

Houghton Everest Neighborhood Center 6th Street Corridor

Everest Neighborhood Meeting
March 14, 2017



AGENDA

- Background Growth and Traffic Forecast
- Houghton / Everest Neighborhood
 - Background Growth
 - Transportation Traffic Generation from Development Scenarios
- Background Citywide Corridor Investments and Transit Performance Results
- Houghton / Everest Center Investments and 68th St & 108th Ave Intersection Performance Results

Background Growth

Puget Sound Regional Growth Forecast 2010 – 2040

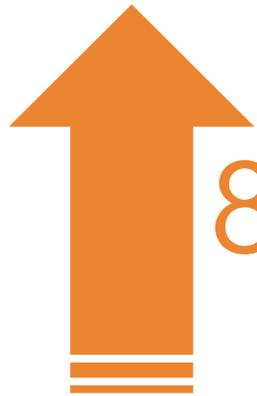


35% population increase



57% job increase

Kirkland Growth Target 2010-2035



80,000 → 90,000 population (13%)



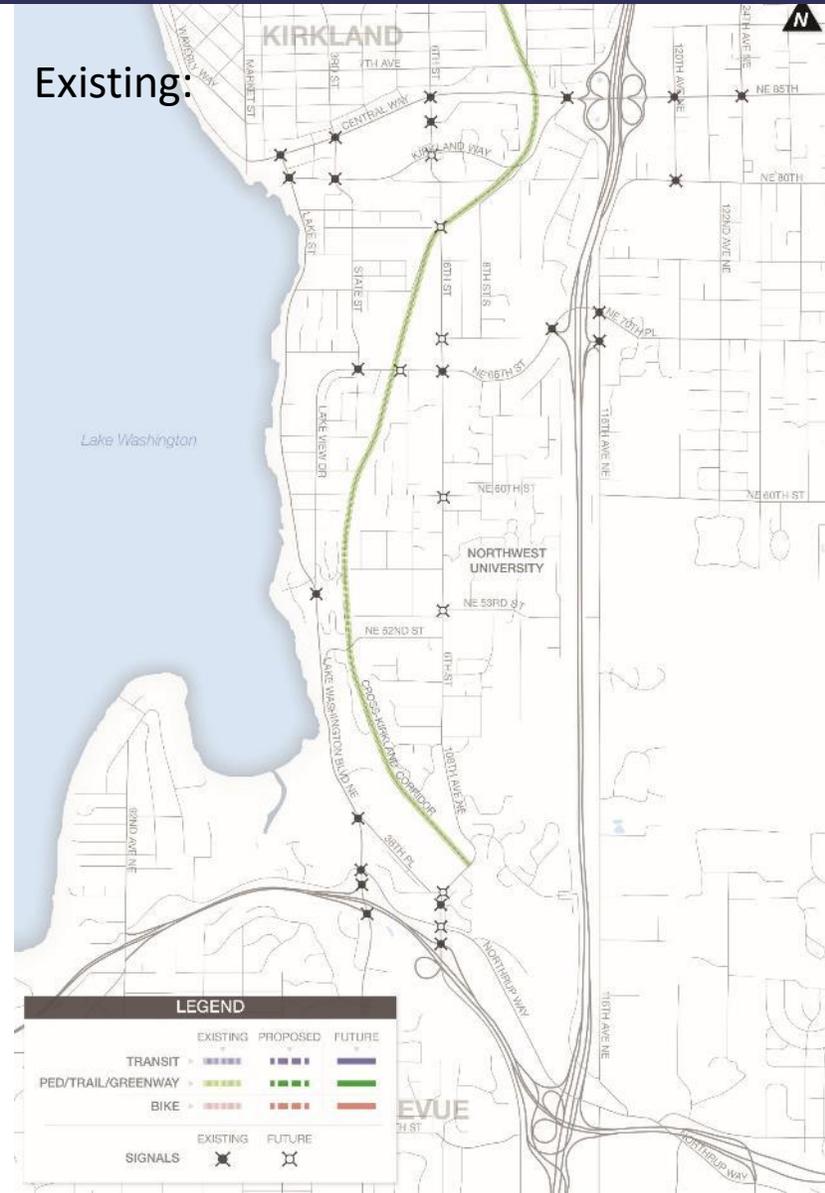
30,000 → 65,000 Jobs (117%)

Background Corridor Investments and Transit Performance Results

Background Corridor Investments

- **Pedestrian System**

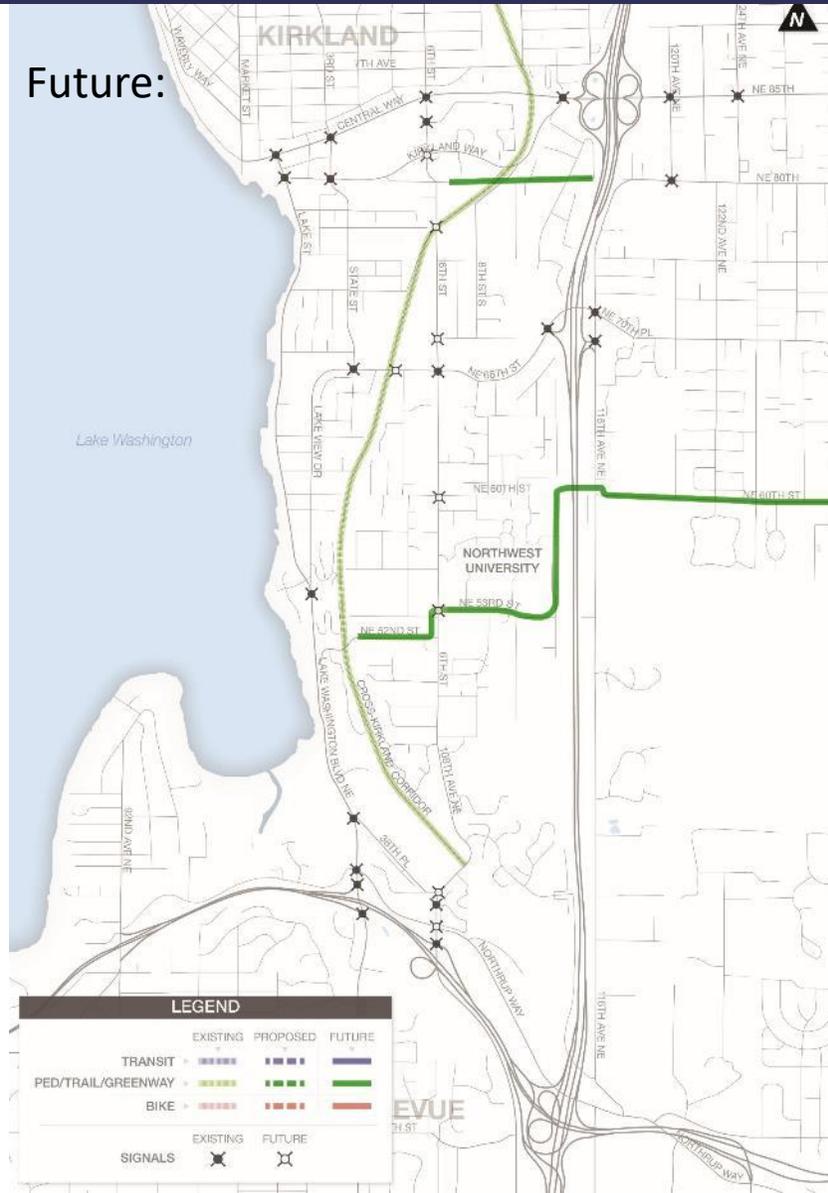
- Connecting Communities
- Walkable
- School routes



Background Corridor Investments

- **Pedestrian System**

- Connecting Communities
- Walkable
- School routes



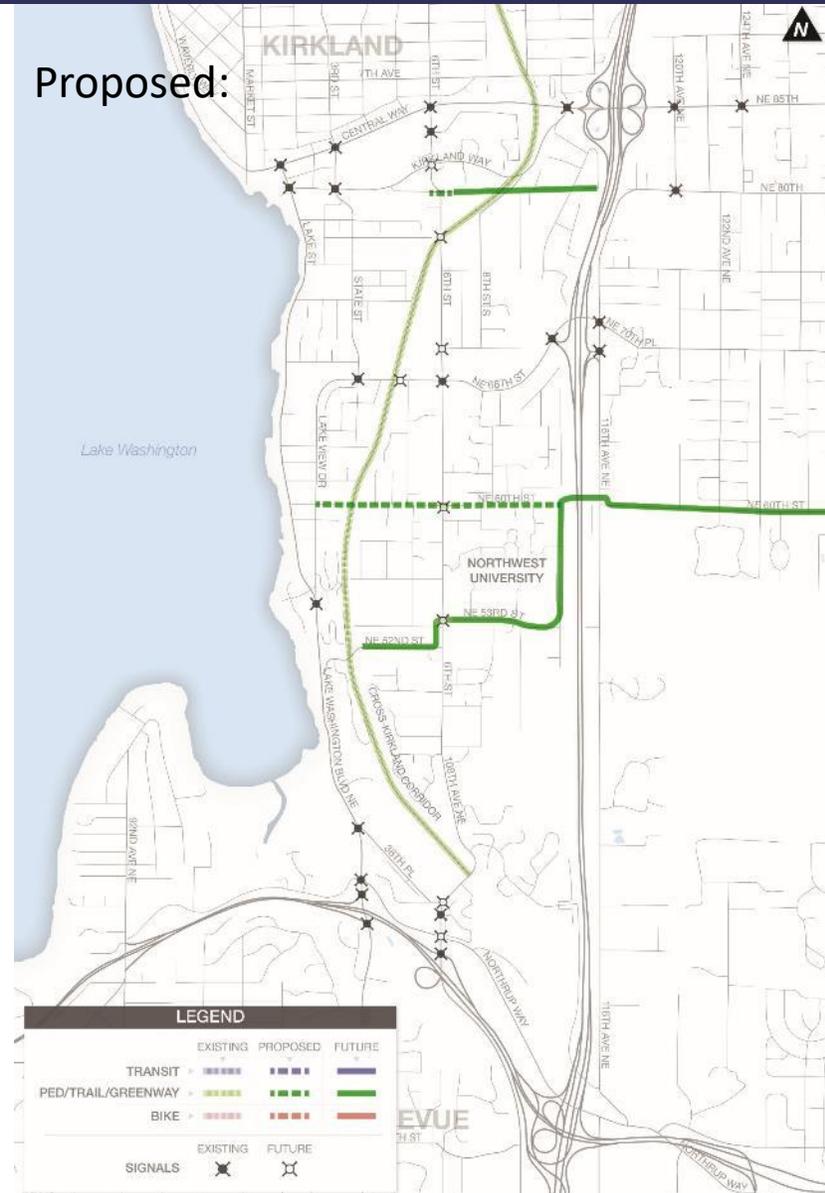
- **Future:**

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

Background Corridor Investments

- **Pedestrian System**

- Connecting Communities
- Walkable
- School routes



- **Future:**

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

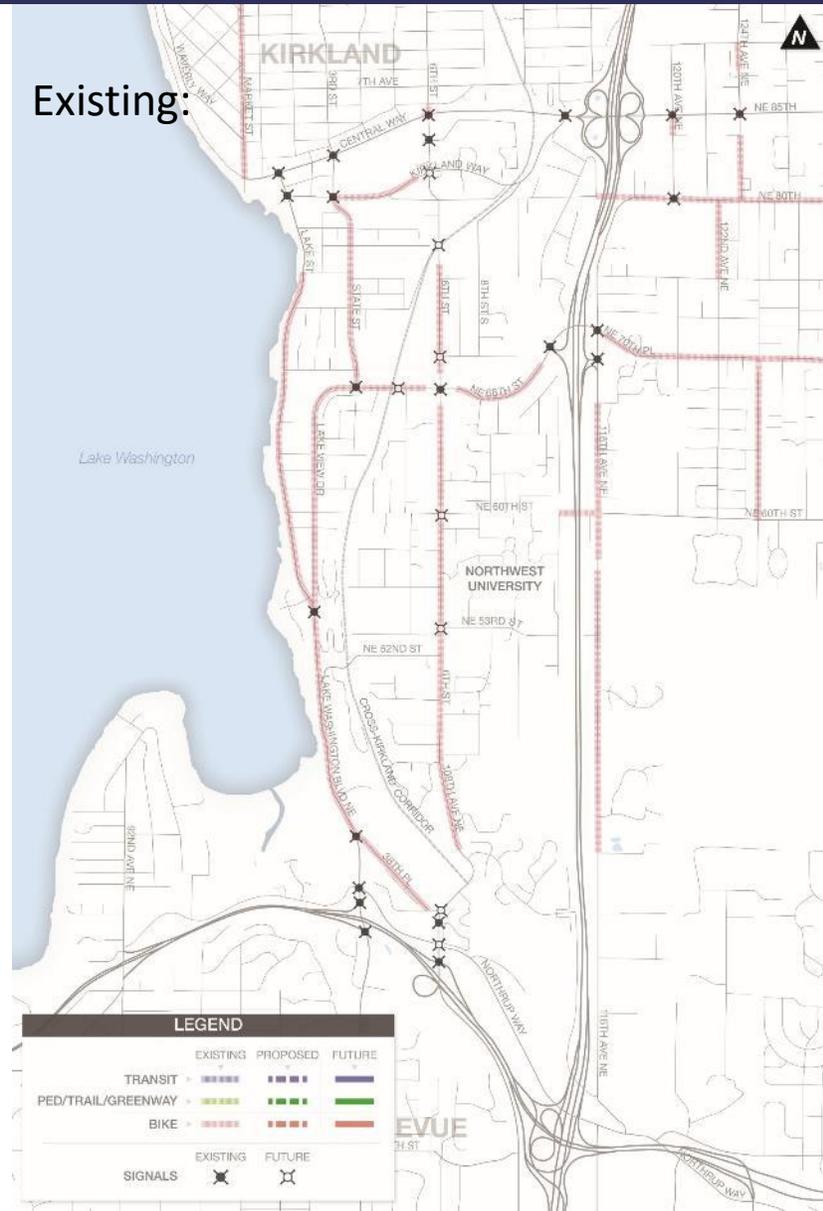
- **Proposed:**

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

Background Corridor Investments

- **Bike System**

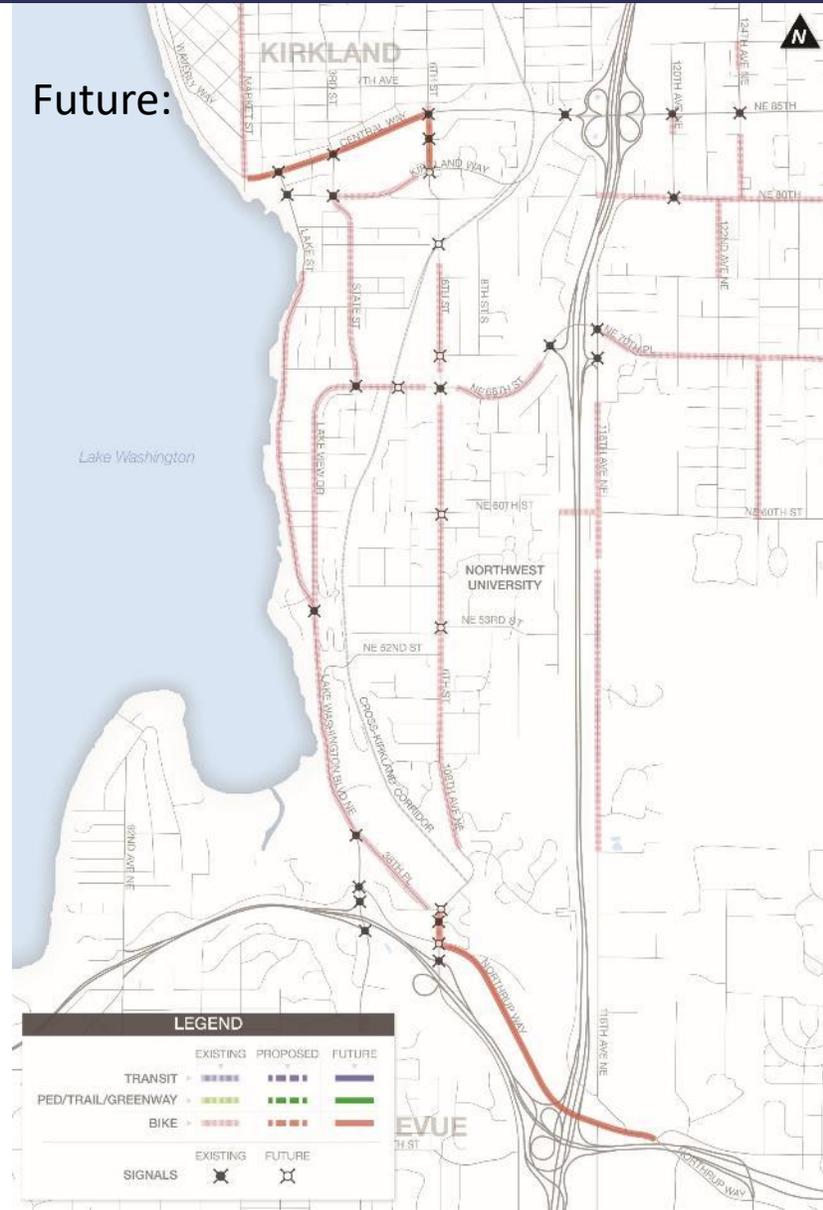
- Connecting Communities
- Walkable
- School routes



Background Corridor Investments

- **Bike System**

- Connecting Communities
- Walkable
- School routes



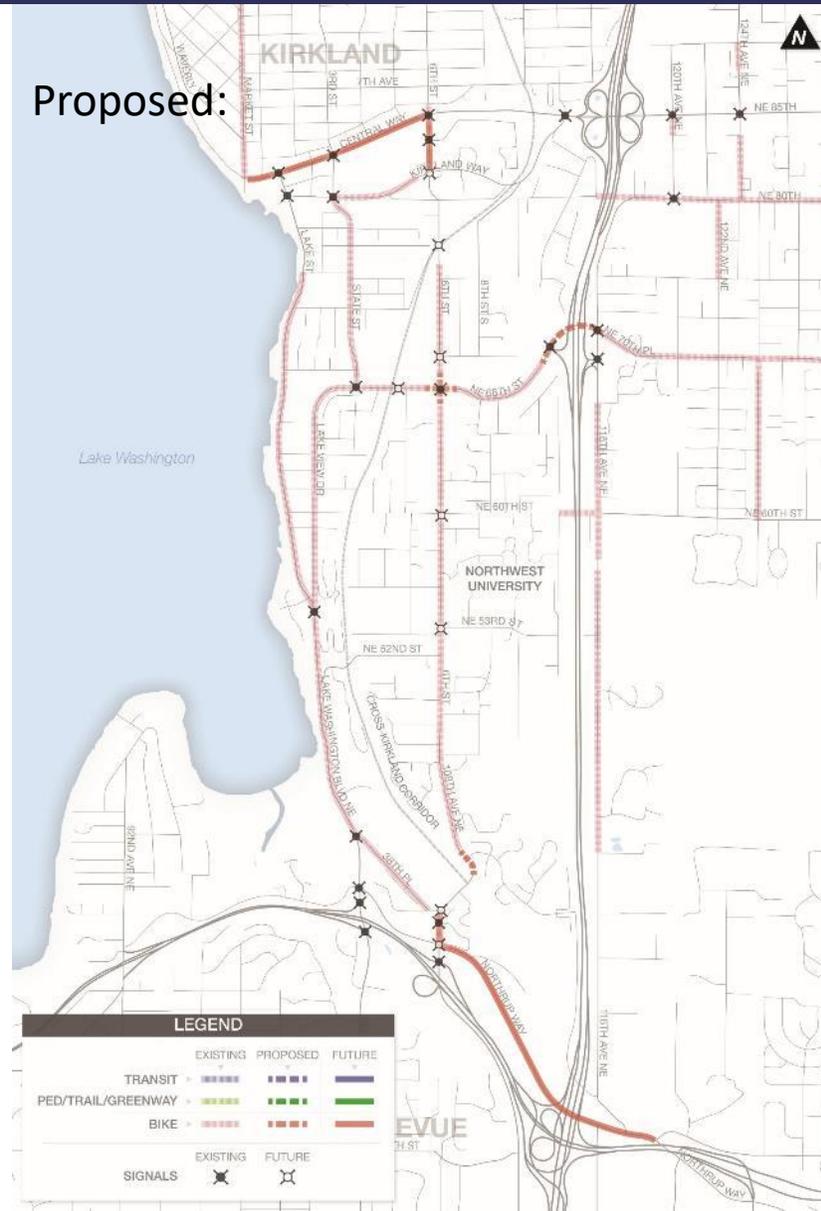
- **Future:**

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

Background Corridor Investments

- **Bike System**

- Connecting Communities
- Walkable
- School routes



- **Future:**

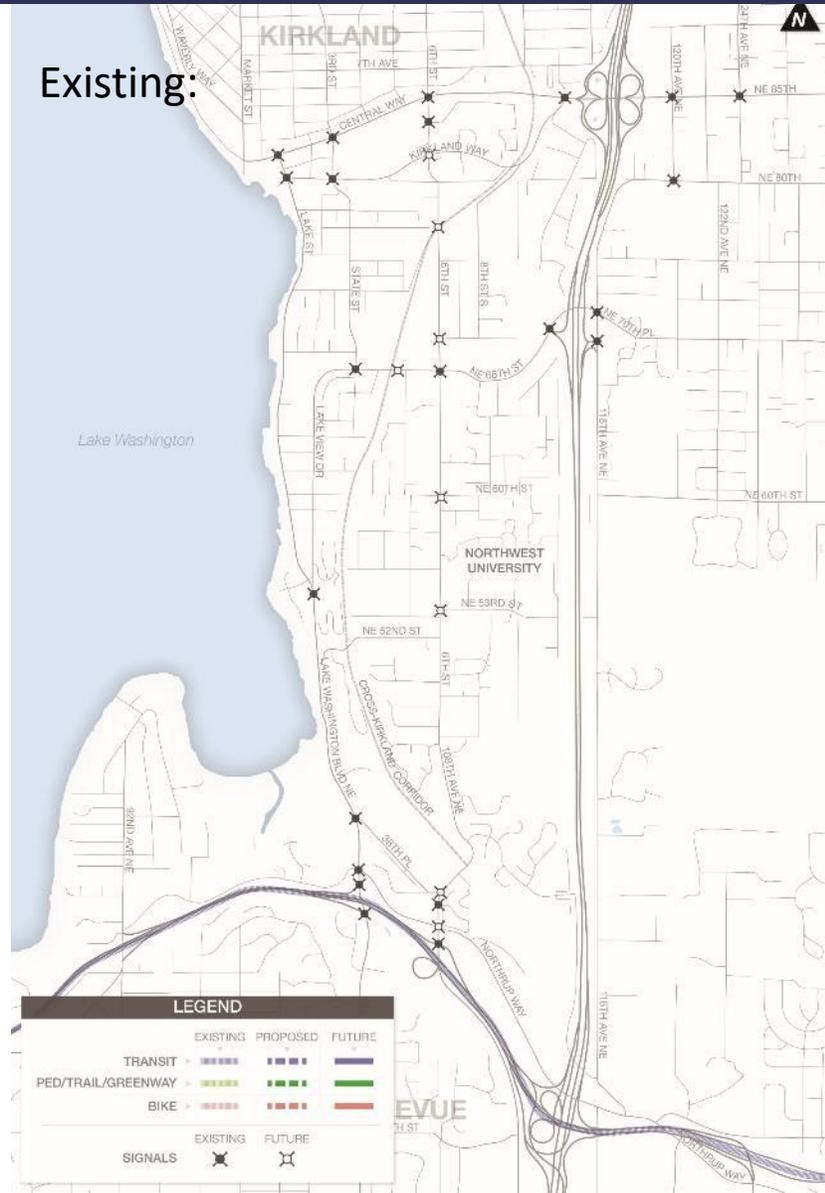
- Central Way / NE 6th Street bike facility
- Northup Way bike facilities

- **Proposed:**

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

Background Corridor Investments

- Transit
 - Moving People



Background Corridor Investments

- **Transit**

- Moving People

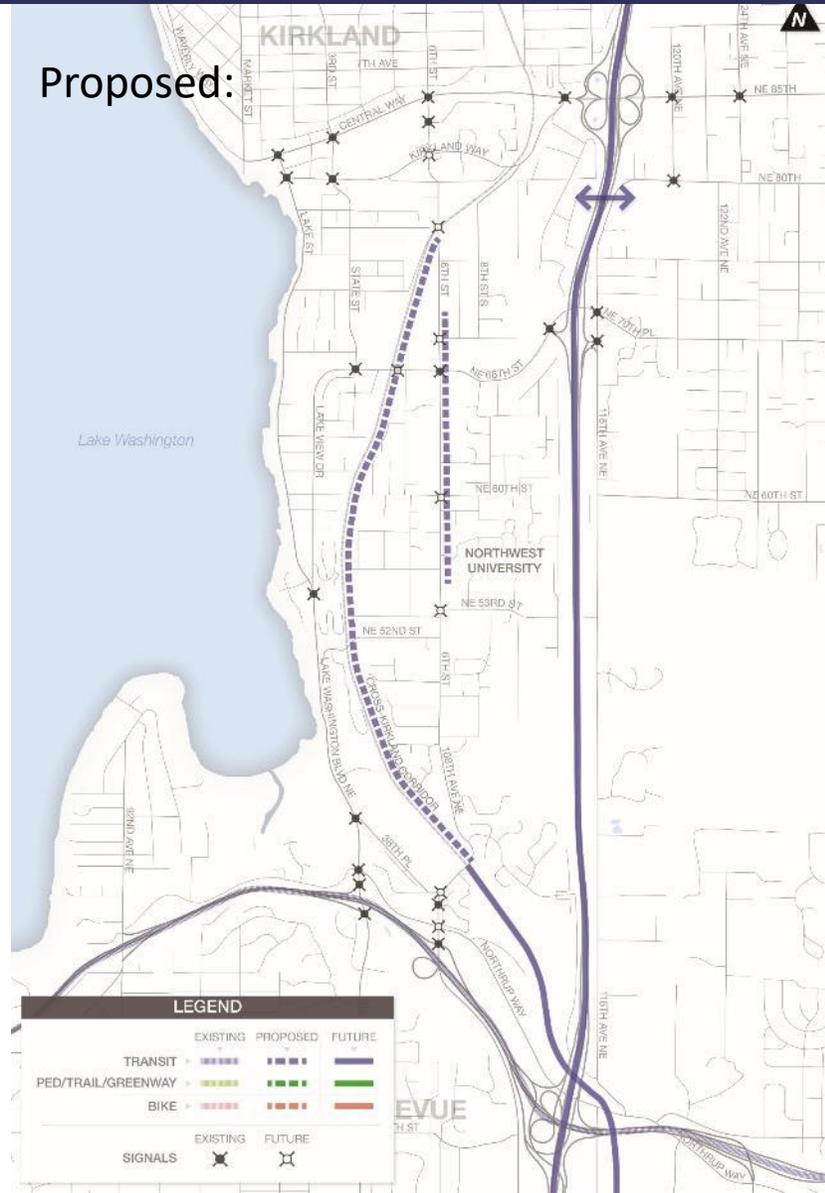


- **Future:**

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

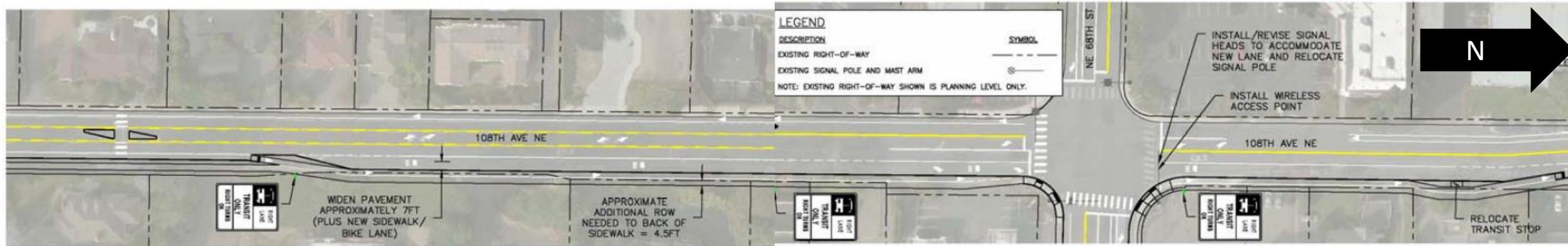
Background Corridor Investments

- **Transit**
 - Moving People



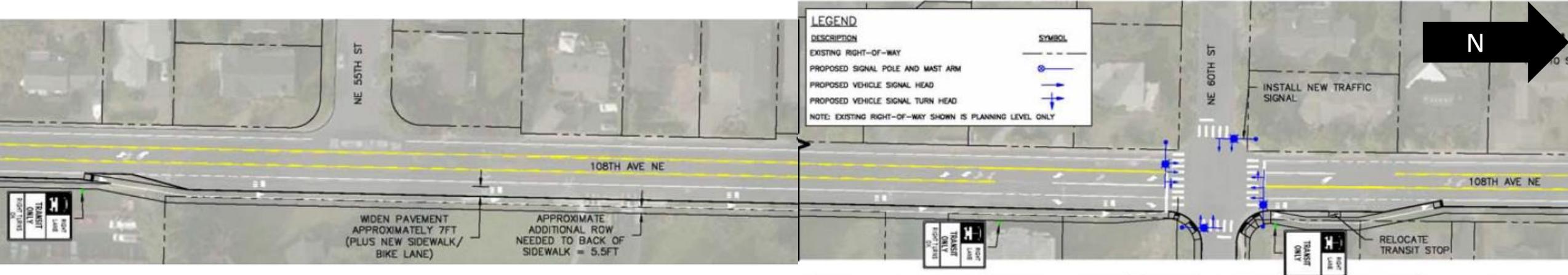
- Future:
 - Bus Rapid Transit on I-405
 - Light Rail to S Kirkland P&R
- Proposed:
 - Transit Signal Priority at 6th Street / Kirkland Way
 - HCT on the CKC
 - Bus intersection at 6th / CKC
 - Houghton P&R lease for Private Shuttle Use
 - Widen 108th to provide queue jump / new signal at NE 60th
 - 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

108th Avenue Transit Signal Priority at NE 68th St



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

108th Avenue Transit Signal Priority at NWU and NE 60th St



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

Investments to move people

- 108th Avenue Corridor

6th Street Corridor Future (2035) Operations with and without Transit Investments

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

Solutions Considered but Not Recommended

- Transit Signal Priority Options @ 108th Ave NE & NE 68th St
 - 7A – Left turn lane for transit only by time of day
 - 7C – Left turn lane combines transit and vehicles
 - 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 60th 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 @ 108th Ave NE & NE 68th St
 - Impacts to adjacent properties
 - Grade change dissuades use by peds

Houghton / Everest Neighborhood Background Growth and Traffic Generation

Houghton Everest Neighborhood Center Greater Change



Houghton Everest Development Scenarios

Uses	Existing	2035 Comp Plan	Modest Change (35')	Greater Change (55')
Residential Dwelling units	39	360	574	862
Retail (Square Feet)	105,092	113,480	113,480	113,480
- General Retail	61,217	69,605	69,605	61,217
- Supermarket	39,000	39,000	39,000	47,388
- Convenience Store	2,400	2,400	2,400	2,400
- Coffee Shop	2,475	2,475	2,475	2,475
Office (Square Feet)	73,150	122,476	122,476	122,476

Assumptions

- ITE Trip Rates
- Grocery expands (Greatest only)
- Total Retail only slightly more
- Office increases for all future build
- Convenience store stays the same
- Coffee shop stays the same
- Residential increases with height

Houghton Everest Neighborhood Center Growth From Existing to 2035

Scenario	Daily Vehicle Trips	PM Peak Hour Vehicle Trips
Existing Trips	9,853	677
2035 Comp Plan (30' Height)	12,903	898
Increased Trips over Existing	3,050	221
Percent Change over Existing	31%	33%

Trip Generation based on ITE (Institute of Transportation Engineers) Trip Generation Handbook

Houghton Everest Neighborhood Center Change Between 2035 Scenarios

Scenario	Daily Vehicle Trips	PM Peak Hour Vehicle Trips
2035 Comp Plan (30' Height)	12,903	898
2035 Modest Change (35' Height)	14,327	982
Increased Trips over Comp Plan	1,424	84
Percent Change over Comp Plan	11%	9%
2035 Greater Change (55' Height)	16,730	1,122
Increased Trips Over Comp Plan	3,827	224
Percent Change over Comp Plan	30%	25%

Trip Generation based on ITE (Institute of Transportation Engineers) Trip Generation Handbook

Growth in Trips to/from HE Development

Figure 1 - Daily Trips to/from Development

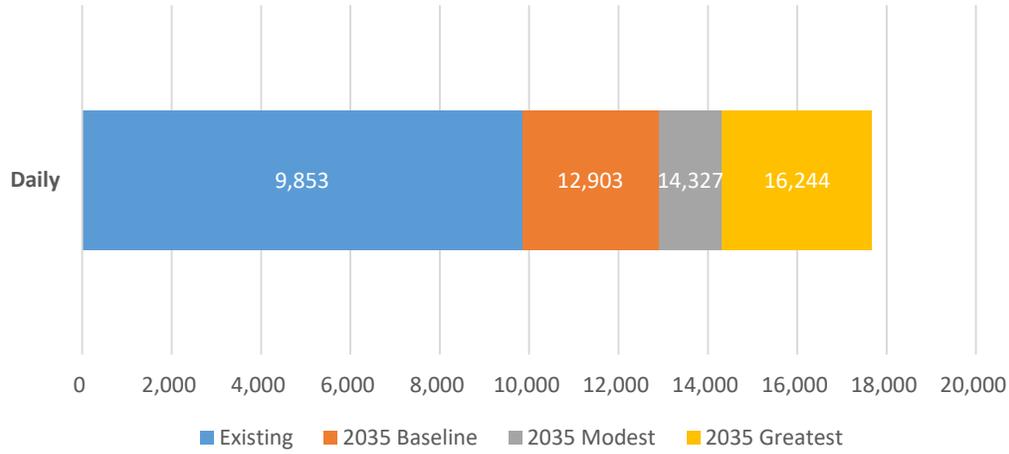
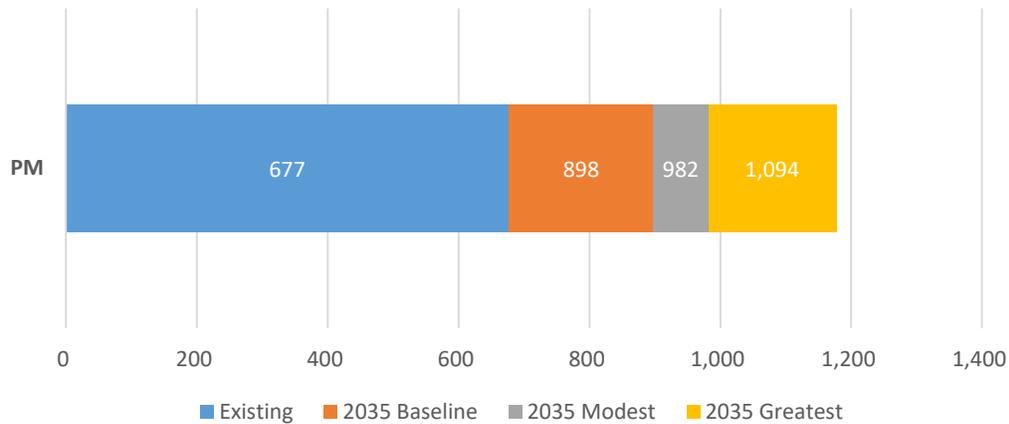
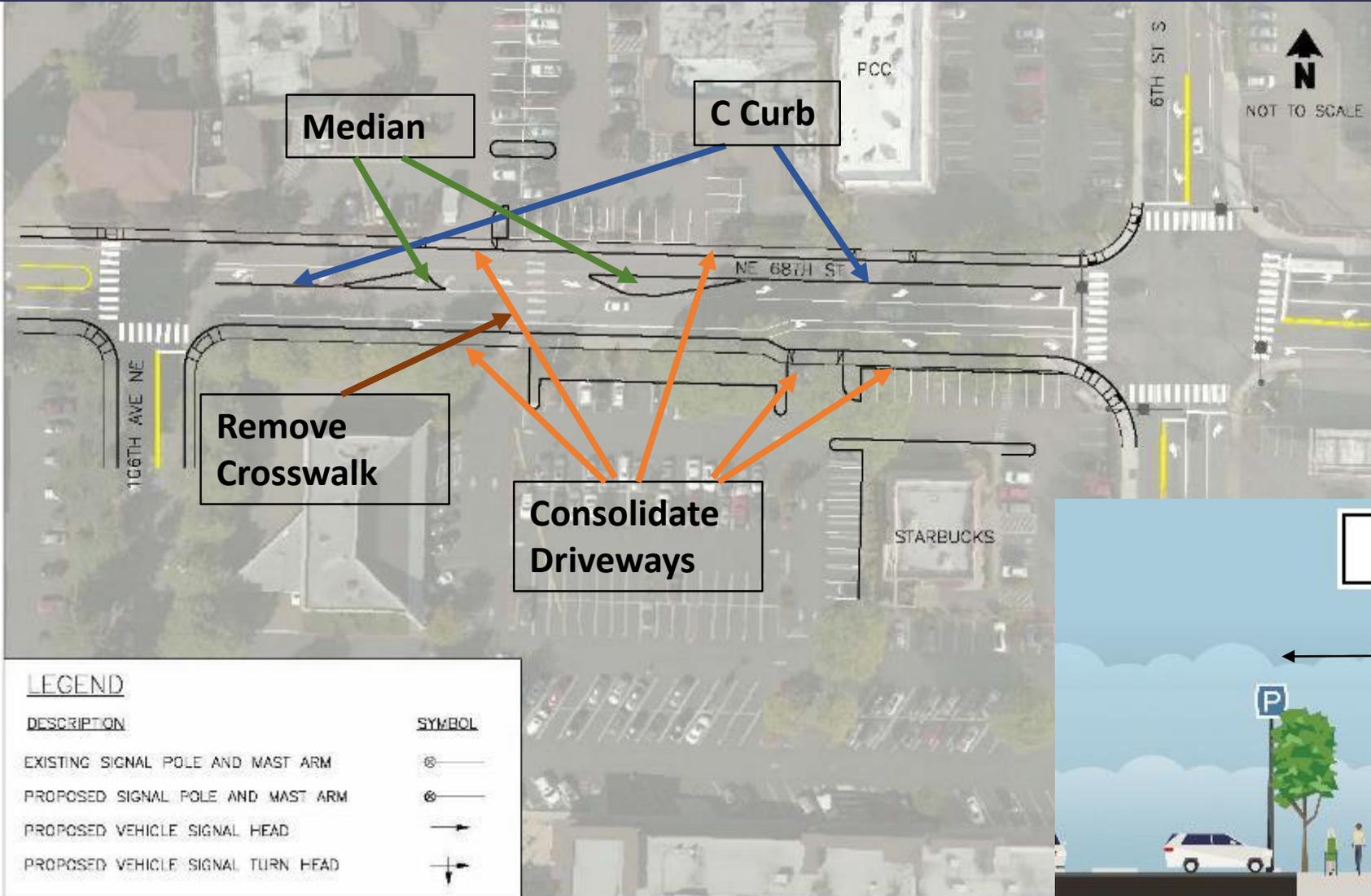


Figure 2 - PM Trips to/from Development



Houghton / Everest Center Investments

No Development: Access Consolidation



No Development: Access Consolidation

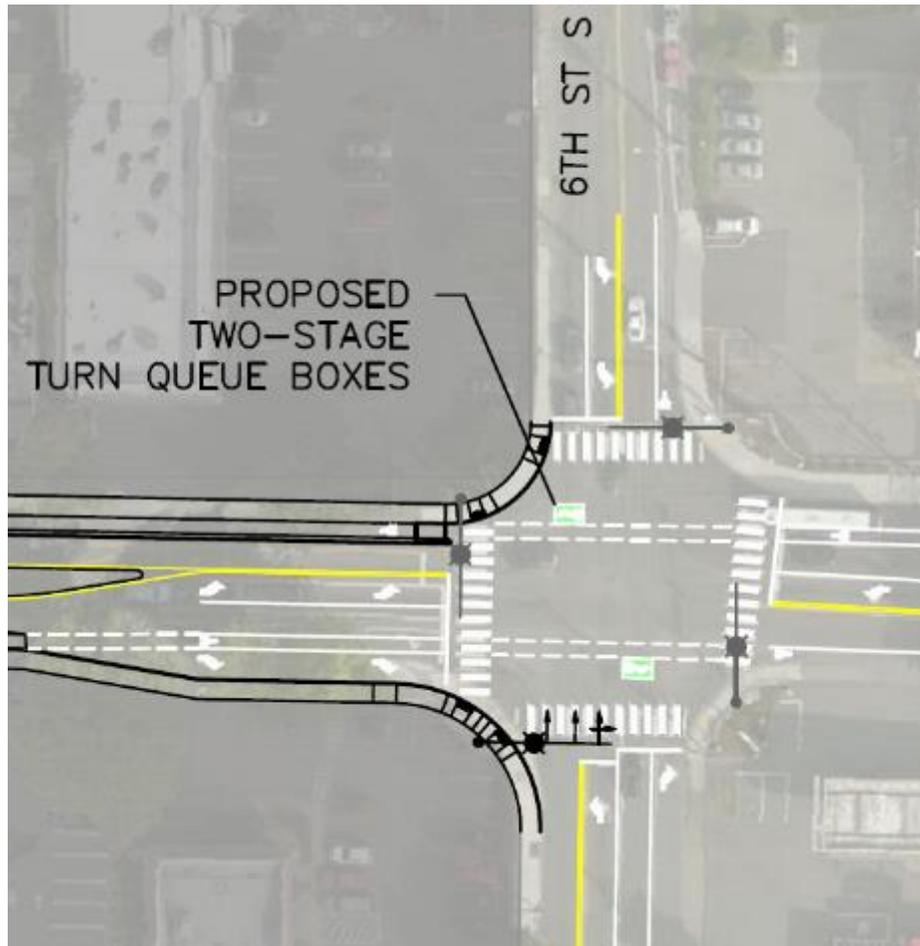


- Closely spaced driveways and intersections, bike lanes, as well as crosswalks on NE 68th Street results in numerous conflict points between vehicles, pedestrians and bicycles. Access management without any redevelopment or widening, could include some more minor access management strategies such as closing or consolidating driveways and potentially removing the pedestrian crossing.

Timeline	Cost	Movement of People	Connections	Capacity for Future	Recommend?
1-5 Years	\$\$	2	3	2	✓

- **Benefits**
 - Reduces conflicts for pedestrians, bikes and vehicles
 - Extends bike lanes
- **Challenges**
 - Consolidation of driveways impacts property owners
- **Recommendations**
 - **Implement if no changes are made to Houghton Everest Neighborhood Center Plan**
 - Coordinate with Property Owners

No Development: Green Bike Boxes at 68th / 108th



- 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. Green Bike Boxes could enhance bike visibility by placing a painted green bike at the front of vehicle queues. This may require widening.

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

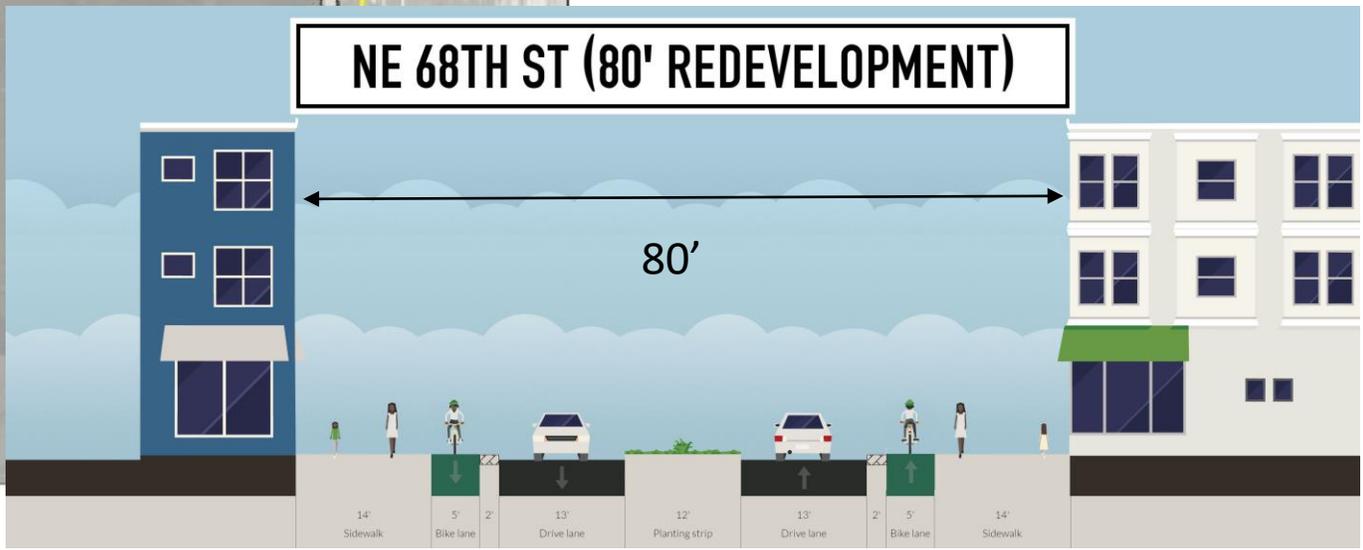
- **Benefits**
 - Increases visibility and safety for bike riders
- **Challenges**
 - Requires widening of 68th St, restriping and signal modifications
- **Recommendations**
 - Implement with redevelopment

Greater Change at HE Development: Signalized Access Only

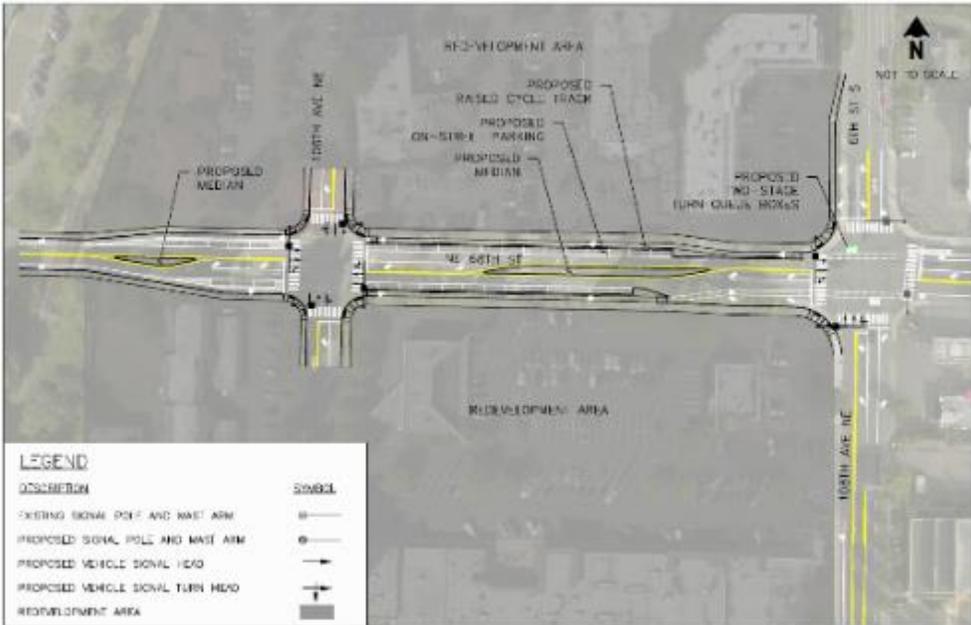


LEGEND

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	■



Greater Change at HE Development: Signalized Access Only



- Access management strategies includes installation of new full access traffic signals 106th Avenue provides fully controlled access with pedestrian crossings and Bike Lanes. Relies on redevelopment of adjacent land uses and assumes circulation on-sites (off street).

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

• Benefits

- Reduced conflicts improved access and local circulation
- Extends bike lanes

• Challenges

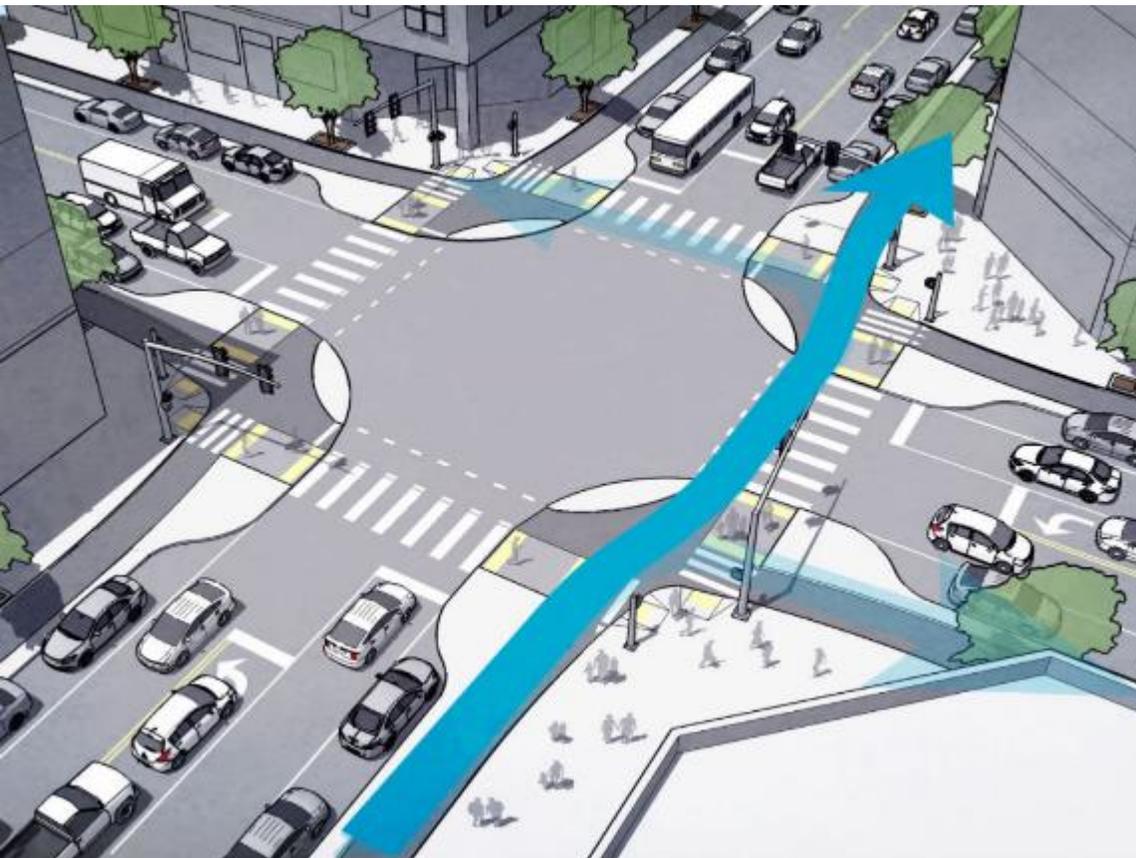
- Coordination with property owners

• Recommendations

- Implement if greater changes are made to Houghton Everest Neighborhood Center Plan
- Coordinate with property owners

Greater Change at HE Development: Full Bike Intersection

Sample Full Bicycle Intersection at 68th / 108th:



- 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

Impact at the Adjacent Intersection

NE 68th/108th/6th Intersection Operations

Scenario	LOS	Delay (sec/veh)	Total Entering Vehicles	Project Investments
1. Existing	E	62	2,520	<ul style="list-style-type: none"> Existing Infrastructure
2. Comp Plan 2035	F	142	3,855	<ul style="list-style-type: none"> Consolidate Access Points at 68th St and 108th Ave Green Bike Boxes
3. 2035 Moderate Change (1)	F	148	3,920	<ul style="list-style-type: none"> Consolidate access points at 68th St and 108th Ave Green bike boxes at 68th & 108th intersection 60' wide NE 68th St
4. 2035 Moderate Change (2)	F	111	3,920	<ul style="list-style-type: none"> Consolidate Access Points at 68th St and 108th Ave Green Bike Boxes at 68th St & 108th Ave 60' wide NE 68th St Southbound right turn lane on 6th St at NE 68th St
5. 2035 Greater Change (1)	F	158	4,025	<ul style="list-style-type: none"> Signalized access to developments only at NE 106th St 80' wide NE 68th St Full bicycle intersection
6. 2035 Greater Change (2)	F	119	4,025	<ul style="list-style-type: none"> Signalized access to developments only at NE 106th St 80' wide NE 68th St Full bicycle intersection Southbound right turn lane on 6th St at NE 68th St₃₄

Questions?

