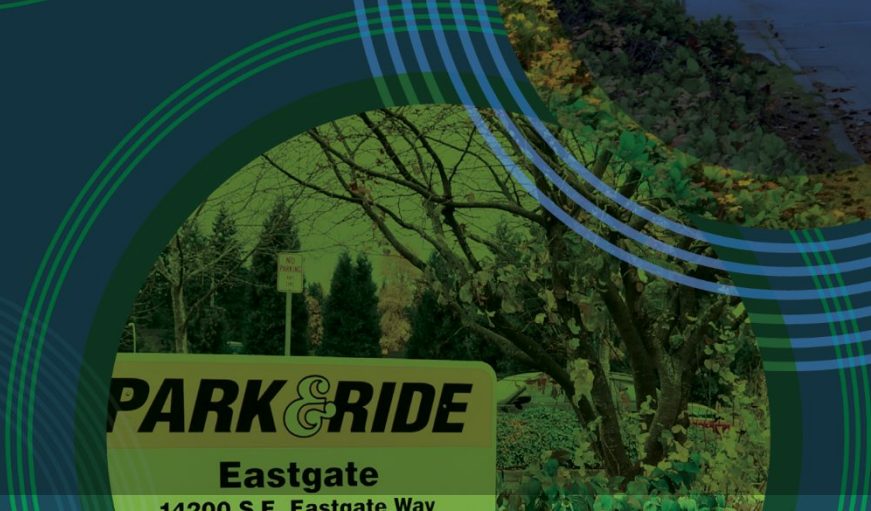
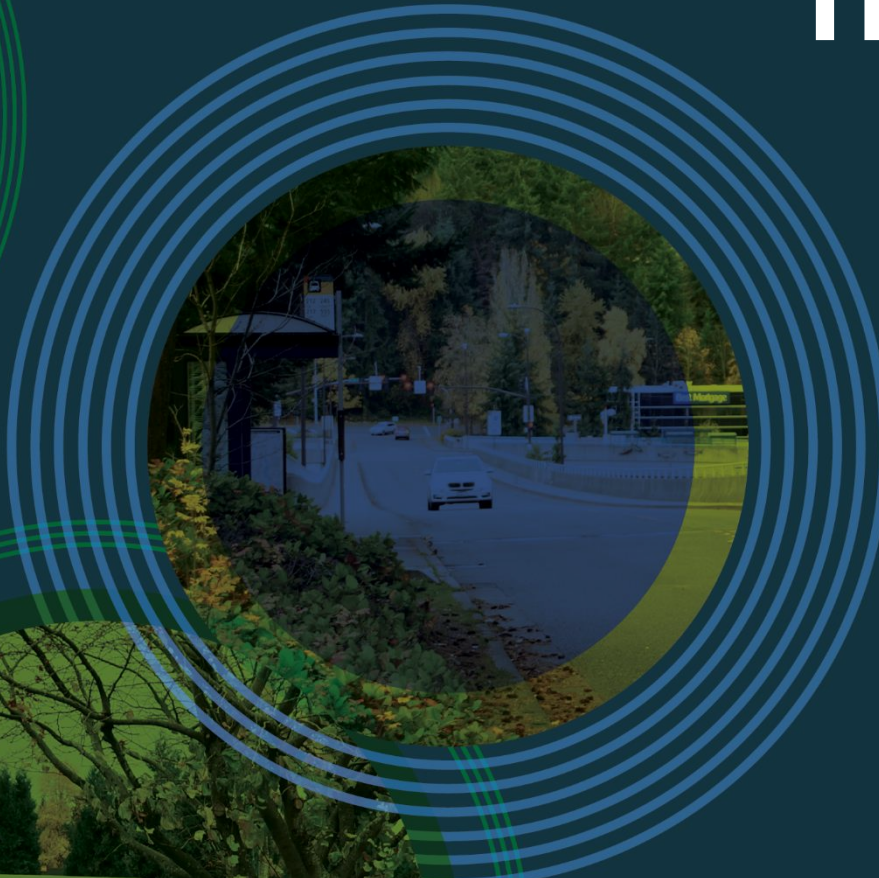


Eastgate Transportation Study

Evaluation Framework,
2035 Modeling Results,
Project Concepts

01/24/2019

Transportation
Commission



Introductions



Modeling Lead

Tony Woody, Concord Engineering

- 2035 Baseline Operations
- Preliminary Project Concepts



Planning Lead

Chris Breiland, Fehr & Peers

- Project Concept Development
- Project Evaluation



Project Management Staff

- Jeremy Chin
- Kevin McDonald

Presentation/Discussion Outline

Presentation Overview

2035 Baseline Model Results

- Intersections
- Corridors

Preliminary Project Concepts

Staff Request

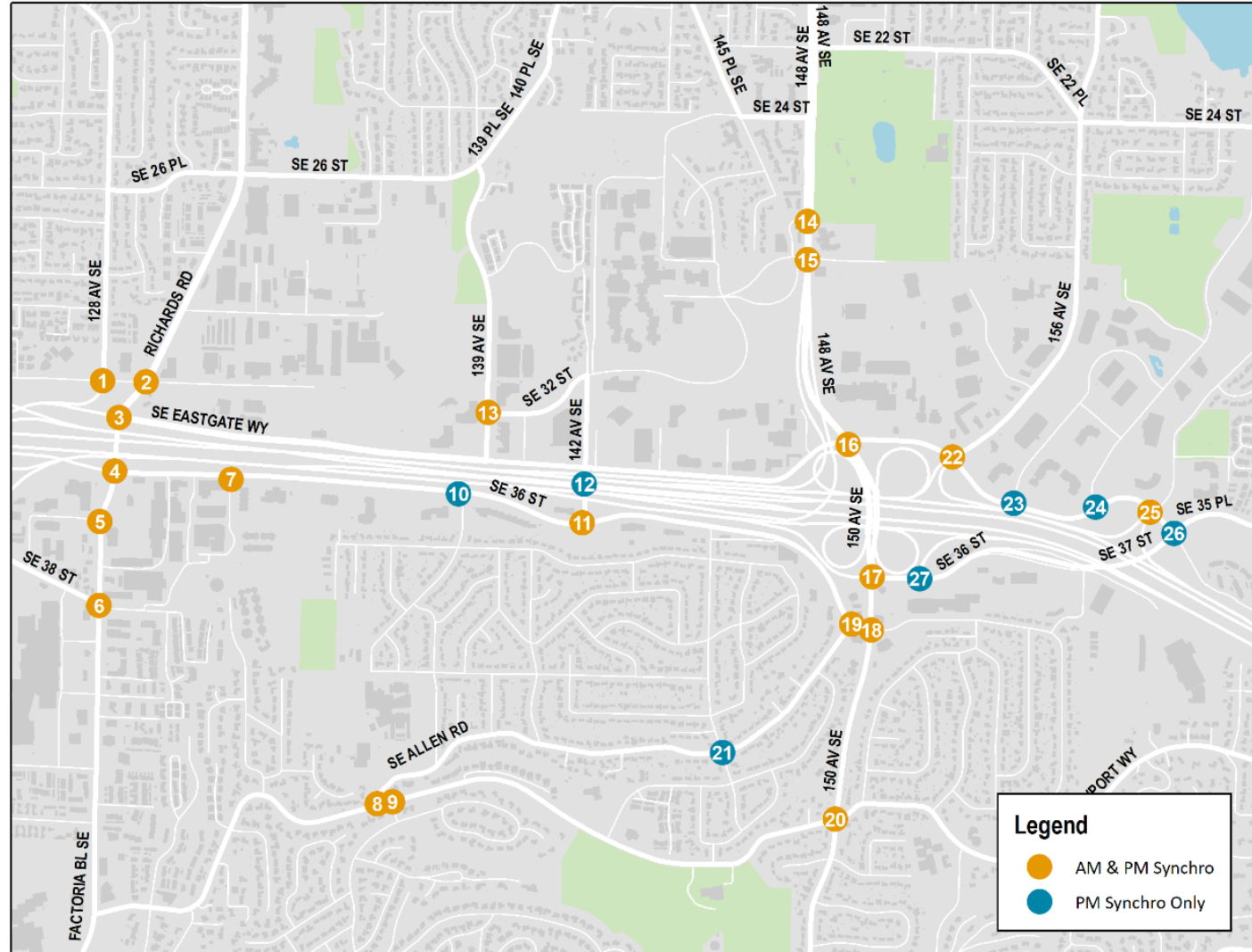
Transportation Commission
direction on the Preliminary
Project Concepts to Further
Develop and Evaluate



Intersection Analysis

Eastgate Transportation Study Area

- 27 Intersections
- 15 MMA system intersections
- Focused on Corridors
- AM and PM Peaks Analyzed
 - 8:00-9:00 AM (20 intersections)
 - 4:30-5:30 PM (27 intersections)



2018 Existing & 2035 Baseline V/C: PM Peak

Eastgate Study Area

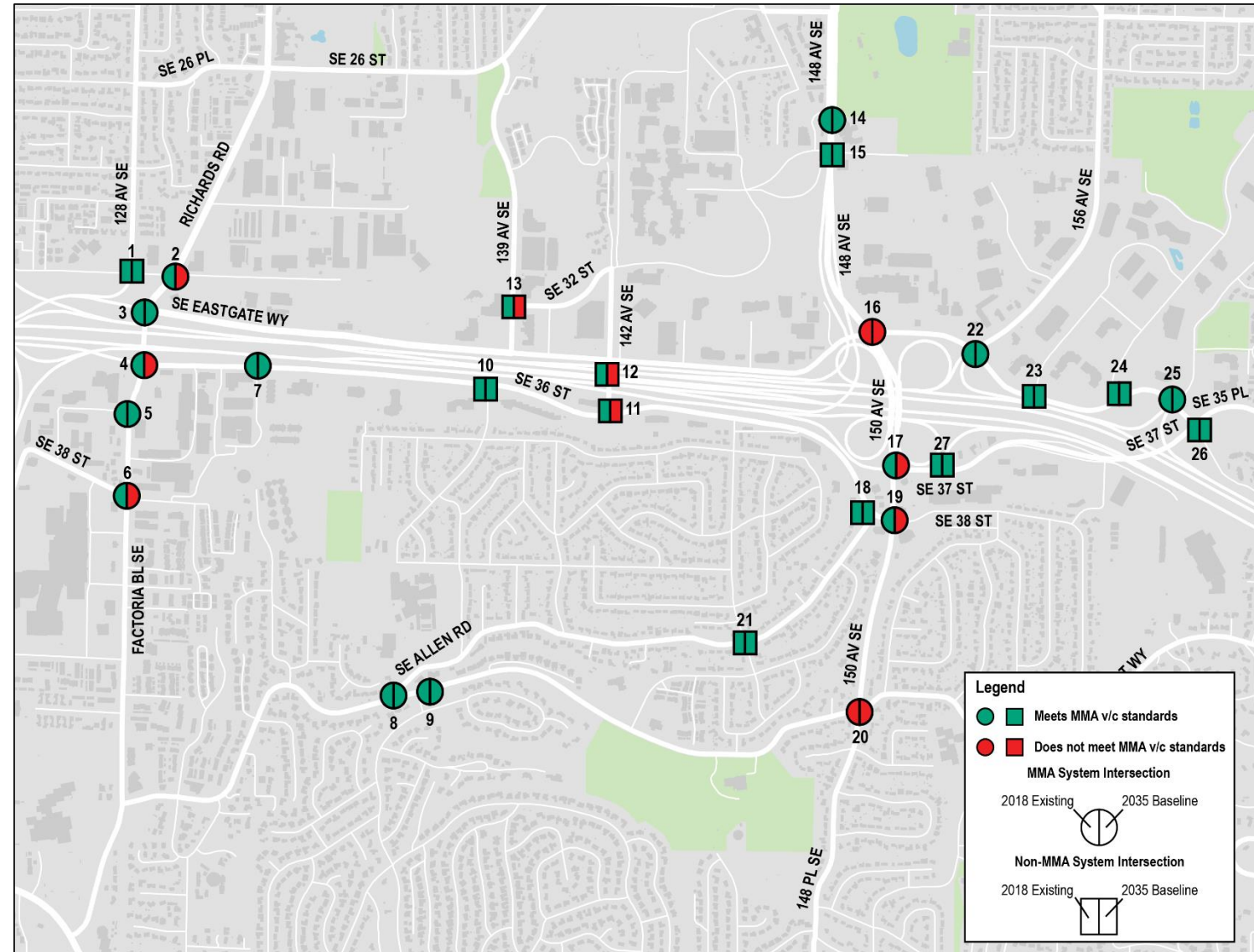
MMA System Intersections

- 2018: 13 of 15 **meet** standard
- 2035: 8 of 15 **meet** standard

Non-System Intersections

- 2018: 12 of 12 **meet** standard
- 2035: 9 of 12 **meet** standard

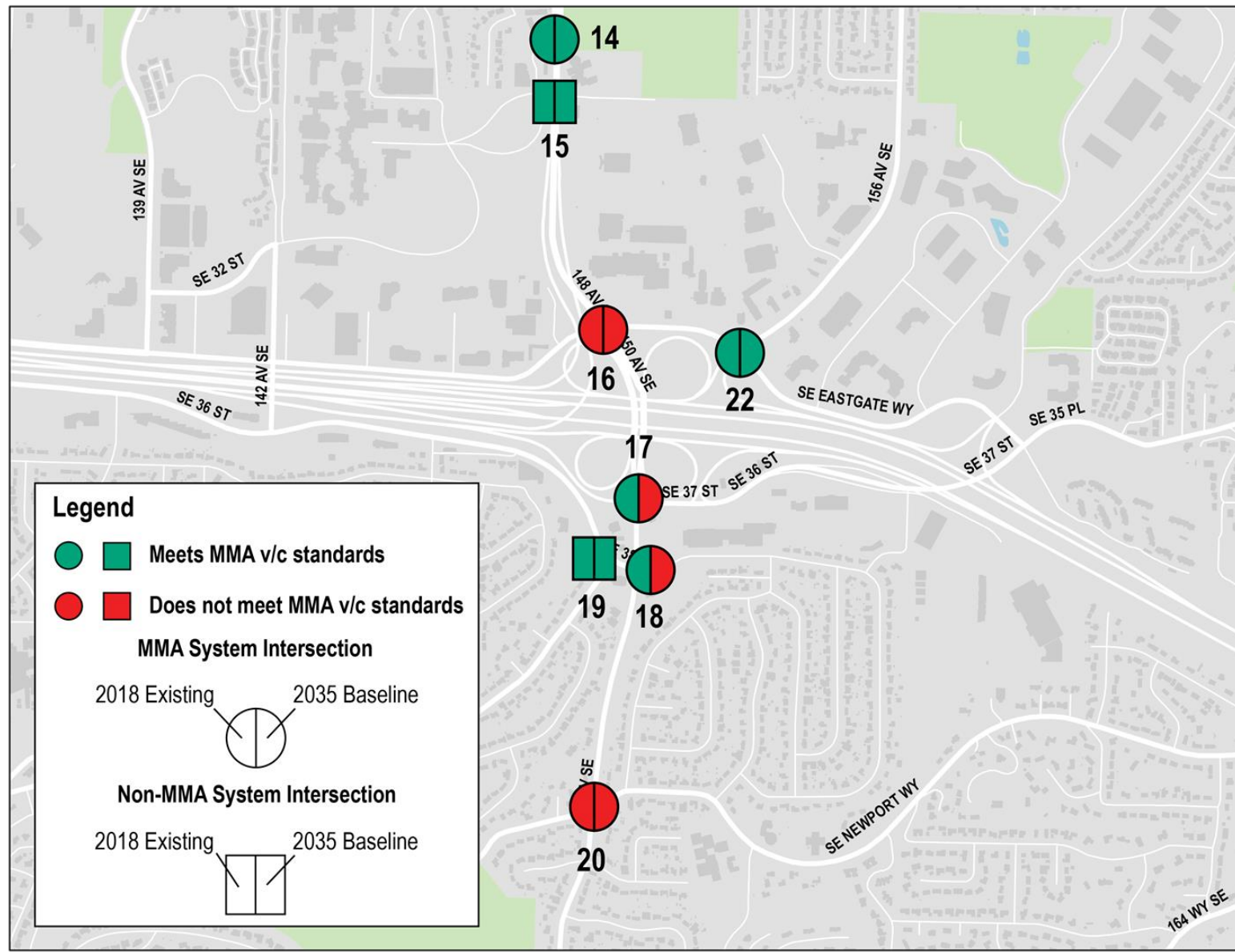
*Note: Intersection v/c expressed on the map as either **meeting** the standard for the MMA or **exceeding** the standard.*



2018 Existing & 2035 Baseline V/C

148th-150th Avenue SE Corridor

- MMA System Intersections
 - 2018: 4 of 6 **meet** standard
 - 2035: 2 of 6 **meet** standard
- **Exceeds** standard in 2035
 - Eastgate Way/148th Ave. SE
 - SE 37th Street/150th Ave. SE
 - SE 38th Street/150th Ave. SE
 - Newport Way/150th Ave. SE



2018 Existing & 2035 Baseline V/C

148th - 150th Avenue SE Corridor

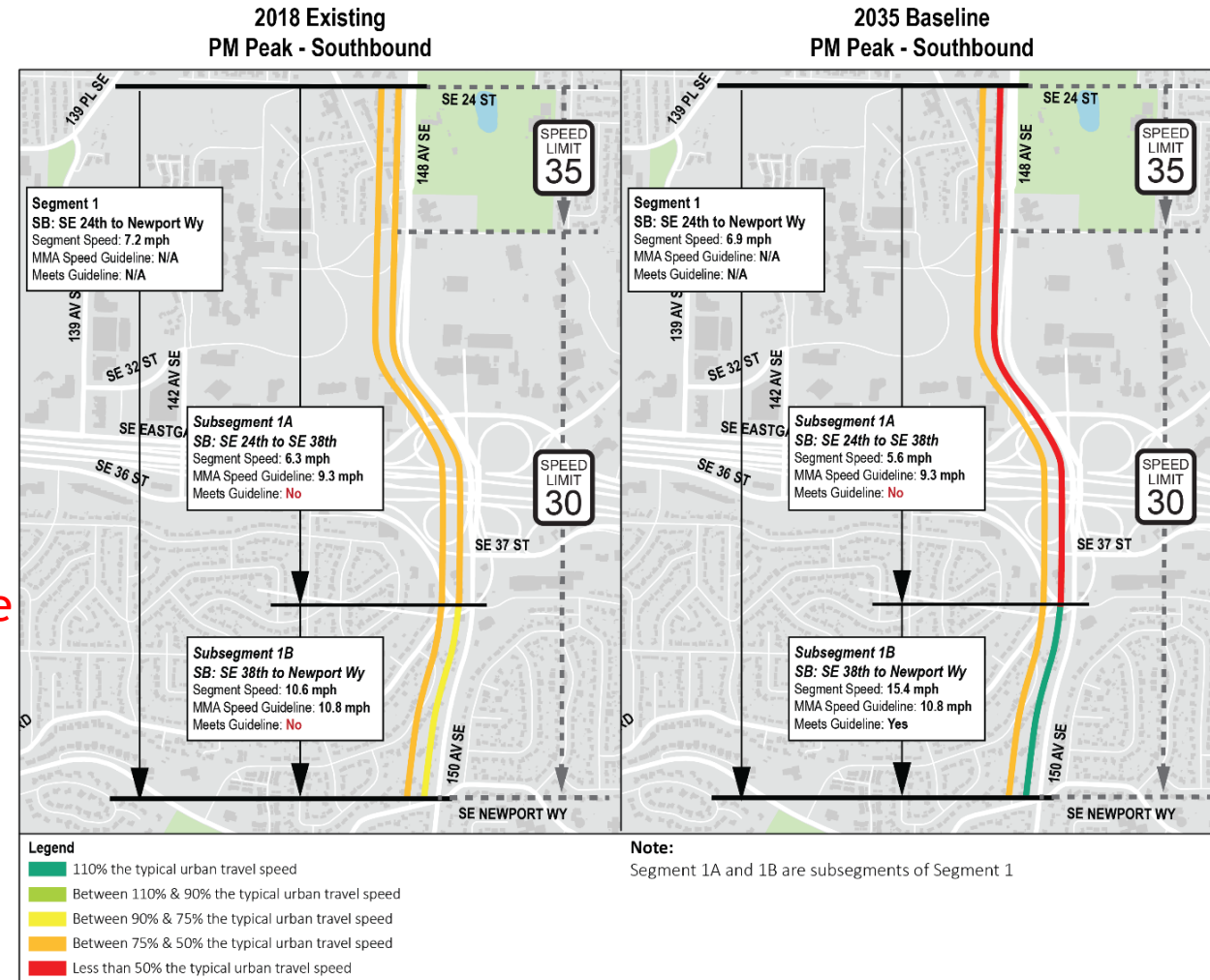
Cells **highlighted in red** indicates intersection v/c does not meet MMA standard, pink = getting close!

ID	Intersection	MMA v/c Standard	Intersection Control	PM Peak	
				2018 Existing	2035 Baseline
MMA System Intersections					
14	148 th Avenue SE & SE 27 th Street	0.90	Signalized	0.58	0.66
16	148 th /150 th Avenue SE & Eastgate Way	0.90	Signalized	0.92	1.17
17	150 th Avenue SE & I-90 Ramp/SE 37 th St.	0.90	Signalized	0.79	0.97
18	150 th Avenue SE & SE 38 th Street	0.85	Signalized	0.79	0.97
20	150 th Avenue SE & Newport Way	0.85	Signalized	0.89	0.99
22	Eastgate Way & 156 th Avenue SE	0.90	Signalized	0.66	0.75
Non-System Intersections					
15	148 th Avenue SE & SE 28 th Street	0.90^	Signalized	0.77	0.81
19	Allen Road & SE 38 th Street	0.85^	Unsignalized	0.21	0.27
27	I-90 On-Ramp & SE 37 th Street	N/A^	Unsignalized	N/A**	

2018 Existing & 2035 Baseline Travel Speed

148th - 150th Avenue SE Corridor

- Posted Speed = 30/35 mph
- Typical Urban Speed = 12/14 mph
- 2018 Existing
 - Full Segment = 7.2 mph
 - 24th to 38th = 6.3 mph - **Does not meet guideline**
 - 38th to Newport = 10.6 mph - **Does not meet guideline**
- 2035 Baseline
 - Full Segment = 6.9 mph
 - 24th to 38th = 5.6 mph - **Does not meet guideline**
 - 38th to Newport = 15.4 mph - **Meets guideline**



Corridor travel speed guideline expressed on the map as a gradient

2018 Existing & 2035 Baseline Travel Speed

148th-150th Avenue SE Corridor

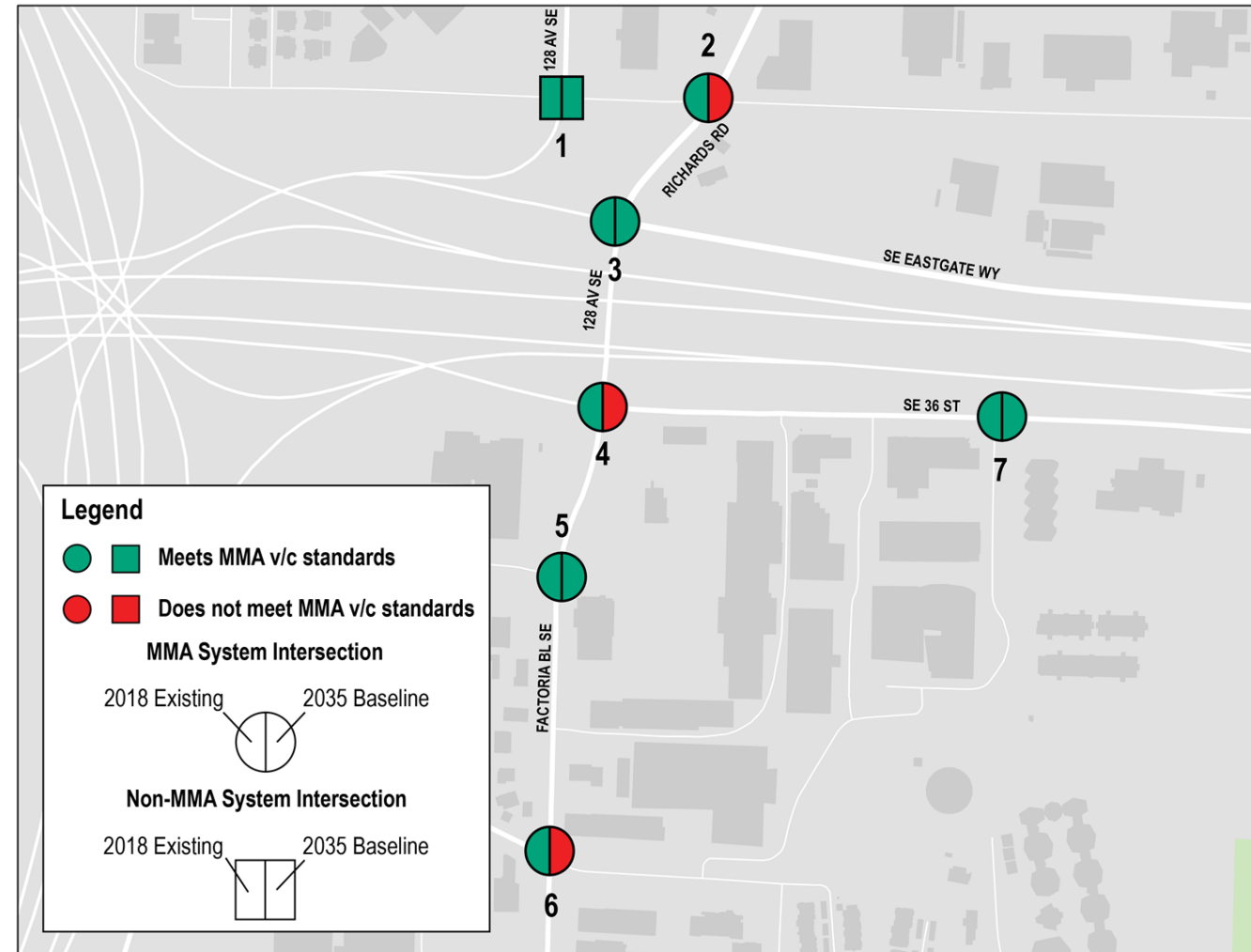
Corridor/Segment Travel Speed 2018 Existing & 2035 Baseline

ID	Segment	Peak/ Direction	MMLOS Guidelines		2018 Existing		2035 Baseline	
			Posted Speed/ Typical Urban Speed (mph)	MMA Speed Guideline [^] (mph)	Segment Speed (mph)	Meets MMLOS (y/n)	Segment Speed (mph)	Meets MMLOS (y/n)
1	SE 24 th St. to Newport Way	PM/SB	30.8 mph/ 12.3 mph	N/A	7.2	N/A	6.9	N/A
	A: SE 24 th St. to SE 38 th St.	PM/SB	31.1 mph/ 12.4 mph	9.3	6.3	No	5.6	No
	B: SE 38 th St. to Newport Way	PM/SB	30 mph/ 12 mph	10.8	10.6	No	15.4	Yes
2	Newport Way to SE 24 th St	AM/NB	30.8 mph/ 12.3 mph	N/A	14.7	N/A	10.5	N/A
	A: Newport Way to SE 38 th St.	AM/NB	30 mph/ 12 mph	10.8	11.3	Yes	5.3	No
	B: SE 38 th St. to SE 24 th St.	AM/NB	31.1 mph/ 12.4 mph	9.3	16.2	Yes	14.9	Yes
3	I-90 WB off-ramp to SE 24 th St. via 156 th Avenue SE	AM/NB	36 mph/ 14.4 mph	10.8	14.7	Yes	11.4	Yes

2018 Existing & 2035 Baseline V/C

Richards Road-Factoria Boulevard Corridor

- MMA System Intersections
 - 2018: 6 of 6 **meet** standard
 - 2035: 3 of 6 **meet** standard
- **Exceeds** standard in 2035
 - Richards Road/SE 32nd Street
 - Factoria Blvd./SE 36th Street
 - Factoria Blvd./SE 38th Street
- *Approaching Standard in 2035*
 - Richards Road/Eastgate Way



2018 Existing & 2035 Baseline V/C

Richards Road-Factoria Boulevard Corridor

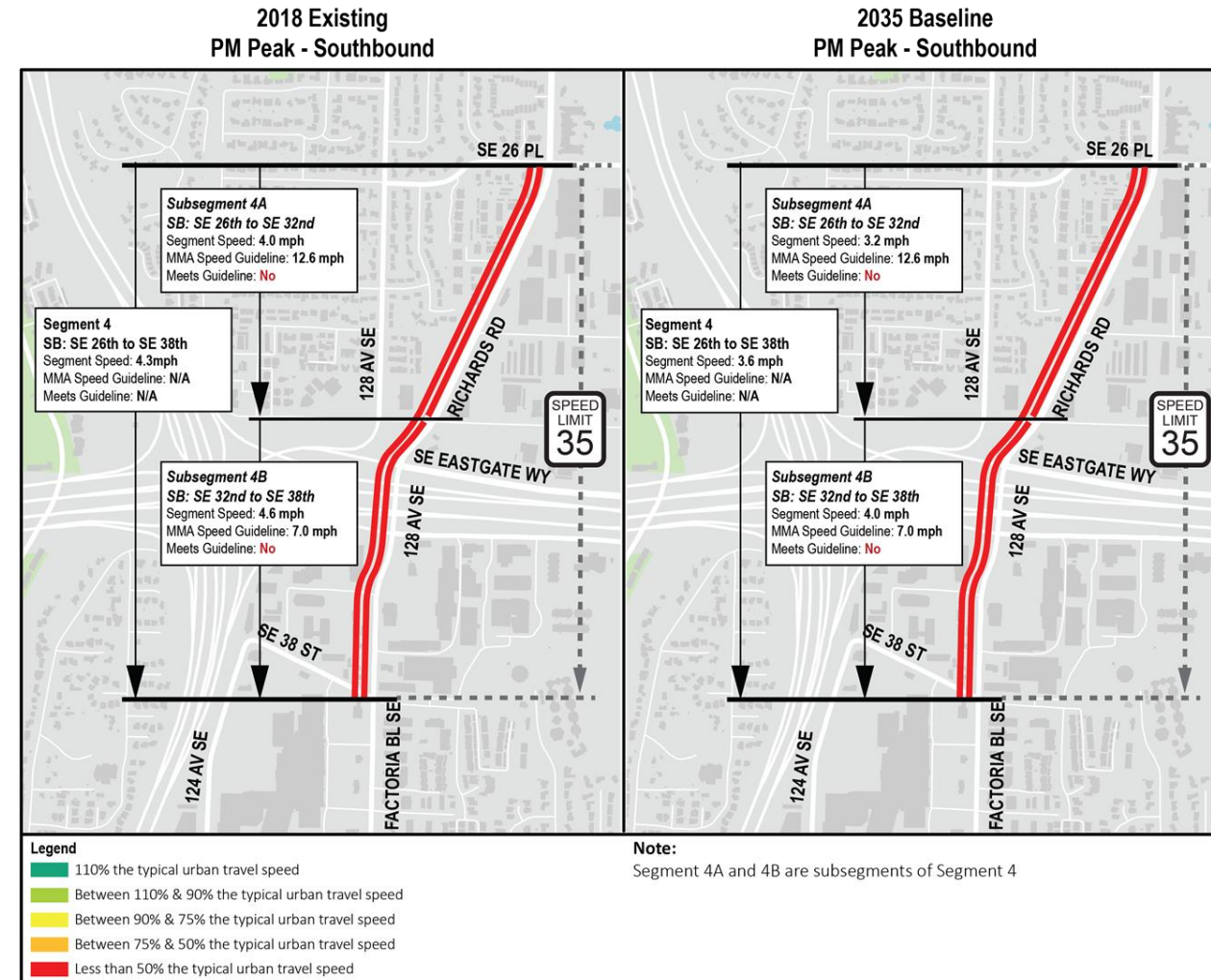
Cells **highlighted in red** indicates intersection v/c does not meet MMA standard, pink = getting close!

ID	Intersection	MMA v/c Standard	Intersection Control	PM Peak	
				2018 Existing	2035 Baseline
MMA System Intersections					
2	Richards Road & SE 32 nd Street	0.85	Signalized	0.72	0.97
3	Richards Road & I-90 On-Ramp/Eastgate Way	0.95	Signalized	0.77	0.93
4	Factoria Blvd & I-90 EB Off-Ramp/ SE 36 th Street	0.95	Signalized	0.89	1.00
5	Factoria Boulevard. & 3600 Block	0.95	Signalized	0.60	0.73
6	Factoria Boulevard. & SE 38 th Street	0.95	Signalized	0.94	1.12
7	132 nd Avenue SE & SE 36 th Stret	0.95	Signalized	0.66	0.71
Non-System Intersections					
1	I-90 On-Ramp & SE 32 nd Street	0.85^	Unsignalized	N/A**	

2018 Existing & 2035 Baseline Travel Speed

Richards Road - Factoria Boulevard Corridor

- Posted Speed = 35 mph
- Typical Urban Speed = 14 mph
- 2018 Existing
 - Full Segment = 4.3 mph
 - 26th to 32nd = 4.0 mph - Does not meet guideline
 - 32nd to 38th = 4.6 mph - Does not meet guideline
- 2035 Baseline
 - Full Segment = 3.6 mph
 - 26th to 32nd = 3.2 mph - Does not meet guideline
 - 32nd to 38th = 4.0 mph - Does not meet guideline



2018 Existing & 2035 Baseline Travel Speed

Richards Road-Factoria Boulevard Corridor

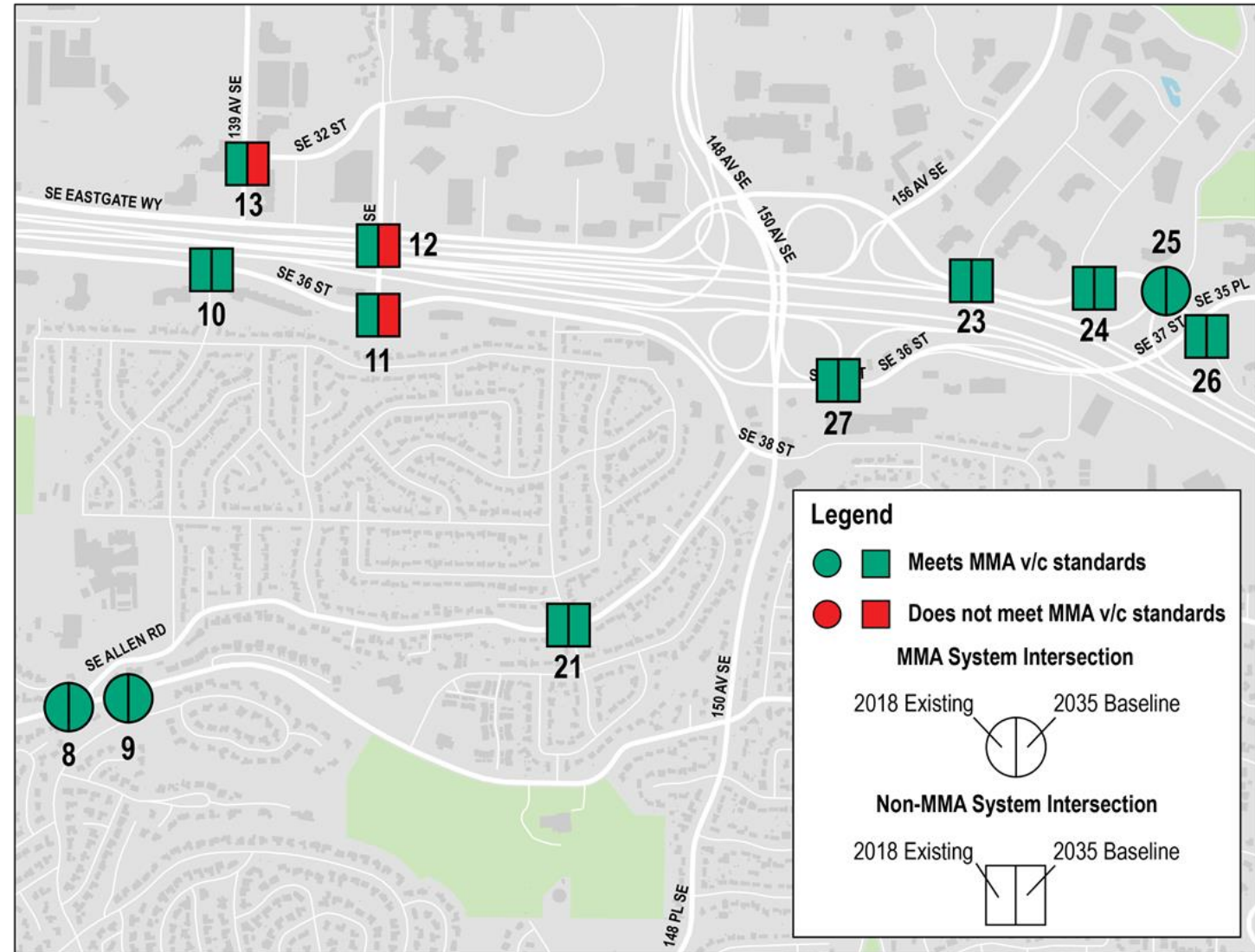
Corridor/Segment Travel Speed 2018 Existing & 2035 Baseline

ID	Segment	Peak/ Direction	MMLOS Guideline		2018 Existing		2035 Baseline	
			Posted Speed/ Typical Urban Speed (mph)	MMA Speed Guideline^ (mph)	Segment Speed (mph)	Meets MMLOS (y/n)	Segment Speed (mph)	Meets MMLOS (y/n)
4	SE 26 th Street to SE 38 th Street	PM/SB	35 mph/14 mph	N/A	4.3	N/A	3.6	N/A
	A: SE 26 th Street to SE 32 nd Street	PM/SB	35 mph/14 mph	12.6 mph	4.0	No	3.2	No
	B: SE 32 nd Street to SE 38 th Street	PM/SB	35 mph/14 mph	7.0 mph	4.6	No	4.0	No

2018 Existing & 2035 Baseline V/C

Other Intersections

- MMA System Intersections
 - 2018: 3 of 3 **meet** standard
 - 2035: 3 of 3 **meet** standard
- Non-System Intersections
 - 2018: 9 of 9 **meet** standard
 - 2035: 6 of 9 **meet** standard
- *Intersections Approaching Standard*
 - Eastgate Way/161st Ave. SE (AM, PM)
 - Allen Road/Newport Way (AM)



2018 Existing & 2035 Baseline V/C

Other Intersections

ID	Intersection	MMA v/c Standard	Intersection Control	PM Peak		AM Peak	
				2018 Existing	2035 Baseline	2018 Existing	2035 Baseline
MMA System Intersections							
8	Newport Way & Allen Road	0.85	Signalized	0.66	0.74	0.72	0.84
9	Newport Way & Somerset Boulevard	0.85	Signalized	0.62	0.72	0.67	0.77
25	Eastgate Way & 161 st Avenue SE	0.90	Signalized	0.57	0.86	0.75	1.02
Non-System Intersections							
10	136 th PI SE & SE 36 th St	0.90^	Signalized	0.70	0.74	Not Analyzed for AM	
11	142 nd PI SE & SE 36 th St	0.90^	Signalized	0.78	0.95	0.80	0.90
12	142 nd PI SE & I-90 Direct Access	0.90^	Signalized	0.54	1.03	Not Analyzed for AM	
13	139 th Avenue SE/ SE 32 nd St.	0.90^	Unsignalized	0.52	1.25	Not Analyzed for AM	
21	146 th Avenue SE & SE Allen Rd	0.85^	Unsignalized	0.37	0.68	Not Analyzed for AM	
23	Eastgate Way & 158 th Ave. SE	0.90^	Signalized	0.21	0.23	Not Analyzed for AM	
24	Eastgate Way & 160 th Ave. SE	0.90^	Signalized	0.33	0.41	Not Analyzed for AM	
26	Eastgate Way & SE 37 th Street	0.90^	Unsignalized	0.51*	0.68*	Not Analyzed for AM	

Cells highlighted in red indicates intersection v/c does not meet MMA standard, pink = getting close!



2035 Transportation Forecast

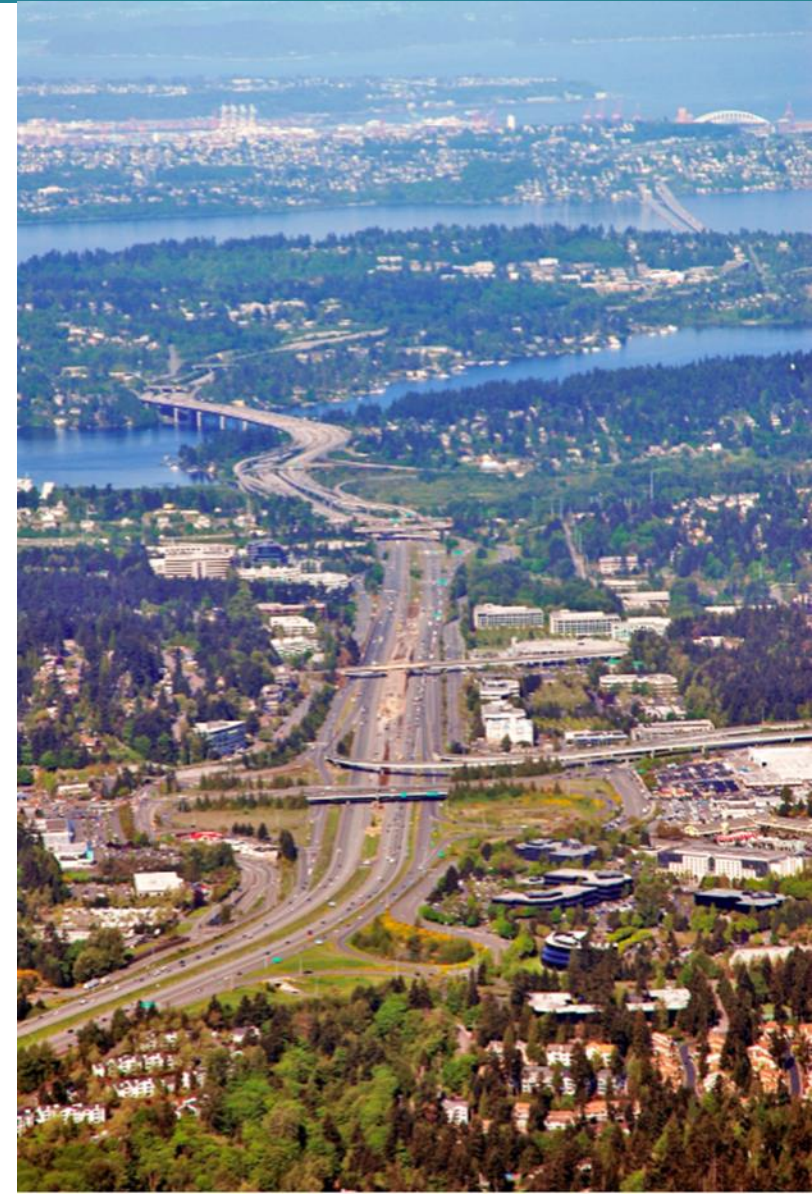
Questions/Discussion

Next Topic
Preliminary Project Concepts

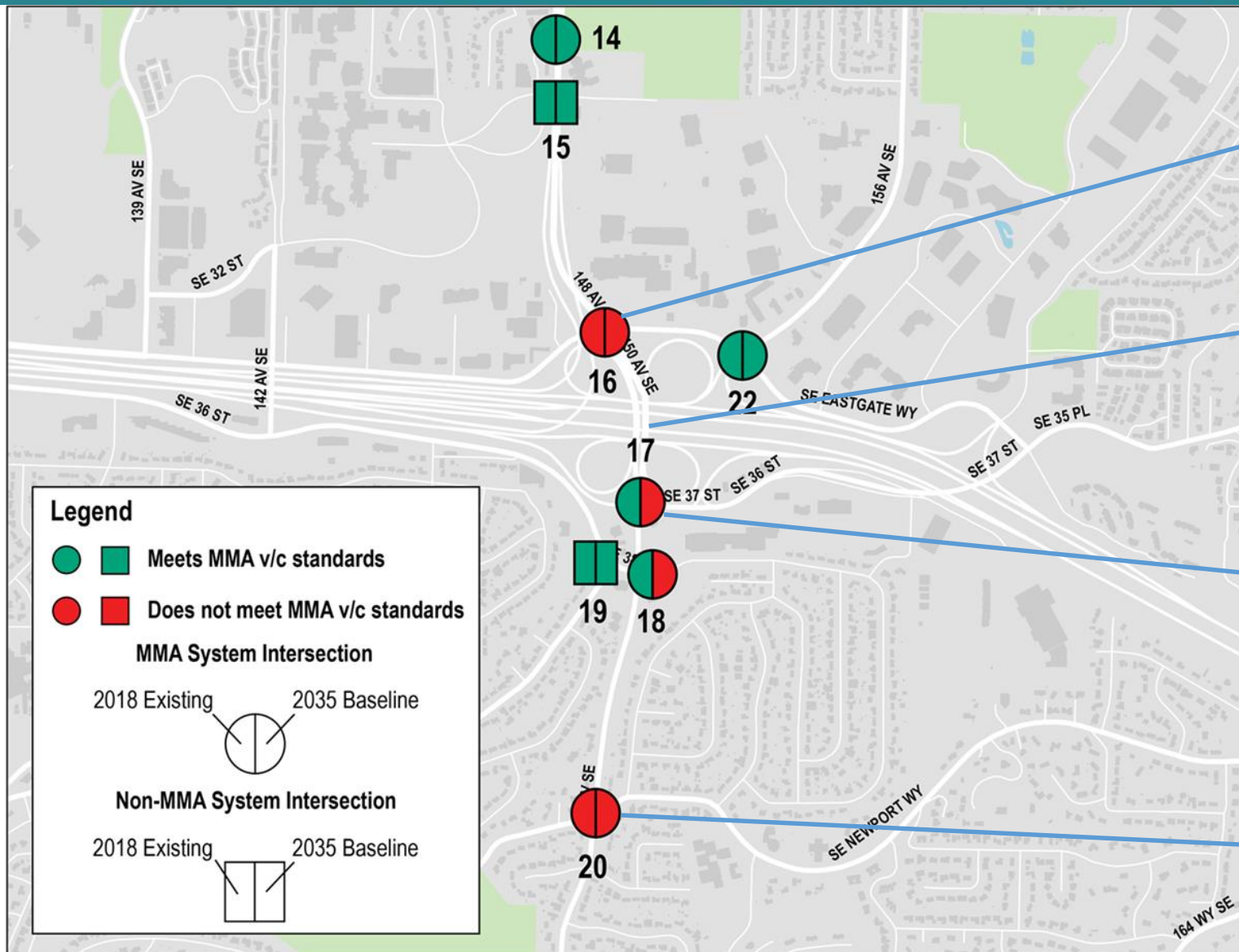
Project Concept Development

Identify and evaluate **traffic congestion relief projects** to meet vehicle level-of-service standards and guidelines for 2035

- Look at intersections where 2035 V/C approaches or exceeds standard for the MMA
- Look at arterial corridors/segments where travel speed is slower than guideline for MMA
- Consider projects from previous work: TFP, Neighborhood Congestion Relief, Transit Master Plan, Eastgate Land Use/Transportation Study



Preliminary Project Concepts



148th-150th Avenue SE/Eastgate Way

- Channelization & Signal improvements
- Construct Roundabout
- 3rd Southbound Lane

150th Avenue SE - I-90 Loop Ramps

- Modify ramps to reduce weaving
- Reconfigure access at on and off-ramps

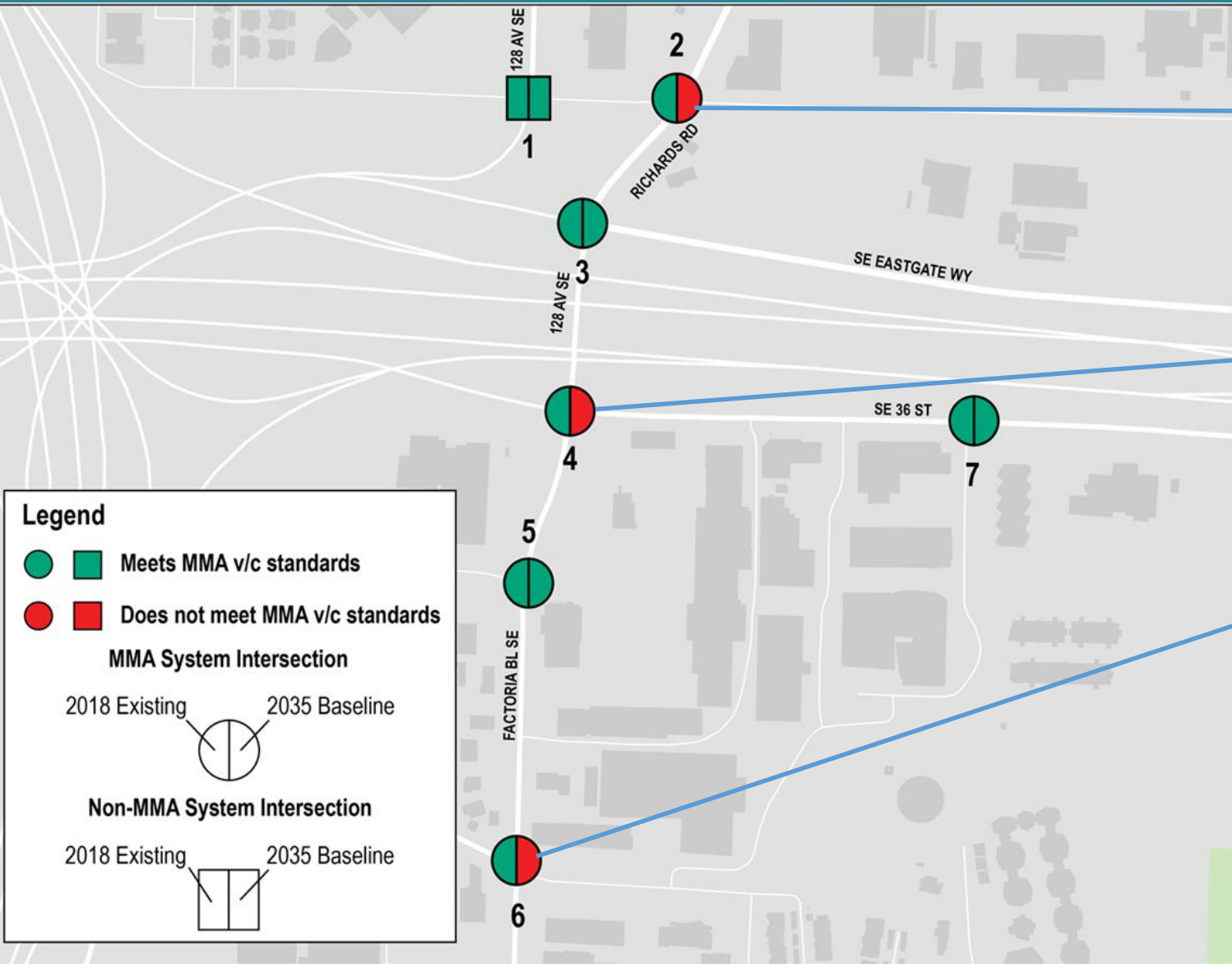
150th Avenue SE/37th Street-I-90 Off-Ramp

- Channelization & Signal improvements
- Modify design to reduce weaving between SE 37th St. and I-90 EB On-Ramp
- Construct Roundabout

150th Avenue SE/Newport Way

- Channelization on key approaches
- Modify signal coordination and phasing

Preliminary Project Concepts



Richards Road/SE 32nd Street

- Channelization on East and West approaches
- Modify signal coordination and phasing

Factoria Boulevard/SE 36th Street

- Channelization on key approaches
- Modify signal coordination and phasing

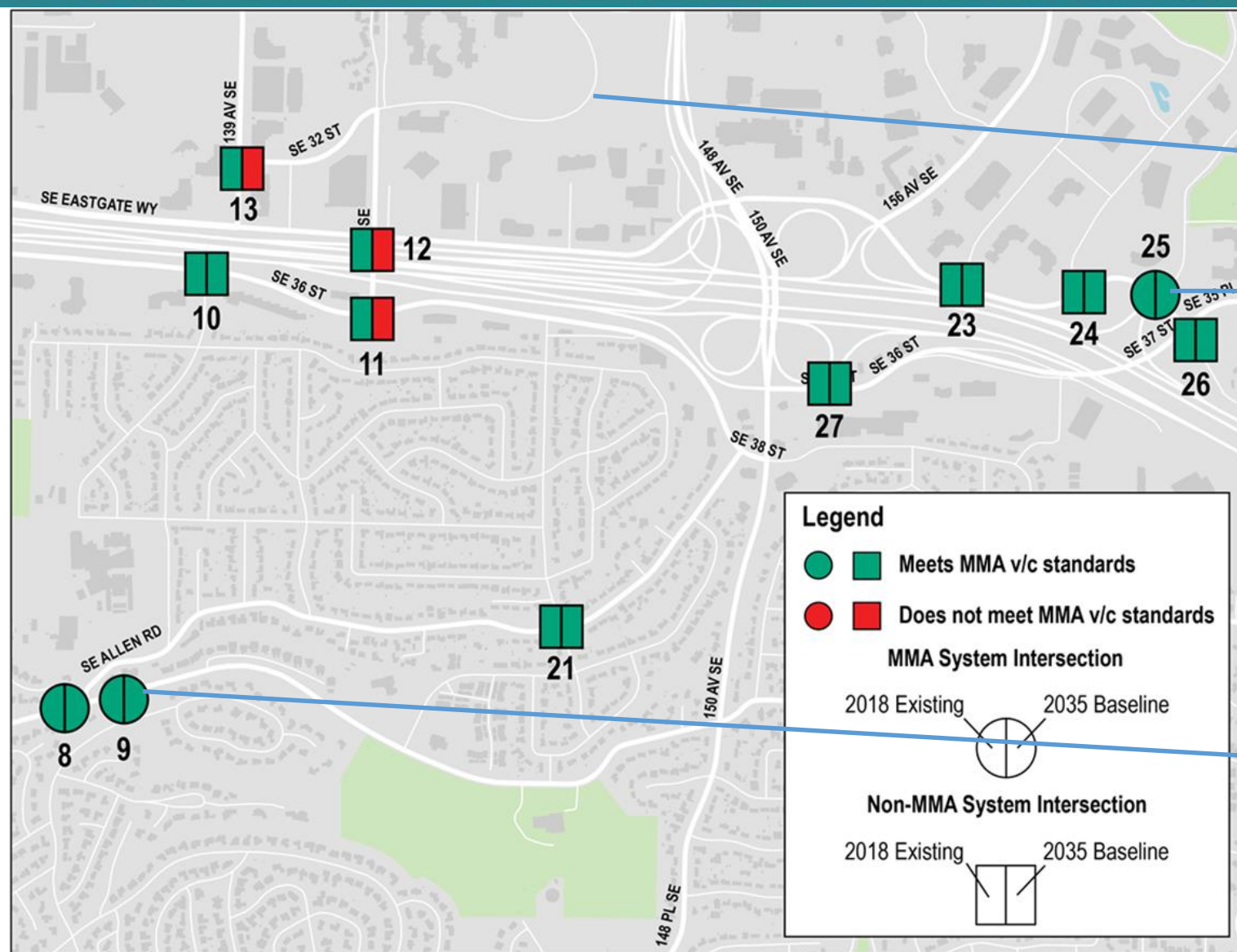
Factoria Boulevard/SE 38th Street

- Channelization on East and West approaches
- Modify signal coordination and phasing

Corridor-Wide Additional Measures

- Access Management Strategies
- Demand Management Strategies

Preliminary Project Concepts



Transit Mater Plan, Project L27

- Upgrade Snoqualmie River Road to support frequent transit service
- Includes stronger road surface, sidewalks, bicycle facilities, bus stops and parking relocation

Eastgate Way/161st Avenue SE

- Channelization on North and South approaches
- Modify signal coordination and phasing
- Signalize Eastgate Way/SE 37th Street to reduce queuing back to 161st Ave. SE

Newport Way/Somerset Way

- Location identified as candidate for capacity improvements through Neighborhood Congestion Relief



Preliminary Project Concepts

Discussion/Questions

Direction to Evaluate
Preliminary Project Concepts

Schedule

TC Study Session	Information	Commission Action/Direction
December 13	Evaluation framework 2018 baseline conditions	Approve evaluation framework
January 24	2035 modeling results Preliminary project concepts	Review modeling results Direction to pursue defining and evaluating project concepts
March 14	Preliminary evaluation results	Review and evaluate project concepts
May 9	Final evaluation results and project recommendation	Preliminary approval of project concepts
June 13 or 27	Final project document	Final approval of project concepts Direct staff to prepare a final report for transmittal to City Council

Thank You!

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