

# Houghton Everest Neighborhood Center 6<sup>th</sup> Street Corridor

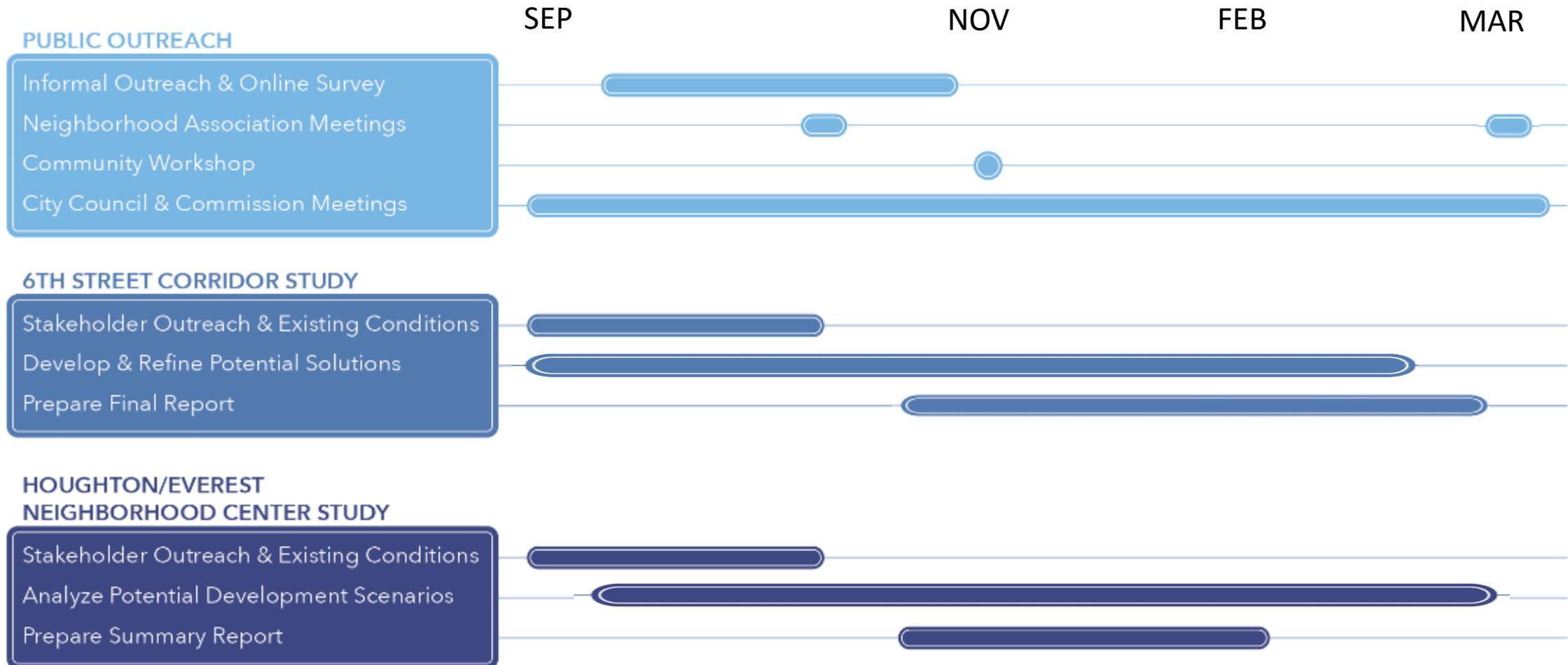
Transportation Commission Meeting  
July 26, 2017



# AGENDA

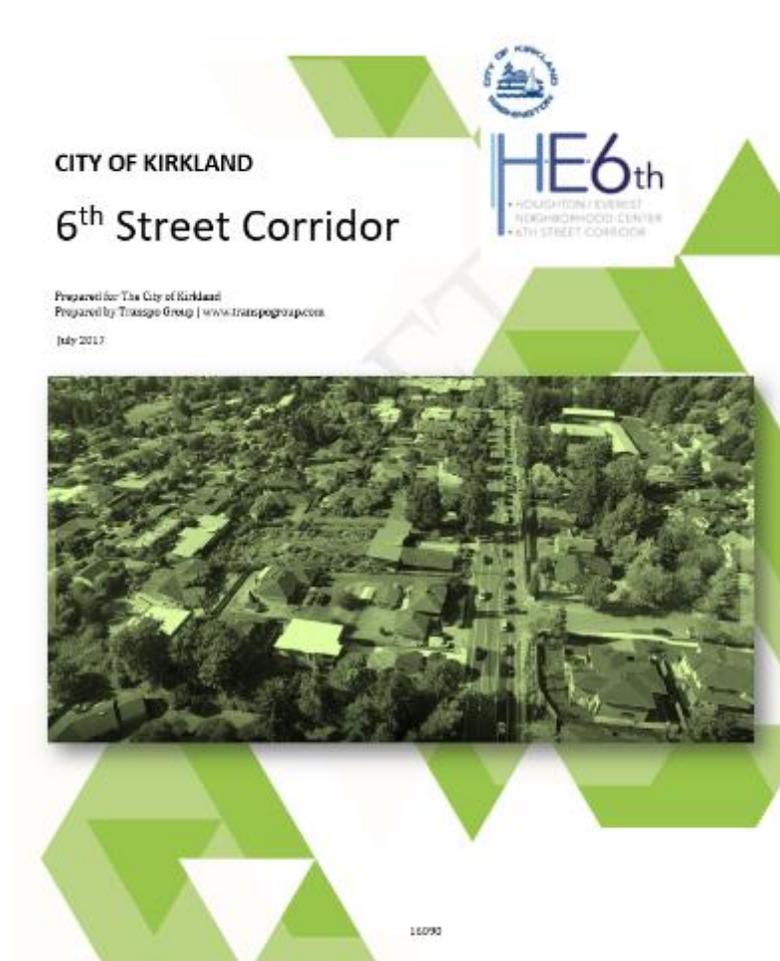
- Overview and Timeline
- Context – Data Collection, Analysis and Outreach
- Solution Ideas
- Evaluation
- Relationship to Neighborhood Center
- Recommendations and Next Steps

# Overview and Timeline



# Overview

- Review Current Context
- Land use and Growth
- Solution Ideas
- Evaluation and Recommended Improvements
- Support of the Houghton Everest Center



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- Houghton Everest Land Use
- Operational Analysis

### Appendix

- A: Data Collection and Methods Memos
- B: HENC Analysis Results
- C: Solutions Memo
- D: Data Summary

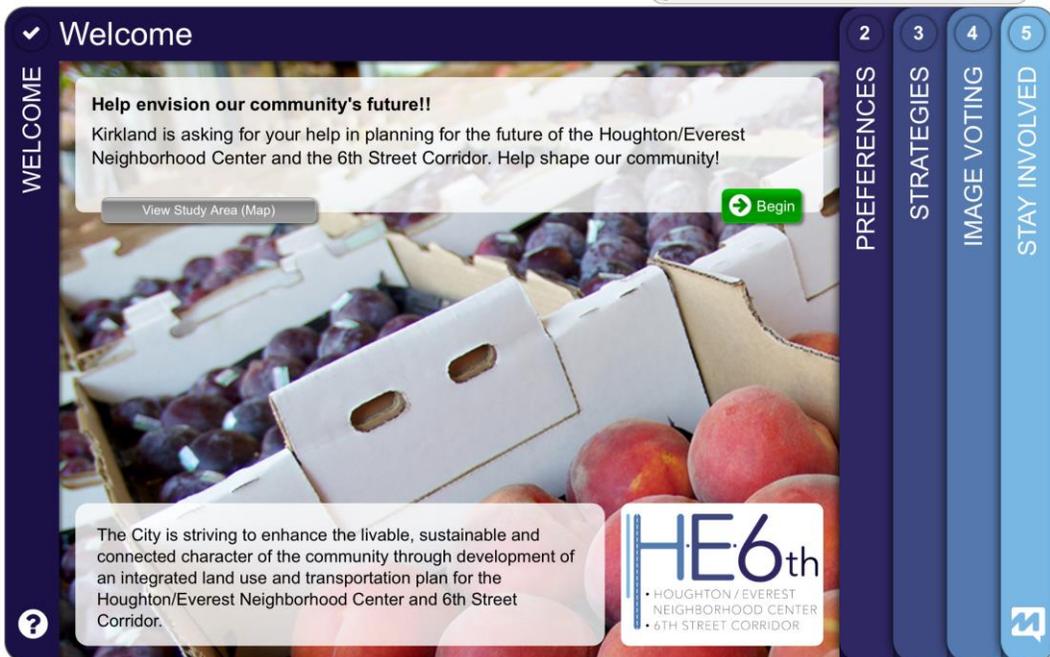
# Context - Survey Results



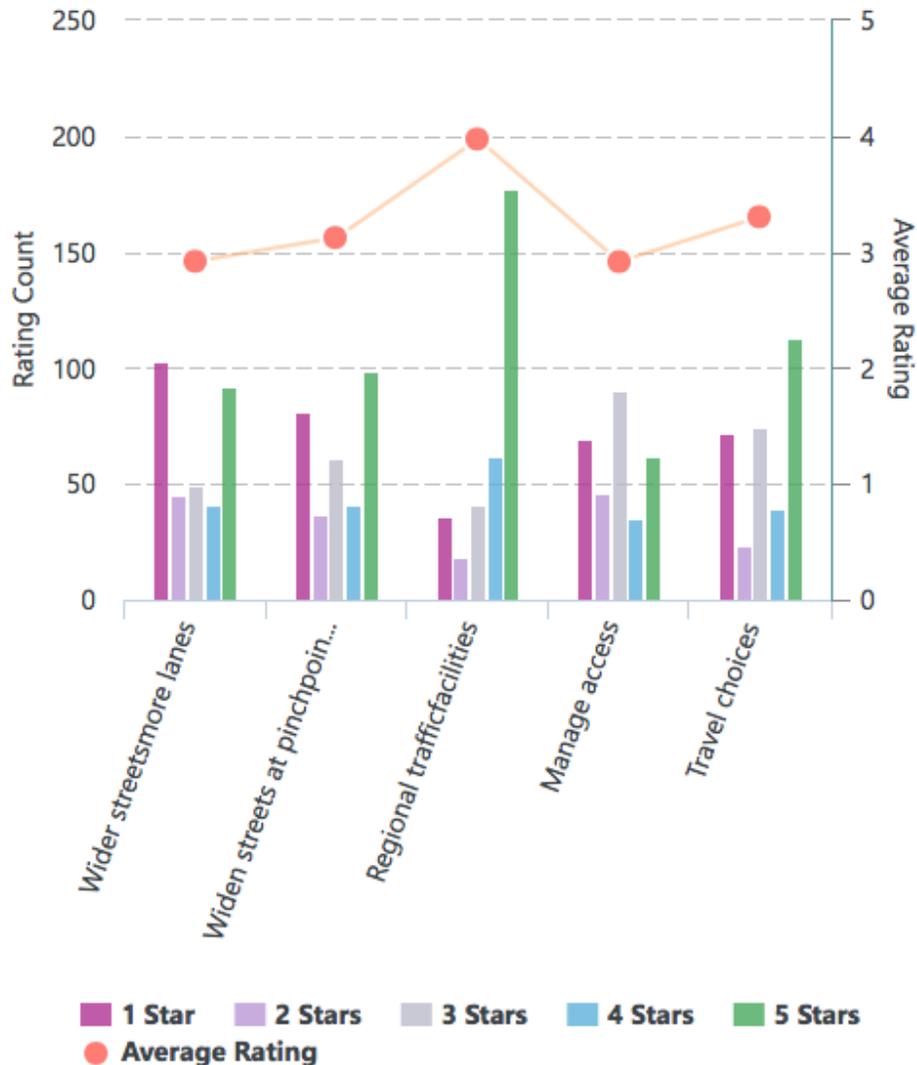
## PM peak hour congestion

Address congestion by keeping regional traffic on regional facilities

- *Otherwise, opinion very mixed*



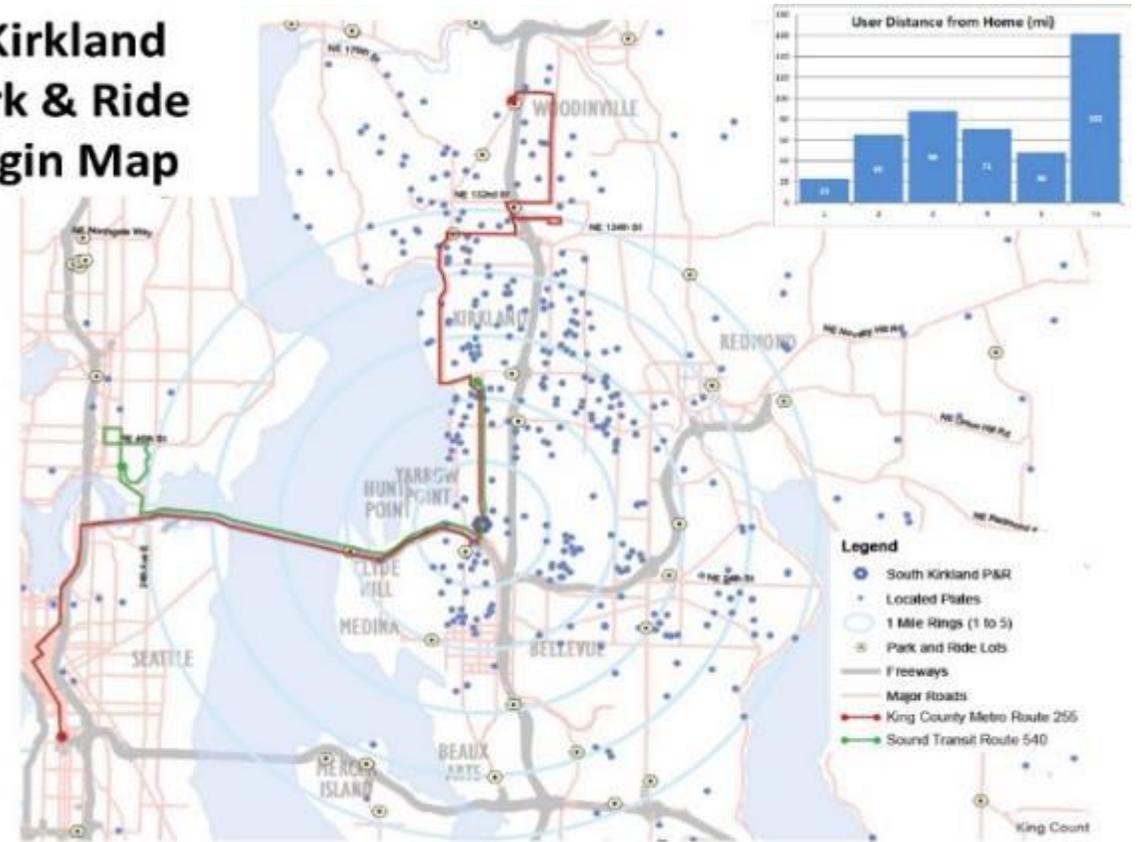
## Congestion



# Data Collection – Key Findings

- Within Overall Corridor 6<sup>th</sup>/108<sup>th</sup> carries 5% of Total N/S Traffic
- Traffic Volumes have remained steady
- Peak Direction/Peak Period queues are excessive
- ~Half of Transit Passengers board at S Kirkland P/R
- Cut-Through Traffic volume not significant
- Parking Utilization Not Excessive

S. Kirkland Park & Ride Origin Map



# Context – Observations

- Regional Traffic Impacts the Neighborhoods
- Move More People on Regional Transit
- CKC is underutilized
- Retail Area Arterials Poorly Managed
- Pedestrian and Bicycle Facilities are Key to Livability



108<sup>th</sup> Avenue Typical Queue

**1.2 Mile Queue => 210 cars => 250 People => 4 Buses => 400 Feet**

# Kirkland Growth Target 2010-2035



80,000 → 90,000 population (13%)



30,000 → 65,000 Jobs (117%)

# Potential Solutions

- Intersection Improvements for safety and access
- Ped / Bike improvements for connectivity and network completion
- Transit Speed & Reliability to Improve Regional Mobility
- Policies for Parking Management
- Education



# Evaluation

- Met with Transportation Commission and Council
- Evaluation Considerations
  - Timeline for Improvements
  - Cost (range)
  - Movement of People
  - Connectivity
  - Capacity for Growth
- Consistency with potential HENC growth

# Houghton Everest Neighborhood Center

Figure 1 - Daily Trips to/from Development

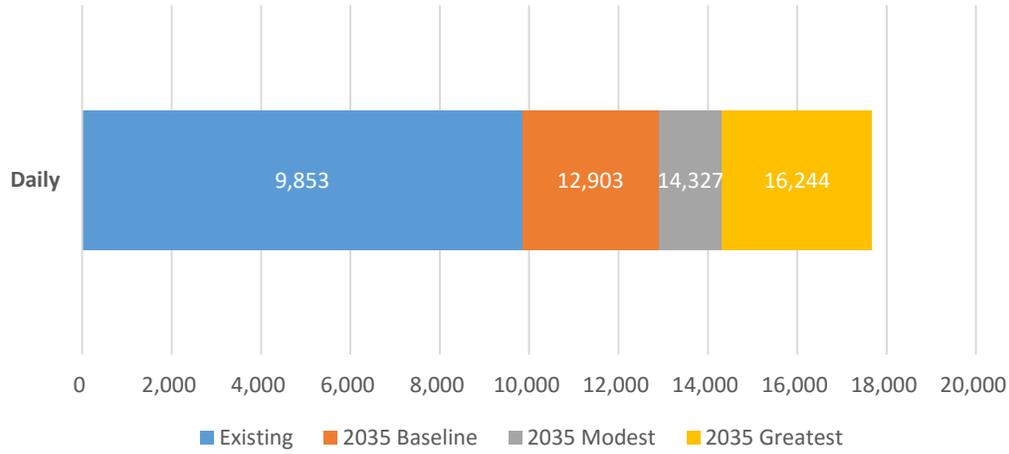
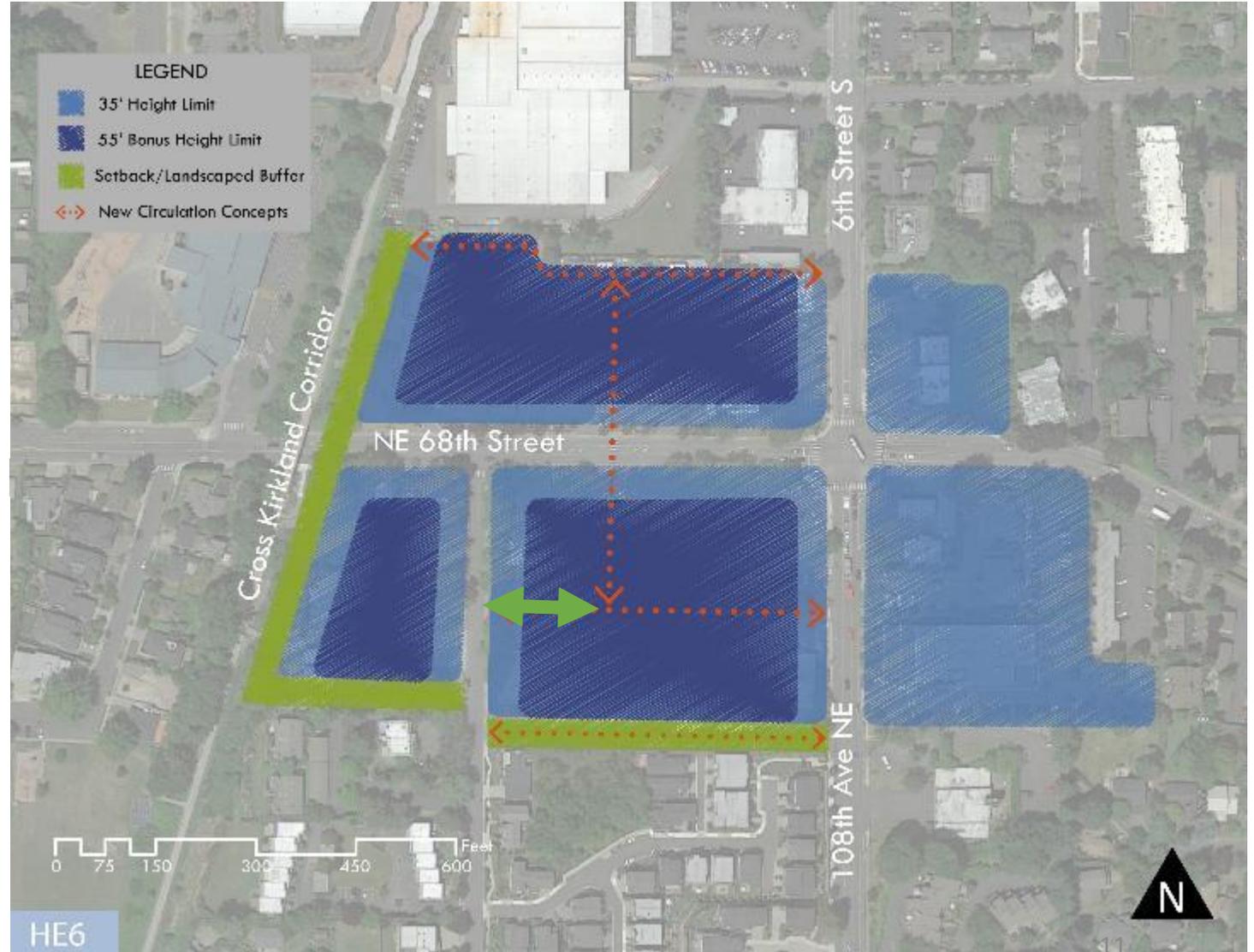
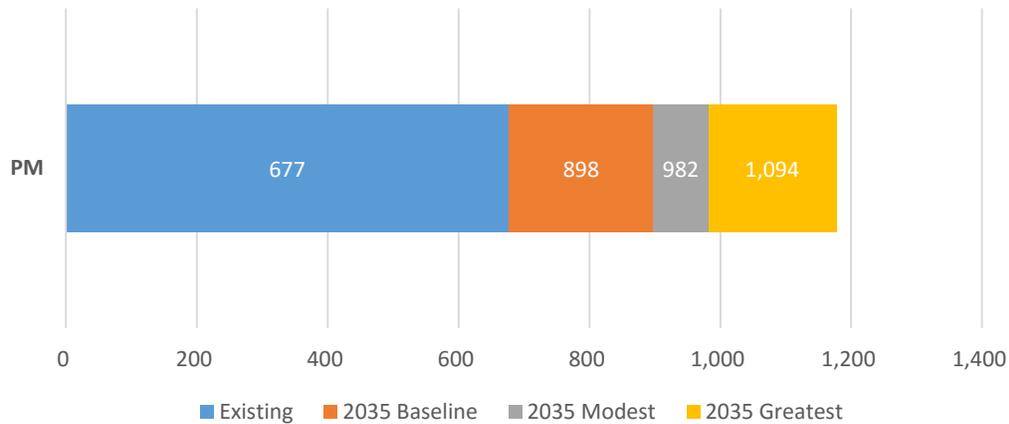
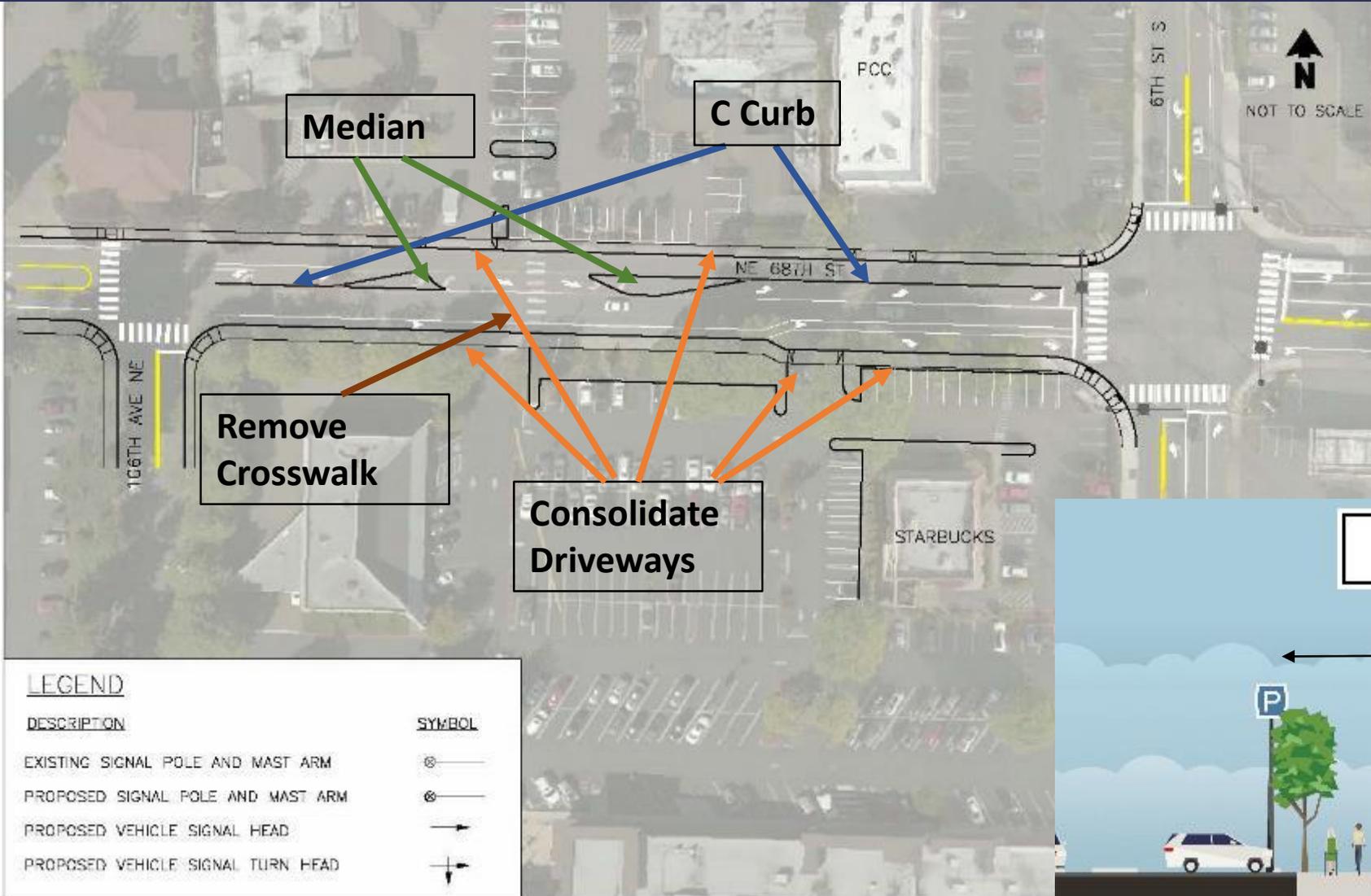


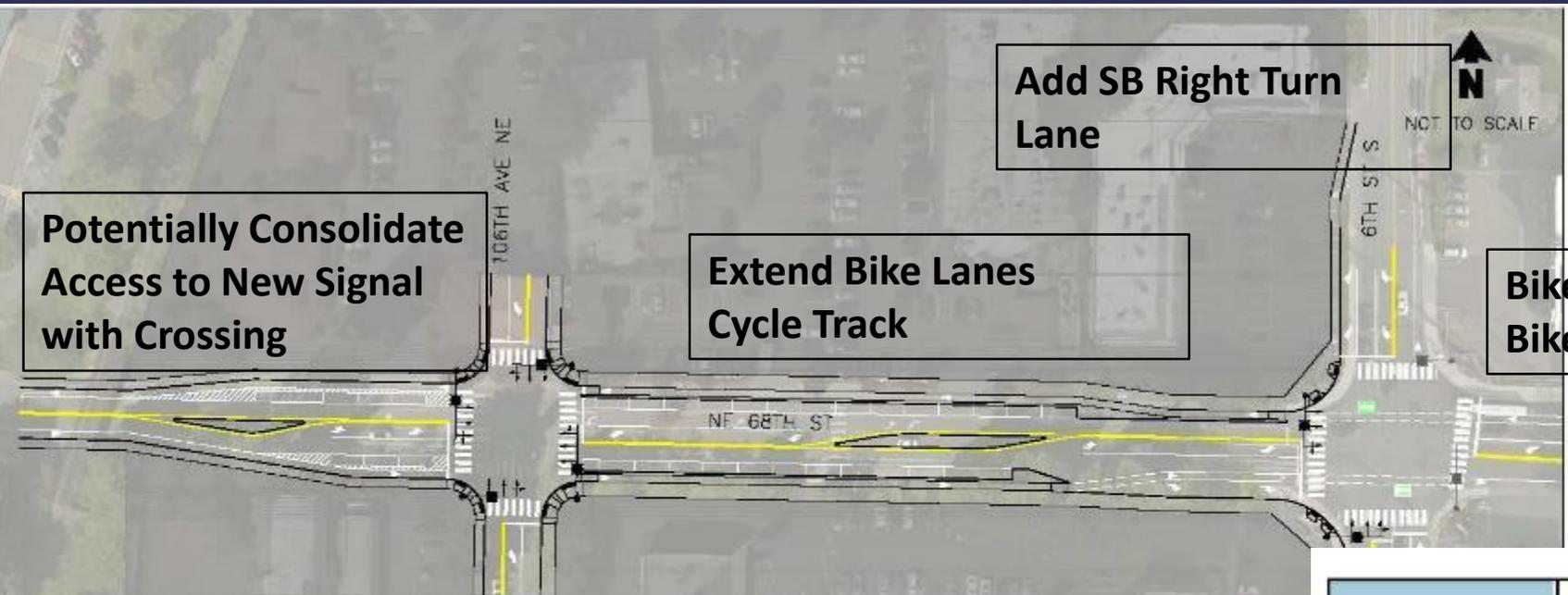
Figure 2 - PM Trips to/from Development



# No Development: Access Issues Consolidation



# With Development: Signalized Access Only



**LEGEND**

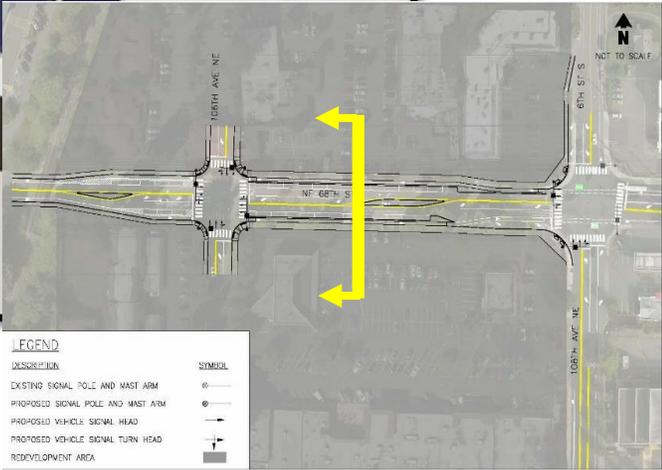
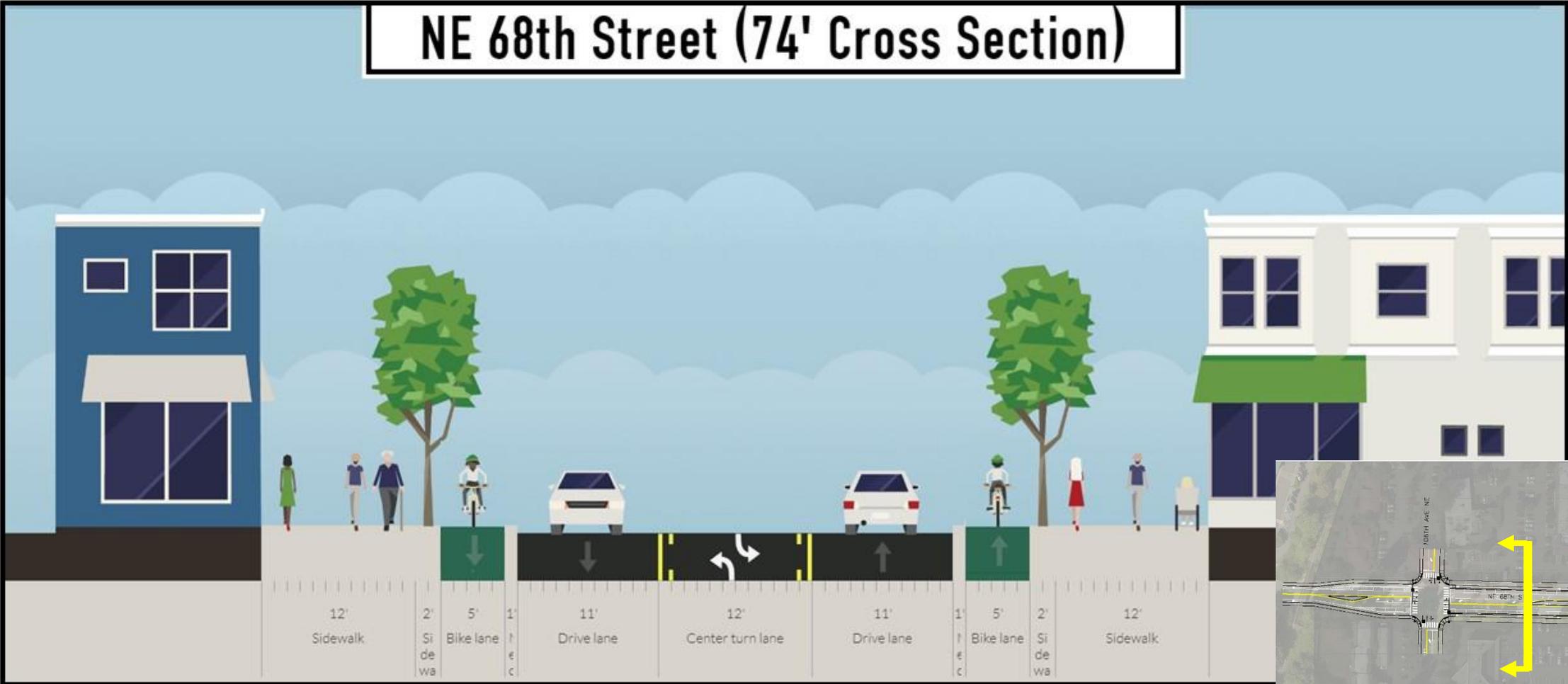
DESCRIPTION	SYMBOL
EXISTING SIGNAL POLE AND MAST ARM	⊙ —
PROPOSED SIGNAL POLE AND MAST ARM	⊙ —
PROPOSED VEHICLE SIGNAL HEAD	→
PROPOSED VEHICLE SIGNAL TURN HEAD	→ ↘
REDEVELOPMENT AREA	■

**NB Transit Signal Priority and Queue Jump**



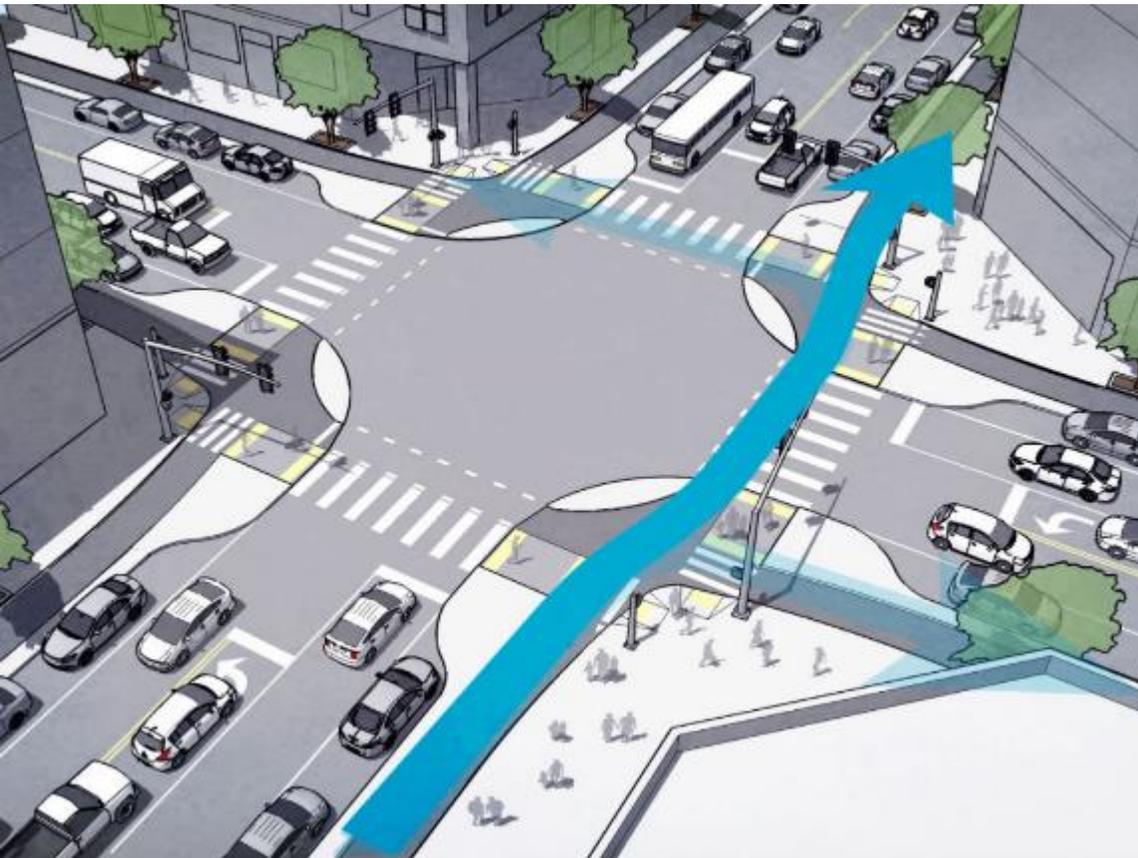
# With Development: Expanded Cross Section

**NE 68th Street (74' Cross Section)**



# With Development: Full Bike Intersection

## Sample Full Bicycle Intersection at 68<sup>th</sup> / 108<sup>th</sup>:



- Bicycle lanes are provided on NE 68th Street and 108th Avenue and bicycle use is growing; however, these bicycle lanes do not continue through the intersection of 108th Avenue NE at NE 68th Street. One way to do this would be to create a bicycle intersection that extends bike lanes and protects bike movements. This type of intersection can also promote pedestrian safety with ped bulbs making pedestrians more visible.

Timeline	Cost	Movement of People	Connections	Capacity for Future	Recommend?
5-10	\$\$	2	3	2	✓

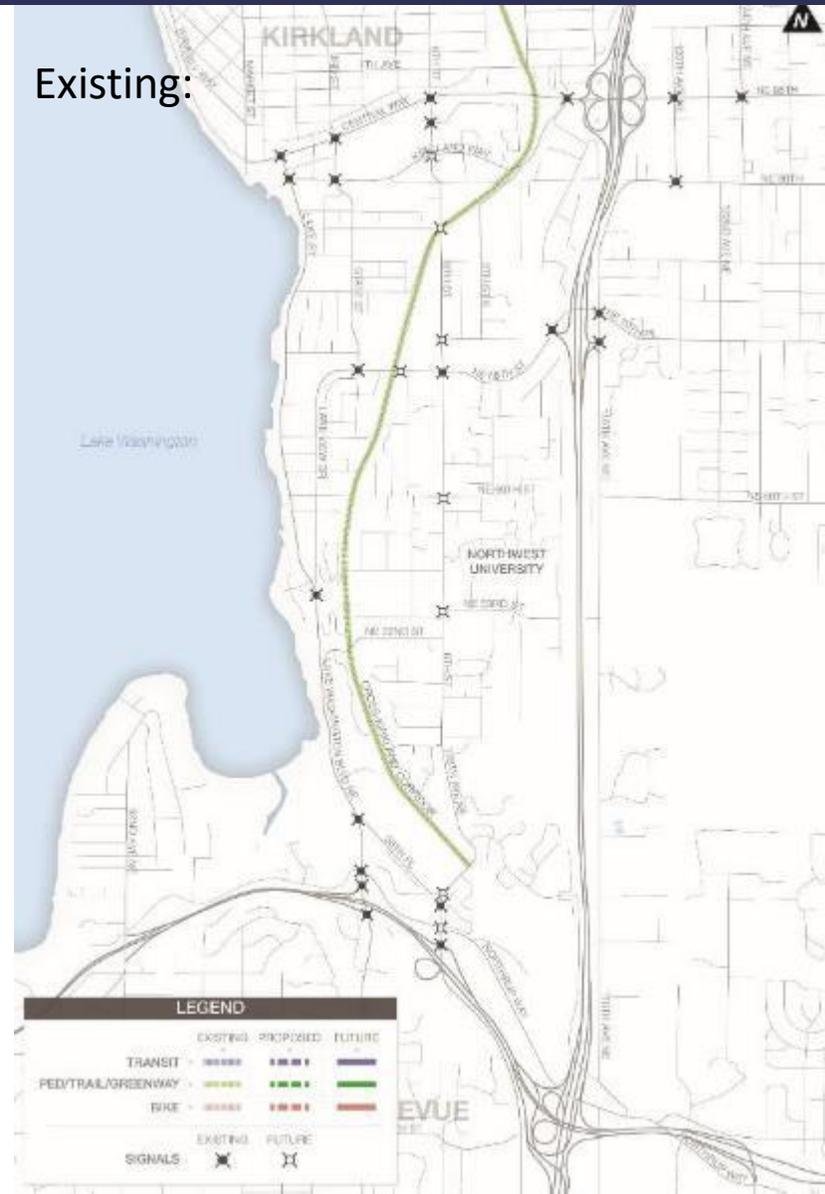
- **Benefits**
  - Provides safe connections for bikes
- **Challenges**
  - Extensive widening and Right of Way
  - Conflicts with high volume right turns
- **Recommendations**
  - Could be implemented with redevelopment

# Corridor Improvements as Part of Networks

# Background Corridor Investments

- **Pedestrian System**

- Connecting Communities
- Walkable
- School routes



# Background Corridor Investments

- **Pedestrian System**

- Connecting Communities
- Walkable
- School routes



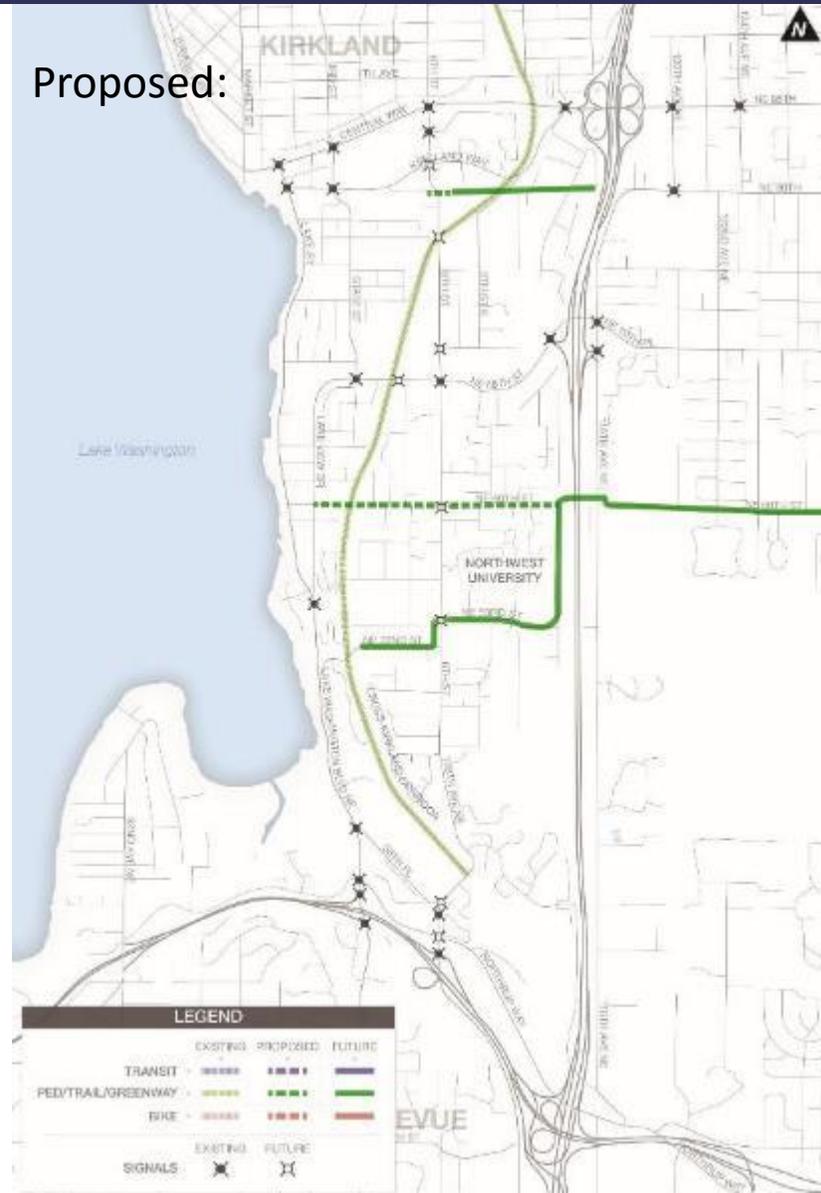
- **Future:**

- Kirkland Ave connection
- NE 52<sup>nd</sup> / 53<sup>rd</sup> / 60<sup>th</sup> St connections

# Background Corridor Investments

- **Pedestrian System**

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- **Future:**

- Kirkland Ave connection
- NE 52<sup>nd</sup> / 53<sup>rd</sup> / 60<sup>th</sup> St connections

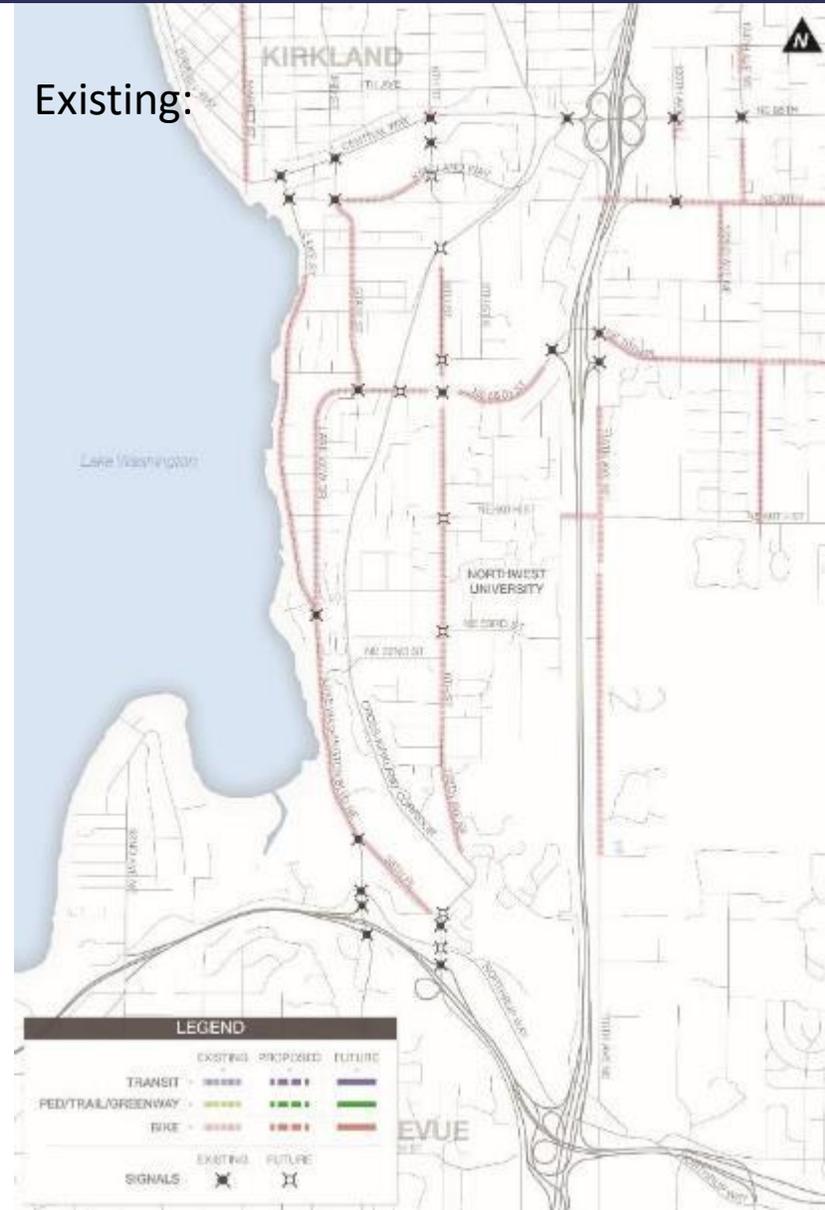
- **Proposed:**

- NE 60<sup>th</sup> St Greenway
- Kirkland Ave crossing at 6<sup>th</sup> St
- Connect CKC trail to S Kirkland P&R
- Improve CKC access at NE 60<sup>th</sup>

# Background Corridor Investments

- **Bike System**

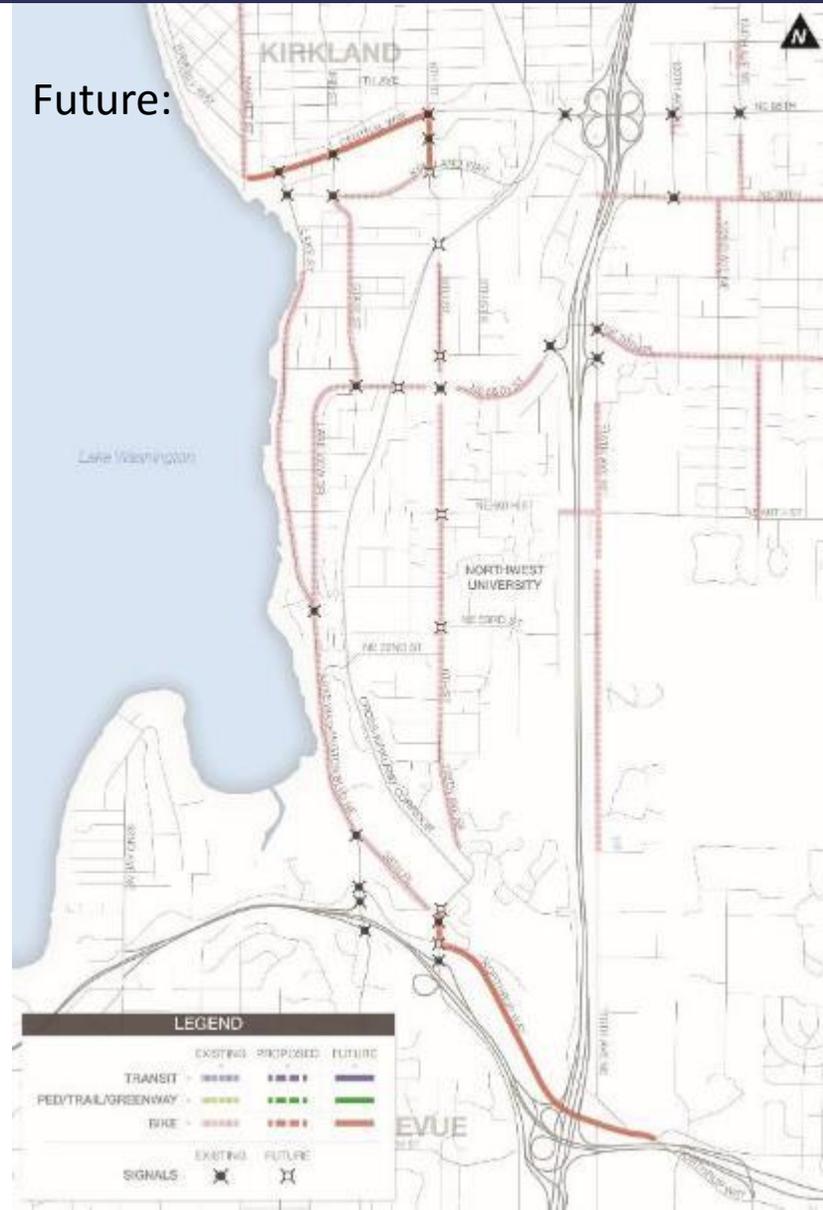
- Connecting Communities
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# Background Corridor Investments

- **Bike System**

- Connecting Communities
- Walkable
- School routes



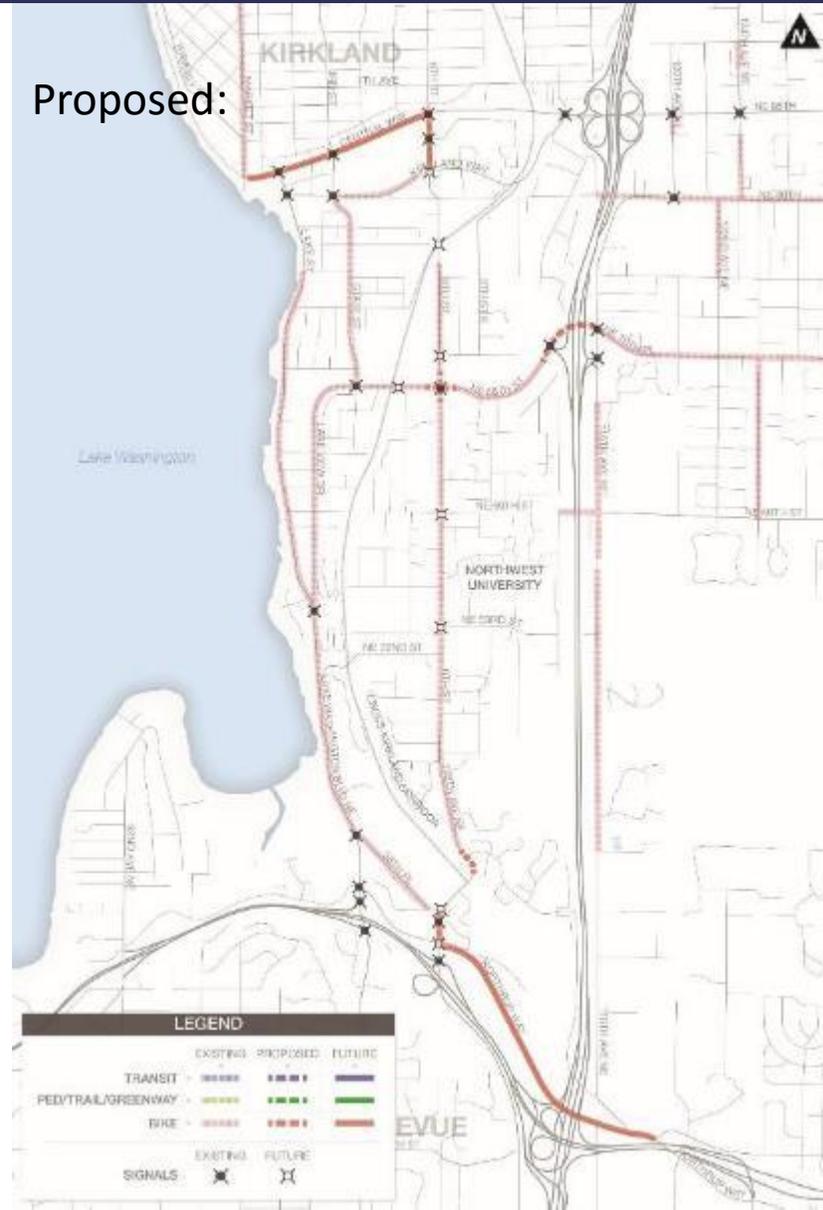
- **Future:**

- Central Way / NE 6<sup>th</sup> Street bike facility
- Northup Way bike facilities

# Background Corridor Investments

- **Bike System**

- Connecting Communities
- Walkable
- School routes



- **Future:**

- Central Way / NE 6<sup>th</sup> Street bike facility
- Northup Way bike facilities

- **Proposed:**

- Complete Bike Network along 108<sup>th</sup> Ave and 6<sup>th</sup> St
- Bicycle Intersection at NE 68<sup>th</sup> St / 108<sup>th</sup> Ave
  - Or Green Bike Boxes
- NE 60<sup>th</sup> Street Greenway
- Install Bike Racks or bike share at S Kirkland P&R

# Background Corridor Investments

- **Transit**
  - Moving People



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- **Transit**

- Moving People



- **Future:**

- Bus Rapid Transit on I-405
- Light Rail to S Kirkland P&R

# Background Corridor Investments

- **Transit**
  - Moving People



- Future:
  - Bus Rapid Transit on I-405
  - Light Rail to S Kirkland P&R
- Proposed:
  - Transit Signal Priority at 6<sup>th</sup> Street / Kirkland Way
  - HCT on the CKC
  - Bus intersection at 6<sup>th</sup> / CKC
  - Houghton P&R lease for Private Shuttle Use
  - Widen 108<sup>th</sup> to provide queue jumps / new signal at NE 60<sup>th</sup>
  - New signal at 53rd St
  - S Kirkland P&R
    - Permitting for parking
    - Improve Access / Egress with signals
    - Real Time Parking Occupancy
  - Education Campaign on Value of Transit
  - Performance Monitoring of Transit throughout

# Background Corridor Investments

- **Vehicular**

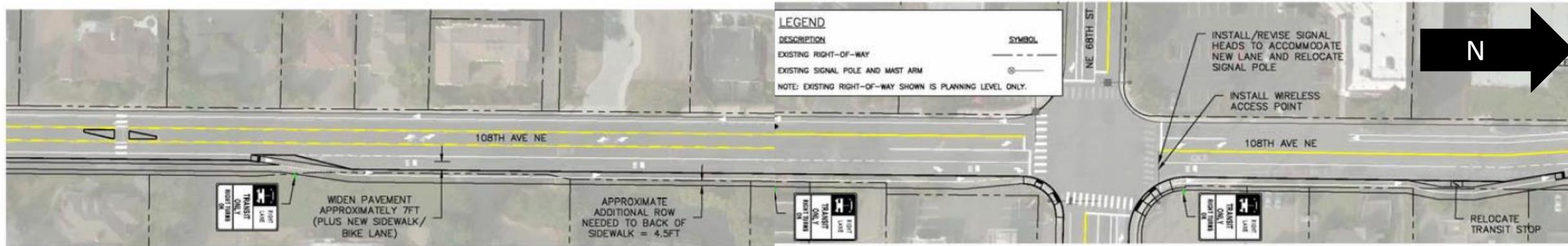
- Accommodate growth for the future



- **Proposed:**

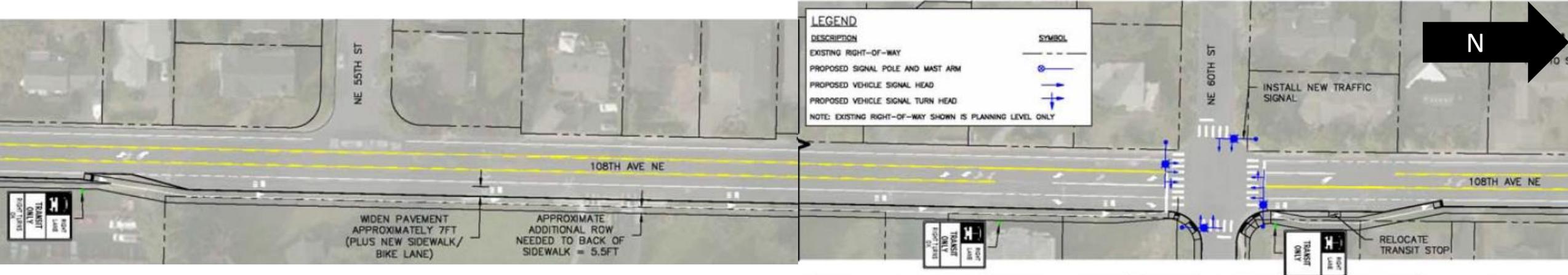
- Signal Coordination along 6<sup>th</sup> Street
- Kirkland Way & Railroad Ave Intersection Improvements
- Signal at 6<sup>th</sup> St & 9<sup>th</sup> Ave
- Work with regional partners to study improvement and expansion of 70<sup>th</sup> St Overpass
- Install 'don't block the box' pavement markings at Fire Station on 108<sup>th</sup> Ave
- Driveway consolidation around 68<sup>th</sup> St / 108<sup>th</sup> Ave businesses
- Reduce business access on 68<sup>th</sup> & 108<sup>th</sup> to signalized intersections and install new signal at 106<sup>th</sup> Ave. (may increase neighborhood cut-through)
- Citywide parking management strategies such as shared parking and joint parking use.

# 108<sup>th</sup> Avenue Transit Signal Priority at NE 68<sup>th</sup> St



- Property Impacts
  - 2 residential properties
  - 1 business property
- Improves transit travel times
- Improves vehicle travel times
- Relocates bicycle lanes

# 108<sup>th</sup> Avenue Transit Signal Priority at NWU and NE 60<sup>th</sup> St



- Property Impacts
  - 2 residential properties
- Improves transit travel times
- Improves vehicle travel times
- Relocates bicycle lanes
- New signal (60<sup>th</sup>)

# Investments to move people

- 108<sup>th</sup> Avenue Corridor

<b>Scenario</b>	<b>GP Northbound Travel Time</b>	<b>Transit Northbound Travel Time</b>
Future Baseline	11:32	11:59
Future With Improvements	8:57	9:37
Delta (reduction)	<b>-2:35 (-22%)</b>	<b>-2:22 (-23%)</b>

# Solutions Considered but Not Recommended

- Transit Signal Priority Options @ 108<sup>th</sup> Ave NE & NE 68<sup>th</sup> St
  - Limited effectiveness for people, transit or vehicles
  - New solution found with better benefits and higher impacts
- New East-West Connection and Crossing of I-405 @ NE 60<sup>th</sup> Street
  - Impacts to adjacent arterial streets due to steep grades
  - Impacts to neighborhood streets and greenway designation
- Residential Parking Zones and Time of Day Parking
  - Parking was found to be available
  - Management of parking is a higher priority
- Grade-separated ped crossing @ 108<sup>th</sup> Ave NE & NE 68<sup>th</sup> St
  - Impacts to adjacent properties
  - Grade change dissuades use by peds

# Next Steps

- Review Draft
- Council Review of HENC
- Implementation

# Questions?



# Impact at the Adjacent Intersection

## NE 68<sup>th</sup>/108<sup>th</sup>/6<sup>th</sup> Intersection Operations

Scenario	LOS	Delay (sec/veh)	Total Entering Vehicles	Project Investments
1. Existing	E	62	2,520	<ul style="list-style-type: none"> <li>Existing Infrastructure</li> </ul>
2. Comp Plan 2035	F	142	3,855	<ul style="list-style-type: none"> <li>Consolidate Access Points at 68<sup>th</sup> St and 108<sup>th</sup> Ave</li> <li>Green Bike Boxes</li> </ul>
3. 2035 Moderate Change (1)	F	148	3,920	<ul style="list-style-type: none"> <li>Consolidate access points at 68<sup>th</sup> St and 108<sup>th</sup> Ave</li> <li>Green bike boxes at 68<sup>th</sup> &amp; 108<sup>th</sup> intersection</li> <li>60' wide NE 68<sup>th</sup> St</li> </ul>
4. 2035 Moderate Change (2)	F	111	3,920	<ul style="list-style-type: none"> <li>Consolidate Access Points at 68<sup>th</sup> St and 108<sup>th</sup> Ave</li> <li>Green Bike Boxes at 68<sup>th</sup> St &amp; 108<sup>th</sup> Ave</li> <li>60' wide NE 68<sup>th</sup> St</li> <li><b>Southbound right turn lane on 6<sup>th</sup> St at NE 68<sup>th</sup> St</b></li> </ul>
5. 2035 Greater Change (1)	F	158	4,025	<ul style="list-style-type: none"> <li>Signalized access to developments only at NE 106<sup>th</sup> St</li> <li>80' wide NE 68<sup>th</sup> St</li> <li>Full bicycle intersection</li> </ul>
6. 2035 Greater Change (2)	F	119	4,025	<ul style="list-style-type: none"> <li>Signalized access to developments only at NE 106<sup>th</sup> St</li> <li>80' wide NE 68<sup>th</sup> St</li> <li>Full bicycle intersection</li> <li><b>Southbound right turn lane on 6<sup>th</sup> St at NE 68<sup>th</sup> St</b></li> </ul>