

Bellevue Way SE HOV – 112th Ave SE ‘Y’ to South Bellevue P&R Design Options Analysis

JANUARY 9, 2017 – STUDY SESSION

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MEAGAN POWERS, CONCORD ENGINEERING, INC.**

Today's Agenda: Informational Only

Provide update on the Bellevue Way SE HOV project

Present Design Options analysis

Next steps and schedule

- Open House on January 19th
- Transportation Commission on February 9th
- Return to Council in February/March to seek recommendation on a preferred option

Project Background

History / Evolution of Project

- Studied in the past by the City since 2000
- Was studied as part of East Link cost savings alternative during 2009-2011
- Council direction in 2015 for further study and 30% design and environmental documentation

Consistent with Comprehensive Plan and Subarea plans

Consistent with Bellevue 2014 Transit Master Plan

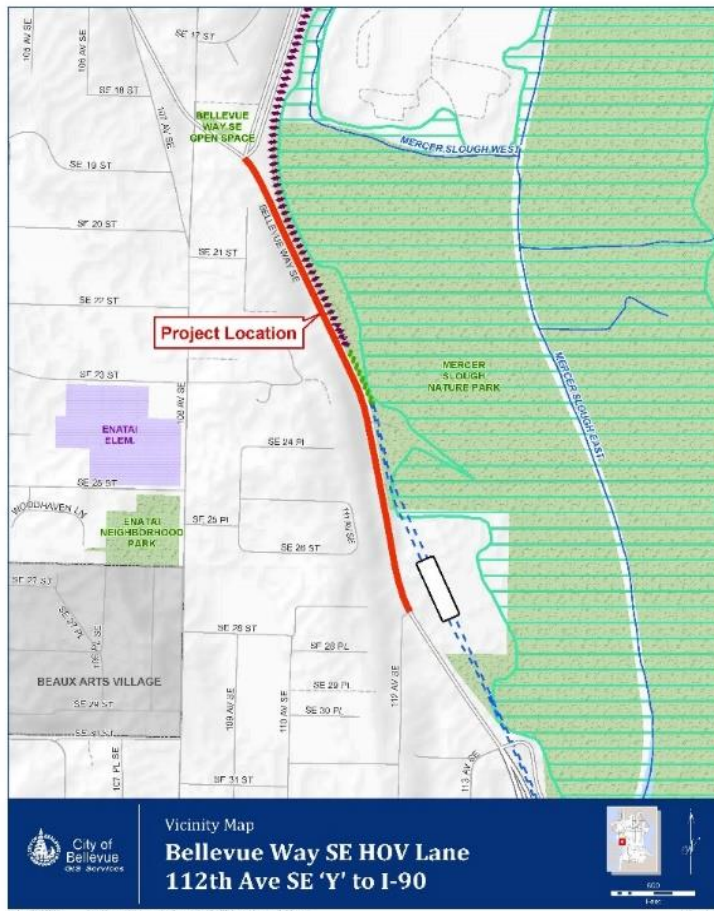
Consistent with Transportation Facility Plan

Future Changes Near Bellevue Way SE

- East Link will expand the South Bellevue P&R
- East Link will build SB HOV lane from P&R to I-90
- WSDOT is adding EB and WB HOV lanes on I-90 to replace express lanes



Bellevue Way SE Southbound HOV Project



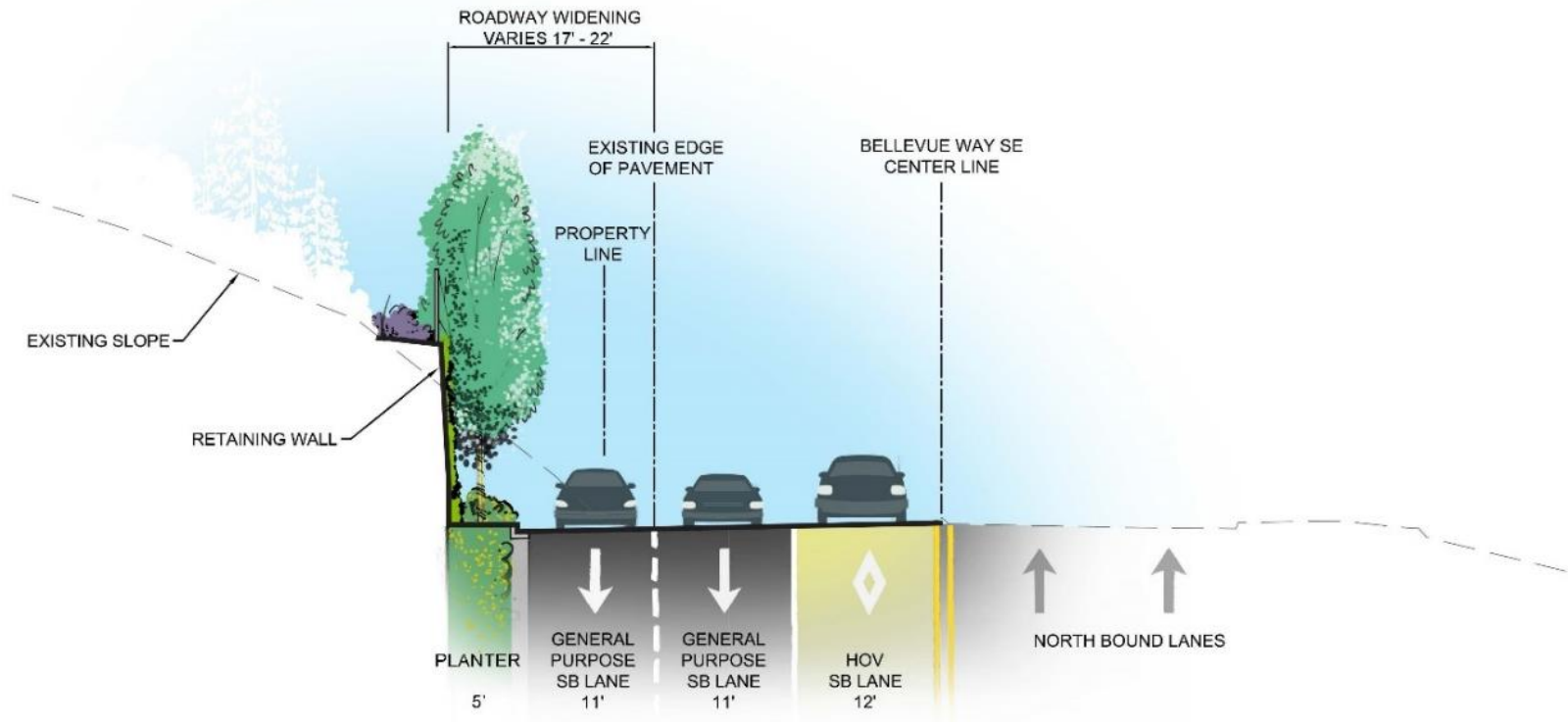
Project Objectives as defined in CIP:

- Reduce traffic congestion in PM peak
- Reduce delay in services for buses
- Improve multi-modal access

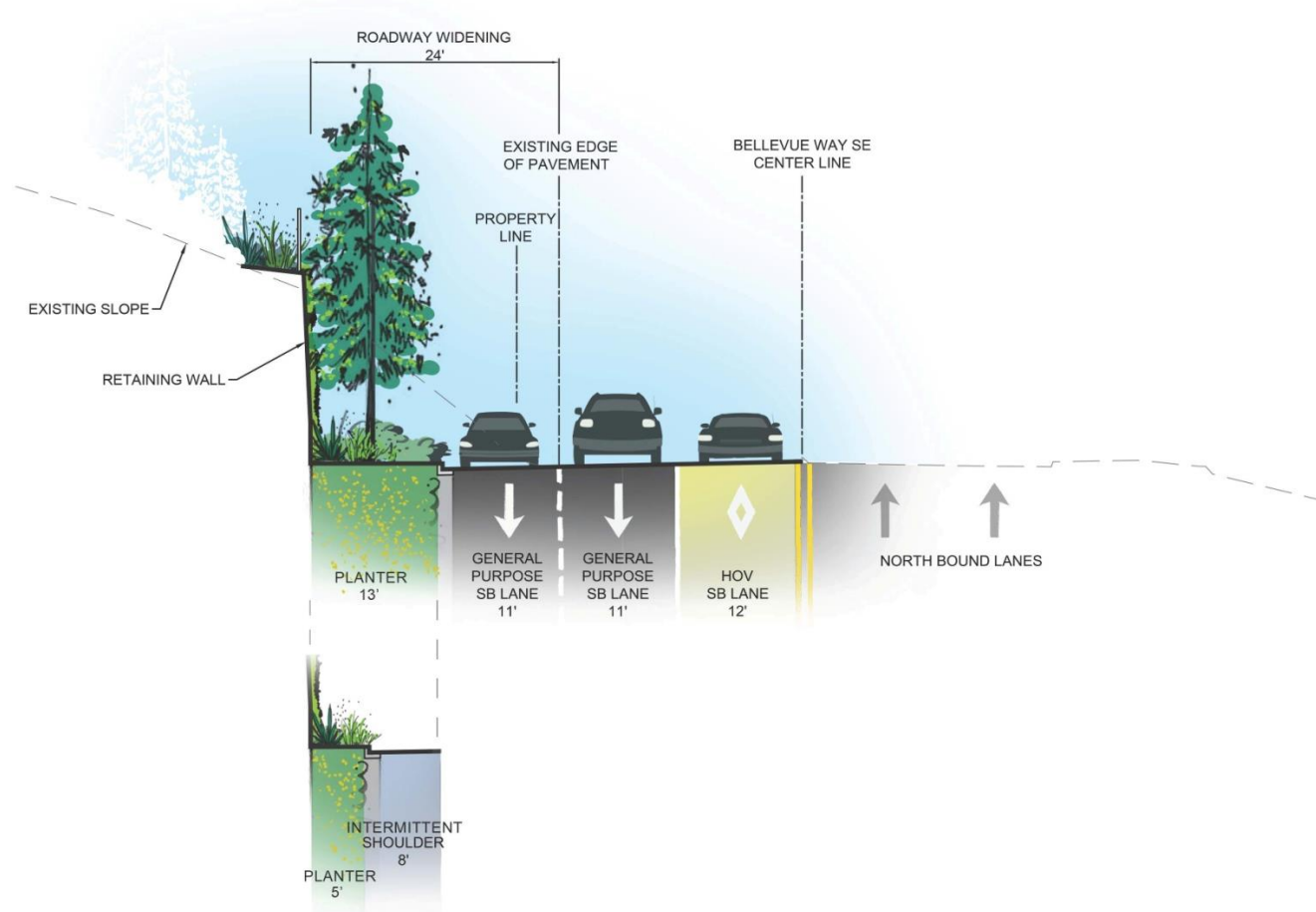
Public Involvement: To Date

- Newsletter to introduce the project: **March 2016**
- Small group community briefings: **Spring 2016**
- Public Open House and Online Open House: **June 2016**
- Incorporated community feedback: **Summer/Fall 2016**

SB HOV Project Roadway Width: Narrow Section



SB HOV Project Roadway Width: Wide Section



SB HOV Project: Traffic Study

Existing Traffic (Pre-East Link):

- Corridor currently operates close to roadway capacity
- Existing SB queues in the PM peak regularly extend from the I-90 ramp to Winters House and beyond.
- P&R has 519 stalls; it overflows every weekday

Future Traffic (After East Link):

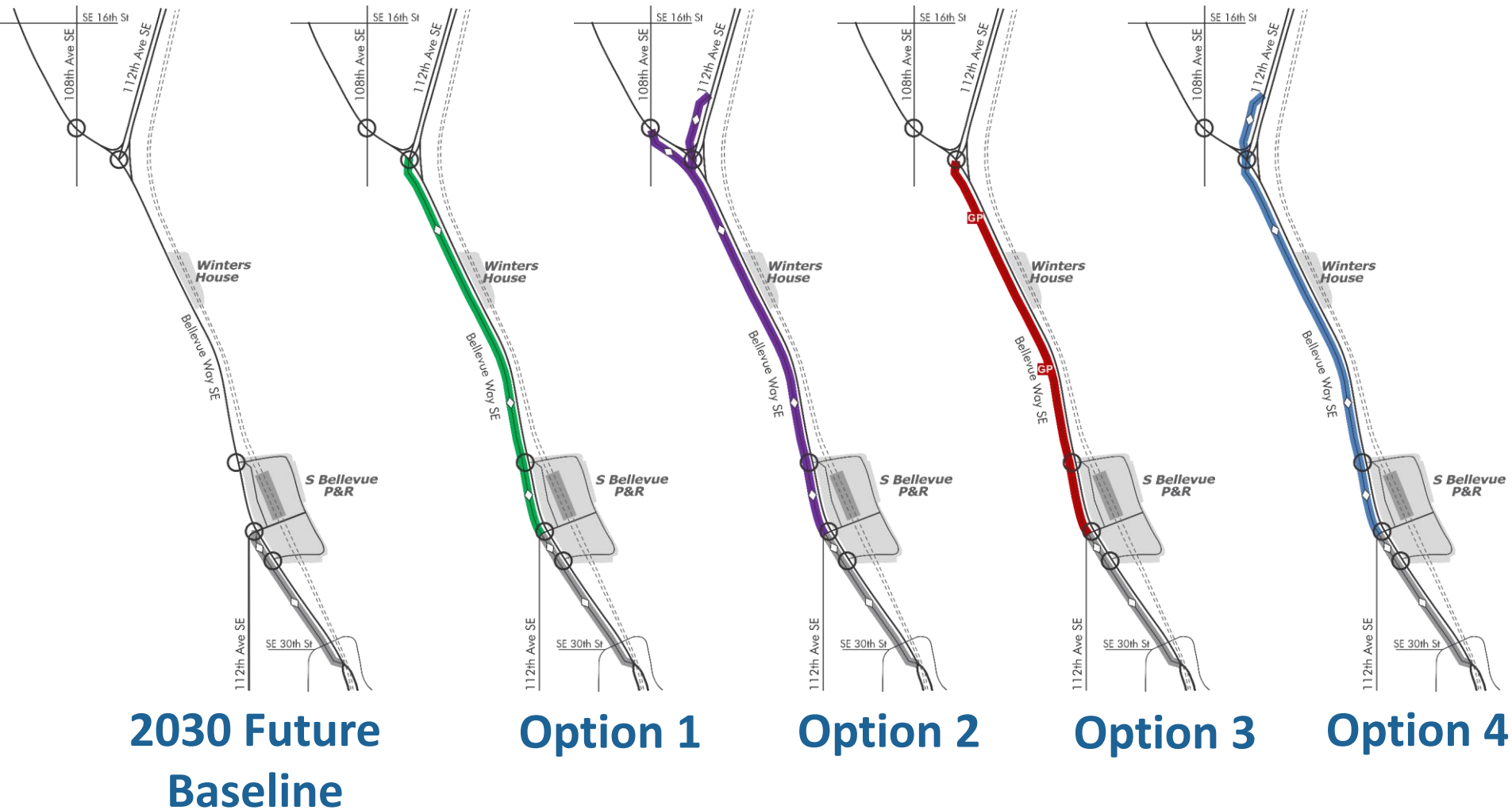
- Expanded P&R to 1,500 stalls at Light Rail Station
- A second signalized intersection to P&R and Light Rail Station
- Southbound HOV lane from Bellevue P&R to I-90
- ***More corridor congestion expected in the future, expected to grow 2% per year***

SB HOV Project: **Traffic Study**

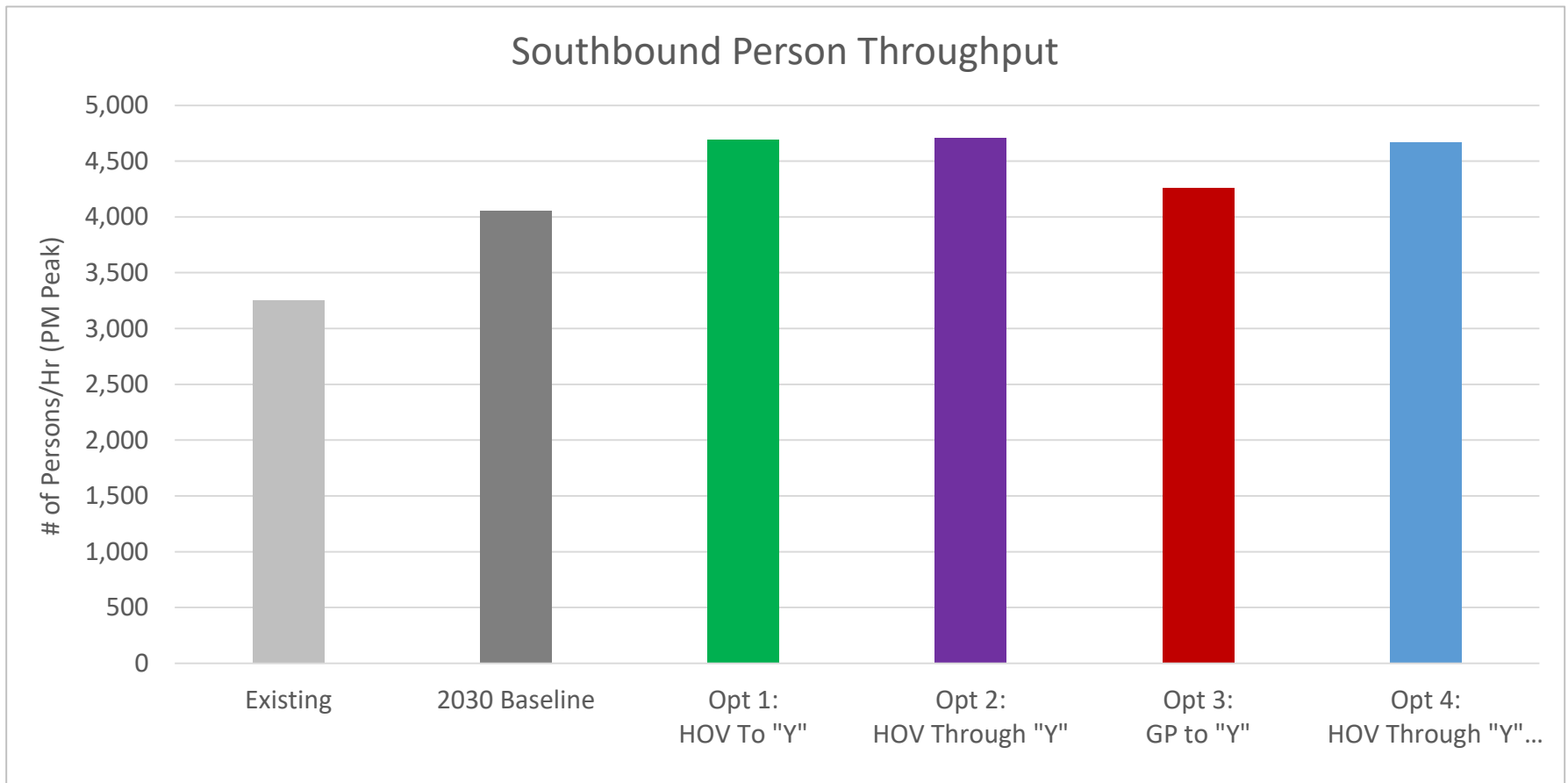
Future Traffic (with project in 2030):

- Increases person throughput
- Reduces travel times for transit and HOV
- Improves multi-modal access to P&R: transit, carpool, and vanpool
- Improves transit reliability
- Improves SB Bellevue Way traffic operation/may reduce cut-through traffic through the neighborhood

Traffic Study: Options Modeled

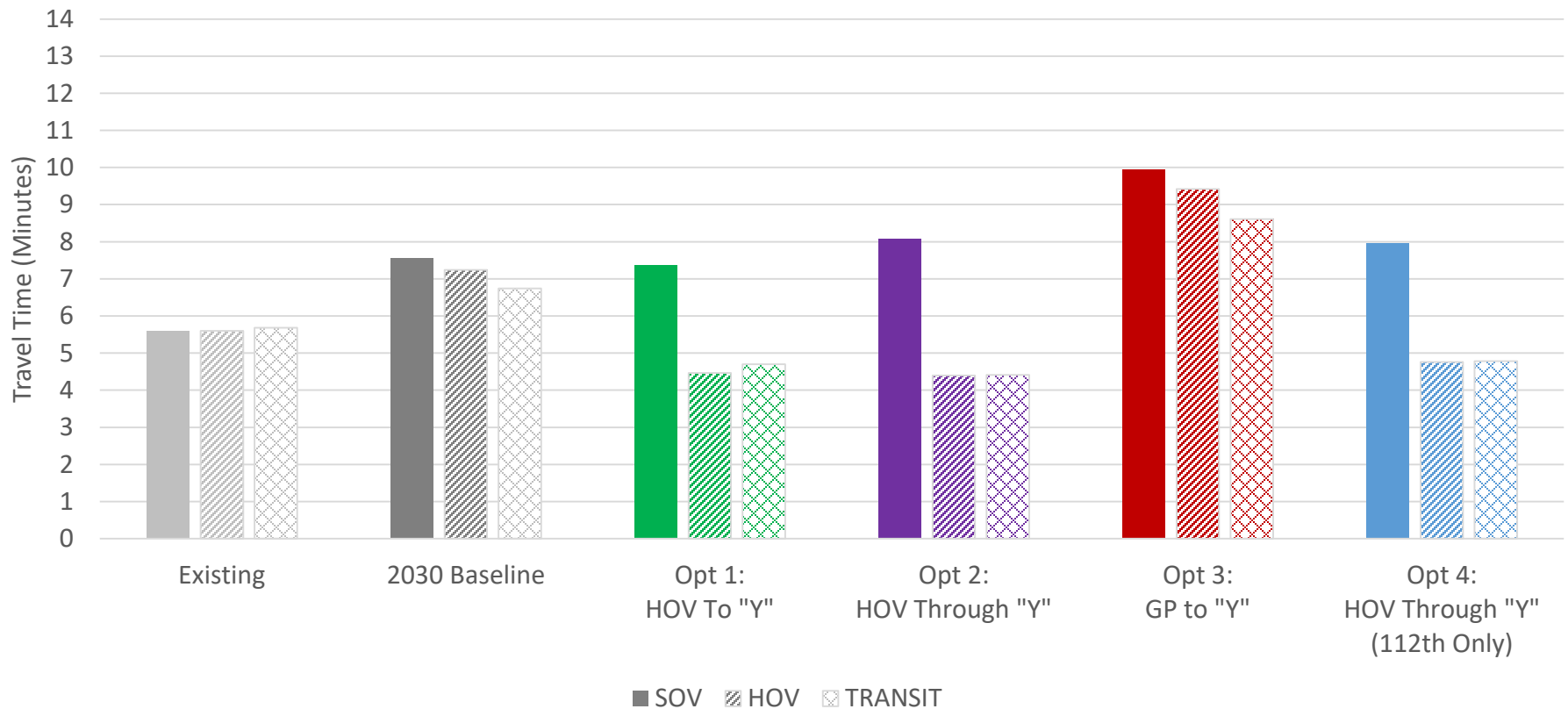


Southbound Person Throughput on Bellevue Way SE

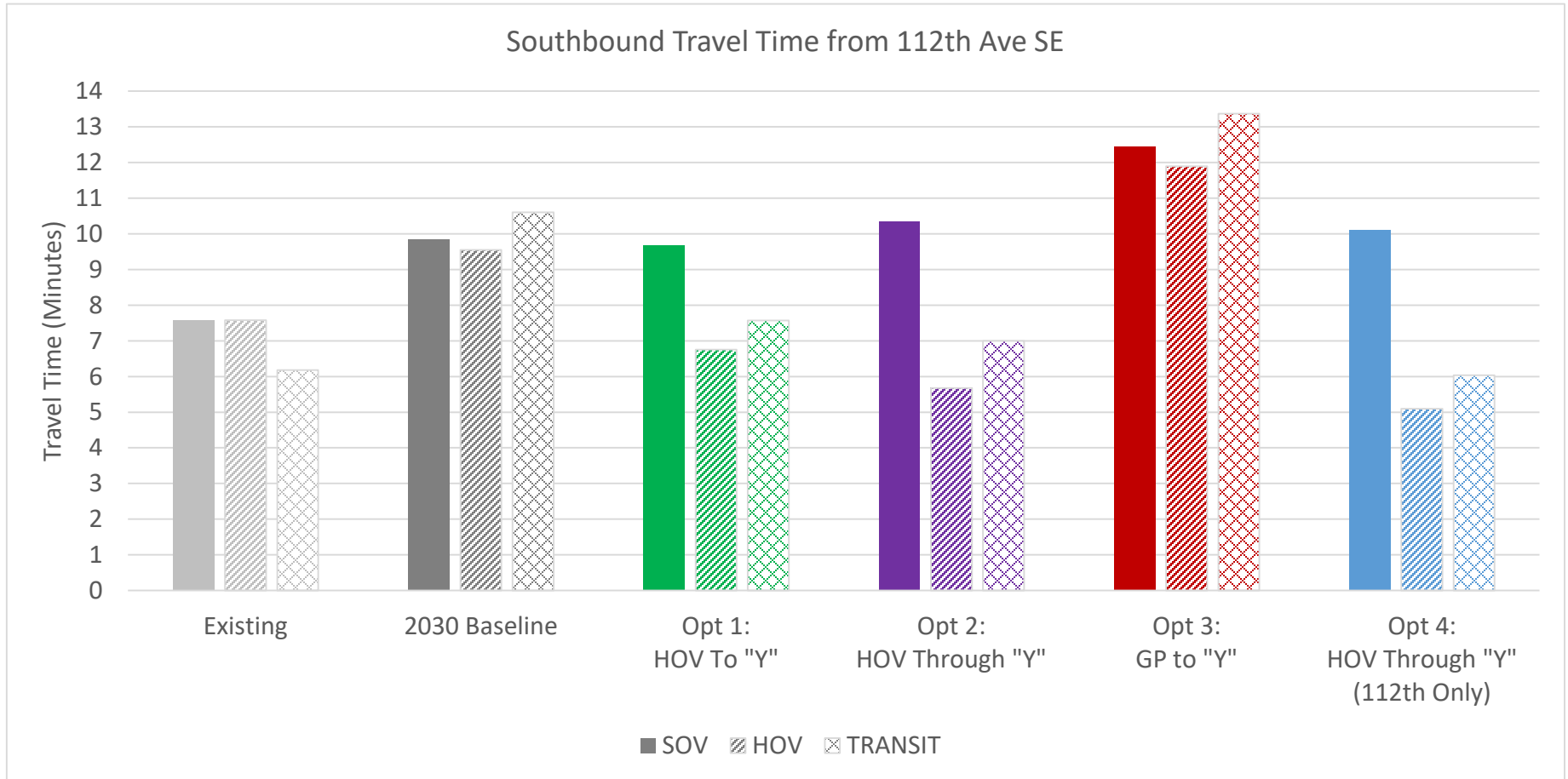


Southbound Travel Time from Bellevue Way SE

Southbound Travel Time from Bellevue Way SE



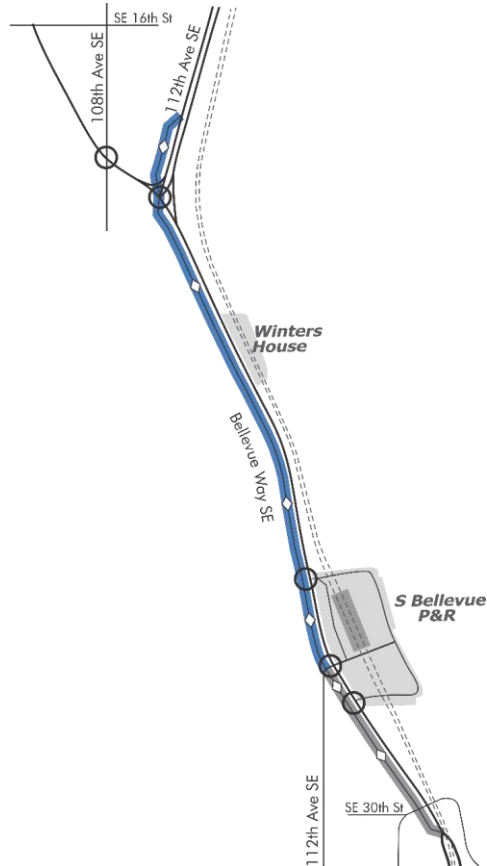
Southbound Travel Time from 112th Ave SE



Comparison of Throughput & Travel Time Savings

	2015 Existing Conditions	2030 Future Baseline	Option1: HOV to "Y"	Option 2: HOV through "Y"	Option 3: GP Lane to "Y"	Option 4: HOV through "Y" 112th Only
Throughput						
Vehicles	2,284	2,164	2,488	2,493	2,281	2,463
People	3,252	4,056	4,691	4,708	4,256	4,670
Change in Travel Times (From Bellevue Way)						
SOV	5.6 min	7.5 min	-0.2 min	0.5 min	2.4 min	0.4 min
HOV	5.6 min	7.2 min	-2.8 min	-2.8 min	2.2 min	-2.5 min
Transit	5.7 min	6.7 min	-2.0 min	-2.3 min	1.9 min	-2.0 min
Change in Travel Times (From 112th Ave)						
SOV	7.6 min	9.9 min	-0.2 min	0.5 min	2.6 min	0.2 min
HOV	7.6 min	9.5 min	-2.8 min	-3.9 min	2.3 min	-4.5 min
Transit	6.2 min	10.6 min	-3.0 min	-3.6 min	2.8 min	-4.6 min
Annual Travel Time Savings (\$)			\$1,387,075	\$1,347,535	-\$1,951,067	\$1,477,686

Option 4: Best Performed Option



Option 4

Option 4	
Narrow	Wide
\$30,800,000	\$40,000,000

Option 4: Proposed Phasing Scenarios

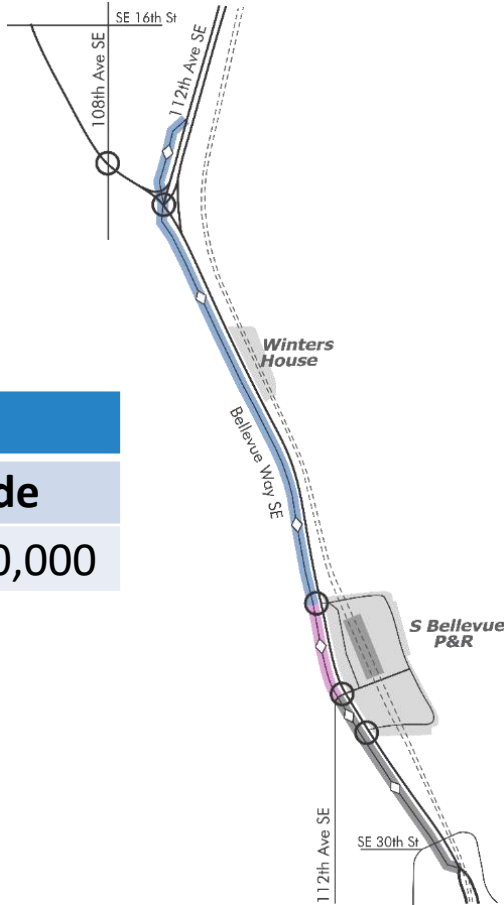
Option 4A

Narrow

Wide

\$5,000,000

\$9,000,000



Option 4A
(320' HOV lane)

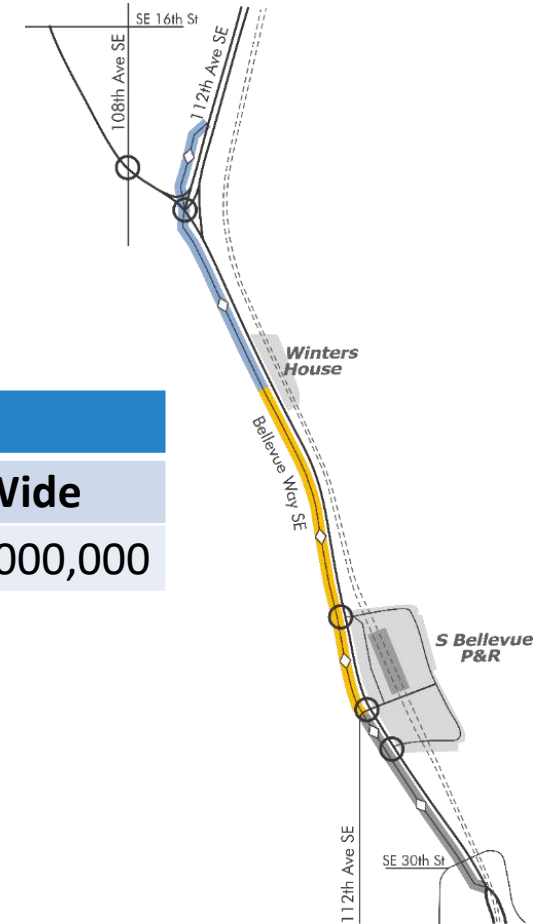
Option 4B

Narrow

Wide

\$23,000,000

\$31,000,000



Option 4B
(1700' of HOV to Winters House)

Comparison of Throughput & Travel Time Savings

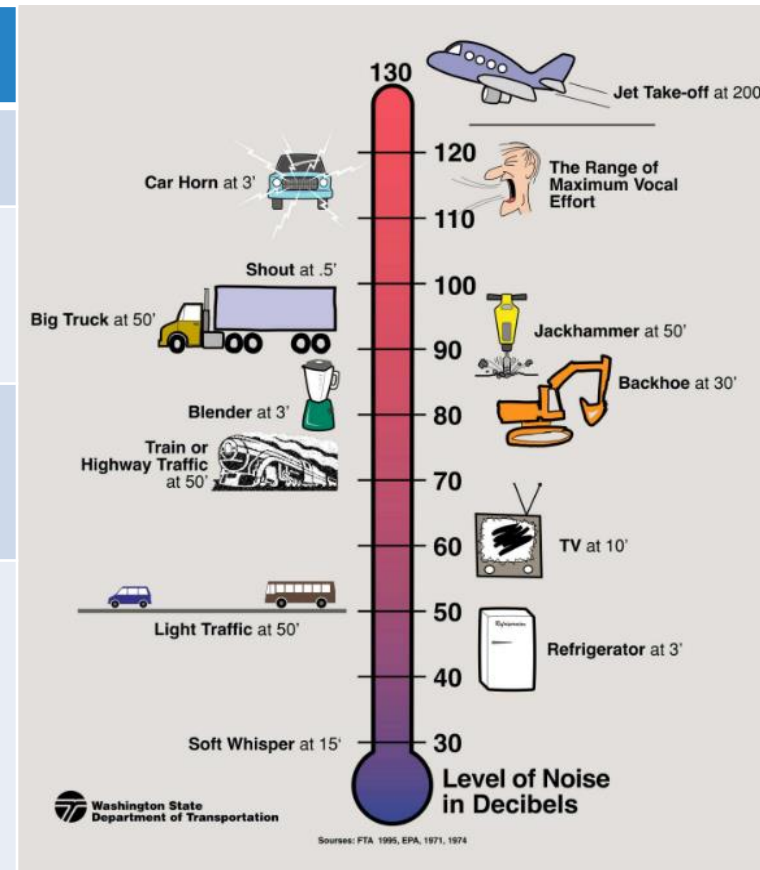
	2015 Existing Conditions	2030 Future Baseline	Option 4: HOV through "Y" 112th Only	Option 4A: 320-ft HOV	Option 4B: HOV to Winters House
Throughput					
Vehicles	2,284	2,164	2,463	2,243	2,434
People	3,252	4,056	4,670	4,146	4,585
Change in Travel Times (From Bellevue Way)					
SOV	5.6 min	7.5 min	0.4 min	-0.5 min	-0.9 min
HOV	5.6 min	7.2 min	-2.5 min	-1.0 min	-2.5 min
Transit	5.7 min	6.7 min	-2.0 min	-0.6 min	-1.9 min
Change in Travel Times (From 112th Ave)					
SOV	7.6 min	9.9 min	0.2 min	-0.6 min	-0.9 min
HOV	7.6 min	9.5 min	-4.5 min	-1.0 min	-2.6 min
Transit	6.2 min	10.6 min	-4.6 min	-1.0 min	-2.2 min
Annual Travel Time Savings (\$)			\$1,477,686	\$542,061	\$1,451,715

Noise Study

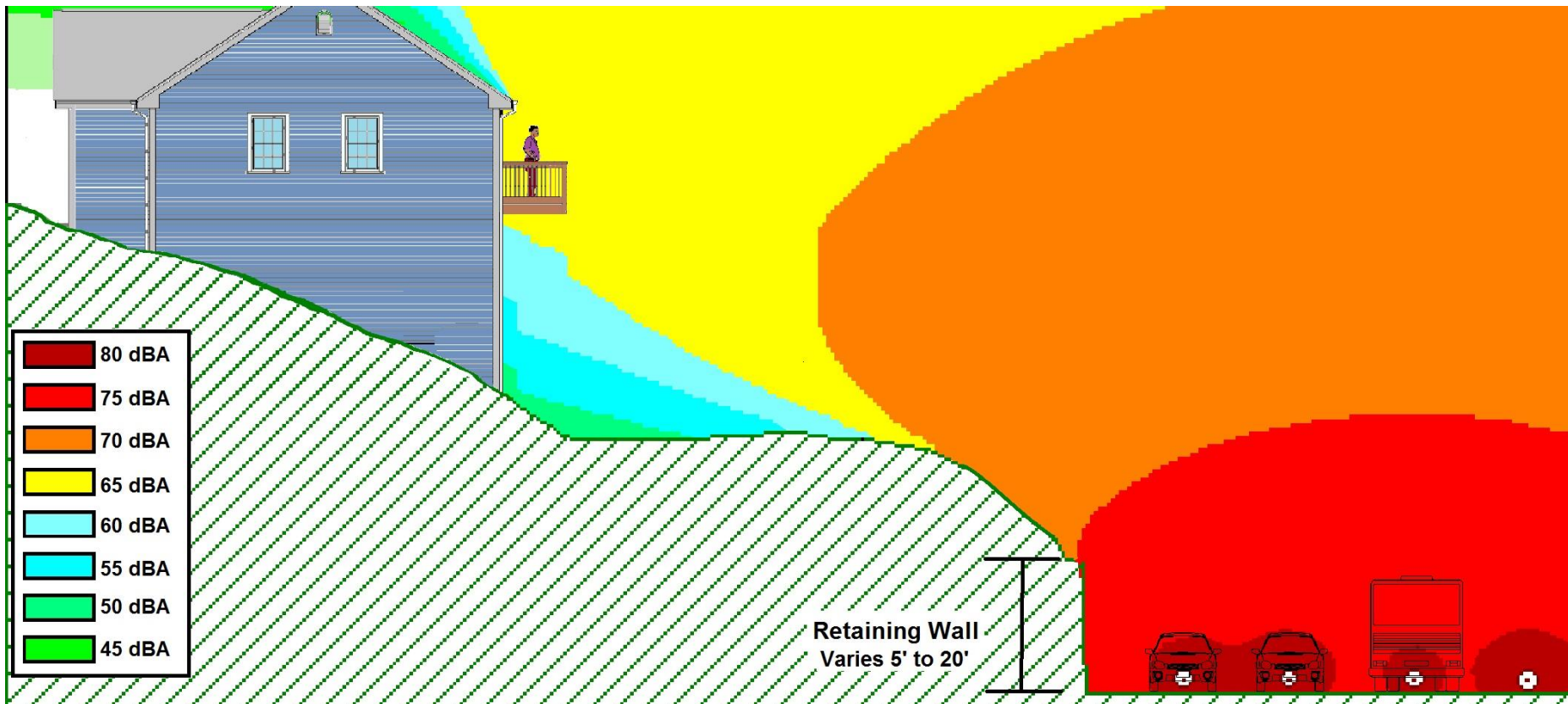
- Noise levels are a major concern to residents in the area
- The South Bellevue Station Area Plan included the following strategy:
 - Evaluate the feasibility and cost of constructing sound attenuation along west side of Bellevue Way as part of an additional HOV lane study.*

Noise Study: Results

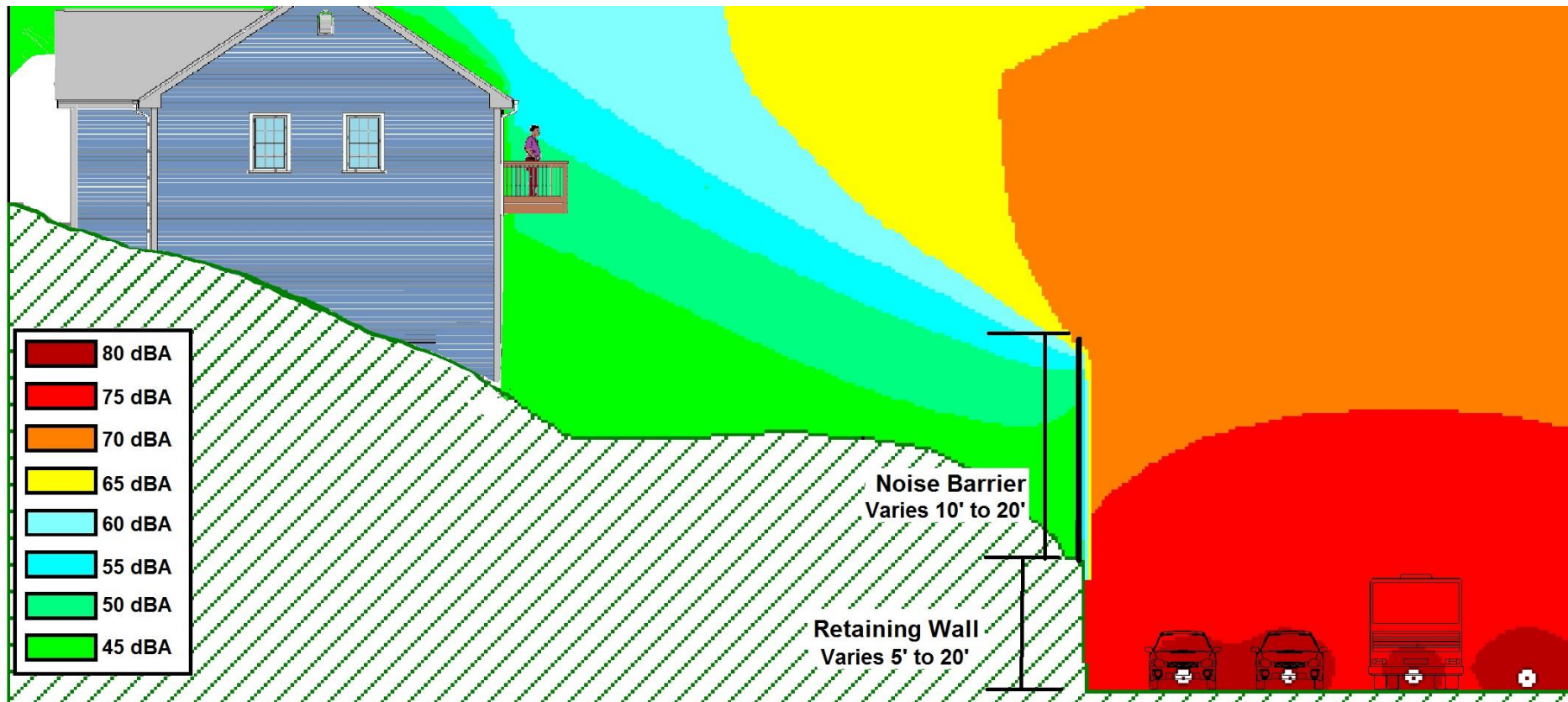
Condition	Noise Level
Existing Noise Level	64 to 69 dB
Without Project (w/ growth by 2030)	Add 0 to 1 dB
With Project (No Noise Wall)	Change -2 to 2 dB
With Project (10' to 20' Noise Wall)	Reduce by 2 to 7 dB



Noise Study: Project without Noise Barriers



Noise Study: Project with Noise Barriers



Next Steps

- **Public Open House: January 19, 2017**
- **Online Open House: January 11 thru January 31, 2017**
- **Transportation Commission feedback: February 9, 2017**
- **Incorporate community feedback: February 2017**
- **Return to City Council: February/March 2017**