Council Meeting Date: April 11, 2016 **Agenda Item:** 8(c)

CITY COUNCIL AGENDA ITEM

CITY OF SHORELINE, WASHINGTON

AGENDA TITLE:	Adoption of the 145th Street Multimodal Corridor Study Preferred Design Concept
DEPARTMENT:	Public Works Department
PRESENTED BY:	Kurt Seemann, Senior Transportation Planner Nytasha Sowers, Transportation Services Manager
ACTION:	____ Ordinance ____ Resolution __X_ Motion ____ Discussion ____ Public Hearing

PROBLEM/ISSUE STATEMENT:

Tonight, Council will be asked to adopt the Preferred Design Concept for the 145th Street Multimodal Corridor Study. Council last discussed the 145th Street corridor study at their March 21, 2016 Council meeting. That discussion included an overview of the Preferred Design Concept and feedback from the public on the Preferred Design Concept received at the third corridor study open house held in February 2016.

During the Council's discussion on March 21, Council requested staff to re-evaluate the proposed concept for the Interstate-5 interchange, especially given the public feedback that more could be done in this area. This report enhances the proposed I-5 interchange concept as directed by Council and includes this concept in the Preferred Design Concept for the corridor. The Preferred Design Concept is included as Attachment A to this staff report.

RESOURCE/FINANCIAL IMPACT:

The 145th Street Multimodal Corridor Study has a total budget of $596,000, with revenues of $246,000 from the US Department of Transportation's Surface Transportation Program (STP) and the balance from the City of Shoreline Roads Capital Fund. There is no immediate financial impact associated with the continued design work on 145th Street.

RECOMMENDATION

Staff recommends that Council move to adopt the Preferred Design Concept for the 145th Street Multimodal Corridor Study.

Approved By: City Manager ***DT*** City Attorney ***MK***

BACKGROUND

As Council has discussed several times over the past few years, the 145th Street corridor is in need of significant upgrades in order to improve pedestrian and bicycle mobility, safety and operations, transit speed and reliability, and freight mobility. 145th Street also lacks a sidewalk system that complies with the Americans with Disabilities Act (ADA). Traffic volumes are anticipated to increase with regional growth and the future light rail station at 145th Street and Interstate-5. Upgrades are needed to accommodate future development of the corridor as well as to improve safety for bicycles and pedestrians and to provide adequate speed and reliability for transit.

The 145th Street Multimodal Corridor Study began in early 2015 by defining project goals and evaluation criteria. The project team then began analyzing existing conditions and developing study concepts to "bookend" the range of concepts that would improve how the corridor addresses pedestrian, bicycle, transit, and vehicular mobility, while considering and balancing impacts to right-of-way and potential project costs.

Staff has engaged in ongoing robust community outreach, including holding three open houses, meeting with numerous neighborhood groups and property owners, and conducting regular meetings with a Citizen Advisory Task Force (CATF) as well as ongoing local agency coordination with the Inter-jurisdictional Technical Team (ITT). Information and materials from all three open houses can be found on the City's 145th Street Multimodal Corridor Study Project Webpage: http://www.shorelinewa.gov/government/departments/145th-street-corridor.

Council last discussed the 145th Street corridor study at their March 21, 2016 Council meeting. That discussion included an overview of the Preferred Design Concept and feedback from the public on the Preferred Design Concept received at the third corridor study open house held in February 2016. The staff report for this discussion can be found at the following link: http://cosweb.ci.shoreline.wa.us/uploads/attachments/cck/council/staffreports/2016/staffreport032116-9b.pdf.

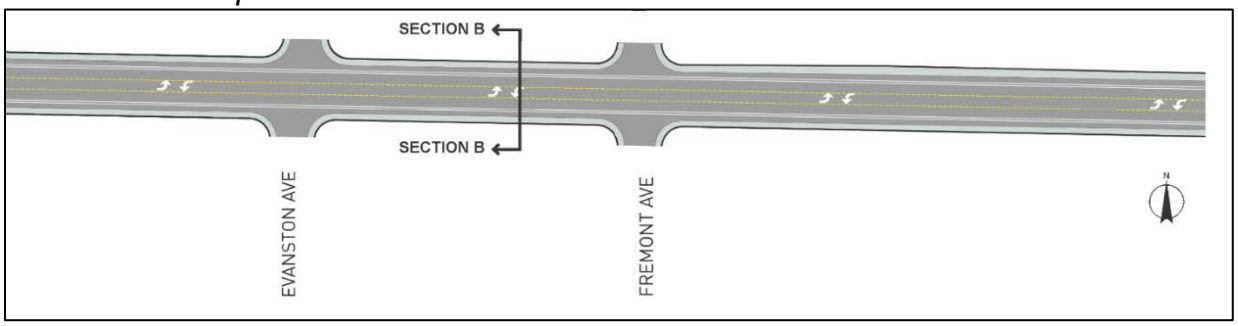
DISCUSSION

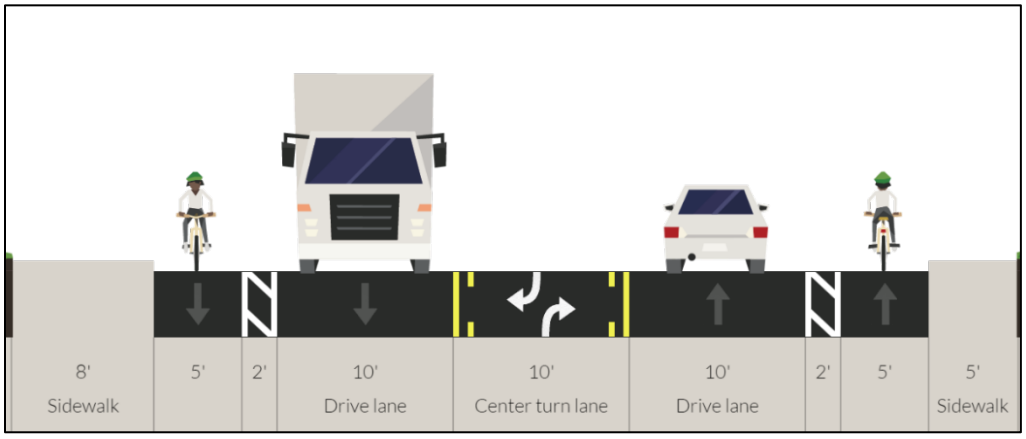
The Preferred Design Concept (Attachment A) is described in below by corridor section. In summary, the Preferred Design Concept reflects a strategy to maximize benefits in terms of meeting project goals, while minimizing cost impacts and effects on properties. The Preferred Design Concept is a vision for multimodal transportation improvements that reflects input from the community, the ITT and the CATF.

In developing the Preferred Design Concept, four unique context areas, or sections, were considered: 3rd Avenue NW to Aurora Avenue N, Aurora Avenue N to Interstate-5, the Interstate-5 Interchange, and Interstate-5 to SR522 (Lake City Way). While the corridor varies throughout, these areas were identified because of their similar context in terms of traffic volumes, collision records, and land use. In the Preferred Design Concept, these sections are further refined into subsections. The subsections associated with each section are noted below.

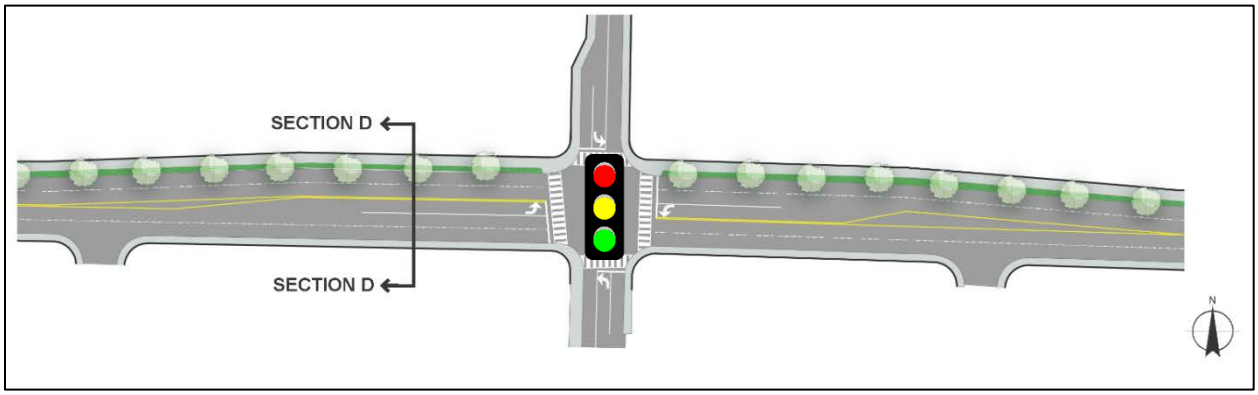
Section 1. 3rd Avenue NW to Aurora Avenue N (Subsections A and B)
The Preferred Design Concept in this section will improve signalized intersections by adding left-turn and right turn capacity, improving signal timing, and rebuilding sidewalks to City standards. This includes the intersections of Aurora Avenue, Linden Avenue, and Greenwood Avenue. For the area between Linden Avenue and Greenwood Avenue (see below), traffic volumes in this area are low enough that a three lane section will function better than the existing four lanes. This concept provides a center turn lane to allow turning vehicles to get out of the through lanes, which reduces friction and improves traffic flow in the through lanes. A three lane section improves safety for pedestrians because it moves cars further away from the sidewalks and three lanes are safer to cross than four traffic lanes. In addition, three lanes provide room to include buffered bike lanes on the street from Greenwood Avenue to Linden Avenue which connect to the Interurban Trail.

Preferred Concept Overview: Linden Avenue to Greenwood Avenue

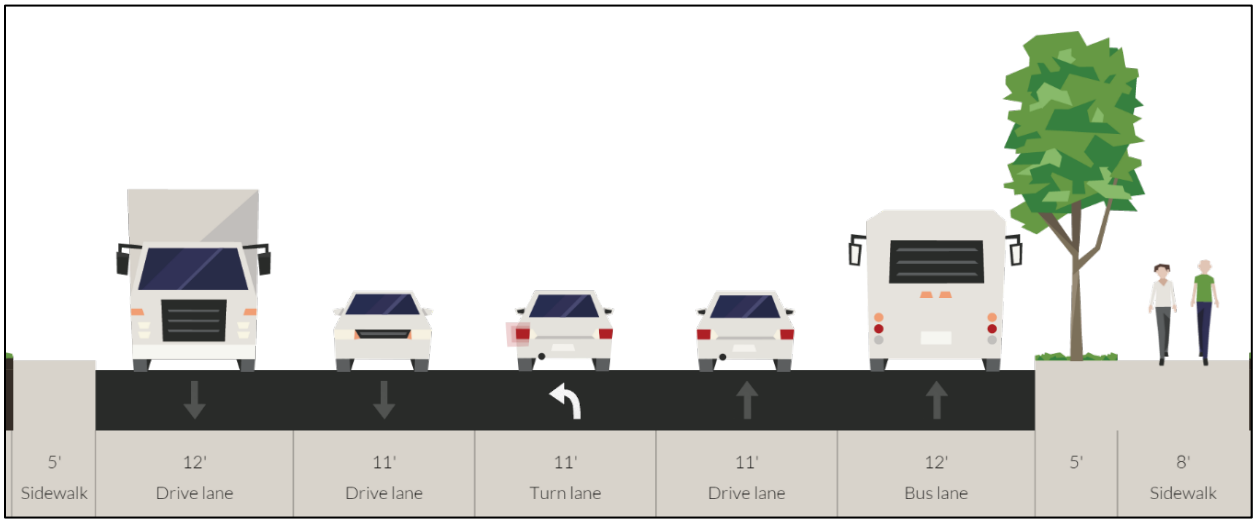




Section 2. Aurora Avenue N to Interstate-5 (Subsections C and D)
In this section, the focus is on improving intersection safety and operations. By improving signalized intersections, including adding left turns and signal timing changes, traffic flow will improve which will reduce delay for buses and improve air quality. A new traffic signal is proposed at Ashworth Avenue, which has the benefit of providing another crossing location for pedestrians.

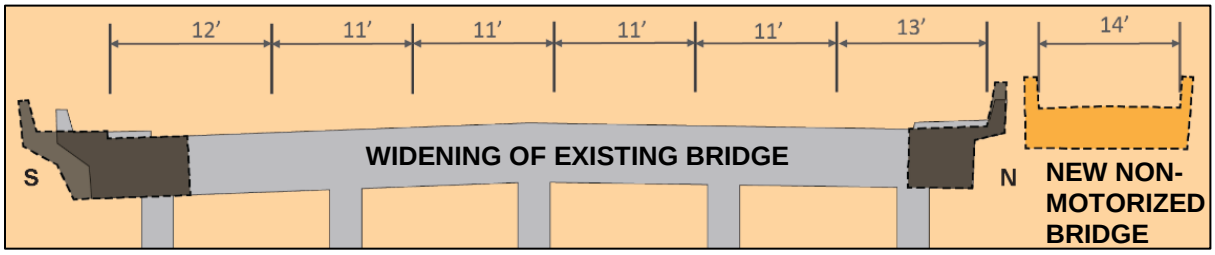


At the intersections where improvements are proposed – 1st Avenue, Meridian Avenue, Ashworth Avenue, and Aurora Avenue - new sidewalks will be implemented that meet City standards. This section will include new ADA accessible curb ramps, improved crosswalks and pedestrian countdown signals. It will be supportive of transit through a combination of capacity improvements, transit signal priority (TSP), new wheelchair accessible bus stops, and ADA accessible sidewalks to support pedestrian connections. Bicycle connections will be strengthened on the off-corridor network from the Interurban Trail to the future light rail station.



Section 3. Interstate-5 Interchange (Subsection E)
Within the Interstate-5 interchange area, staff worked with the Washington State Department of Transportation (WSDOT) and Sound Transit (ST) to develop a Preferred Design Concept that will improve mobility and safety for all transportation modes and improve non-motorized access to the future light rail station.

The 145th Street bridge over Interstate-5 is currently five (5) lanes. The concept proposes to modify the bridge to provide for six (6) lanes. This allows more left-turn storage, which will improve the east-west traffic flow.



In addition, the Preferred Design Concept for the interchange proposes an eastbound 145th Street to northbound Interstate-5 button-hook ramp so that vehicles will be able to turn right and loop under the bridge to access Interstate-5 northbound, which will help traffic flow considerably. Traffic signal timing and transit signal priority enhancements will also improve the bus travel through the interchange area.

The existing sidewalk on the north side of the bridge will be replaced with a new, separate but adjacent non-motorized bridge that will tie into the off-corridor bike network and will connect to the future light rail station. Walkways and crosswalks will be fully upgraded to provide ADA accessibility.

Since the March 21 City Council meeting, staff have refined the traffic modeling for the interchange area and have developed a more detailed description of the improvement concepts at the interchange. The improvement concepts are depicted as Figure 2 in the Preferred Design Concept (Attachment A).

This refined concept best supports the light rail station design including connections to the pedestrian plaza/gateway entrance at the northwest corner of 145th Street and 5th Avenue. Significant operational, safety, and non-motorized improvements are the outcome with this concept that is most feasible and fundable. Benefits of this refined concept include:

Non-motorized Features

- Pedestrian and bike facilities are shown mainly on the north side of 145th Street because it provides the most direct connection to the future light rail station as well as a connection to higher density residential neighborhoods.
- Design provides a grade-separated crossing for non-motorized traffic over the southbound I-5 off-ramp and I-5 mainline. The off-corridor bike network feeds directly into this facility.
- Non-motorized crossing of I-5 provides at-grade connection to the future light rail plaza. This is the area of the light rail station that provides for ticketing and access to the center boarding platform.
- At grade crossings and pedestrian connections are proposed to the station entrance plaza in the vicinity of the 5th Avenue/145th Street intersection. This is the gateway to the transit station and will look and function very differently from how it does today. Safe and pedestrian-supportive design will be consistently applied and implemented both in design of the station entrance and adjacent streets and intersection.

Roadway Operations Features

- New button-hook on-ramp allows eastbound 145th Street to northbound I-5 traffic to turn right on 5th Avenue and loop under the bridge. This improves signal operations by removing those left turns from the 5th Avenue intersection.
- As noted previously, the existing 5-lane bridge will be widened to six lanes, providing additional storage for left-turns. This improves traffic flow in the through lanes across the 145th Street bridge and improves signal operations.
- Additional intersection operations improvements include:
  1. New eastbound right turn lane to southbound I-5.
  2. New southbound off-ramp right turn lane.
  3. New westbound right turn lane at 5th Avenue.
- Traffic signal level of service standards (LOS) for Shoreline and WSDOT are met or exceeded by this design for the design year 2035 –with intersection and ramps operating at a Level of Service C and D.

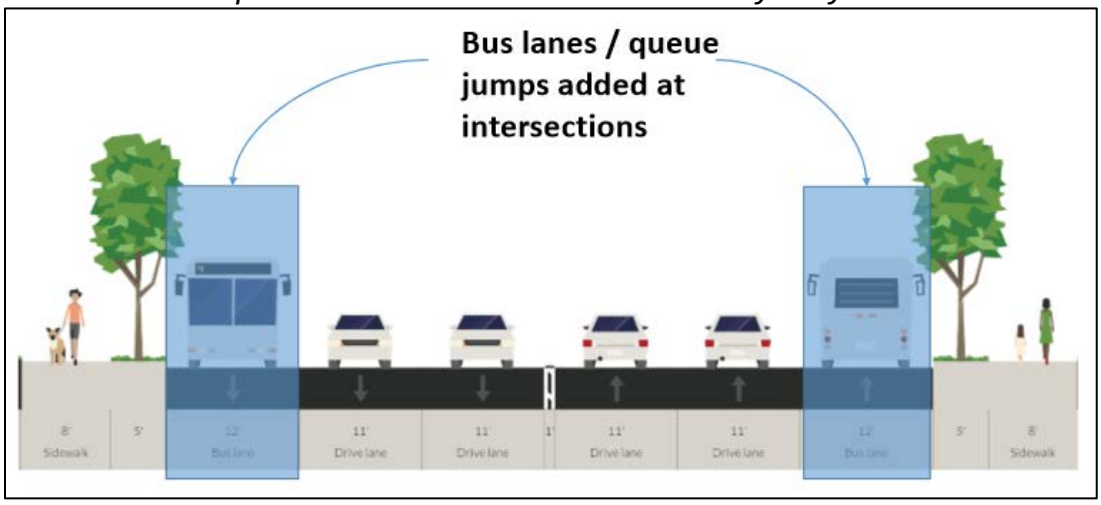
Transit Operations at and Adjacent to the New Light Rail Station

- Direct connections to and circulation within the light rail station is strongly preferred by both King County Metro and ST. This is the safest, most convenient, and most efficient approach for transit users under the proposed future service scenarios.
- The proposed concept provides flexibility for future east-west transit service. Right turn lanes in both directions allows for transit signal priority and queue jumps. There is also adequate space on the corridor east and west of NE 5th Street to place transit stops and passenger waiting areas to support potential, future expanded transit service.

Section 4. Interstate-5 to Lake City Way (SR-522) (Sections F through K)

In the Preferred Design Concept, the majority of this section will include two through lanes in both directions with intermittent Bus And Turn (BAT) lanes, and widening for left turns at intersections (see cross section below). There will be capacity improvements at intersections with left-turn and right turn lanes, and improved signal timing. In addition, the traffic signals will recognize on-coming buses and adjust signal timing to prioritize the bus movement.

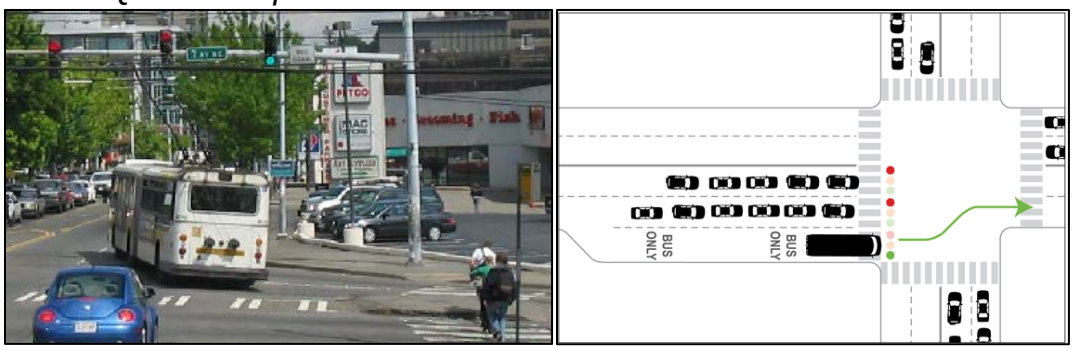
Preferred Concept Overview: Interstate-5 to Lake City Way



For safety, left-turn access will be restricted mid-block west of 30th Avenue NE. New sidewalks with a landscape buffer will greatly improve pedestrian safety and mobility on 145th Street. This section will include City standard sidewalks, new ADA accessible curb ramps, improved crosswalks and pedestrian countdown signals, and a new mid-block crosswalk and pedestrian refuge at 17th Avenue NE.

The corridor will be supportive of High Capacity Transit (HCT) through a combination of traffic signal queue-jumps, intermittent BAT lanes, transit signal priority (TSP), new wheelchair accessible bus stops, and continuous sidewalks to support pedestrian connections. Transit queue jumps (illustration follows) allow a bus to get around and jump ahead of backed up through traffic at a signalized intersection.

Transit Queue Jump Illustration



Bicycle connections will be strengthened on an off-corridor bike network from the Burke-Gilman Trail to the Interurban Trail, which will provide a parallel route to connect the future light rail station. Enhancing the bike network off the 145th Street corridor allows for safe bike use and minimizes impacts to properties. The off-corridor bike network is depicted as Figure 1 in the Preferred Design Concept (Attachment A).

Possible Property Impacts and Costs

The following tables lists the possible property impacts of the Preferred Design Concept for three of the corridor sections (the Interstate-5 Interchange is not included). The possible impacts include:

- **Right-of-way (ROW) Impacts** indicate the total area of new ROW acquisition required in addition to full parcel acquisition.
- **Total Acquisitions** indicate the number of parcels that will need to be completely acquired to construct the design concept
- **Parcel Impacts** indicate the number of parcels that will be affected by ROW acquisition, both partial and full.
- **Total Number of Parcels** indicates the total number of parcels adjacent to that section of the corridor.

3rd Avenue NW to Aurora Avenue N	
ROW Impacts (ft^2)	10,000
Total Acquisitions	0 (0%)
Parcel Impacts	11 (22%)
Total Number of Parcels	51

Aurora Avenue N to Interstate-5	
ROW Impacts (ft^2)	15,000
Total Acquisitions	22 (23%)
Parcel Impacts	44 (46%)
Total Number of Parcels	96

Interstate-5 to Lake City Way (SR522)	
ROW Impacts (ft^2)	130,000
Total Acquisitions	21 (17%)
Parcel Impacts	100 (83%)
Total Number of Parcels	120

The table below provides rough cost estimates for the Preferred Design Concept:

Cost Opinion Estimate	
Interstate-5 to Lake City Way	$82,000,000
Interstate-5 Interchange	$21,000,000
Aurora Avenue N to Interstate-5	$38,000,000
3rd Avenue NW to Aurora Avenue N	$9,200,000
Total	**$150,200,000**

Next Steps

With Council adoption of the Preferred Design Concept, staff will advance project development for improvements on the 145th Street corridor. These actions will include the following:

- **3rd Avenue NW to Aurora Avenue N:** staff will work with SDOT and the City of Seattle to develop this project.
- **Aurora Avenue N to Interstate-5:** staff will advance this section through final design funded by a Puget Sound Regional Council Countywide grant. Staff will continue to pursue funding for ROW acquisition and construction of this section with granting agencies.
- **Interstate-5 Interchange:** staff will continue partnerships with WSDOT, Sound Transit, and the Seattle Department of Transportation (SDOT) to capitalize on the momentum for this project. Staff will pursue funding for this project with the goal of having the improvements completed before the opening of the light rail station. The City is requesting funds for the interchange work.
- **Interstate-5 to Lake City Way:** staff will continue to work with Sound Transit and partner agencies to advocate for this project to be funded through ST3. This section of the corridor was included in the draft ST3 plan that was released on March 24. The final project list to be included in the ST3 ballot measure will be approved by the Sound Transit Board in June 2016.
- **Off-corridor Bike Network:** staff will work closely with SDOT to develop this project.

STAKEHOLDER OUTREACH

The City held three very well-attended and successful open houses on the 145th Street Corridor Study. At the second Open House on September 30, 2015, the draft study concepts that had been developed with input from the community and project stakeholders were presented as "bookends" to illustrate the range of possible improvements along the corridor. Many of the attendees, while supportive of the overall improvements, expressed concern over impacts to individual properties along the corridor, where many houses, buildings, and other structures are very close to the existing right-of-way.

At the third and final open house on February 24, staff presented the Preferred Design Concept. As was noted at the March 21 Council meeting, participants attending this open house were overwhelmingly in support of the Preferred Design Concept.

In addition to the open houses, staff has worked closely and held 12 meetings with the ITT and worked closely and held nine (9) meetings with the CATF throughout this process. Staff also met with 10 neighborhood groups last fall and in early 2016 and hosted three (3) property owner meetings before the third open house.

RESOURCE/FINANCIAL IMPACT

The 145th Street Multimodal Corridor Study has a total budget of $596,000, with revenues of $246,000 from the US Department of Transportation's Surface Transportation Program (STP) and the balance from the City of Shoreline Roads Capital Fund. There is no immediate financial impact associated with the continued design work on 145th Street.

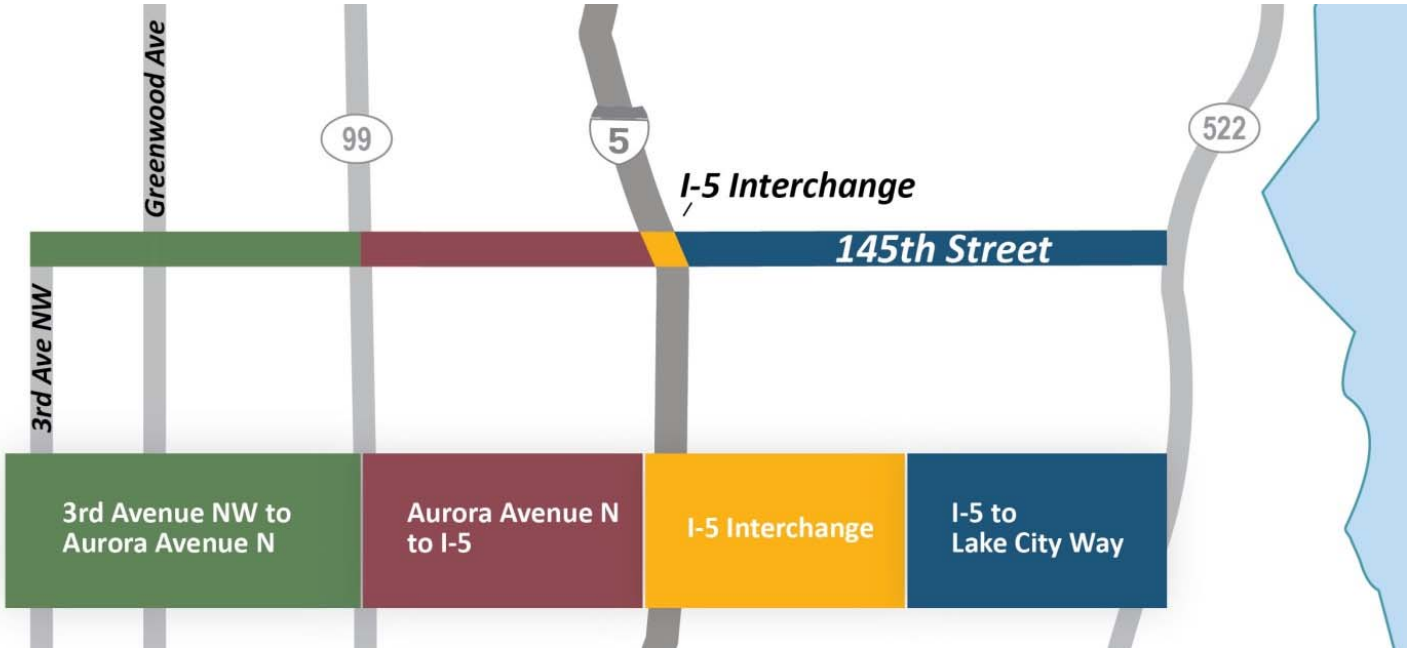
RECOMMENDATION

Staff recommends that Council move to adopt the Preferred Design Concept for the 145th Street Multimodal Corridor Study.

ATTACHMENTS

Attachment A – 145th Street Multimodal Corridor Study Preferred Design Concept

145th Street Multimodal Corridor Study
Preferred Design Concept



Introduction to the Preferred Design Concept

The preferred design concept for the 145th Multimodal Corridor Study reflects a strategy to maximize benefits in terms of meeting project goals while minimizing impacts, such as costs and affects on properties. The preferred concept is a vision for multimodal transportation improvements that reflects input from the community, the Citizen Advisory Team, and the project Inter-agency Technical Team.

The following pages provide a description of the Preferred Concept by walking through the sections of the 145th Street corridor from west to east. In addition to the Preferred Concept cross section descriptions, the proposed Off-Corridor Bike Network is also depicted.

In developing the Preferred Concept, four unique context areas were considered – 3rd Avenue NW to Aurora, Aurora to I-5 Interchange, the I-5 Interchange area, and from I-5 to SR522 (Lake City Way). While the corridor varies throughout, these areas were identified because of similar context in terms of traffic volumes, collision records, and land use. The corridor cross sections are color coded to reflect the context areas along the corridor. Cross sections between 3rd Avenue and Aurora Avenue are green; Cross sections between Aurora Avenue and I-5 are maroon; Cross sections in the I-5 area are gold; Cross sections between I-5 and SR522 are colored blue.

The 145th Corridor Sections are as follows:

Third Avenue NW to Aurora Avenue Cross Sections

- Section A: 3rd to Greenwood Avenue
- Section B: Linden to Greenwood Avenue

Aurora Avenue to I-5 Cross Sections

- Section C: Aurora Avenue Area
- Section D: Aurora Avenue to Intersate-5

I-5 Interchange Area Cross Sections

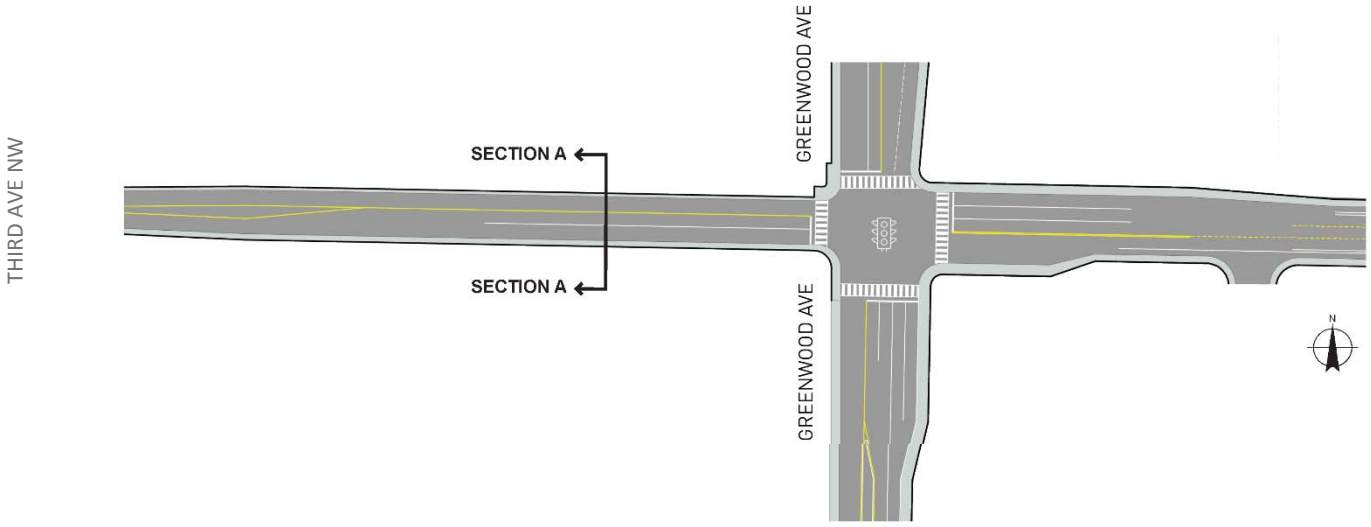
- Section E: Interstate-5 Interchange

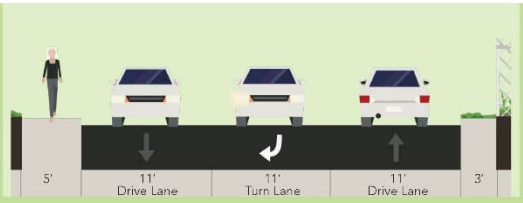
I-5 Interchange to Lake City Way (SR522)

- Section F: Between 5th Avenue and 10th Avenue
- Section G: Near 15th Avenue
- Section H: Near 20th Avenue
- Section I: Near 25th Avenue
- Section J: Near 30th Avenue
- Section K: Near Lake City Way

Figures

- Figure 1: Off Corridor Bike Network
- Figure 2: Interstate-5 Interchange Concept
- Figure 3: Sound Transit Elevation and Plan

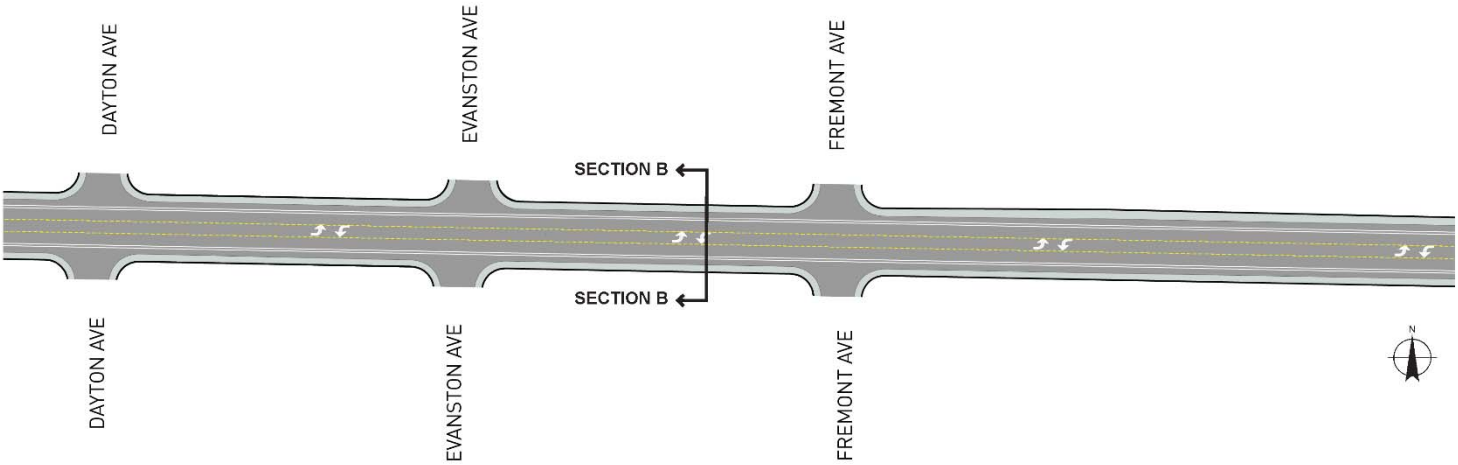


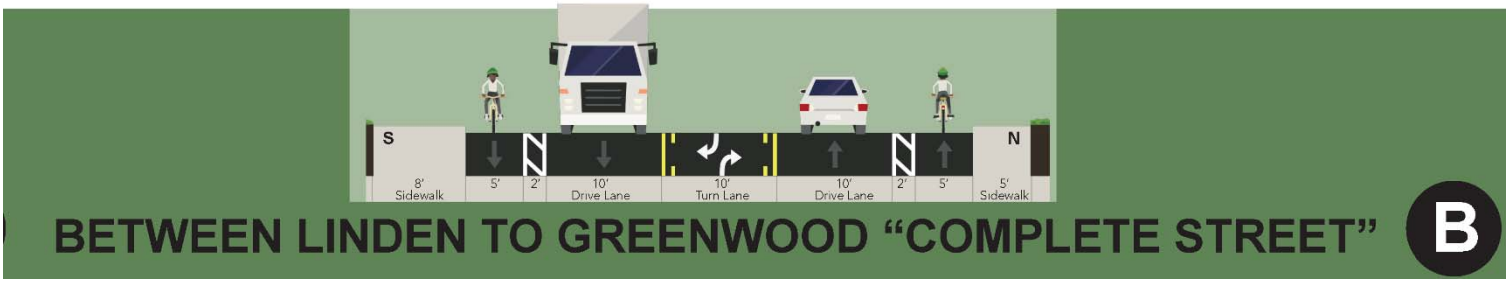


A 3RD AVE TO GREENWOOD AVE AREA

<u>3rd Ave NW to Greenwood Avenue area improvement characteristics:</u>

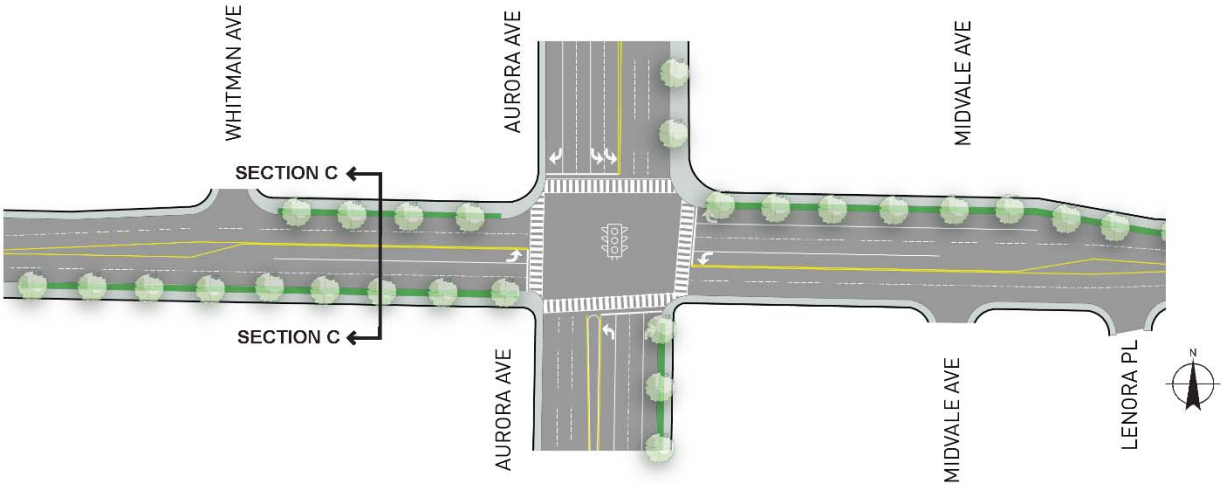
- Improved signalized intersections which include lengthened turn lanes, right turn lanes, and traffic signal timing changes. Improvements will minimize delays and congestion, benefiting buses, vehicles, and air quality
- Transit signal priority enhancements
- New wheelchair accessible bus stops
- No left-turn access restrictions proposed
- Sidewalks upgraded to meet ADA requirements and to support pedestrian connections to bus stops

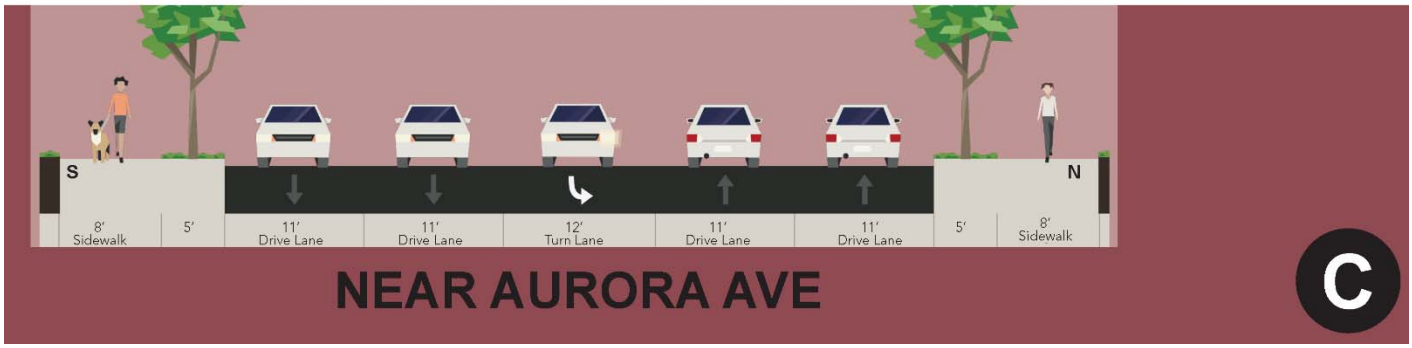




Linden to Greenwood Avenue area improvement characteristics:

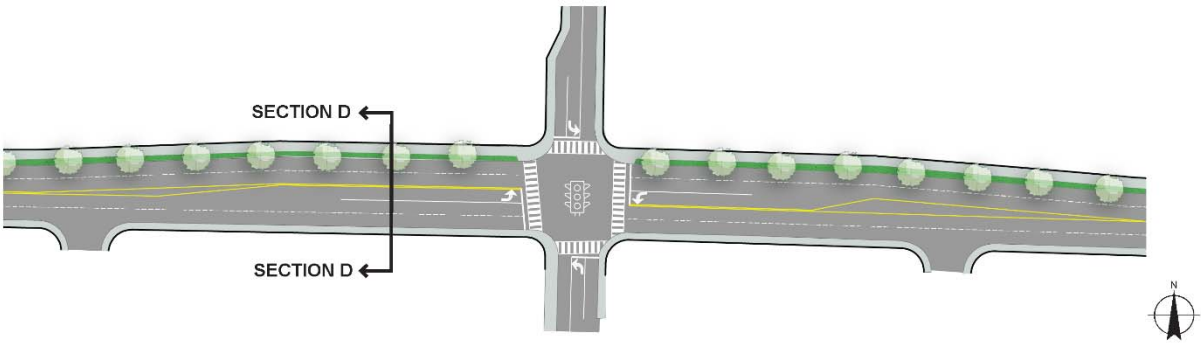
- Improved signalized intersections operations/efficiency by lengthened turn lanes and traffic signal timing changes. Improvements will minimize delays and congestion, benefiting buses, vehicles, and air quality
- Restriping to provide center turn lane. This allows turning vehicles to get out of the through lanes, reducing friction and improving traffic flow in the through lanes.
- A three lane section improves safety for pedestrians because it moves cars further away from the sidewalks and three lanes are safer to cross than four traffic lanes
- A three lane section improves safety for drivers by reducing friction and differential speed and by minimizing conflict points for turning vehicles.
- Sidewalks upgraded to meet ADA requirements and to support pedestrian connections to bus stops
- New wheelchair accessible bus stops
- Buffered bike lanes, Greenwood Ave to Linden
- Strengthened connection from Interurban Trail to future light rail station

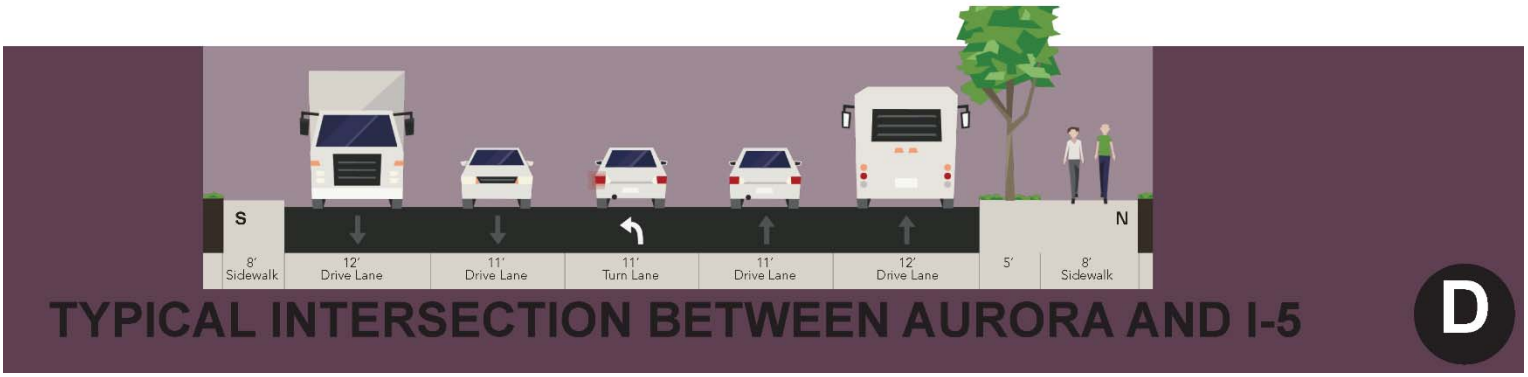




Aurora Avenue area improvement characteristics:

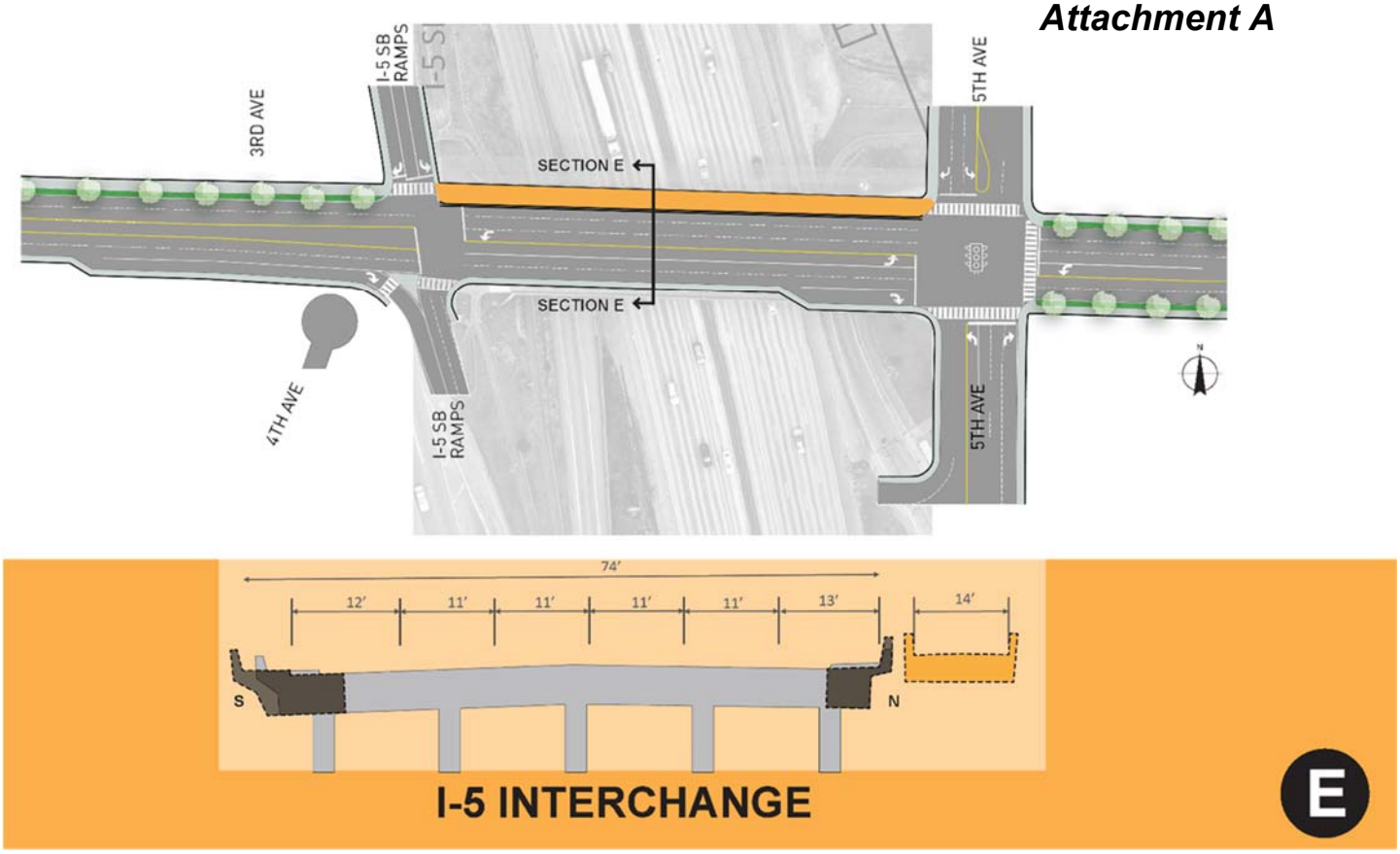
- Improved signalized intersections which include lengthened turn lanes, adding a left-turn lane, and traffic signal timing changes. Improvements will minimize delays and congestion, benefiting buses, vehicles, and air quality
- Transit signal priority to improve bus travel time
- Sidewalks upgraded to meet City Standards to create a safer pedestrian environment and to support pedestrian connections to bus stops
- New wheelchair accessible bus stops
- Mid-block left-turn access will be further evaluated during the design phase
- Off-corridor bike network will strengthen bike connection from Interurban Trail to future light rail station





Between Aurora Avenue and I-5 improvement characteristics:

- New traffic signal at Ashworth Avenue and traffic signal improvements at Meridian Avenue and 1st Avenue.
- Improved signalized intersections which include adding new left turn lanes on 145th Street, lengthened storage for turn lanes, right turn lanes, and traffic signal timing changes. Improvements will minimize delays and congestion, benefiting buses, vehicles, and air quality
- Transit signal priority to improve bus travel time
- Sidewalks upgraded to meet City Standards to create a safer pedestrian environment and to support pedestrian connections to bus stops
- New wheelchair accessible bus stops
- Mid-block left-turn access will be further evaluated during the design phase
- Off-corridor bike network will strengthen bike connection from Interurban Trail to future light rail station



For more detailed graphic of the interchange improvements, see Figure 2 attached.

I-5 Interchange improvement characteristics:

Non-motorized features:

- Pedestrian and bike facilities are shown mainly on the north side of 145th Street because it provides the most direct connection to the future light rail station as well as connection to higher density residential neighborhoods.
- Design provides for a grade-separated crossing of the non-motorized traffic over the SB I-5 off-ramp.
- Non-motorized crossing of I-5 provides at-grade connection to the future light rail plaza. This is the area of the light rail station that provides for tickets and access to the center boarding platform (see Figure 3).
- At grade crossings/pedestrian connections are proposed at station entrance plaza in vicinity of 5th Avenue/145th intersection. This is the gateway to the transit station and will look and function very differently from how it does today. Safe and pedestrian-supportive design will be consistently applied and implemented both in design of station entrance and adjacent streets and intersection.

I-5 Interchange improvement characteristics:

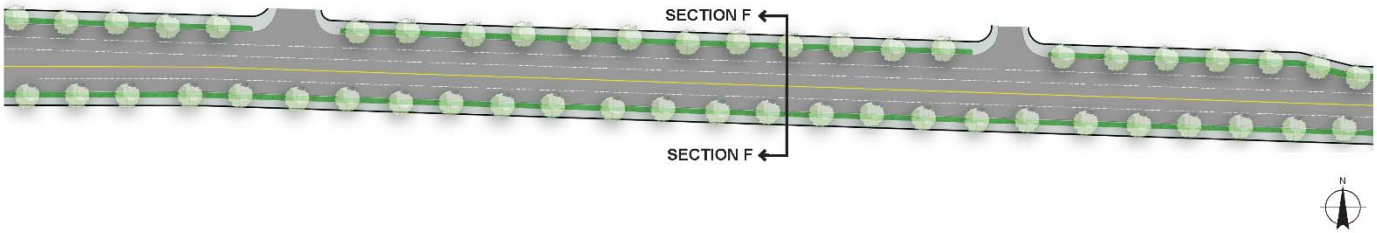
Roadway operations features:

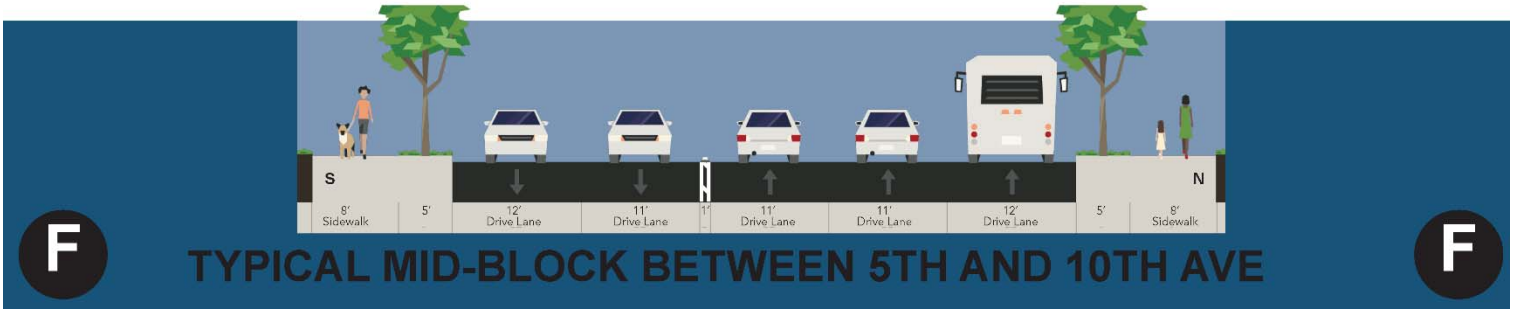
- New button button-hook on-ramp allows eastbound 145th to northbound I-5 traffic to turn right on 5th Avenue and loop under the bridge. This improves signal operations by removing left turns from 5th Avenue intersection.
- Existing 5-lane bridge will be widened to 6 lanes, providing additional storage for left-turns. This improves traffic flow in the through lanes across the 145th Street bridge and improves signal operations.
- Additional intersection operations improvements include:
  1. New eastbound right turn lane to SB I-5.
  2. New southbound off-ramp right turn lane.
  3. New westbound right turn lane at 5th.
- Traffic signal level of service standards (LOS) for Shoreline and WSDOT are met or exceeded by this design for the design year 2035.

Intersection	No-Build 2035	Preferred Concept 2035
5th Ave	AM: LOS E PM: LOS E	AM: LOS D PM: LOS D
SB Ramps	AM: LOS E PM: LOS E	AM: LOS D PM: LOS D

Transit operations at and adjacent to new light rail station:

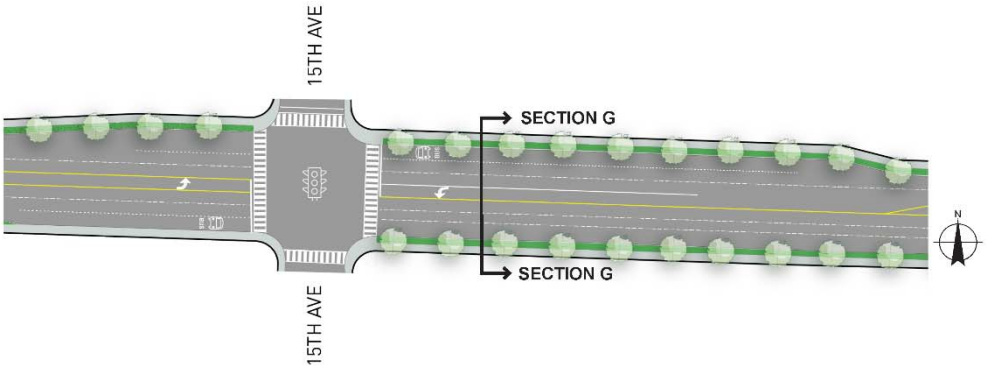
- Direct connection to front of light rail station (off of 5th Avenue) is strongly preferred by both Metro and Sound Transit. This is the safest and most convenient design approach for light rail users. The average travel time for buses to pull into the light rail station is less than one minute, which is less time than it would be for a pedestrian to cross 145th if the bus stop was on 145th Street.





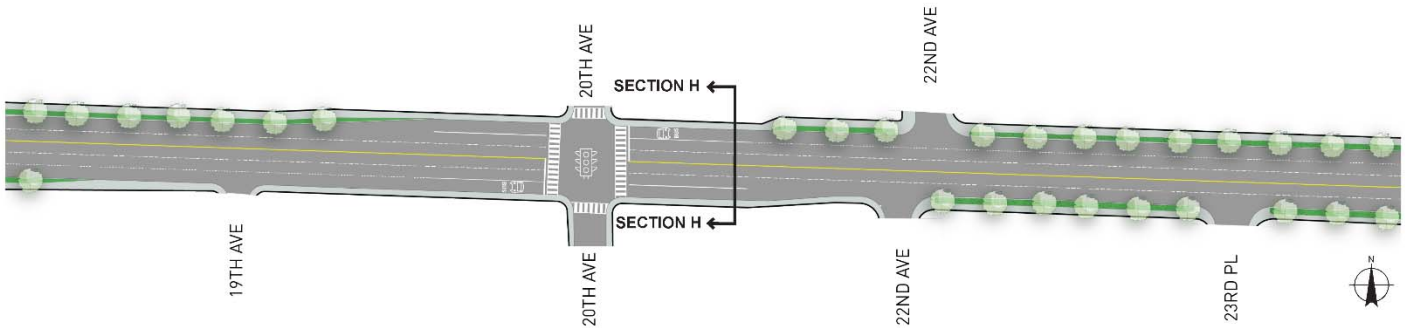
Mid-block between 5th Avenue and 10th Avenue improvement characteristics:

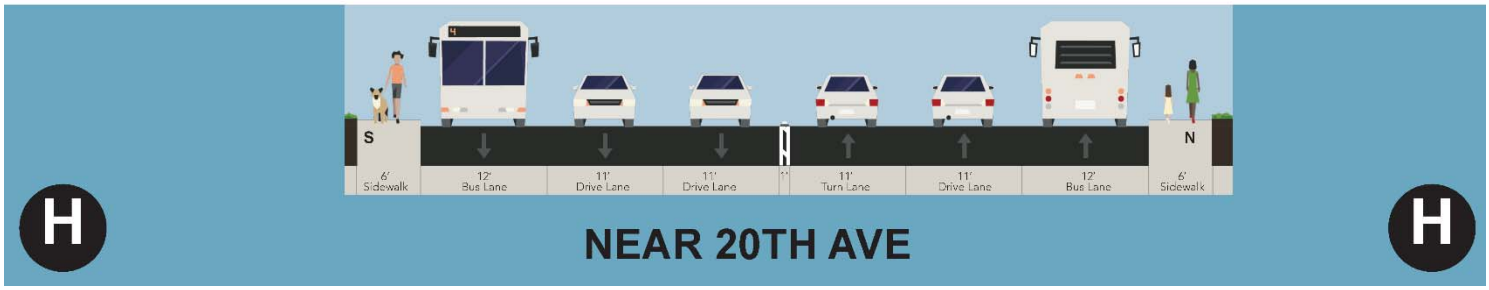
- Sidewalks upgraded to meet City Standards to create a safer pedestrian environment and to support pedestrian connections to bus stops
- Westbound BAT lane/queue jump lane to improve transit travel time
- Restricted left-turn access mid-block to improve traffic safety
- New wheelchair accessible bus stops
- Off-corridor bike network will strengthen bike connection through the corridor and to future light rail station



<u>15th Avenue intersection improvement characteristics:</u>

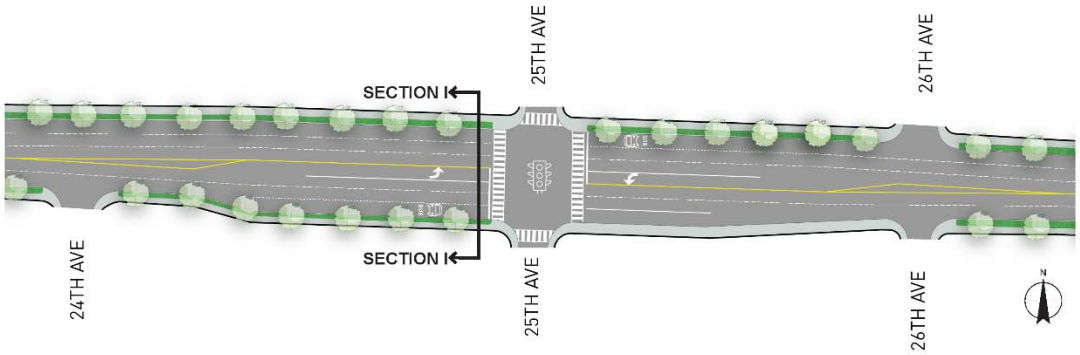
- Sidewalks upgraded to meet City Standards to create a safer pedestrian environment and to support pedestrian connections to bus stops
- Improved signalized intersections which include lengthened turn lanes, right turn lanes, and traffic signal timing changes. Improvements will minimize delays and congestion, benefiting buses, vehicles, and air quality
- Transit signal priority to improve bus travel time
- Westbound BAT lane/queue jump lane to improve transit travel time
- Eastbound BAT lane to improve transit travel time
- Restricted left-turn access mid-block to improve traffic safety
- New wheelchair accessible bus stops
- Off-corridor bike network will strengthen bike connection through the corridor and to future light rail station





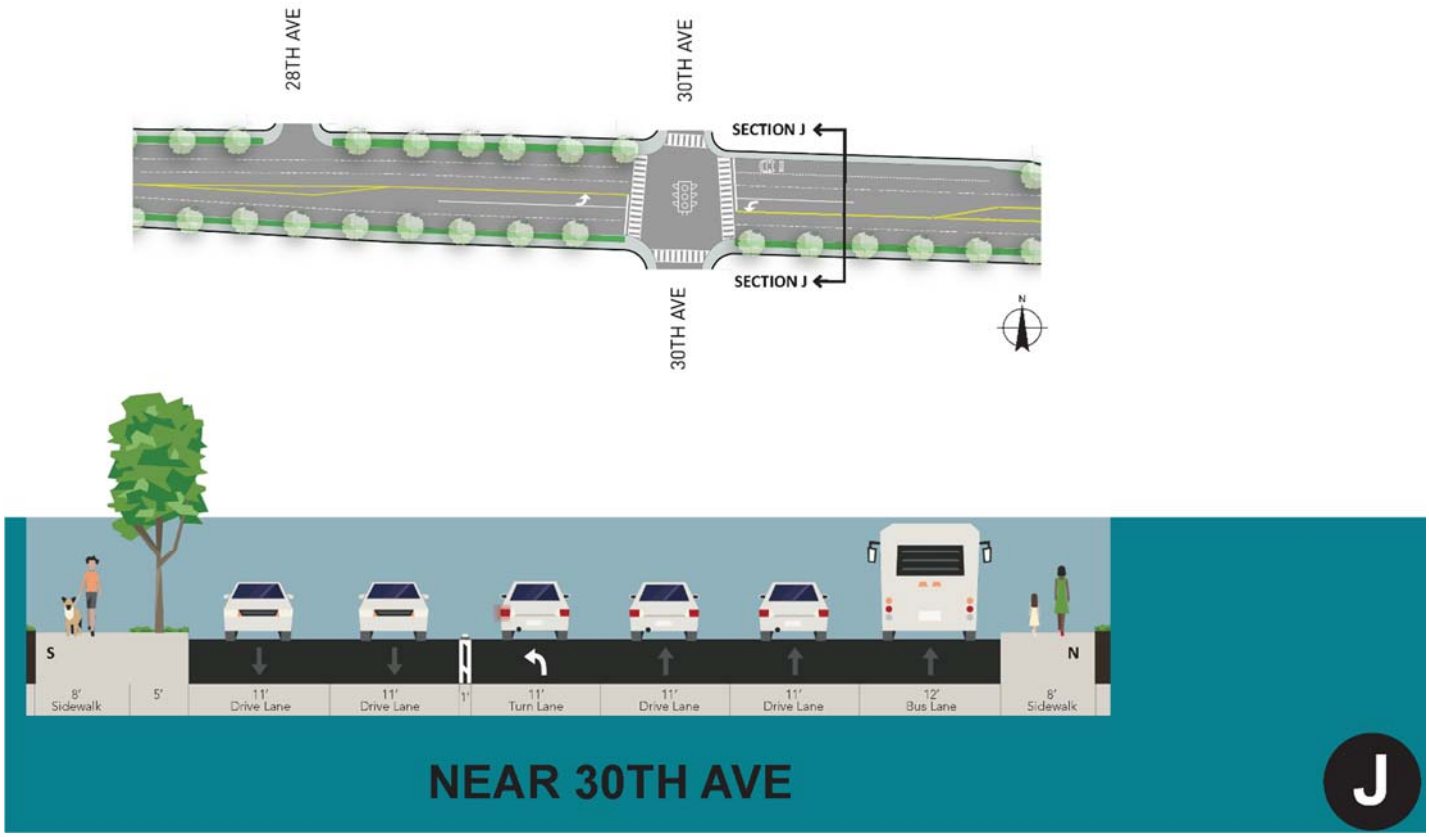
<u>20th Avenue intersection improvement characteristics:</u>

- Sidewalks upgraded to meet City Standards to create a safer pedestrian environment and to support pedestrian connections to bus stops. Interim sidewalks allowed to minimize impacts to buildings.
- Improved signalized intersections which include right turn/bus lanes and traffic signal timing changes. Improvements will minimize delays and congestion, benefiting buses, vehicles, and air quality
- Transit signal priority to improve bus travel time
- Westbound BAT lane/queue jump lane to improve transit travel time
- Eastbound BAT lane/queue jump lane to improve transit travel time
- Restricted left-turn access mid-block to improve traffic safety
- New wheelchair accessible bus stops
- Off-corridor bike network will strengthen bike connection through the corridor and to future light rail station



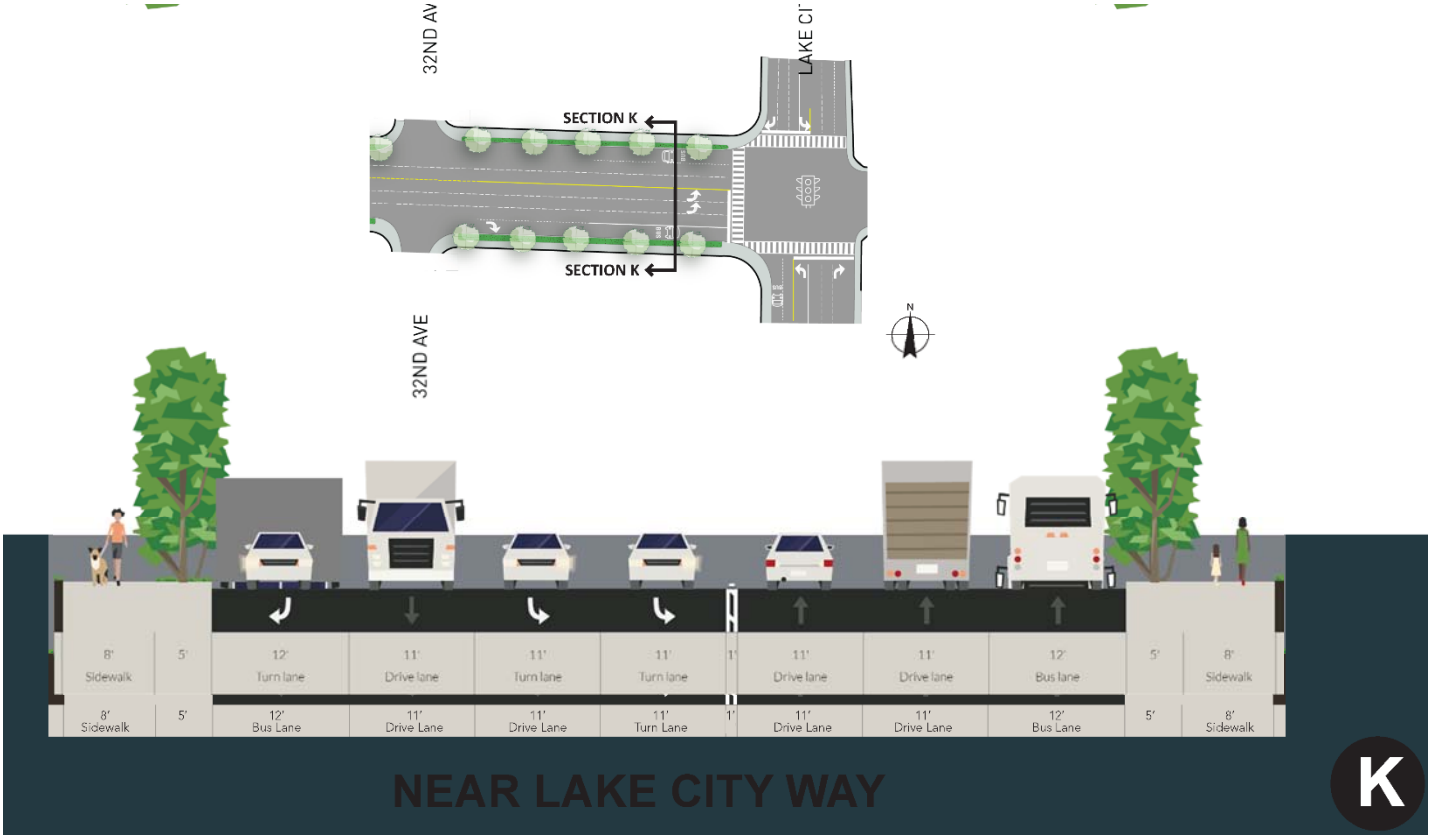
<u>25th Avenue intersection improvement characteristics:</u>

- Sidewalks upgraded to meet City Standards to create a safer pedestrian environment and to support pedestrian connections to bus stops. Interim sidewalks allowed to minimize impacts to buildings.
- Improved signalized intersections which include lengthened turn lanes, new left-turn lanes, and traffic signal timing changes. Improvements will minimize delays and congestion, benefiting buses, vehicles, and air quality
- Transit signal priority to improve bus travel time
- Westbound BAT lane to improve transit travel time
- Eastbound transit queue jump lane to improve transit travel time
- Restricted left-turn access mid-block to improve traffic safety
- New wheelchair accessible bus stops
- Off-corridor bike network will strengthen bike connection through the corridor and to future light rail station



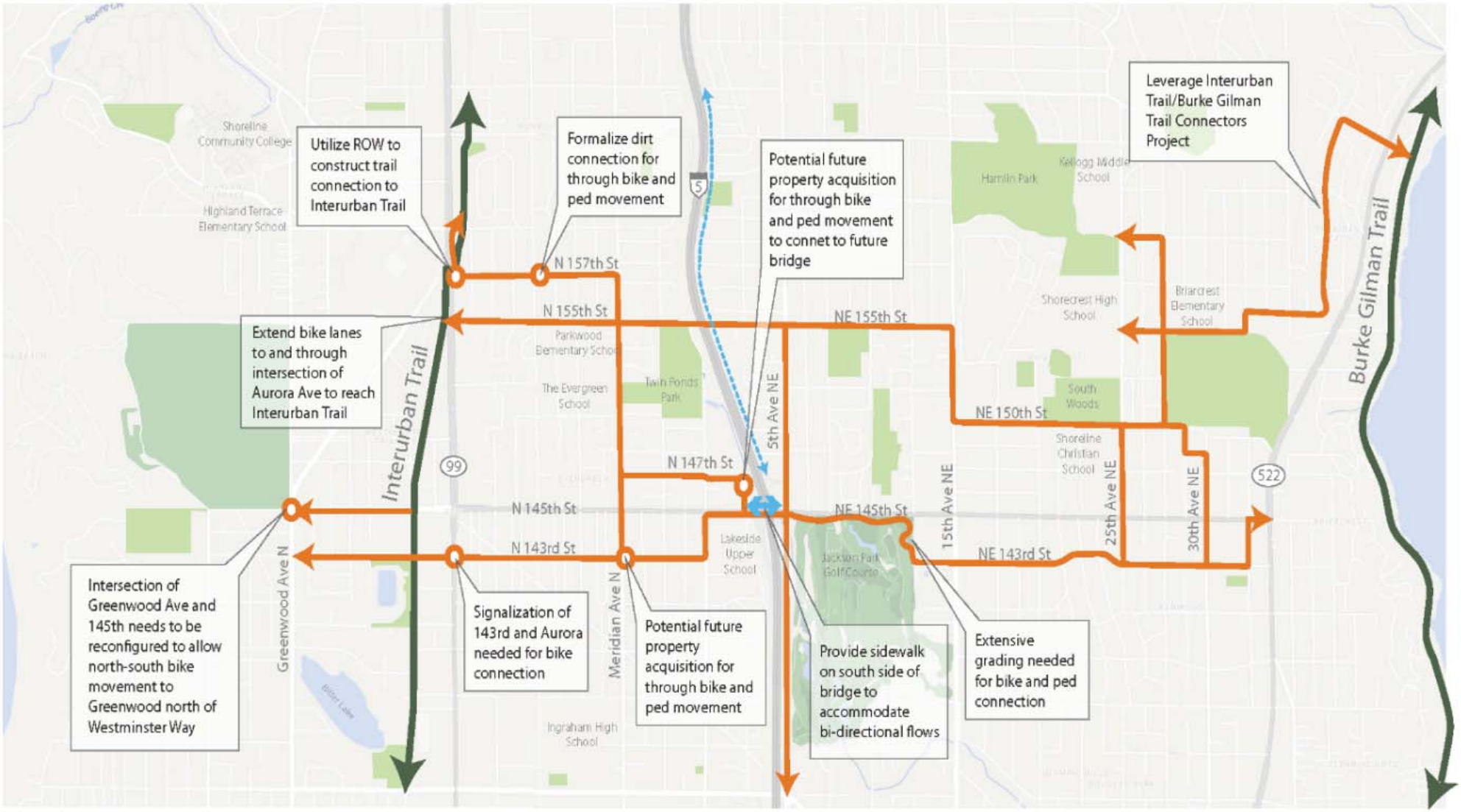
<u>30th Avenue intersection improvement characteristics:</u>

- Sidewalks upgraded to meet City Standards to create a safer pedestrian environment and to support pedestrian connections to bus stops. Interim sidewalks allowed to minimize impacts to buildings.
- Improved signalized intersections which include new left turn lanes, new right turn/bus lane, and traffic signal timing changes. Improvements will minimize delays and congestion, benefiting buses, vehicles, and air quality
- Transit signal priority to improve bus travel time
- Westbound BAT lane/queue jump lane to improve transit travel time
- Restricted left-turn access mid-block to improve traffic safety
- New wheelchair accessible bus stops
- Off-corridor bike network will strengthen bike connection through the corridor and to future light rail station



SR522 intersection area improvement characteristics:

- Sidewalks upgraded to meet City Standards to create a safer pedestrian environment and to support pedestrian connections to bus stops.
- Improved signalized intersections which include lengthened turn lanes, new right turn lane, and traffic signal timing changes. Improvements will minimize delays and congestion, benefiting buses, vehicles, and air quality
- Transit signal priority to improve bus travel time
- Westbound BAT lane to improve transit travel time
- Restricted left-turn access mid-block to improve traffic safety
- Off-corridor bike network will strengthen bike connection through the corridor and to future light rail station



145TH STREET Multimodal Corridor Study

CITY OF SHORELINE

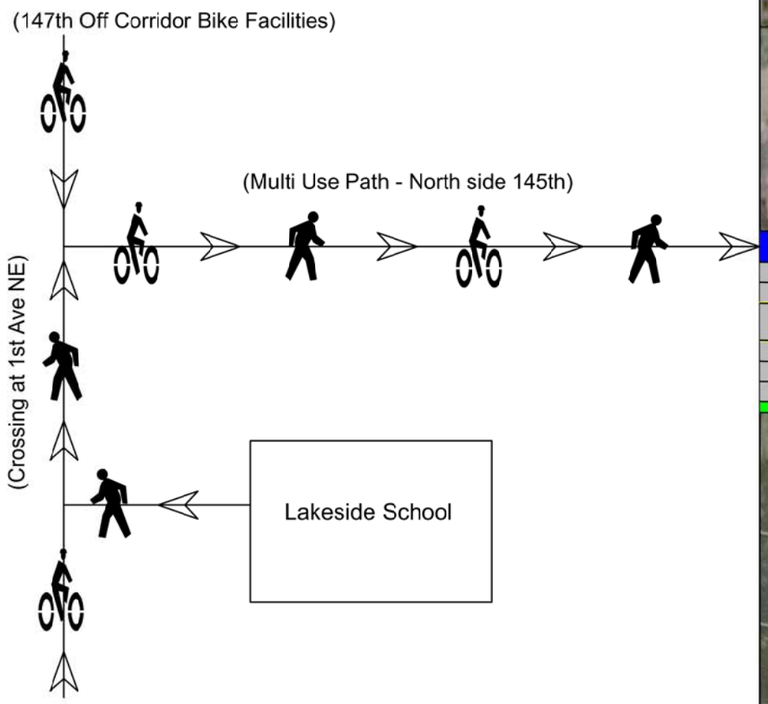
FIGURE 1

OFF CORRIDOR BIKE NETWORK PREFERRED CONCEPT

FIGURE 2.
N 145th Street Corridor Study / I-5 Interchange Concept

- Non-motorized connections
- Multi use path (includes bikes)
- Elevated non-motorized facility
- Pedestrian plaza areas
- Future potential non-motorized crossing
- Sound Transit Station design elements - subject to change

1. Added right turn lane - improves intersection operation.
2. Pedestrian plaza/ADA transition area for elevated crossing.
3. Added lane on I-5 southbound off ramp - improves intersection operation.
4. Elevated non-motorized crossing of I-5 southbound off ramp.
5. Additional lane across bridge for increased capacity and improved intersection operation.
6. Minor sidewalk improvements along the south side of the bridge.
7. Pedestrian undercrossing (as part of Sound Transit design).
8. Right turn and transit signal queue jump for potential future E-W bus service.
9. Added northbound onramp option for improved intersection operation at 5th/145th.
10. Added right turn lane for improved intersection operation and transit signal queue jump for potential future E-W bus service.
11. Future multi use path effort to be coordinated by SDOT/WSDOT.



This is a City of Shoreline produced graphic. Sound Transit light rail elements shown are a conceptual depiction based on August 2015 Architectural Station Area Plans which are subject to change during Lynnwood Link Light Rail final design process.

Attachment A

NORTH

Relocated I-5 NB On Ramp

NE 147th St

Sound Transit Parking Garage

Sound Transit Boarding Platform

I-5 SB Off Ramp

Landscaped Area

Sound Transit Pedestrian Plaza Area

New non-motorized bridge

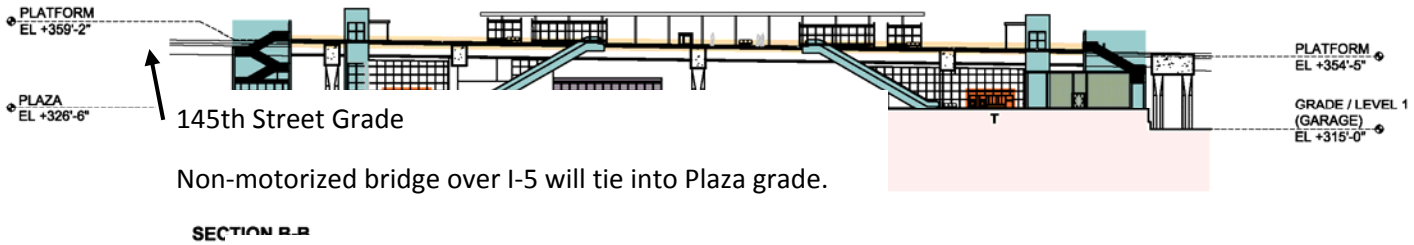
Year 2035
AM: LOS D
PM: LOS D

N 145th Street

Year 2035
AM: LOS D
PM: LOS D

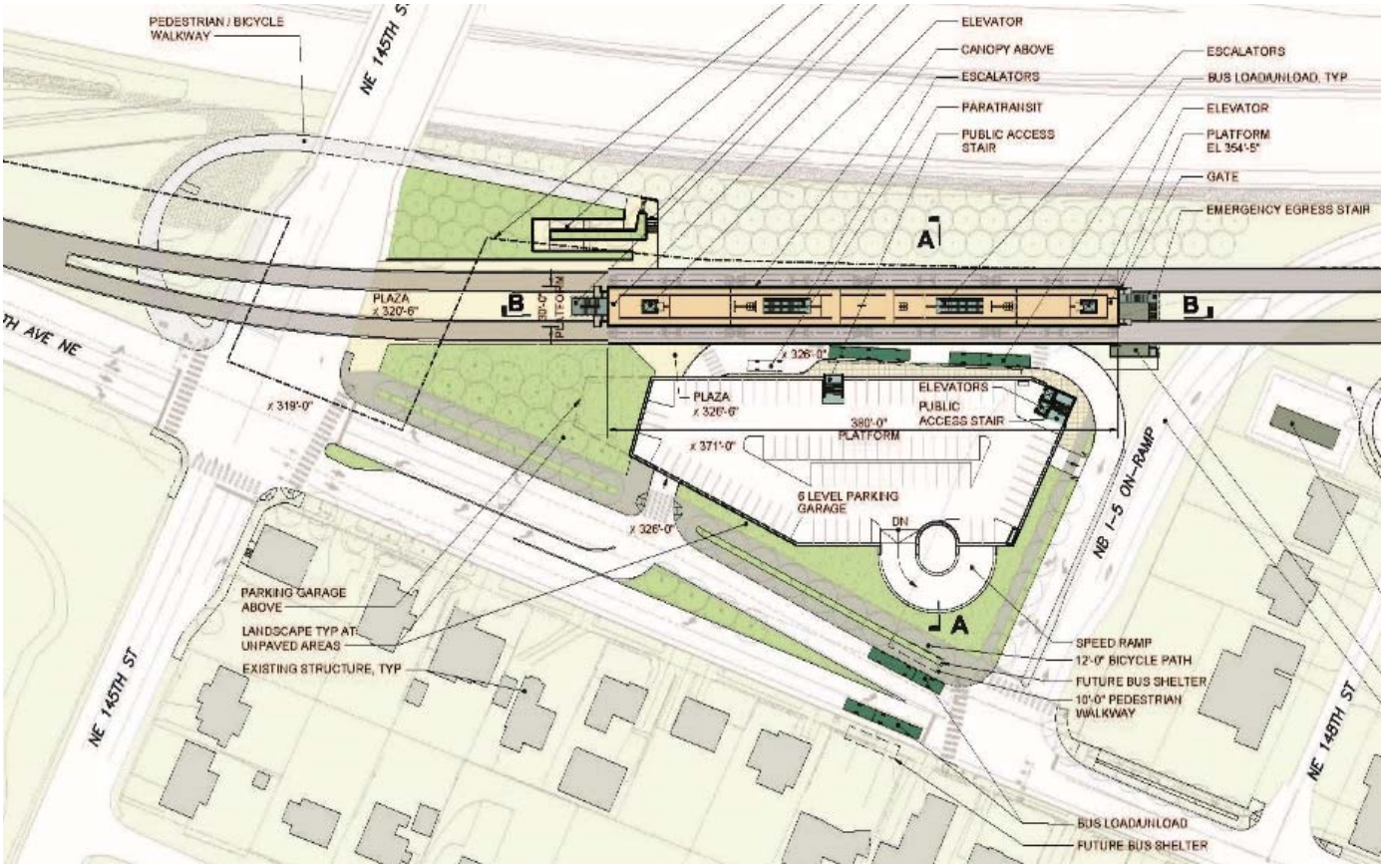
5th Ave NE

DRAFT CONCEPT



PROFILE

Note: Sound Transit light rail elements depicted are based on August 2015 Station area plans which are subject to changes during the Lynnwood Link Light Rail final design



PLAN

Note: Sound Transit light rail elements depicted are based on August 2015 Station area plans which are subject to changes during the Lynnwood Link Light Rail final design

FIGURE 3