

# Transportation Technical Committee Meeting

Wednesday, February 23, 2022 | 1:00 PM – 2:30 PM

## AGENDA

*Time Item*

- 1:00 1. Call to Order / Record of Attendance
- 1:02 2. Approval of January 2022 TTC Meeting Minutes
- 1:03 3. Public Comments
- 1:05 4. TTC Member Comments
- 1:15 5. Chair Report on SRTC Board of Directors Meeting

### **FOR ACTION**

- 1:18 6. **2022-2025 Transportation Improvement Program March Amendment** (Kylee Jones)
- 1:20 7. **Critical Urban & Rural Freight Corridors** (David Fletcher) pg 2
- 1:30 8. **Transportation Performance Measures: Safety Targets** (Mike Ulrich) pg 10

### **FOR INFORMATION AND DISCUSSION**

- 1:45 9. **WSDOT Ramp Meter Presentation** (Glenn Wagemann & Jason Lefler, WSDOT) pg 31
- 2:05 10. **Coordinated Public Transit - Human Services Transportation Plan Update** (Jason Lien) pg 47
- 2:15 11. **Transportation Discussion Series: Quality of Life** (Jason Lien) pg 54
- 2:25 12. **Agency Update and Future Information Items** (Kylee Jones)
- 2:30 13. **Adjournment**

AGENDA ITEMS IN BLUE TYPE HAD MEETING PRESENTATIONS AND ALL HAVE BEEN COMBINED INTO THE FOLLOWING DOCUMENT.

# CRITICAL URBAN/RURAL FREIGHT CORRIDORS UPDATE

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SRTC Transportation Technical Committee  
Agenda Item 7 | Page 10

February 23, 2022

# REQUESTED ACTION

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**Recommend SRTC Board approval of the proposed list of regional priority freight projects for NHFP funding consideration, as shown in Attachment 1.**

# Proposed Regional Priority Freight Projects

For National Highway Freight Program (NHFP) Funding Consideration

				NHFP Competitiveness Criteria <sup>1</sup>							
Project Name	Sponsor Agency	Unfunded Amount	Freight Priority Network	Preservation	Safety	Stewardship	Mobility	Freight Cluster Proximity	FGTS Class	Intermodal Connectivity	In Vulnerable Community
<b>Bigelow Gulch/Forker Rd Connector - Project 2</b> Reconstruct, realign, and widen roadway w/ITS improvements	Spokane County	\$6,290,939	✓								✓
<b>Pines Rd/BNSF Grade Separation</b> Grade separation and multi-lane roundabout	Spokane Valley	\$19,300,000	✓								✓
<b>Wellesley Ave: Freya to Havana</b> Reconstruct roadway	Spokane	\$3,400,000	✓								✓
<b>Bigelow-Sullivan: Trent Ave/Sullivan Rd Interchange</b> Reconstruct roadway with ITS improvements (PE Only)	Spokane Valley	\$2,950,000	✓								
<b>Argonne Rd/I-90 Interchange Bridge Widening</b> Widen roadway w/10' breakdown lane and 6' wide sidewalk (PE Only)	Spokane Valley	\$1,500,000	✓								✓

<sup>1</sup>NHFP competitiveness criteria, detailed in the table below, is based on WSDOT's NHFP project scoring criteria. The yellow circles show a project's relative competitiveness, with a darker shade indicating a stronger probability that the project will be competitive in the statewide in the NHFP selection process. More information on this criteria and process can be found [HERE](#).

# LIST DEVELOPMENT

## 1. Identify Candidate Projects

- ✓ Identified regional priority
- ✓ Projects that benefit freight
- ✓ Ability to obligate in 2022–2025
- ✓ Local agency & committee input

Candidate  
Freight  
Projects  
List

## 2. Assess Project Competitiveness

Bridge/pavement condition  
Serious injury and fatality crashes  
Non-Federal match %  
Travel time reliability or delay time  
Freight cluster proximity  
FGTS class  
Intermodal connectivity  
Location in a vulnerable community

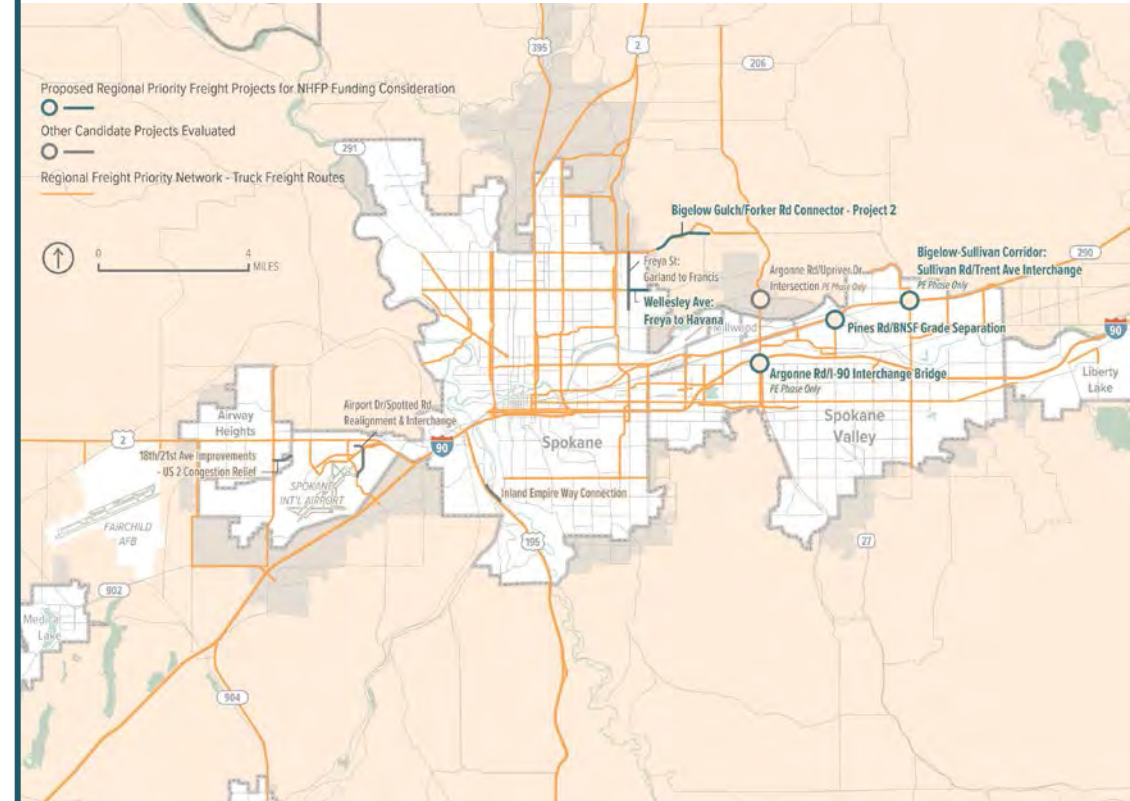
Regional  
Priority  
Freight  
Projects  
List

# Candidate Freight Projects Evaluation

## For National Highway Freight Program (NHFP) Funding Consideration

Projects sorted by likely NHFP competitiveness				NHFP Competitiveness Criteria <sup>1</sup>								Proposed Regional Priority Freight Project
Project Name	Sponsor Agency	Unfunded Amount	Freight Priority Network	Preservation	Safety	Stewardship	Mobility	Freight Cluster Proximity	FGTS Class	Intermodal Connectivity	In Vulnerable Community	
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<b>Wellesley Ave: Freya to Havana</b> Reconstruct roadway	Spokane	\$3,400,000	✓	●	●	●	●	●	●	●	✓	✓
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<b>Argonne Rd &amp; Upriver Dr Intersection</b> Construct dual lane roundabout (PE Only)	Spokane County	\$300,000	✓	●	●	●	●	●	●	●		
<b>Freya St: Garland to Francis</b> Reconstruct roadway	Spokane	\$18,800,000	✓	●	●	●	●	●	●	●	✓	
<b>Inland Empire Way Connection</b> Build new northbound only connection	Spokane	\$6,700,000		●	●	●	●	●	●	●		
<b>Airport Dr &amp; Spotted Rd Realignment &amp; Interchange</b> Realign roadway and construct grade-separated interchange	Spokane Int'l Airport	\$19,300,000	✓	●	●	●	●	●	●	●		
<b>18th/21st Ave Improvements - US 2 Congestion Relief</b> Improve and extend roadway from US 2 to Flint Rd	Airway Heights	\$4,500,000		●	●	●	●	●	●	●	✓	

<sup>1</sup>NHFP competitiveness criteria, detailed in the table below, is based on WSDOT's NHFP project scoring criteria. The yellow circles show a project's relative competitiveness, with a darker shade indicating a stronger probability that the project will be competitive in the statewide in the NHFP selection process. More information on this criteria and process can be found [HERE](#).



# NEXT STEPS

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## March 10

Request SRTC Board approval of regional priority freight projects list

## March 11

Local agency deadline to submit completed project forms to SRTC

## March 16

SRTC deadline to submit regional priority freight projects list and completed project forms to WSDOT



# REQUESTED ACTION

Recommend SRTC Board approval of the proposed list of regional priority freight projects for NHFP funding consideration, as shown in Attachment 1.

				NHFP Competitiveness Criteria <sup>1</sup>							
Project Name	Sponsor Agency	Unfunded Amount	Freight Priority Network	Preservation	Safety	Stewardship	Mobility	Freight Cluster Proximity	FGTS Class	Intermodal Connectivity	In Vulnerable Community
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# QUESTIONS?

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**SRTC Transportation Technical Committee  
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# Transportation Performance Management: Safety Targets

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TTC Meeting

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February 23, 2022

# Highway Safety Improvement Program (HSIP)

# Moving Ahead for Progress in the 21st Century (MAP-21)

# Federal Highway Administration (FHWA)

# Transportation Performance Management (TPM)



# Safety

1.Fatalities

2.Fatalities per 100M vehicle miles traveled

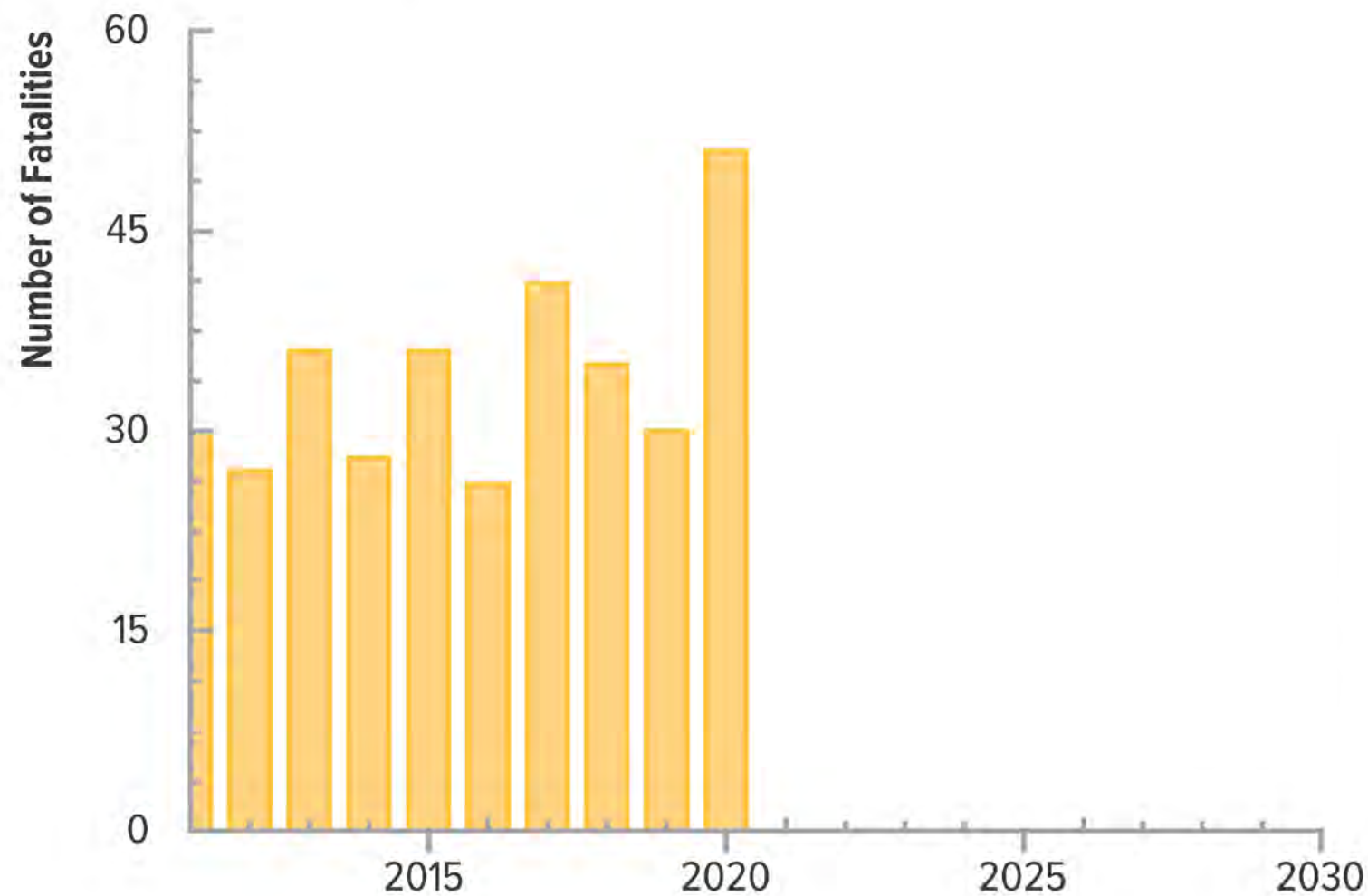
3.Serious injuries

4.Serious injuries per 100M vehicle miles traveled

5.Non-motorist fatalities and serious injuries

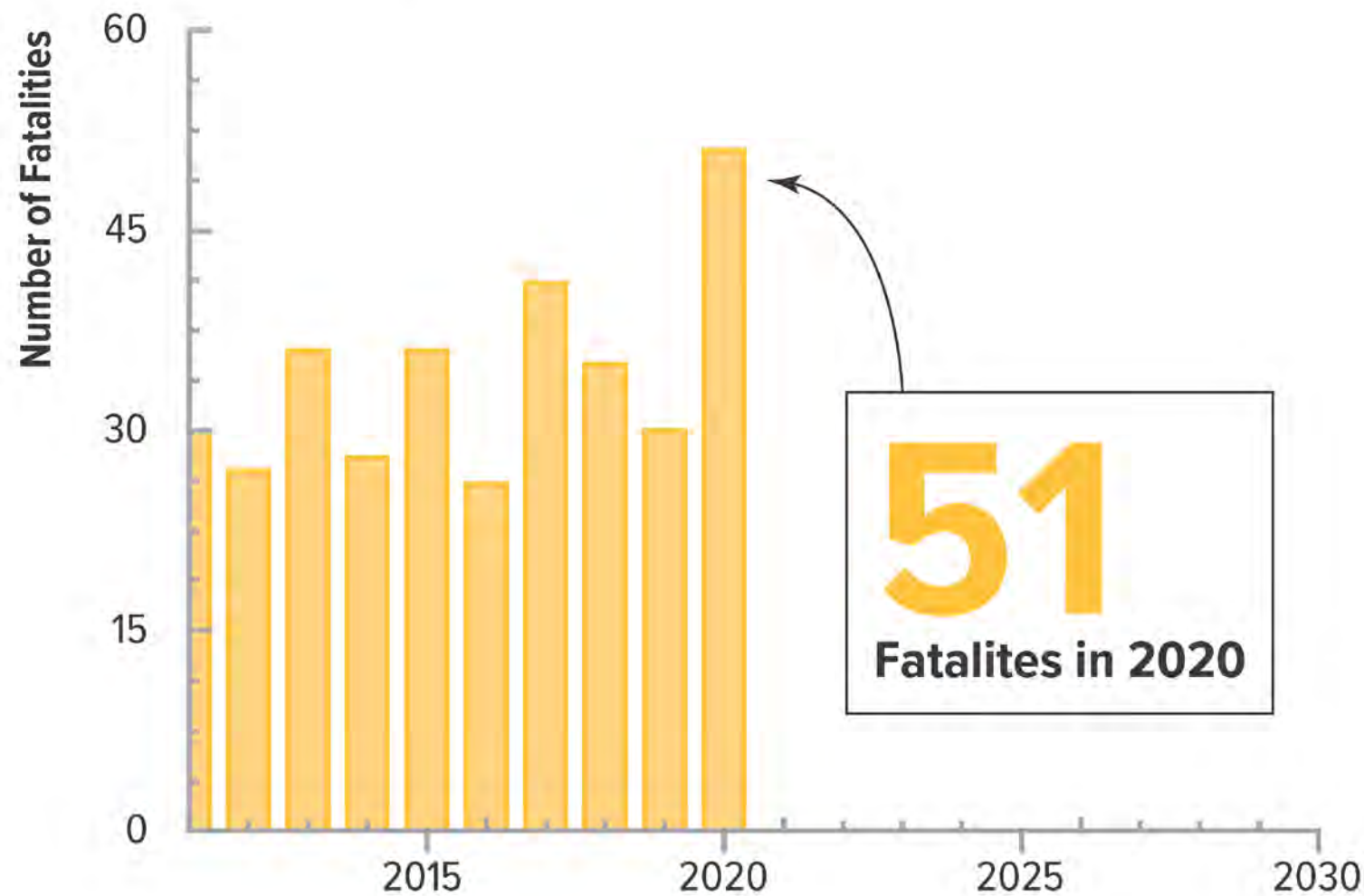
# SRTC Metropolitan Planning Area (Spokane County)

## Measure #1: Fatalities



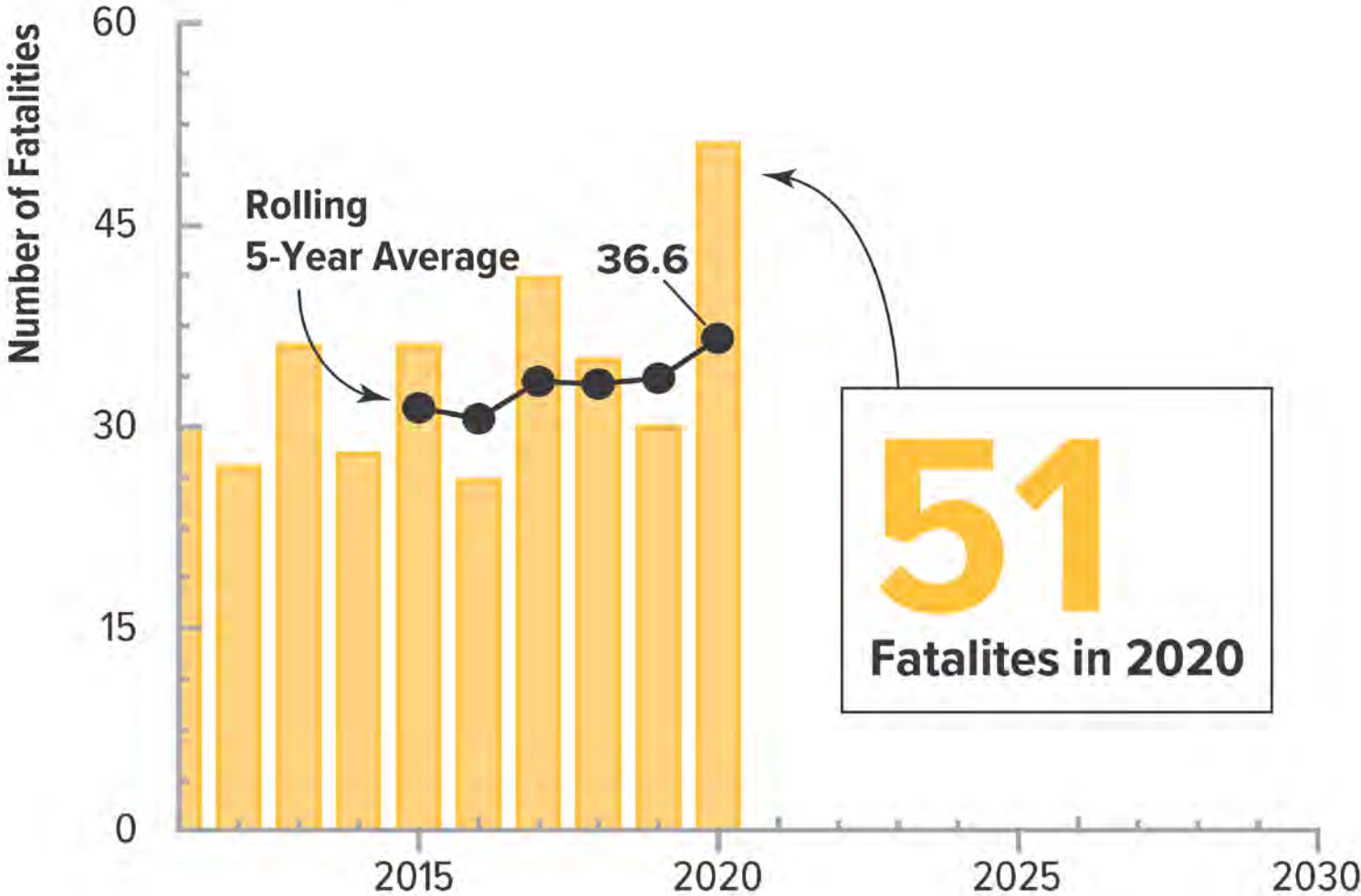
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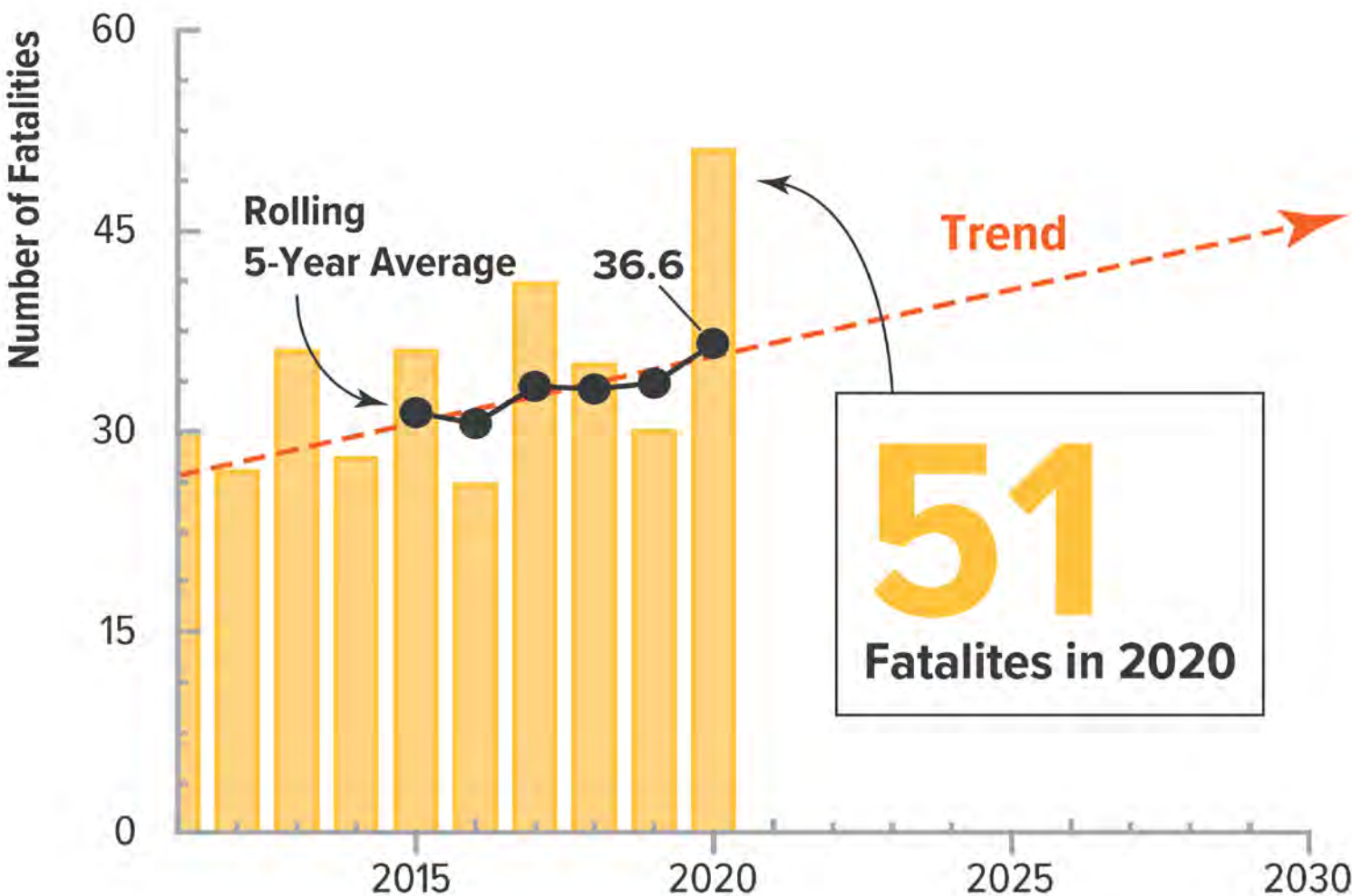
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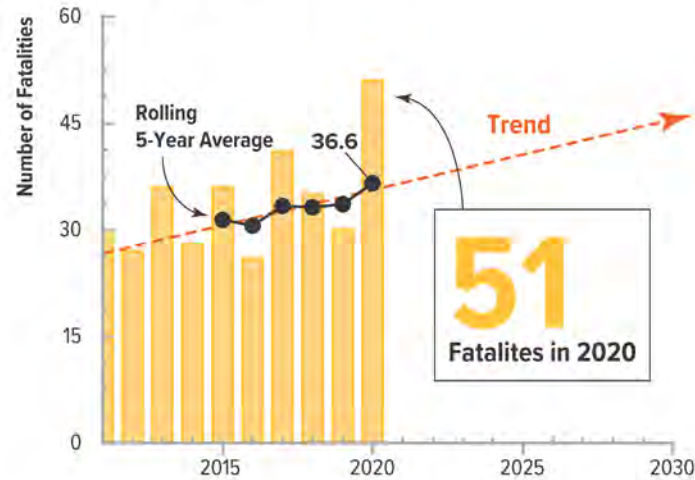
## Measure #1: Fatalities



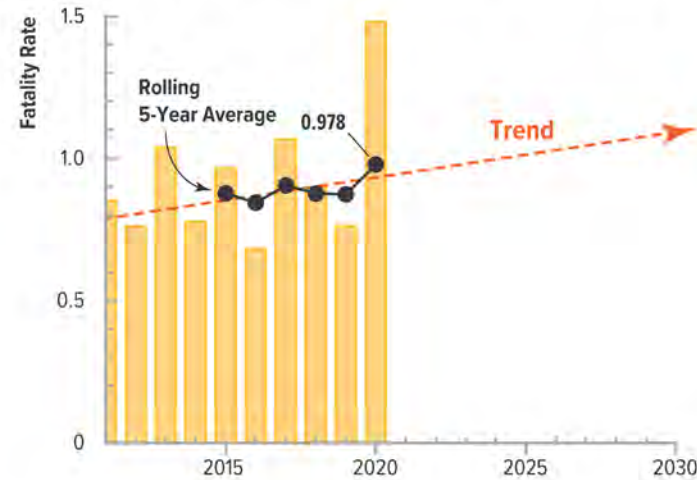


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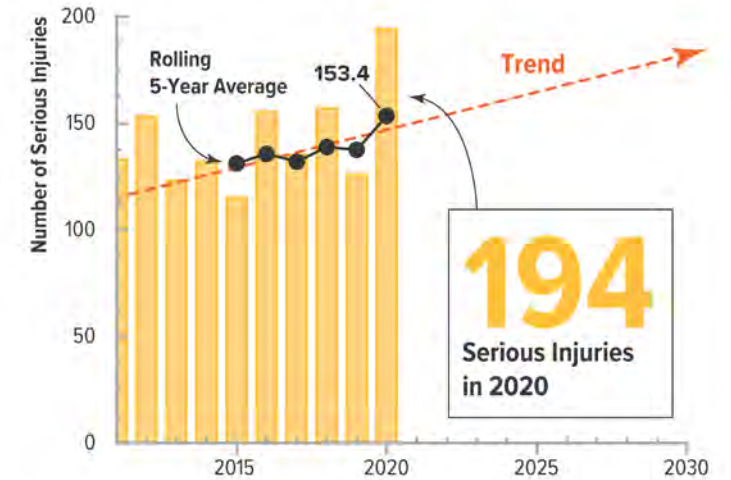
Measure #1: Fatalities



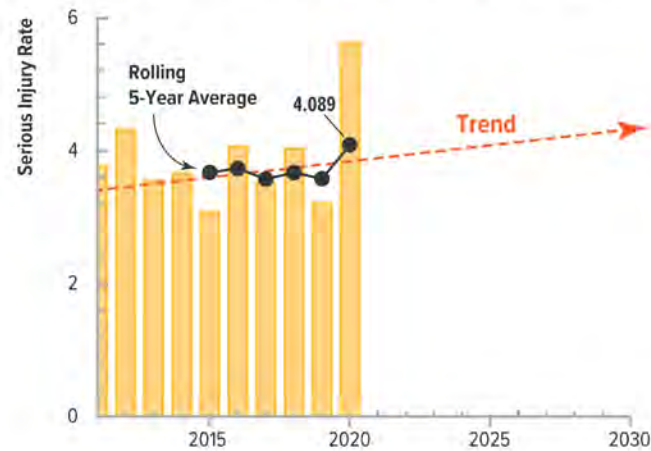
Measure #2: Fatality Rate *per 100 million VMT*



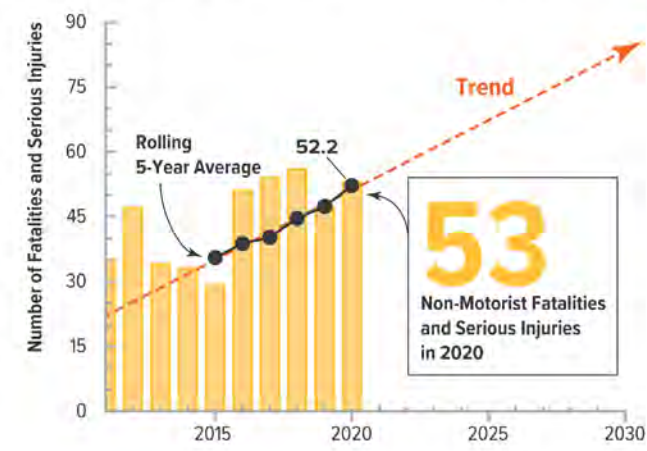
Measure #3: Serious Injuries



Measure #4: Serious Injury Rate *per 100 million VMT*



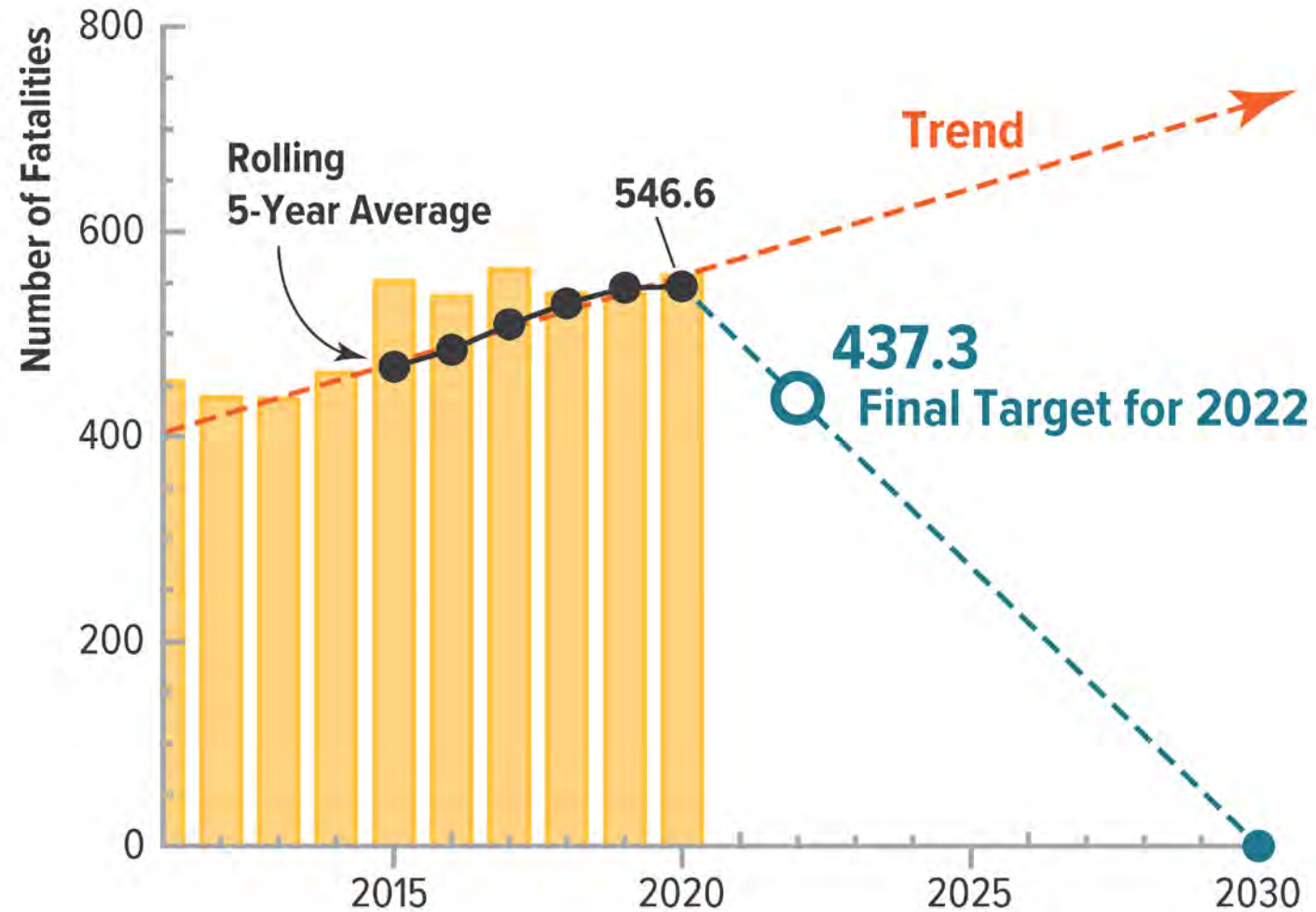
Measure #5: Non-Motorist *Fatalities and Serious Injuries*



# WSDOT Target Zero

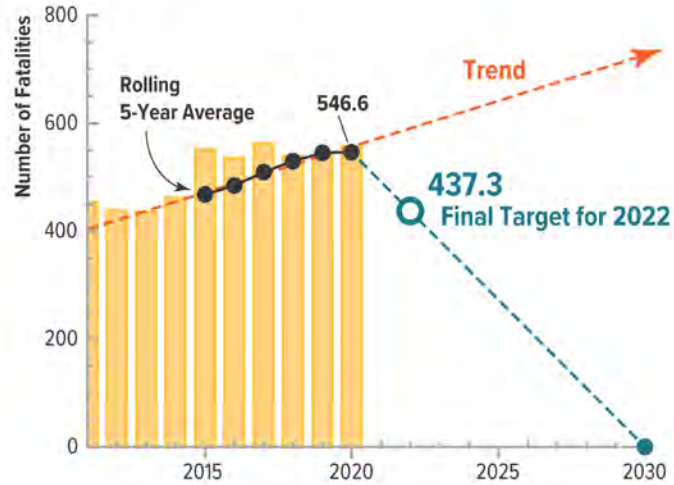
# Washington - Statewide

## Measure #1: Fatalities



# Washington - Statewide

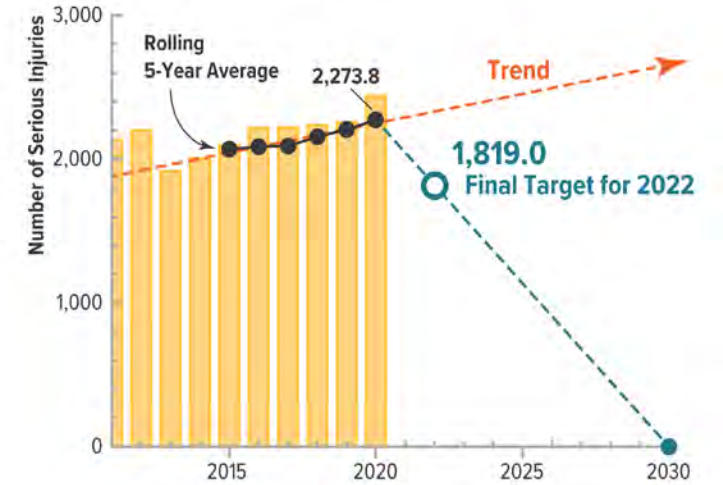
Measure #1: Fatalities



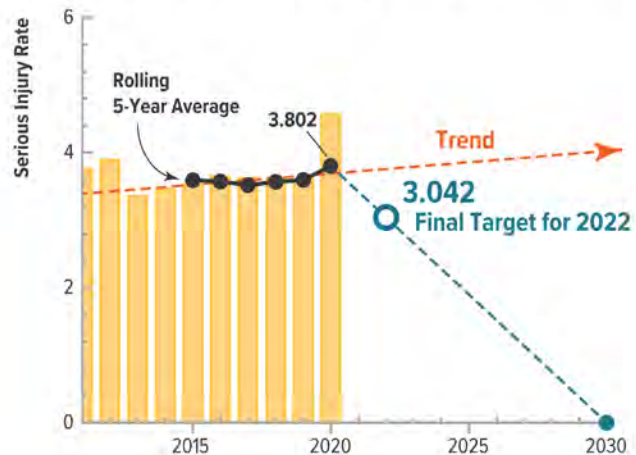
Measure #2: Fatality Rate *per 100 million VMT*



Measure #3: Serious Injuries



Measure #4: Serious Injury Rate *per 100 million VMT*



Measure #5: Non-Motorist *Fatalities and Serious Injuries*



*For [the safety] performance measure, the MPOs shall  
establish a target...*

Agree to plan and program projects so that they contribute toward the accomplishment of the WSDOT HSIP target



Commit to a quantifiable HSIP target for the metropolitan planning area

# Resolution 19-01

# Requested Action

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**Recommend that the SRTC Board agree to plan and program projects so that they contribute to the accomplishment of WSDOT HSIP targets.**

# Questions?

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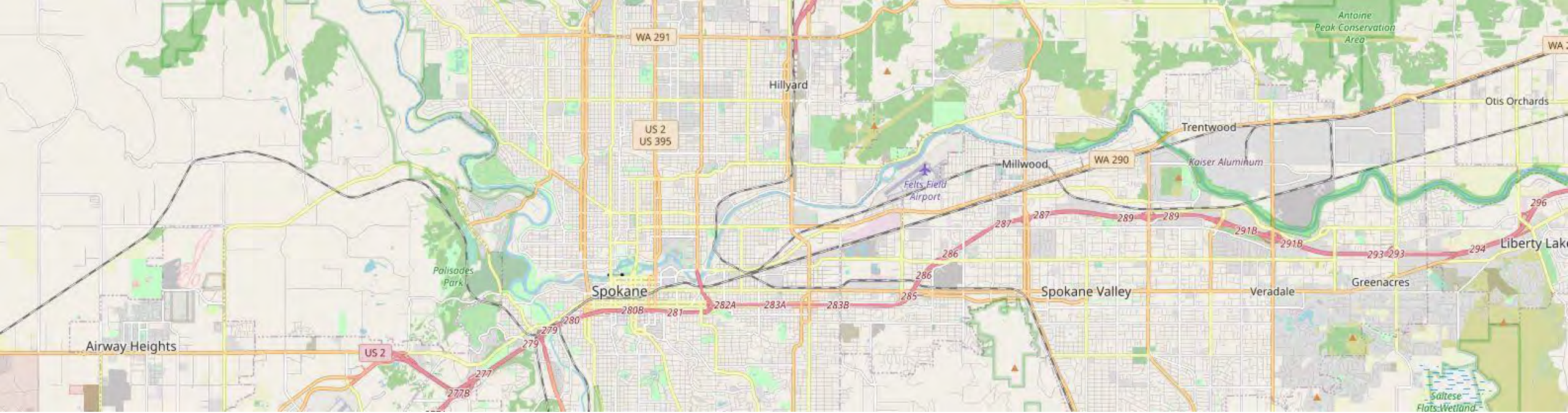
Mike Ulrich, AICP

Principal Transportation Planner

[mulrich@srtc.org](mailto:mulrich@srtc.org) | 509.343.6384

# ADAPTIVE RAMP METERING

WSDOT RAMP METER DEPLOYMENT



# Introductions (Team TSMO)

**MIKE BJORDAHL**  
*Transportation Engineer 3*  
WSDOT Supervisor

**LIAN ROBERTS**  
*Transportation Engineer 2*  
WSDOT

**JASON LEFLER**  
*Transportation Engineer 2*  
WSDOT

**Traffic Engineer:** Glenn Wagemann, P.E.



# Ramp meters

Traffic signals installed on freeway on-ramps to control the frequency at which vehicles enter the flow of traffic on the freeway.<sup>(1)</sup>



# Why ramp meters?

## Non-Metered (Free for all)

Local congestion is caused by influx of ramp volume onto the freeway

Increased rear end collisions

Decrease freeway capacity-accordion affect

Increased congestion and emissions

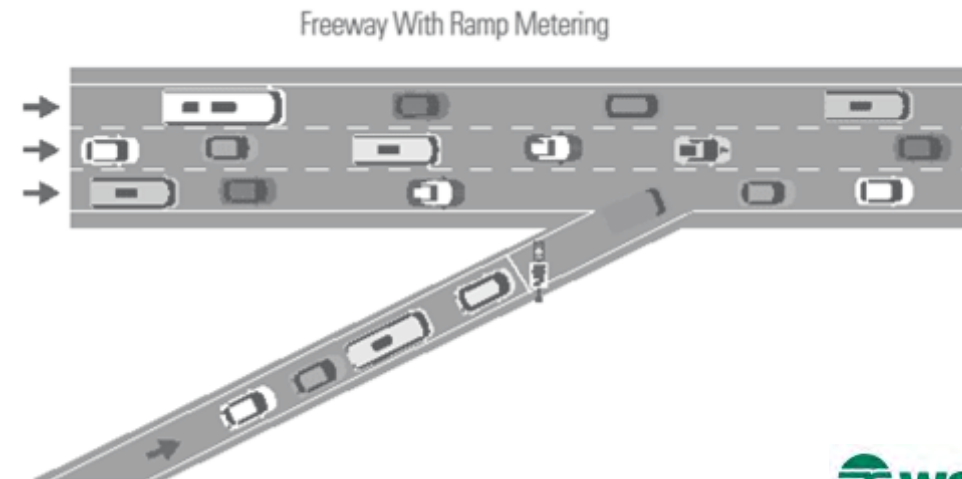
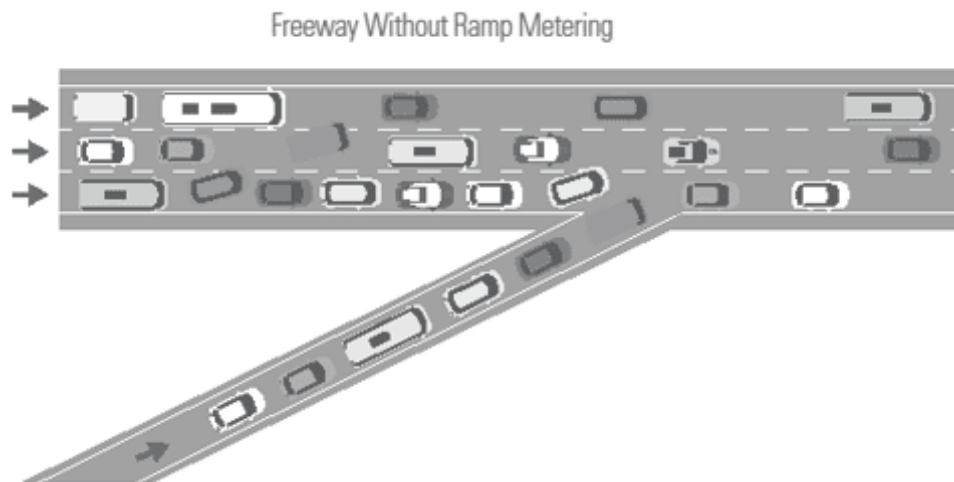
## Metering

Increased safety

Enhanced mobility

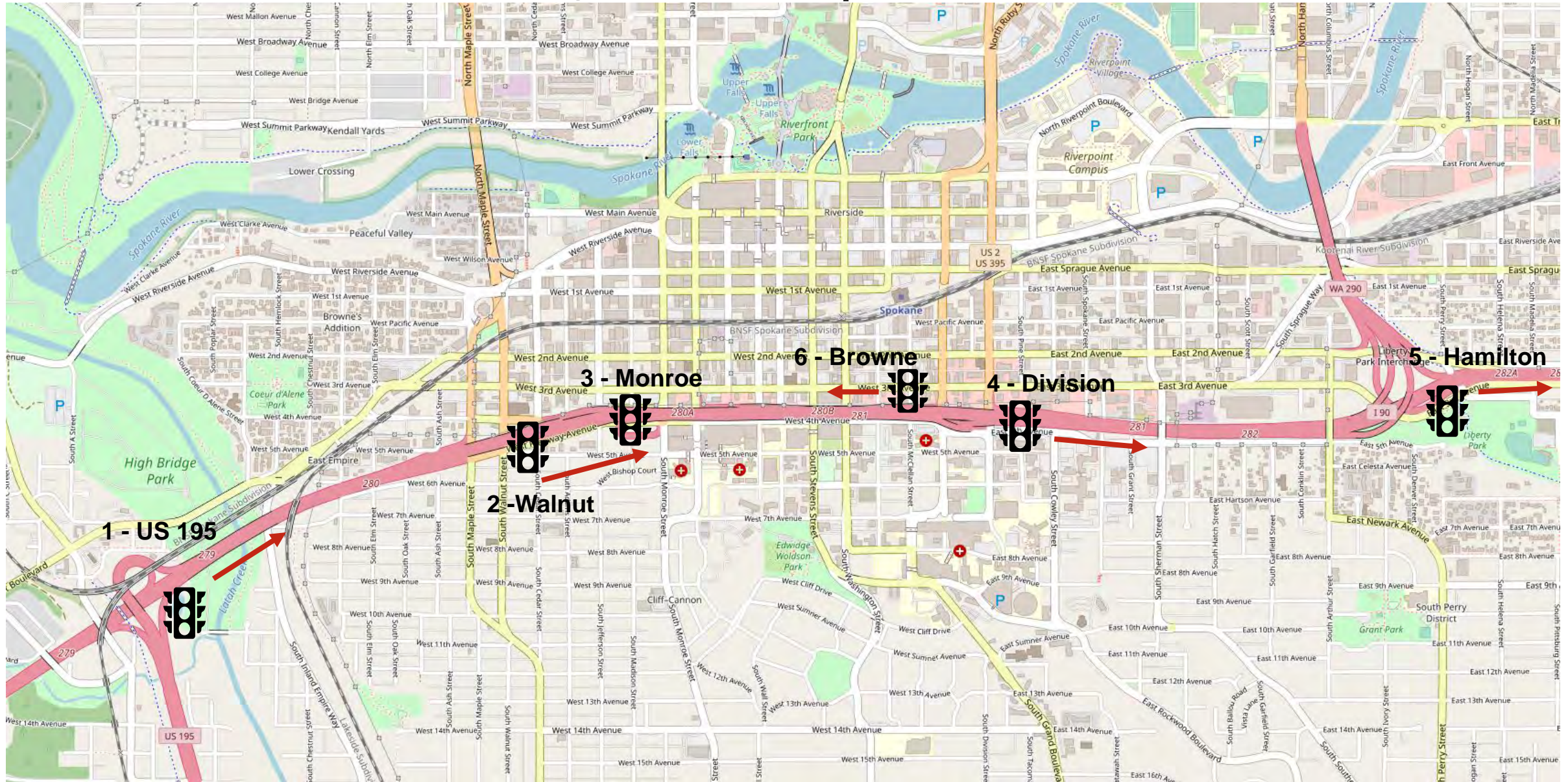
Reduced environmental impacts

Higher system efficiency





# Project area | I-90 EB







## Timing strategies

- **Local congestion** | *Local traffic responsive (TR)*
  - TOD (time of day) analysis
  - Metering levels
  - Preemption
- **Queuing** | *Local and adaptive adjustments*
  - Local queuing
  - Network queuing
- **Corridor-wide adjustments** | *Central control*
  - Central traffic responsive
  - Action sets

# Local Traffic Responsive (TR) Timing

## Ramp Meter Operation – Normal Traffic



### Metering Plans

#### Plan 3

Show All Levels

Level	Rate	Flow	Occupancy	Speed (mph)
1	539	0	0.0	57
2	529	0	0.0	56
3	508	0	0.0	55
4	477	0	0.0	54
5	446	0	0.0	53
6	415	0	0.0	52
7	300	0	0.0	40
8	150	0	0.0	25

# Adaptive metering

## Network Balancing Approach – Congested Traffic



### Metering Plans

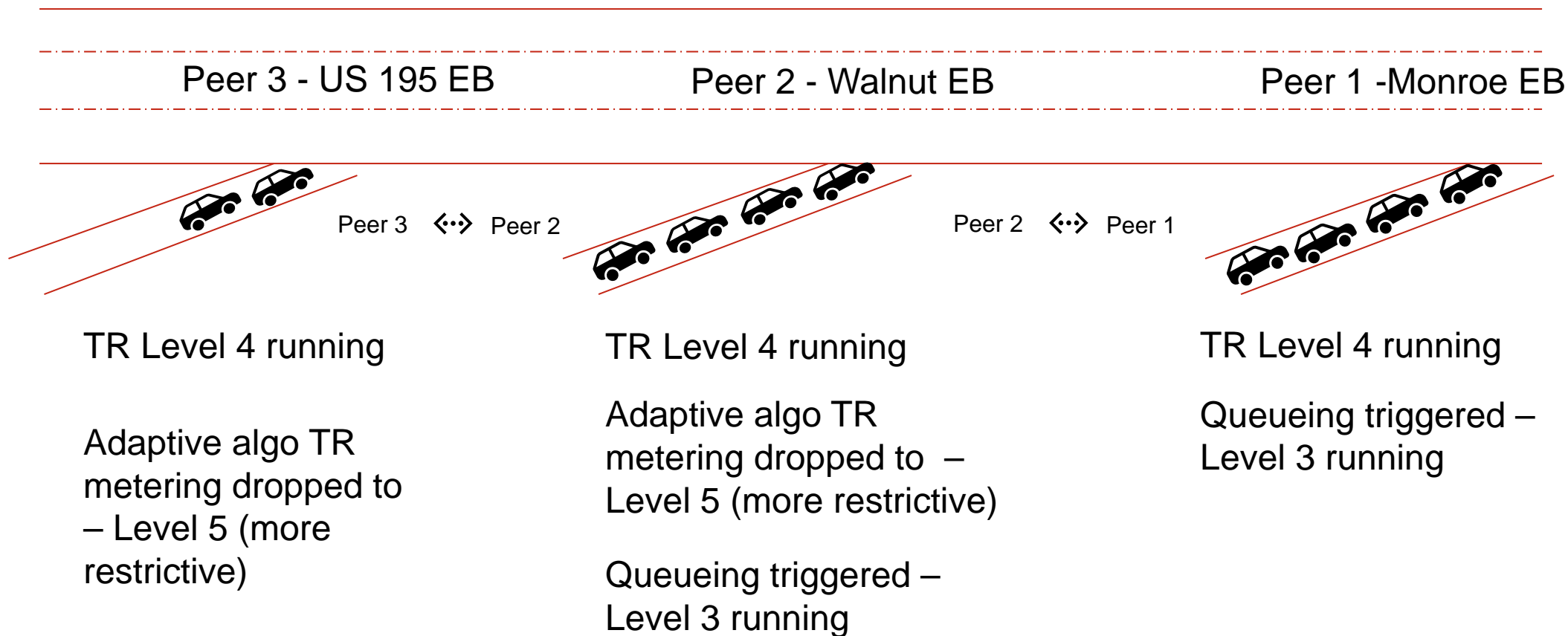
Plan 3

☐ Show All Levels

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6	415	0	0.0	52
7	300	0	0.0	40
8	150	0	0.0	25

# Adaptive Operations | single peer distribution

Freeway Speed – 50 mph (Level 4 on all ramps)





# Emergency Operations



- Meters used to reduce ramp flow during emergencies
- Keeps emergency personnel safer
- Does not allow I-90 to become flooded with additional vehicles
- Allows I-90 to recover quicker, minimizing the overall driver delay
- VMS signs and public media apps are used to divert traffic

# What were the results from ramp metering through the downtown corridor?





# Corridor Performance 2019 vs 2021

Performance > Spatial Analysis > Long Contours

ABOUT THIS REPORT

**Date Selection**  
Year: 2019  
☐ Monthly Jan  
☐ Quarterly Q1  
☒ Annual

**Station Type**  
☒ Mainline  
☐ HOV

**Postmile Range**  
(270.48 - 297.15)  
277 - 282

**Quantity**  
Speed

**Days Type**  
☒ Weekdays ☐ Weekends

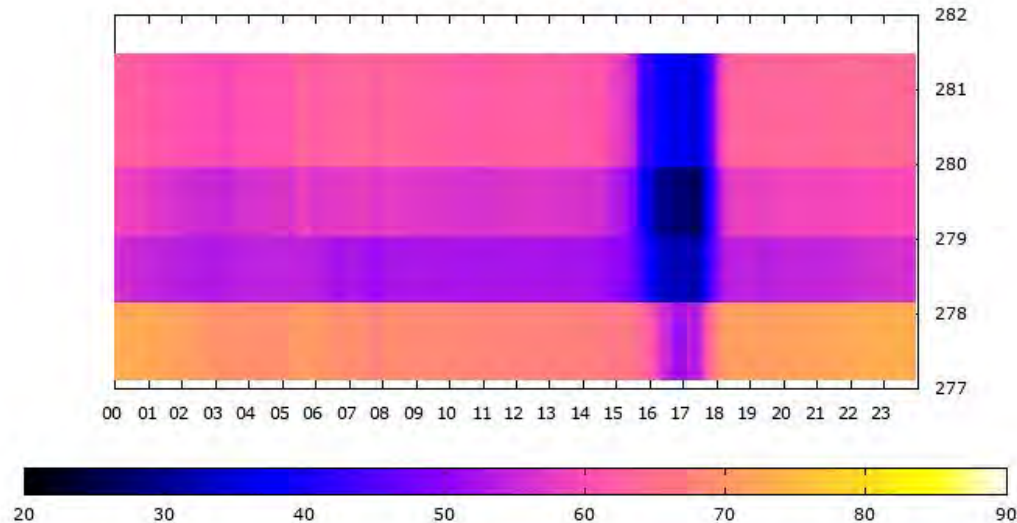
**Color Map**  
☒ Space  
☐ Gauge

**Z-Scale**  
☒ Auto  
☐ Min 0 Max 80

**View**  
☒ 2-D ☐ 3-D ☐ Both  
☐ Transpose X-Y Axes  
☐ Smoothing

[DRAW PLOT](#) [VIEW TABLE](#) [EXPORT TEXT](#) [EXPORT to XLS](#)

Aggregated avg Weekday Speed (mph) for Year 2019 (76% Observed)  
Segment Type: Freeway, Segment Name: I90-E  
Traffic Flows from Bottom to Top



Performance > Spatial Analysis > Long Contours

ABOUT THIS REPORT

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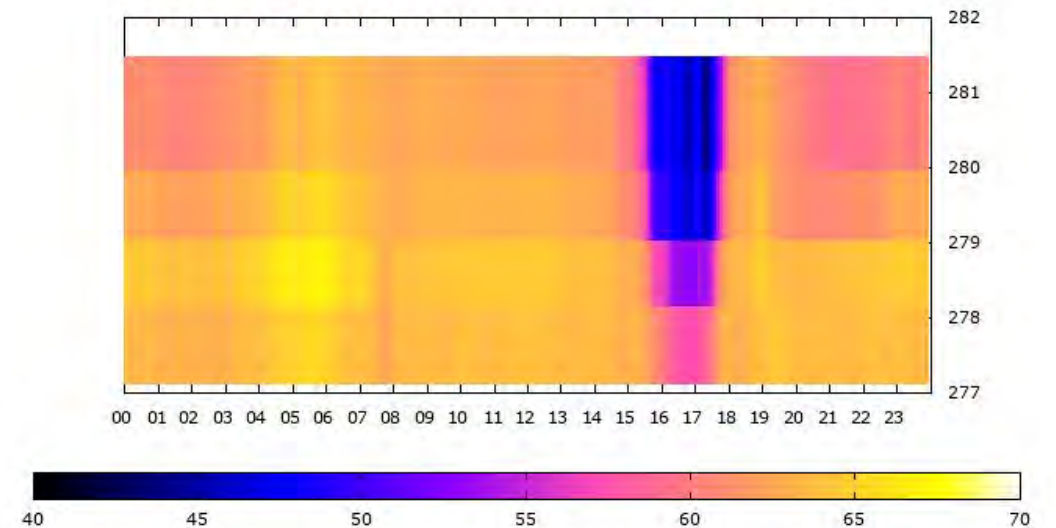
**Color Map**  
☒ Space  
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**View**  
☒ 2-D ☐ 3-D ☐ Both  
☐ Transpose X-Y Axes  
☐ Smoothing

[DRAW PLOT](#) [VIEW TABLE](#) [EXPORT TEXT](#) [EXPORT to XLS](#)

Aggregated avg Weekday Speed (mph) for Year 2021 (99% Observed)  
Segment Type: Freeway, Segment Name: I90-E  
Traffic Flows from Bottom to Top





# Corridor Performance 2019 vs 2021

## Heat Map Data 2019 – Freeway Speeds

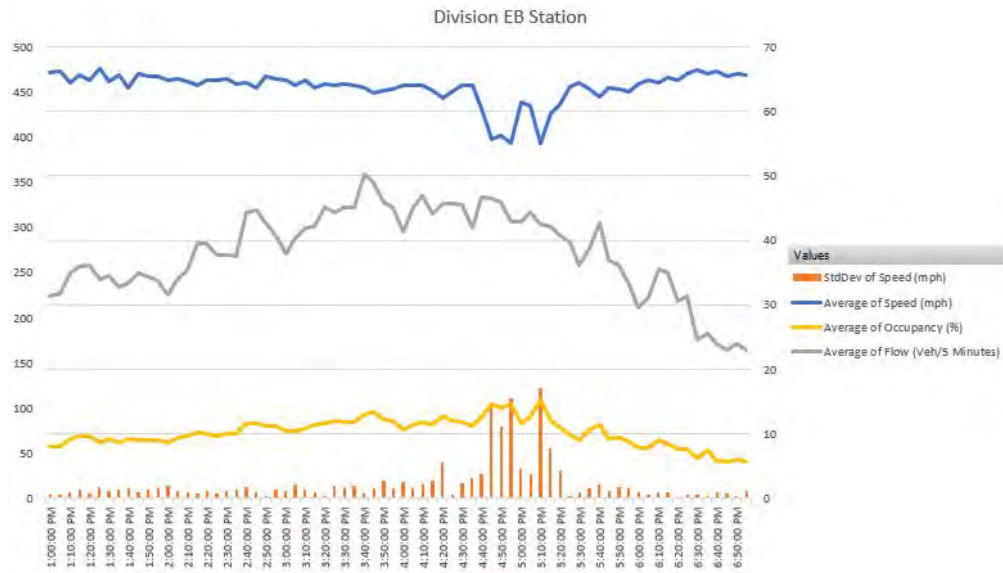
[illegible]

## Heat Map Data 2021 – Freeway Speeds

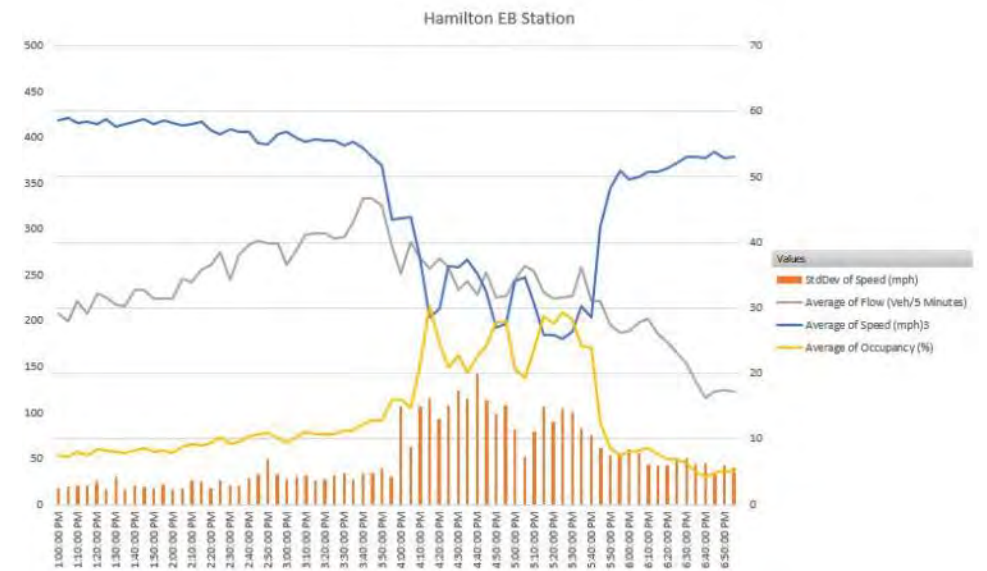
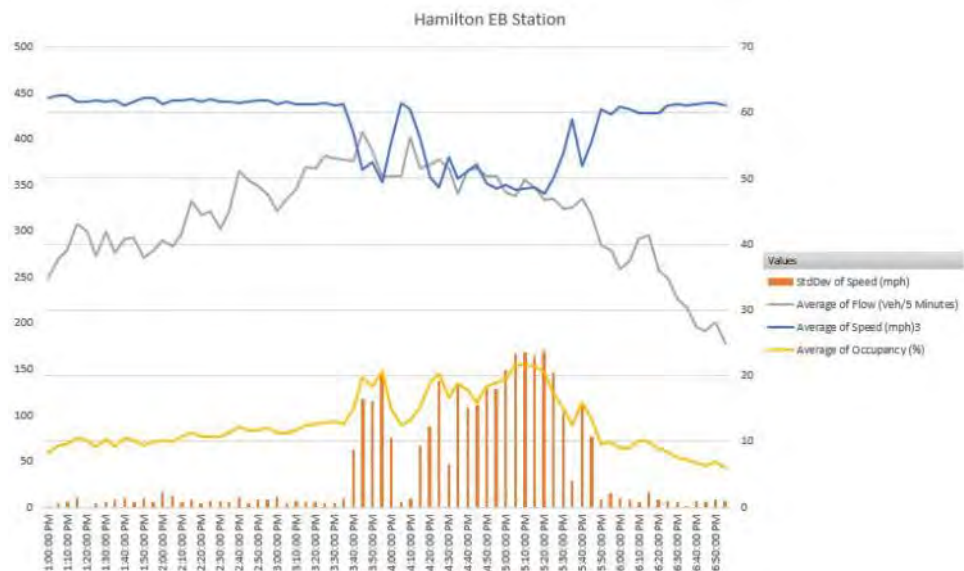
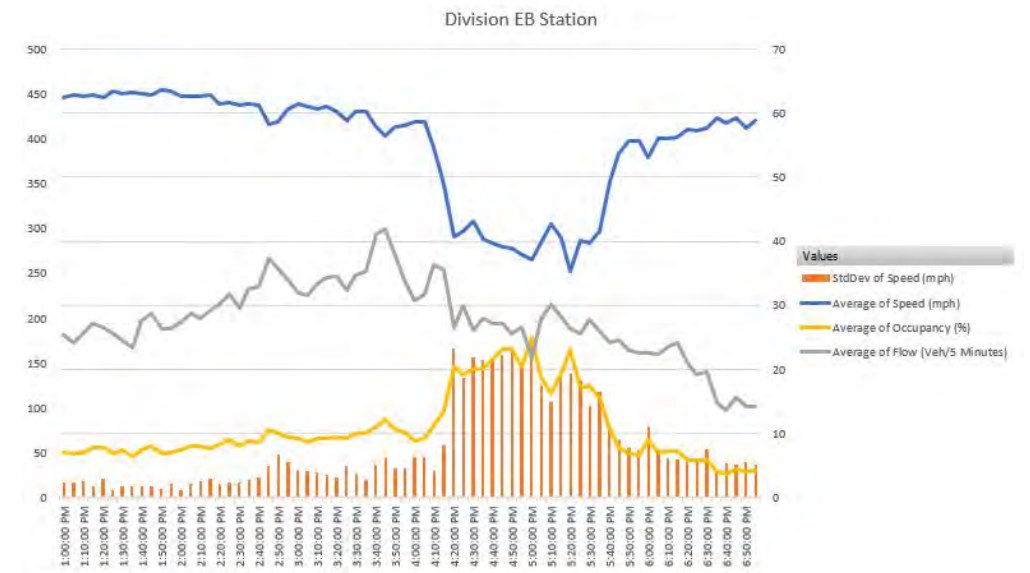
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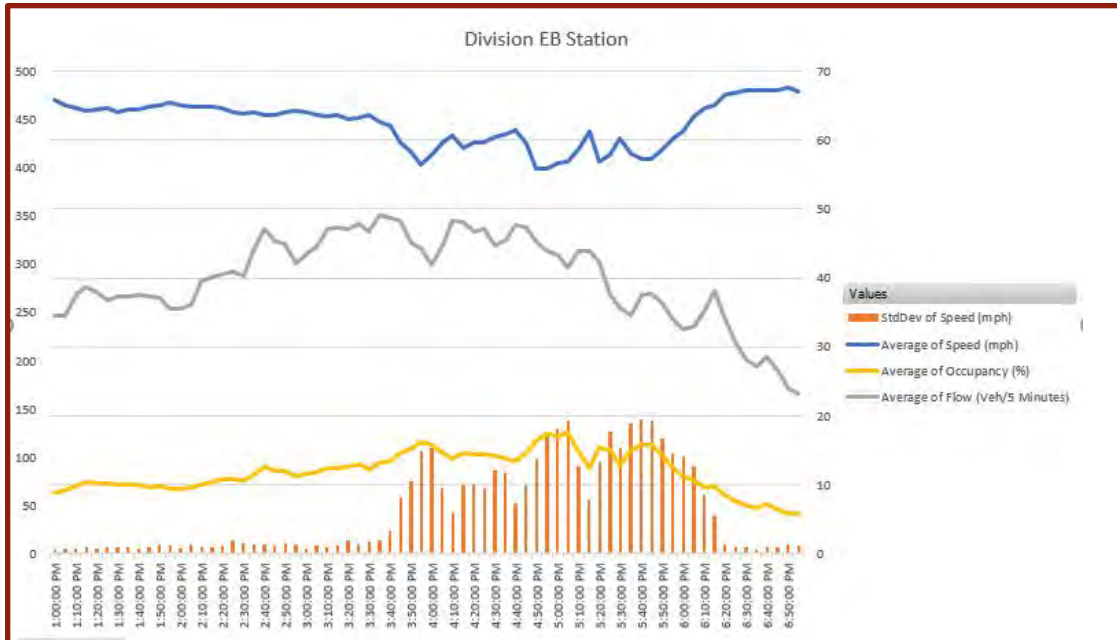
## I-90 performance for the first week of November, 2021 (Meters On)



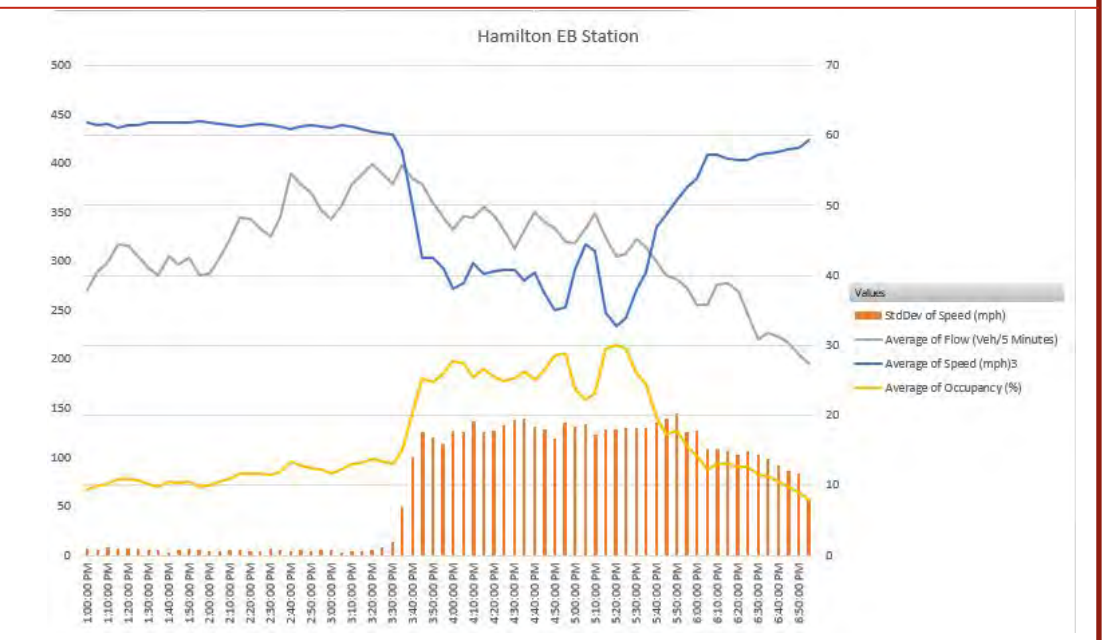
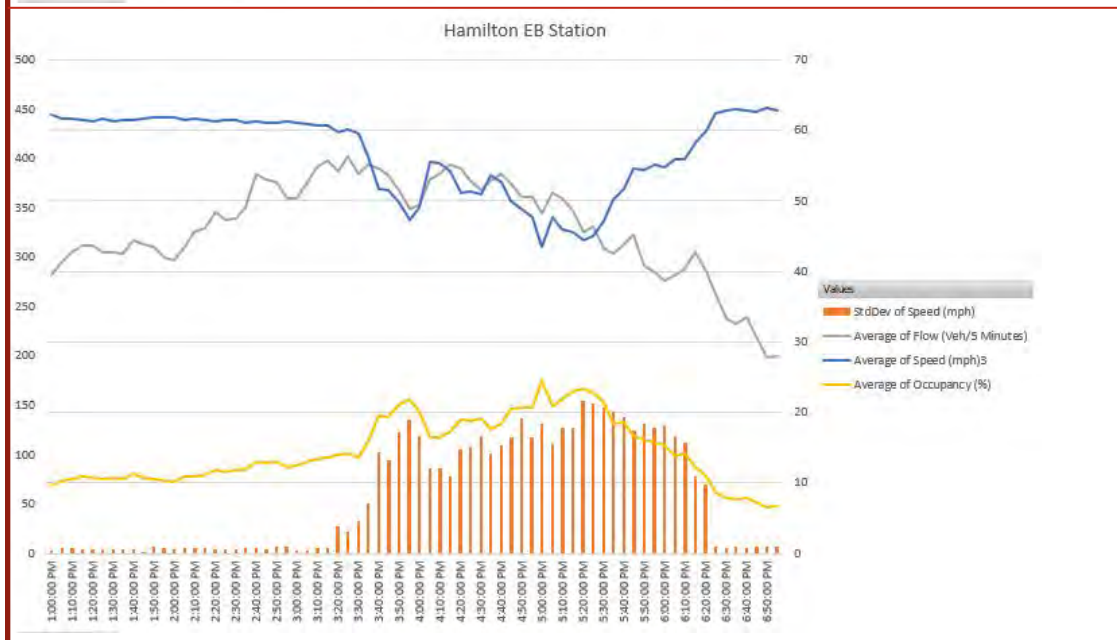
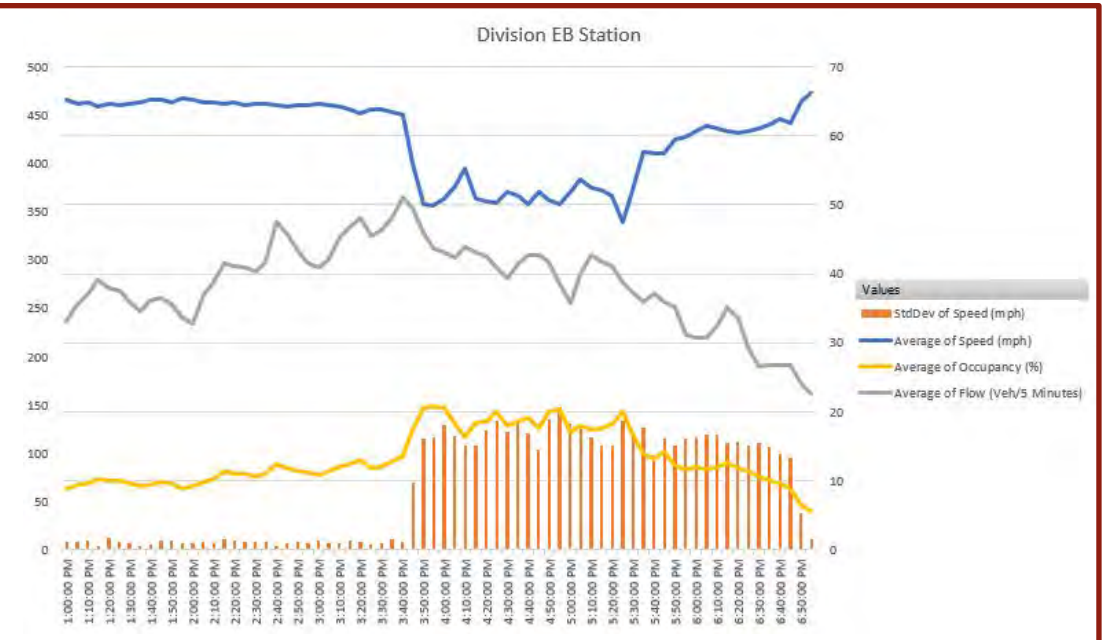
## I-90 performance for the first week of January 2022 (Meters Off)



## September Data (Freya Closed)



## October Data (Freya Open)





Questions?

# Coordinated Public Transit-Human Services Transportation Plan

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February 23, 2022

TTC Agenda Item 10, Pg 17

Jason Lien, Principal Transportation Planner

Spokane Regional Transportation Council



# What is the CPT-HSTP?

- **Planning effort to:**
  - Identify available transportation services
  - Assess needs, gaps, and strategies in Spokane County
- **Benefit people with special transportation needs**
  - Low-income
  - Seniors
  - People with disabilities
  - Other people with special needs



# Requirements

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- **Plan update every 4 years**
- **Needed for State and Federal funding programs**
  - **WSDOT Consolidated Grant Program**
  - **Section 5310 – Enhanced Mobility for Seniors and Individuals with Disabilities (Federal Transit Administration)**

# Process

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- Identify service gaps and needs
- Identify strategies / projects to meet unmet needs
- How?
  - Partnership with STA
  - Coordination with service providers & other stakeholders
  - Community outreach + Survey
  - Build on 2018 Plan



# Project Page

- [Srtc.org](#) > [Plans & Programs](#) > [Coordinated Public Transit...](#)



# Timeline

Feb	March - July	Aug	Sept	Oct	Nov	Dec
Kick-Off 	Outreach & Needs Assessment	Develop Draft Plan	Draft Plan complete (Sept 1)	Draft Review	Final Plan and SRTC Board approval	

# Thank You!

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Jason Lien

[jlien@srtc.org](mailto:jlien@srtc.org)

509.343.6370



# SRTC

## 2022 Transportation Discussion Series

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Transportation Technical Committee

February 23, 2022

Agenda Item 11, Pg. 18

Presenter: Jason Lien

# Purpose

Educate

- Build a deeper understanding of topics

Dialogue

- Dialogue and exchange ideas to advance transportation in the region

Evaluate

- Evaluate transportation needs

Identify

- Identify future planning activities

Develop

- Develop legislative policy positions and funding strategies

Refine

- Refine metrics for project prioritization



# Timeline



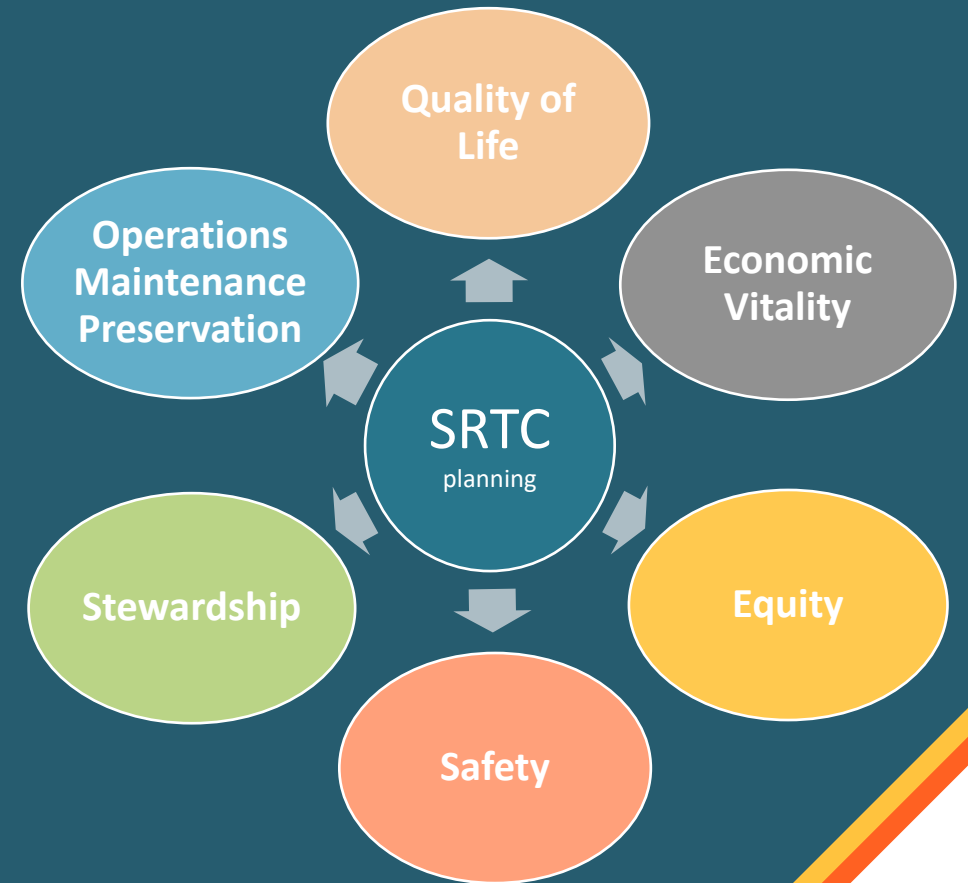
# Quality of Life

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- What is this and what does it mean to our region?
- With all our transportation needs, how do we measure success?

# Horizon 2045 Guiding Principles

- **Overlap (Quality of Life, Safety, Economic Vitality, Equity)**





# Quality of Life

## • Amenities

- Parks
- Built environment
- Neighborhoods
- Business destinations
- Arts
- Natural environment



Credit: Spokane International Airport

# Access

- Transportation system binds region together
  - All modes



# Horizon 2045 Quality of Life

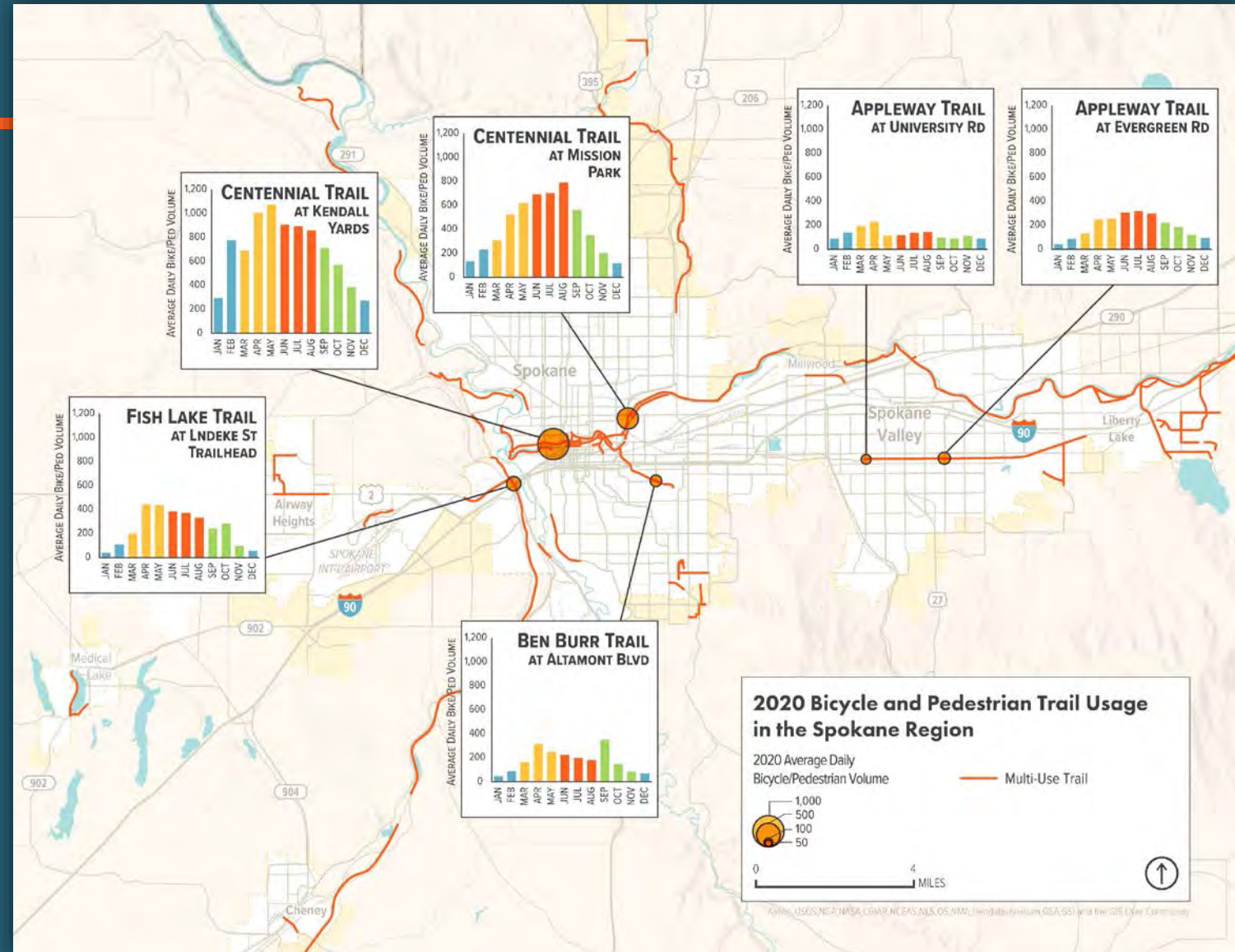
- Described in terms of a balanced transportation system
  - Multimodal - Transportation choices
  - Safe and convenient multimodal options for everyone





# Use Data

- Trail network
- STA ridership



# Why is this important?

- **Diversity of transportation choice**

- Create a system that is complementary
- Focus on connectivity / access
- Public Health
- Equity
- Economic / Cost





# User Experience

- Facility type / context
- Sense of place
- Maintenance



# How do we get there?

- **Priority Networks**
  - Transit
  - Bicycle
- **Project / program support**
- **Complete Streets policies**
- **Data analysis**



# Indicators

- Miles of facility type
- Network density
- Level of Traffic Stress (for cycling)
- Proximity to a bus stop
- Transit frequency
- Mode share





# Discussion – Through the lens of QoL

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- How do we measure success for the projects we are promoting?
- Are there other metrics we should be thinking about?



A high-angle, nighttime photograph of the city of Spokane, Washington. The city is illuminated by streetlights and building lights, with a prominent light trail from a car on a major road in the foreground. The city is nestled in a valley, with forested hills visible in the background under a dark sky. The text 'Thank you!' is overlaid on the right side of the image.

# Thank you!

Jason Lien, Principal Transportation Planner  
Spokane Regional Transportation Council  
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