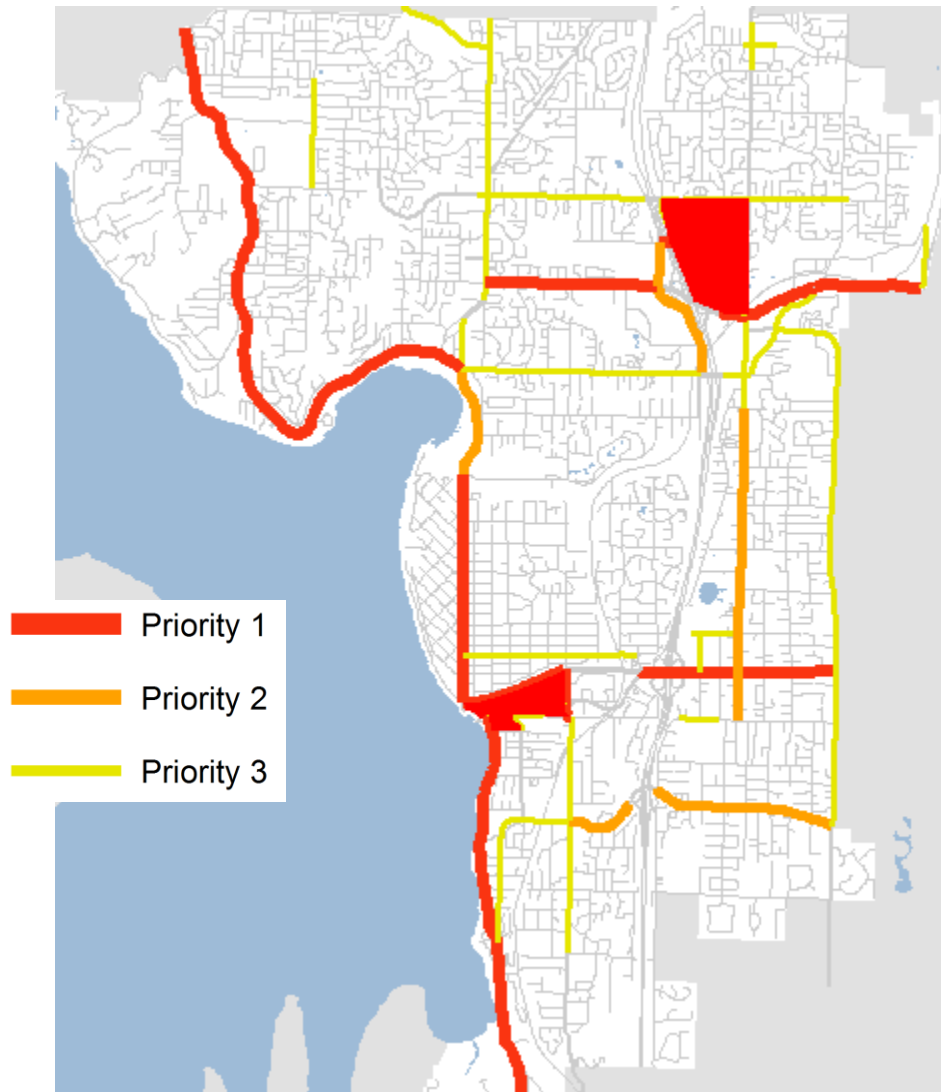
Did Not Grant R/W to Vehicle

Driver Distractions Outside...

Driver Not Distracted

Improper U Turn

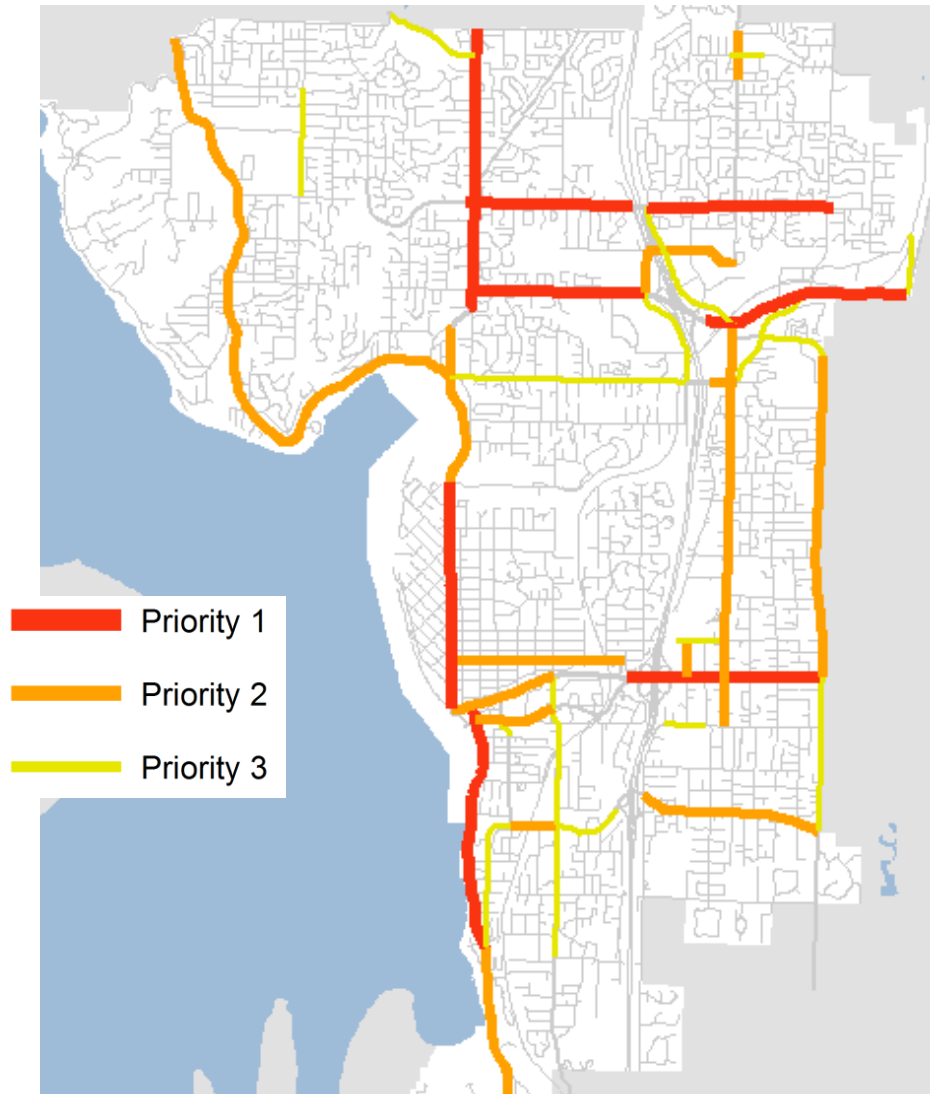
# High Accident Corridors (Fatalities/ Serious Injuries)



Corridor	Fatal	Serious	Total Fatal Serious	Priority Corridors
Lake Washington Blvd		7	7	I
Juanita Dr		5	5	I
NE 85th St		5	5	I
Totem Lake Area	1	4	5	I
NE 124th St	2	4	6	I
Downtown Area		4	4	I
Market	1	3	4	I
124th Ave NE		3	3	II
116th Way NE		2	2	II
98th Ave NE		2	2	II
NE 68th St	1	1	2	II
NE 70th St	1	1	2	II

# High Accident Corridors

## All Fatalities, Serious Injuries and Other Bike/Ped Injuries



Corridor	Fatal	Serious	Other Bike/Ped Injuries	Total Fatal Serious	Priority Corridors
Market St	1	2	16	19	1
100th Ave NE	1	1	13	15	1
Lake Wa Blvd - N of Lakeview Dr		3	12	15	1
NE 124th St (west of 405)		2	12	14	1
NE 85th St		5	7	12	1
NE 124th St (east of 405)	2	4	5	11	1
NE 132nd St (east of 405)		2	9	11	1
Lake St S		1	9	10	1
NE 132nd St (west of 405)			10	10	1
124th Ave NE (north)			7	7	2
Central Way		2	5	7	2
Juanita Dr (Village)		1	6	7	2
Lake Wa Blvd - S of Lakeview Dr		4	3	7	2

# Additional Analysis

- Overlay equity layer
  - higher percentage of people with low-income, people of color, people with disabilities and limited English-speaking populations
- Contributing factors by roadway characteristics
  - use roadway characteristics to assess other parts of the network with low crash rates
- Compare high crash corridors with bike/ ped counts
  - Lighting assessment for high bike/ ped use
  - If low bike/ ped use and high crash rate – evaluate further
- Crashes in parking lots vs. public roads
- High crash corridors by length and volume
- High Accident Intersections
- Compare bike/ped crash rates with presence of bike/ pedestrian facilities



# Questions for the Transportation Commission



What information is the most compelling?

Is there other information you would like to see?

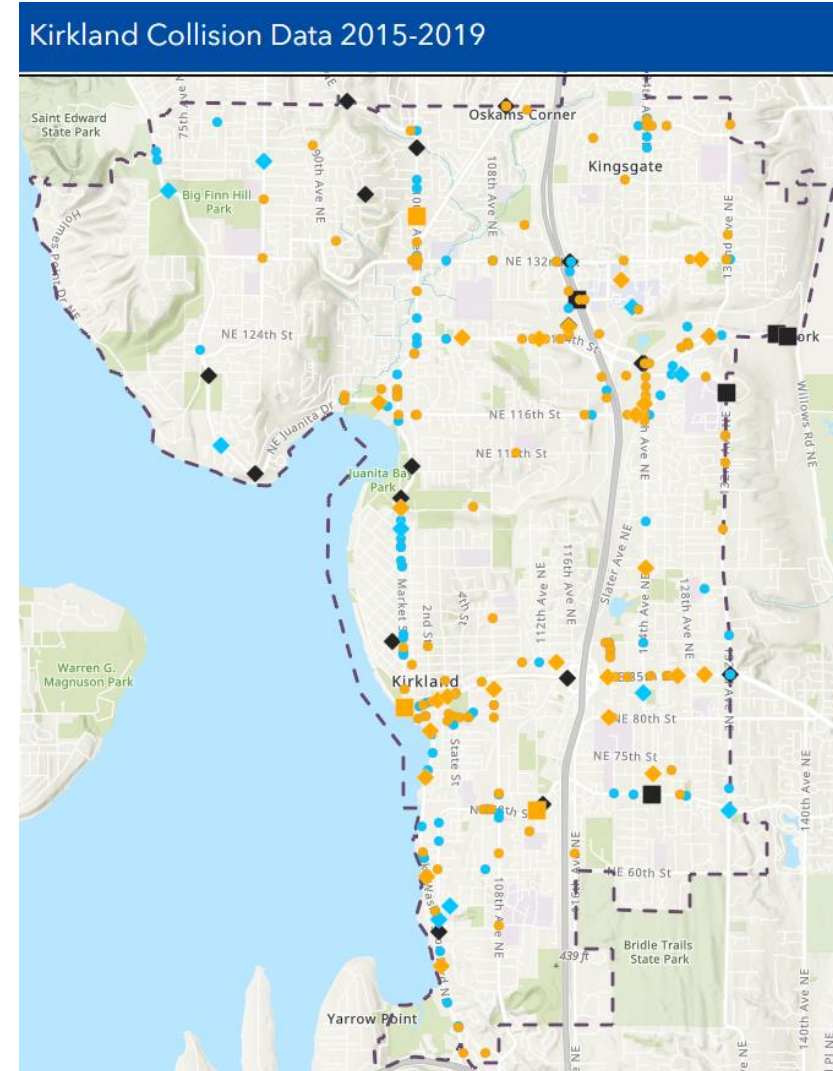
Other observations or questions?



# It Takes a Village

# COORDINATION WITH GIS/IT

- GIS mapping
- Crash data management
- On-line dashboard
- Story map
- Database modifications to accommodate additional data sources





# COMMUNICATION DEPARTMENT



- Outreach to the general public
- Triage and responding to complaints
- Interdepartmental coordination
- Development of PSA's, videos, etc.





# ENFORCEMENT

- King County Target Zero Task Force – Active Participant
- Enforcement grants – last 3 years, emphasis on DUI, distracted driving, and motorcycle safety
- Holiday DUI emphasis campaign
- Expanded traffic units - three additional officers (5 total by summertime)
- School Resource officers to include traffic safety education



Photo: 2019 DUI Re-enactment at Lake Washington High School

# ENFORCEMENT (cont.)

- Targeted enforcement based on complaints and multiple collisions
- Crosswalk enforcement (mostly in downtown but looking to expand to other areas).
- Additional enforcement targeting cell phone use while driving (can use bicycles in confined areas such as downtown)
- Emphasis on bicycle safety (user safety as well as driver interaction)
- DUI prevention in high schools (annual DUI reenactment)
- School safety cameras
- Radar speed feedback signs
- VZ can support increased bicycle enforcement



# PLANNING AND DEVELOPMENT

- Working with developers and CIP contractors during construction phases
- Development to help build out our sidewalk and street frontage system
- Seeking additional ways to prioritize safety as our city grows (station area plans, KMC, etc.)





# ENGINEERING

- separation of modes with projects and development
- signal timing modifications aimed at pedestrian safety
  - advance pedestrian interval (evaluation process)
  - protected left turns, restricted turn movements
  - pedestrian scramble
- exposure analysis
  - high rates of bike and pedestrian trips (candidates to assess lighting)
  - low rates of bike and pedestrian trips with high crash rates (candidate for a closer look at location)
- speed limit setting policy / evaluation





# Getting to an Action Plan

# Peer Review

Staff conducted a robust review of existing Vision Zero Action Plans:

Seattle, WA

Boston, MA

Portland, OR

San Francisco, CA

Austin, TX

Bellevue, WA

Somerville, MA

## Portland Traffic Deaths and Injuries since 2009

All deaths & injuries

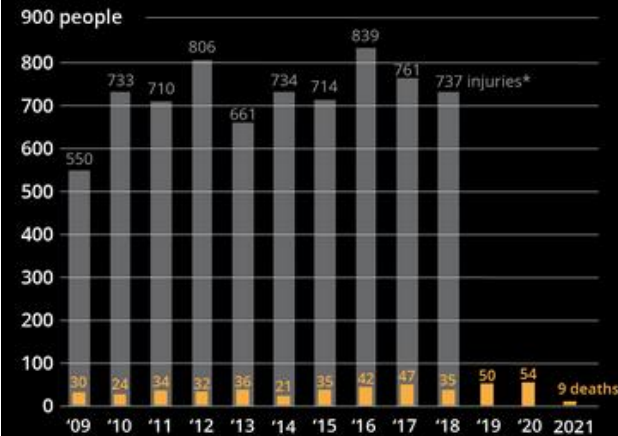
People in vehicles

People walking

People biking



Traffic deaths & injuries\* - all people traveling



Deaths



Injuries\*



High crash corridors

High crash intersections





# Statement from Leadership

## Examples from other cities:

- Letter from Mayor
- Department Leads
- Commitment



# DRAFT Objectives and Strategies



## OBJECTIVE: Build a Robust and Transparent Data Framework

### Strategies:

- seek opportunities to **improve collision data** (such as new sources)
- improve web interface to provide more transparent data to public (**web-map, dashboard**)
- seek innovations in **technology** to improve understanding of contributing factors and preventative measures
- collect **before/ after data** for safety improvement projects (on high accident corridors)
- conduct **exposure** analysis for vulnerable users
- grow the traffic monitoring program to include additional **pedestrian and bicycle counters**

## OBJECTIVE: Promote and Institutionalize a Culture of Safety

### Strategies:

- **educate and engage** the public on Vision Zero
- work with developers and contractors to provide **safe routes through construction**
- **coordinate with city departments** on data sharing, messaging the community and maintaining culture of safety
- Work with school district and resource officers to enhance **traffic safety education in schools**



# DRAFT Objectives and Strategies (cont.)

## OBJECTIVE: Prioritize Safe Street Design

### Strategies:

- seek innovations in the **design of intersections** with major projects
- consider **best practices** when implementing capital projects
- conduct land use and transportation facilities **analysis**
- grow network of **neighborhood greenways**
- grow system of **separated bike facilities**

## OBJECTIVE: Operate Safe Streets

### Strategies:

- evaluate **signal timing** modifications aimed at pedestrian safety
- evaluate **speed limit** setting policy for improvements
- **prevent blocking** of crosswalks and bike facilities
- conduct **targeted enforcement** for distraction, crosswalk compliance, DUIs
- grow **school** enforcement **traffic safety camera** program
- form a **response team** to evaluate crash factors, determine whether immediate safety improvements are needed after any fatal crash



# Monitoring and Transparency



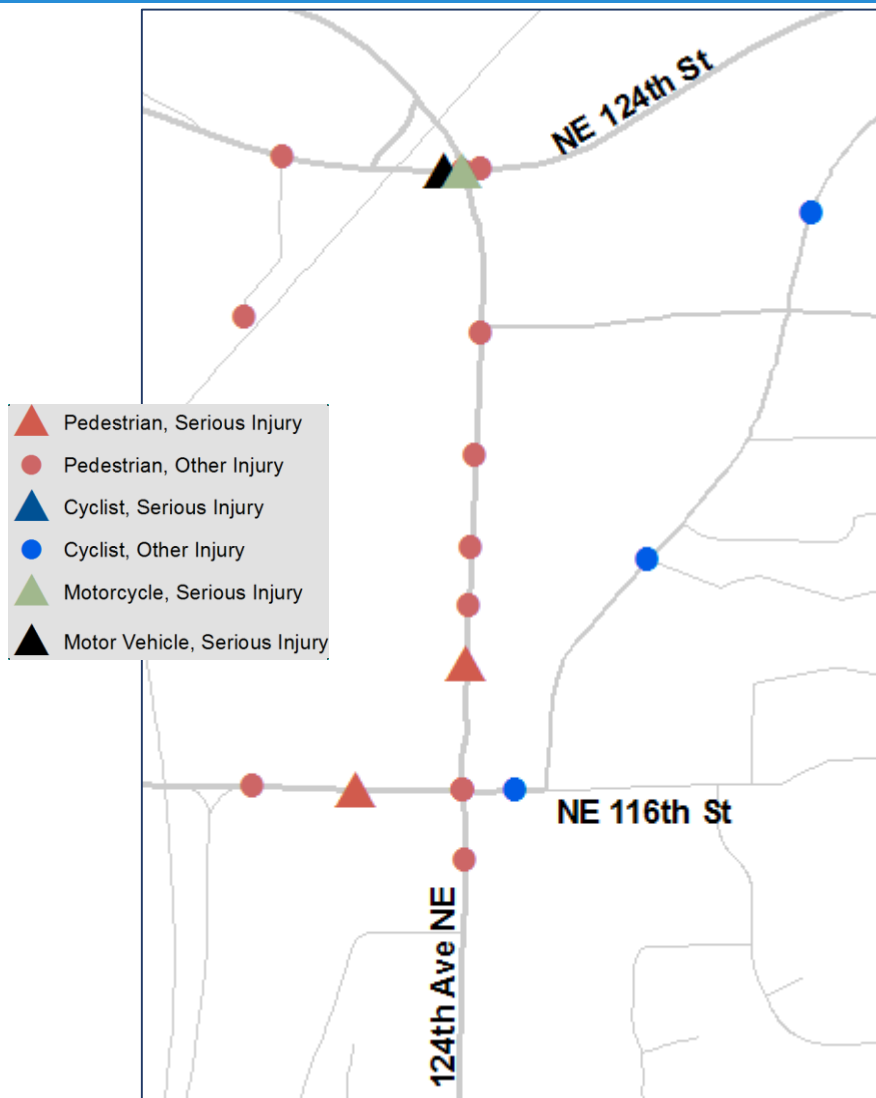
- Ongoing crash data monitoring
- Annual or biennial progress reports
- Updated trends and priority corridors
- Updated dashboard and web-maps
- Project reports





# How Action Plan drives Decision-making

# Contributing Factors and Countermeasures



## 124th Ave NE (NE 116th St to NE 124th St)

### Crash History

Several serious crashes at 124<sup>th</sup> Ave NE/ NE 124<sup>th</sup> St, pedestrian crashes along corridor.

### CIP Projects

124th Ave NE project (protected bike lanes, widened sidewalks and lighting, mid block ped signal), Totem Lake Connector Bridge

## NE 116th St / 124th Ave NE

### Crash History

Longer history of crashes – issue with flashing yellow left turn collisions.

### Countermeasure

Adding second NB left turn lane



# Contributing Factors and Countermeasures

## NE 124<sup>th</sup> St (West of I-405)

### Crash History

Priority Corridor I: 14 crashes along corridor (2015-19). 10 were failure to yield to person walking or bicycling.

### Grant funded CIP Project

1. Replace existing RRFB with a Pedestrian Hybrid Beacon Signal (HAWK) at the uncontrolled midblock marked crosswalk located west of 103rd Ave NE.
2. Install a Pedestrian Hybrid Beacon Signal (HAWK) at the uncontrolled midblock marked crosswalk located west of 105th Place NE

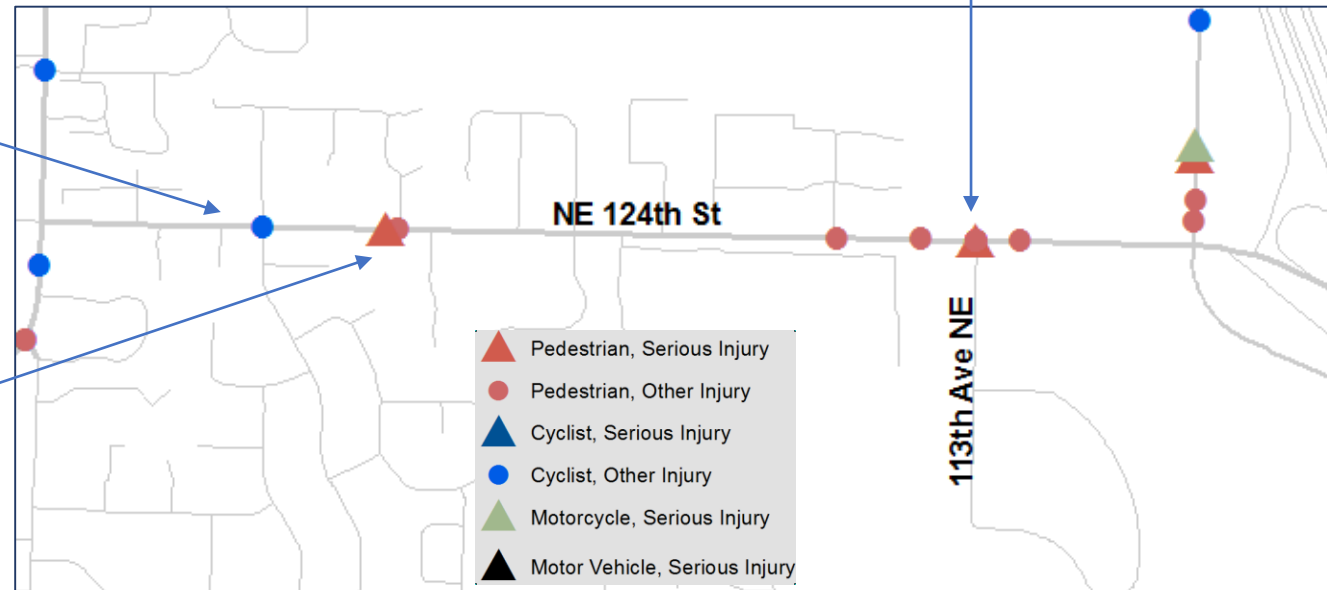
## 124th Ave NE / 113<sup>th</sup> Ave NE

### Crash History and Roadway Characteristic

Priority Intersection I: 8 crashes along corridor (2015-19). 6 were failure to yield to person walking or bicycling. Currently cars have permissive left going north/ south

### Countermeasure

Now will be protected left turns (implementing this year). Evaluating leading pedestrian interval.





# Next Steps

# Next Steps

- Transportation Commission Workshop – Feb 2021
- Vision Zero Service Team meeting - March 2021
- Develop Draft Plan for Council Review – Spring 2021
- Council Approval - Summer 2021



# Questions?



Kim Scrivner, Transportation Planner – Public Works

Iris Cabrera, Transportation Engineer – Public Works

Phil Goguen, Lieutenant – Police Department

Chris Hendrickson, Web and Multimedia Content Specialist – City Manager's Office

