Puget Sound Gateway Program

SR 167 and SR 509 Completion Projects

Joint Steering Committee
March 30, 2017

CRAIG J. STONE, PE	GATEWAY PROGRAM ADMINISTRATOR
STEVE FUCHS, PE	SR 167 PROJECT MANAGER
OMAR JEPPERSON, PE	SR 509 PROJECT MANAGER

Agenda

- Welcome and Introductions
- Process Review
- AM Traffic Forecasts
- SR 167 Operations and Design Considerations
- I-5 Operations
- SR 509 Operations and Design Considerations
- Review Preliminary Preferred Scenario
- Discussion
- Conclusion and Next Steps

Meeting Objectives

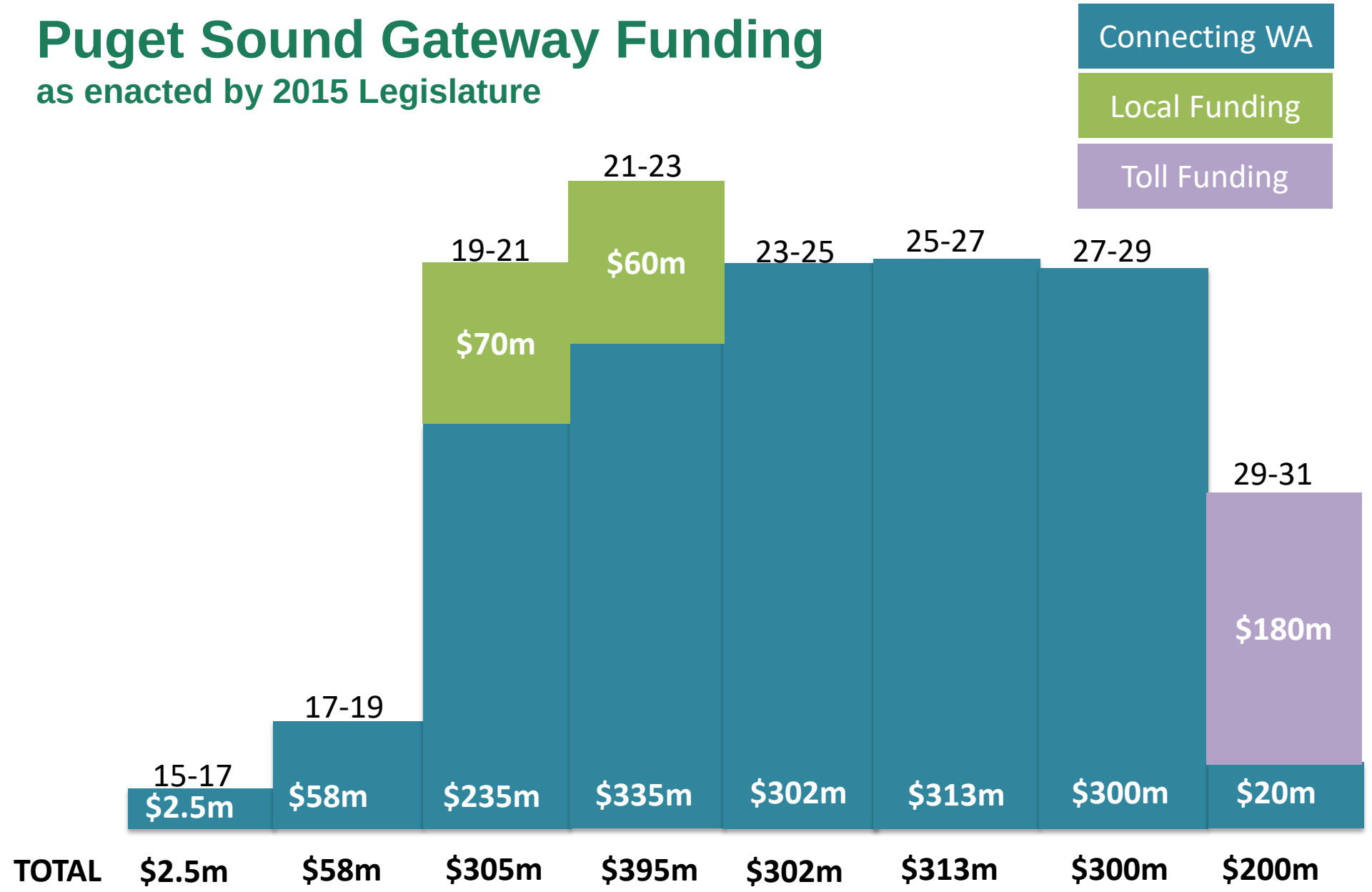
- Review AM traffic forecasts from the DTA modeling
- Review preliminary preferred scenario to continue environmental review

Puget Sound Gateway Program Guiding Principles

1. Support regional mobility to provide efficient movement of **freight** and people
2. Improve local, regional, state and national economic vitality
3. Provide a high level of safety
4. Support local and regional comprehensive land use plans
5. Minimize environmental impacts and seek opportunities for meaningful improvements
6. Create solutions that are equitable, **fiscally responsible**, and allow for implementation over time
7. Support **thoughtful community engagement and transparency**

Puget Sound Gateway Funding

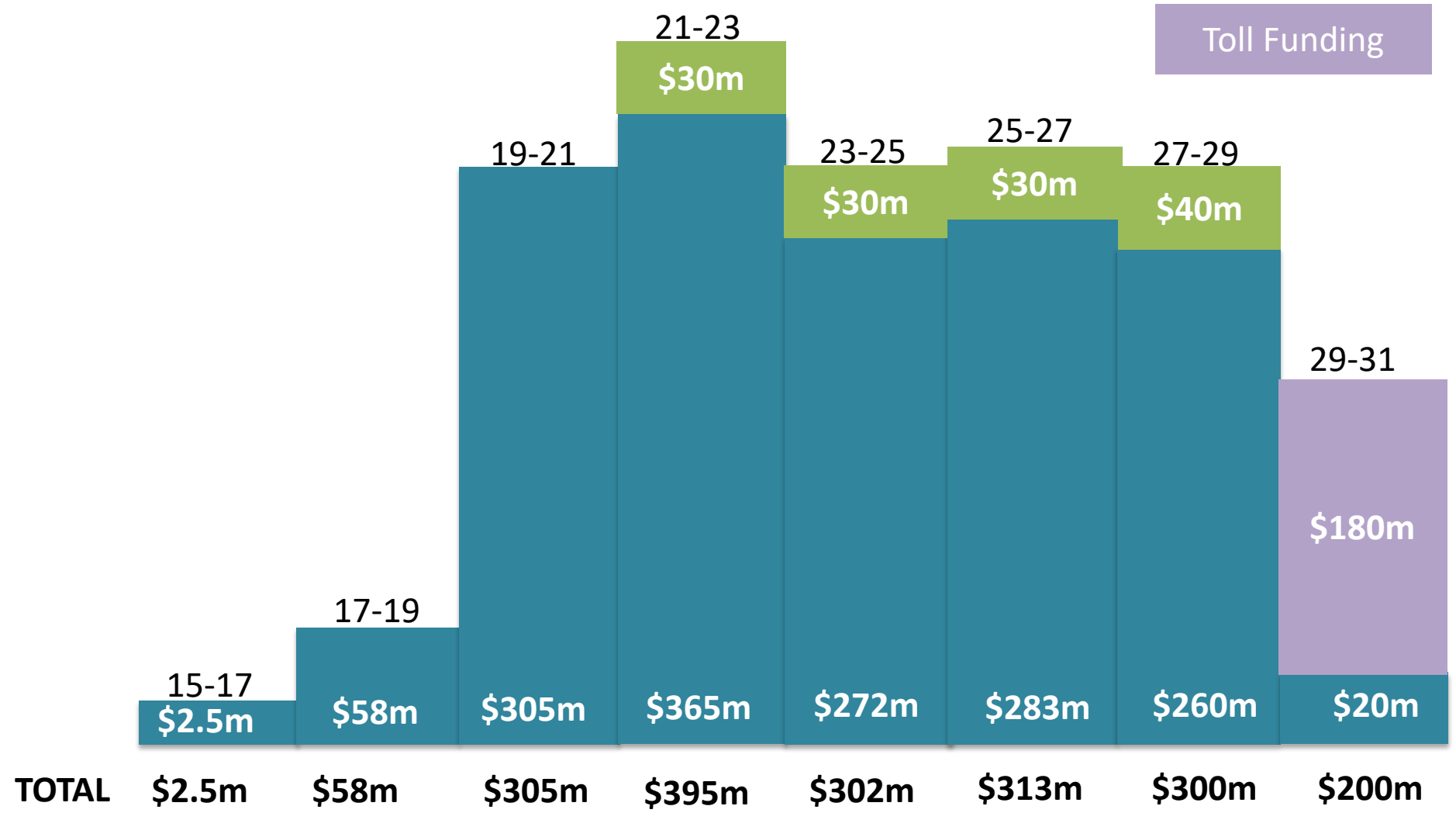
as enacted by 2015 Legislature



WSDOT

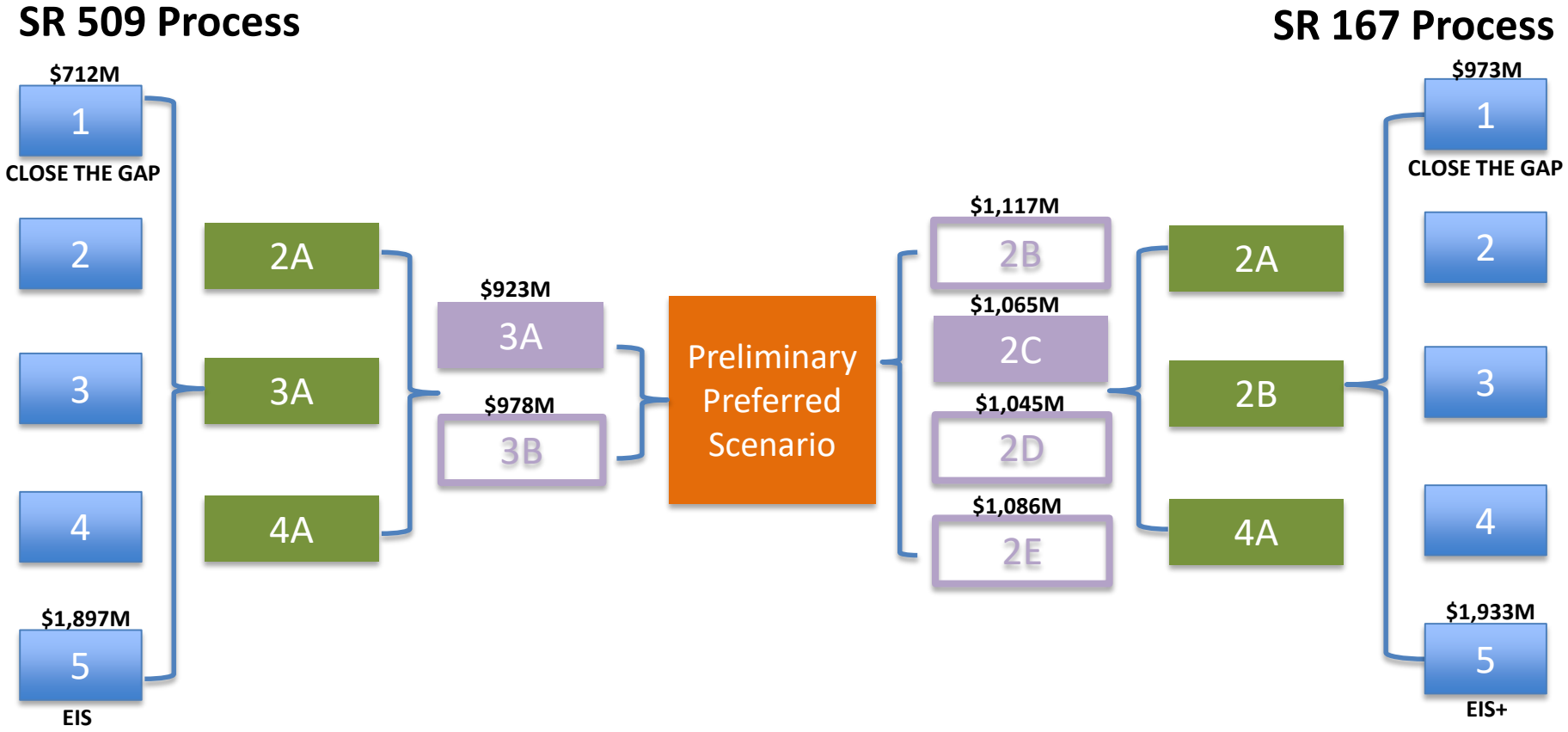
Puget Sound Gateway Funding

as proposed by the 2017 House and Senate Transportation Committee Chairs

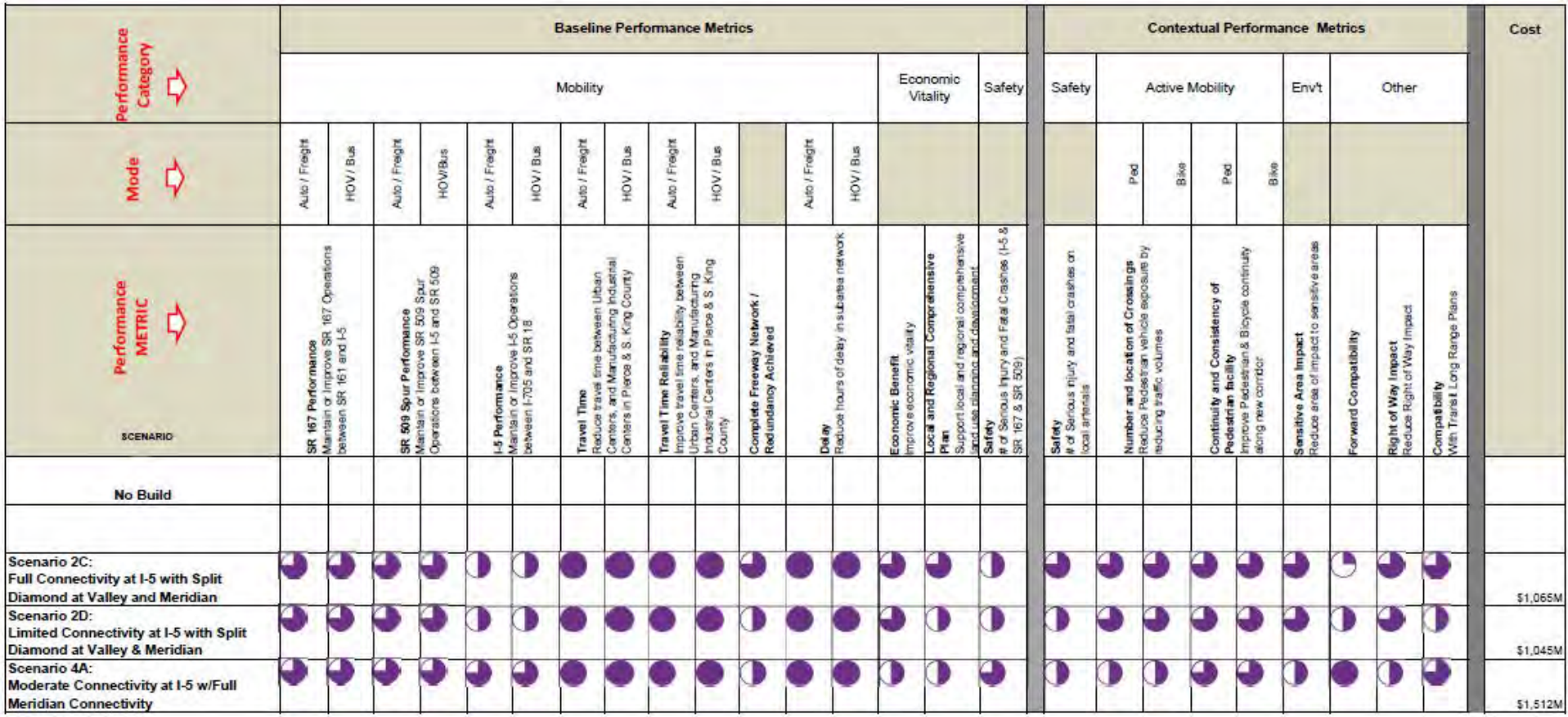


	15-17	17-19	19-21	21-23	23-25	25-27	27-29	29-31
TOTAL	$2.5m	$58m	$305m	$395m	$302m	$313m	$300m	$200m

Scenario Refinement Process

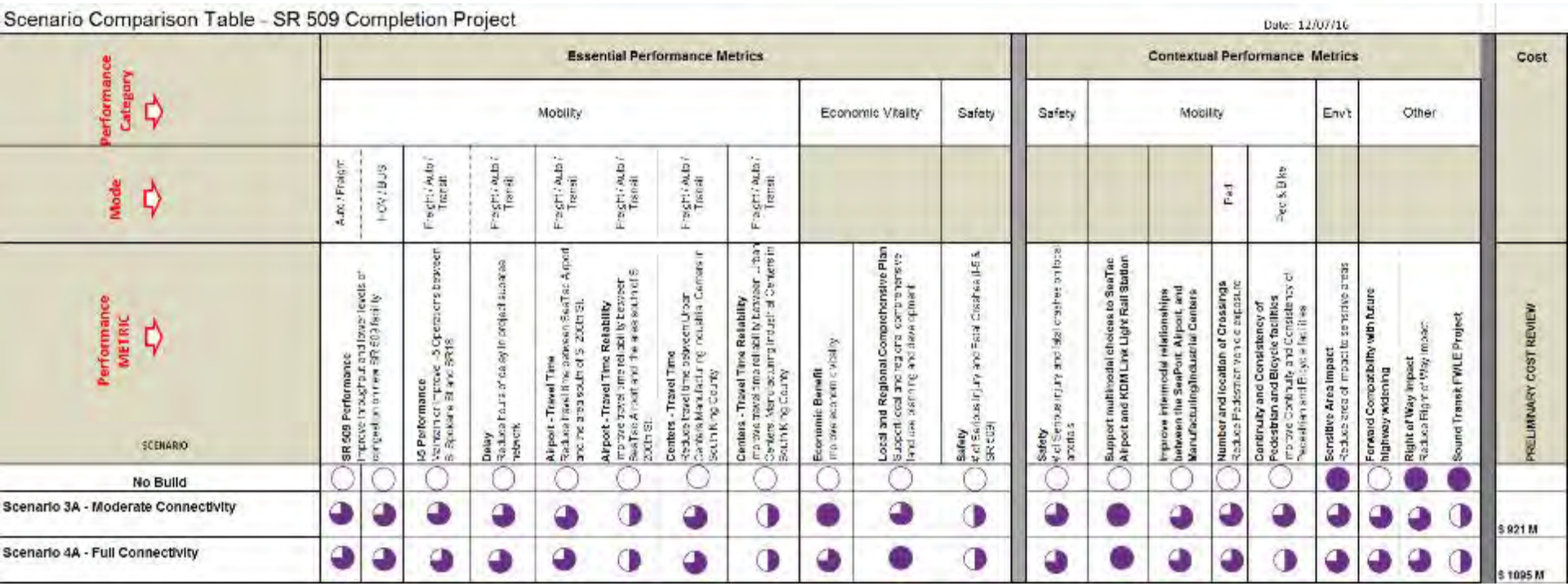


SR 167 Performance Evaluation Results



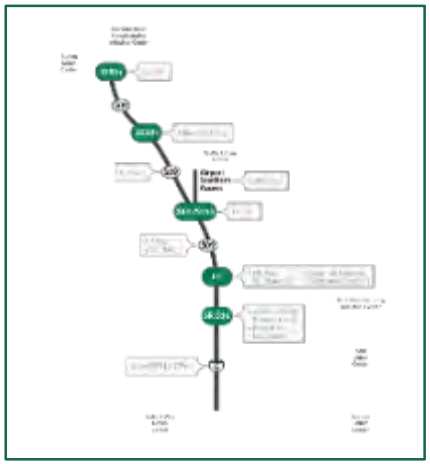
WSDOT

SR 509 Performance Evaluation Results



Gateway Phasing
Preliminary Preferred Scenario

PHASE 1 (to 2031)



SR 509: 3A
$923m

SR 167: 2C
$1,065m

Connect WA	Toll	Local	FASTLANE
$1,565m	$180m	$130m	$114m

PHASE 2 (future)

Local Access
- **Meridian Interchange (west half)**
- **188th Interchange (south half)**
- 200th Interchange
- Valley Interchange (east half)

I-5
- SR 167 – SR 18 NB auxiliary lane
- 272nd – SR 516 NB auxiliary lane
- SR 516 – SR 509 NB collector/distributor lanes

HOV
- SR 509 HOV (fifth and sixth lanes)
- SR 509 HOV Direct Access Ramps
- SR 167 HOV (fifth and sixth lanes)
- SR 167 HOV Direct Access Ramps

Forward Compatibility (features that could be constructed in Phase 1 that are needed in Phase 2)
- SR 509
- Sea-Tac Airport South Access Expressway
- I-5
- SR 167

SR 167 Operations and Design Considerations

Scenario 2B: Full Connectivity at I-5 & Meridian

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Scenario 2C: Full Connectivity at I-5 with Split Diamond Interchange at Valley Avenue and Meridian Avenue

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Scenario 2D: Limited Connectivity at I-5 with Split Diamond Interchange at Valley Avenue and Meridian Avenue

Scenario 2E: Full Connectivity at I-5 and Meridian with Half Diamond at Valley

SR 167 Scenario: 2B/2C/2D/2E Comparison

Legend:

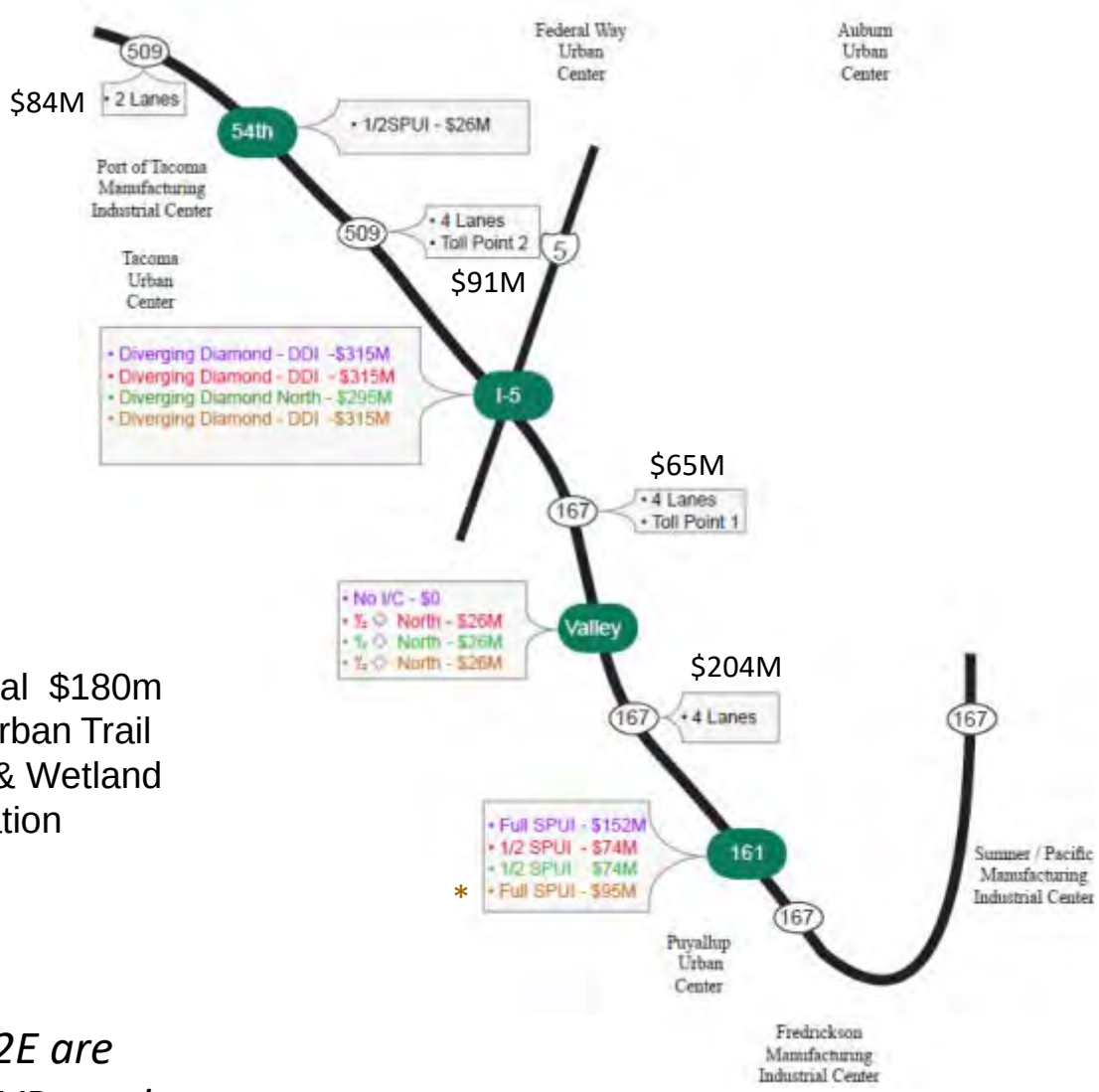
Scenario 2B ($1,117M)

Scenario 2C ($1,065M)

Scenario 2D ($1,045M)

Scenario 2E ($1,086M)

Shared Component



Other Items Total $180m

- Interurban Trail
- RRP & Wetland Mitigation

***No Puyallup River Bridge Widening**
No VALE Connection Work

Scenario Totals for 2B/2C/2D/2E are based on Scenario 2C 2016 CEVP results

SR 167 Scenario: 2B/2C/2D/2E Comparison

Legend:

~~Scenario 2B ($1,117M)~~

Scenario 2C ($1,059M)

~~Scenario 2D ($1,045M)~~

Scenario 2E ($1,080M)

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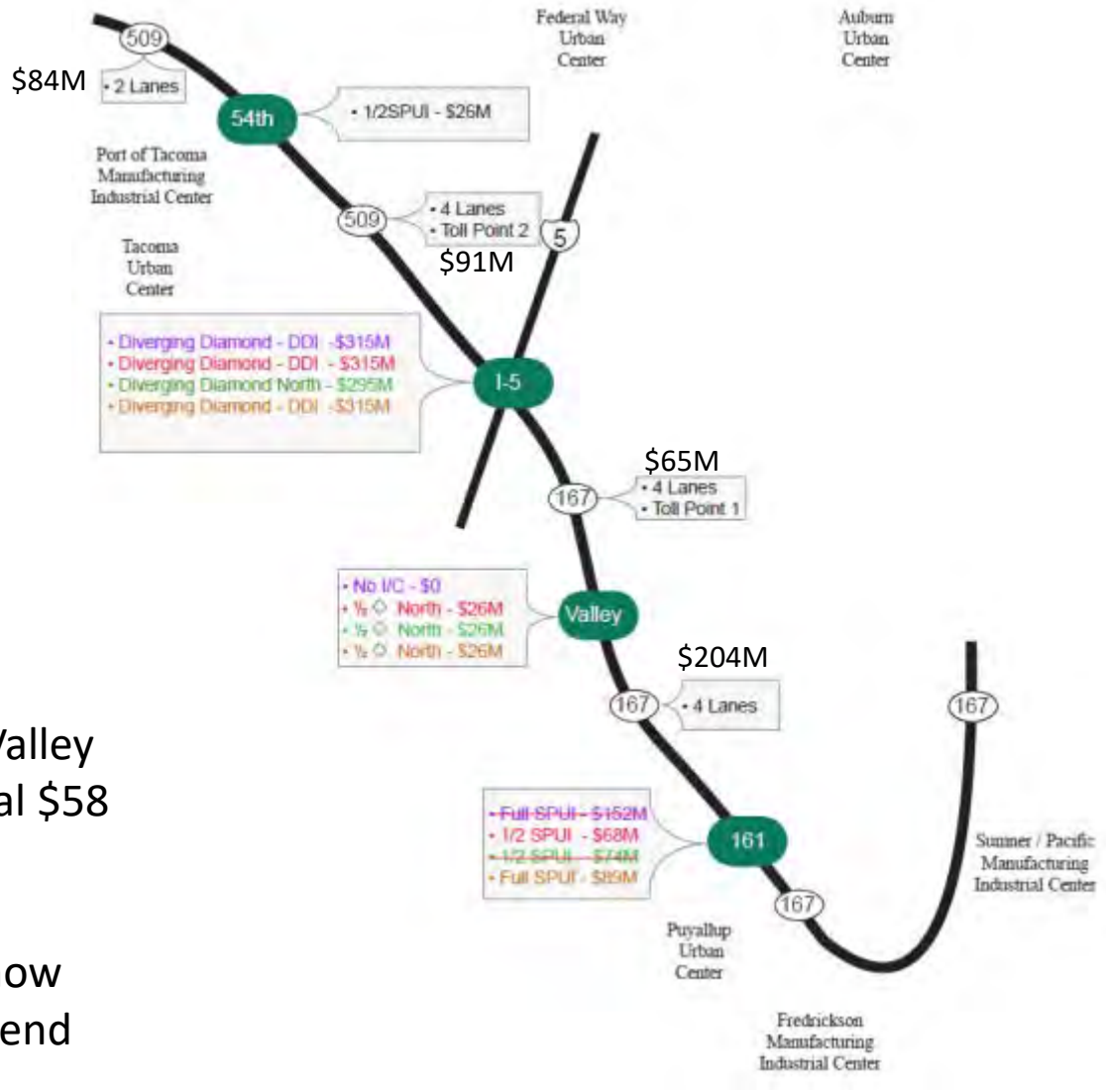
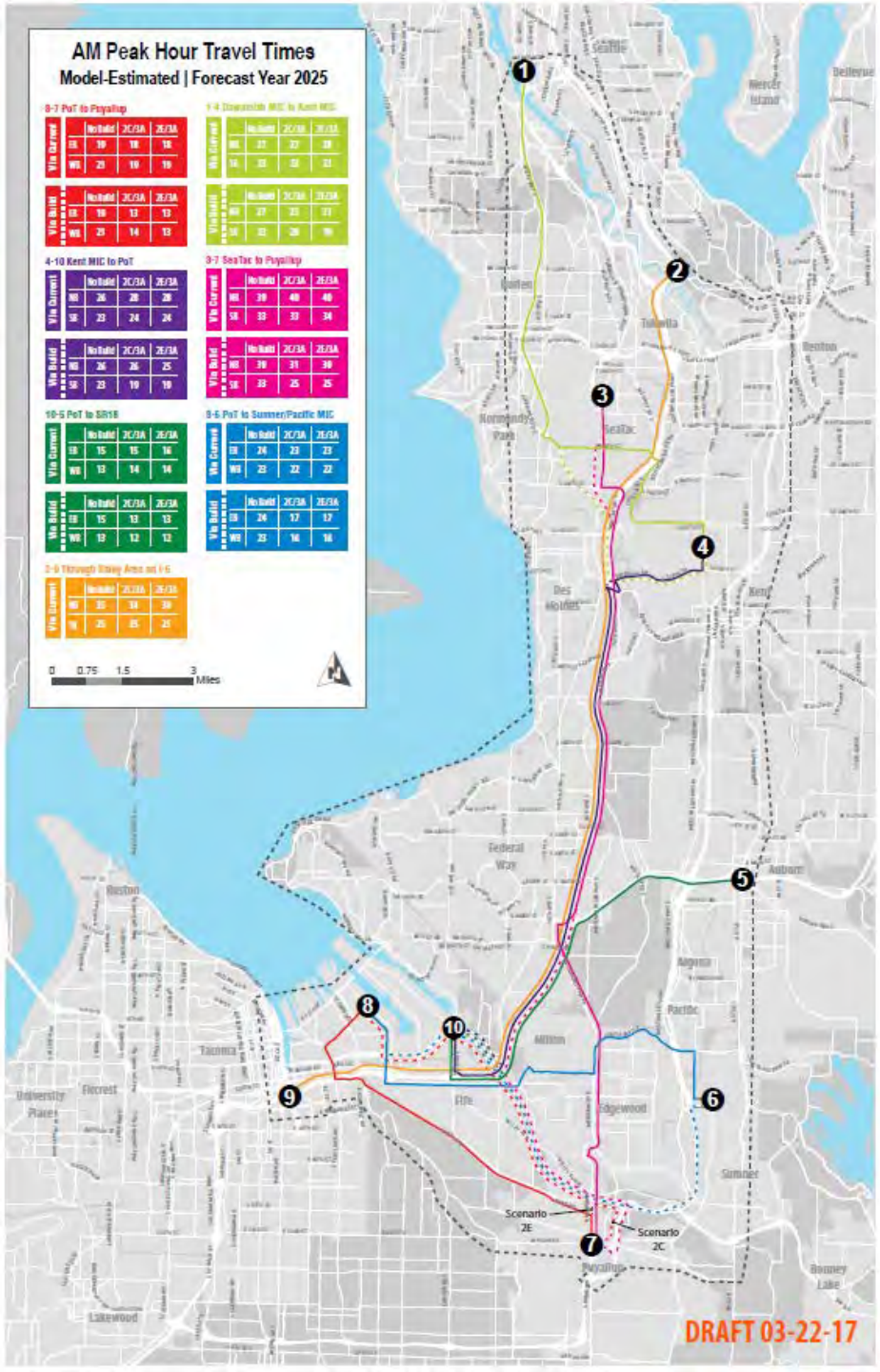


- Scenario 2B did not include a Valley interchange and is an additional $58 million as compared to 2C. Recommend eliminating 2B.
- I-5 ramps to/from the south show significant utilization. Recommend eliminating 2D.



Refined Traffic Analysis Results

- Presents analysis for AM peak
- Used Dynamic Traffic Assignment (DTA)/Mesoscopic tools

AM Peak Projected Travel Times for Selected South End Routes: 2025

8-7 PoT to Puyallup

Via Current

	No Build	2C/3A	2E/3A
EB	19	18	18
WB	21	19	19

Via Build

	No Build	2C/3A	2E/3A
EB	19	13	13
WB	21	14	13

% Travel Time Savings:

	2C/3A	2E/3A
• EB	32%	32%
• WB	33%	38%

10-5 PoT to SR18

Via Current

	No Build	2C/3A	2E/3A
EB	15	15	16
WB	13	14	14

Via Build

	No Build	2C/3A	2E/3A
EB	15	13	13
WB	13	12	12

4-10 Kent MIC to PoT

Via Current

	No Build	2C/3A	2E/3A
NB	26	28	28
SB	23	24	24

Via Build

	No Build	2C/3A	2E/3A
NB	26	26	25
SB	23	19	19

8-6 PoT to Sumner/Pacific MIC

Via Current

	No Build	2C/3A	2E/3A
EB	24	23	23
WB	23	22	22

Via Build

	No Build	2C/3A	2E/3A
EB	24	17	17
WB	23	16	16

% Travel Time Savings:

	2C/3A	2E/3A
• EB	29%	29%
• WB	30%	30%

AM Peak Projected Travel Times for Selected South End Routes: 2045

8-7 PoT to Puyallup

Via Current

	No Build	2C/3A	2E/3A
EB	22	19	19
WB	29	23	22

Via Build

	No Build	2C/3A	2E/3A
EB	22	15	15
WB	29	16	15

10-5 PoT to SR18

Via Current

	No Build	2C/3A	2E/3A
EB	18	20	19
WB	14	16	16

Via Build

	No Build	2C/3A	2E/3A
EB	18	16	16
WB	14	13	13

8-6 PoT to Sumner/Pacific MIC

Via Current

	No Build	2C/3A	2E/3A
EB	25	24	24
WB	24	22	22

Via Build

	No Build	2C/3A	2E/3A
EB	25	19	19
WB	24	16	17

4-10 Kent MIC to PoT

Via Current

	No Build	2C/3A	2E/3A
NB	33	35	35
SB	23	25	24

Via Build

	No Build	2C/3A	2E/3A
NB	33	31	31
SB	23	20	20

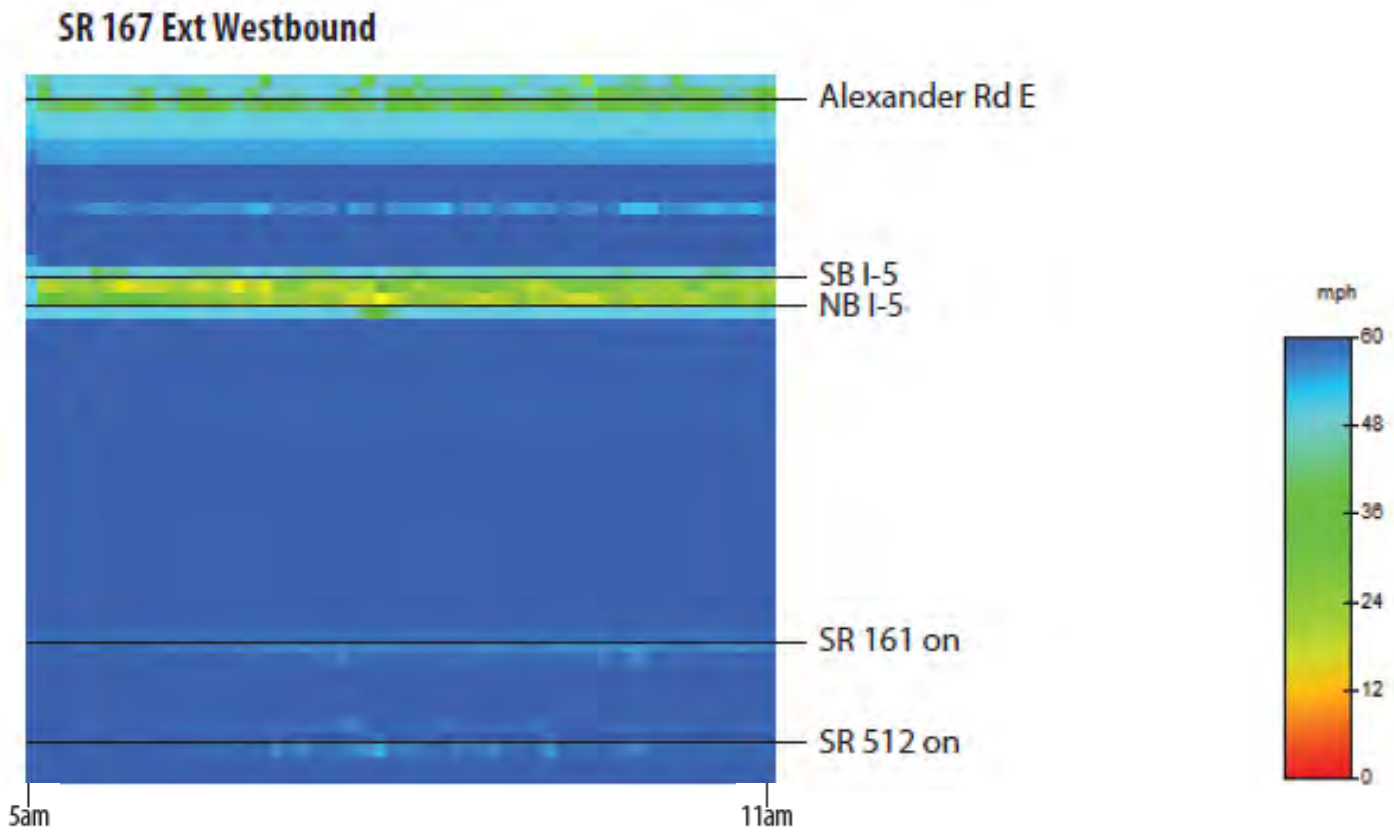
% Travel Time Savings:

	2C/3A	2E/3A
• EB	32%	32%
• WB	45%	48%

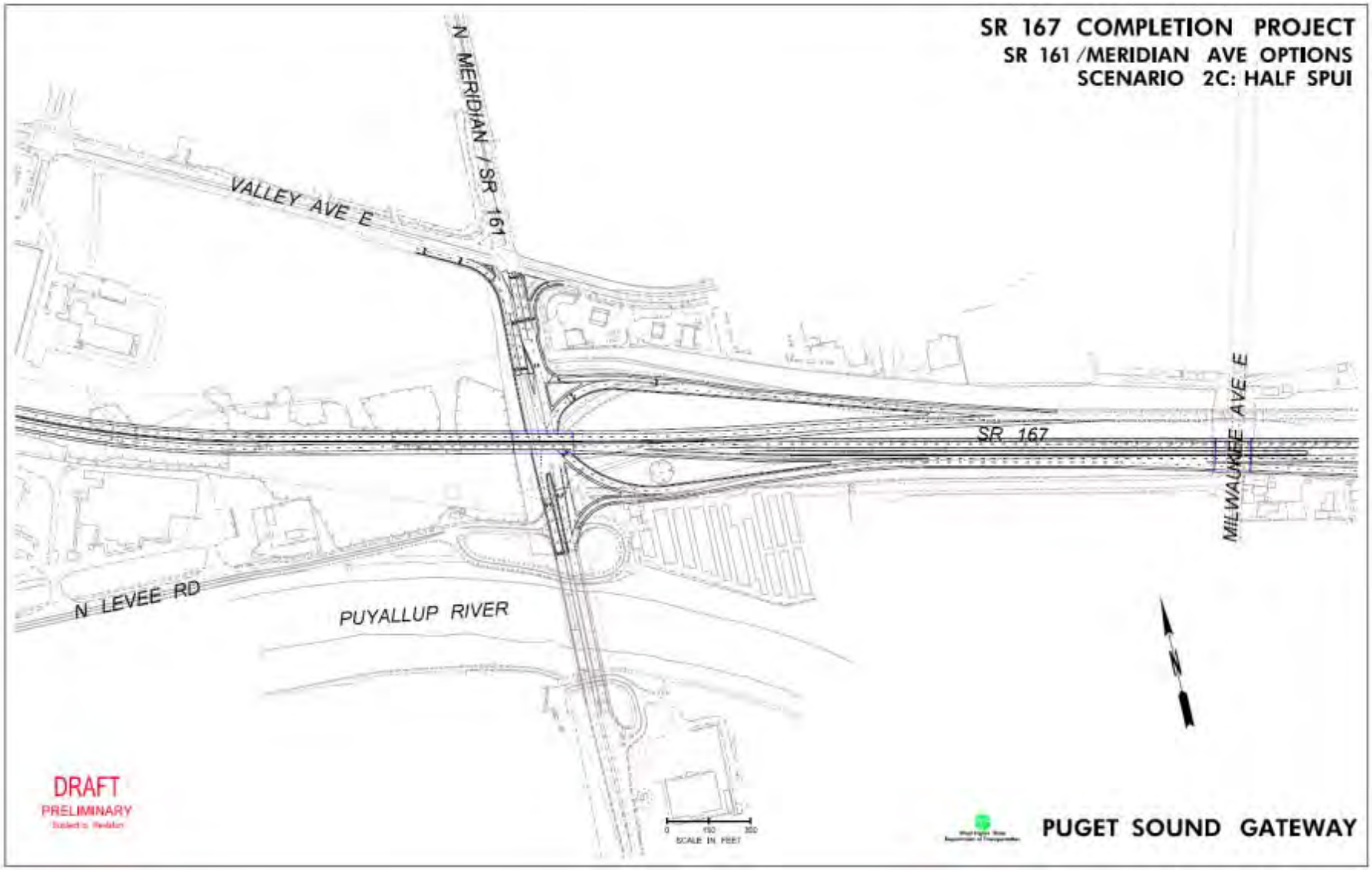
% Travel Time Savings:

	2C/3A	2E/3A
• EB	24%	24%
• WB	33%	29%

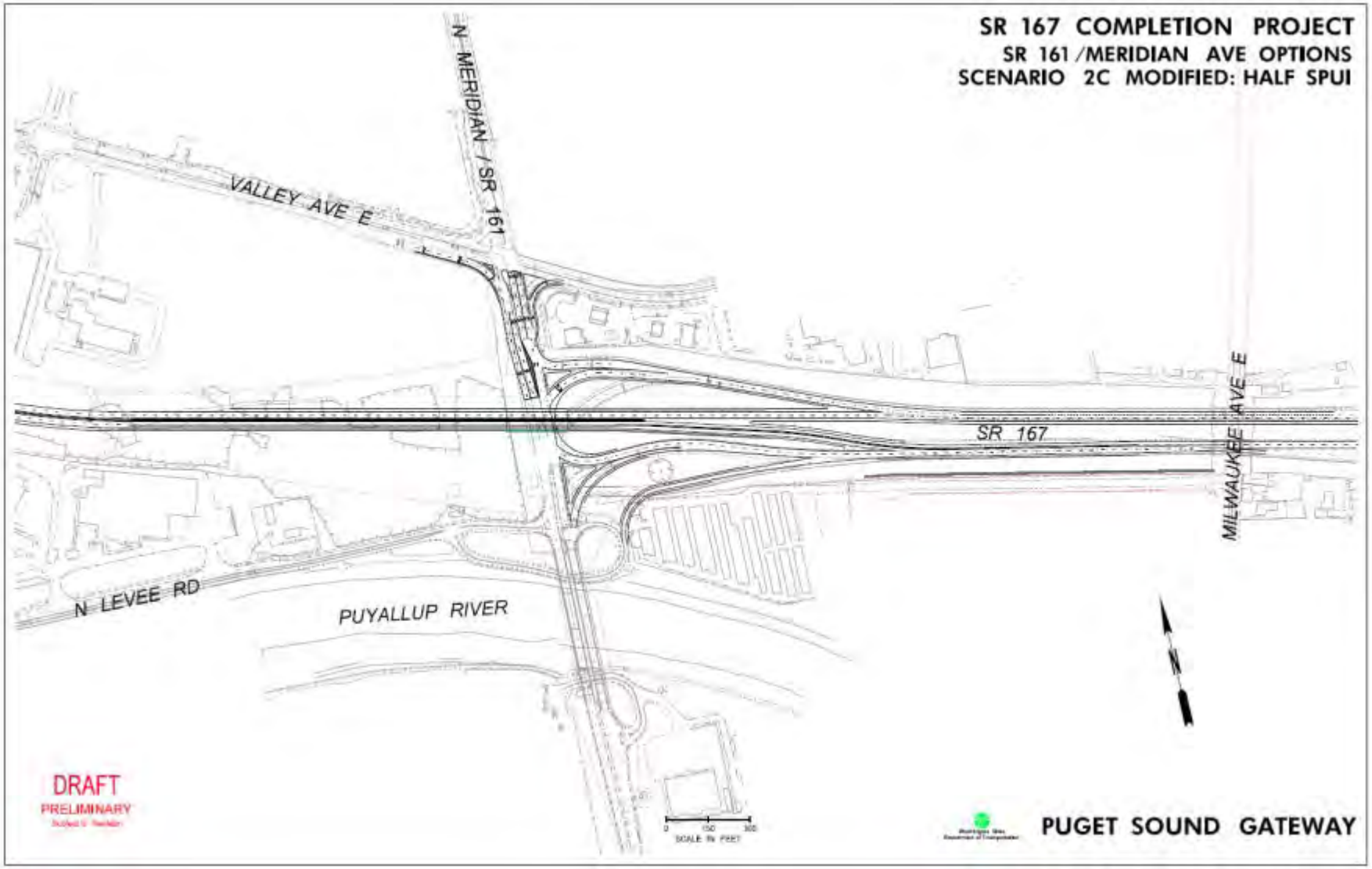
SR 167 2045 Westbound AM Speed Plot



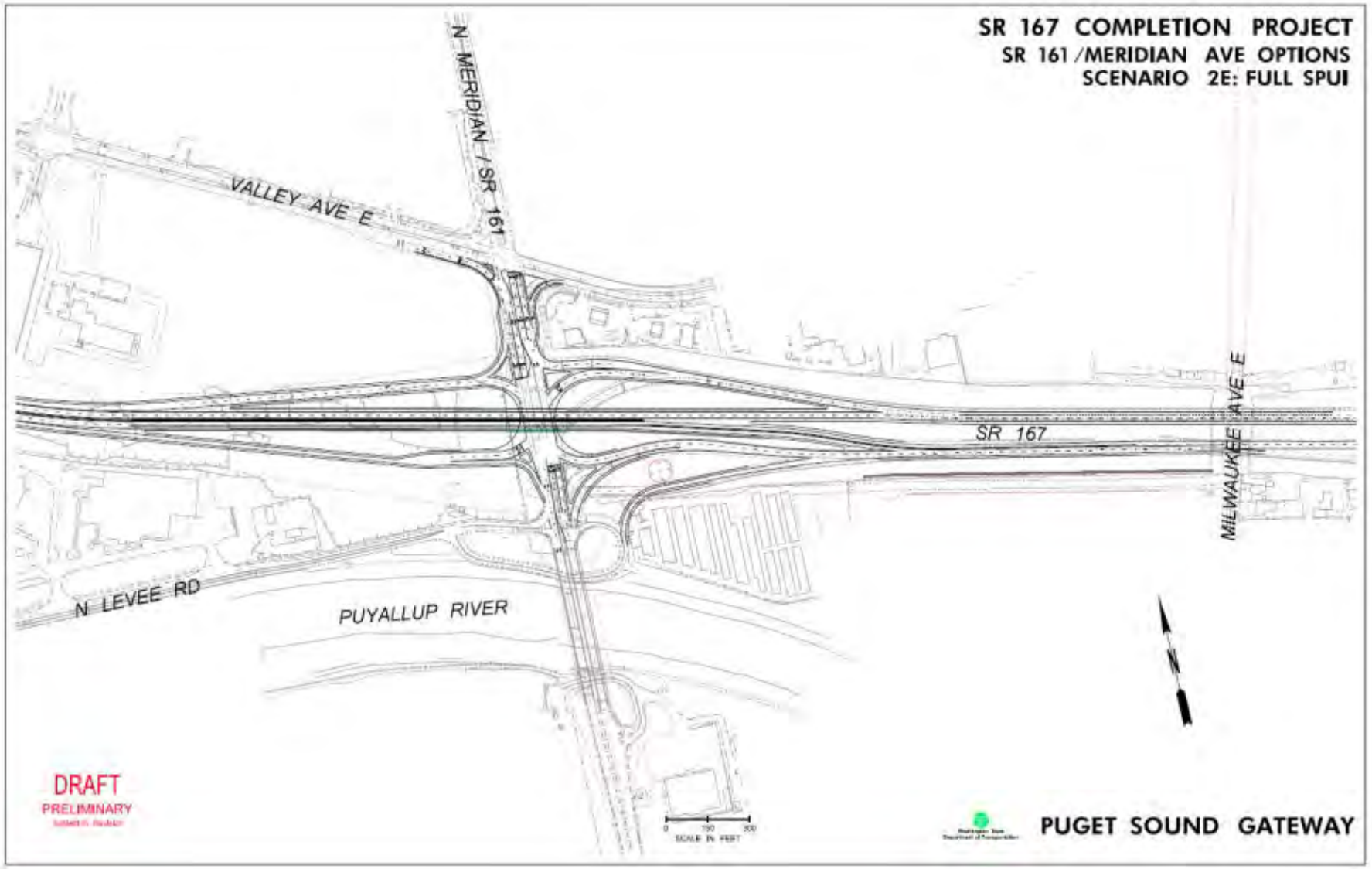
Previous Scenario 2C:



Revised Scenario 2C:



Revised Scenario 2E:

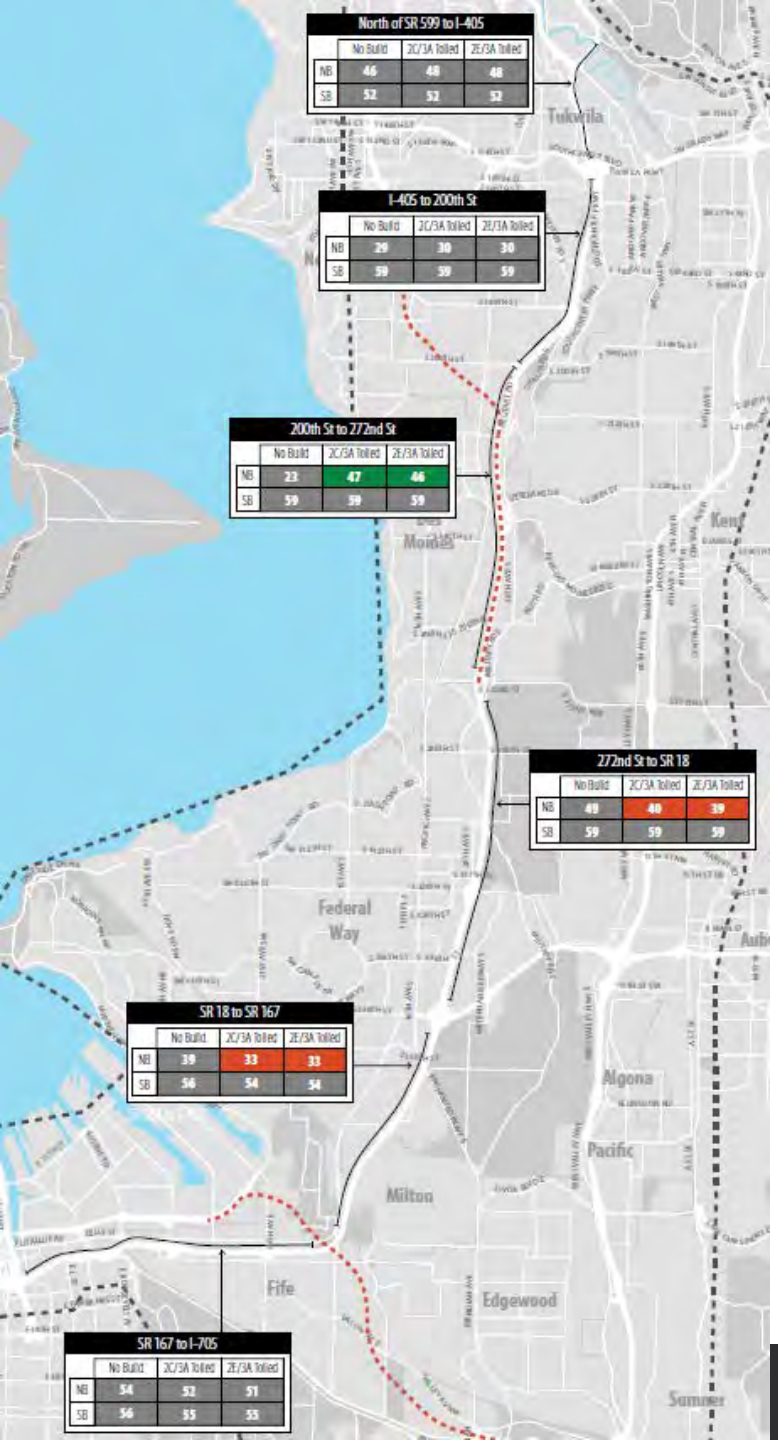


SR 167 Key Takeaways

- SR 167 and SR 509 Spur both operate well.
- Significant travel time savings between regional and manufacturing industrial centers.
- There is high use on all ramps at the DDI.
- The ramps to and from the south at the I-5 interchange show significant utilization.
- The DDI functions well with 2045 forecasted volumes.
- There are operational benefits to a full SPUI at Meridian Interchange.
    - The added cost of a full interchange is approximately $15 million, without widening Puyallup River Bridge and the VALE connection.

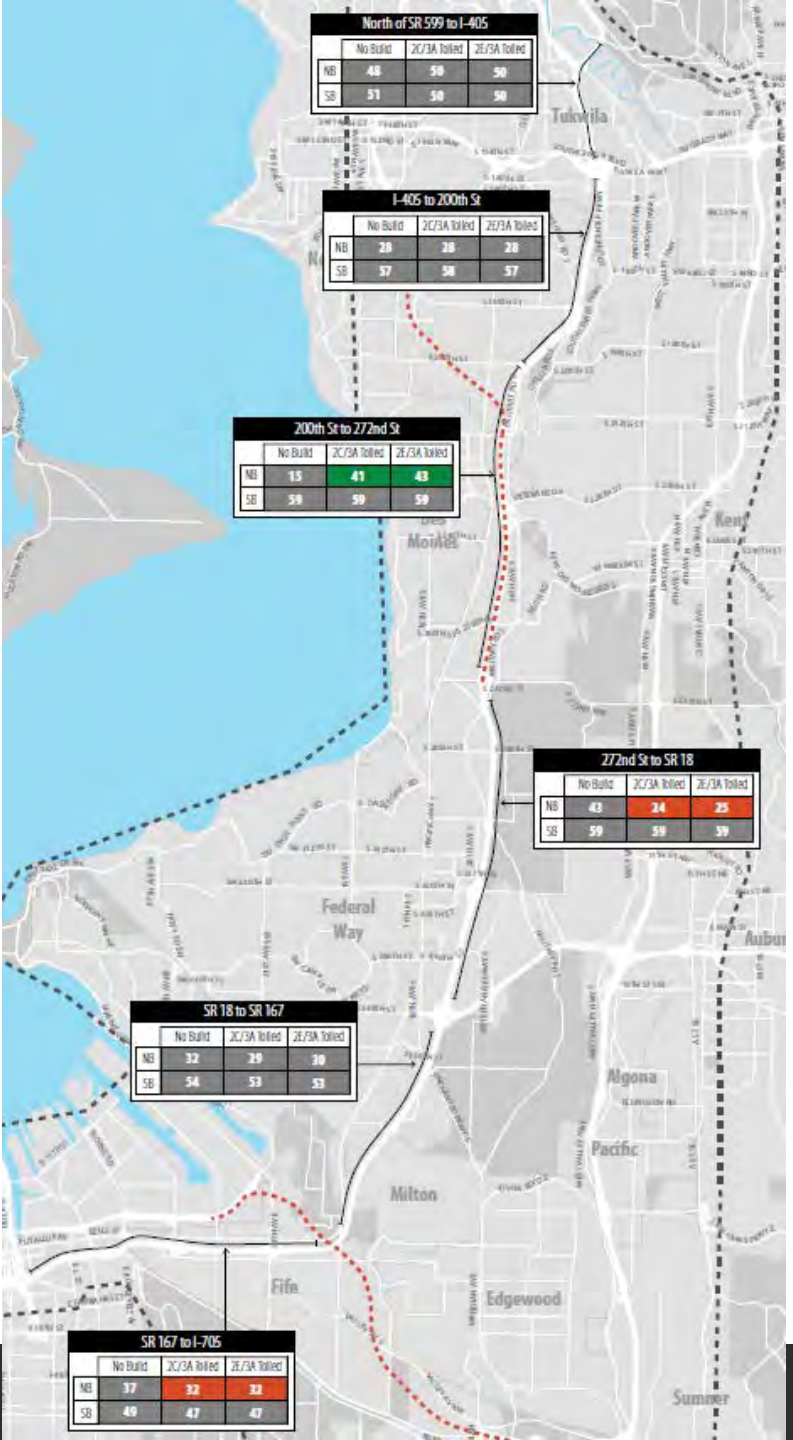
I-5 Operations

I-5 Performance: Speeds in 2025



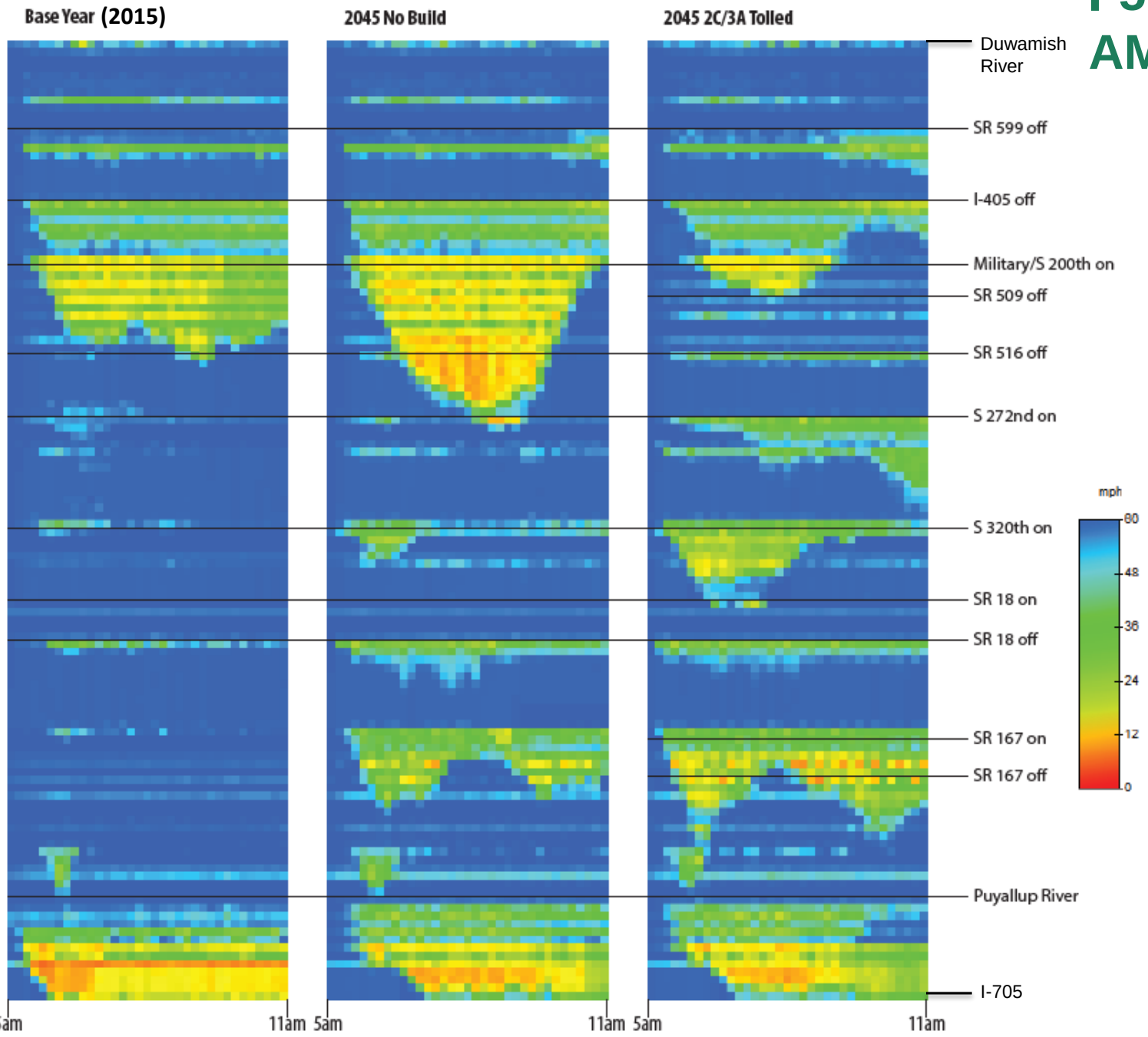
WSDOT

I-5 Performance: Speeds in 2045



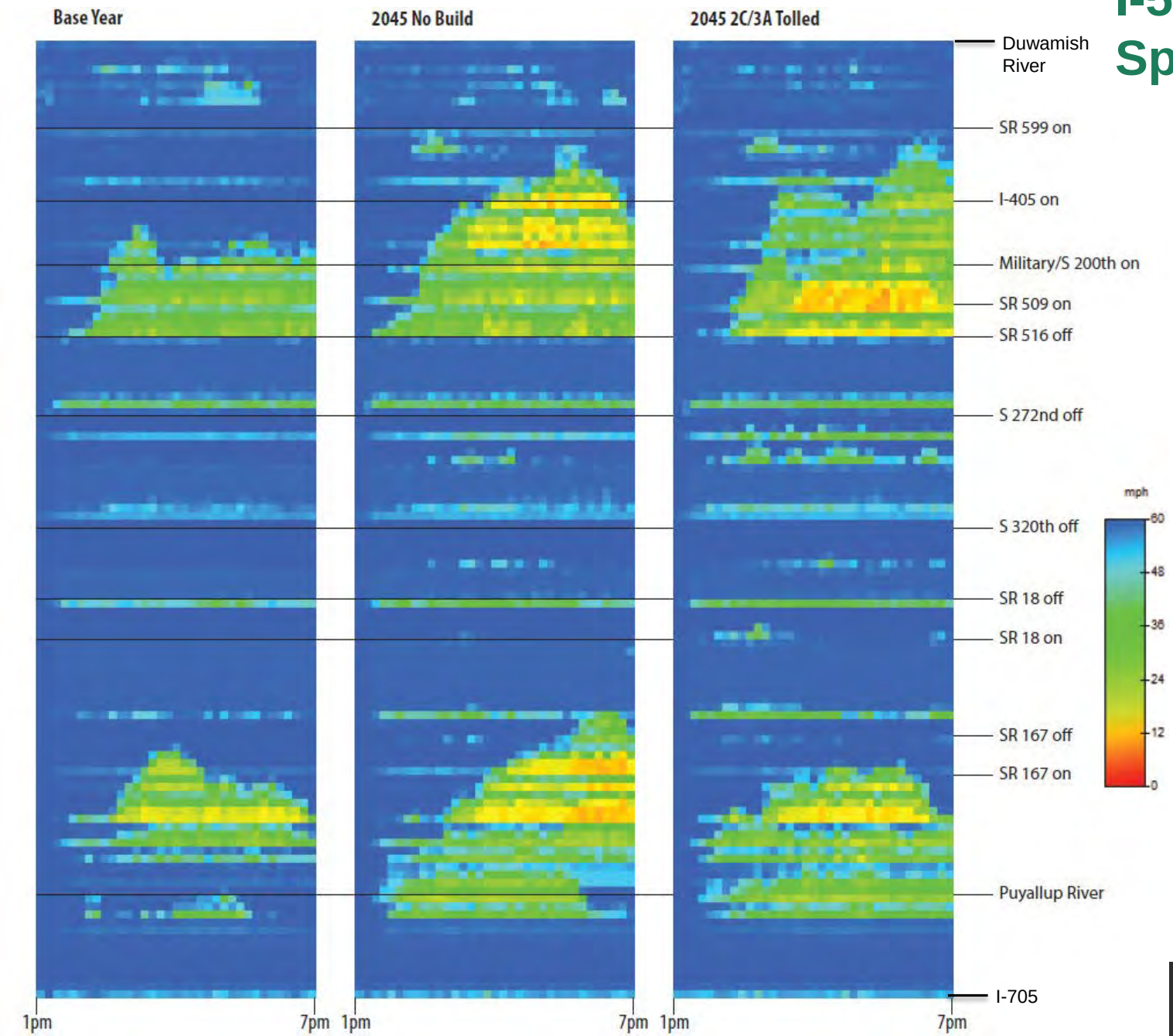
WSDOT

I-5 2045 NB AM Speed Plot



WSDOT

I-5 2045 SB PM Speed Plot



WSDOT

I-5 AM Travel Times

2025

2-9 Through Study Area on I-5

Via Current

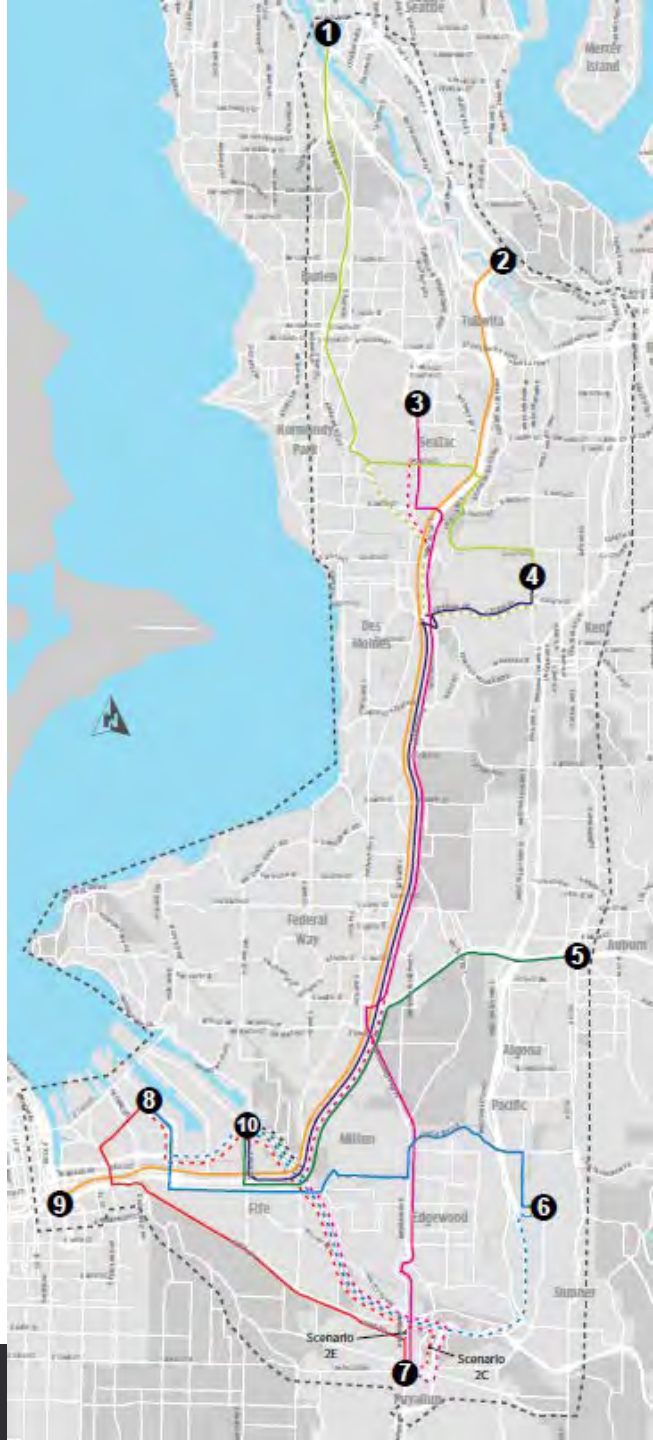
	No Build	2C/3A	2E/3A
NB	35	34	34
SB	25	25	25

2045

2-9 Through Study Area on I-5

Via Current

	No Build	2C/3A	2E/3A
NB	51	49	49
SB	26	26	26



I-5 Operations Key Takeaways

- Travel times through the corridor from Tacoma to Tukwila remain consistent between No Build and build.
- Extending a northbound merge lane from SR 167 to 375th does not show added value.
- A northbound auxiliary lane from SR 167 indicates some benefit but does not address operations north of SR 18.
- There is no operational need for northbound auxiliary lane from 272nd to SR 516 lane or CD lanes from SR 516 to SR 509.

SR 509 Operations and Design Considerations

Scenario 3A

WSDOT

Scenario 3B

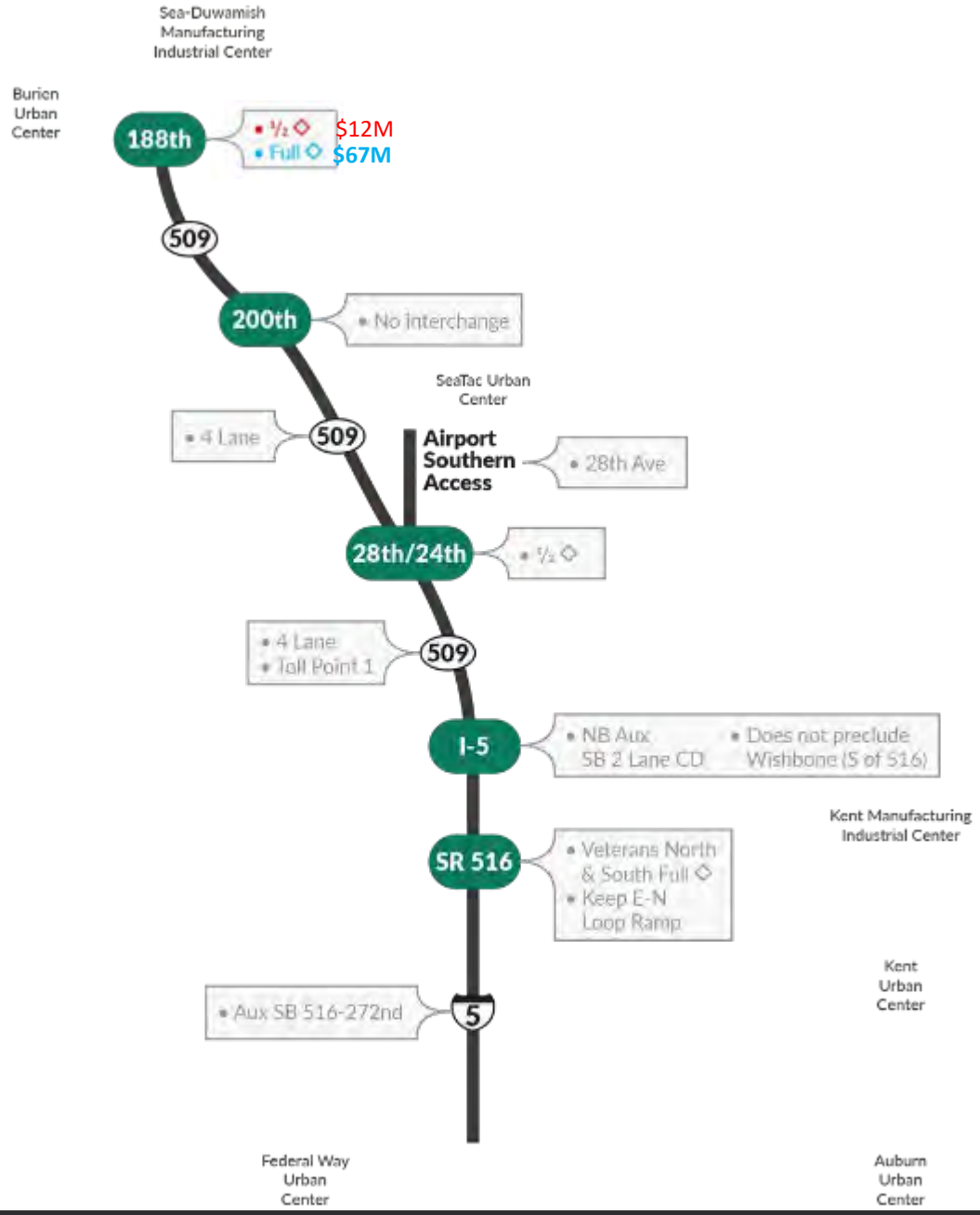
Scenario 3A/3B

Legend:

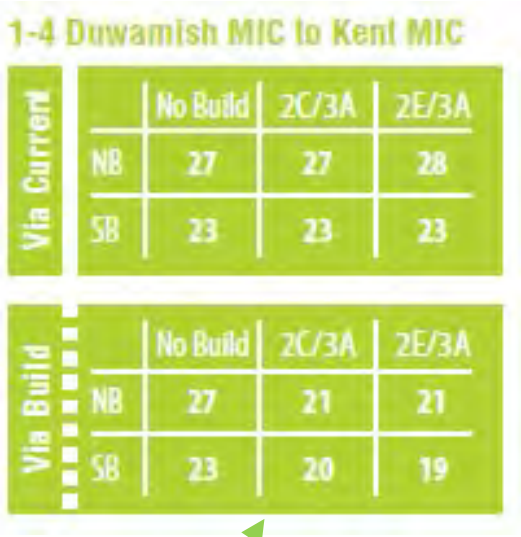
Scenario 3A ($923M)

Scenario 3B ($978M)

Shared Component



AM Peak Projected Travel Times for Selected North End Routes: 2025



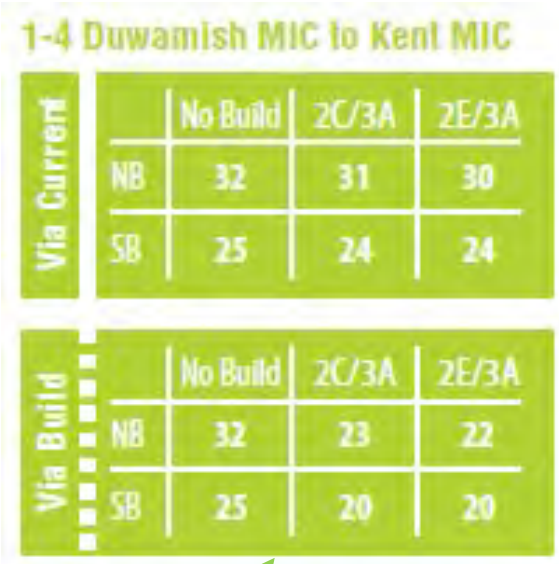
% Travel Time Savings:

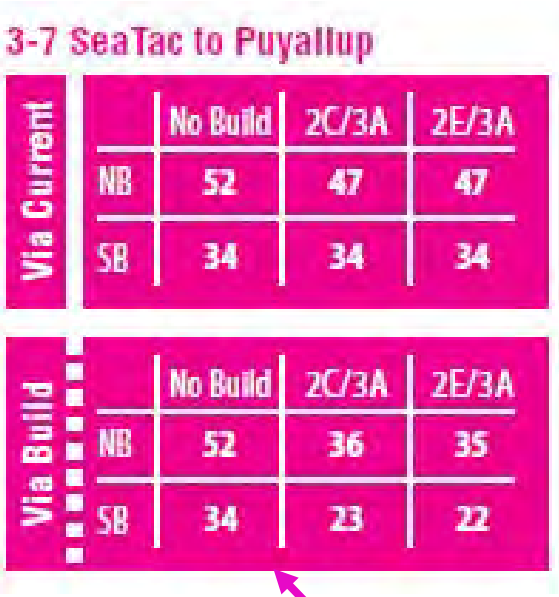
	2C/3A	2E/3A
• NB	22%	22%
• SB	13%	17%

% Travel Time Savings:

	2C/3A	2E/3A
• NB	21%	23%
• SB	24%	24%

AM Peak Projected Travel Times for Selected North End Routes: 2045





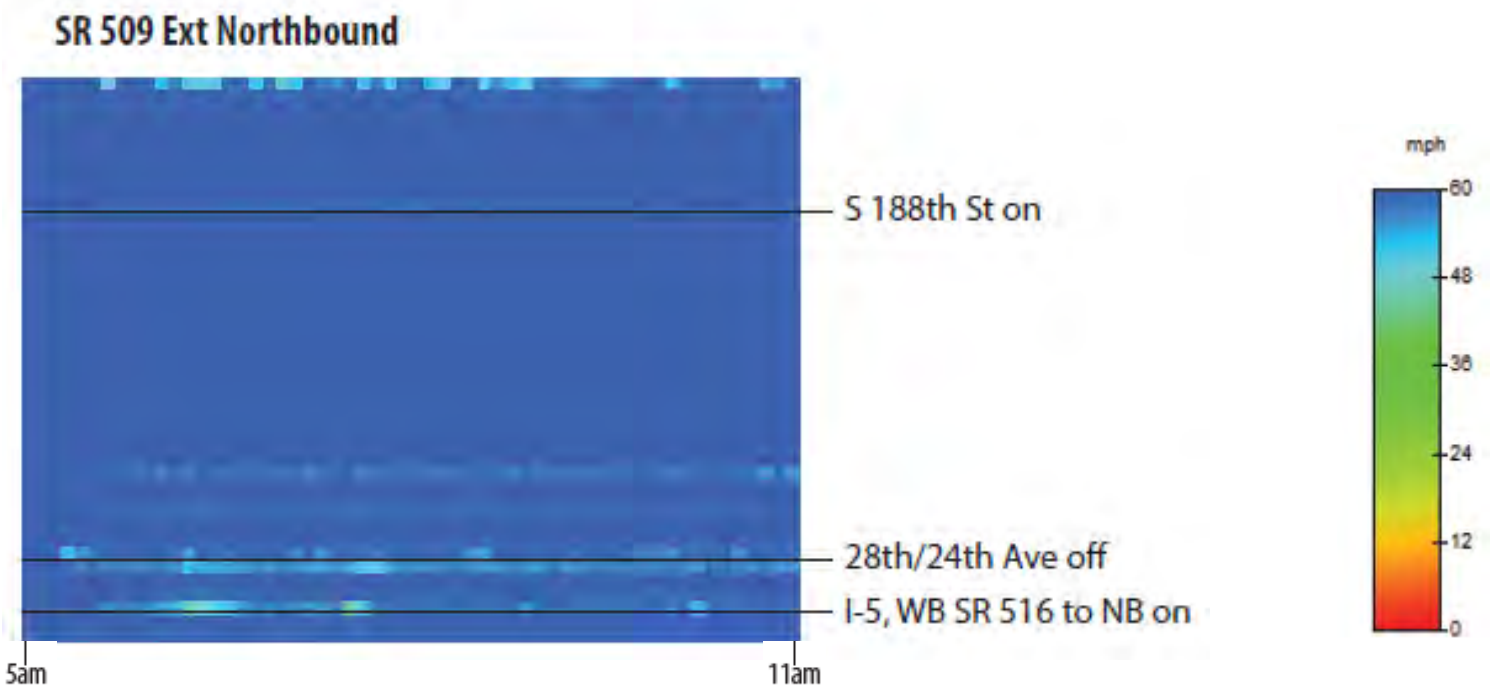
% Travel Time Savings:

	2C/3A	2E/3A
• NB	28%	31%
• SB	20%	20%

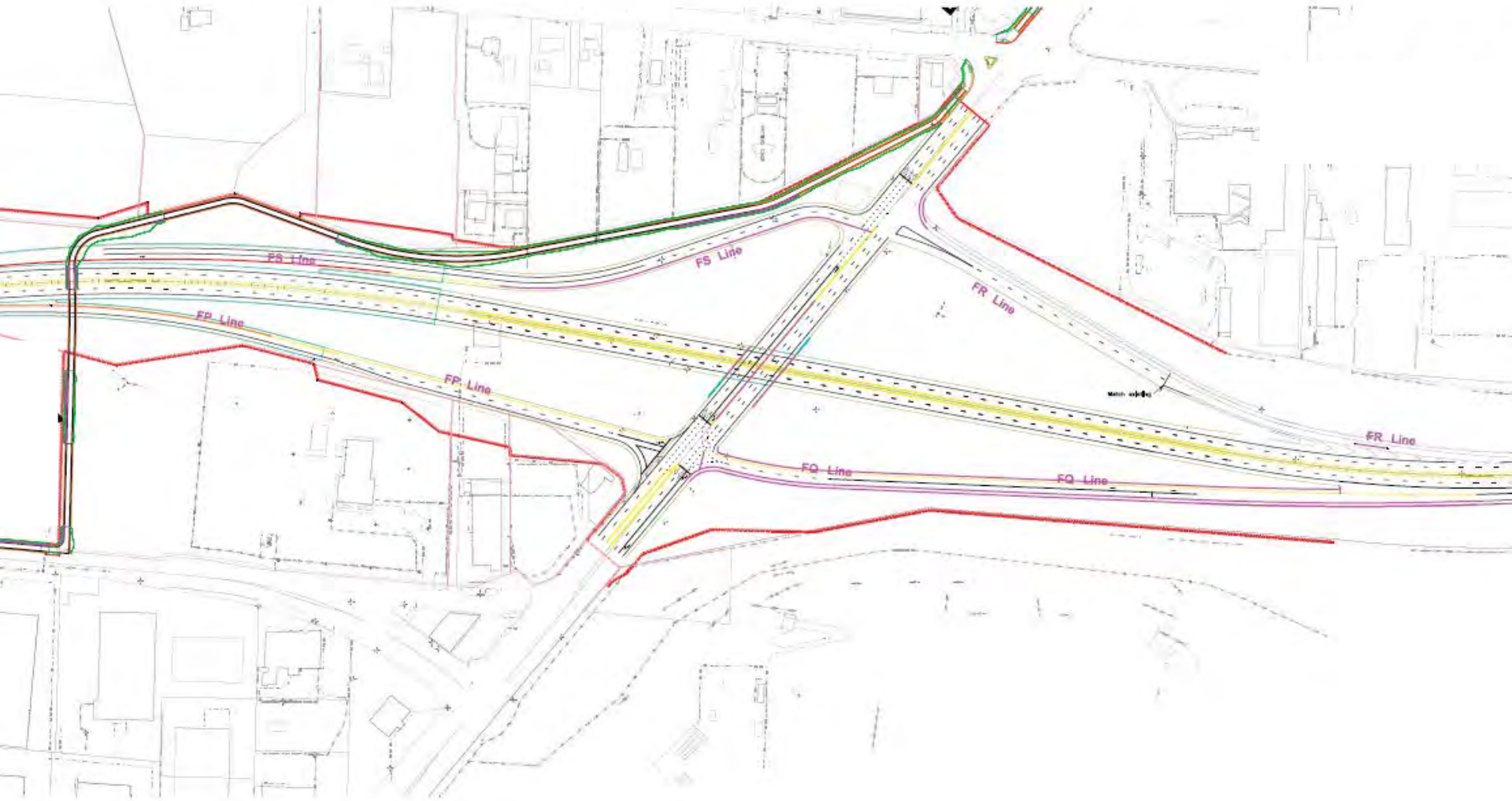
% Travel Time Savings:

	2C/3A	2E/3A
• NB	31%	33%
• SB	32%	35%

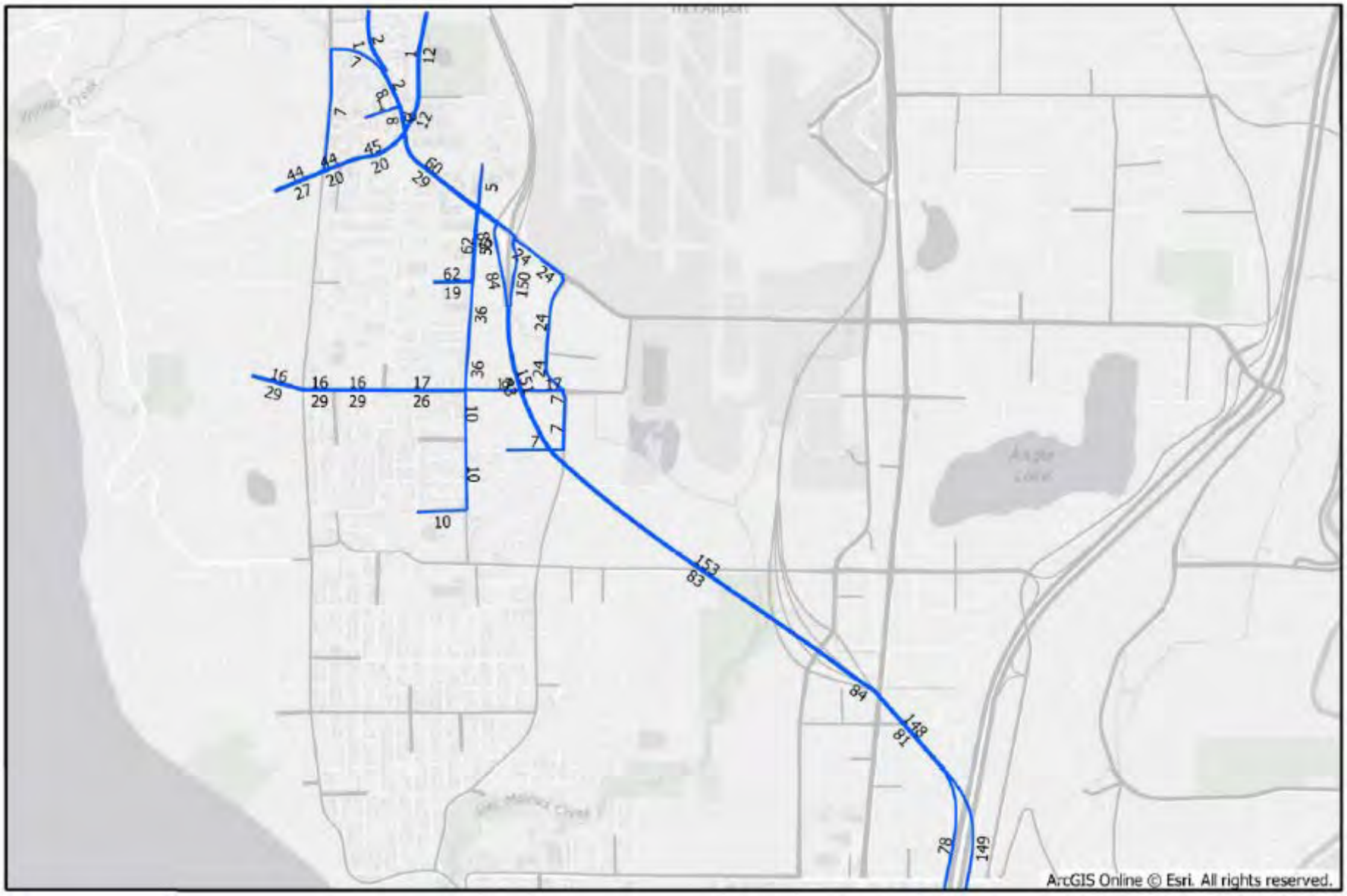
SR 509 2045 Northbound AM Speed Plot



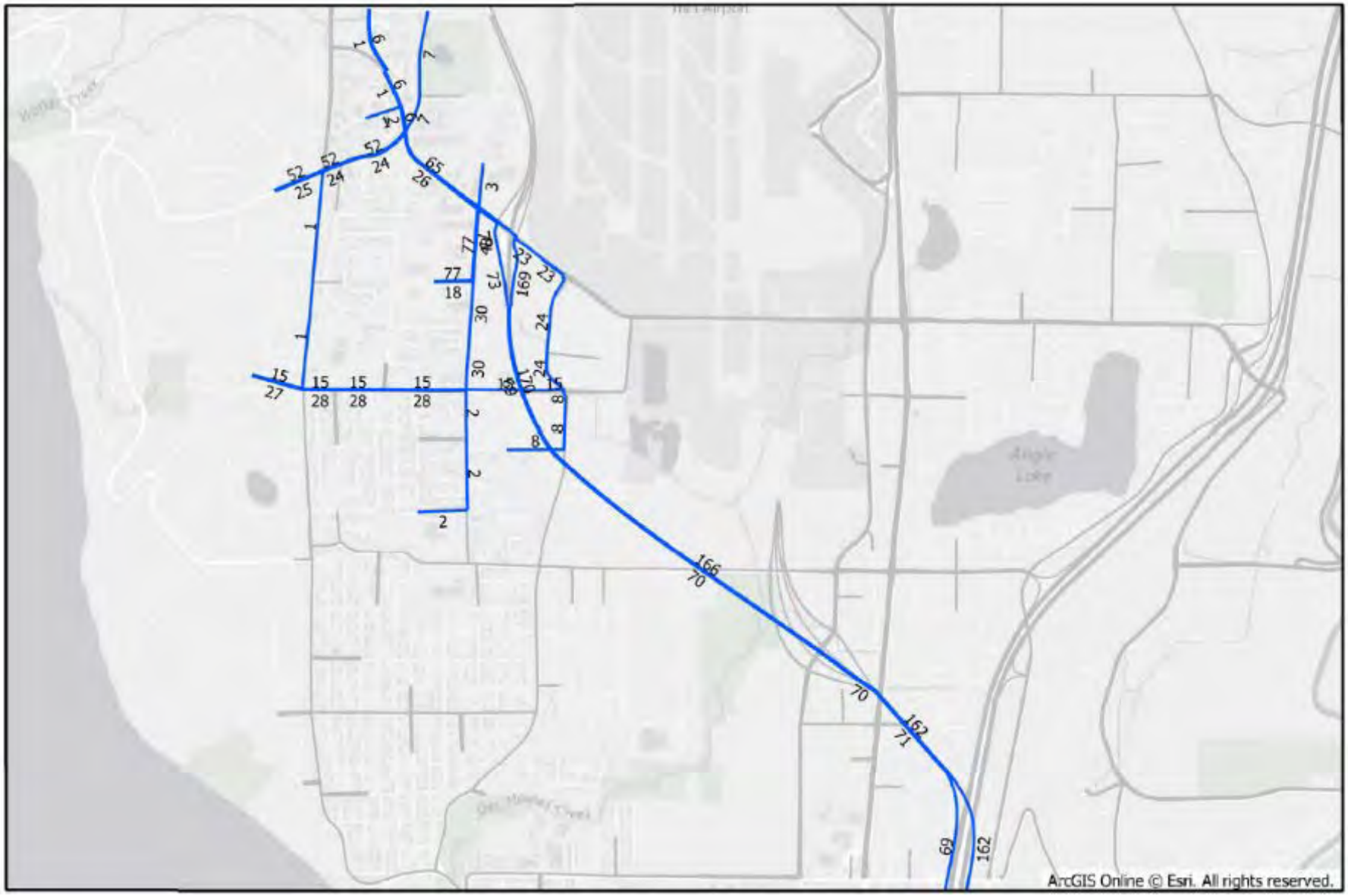
Design Considerations: Full Diamond at 188th



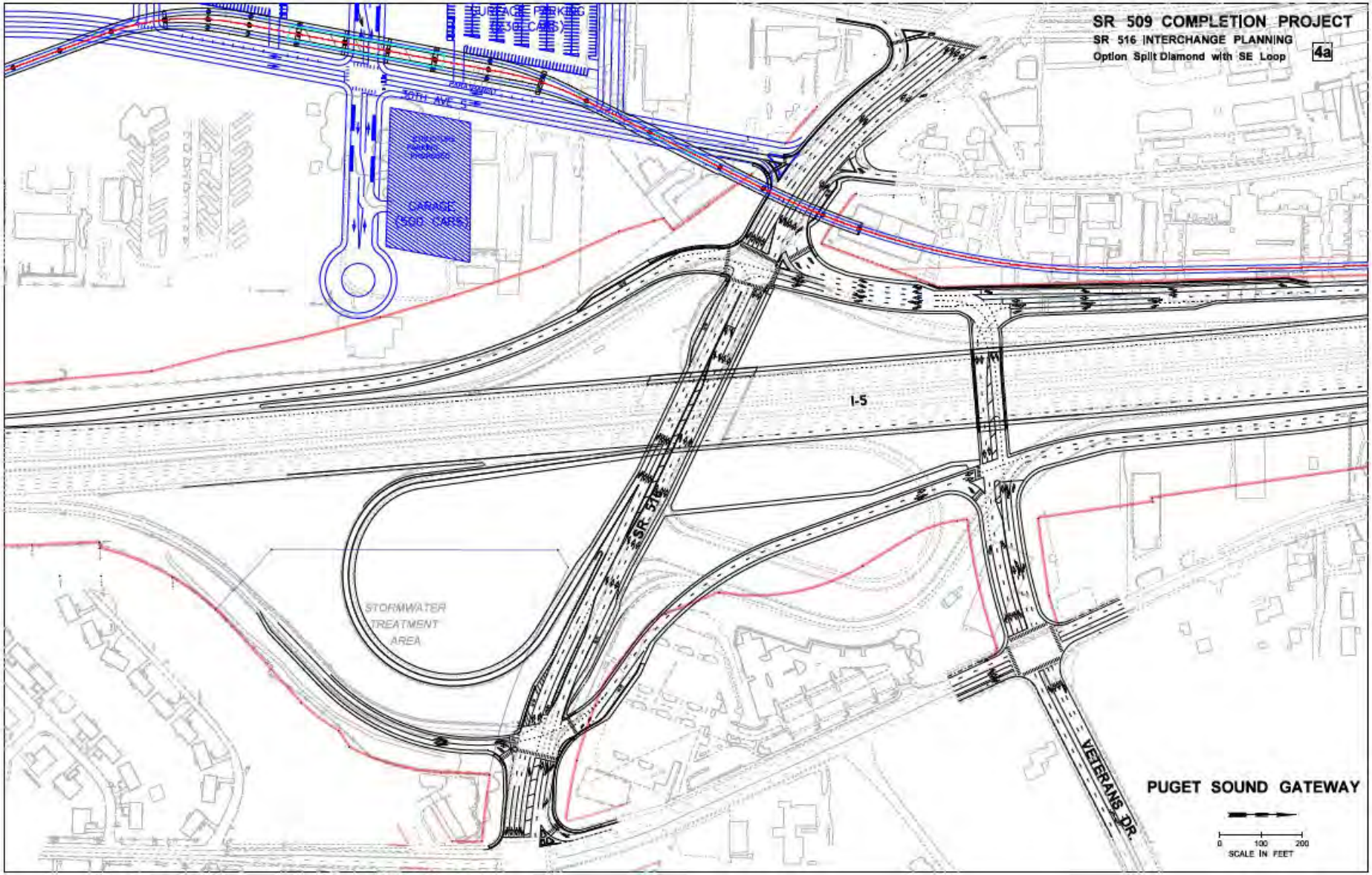
Full Diamond at 188th with South Airport Access: 2045 AM



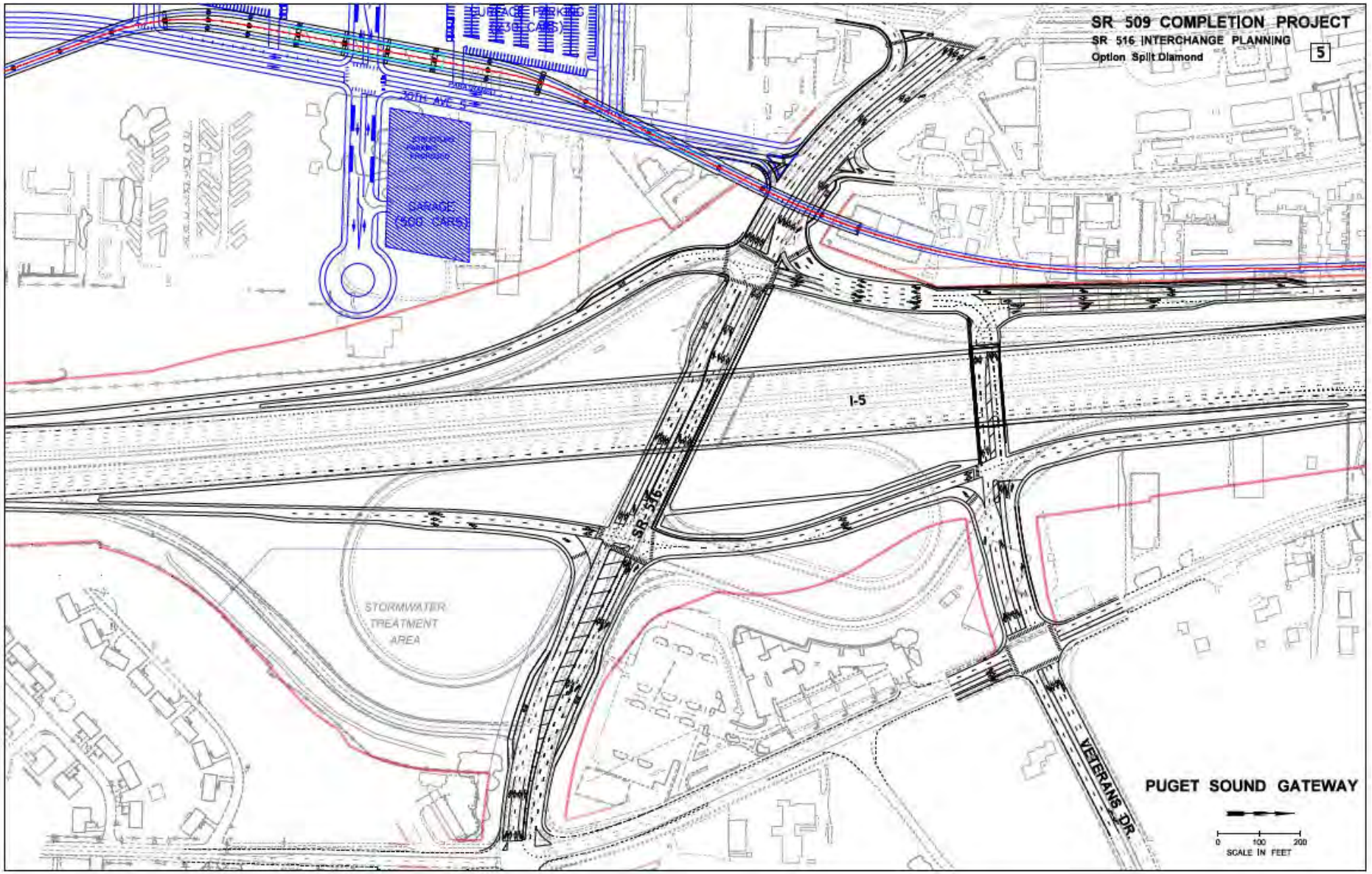
Full Diamond at 188th without South Airport Access: 2045 AM



Design Considerations: SR 516 Option 4a (with loop ramp)



Design Considerations: SR 516 Option 5 (without loop ramp)

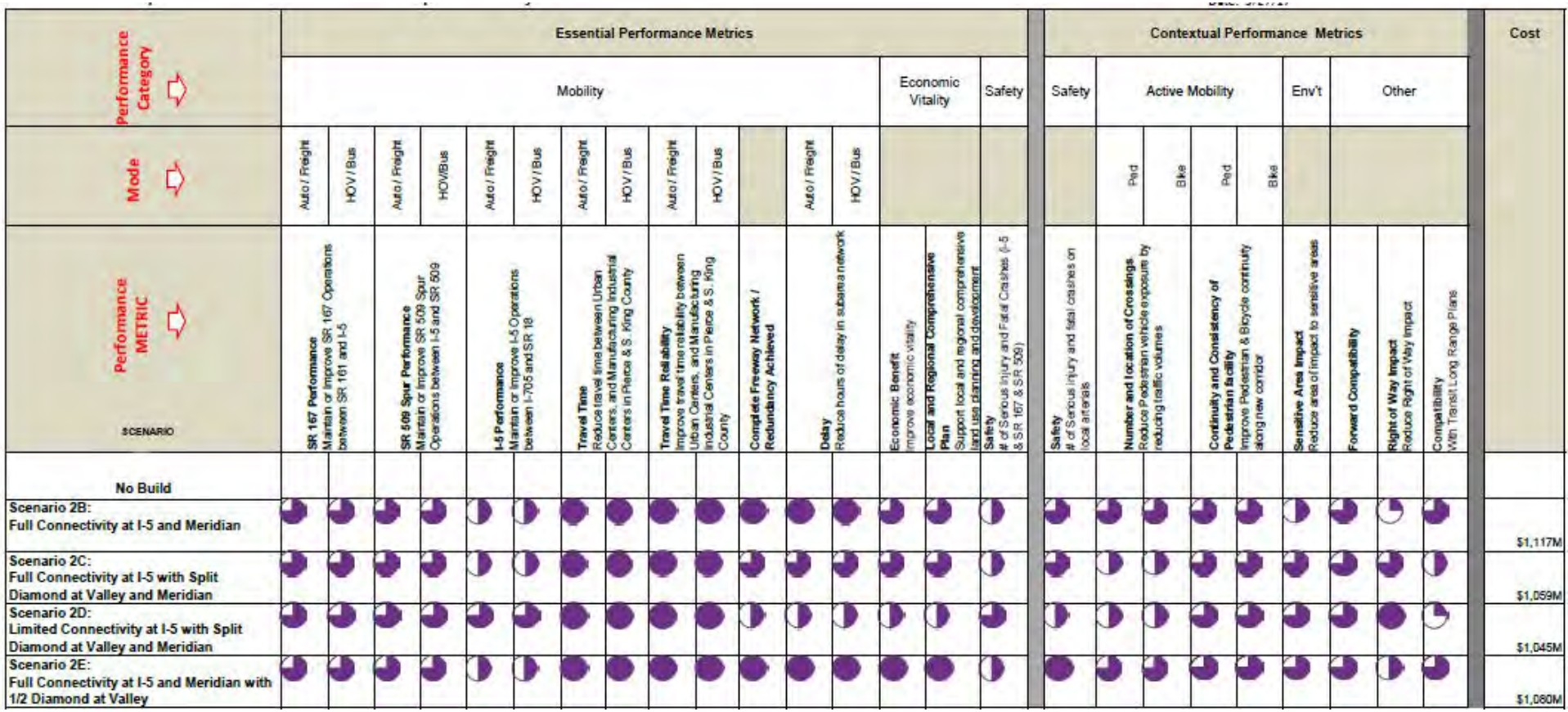


SR 509 Key Takeaways

- SR 509 operates well as currently designed.
- Substantial travel time savings between regional and manufacturing industrial centers.
- At 188th in 2025 the southbound on and northbound off ramps are not heavily utilized.
- At 188th in 2045 the southbound on and northbound off ramps continue to see low utilization with and without the South Access Expressway.
- Will continue to refine operational analysis for the SR 516 interchange.

Review and Confirm the *Preliminary* Preferred Scenario

SR 167 Performance Evaluation Results



Performance Category	Essential Performance Metrics															Contextual Performance Metrics									Cost
	Mobility													Economic Vitality		Safety	Safety	Active Mobility				Env't	Other			
Mode	Auto / Freight	HOV / Bus	Auto / Freight	HOV/Bus	Auto / Freight	HOV / Bus	Auto / Freight	HOV / Bus	Auto / Freight	HOV / Bus		Auto / Freight	HOV / Bus					Ped	Bike	Ped	Bike				
Performance METRIC	SR 167 Performance Maintain or improve SR 167 Operations between SR 161 and I-5		SR 509 Spur Performance Maintain or improve SR 509 Spur Operations between I-5 and SR 509		I-5 Performance Maintain or improve I-5 Operations between I-705 and SR 18		Travel Time Reduce travel time between Urban Centers, and Manufacturing Industrial Centers in Pierce & S. King County		Travel Time Reliability Improve travel time reliability between Urban Centers, and Manufacturing Industrial Centers in Pierce & S. King County		Complete Freeway Network / Redundancy Achieved	Delay Reduce hours of delay in subarea network		Economic Benefit Improve economic vitality	Local and Regional Comprehensive Plan Support local and regional comprehensive land use planning and development	Safety # of Serious Injury and Fatal Crashes (I-5 & SR 167 & SR 509)	Safety # of Serious Injury and fatal crashes on local arterials	Number and Location of Crossings Reduce Pedestrian vehicle exposure by reducing traffic volumes		Continuity and Consistency of Pedestrian facility Improve Pedestrian & Bicycle continuity along new corridor		Sensitive Area Impact Reduce area of impact to sensitive areas	Forward Compatibility	Right of Way Impact Reduce Right of Way Impact	Compatibility With Transit Long Range Plans	
SCENARIO																									
No Build																									
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Scenario 2C: Full Connectivity at I-5 with Split Diamond at Valley and Meridian																									$1,059M
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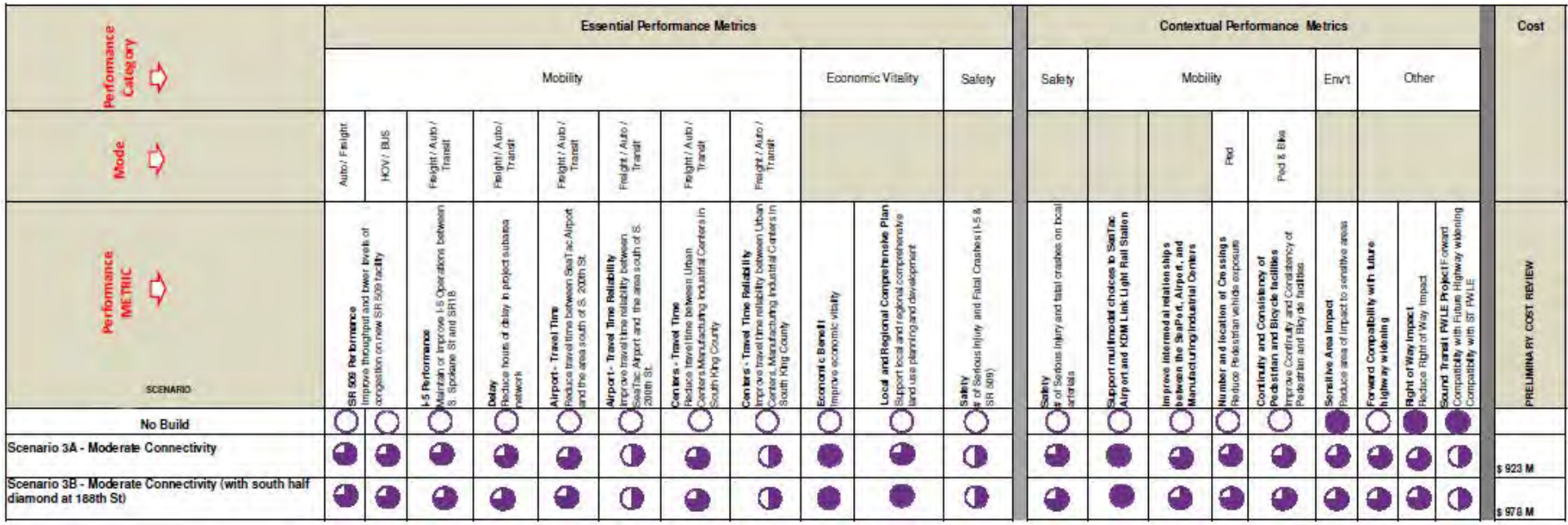


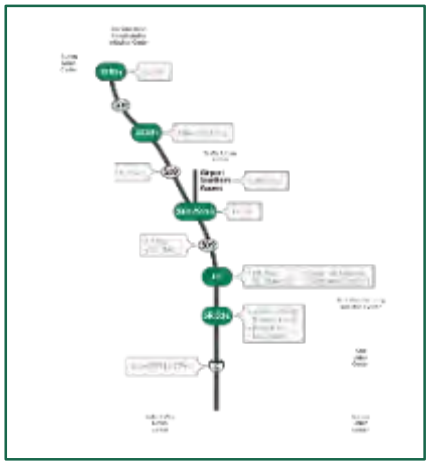
Key Takeaways

- SR 167 scenario 2C operates well.
  - There are some operational benefits to 2E, but there is added cost.

- SR 509 scenario 3A operates well.
  - Southbound on and northbound off ramps at 188th are not heavily utilized.

Gateway Phasing
Preliminary Preferred Scenario

PHASE 1 (to 2031)



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- **188th Interchange (south half)**
- 200th Interchange
- Valley Interchange (east half)

I-5
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- SR 516 – SR 509 NB collector/distributor lanes

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Forward Compatibility (features that could be constructed in Phase 1 that are needed in Phase 2)
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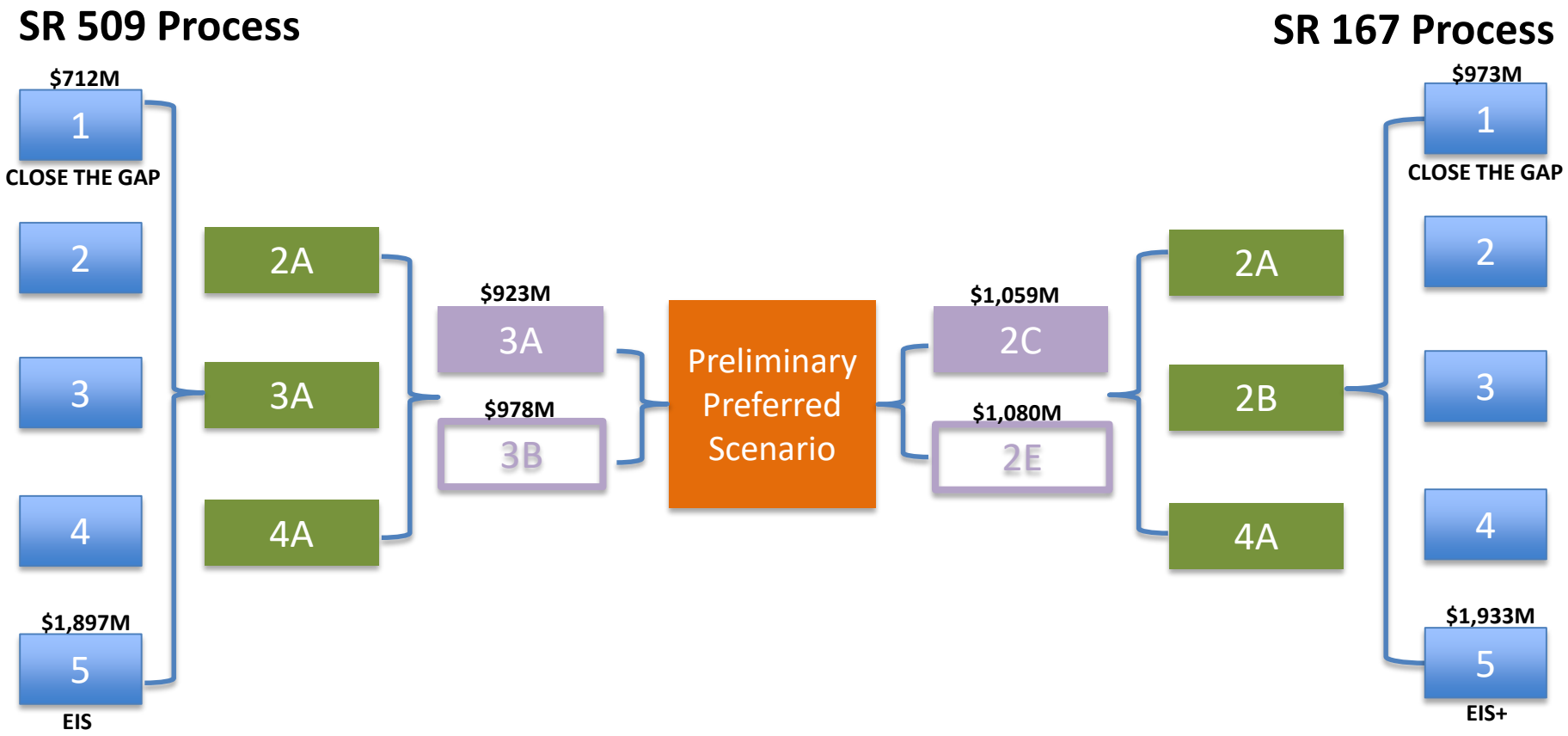
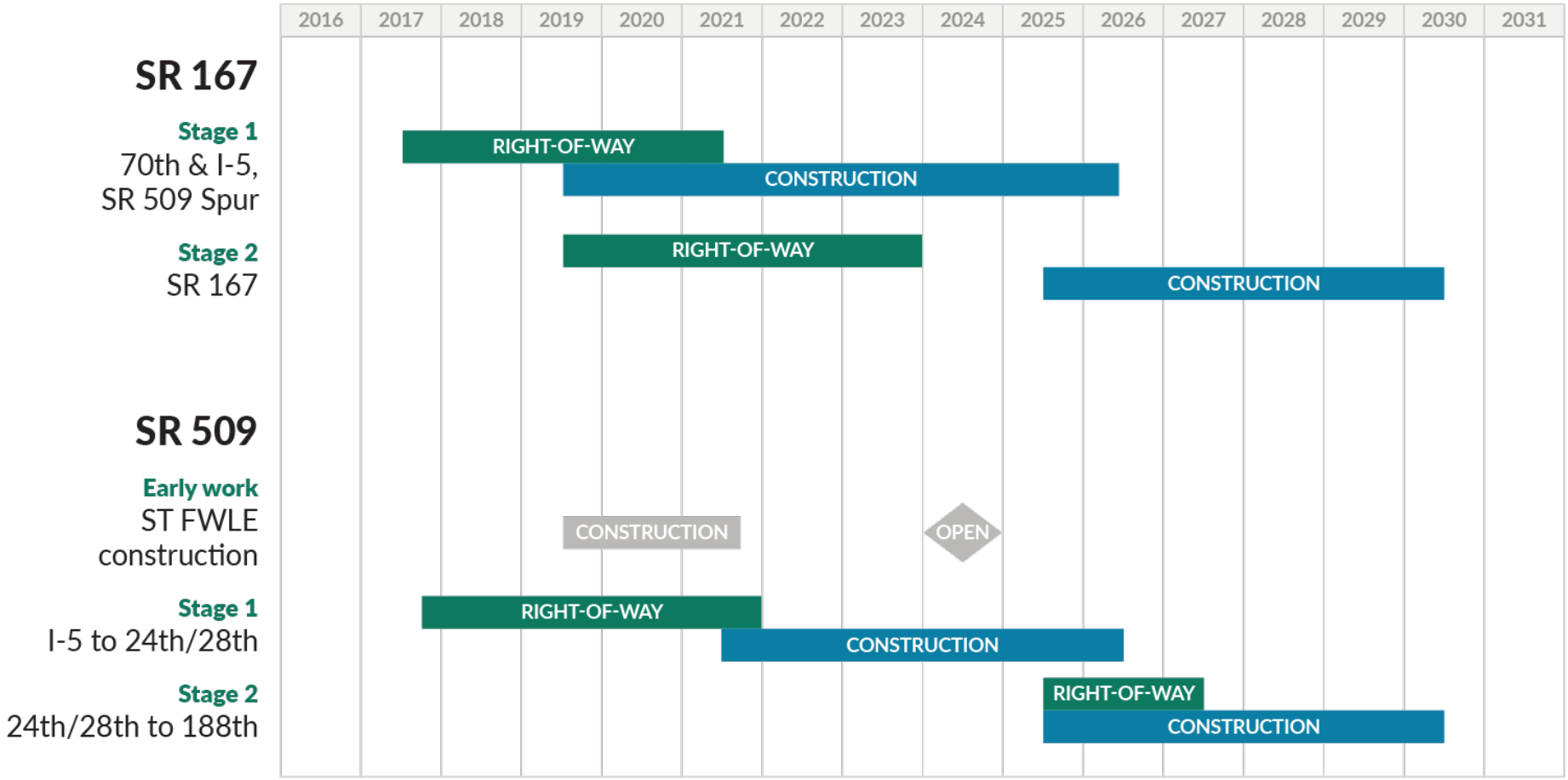
- Sea-Tac Airport South Access Expressway
- I-5
- SR 167

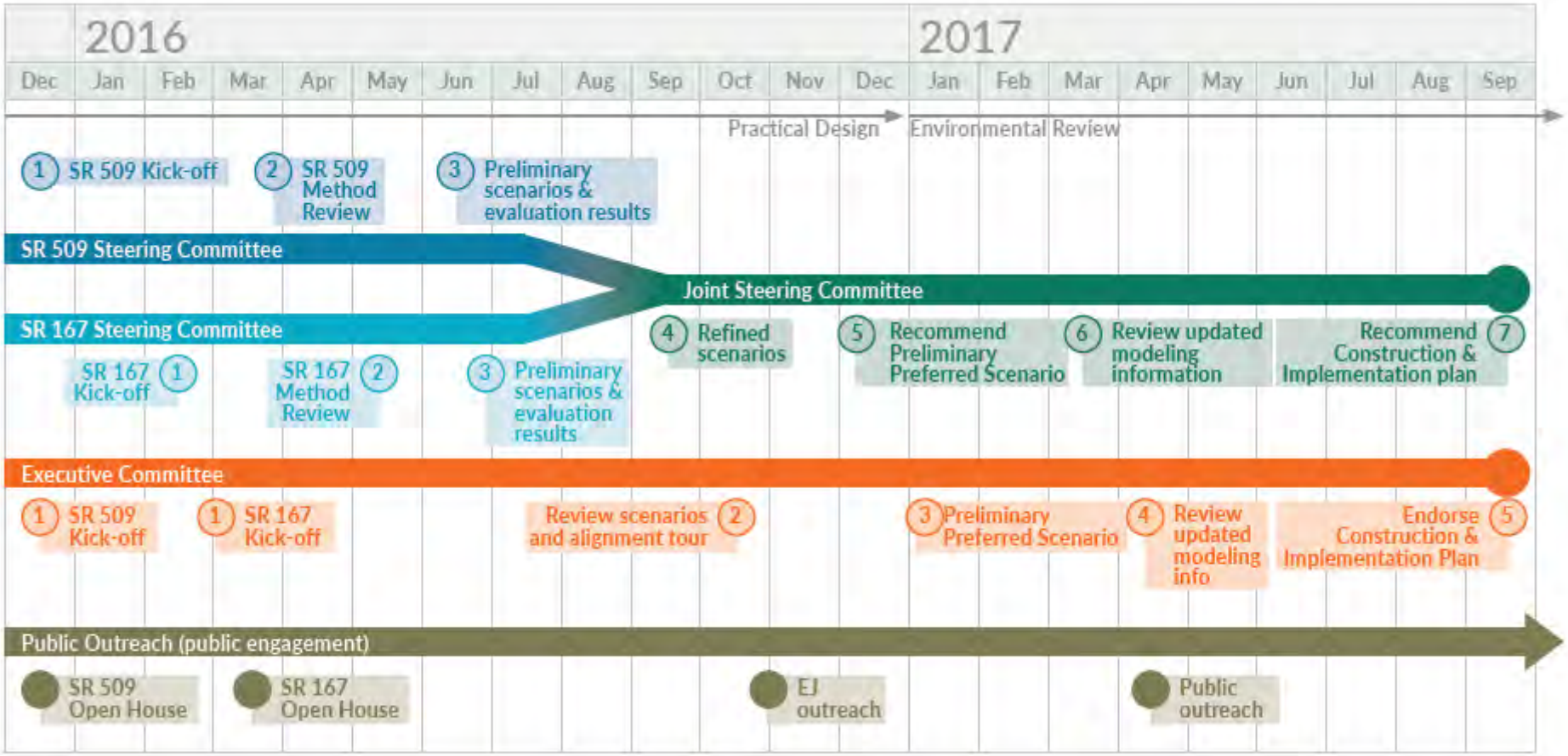
Scenario Refinement Process



Preliminary Gateway Construction Staging within Phase 1



Program Schedule to Construction and Implementation Plan



Upcoming Events

- **SR 509 Public Open House**

  Wednesday, April 12

  5 to 8 p.m. (presentations at 5:30 and 6:30)

  Tyee Education Complex

- **SR 167 Public Open House**

  Tuesday, April 18

  5 to 8 p.m. (presentations at 5:30 and 6:30)

  Fife High School

- **Joint Executive Committee Meeting**

  Tuesday, April 25

  9 to 11 a.m.

  Fabulich Center

More information:

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