

I-90 Corridor Study Options & Initial Screening

Presented to:
I-90 Corridor Working Group (CWG)

April 24th, 2009



Washington State
Department of Transportation

I-90 Options



HDR

Options, Cost Estimates, & Initial Screening

<i>I-90 Mainline Improvement Options</i>	<i>Cost Range</i> <i>(Millions, 2009 Dollars)</i>	<i>Recommend Advancing</i>
Auxiliary Lane Eastbound - Eastgate Interchange to West Lake Sammamish Parkway Interchange Options		
Rebuild Shoulders and Restripe - ATM and/or Time of Day operations optional	10-16	Yes
Widen Roadway to Full Design Standards	30-50*	Yes
Added Westbound Lane from SR 900 to Eastgate		
Rebuild Shoulders and Restripe - ATM and/or Time of Day operations optional	15-22	Yes
Widen Roadway to Full Design Standards	94-112*	No
Convert Existing HOV Lane to a HOT Lane	12-14	Yes
Traditional Managed Lanes: Add 1 Additional Managed Lane and 4' Buffer in Each Direction	No Estimate	No
Reversible Managed Lane Facility: Separate, Elevated 40' Wide Structure in Median	No Estimate	No
Active Traffic Management for Entire Corridor	28-32	Yes

* Higher end includes noise wall mitigation

** Large variance due to potential bridge replacement/widening

< \$5M
 \$5M - \$50M
 > \$50M

Options, Cost Estimates, & Initial Screening


Interchange Improvement Options	Cost Range (Millions, 2009 Dollars)	Recommend Advancing
Eastgate Interchange Options:		
Eastgate Way Split Diamond Interchange	No Estimate	No
Eastgate Way Single Point Urban Interchange	No Estimate	No
Ramp Terminal Signal & Channelization Improvements	4-6	Yes
West Lake Sammamish Interchange Options:		
West Lake Sammamish Parkway Two-Lane Roundabout	0.5-2	Yes
SR 900 Interchange (Vicinity) Options		
Direct Access Connection East of SR 900	63-76	Yes
12th Ave NW Extension over I-90	47-56	Yes
Front Street Interchange Options:		
Front Street Interchange: Flyover Ramp	No Estimate	No
Front Street Interchange: Single Point Urban Interchange	75-90	Yes
Front Street Interchange: Tight Urban Diamond Interchange	60-70	Yes
Preston/Fall City Interchange Options:		
Roundabout at Eastbound Ramp Terminal	1-2	Yes
Signal at Eastbound Ramp Terminal	0.25-8**	Yes
I-90/SR 18 Options:		
Fully Directional Limited Access Interchange	340	
Scaled Down Version with only one new ramp connection	110	
Westbound I-90 off-ramp right turn lane	1	Yes
SE North Bend Way Interchange (Exit 27 - Casino) Options:		
SE North Bend Way Interchange Loop Ramp for Eastbound Off-Ramp	20-30	Yes
436th Avenue SE Interchange Options:		
Roundabouts at Ramp Terminals	1.5-3	Yes
Signals at Ramp Terminals	0.5-10**	Yes

* Higher end includes noise wall mitigation

** Large variance due to potential bridge replacement/widening

 < \$5M

 \$5M - \$50M

 > \$50M

Eastbound Auxiliary Lane

Eastgate Interchange to West Lake Sammamish Parkway Interchange



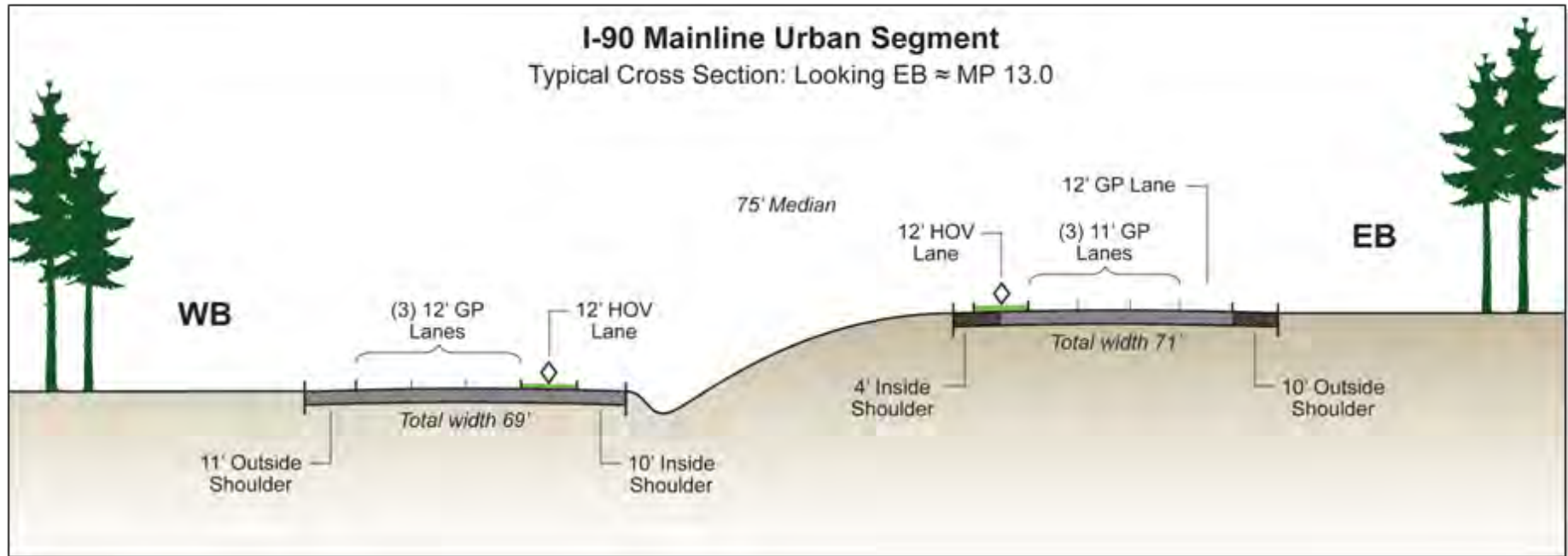
Cost Estimate: \$10-50 Million

Add Auxiliary Lane Eastbound

Eastgate Interchange to West Lake Sammamish Parkway Interchange

Rebuild Shoulders and Restripe – ATM and/or Time of Day Operations Optional

Recommendation to Carry Forward



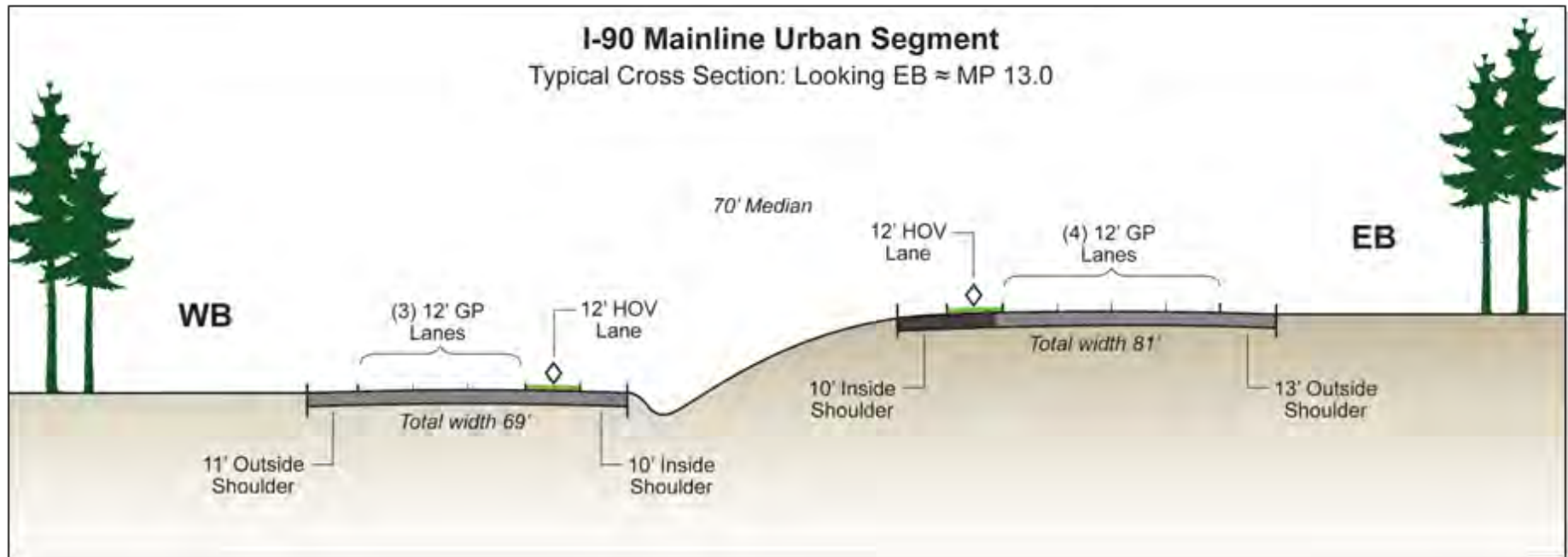
Cost Estimate: \$10-16 Million

Add Auxiliary Lane Eastbound

Eastgate Interchange to West Lake Sammamish Parkway Interchange

Widen Roadway to Full Design Standards

Recommendation to Carry Forward



Cost Estimate: **\$30-50 Million**

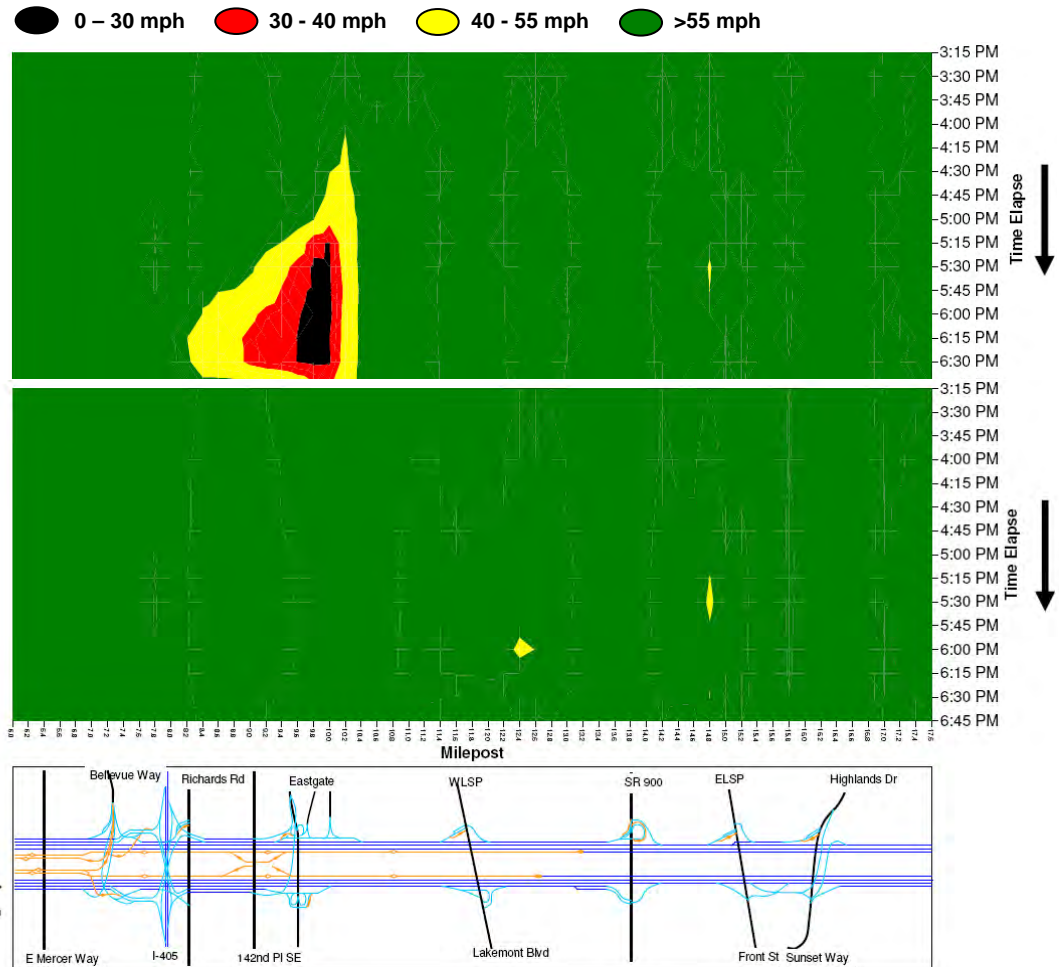
I-90 Travel Speed 2015 – PM Peak, Eastbound GP Lanes

Eastbound No Action Alternative

Do nothing to I-90, assumed I-405 improvements

Eastbound Action Alternative

Auxiliary lane from Eastgate on-ramp to Lakemont off-ramp



Westbound Auxiliary Lane

SR 900 Interchange to Eastgate Interchange



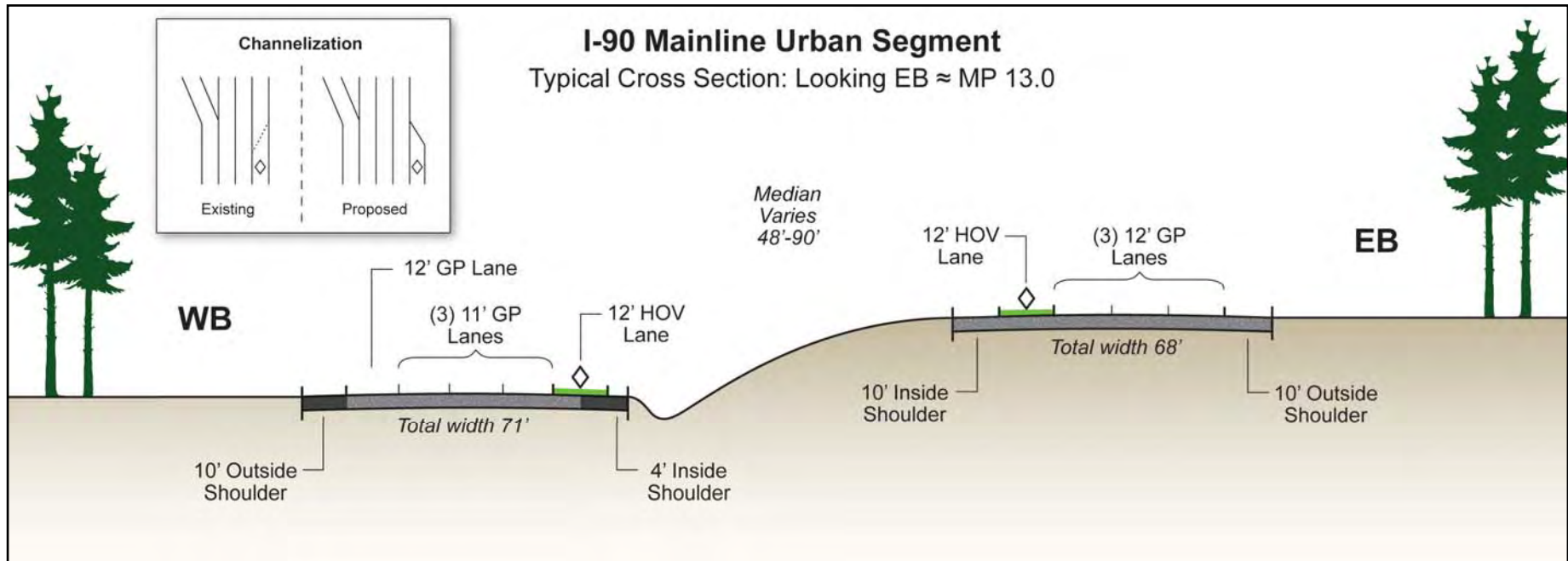
Cost Estimate: \$15-22 Million

Add Auxiliary Lane Westbound

SR 900 Interchange to Eastgate Interchange

Rebuild Shoulders and Restripe – ATM and/or Time of Day Operations Optional

Recommendation to Carry Forward



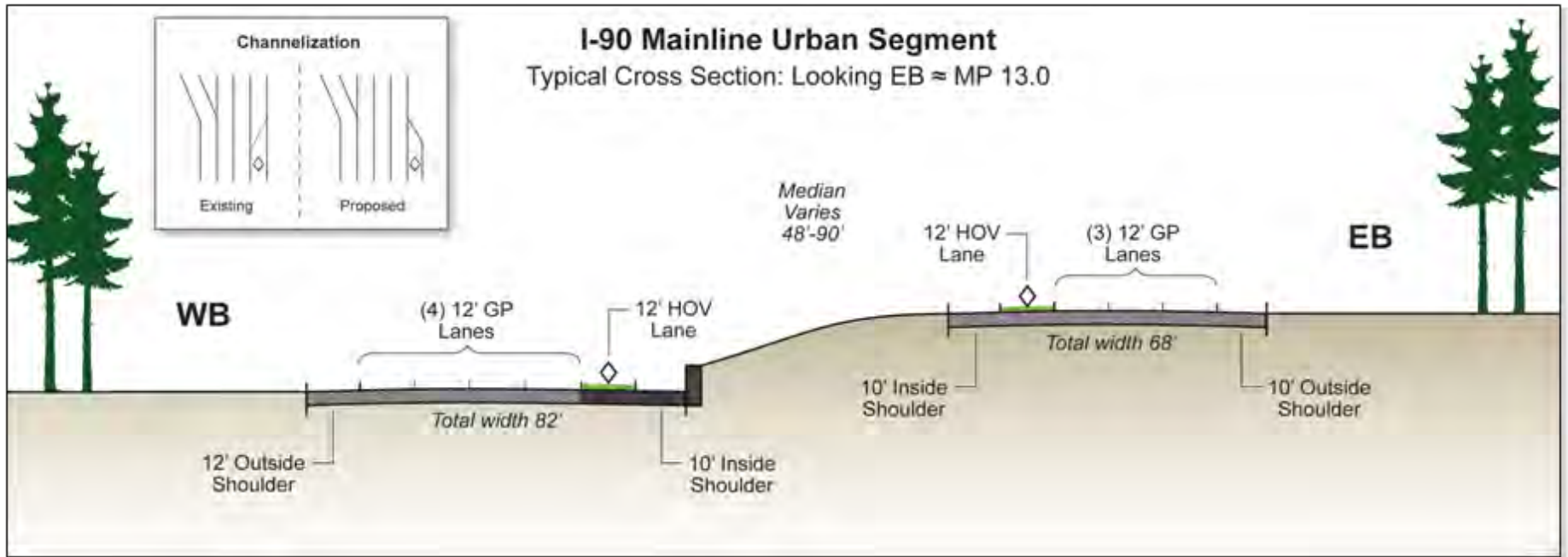
Cost Estimate: \$15-22 Million

Add Auxiliary Lane Westbound

SR 900 Interchange to Eastgate Interchange

Widen Roadway to Full Design Standards

Recommendation to NOT Carry Forward



Cost Estimate: \$94-112 Million

I-90 Travel Speed 2015 – AM Peak, Westbound GP Lanes

Westbound No Action Alternative

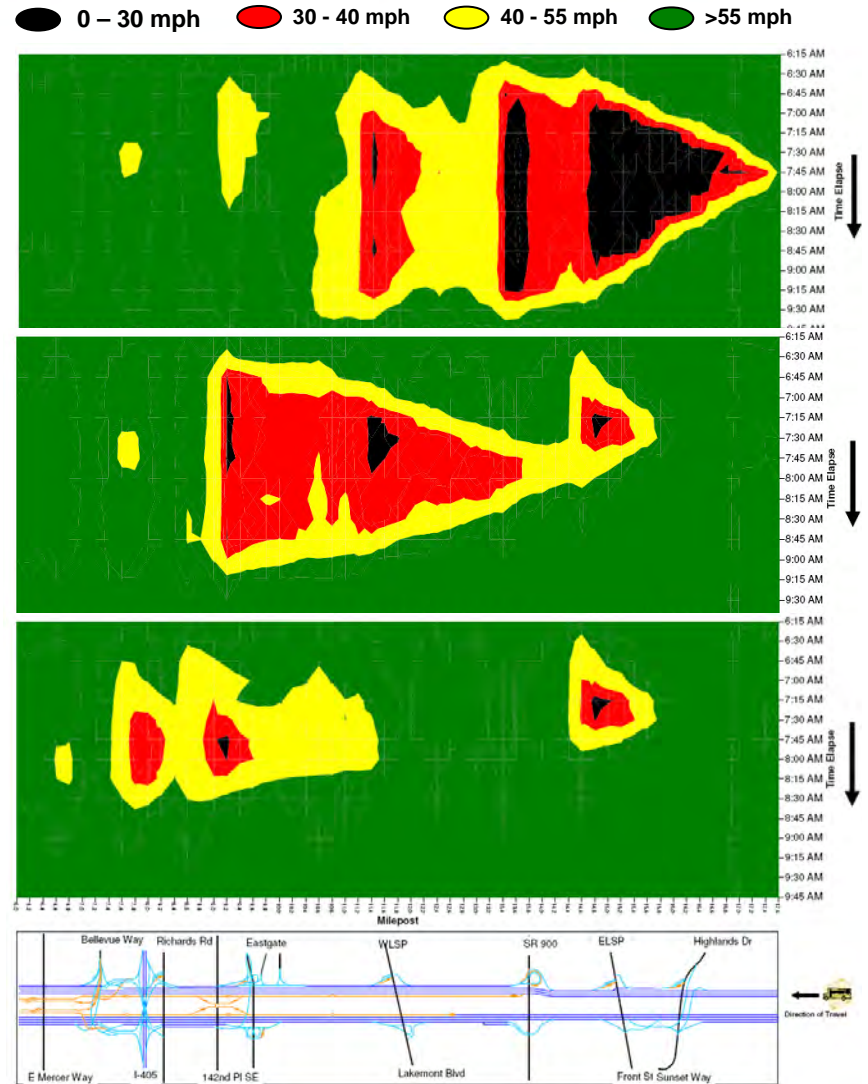
Do nothing to I-90, assumed
I-405 improvements

Westbound Action Alternative 1

Auxiliary lane from SR 900 to Eastgate

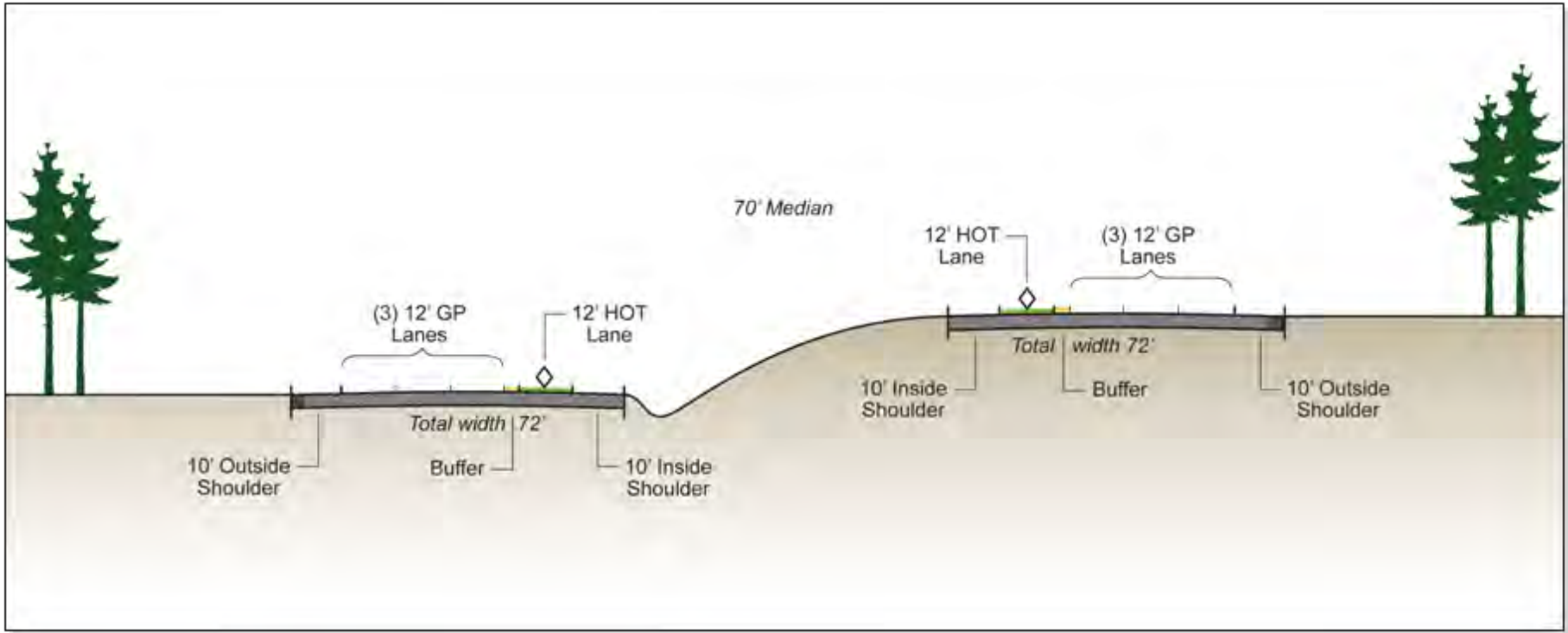
Westbound Action Alternative 2

Auxiliary lane from SR 900 to
Eastgate, change merge conditions
west of Eastgate Interchange



Convert Existing HOV Lane to a HOT Lane

Recommendation to Carry Forward

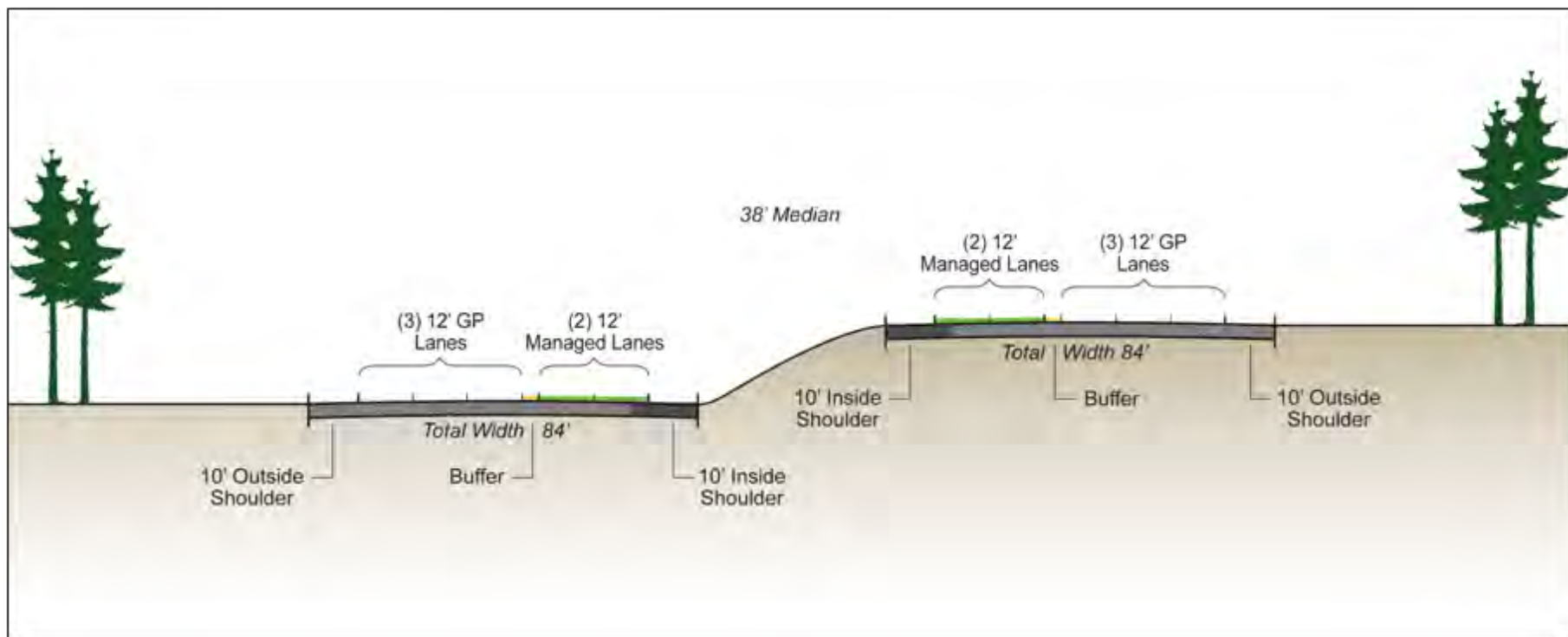


Cost Estimate: \$12-14 Million

Traditional Managed Lane

Add 1 Additional Managed Lane and 4-Foot Buffer in Each Direction

Recommendation to NOT Carry Forward

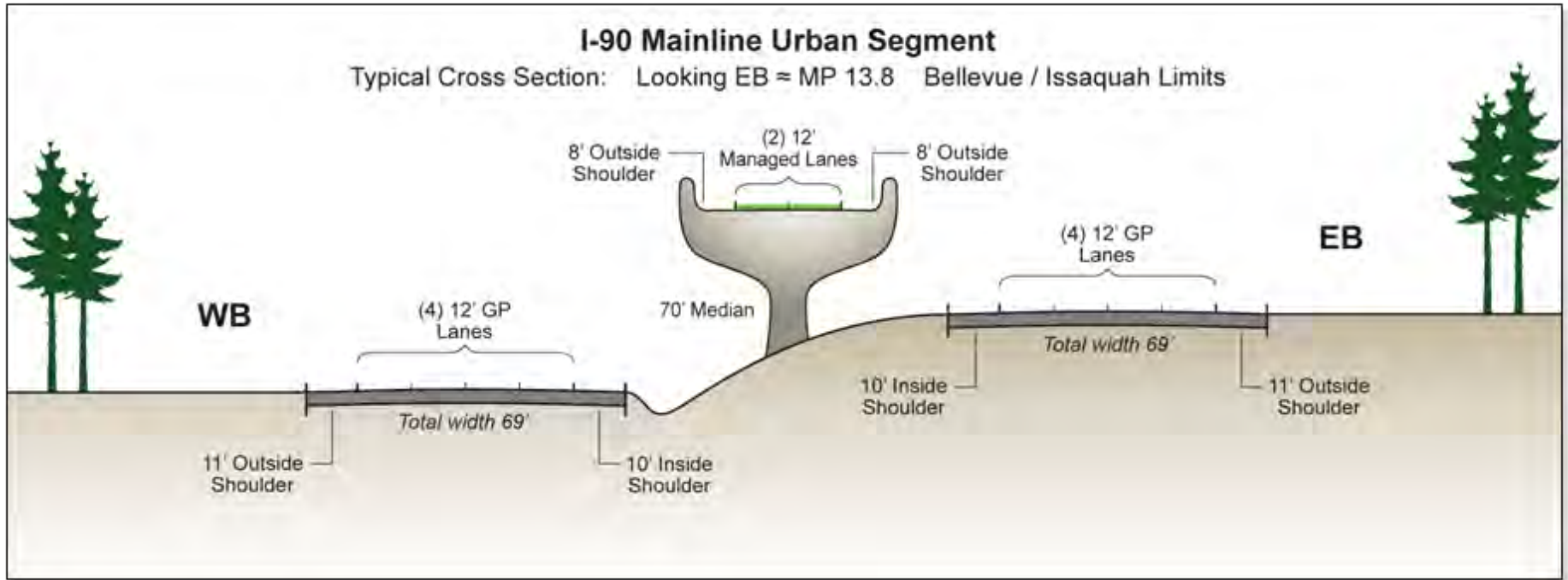


Cost Estimate: No Estimate

Reversible Managed Lane Facility

Separate, Elevated 40-Foot Wide Structure in Median

Recommendation to NOT Carry Forward



Cost Estimate: No Estimate

Active Traffic Management

Recommendation to Carry Forward



Cost Estimate: \$28-32 Million

Eastgate Way Split Diamond Interchange



Cost Estimate: *No Estimate*

Eastgate Way Single Point Urban Intersection



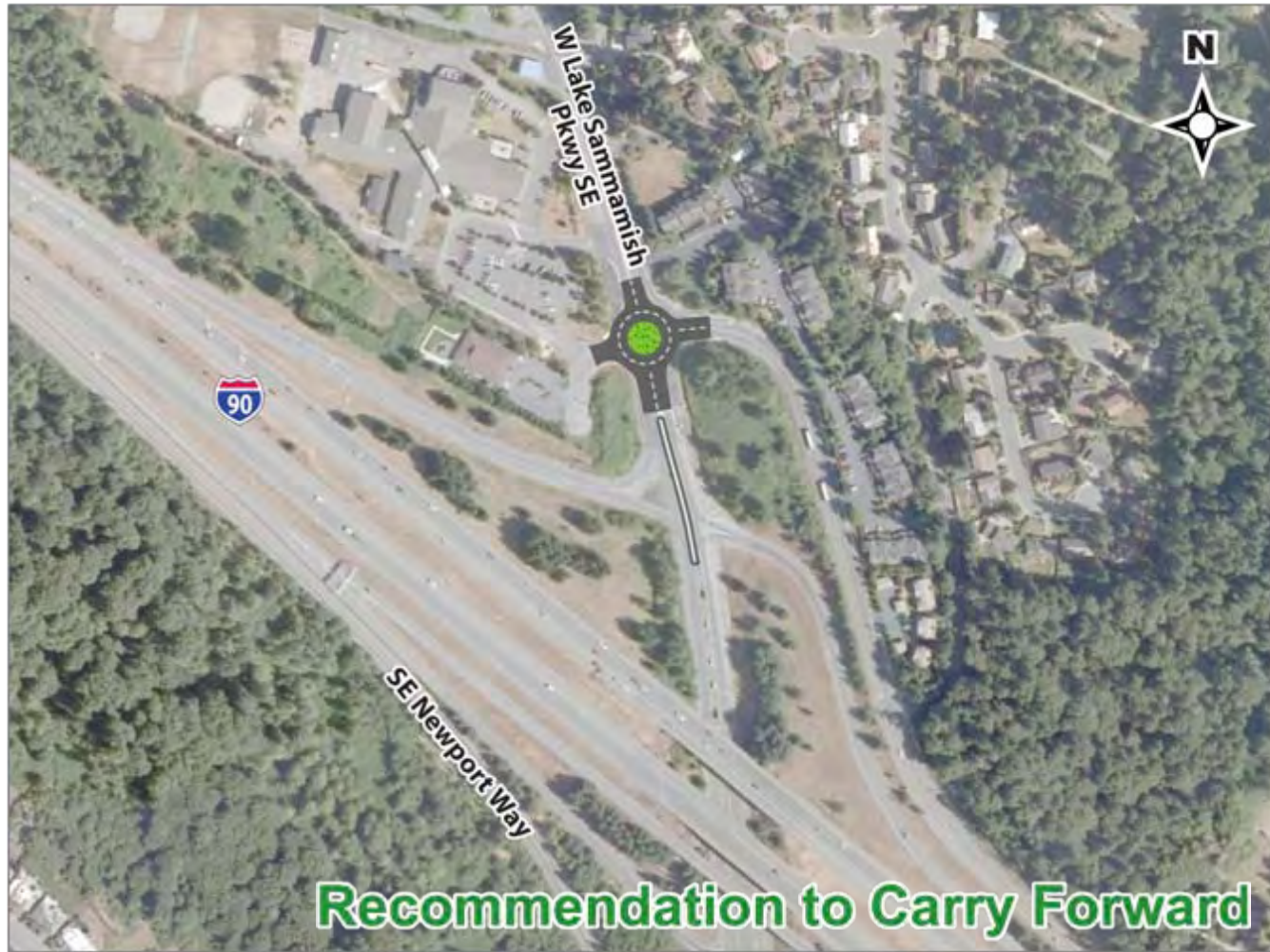
Cost Estimate: *No Estimate*

Channelization and Signal Improvements



Cost Estimate: \$4-6 Million

West Lake Sammamish Parkway Roundabout



Cost Estimate: 0.5-2 Million

Direct Access Connection East of SR 900



Cost Estimate: **\$63-76 Million**

12th Ave NW Extension Over I-90



Cost Estimate: \$47-56 Million

Front Street Interchange: Flyover Ramp



Cost Estimate: *No Estimate*

Front Street Interchange: Single Point Urban Interchange



Cost Estimate: \$75-90 Million

Front Street Interchange: Tight Urban Diamond Interchange



Cost Estimate: \$60-70 Million

Preston/Fall City Interchange Roundabout



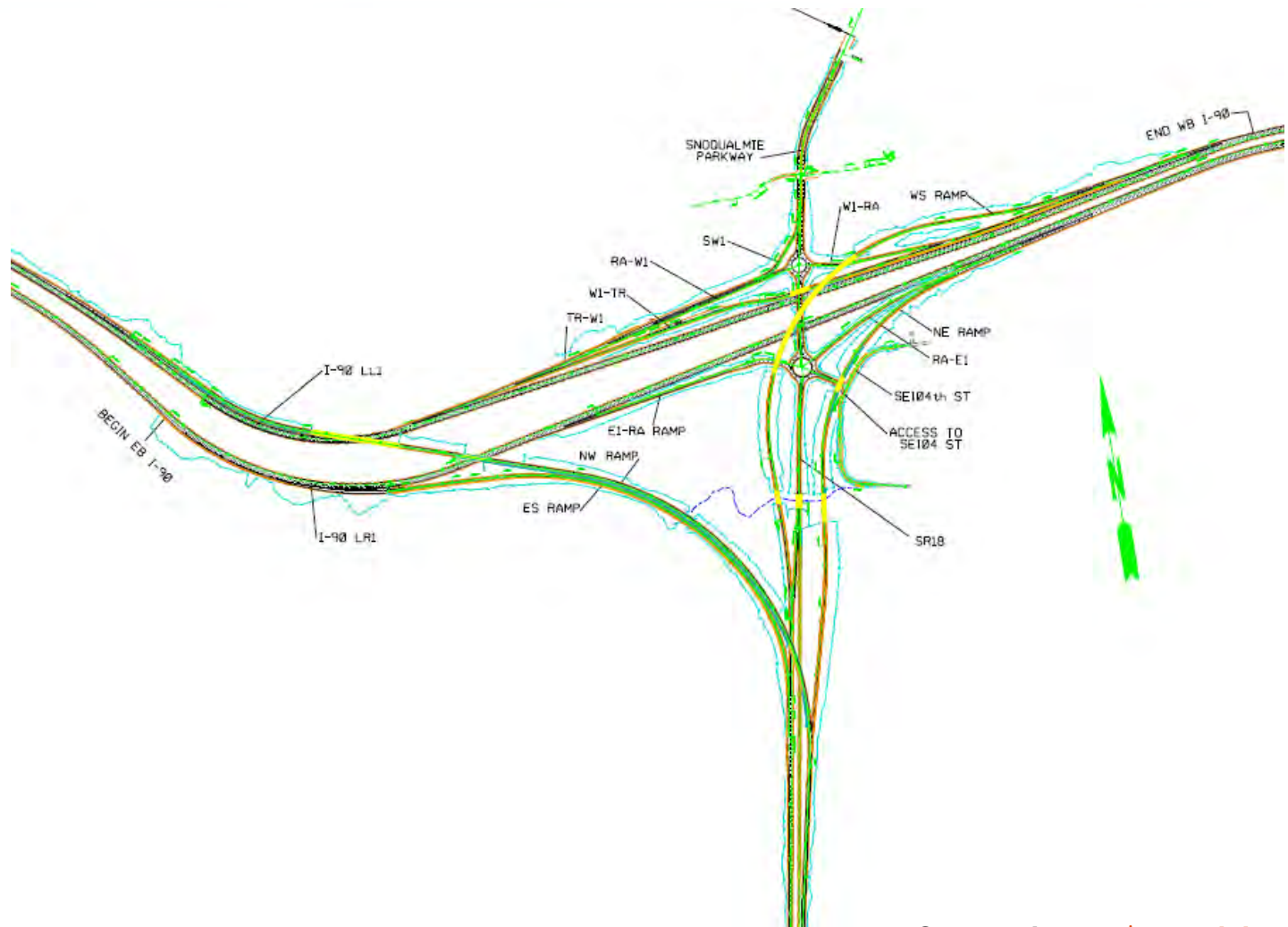
Cost Estimate: **\$1-2 Million**

Preston/Fall City Interchange Signal



Cost Estimate: \$0.25-8 Million

I-90/SR 18 Full Freeway to Freeway Limited Access Interchange Option



Cost Estimate: **\$340 Million**

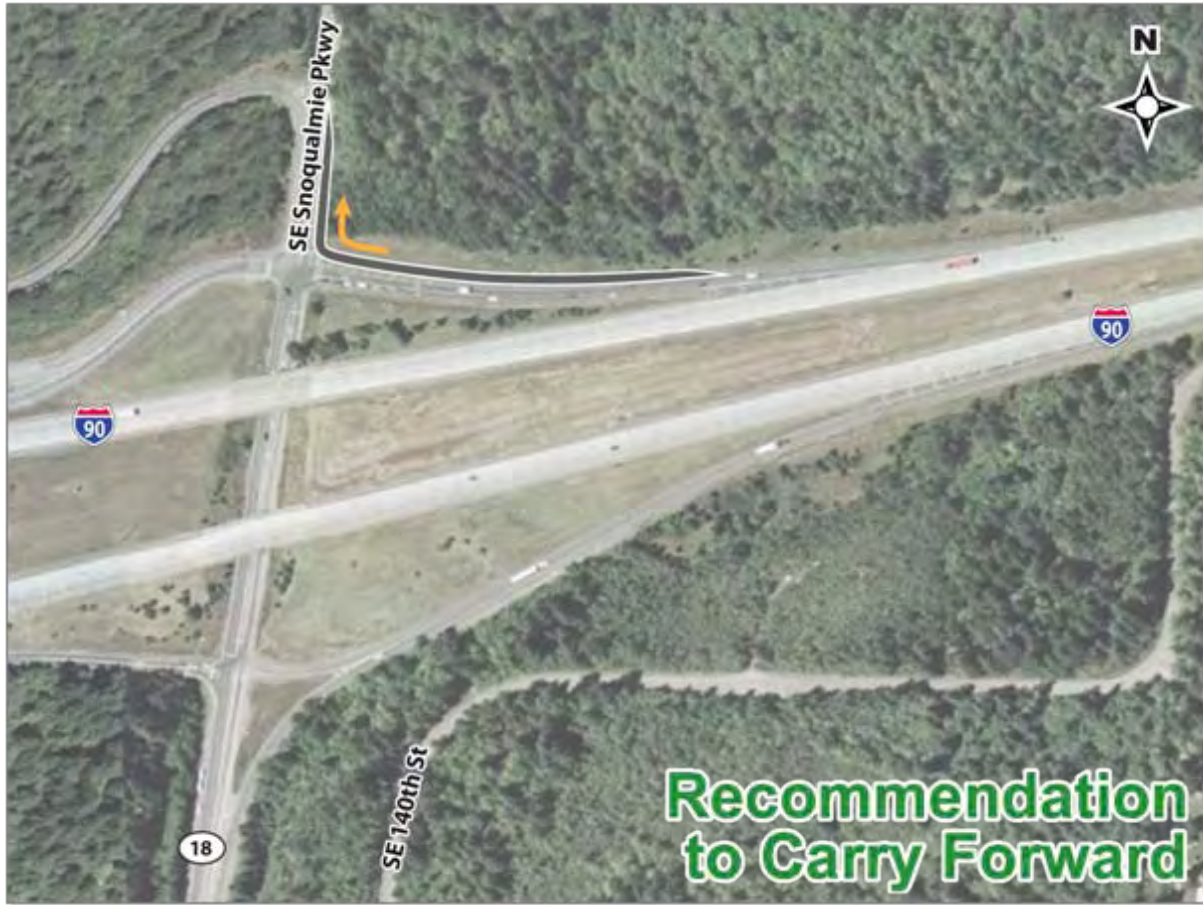
I-90/SR 18 Initial Phase Interchange Option



Cost Estimate: **\$110 Million**

SR 18 Interchange

Westbound I-90 Off-ramp Right Turn Lane



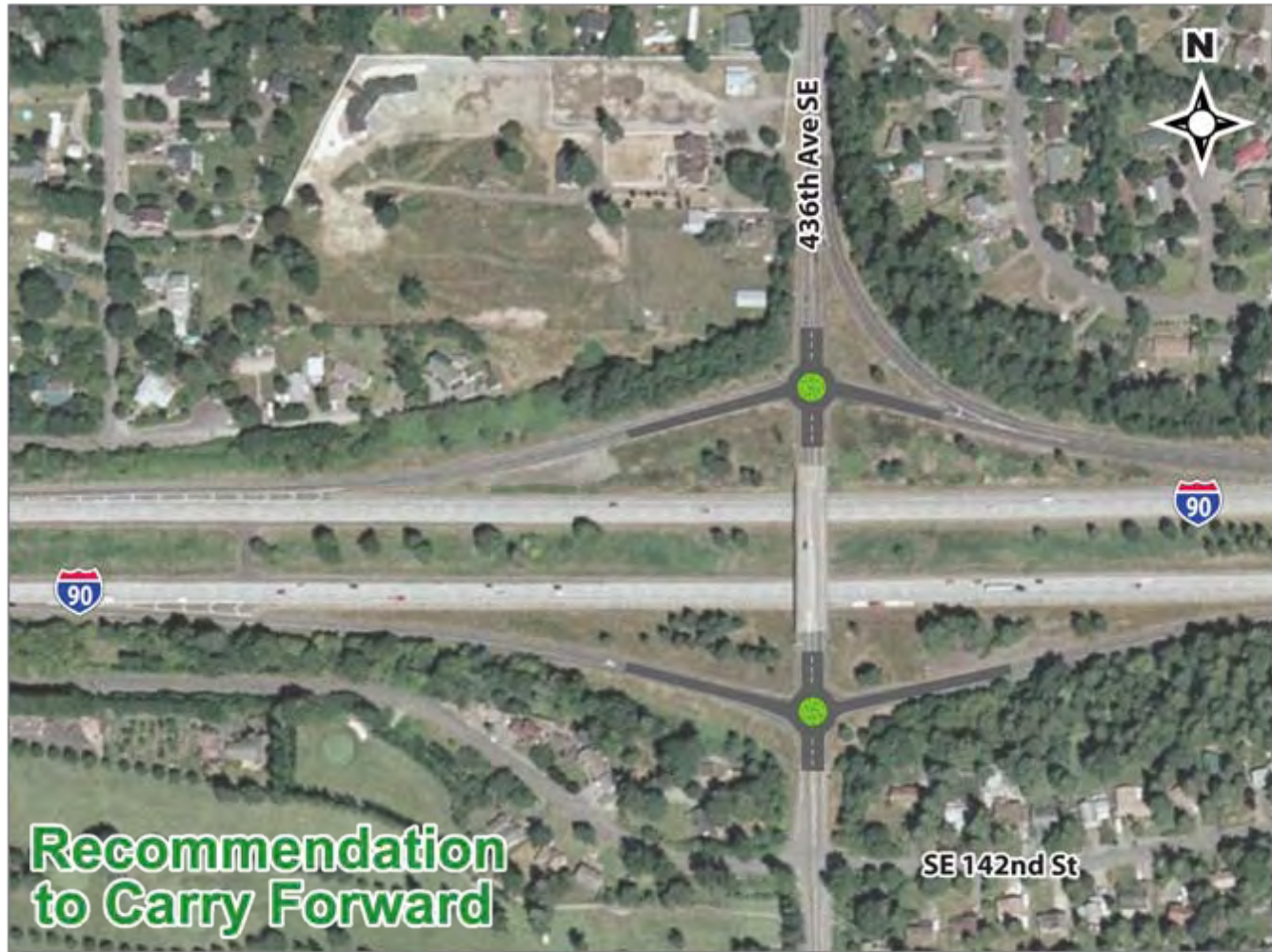
Cost Estimate: \$1 Million

SE North Bend Way Interchange Loop Ramp



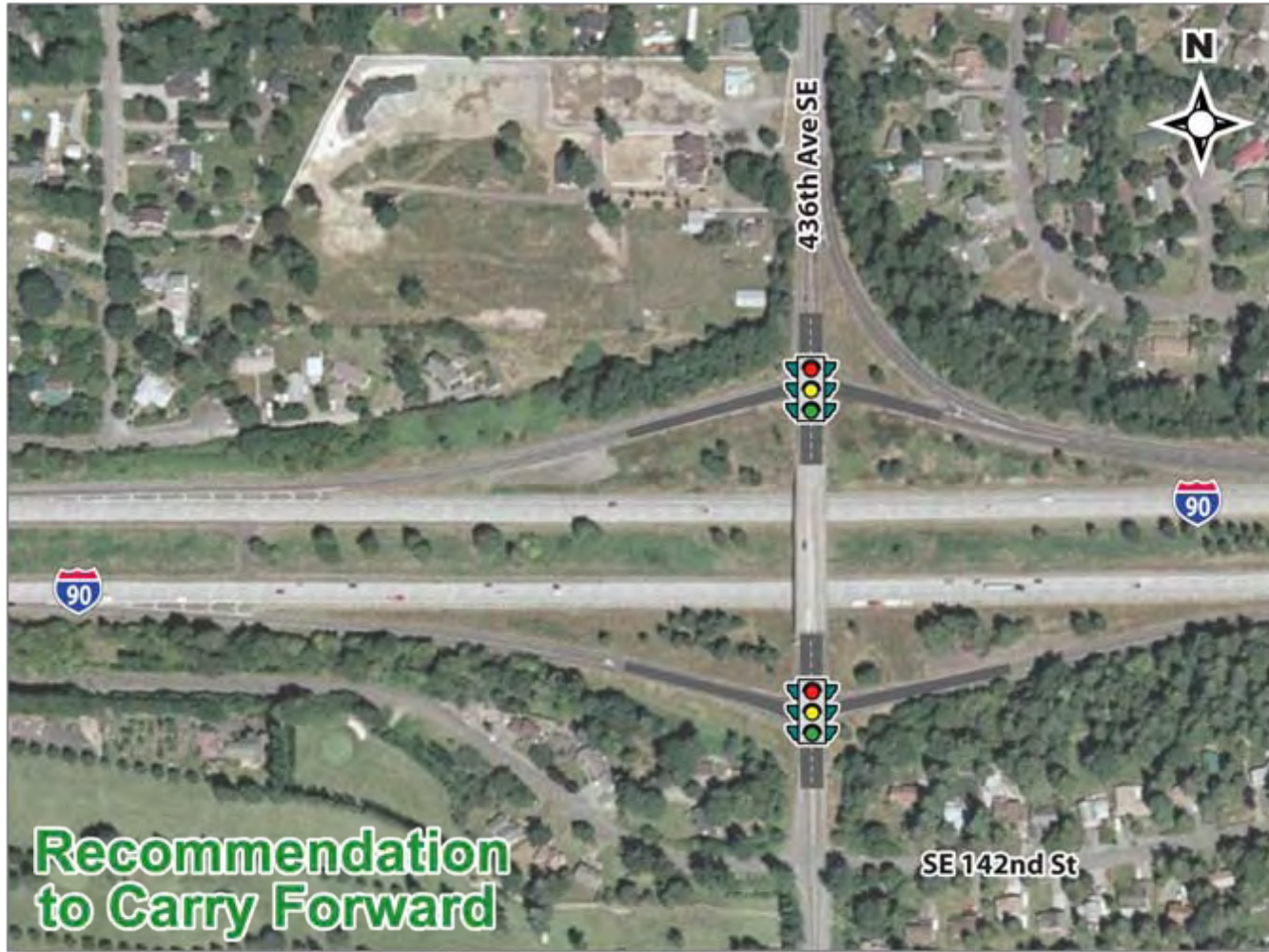
Cost Estimate: \$20-30 Million

436th Avenue SE Roundabouts at Ramp Terminals



Cost Estimate: **\$1.5-3 Million**

436th Avenue SE Signals at Ramp Terminals



Cost Estimate: \$0.5-10 Million

Questions?



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