

# I-405/NE 85<sup>th</sup> Street Interchange and Inline Station Charrette Day #2

Executive Session

Kirkland City Hall, Peter Kirk Room

April 17, 2018



# Introductions and Welcome

**Bernard Van De Kamp**

East Corridor Development Director  
Sound Transit

**Kim Henry, P.E.**

I-405/SR 167 Program Administrator  
WSDOT

**Amy Danberg**

Facilitator

# Agenda

- Background and context
- Design concepts and evaluations
- Discussion
- Next steps
- Action items and adjourn

## Today's objectives

- Review 85<sup>th</sup> design concepts and their evaluations
- Confirm design concept to move forward
- Review next steps

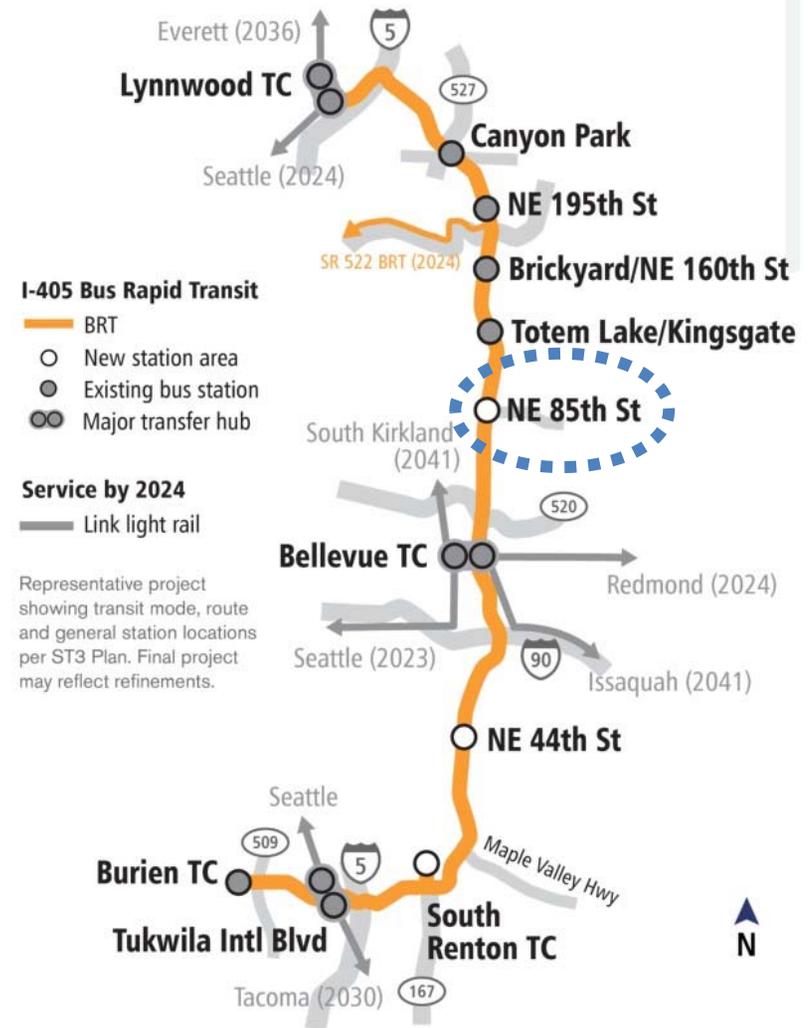
# Background and context

## **Cynthia Padilla**

I-405 BRT project manager  
(Bellevue to Lynnwood)  
Sound Transit

# I-405/NE 85th Street Inline Station and Interchange Project

- Central Kirkland station for new I-405 Bus Rapid transit system
- WSDOT and Sound Transit signed partnering agreement in early 2018
- Conceptual design and stakeholder engagement under way
- Next steps: Preliminary engineering and environmental review



# Recap: August 2017 Charrette

## Day 1 workshop

August 17, 2017

### Interagency participation:

- Sound Transit
- City of Kirkland
- King County Metro
- WSDOT



### Objectives:

- All participants will have a good understanding of the I-405 Master Plan, Sound Transit and King County transit plans for the NE 85th Street area, and Kirkland's land use and transportation vision.
- WSDOT will gather input on items of importance and priorities from stakeholders.
- Group will identify screening criteria to set up second session for evaluation of concepts.

# Items of importance (from Aug. 2017 charrette)

## Transit Connectivity

- Provide transit connectivity between I-405 BRT and NE 85th Street transit routes
- Improve ST Express, King County Metro, and I-405 BRT Operations
- Maintain/enhance ability to connect to Cross-Kirkland Corridor
- Facilitate connectivity (ease of transfer between I-405 BRT and NE 85th Street routes)
- Rider experience/environment while waiting during transfers (lighting, shelter, etc.)
- Consider paratransit connections
- Facilitate connections to existing park and ride capacity (e.g. 70th)

## Non-Motorized Mobility/Connectivity

- Provide non-motorized connectivity to major destinations east and west of I-405 (bike/walk combination)
- Minimize pedestrian travel time (all pedestrians in general area)
- Create safe, comfortable pedestrian experience/environment for all ages/abilities (art, experience, placemaking)
- Consider grades/gaps when planning for pedestrian facilities
- Incorporate bike lockers/racks

# Items of importance (from Aug. 2017 charrette)

## Kirkland Vision

- Be consistent with existing and future land use plans and facilitate future growth opportunities
- Provide Express Toll Lane access from NE 85th Street corridor
- Leverage/create partnership opportunities with local businesses/services re: transit/carpool operations and drop-off/pick-up locations
- Provide for flexibility and creativity through design options

## Compatibility with Master Plans

- Do not preclude Master Plan alternatives and minimize added future cost
- Build toward the Master Plans

## Vehicular Traffic Operations/Interchange Performance

- Maintain or improve I-405 express toll lane and general purpose operations
- Improve multimodal local area operations (e.g., NE 85th Street vicinity)
- Optimize transit movements

## Cost

- Maximize project benefits within budget
- Be creative with ST budget proviso commitments (last mile)
- Pursue other funding opportunities if needed
- Meet schedule and minimize construction duration

# Statement of Need

Multimodal connectivity between I-405 Bus Rapid Transit and the NE 85th Street corridor to fulfill the City of Kirkland's vision and the I-405 Master Plan, including express toll lanes.

# Considerations identified by stakeholders for further discussion

## **Non-motorized access and mobility issues**

- BRT and local stop locations and design
- Bike parking facilities
- Connections between inline station and Cross Kirkland Corridor, local streets, greenways
- Urban design

## **Motorized access and mobility issues**

- Kiss and ride/drop-off facilities
- Compatibility for automated/connected vehicles
- Existing local street traffic issues
- Existing intersections at 114<sup>th</sup> and 120<sup>th</sup> Ave NE
- Coordination with 85<sup>th</sup> BAT lanes

# Design concepts and evaluations

**Barrett Hanson, P.E.**  
I-405 Engineering Manager  
WSDOT

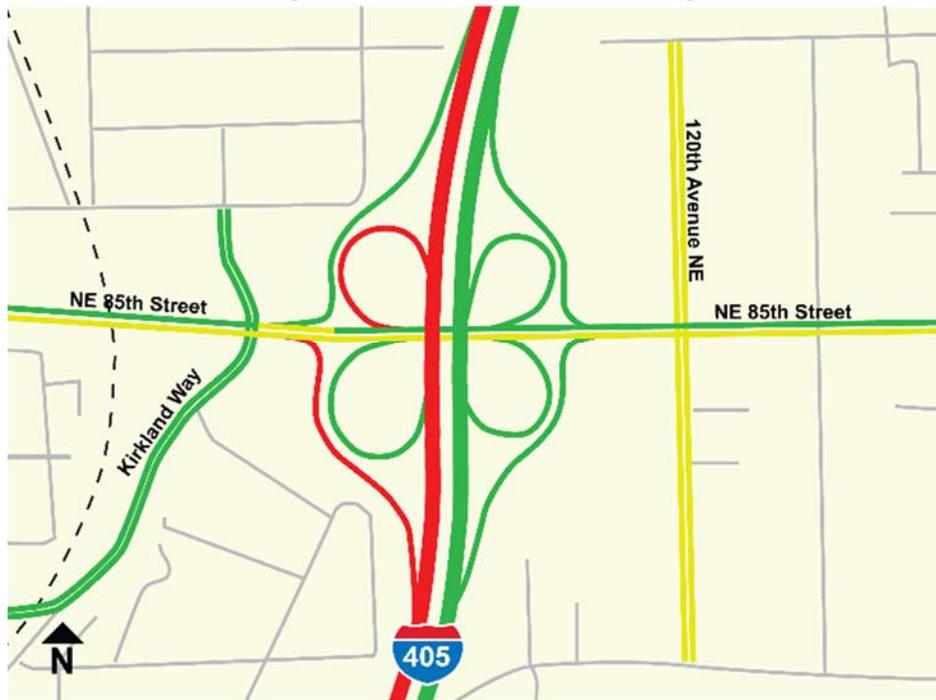
**Diana Giraldo, P.E.**  
I-405 Design Manager  
WSDOT

# Existing Conditions: NE 85th Street Vicinity

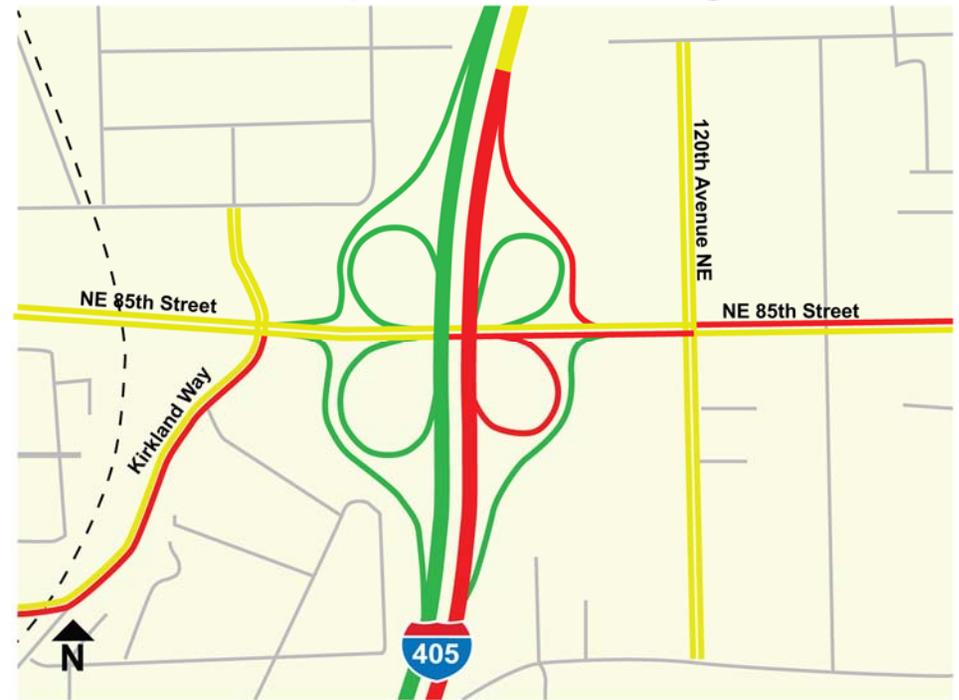


# Traffic Congestion at NE 85th Street

## Morning peak traffic congestion



## Afternoon peak traffic congestion



- High volumes on all interchange ramps.
- Closely spaced intersections create congestion issues
- Heavy turning movements to/from driveways and cross streets
- Congestion up to four hours during peak periods
- Queues from 85<sup>th</sup>/ 120<sup>th</sup> intersection into interchange area

## Legend

- Heavy congestion
- Moderate congestion
- Lighter congestion

# Design Concepts Review

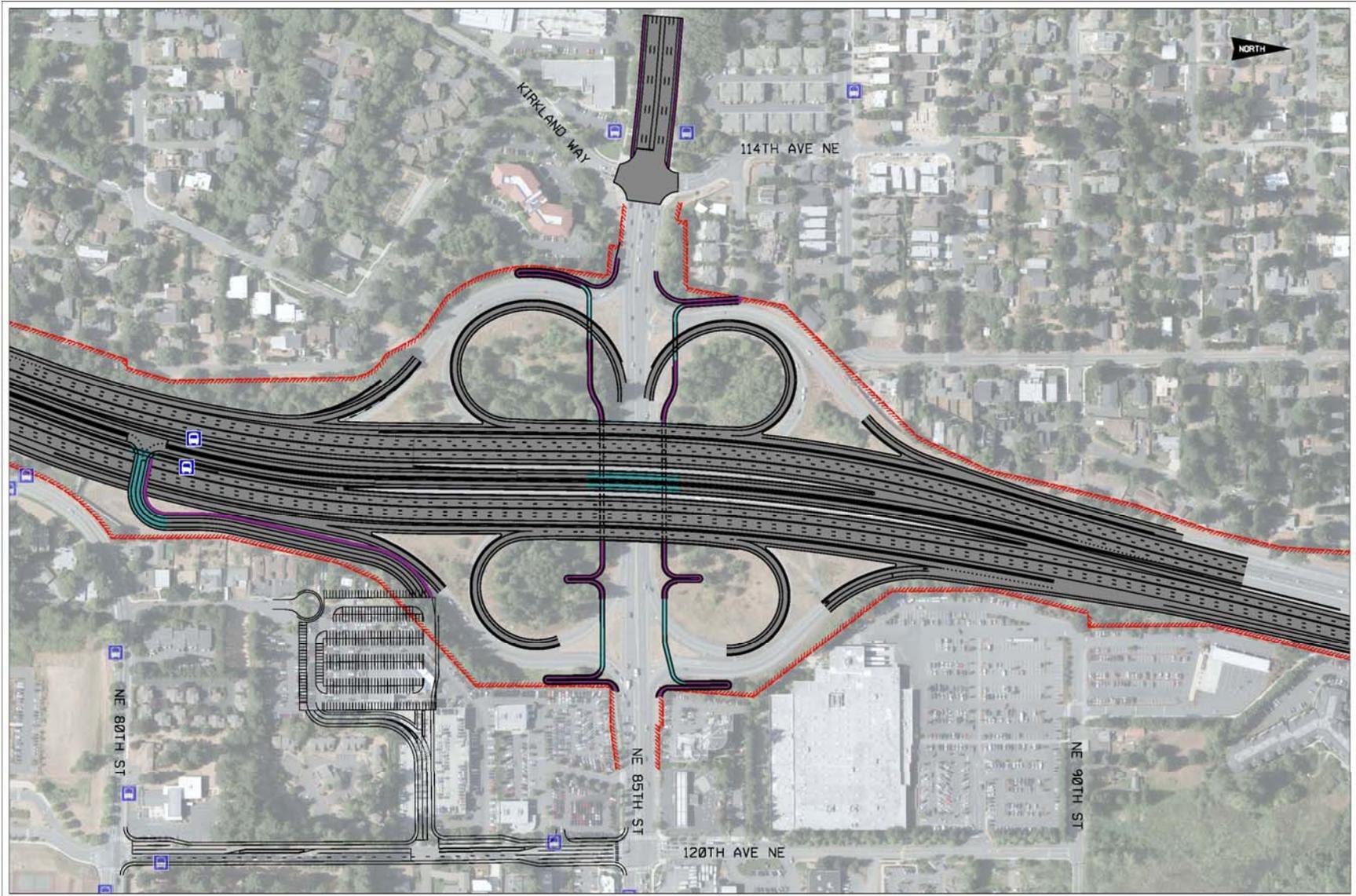
24+ initial design concepts

## Six groups of concepts:

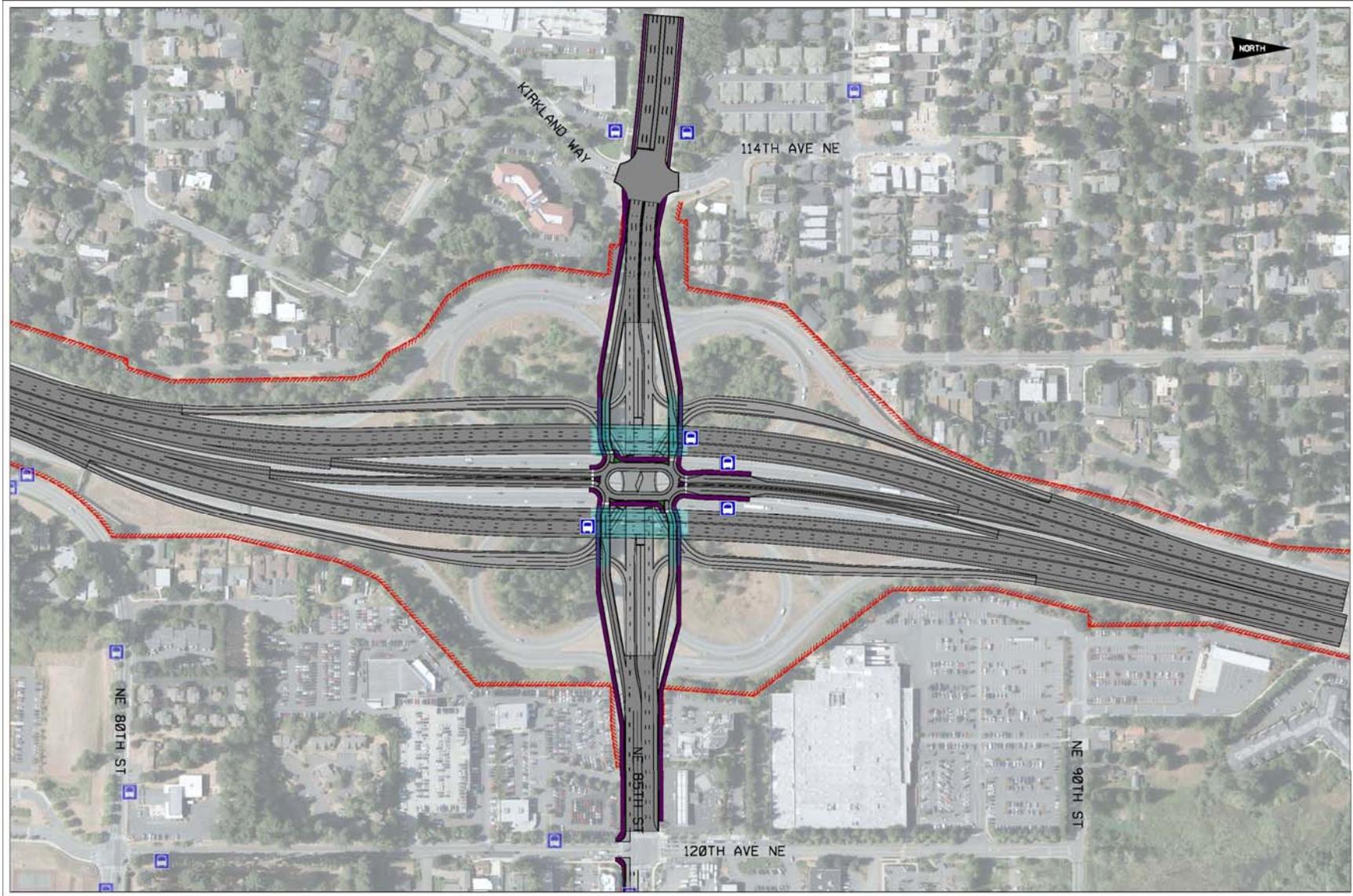
- Group 1 – Loop Interchange Concepts
- Group 2 – Alternate Location Concepts
- Group 3 – Alternate Interchange Concepts
- Group 4 – Single Intersection Concepts
- Group 5 – Non-Signalized Interchange Concepts
- Group 6 – Separated Transit Interchange Concepts



# Group 2 - Alternate Location Concepts



# Group 3 - Alternate Interchange Concepts



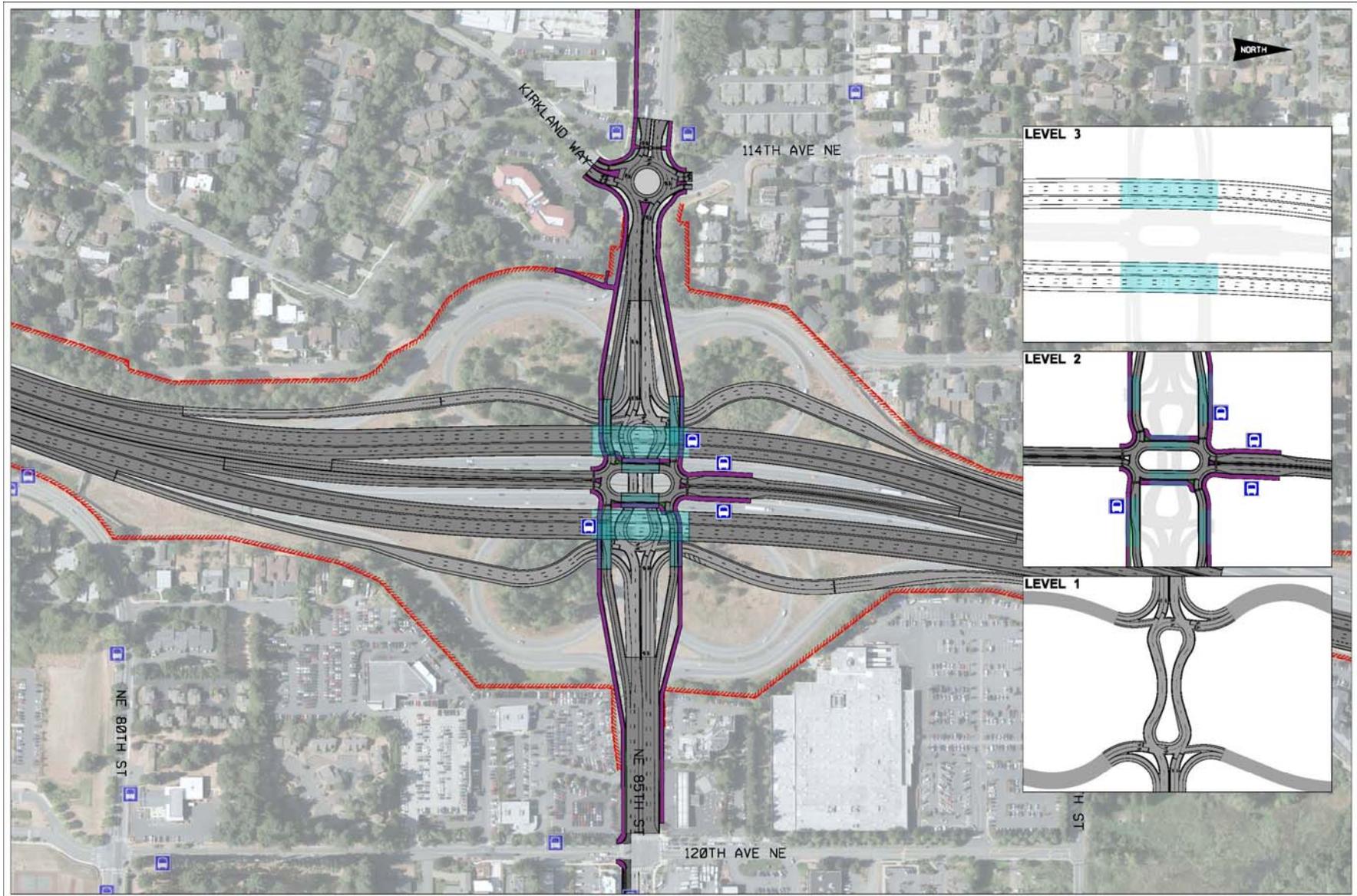
# Group 4 - Single Intersection Concepts



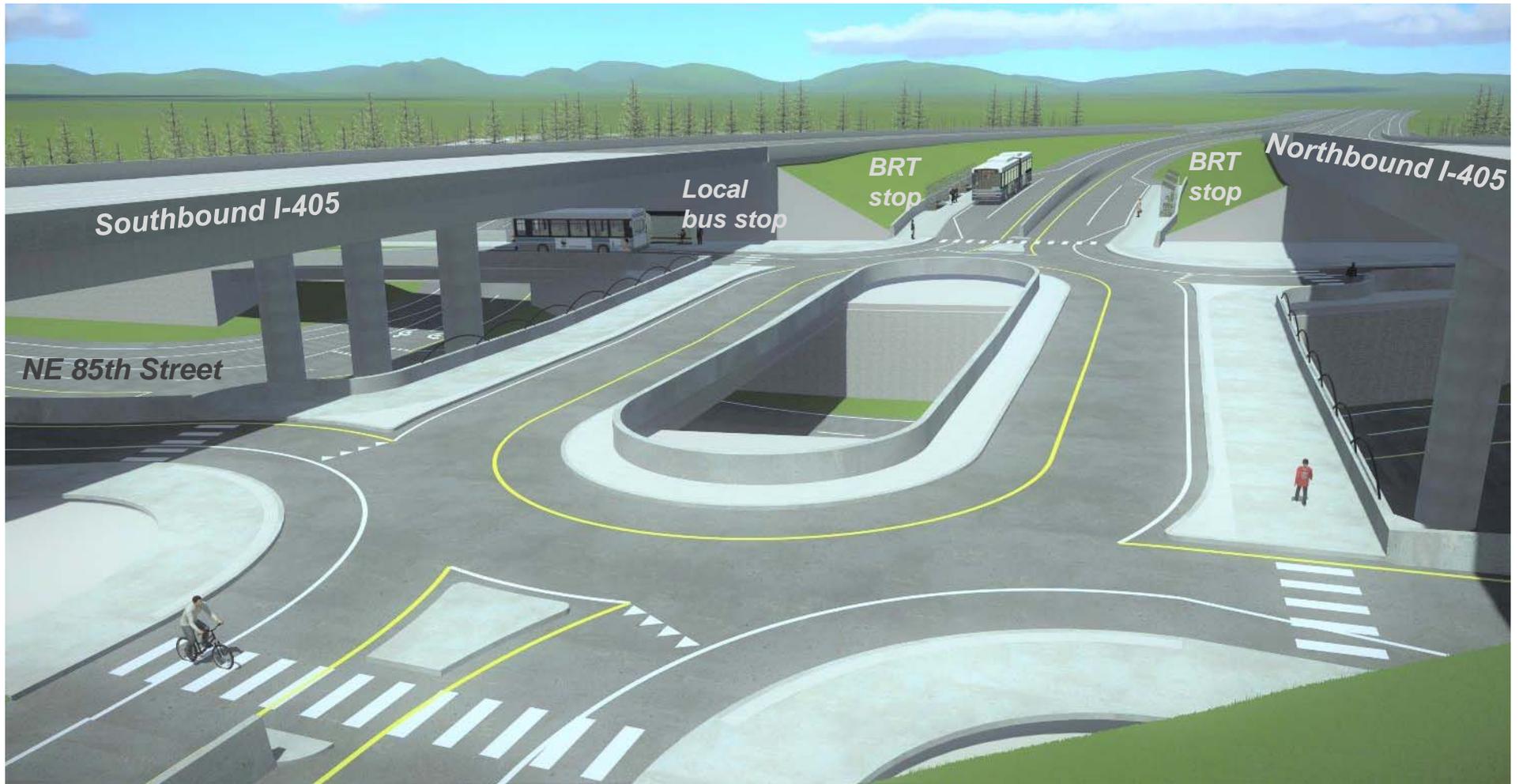
# Group 5 – Non-Signalized Interchange Concepts



# Group 6 - Separated Transit Interchange Concepts



# Group 6 - Separated Transit Interchange Concepts



# Preliminary Evaluation

Criteria	Group 1 Rep. (Loops)	Group 2 Alt. Loc	Group 3 Alt. I/C Types	Group 4 Single Inter.	Group 5 Non- Signal	Group 6 Sep. Transit
Transit Connectivity	●	N/A	⊕ ⊕	●	⊖	⊕ ⊕
Non-Motorized Mobility/Connectivity	⊖ ⊖	N/A	⊕ ⊕	●	●	⊕ ⊕
Kirkland Vision	⊖ ⊖	N/A	⊕ ⊕	⊖ ⊖	⊖ ⊖	⊕ ⊕
Compatibility with Master Plans	⊖ ⊖	N/A	⊕ ⊕	⊖ ⊖	⊖ ⊖	⊕ ⊕
Traffic Operations & I/C Performance	⊖	N/A	Incomplete	⊖	●	●
Cost	⊖	N/A	Greater than Group 6	●	⊕	●

⊖ ⊖  
Most  
challenges

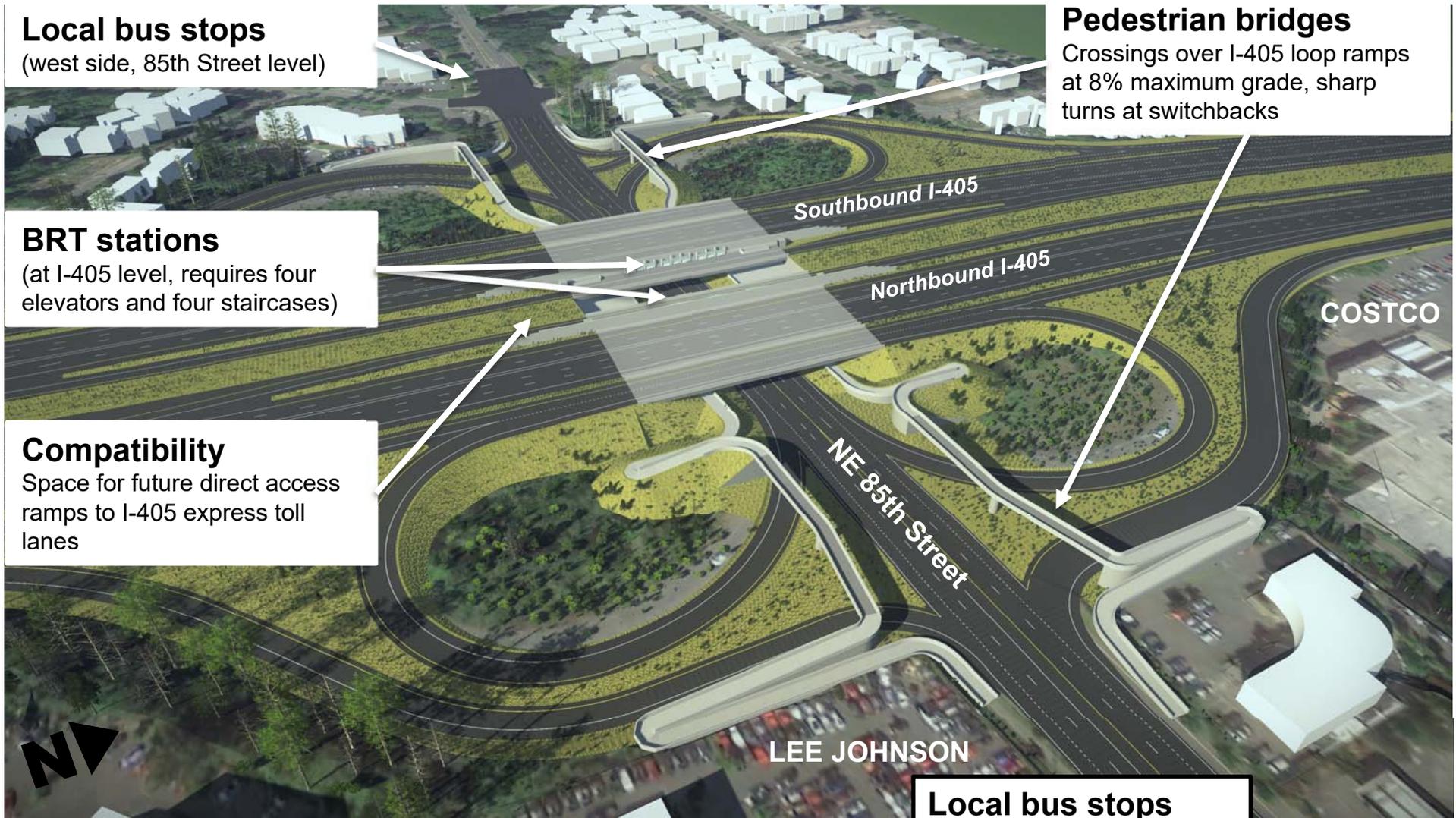
⊖  
Some  
challenges

●  
Neutral

⊕  
Some  
benefits

⊕ ⊕  
Most  
benefits

# Representative Project (modified)



**Local bus stops**  
(west side, 85th Street level)

**BRT stations**  
(at I-405 level, requires four elevators and four staircases)

**Compatibility**  
Space for future direct access ramps to I-405 express toll lanes

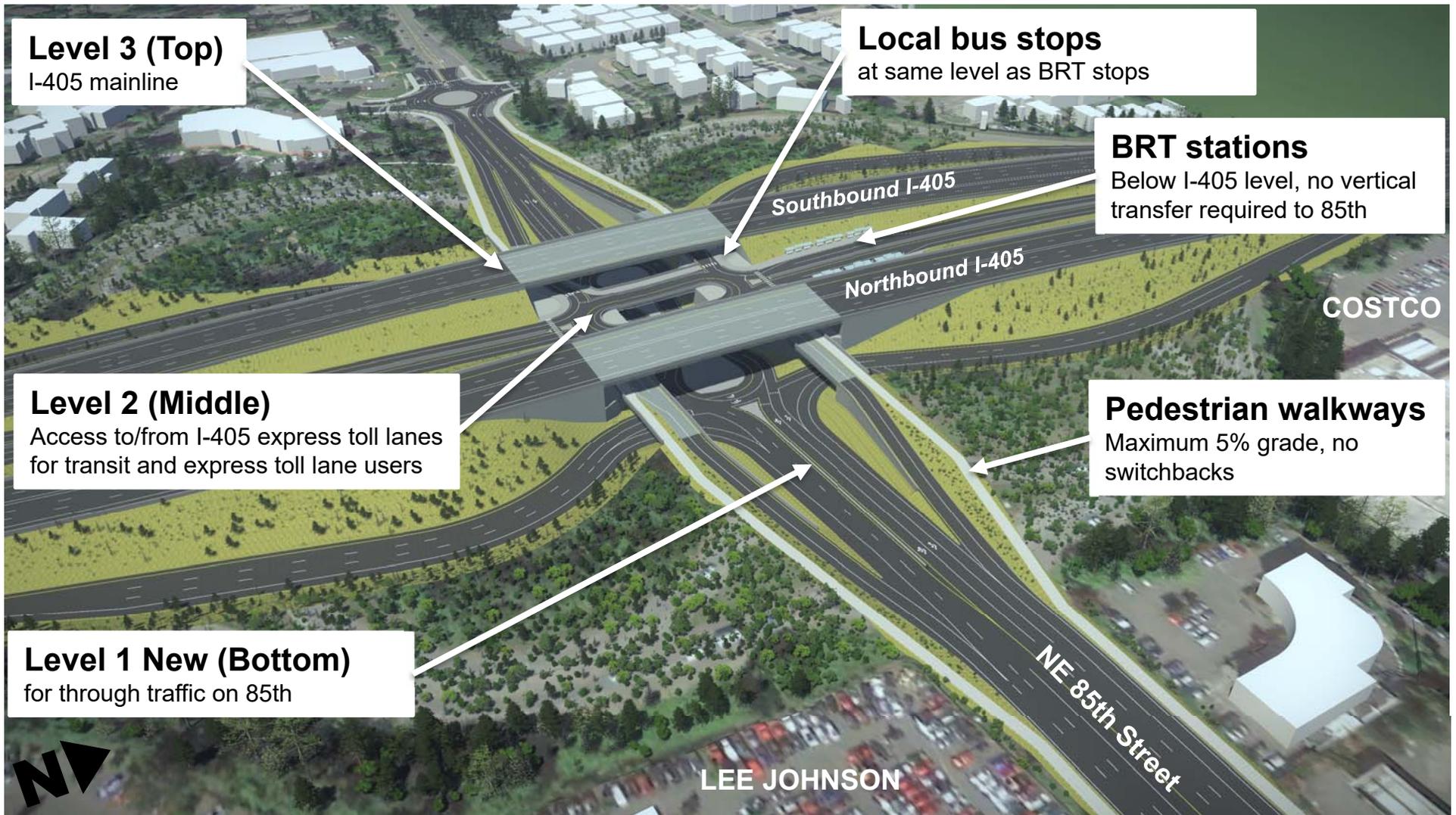
**Pedestrian bridges**  
Crossings over I-405 loop ramps at 8% maximum grade, sharp turns at switchbacks

**Local bus stops**  
(east side, 85th st level)

# Representative Project (modified)



# Separated Transit Interchange Concept



# Separated Transit Interchange Concept



# Comparison of two concepts

	<b>Representative (modified)</b>	<b>Separated Transit Interchange</b>
<b>Transit Connectivity</b>	<b>6-10 minute walk</b> between BRT & local stops	<b>1-2 minute walk</b> between BRT & local stops
<b>Non-Motorized Mobility/Connectivity</b>	<b>9 minute walk</b> across interchange (2,200 feet with stairs/elevators)	<b>6 minute walk</b> across interchange (1,300 feet at same level)
<b>Kirkland Vision</b>	Challenges for non-motorized access, limited drop-off/pick-up opportunities	Improved non-motorized access, greater drop-off/pick-up opportunities
<b>Compatibility with Master Plans</b>	<b>Does not preclude direct access ramp</b> to I-405 express toll lanes	<b>Builds direct access ramp</b> to I-405 express toll lanes
<b>Traffic Operations &amp; I/C Performance</b>	Similar performance and challenges	
<b>Cost*</b>	~\$300M-330M	~\$235M-260M

\* Estimate in 2017 dollars

\* Estimate includes project development, right-of-way, and design-build construction costs

# Charrette Evaluation of Concepts

Criteria	Rep. (Modified)	Separated Transit
<b>Transit Connectivity</b>		 
<b>Non-Motorized Mobility/Connectivity</b>	 	 
<b>Kirkland Vision</b>	 	 
<b>Compatibility with Master Plans</b>		 
<b>Traffic Operations &amp; I/C Performance</b>		
<b>Cost</b>		

 Most challenges    
  Some challenges    
  Neutral    
  Some benefits    
  Most benefits

# Discussion

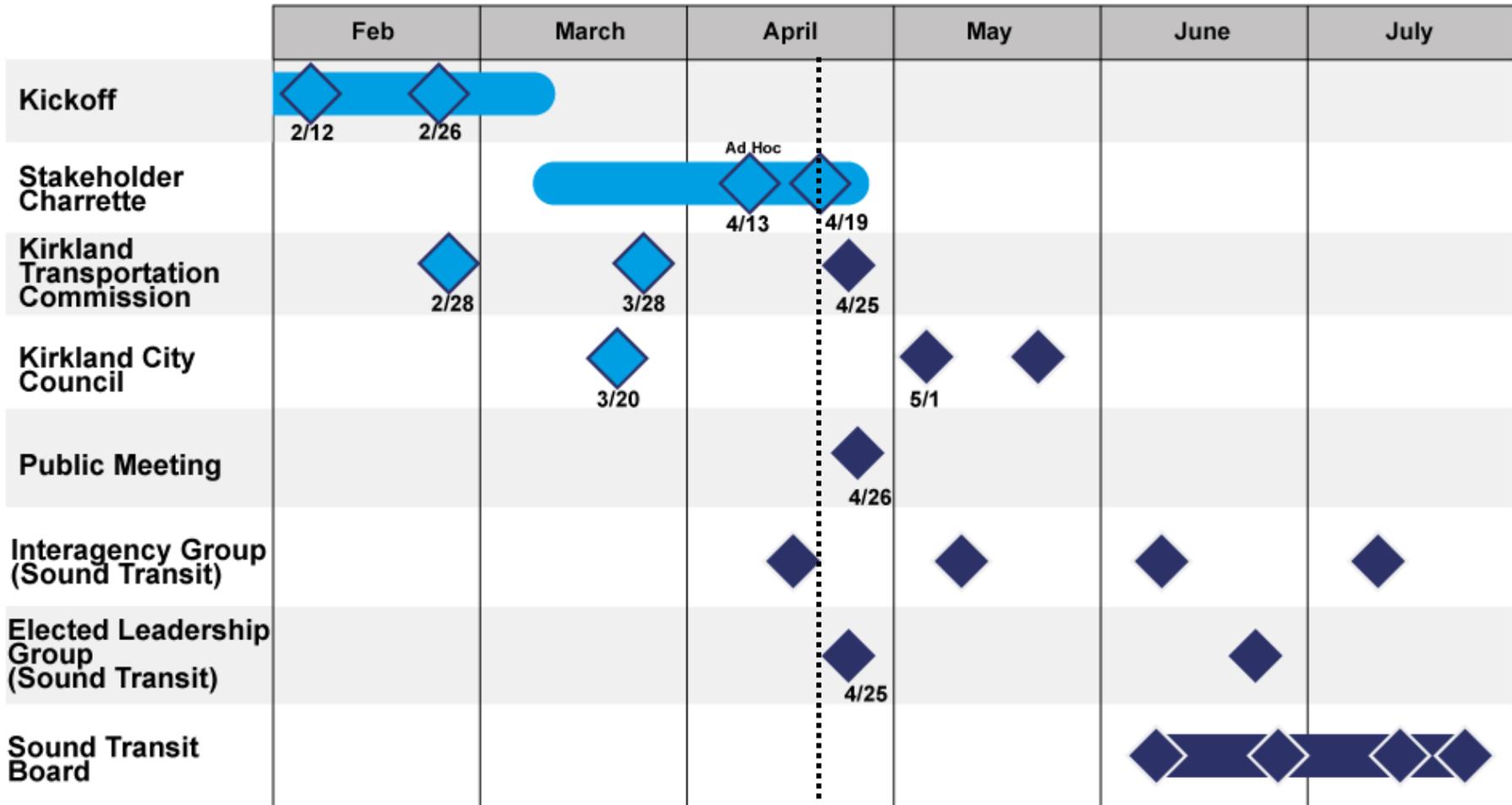
**Amy Danberg**  
Facilitator

# Next Steps

**Cynthia Padilla**

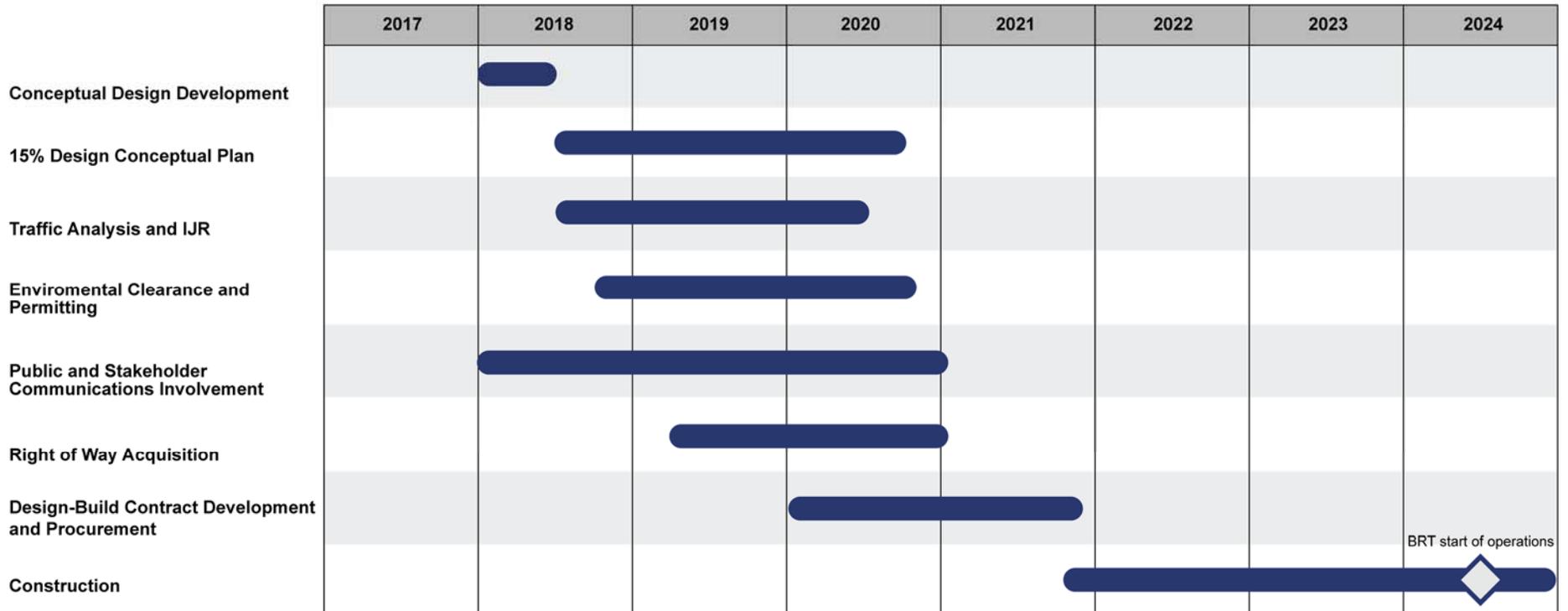
I-405 BRT project manager  
(Bellevue to Lynnwood)  
Sound Transit

# Overview of outreach



# Next steps: Long term

**NE 85th Street Interchange and In-line Freeway Station**



# Action items and adjourn

**Amy Danberg**  
Facilitator