

Eastgate Transportation Study

TRANSPORTATION COMMISSION

JUNE 14, 2018



Welcome and Introductions

Transportation Department Project Management

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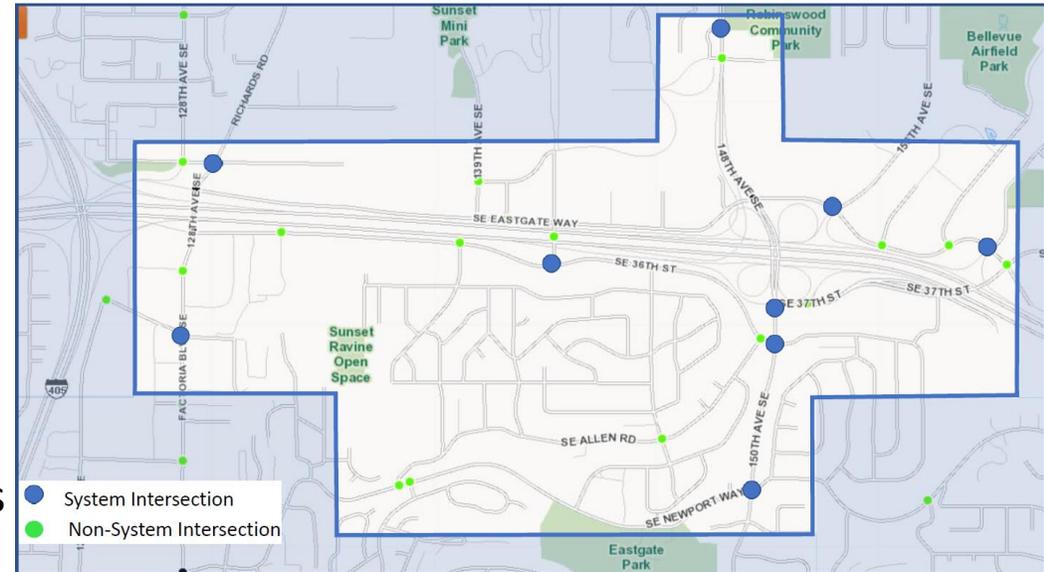


Prior Bellevue work: Bellevue Way SE HOV Lane, East Main Station Area Plan,
KCM Route 245 Speed and Reliability

Council Direction

Eastgate/Factoria Congestion Reduction

- Determine transportation system improvements needed to meet established mobility standards and guidelines in 2024 and 2035.
- Consider existing plans and projects such as FATS, Eastgate/I-90 Land Use and Transportation
- Anticipate and embed planned WSDOT I-90 auxiliary lanes
- Use Levy funds to study, evaluate and design project concepts
- Construction may follow (Levy and/or CIP)



Current level of traffic congestion is an inconvenience to drivers, creates delays for transit riders, and adversely affects the safety and comfort of pedestrians and bicycle riders who share the roadway corridor with cars, trucks and buses.

Scope of Work and Deliverables

Document existing conditions and highlight trends



Prepare concepts for congestion reduction

Evaluate project effectiveness and priorities

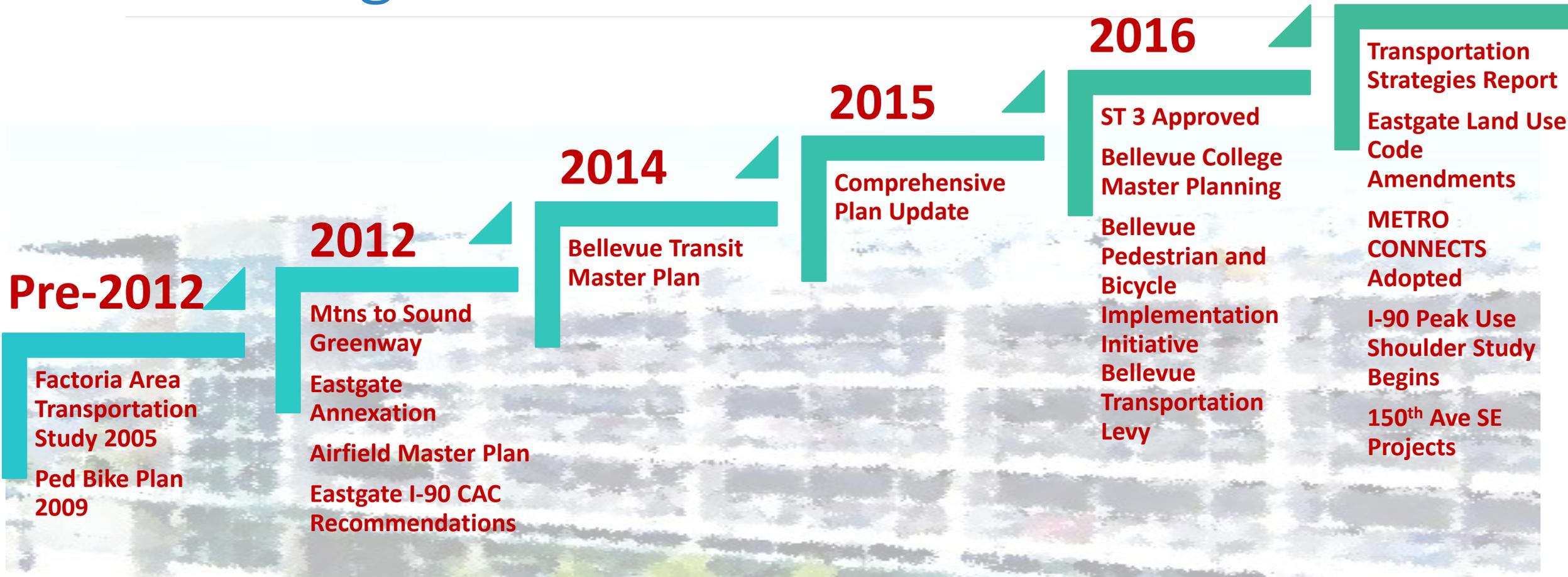
Examine alternate approaches including roundabouts

Prepare planning-level cost estimates

Develop implementation strategies

Deliver final report

Planning Context



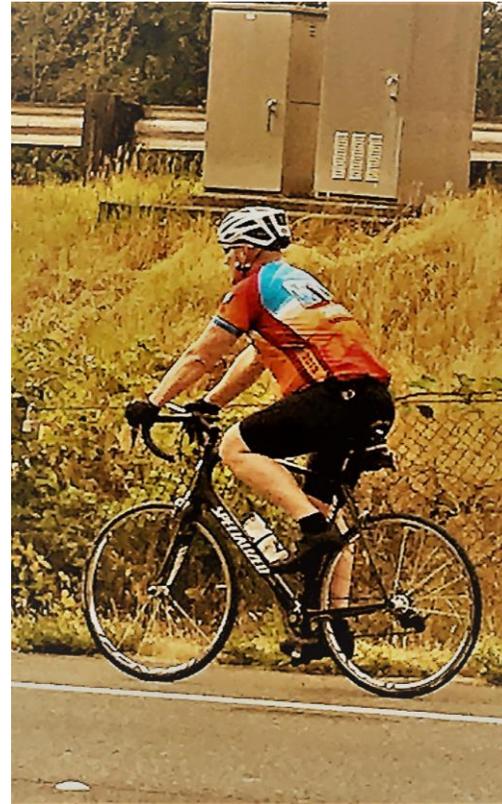
Findings Current Context

Projects Local and Regional

Baseline and Trends

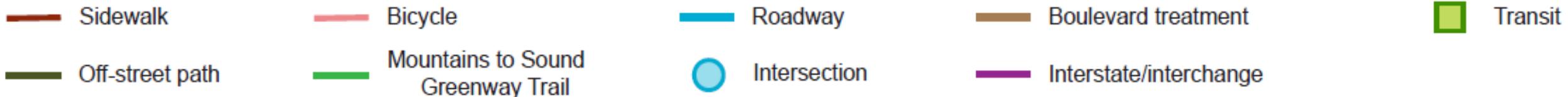
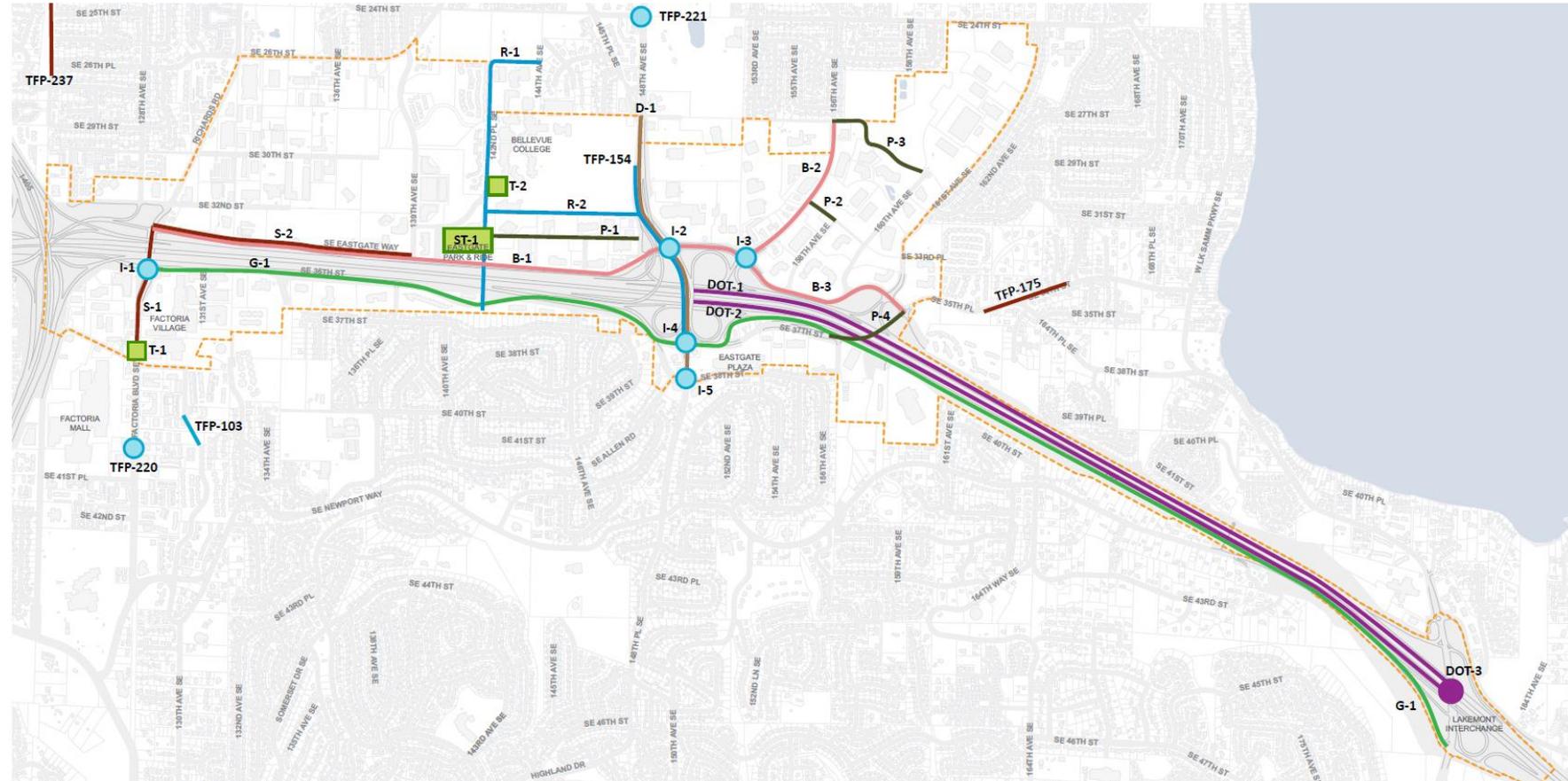
- Vehicles
- Transit
- Bicycles
- Pedestrians

Future Conditions and
Potential Investments



Eastgate and Factoria Transportation Projects

- **Eastgate Protected Bike Lane**
 - In Design
- **Mountains to Sound Greenway Trail**
 - In Design
- **150th Avenue SE Intersections**
 - In Design



Regional Plans

Connecting Washington

- Auxiliary Lanes I-90 (2020)
- I-405 Bellevue to Renton ETL and Widening (2024)

ST 2 & 3

- Link to Bellevue (2023) and Redmond (2024)
- I-405 BRT (2024)
- Link Issaquah to S. Kirkland (2041)

METRO CONNECTS

- RapidRide (Redmond to Renton, Kirkland to Eastgate)
- Other Service Expansion

Trails

- Eastside Rail Corridor



WSDOT I-90 Corridor Improvements

- I-90 Auxiliary Lanes Constructed by 2021
- Fully Funded
- Eastgate Plan DOT1 and DOT2



Existing Conditions and Trends



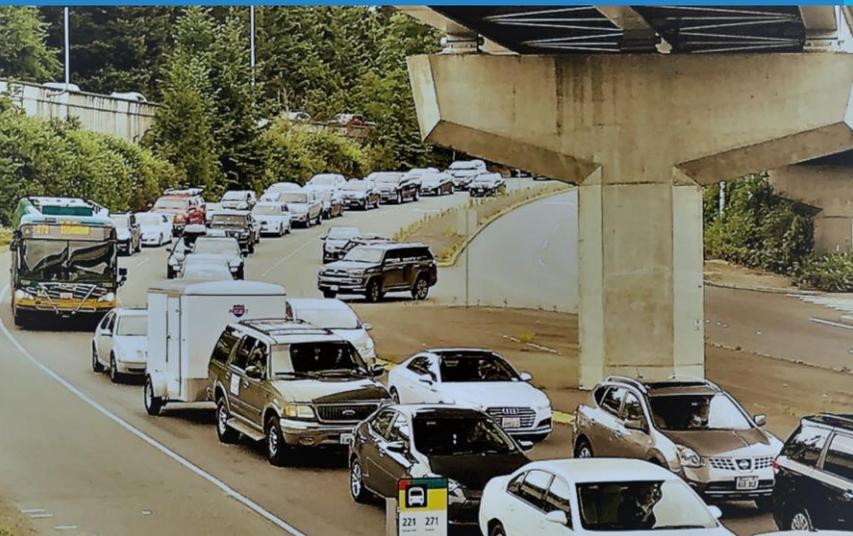
MMLOS Metrics Standards and Guidelines



MMLOS SUMMARY			
Transportation Commission Approved April 13, 2017			
Mode	LOS Metric	LOS Standard	LOS Guideline
Vehicle	Volume/Capacity or Average Delay at Intersections	V/C: 0.80-0.95. Delay: 20-80 sec. Varies by land use context	
	Typical Urban Travel Time/Speed on Arterials		Percent of posted speed limit, LOS varies by neighborhood context
Pedestrian	Sidewalk and Landscape Width	12-20 feet Varies by land use context	
	Pedestrian Comfort, Access and Safety at Intersections		Design varies by land use context
Bicycle	Level of Traffic Stress on Corridors		Design to achieve LTS varies by roadway traffic speed and volume
	Level of Traffic Stress at Intersections		Maintain corridor LTS at intersections. Design components vary by context
Transit	Passenger Comfort, Access and Safety		Varies by transit stop/station typology
	Transit Travel Speed on Corridors		14 mph on Frequent Transit Network corridors between activity centers

Vehicle LOS

- Volume / Capacity
- Typical Urban Travel Speed
- Trends





V/C Intersection Operations MMLLOS Metrics AM & PM 2018

Eastgate LOS 0.90

Factoria LOS 0.95

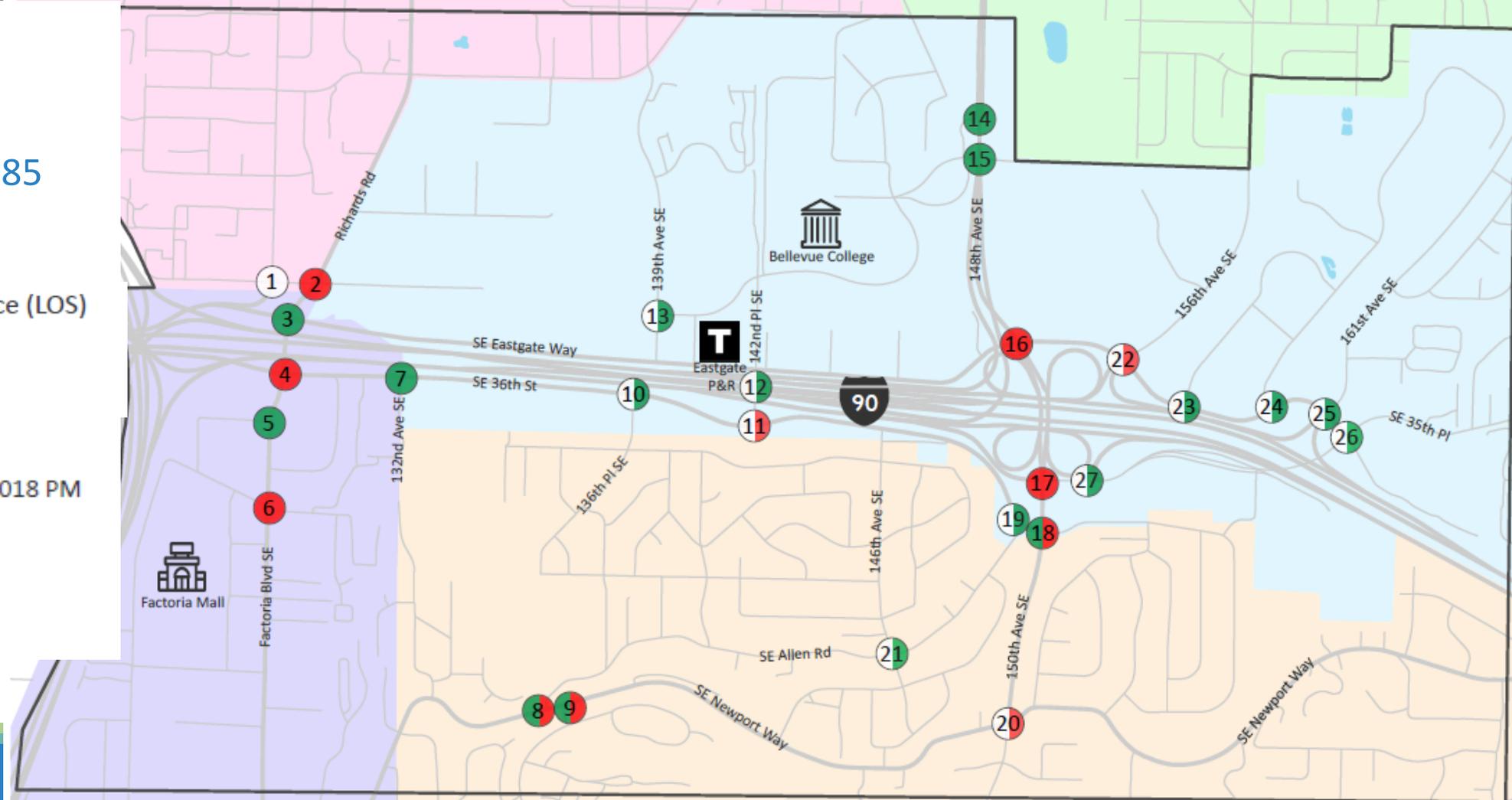
Richards Valley LOS 0.85

SE Bellevue 0.80

Intersection Delay Level of Service (LOS)

- Meets V/C Threshold
- Does Not Meet V/C Threshold
- Not Studied

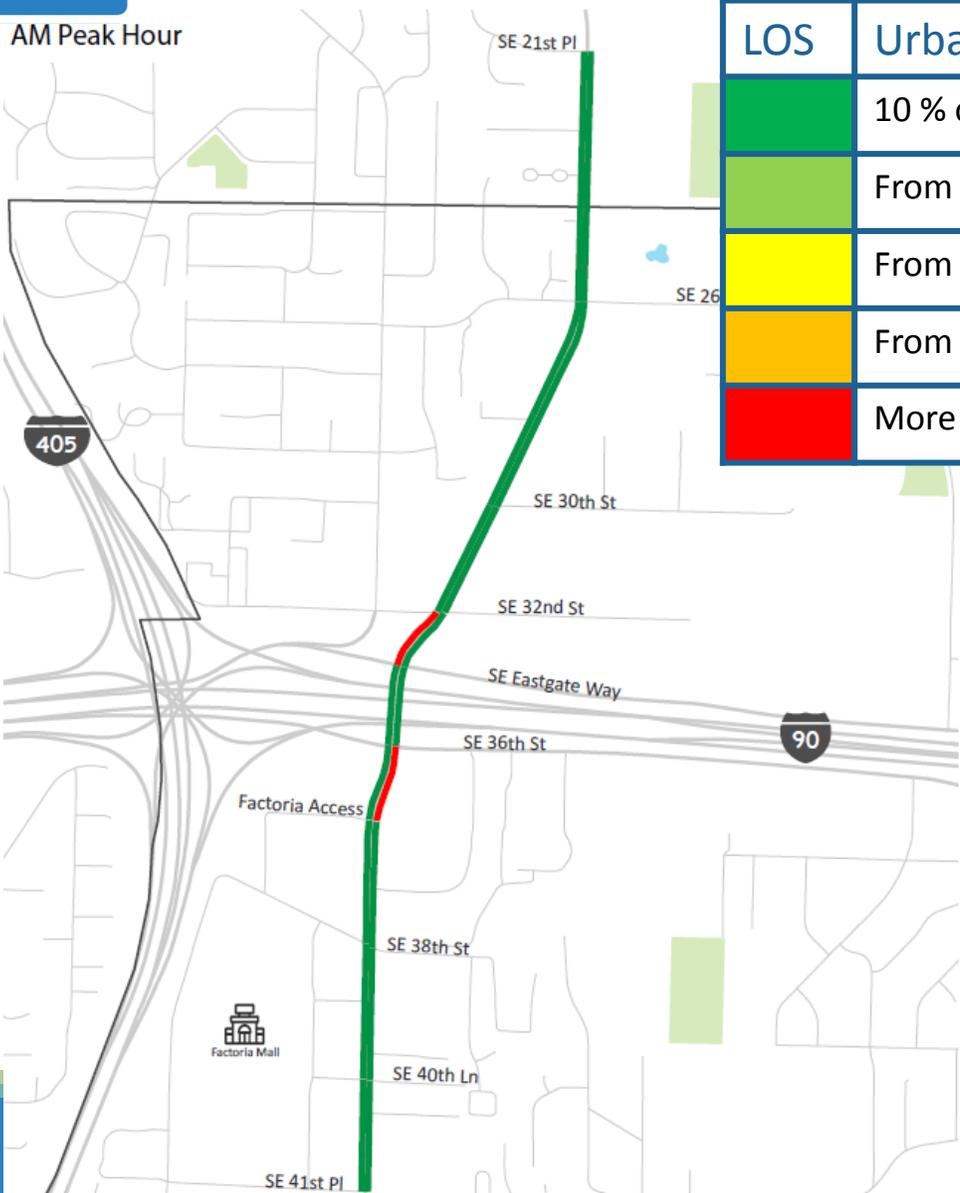
Existing 2018 AM Existing 2018 PM





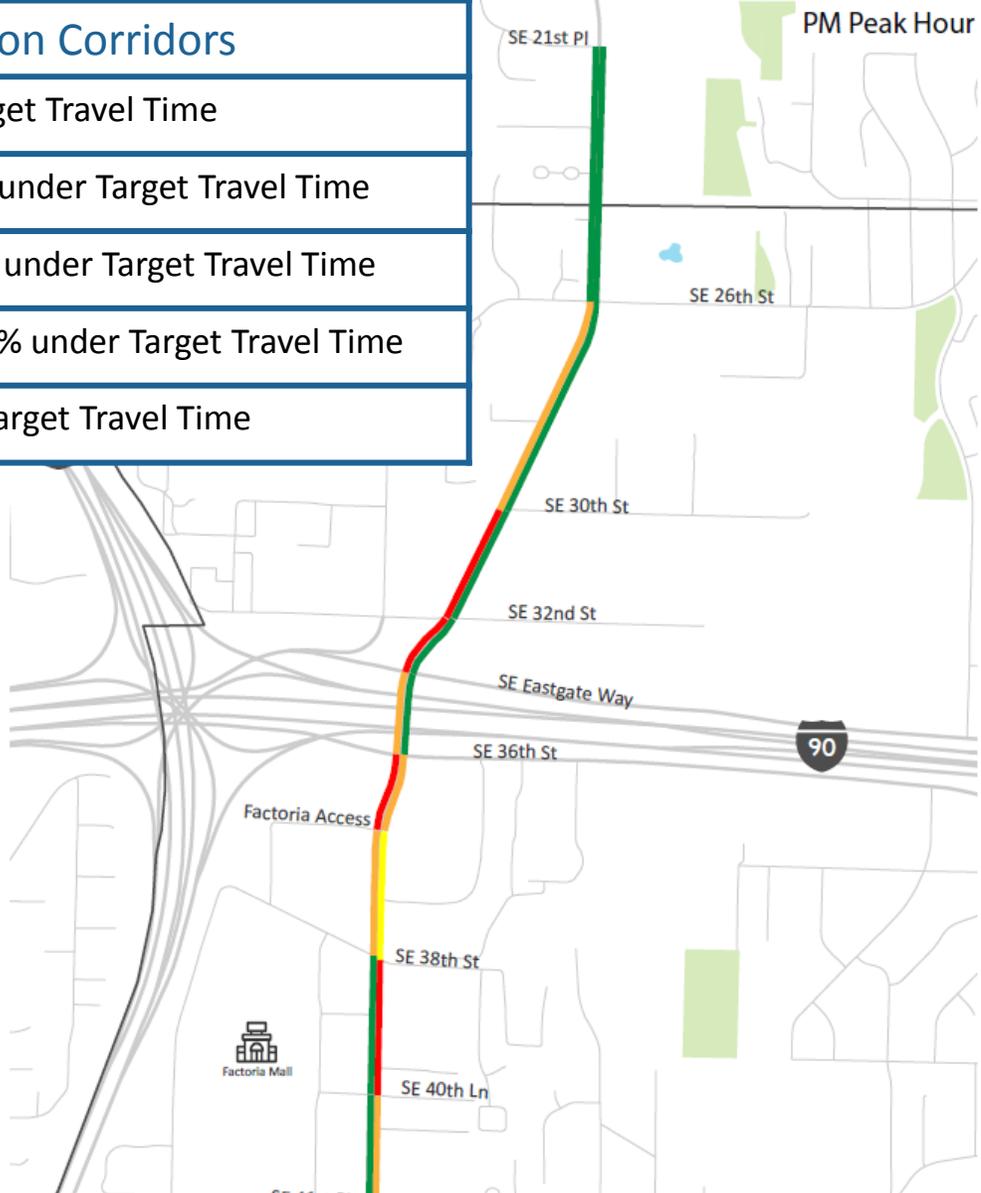
Urban Travel Speed Richards Rd /Factoria Blvd. Corridor MMLoS Metrics

AM Peak Hour



LOS	Urban Travel Time on Corridors
Green	10 % or more above Target Travel Time
Light Green	From 10 % over to 10 % under Target Travel Time
Yellow	From 10% under to 55% under Target Travel Time
Orange	From 55% under to 100 % under Target Travel Time
Red	More than 100 % over Target Travel Time

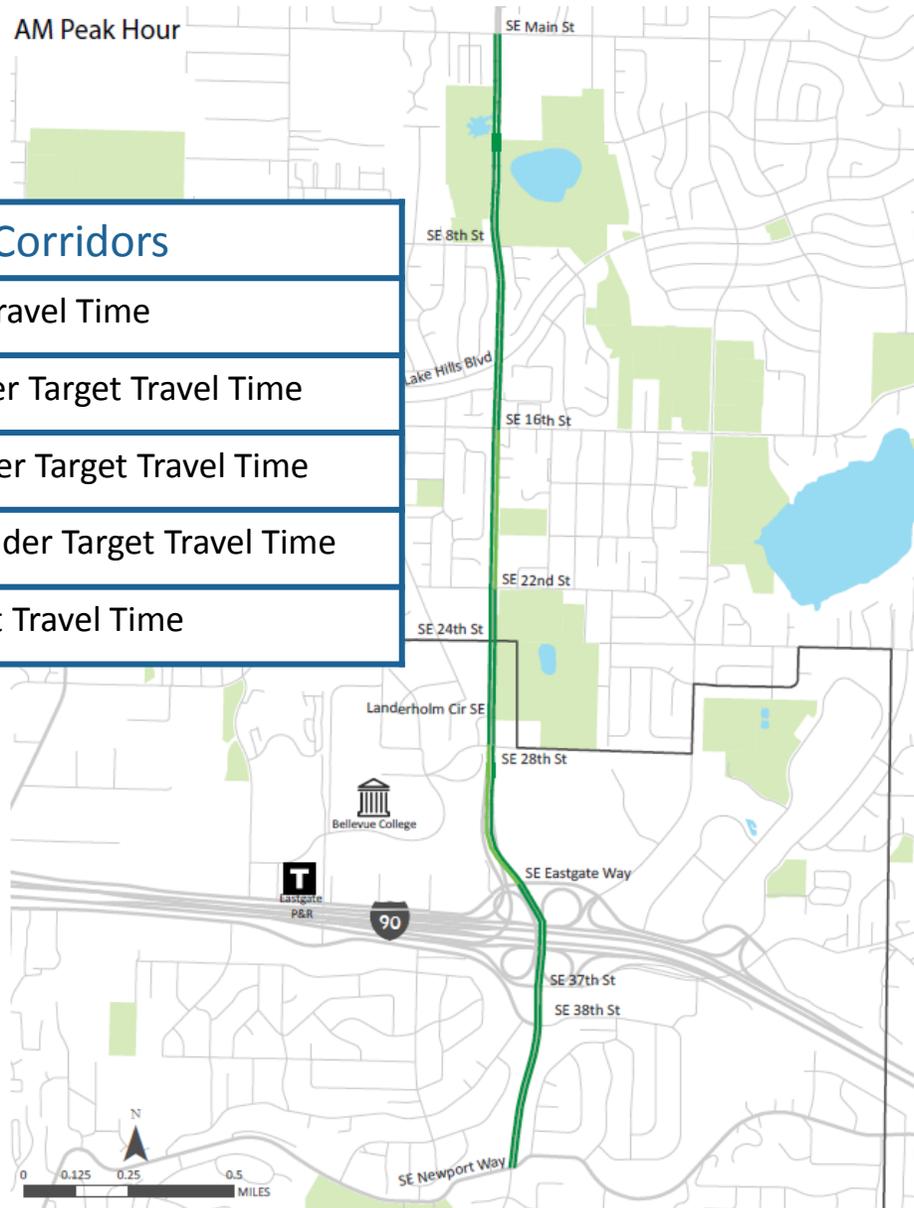
PM Peak Hour



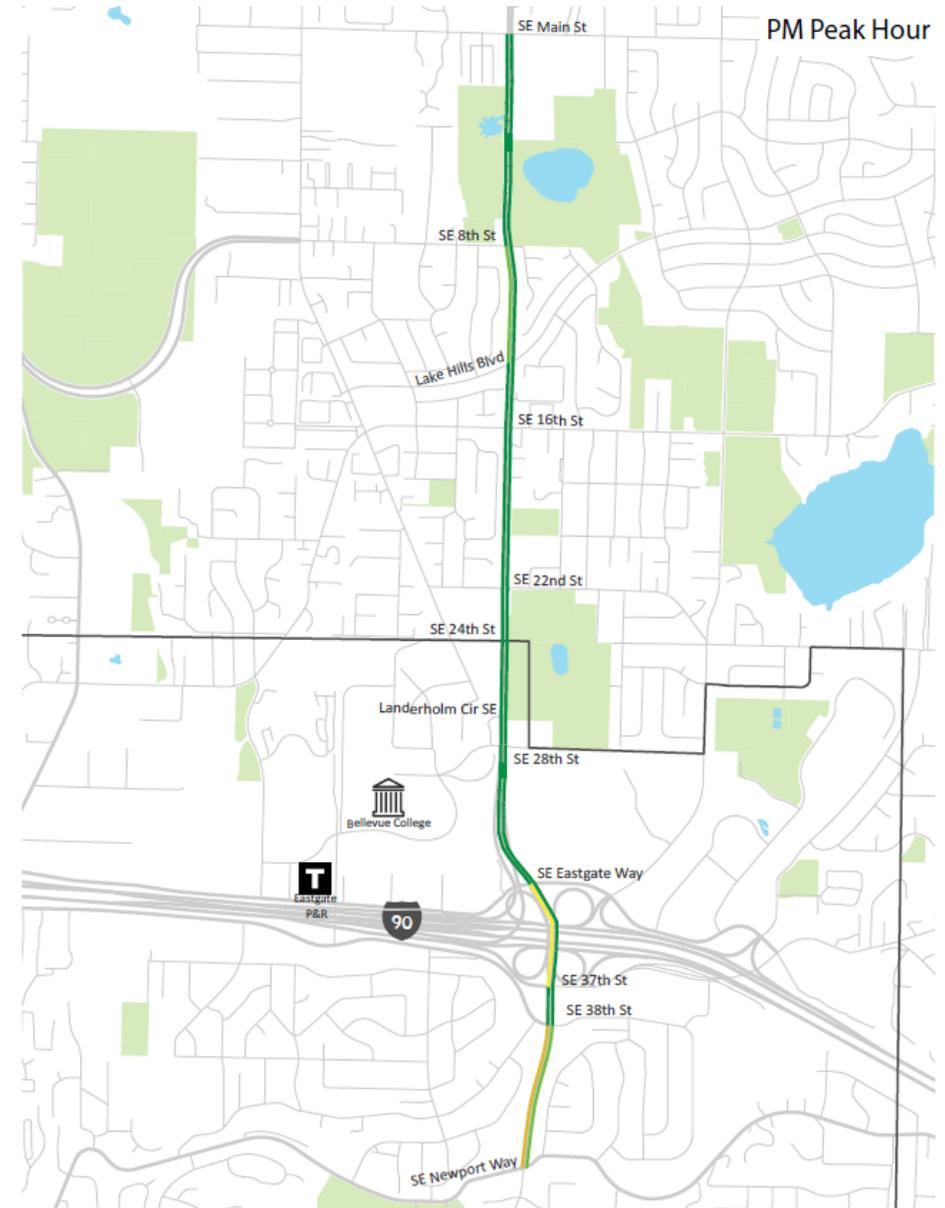


Urban Travel Speed 148th St/ 150th St Corridor

AM Peak Hour



PM Peak Hour

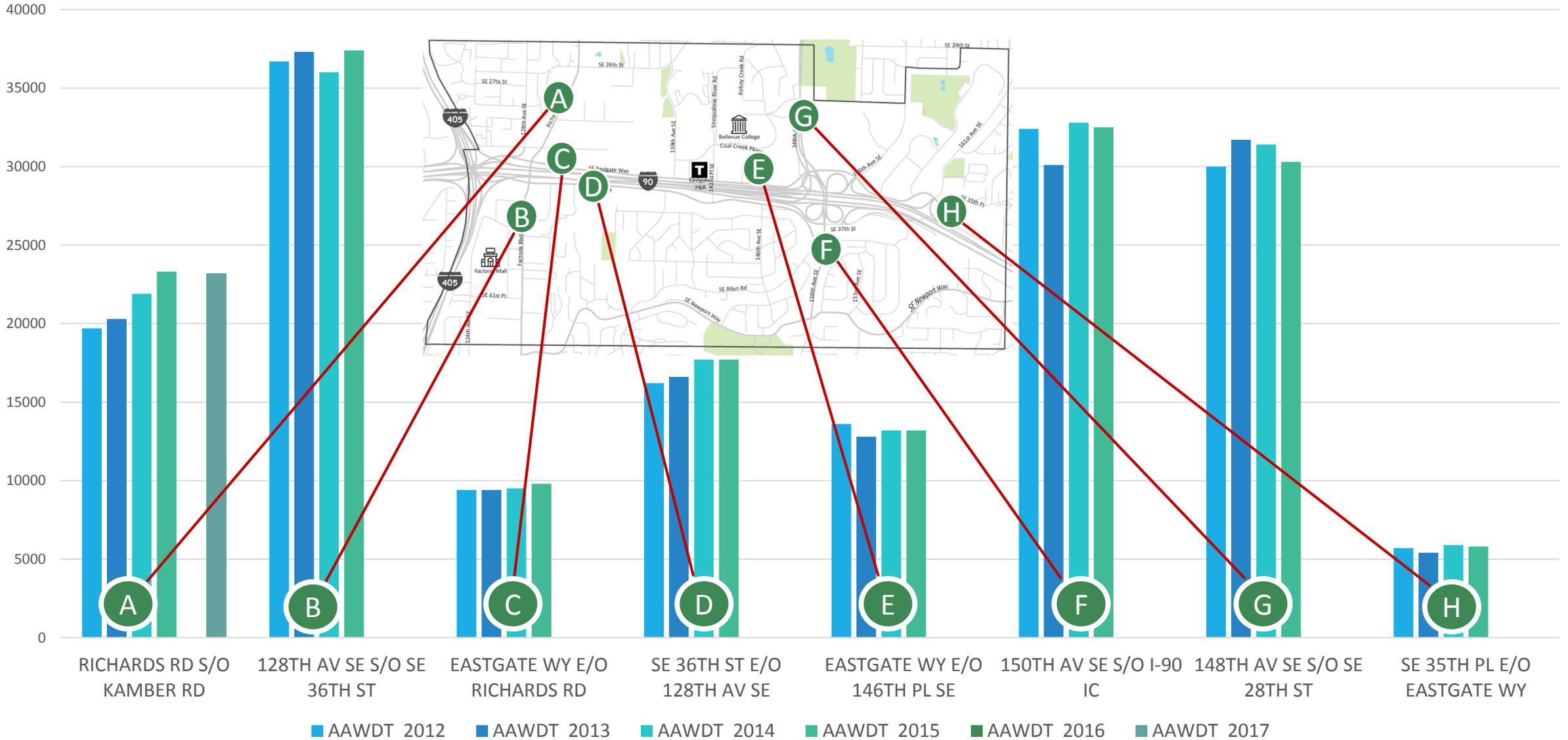


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Trends

Average Annual Weekday Traffic on Arterials



Pedestrian LOS

- Sidewalk and Buffer
- Intersection Treatments
- Crosswalks





Pedestrian MMLoS Metrics

Context:	Downtown	Activity Center	Neighborhood Shopping Center	Pedestrian Destination	Elsewhere
<u>Component</u>					
Sidewalk Width Landscape Buffer	Downtown Land Use Code	16 feet	13 feet	13 feet	Transportation Design Manual
Signalized Intersection Design	Downtown Transportation Plan	Downtown Transportation Plan "Enhanced"	Transportation Design Manual	Transportation Design Manual	Transportation Design Manual
Arterial Crossing Frequency	Downtown Transportation Plan	600- 800 feet	600 feet	300-600	N/A



Pedestrian MMLoS Metrics

Pedestrian LOS

Standards Guidelines

Arterials

16' Sidewalk/Landscape Buffer

Meets

Does Not Meet

Enhanced Signalized Intersections **X**

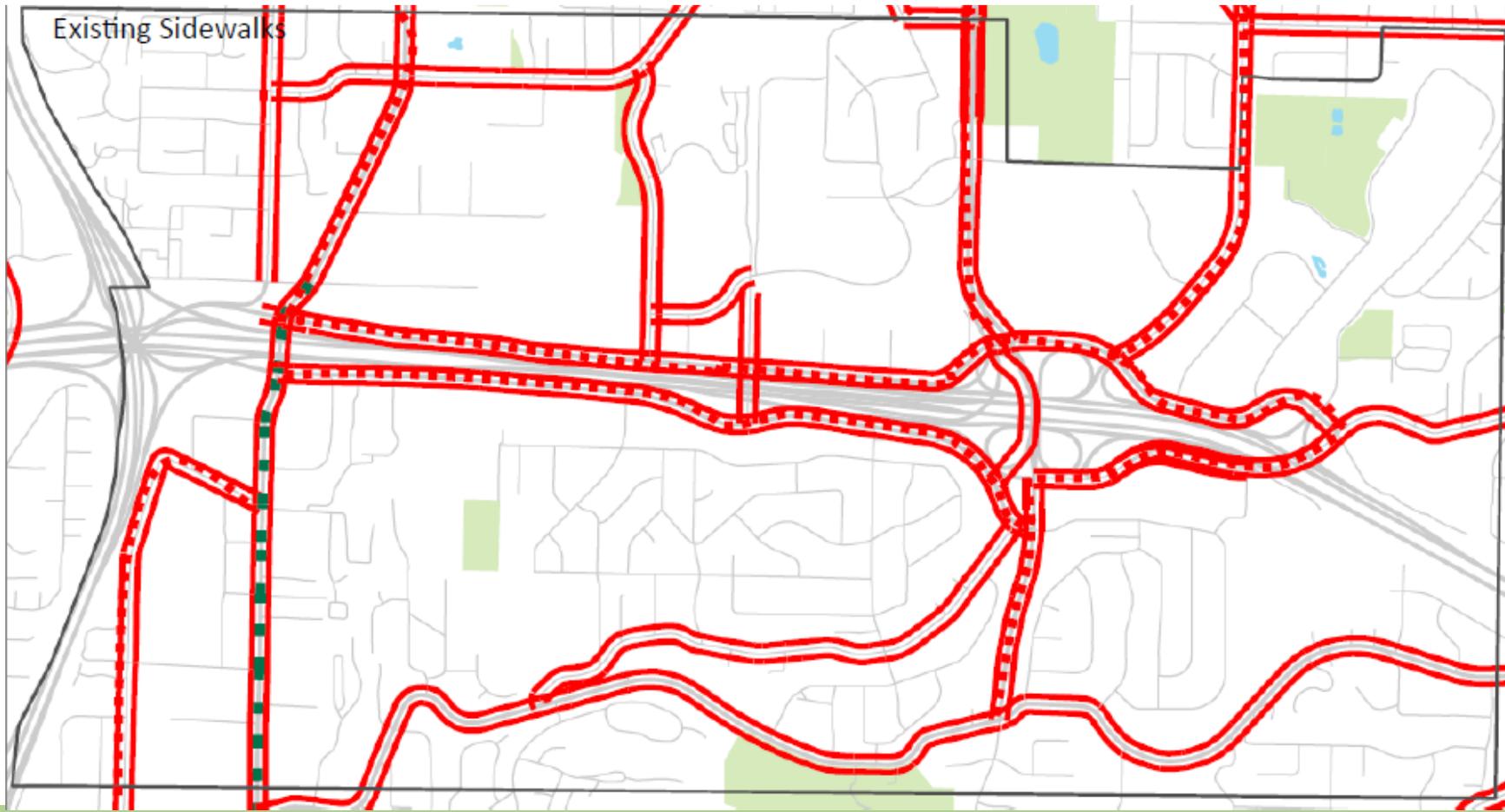
Arterial Crossing Frequency

. 600' Eastgate Activity Center

. 800' Factoria

Meets

Does Not Meet



Bicycle LOS

- Corridors
- Intersections





MMLOS Bicycle Facility Metrics

Bicycle LOS Guidelines

LOS on Network Corridors

LOS 1

- Existing
- Planned
- Missing

LOS 2

- Existing
- Planned
- Missing

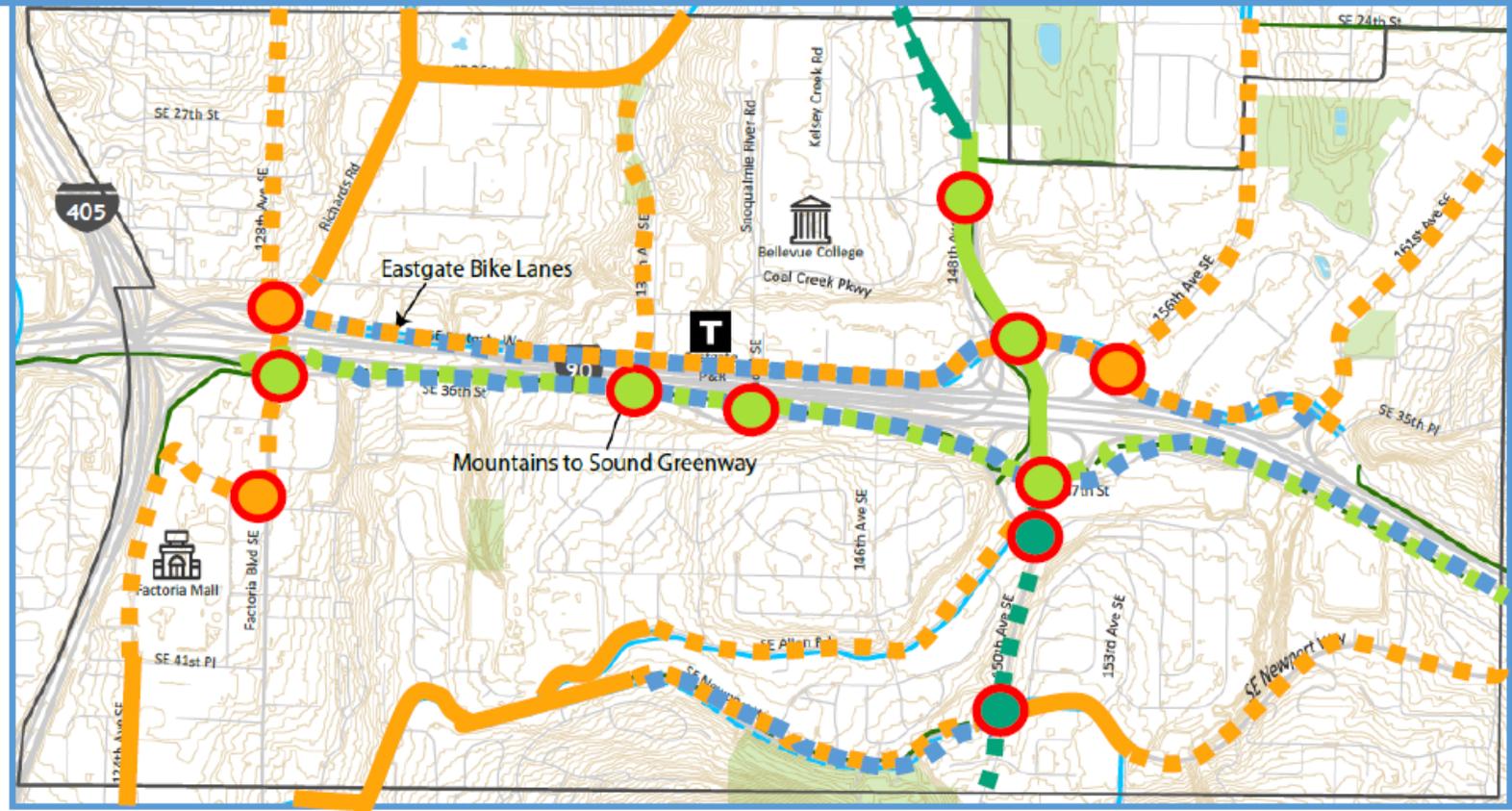
LOS 3

- Existing
- Planned
- Missing

LOS Intersections

LOS 1

- Meets
 - Does not Meet
- #### LOS 2
- Meets
 - Does not Meet
- #### LOS 3
- Meets
 - Does not Meet



Bicycle Level of Service on Corridors

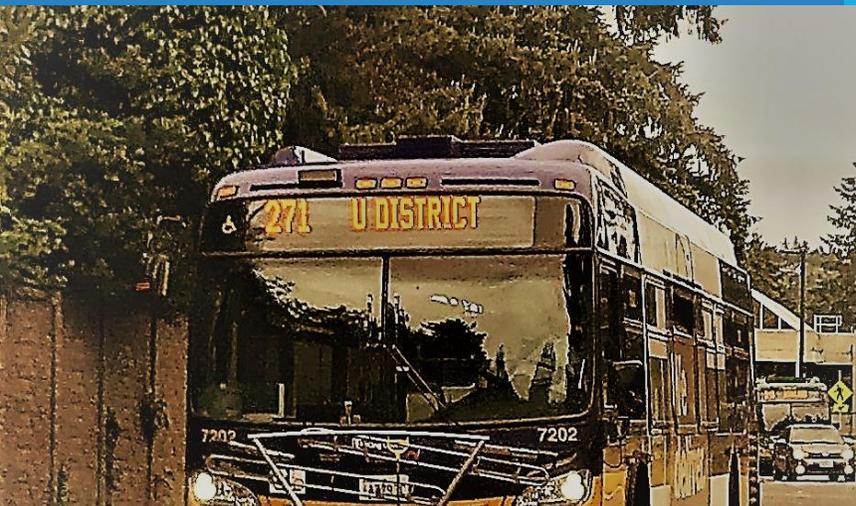
Roadway Characteristics		Bicycle Facility Components: Guideline to Achieve Intended Level of Service/Level of Traffic Stress					
Speed Limit (MPH)	Arterial Traffic Volume	No Marking	Sharrow Lane Marking	Striped Bike Lane	Buffered Bike Lane (Horizontal)	Protected Bike Lane (Vertical)	Physically Separated Bikeway
< 25	< 3k	1	1	1	1	1	1
	3-7k	3	2	2	2	1	1
	> 7k	3	3	2	2	1	1
30	< 15k	3	3	2	2	1	1
	15-25k	4	4	3	3	3	1
35	> 25k	4	4	3	3	3	1
	< 25k	4	4	3	3	3	1
> 35	> 25k	4	4	4	3	3	1
	Any	4	4	4	4	3	1

Bicycle Level of Service at Intersections

Bicycle LOS/LTS	Bike Signal	Street Crossing	Approach to Intersection	Approach to Intersection with Right Turn Lane
LOS 1	Bike Signal	Green solid or skip-stripe	Green bike box	Curb ramp to wide sidewalk, Dutch Intersection
LOS 2	Bike Signal	Skip stripe	Bike box	Green bike lane to left of turn lane
LOS 3	Green Cycle Length	Sharrow lane markings	Automatic signal actuation	Bike lane to left
LOS 4	No specific design guideline for LTS/LOS 4			
Trail or Mid-Block Crossing	Full signal or HAWK or RRFB	Green solid or skip-stripe	N/A	N/A

Transit LOS

- Transit Speeds on FTN Corridors
- Passenger Comfort, Access, and Safety
- Trends





Transit MMLoS Metrics

Transit LOS Guideline

Transit Speed Guidelines

Frequent Transit Network

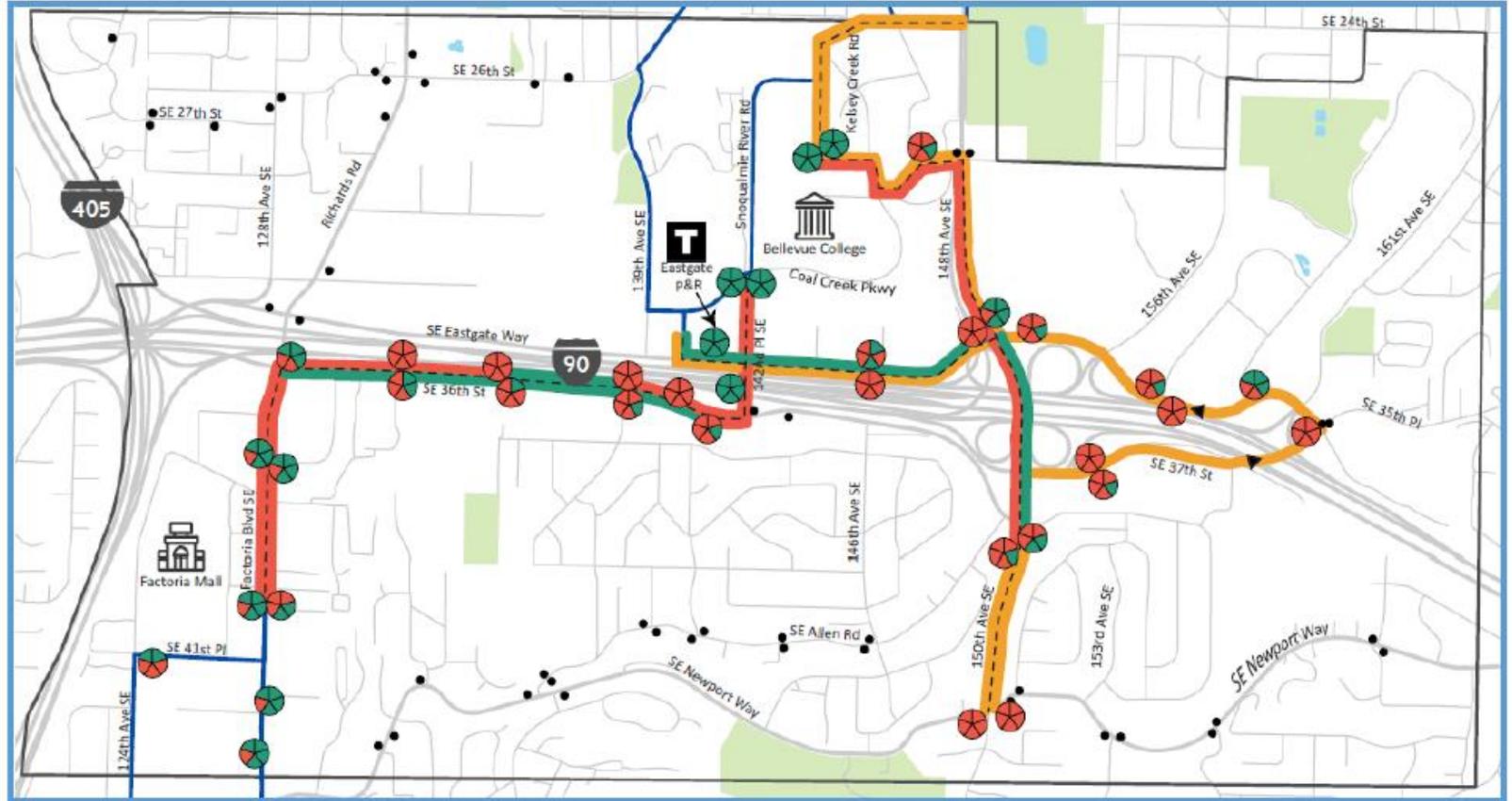
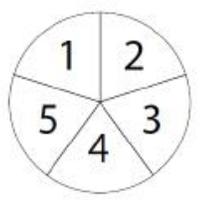
- >14 MPH
- 10-14 MPH
- <10 MPH

Passenger Amenities

Guideline

Frequent Transit Network

1. Weather Protection
2. Seating
3. Paved Zone
4. Wayfinding
5. Bike Racks



Next Steps

Travel Demand
Modeling

Apply Future Mode
Share

Conduct AM / PM
Future Operations
Analysis

Consider congestion
reduction project
concepts

Identify projects to
fill other gaps

Thank you!

Questions and comments

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