NOVEMBER 2016

145TH STREET MULTIMODAL CORRIDOR STUDY

CITY OF SHORELINE

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Multimodal Corridor Study

145th Street Route Development Plan

CITY OF SHORELINE

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EXECUTIVE SUMMARY

Executive Summary

Why is the City of Shoreline taking on this study?

In 2016, the City of Shoreline (City) completed the 145th Street Multimodal Corridor Study (funded as the 145th Street Route Development Plan or RDP), and developed a Preferred Design Concept for the corridor from 3rd Avenue NW to Bothell Way NE/ Lake City Way (SR 522) through a comprehensive process that included community, stakeholder, and agency involvement and thorough technical analysis. The corridor study serves as a master plan for the proposed improvements to the corridor. This report provides a summary of the 145th Street Multimodal Corridor Study process and the Preferred Design Concept.

145th Street forms the southern border of the City of Shoreline with the City of Seattle. The portion adjacent to Shoreline is approximately 3.2 miles long, running from 3rd Avenue NW to Bothell Way NE/Lake City Way (SR 522). It is a state highway (SR 523) from Aurora Avenue N (SR 99) to Bothell Way NE/Lake City Way (SR 522). 145th Street crosses over I-5 just west of 5th Avenue NE and includes a four quadrant interchange with the freeway. The 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.

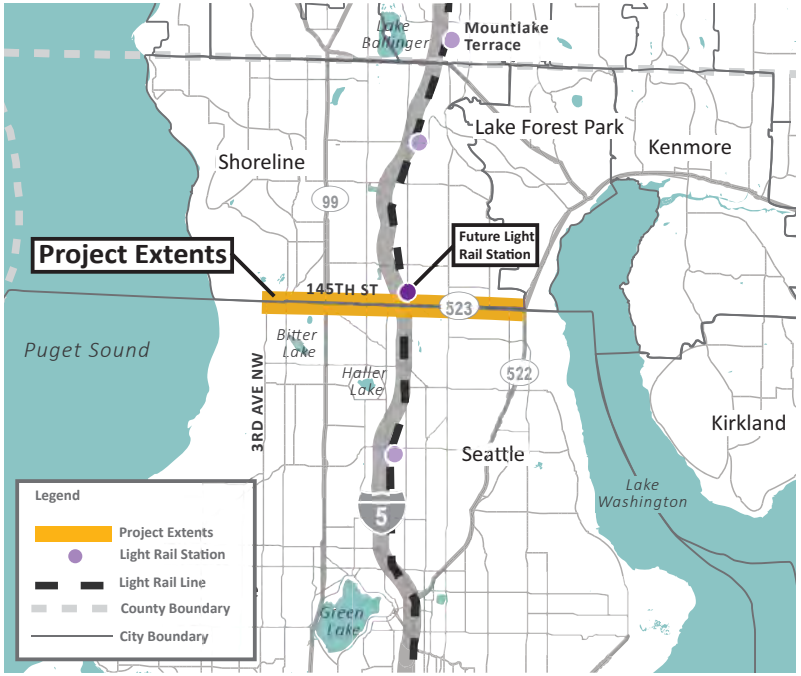
Project Goals

This study has been guided by the project goals. Project goals and evaluation criteria were initially established with the City Council in 2014. Staff worked with the 145th Street corridor study advisory teams which included the Citizen Advisory Task Force (CATF) and the Interagency Technical Team (ITT) to confirm project goals and evaluation criteria as well as establish specific performance measures.

Eleven specific project goals were developed for the project. For simplicity in communicating these goals, staff summarized the project goals as follows:

- Ensure that everyone can walk, bike, bus, access light rail, and drive safely and reliably along and across the corridor
- Develop transportation improvements that:
  - Support the local economy
  - Protect the environment
  - Support a vibrant community

Figure EX.1 Vicinity Map



What is the problem?

145th Street is a major east-west travel corridor in northwest King County, connecting regional roads and highways, including Aurora Avenue N (SR 99), I-5, and Bothell Way NE/Lake City Way (SR 522). 145th Street is also a community street serving Shoreline and Seattle neighborhoods, businesses, schools, and parks.

The corridor experiences significant traffic congestion, particularly in the peak hours. For transit users, there is limited bus service through the corridor and many bus stops on the corridor lack the ability to serve people in wheelchairs. It is difficult to walk the corridor due to lack of accessible sidewalks. There are currently no bike facilities on 145th Street. These transportation issues will become even more critical as Sound Transit implements a light rail station on 145th Street at the I-5 interchange.

Average daily traffic volumes range from 27,000 to 31,000 vehicles per day between SR 522 and I-5 and 24,000 to 30,000 vehicles per day between Aurora Avenue N and I-5. West of Aurora Avenue, volumes drop off below 14,000. Many of the intersections along the corridor are over capacity during the peak commute periods.

Safety conditions along the corridor are among the worst in the state for a facility of this type. A total of 829 collisions were recorded during the period from 2010 to 2014, including 1 fatality and 7 serious injury collisions.

Figure EX.2 Existing conditions along 145th Street are characterized by traffic congestion and lack safe and accessible facilities for pedestrians, bikes, and transit.

Traffic Congestion

Pedestrian barriers, no place for bikes

Limited transit service / amenities

What was the process?

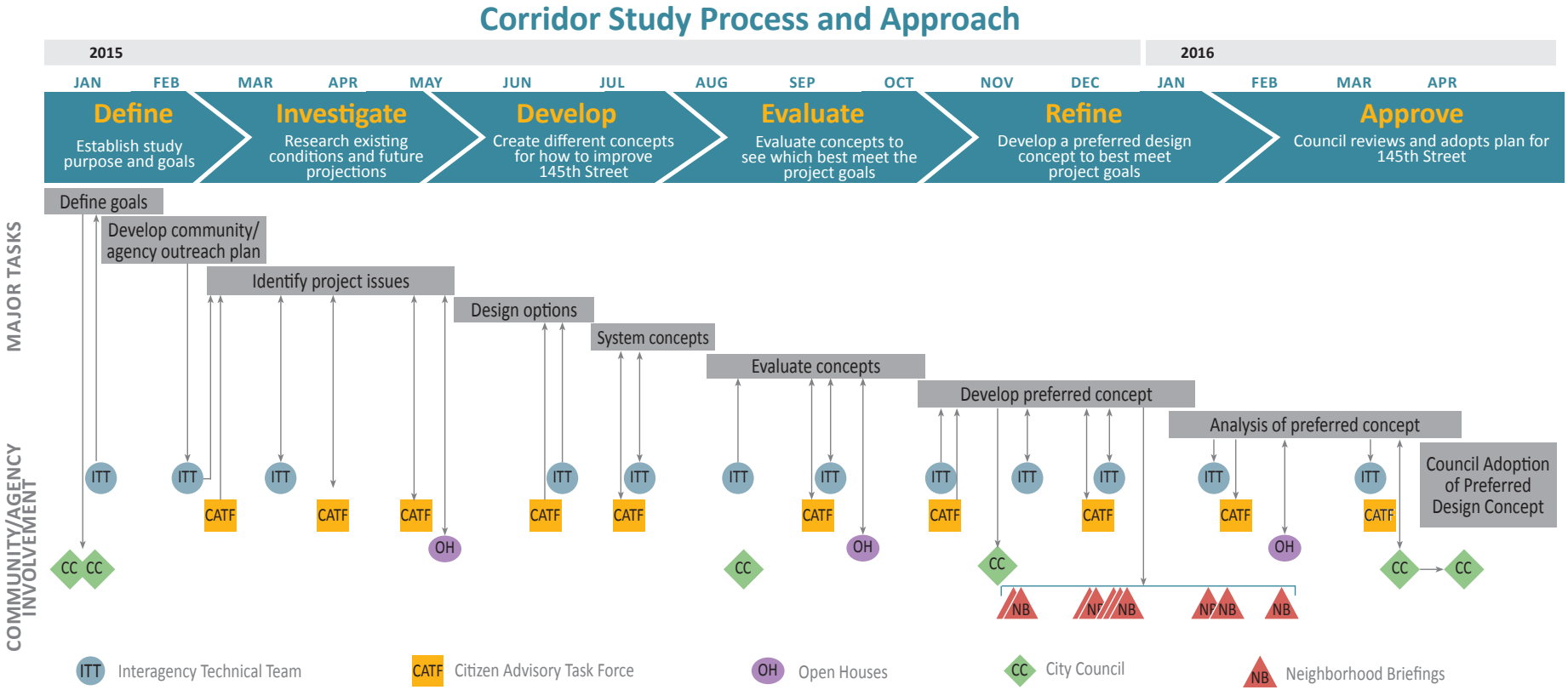
The City of Shoreline made it a priority to engage the public throughout the 145th Street Multimodal Corridor Study. The City gathered meaningful community input and perspectives using many different outreach tools, including public open houses, a Citizen Advisory Task Force (CATF), neighborhood briefings, and drop-in sessions at Shoreline City Hall. Project staff created a public involvement plan, developed website content and informational materials, and used creative input gathering methods to maximize participation at the public open houses. The City conducted a combined total of 24 meetings with the CATF, the Interagency Technical Team (ITT), and the general public. A total of 4 project briefings were made to the City Council and one to the Shoreline City Planning Commission. Meetings and briefings were also held with various neighborhood and community groups.

Study Approach

Development of a multimodal master plan and Preferred Design Concept for 145th Street required consideration of many complex issues. The approach to the pre-design study involved a high level of community and agency involvement. The pre-design study process was a collaborative decision oriented approach that included citizens and agencies as part of the design team. The outcome of this process is a Preferred Design Concept that is broadly supported.

The corridor study process was composed of six major tasks and culminated in a recommendation for a preferred design concept for the corridor that was approved by Shoreline City Council.

Figure EX.3 This project schedule diagram illustrates the integration of outreach and project development



Development of Study Concepts

Within the framework of project goals and with the understanding of existing conditions/future projections, a range of transportation elements were studied to see which best met the goals and context of the project. In collaboration with the ITT and CATF teams, four Study Concepts were developed: one No-Action concept and three concepts that included some measure of improvement over existing conditions. A key consideration for the 145th Street corridor is that the context, land uses, and traffic volumes vary along 145th Street from Bothell Way NE/Lake City Way (SR 522) to 3rd Avenue NW. For the purpose of this planning study, four unique areas, or sections, along the corridor were identified. These are from east to west: Bothell Way NE/Lake City Way (SR 522) to I-5, I-5 Interchange area, I-5 to Aurora Avenue N, Aurora Avenue N to 3rd Avenue NW.

Figure EX.4 Four context sections of the 145th Street corridor.

Considering the four unique areas along the 145th Street corridor, four system alternatives were developed for each section maintaining continuity for the travel modes within each study concept. Using the feedback from the advisory teams, the consultant team and City staff developed three draft study concepts plus a No-Action option) to carry forward for evaluation, for a total of 4 Study Concepts.

Study Concept 1 is the No Action concept, meaning no improvements would be made to the corridor. The No Action was studied to compare how conditions might look in 20 years. Even though roadway configuration may not change, there will be changes to volumes and land use along the corridor.

Study Concept 2 is oriented to minimize widening along the corridor, especially mid-block. The concept keeps the roadway typically at 4 traffic lanes (2 lanes eastbound and 2 lanes westbound) except at signalized intersections where widening would occur to add turn lanes and provide for U-turns (the section between 3rd Avenue NW and Greenwood Avenue remains three lanes).

To accommodate bikes through the corridor, a parallel Off-Corridor Bike Network would be implemented both north and south of 145th Street (see Figure EX.6 on page EX-6).

Study Concept 3 is oriented to provide local access along the corridor, especially mid-block, and to provide a high level of non-motorized facilities. The concept proposes 5 lanes including 2 lanes eastbound, 2 lanes westbound and center two-way left turn lane (the section between 3rd Avenue NW and Greenwood Avenue N remains three lanes). At signalized intersections, additional lanes may be implemented to improve traffic capacity.

Study Concept 4 is oriented to provide transit speed and reliability along the corridor. The concept proposes 6 traffic lanes including 2 general purpose lanes eastbound and westbound and Bus and Turn (BAT) lanes in both directions in the section between I-5 and SR 522, and 2 lanes in each direction and dual center turn lane from SR 99 and I-5. To accommodate bikes through the corridor, Study Concept

4 includes a non-motorized trail along the corridor outside of the landscape strip. The trail would accommodate bikes and pedestrians. Study Concept 4 would underground the overhead utility poles.

The four Study Concepts were evaluated against the project goals and evaluation criteria. These four Study Concepts, including the "no-action" concept, were presented at Open House #2. Feedback collected from Open House #2 was carefully evaluated. General themes that emerged from the feedback are summarized as follows: strong recognition that the corridor is not working for all users and most notably pedestrians and transit; strong interest in bringing improvements to the corridor while recognizing improvements will likely affect properties along the corridor; a desire to minimize impacts if possible.

Preferred Design Concept

In close coordination with project advisory teams (ITT and CATF), evaluation of Study Concepts against the goals of the project and feedback from project stakeholders (including the public open house feedback, City Council, and partner agencies), the project team developed the Preferred Design Concept.

The Preferred Design Concept is a vision for multimodal transportation improvements for this corridor. The Preferred Design Concept is considered "pre-design" and will be further refined in the environmental review phase of the project, the preliminary design phase and the final design phase.

The project team used a practical design approach to develop a Preferred Design Concept that minimizes impacts and maximizes benefits. A detailed description of the practical design solutions applied to the 145th Street corridor's four unique areas (from east to west) is provided in the following pages of the Executive Summary. The key practical design solutions incorporated into the Preferred Design Concept are as follows:

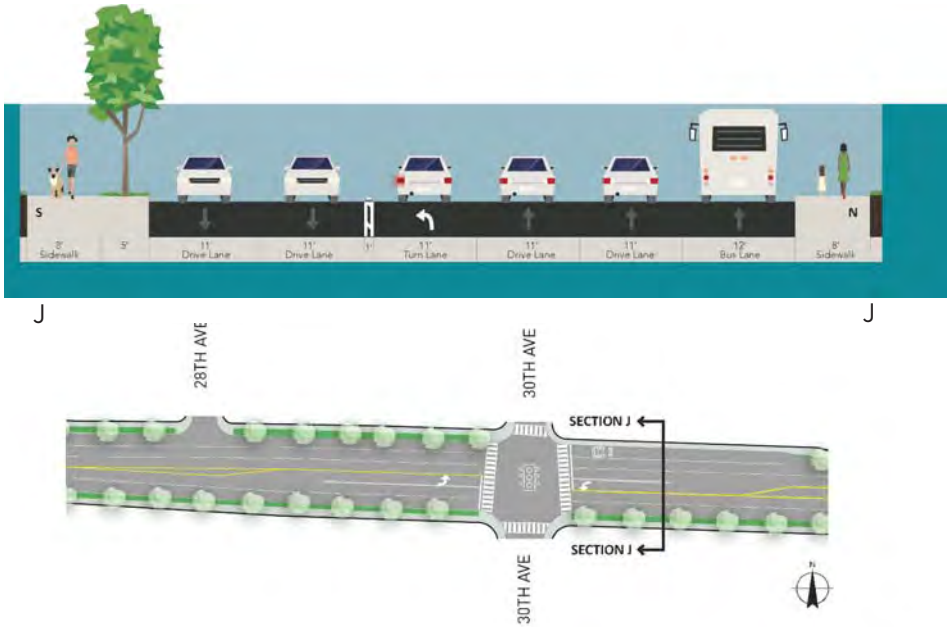
- Minimize right-of-way impacts while balancing the need to support future traffic capacity and transit operations by introducing transit priority queue jumps at intersections instead of continuous BAT lanes.
- Increase safety by adding left turn pockets at strategic intersections and upgrading sidewalks, crosswalks, and bus stops to support pedestrian accessibility.
- Provide bicyclists and pedestrians with alternate, parallel routes to the future 145th Street Light Rail Station as well as connections to the Interurban Trail and Burke-Gilman Trail through the development of the Off Corridor Bike Network.
- Provide more separation between vehicles and pedestrians/cyclists by adding a new pedestrian/bicycle bridge adjacent to the 145th Street bridge that will support pedestrian/cyclist access to the future 145th Street Light Rail Station.
- Reduce costs and construction impacts by repurposing (instead of replacing) the existing 145th Street bridge crossing of I-5. The reconfiguration of existing travel lanes will result in space for an additional travel lane that will support need for future traffic capacity.
- Reduce costs and construction impacts by retrofitting the I-5 interchange within its existing footprint. The button hook solution for the I-5 interchange retrofit will improve the operations of the 145th Street/ 5th Avenue intersection.

I-5 to Bothell Way NE/Lake City Way (SR 522)

The Preferred Design Concept in this section of 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 allow a bus to get around and jump ahead of backed up through traffic at a signalized intersection. There will be capacity improvements at intersections with left-turn and right turn lanes, and improved signal timing. For safety, left-turn access will be limited mid-block. New sidewalks with a landscape buffer will greatly improve pedestrian safety and mobility on 145th Street.

Bicycle connections will be strengthened on an off-corridor bike network (see Figure EX.6) 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.

Figure EX.5 Preferred Design Concept Overview: I-5 to Bothell Way (SR 522)



I-5 Interchange Area

Within the I-5 interchange area, staff worked with the Washington State Department of Transportation (WSDOT) and Sound Transit 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 I-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 proposes an eastbound 145th Street to northbound I-5 button hook ramp so that vehicles will be able to turn right and loop under the bridge to access I-5 northbound, which will help traffic flow considerably.

A new non-motorized bridge will be located on the north side of 145th Street that will tie into the off-corridor bike network and will connect to the future light rail station pedestrian plaza. Walkways and crosswalks will be fully upgraded to provide ADA accessibility. The practical design approach guiding this conceptual design has strong support from the agency partners and is consistent with the concept of maximizing benefits and minimizing impacts. This design concept best supports connectivity to the future 145th Street Light Rail Station.

Figure EX.7 Cross Section of 145th Bridge over I-5

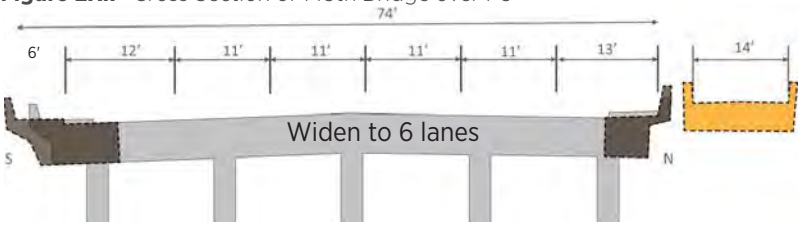
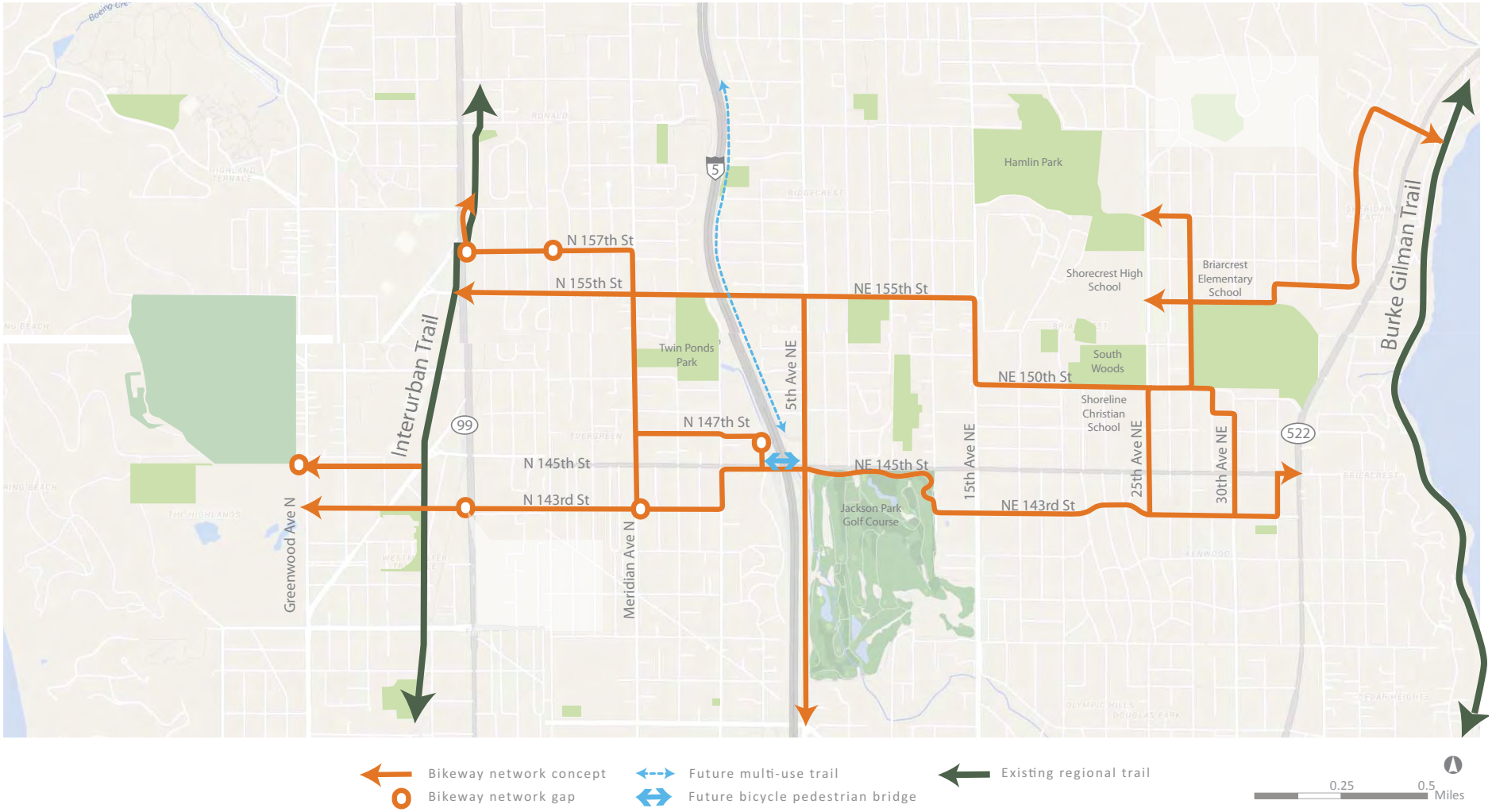


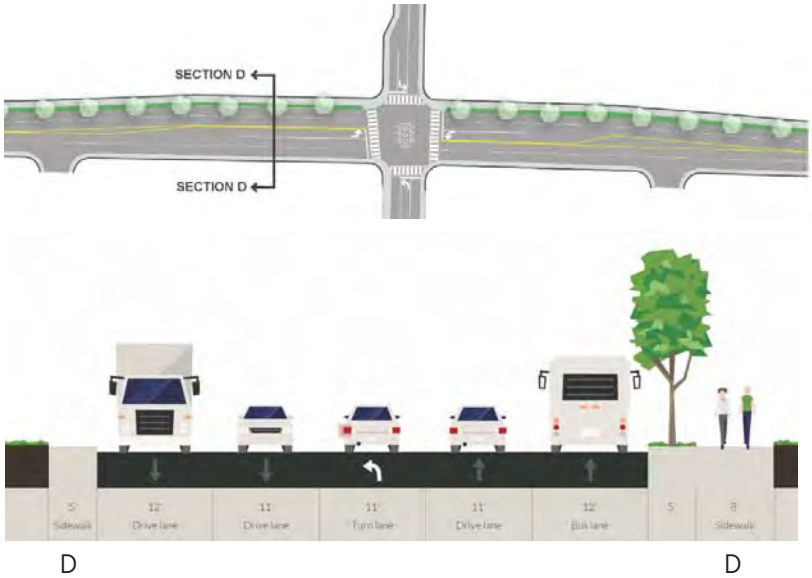
Figure EX.6 Off-Corridor Bike Network



Aurora Avenue N to I-5

In this section of the corridor, the focus of the Preferred Design Concept is on improving signalized intersections including adding left turns and signal timing changes to improve the flow of traffic which will reduce delay for buses and improve air quality. A new traffic signal is proposed at Ashworth Avenue, which provides the benefit of another protected crossing location for pedestrians. The improvements will be supportive of transit through a combination of capacity improvements, TSP, new wheelchair accessible bus stops, and 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.

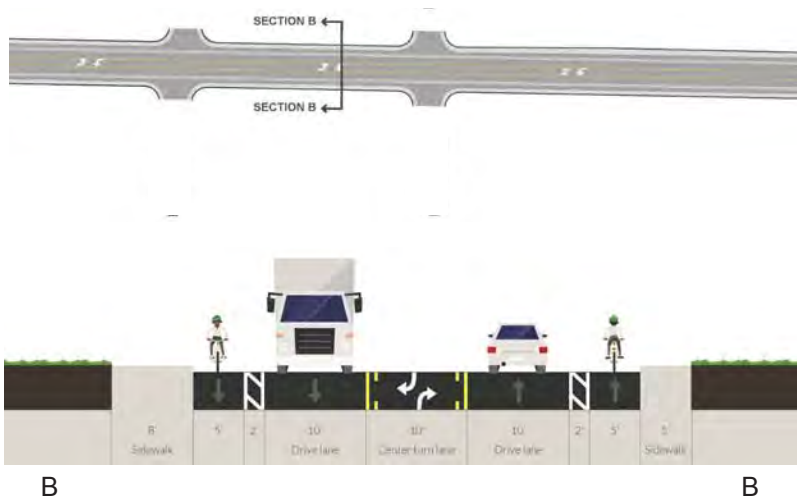
Figure EX.8 Preferred Concept Overview: Aurora Avenue N to I-5



3rd Avenue NW to Aurora Avenue N

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 N, Linden Avenue N, and Greenwood Avenue N. For the area between Linden Avenue and Greenwood Avenue N (see following cross-section), 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 that allows turning vehicles to get out of the through lanes, reducing friction and improving traffic flow. 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 N to Linden Avenue N, which connect to the Interurban Trail (the section between 3rd Avenue NW and Greenwood Avenue N remains two lanes).

Figure EX.9 Preferred Concept Overview: 3rd Avenue NW to Aurora Avenue N (Linden Ave to Greenwood segment)



Open House #3: Confirming the Preferred Design Concept

At the final public open house for the Corridor Study on February 24, 2016, attendees were asked to provide feedback on how effectively the Preferred Design Concept for 145th Street balanced improvements. Project staff requested that attendees cast a vote along a spectrum ranging from too little improvements to too much improvements. Open house attendees were able to provide feedback on the degree of improvements along individual corridor segments as well as specific feedback for specific transportation modes along the entire corridor.

- In all cases, a majority of provided feedback demonstrated that the Preferred Design Concept incorporated a level of improvements that was "just right."
- With regards to improvements on all corridor segments, more open house attendees felt that "too little" was being done than "too much."

Shoreline Council Adoption

On April 11, 2016, the Shoreline City Council voted unanimously to adopt the Preferred Design Concept for the 145th Street Corridor. The City and its agency partners will begin moving forward with project development of the corridor based on this master plan for 145th Street. The City will first begin preliminary engineering and environmental review of the sections of the corridor from Aurora Avenue N to I-5 and the I-5 Interchange. The City and its partner agencies will continue to pursue funding and project development opportunities for the corridor.

Figure EX.10 Public Input on the Preferred Concept by Corridor Segment

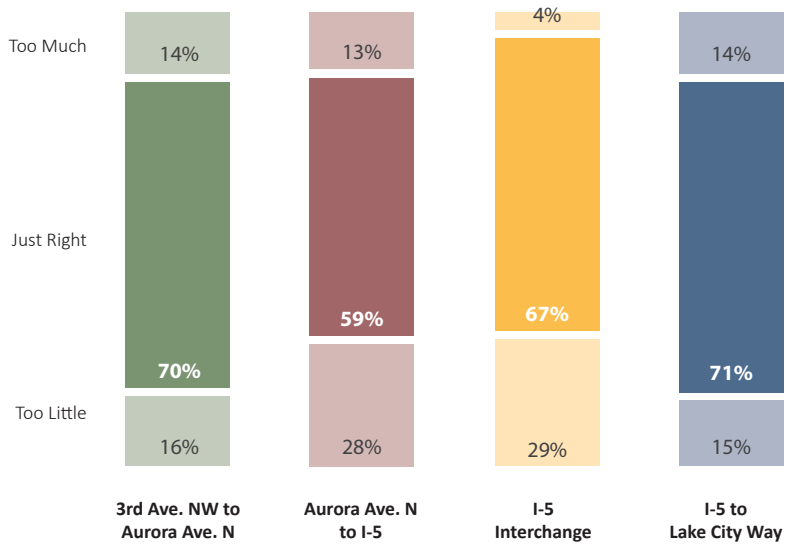
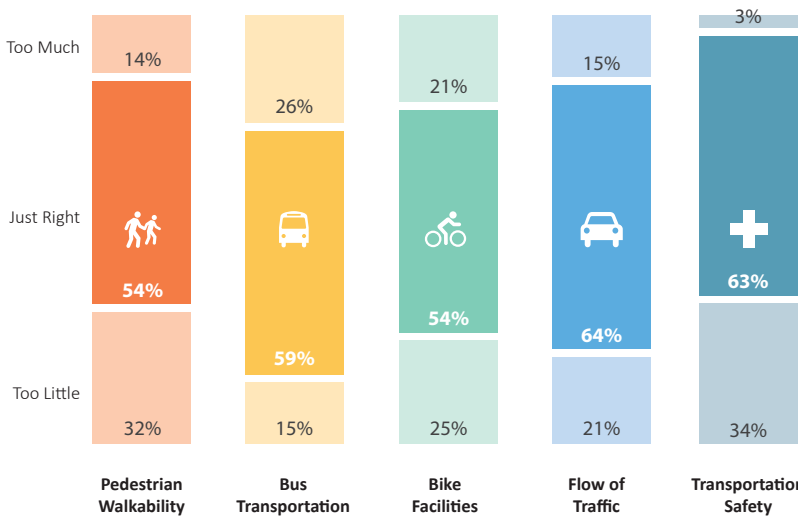


Figure EX.11 Public Input on the Preferred Concept by Mode of Travel



1. PROJECT PURPOSE AND GOALS

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1.1 Introduction

The 145th Street corridor is in need of significant upgrades in order to improve pedestrian and bicycle mobility, safety and traffic operations, transit speed and reliability, and freight mobility. 145th Street is one of the key east-west corridors in the region, yet it lacks adequate sidewalks and bike facilities, and it typically experiences a high level of congestion that does not support reliable transit through the corridor. With Sound Transit's commitment to open a light rail station on 145th Street by 2023, the need for multimodal transportation improvements is vital.

145th Street forms the southern border of the City of Shoreline and the northern border of the City of Seattle. The 145th Street study is approximately 3.2 miles long, from 3rd Avenue NW to Bothell Way NE /Lake City Way NE (SR 522). It is a state highway (SR 523) from Aurora Avenue N (SR 99) to Bothell Way NE (SR 522). 145th Street crosses over Interstate-5 just west of 5th Avenue NE and includes an interchange with the interstate.

Figure 1.1 145th Street is characterized by traffic congestion and lack of multimodal facilities

Through the 145th Street Multimodal Corridor Study (funded as the 145th Street Route Development Plan or RDP), the City of Shoreline, in coordination with Citizen Advisory Task Force (CATF), Interagency Technical Team (ITT), and the public, partner agencies, has developed a Preferred Design Concept for the corridor. The Preferred Design Concept serves as a vision, or master plan, for multimodal transportation improvements in the corridor. This report provides a summary of the multimodal corridor study process and the Preferred Design Concept for 145th Street.

Figure 1.2 Vicinity Map

Upgrades to the 145th Street corridor promise to be a significant capital improvement in the City of Shoreline. The multijurisdictional nature of the corridor's location and function as well as the various issues that need to be addressed in conjunction with redevelopment combine to create a very complex project. Hence, it is likely that the corridor will be designed, evaluated for compliance with environmental regulations, and constructed in multiple phases.

1.2 Project Goals

1.2.1 Project Goals

This study has been guided by the project goals. Project goals were initially established with the City Council in 2014. City staff worked with the 145th Street Multimodal Corridor Study advisory teams which included the Citizen Advisory Task Force (CATF) and the Interagency Technical Team (ITT) to refine study goals as well as establish evaluation criteria and specific performance measures.

Project goals are provided in Table 1.1. For simplicity in communicating these goals, City staff summarized the project goals as follows:

- Ensure that everyone can walk, bike, bus, access light rail and drive safely and reliably along and across the corridor
- Develop transportation improvements that:
  - Support the local economy
  - Protect the environment
  - Support a vibrant community

Table 1.1 Project Goals

PROJECT GOALS
Develop a preferred design concept that will:
• Improve the safety, mobility and accessibility for all users along and across the corridor.
• Emphasize the movement of people through all modes by enhancing the attractiveness of transit, walking and cycling along the corridor.
• Optimizes efficient movement of people and goods.
• Supports both local and regional economic development objectives by stimulating interest in reinvestment or redevelopment of property along the corridor and near the 145th Street light rail station.
• Support City of Shoreline and City of Seattle plans and policies.
• Consider the impacts to adjacent property and business owners resulting from right-of-way acquisition and the construction of improvements including access to property and impacts to existing buildings and improvements.
• Allow utilities to access, operate, maintain and upgrade facilities in a way that meets the system and/or service requirements for the street and the areas this corridor serves.
• Provide environmental benefit and mitigation for impacts to critical areas.
• Improve the comfort of the user and considers enhancements to views.
• Involve adjacent residents, property and business owners, the public and affected jurisdictions in the decision making process to allow for consideration of all needs along the corridor.
• Allow different characteristics and features along the corridor and has the flexibility to incorporate site specific constraints, such as environmentally critical areas.

2. OUTREACH ACTIVITIES

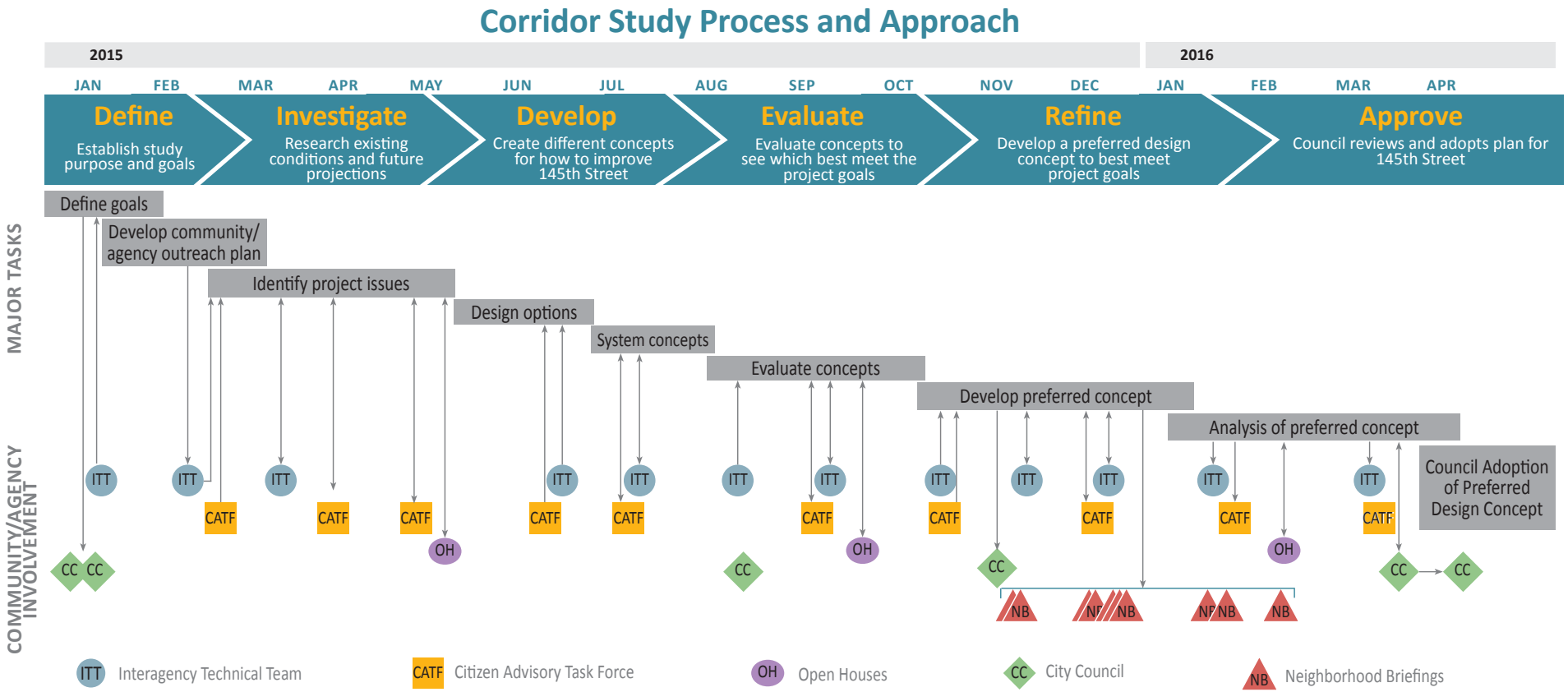
2. OUTREACH ACTIVITIES

Overview of Community and Agency Outreach

The City of Shoreline (City) made it a priority to engage interested members of the public throughout the 145th Street Multimodal Corridor Study. The City gathered community input and perspectives using many different outreach tools, including public open houses, a Citizen Advisory Task Force (CATF), neighborhood briefings, drop-in sessions at Shoreline City Hall, and an online project website. The project website provided materials from all public meetings and engaged the public through web-based surveys.

Throughout the corridor study process, the City worked to ensure that community members had approachable, useful, and accurate information about the project goals, schedules, and outcomes (while fostering communication between members of the public, the CATF, and Shoreline City Council). To meet ambitious public engagement goals, project staff created a public involvement plan, developed website content and informational materials, and used creative input

Figure 2.1 This project schedule diagram illustrates the integration of outreach and project development



gathering methods to maximize participation at the public open houses.

The project team worked with and informed a variety of key audiences, including:

- Partner agencies
- City and County governments
- Advocacy and non-profit organizations
- Emergency service providers
- Local businesses
- Local residents
- Nearby school and colleges
- Neighborhood organizations
- Public and private utilities and services
- Recreation interests
- Transit agencies
- Members of the public

The corridor study process and approach is shown in Figure 2.1 (see previous page).

This figure details several major tasks involved in the corridor study and the role of each advisory group in developing the major tasks. A total of 10 meetings were held with the CATF, 12 with the Interagency Technical Team (ITT), 10 presentations were made to neighborhood groups, and four presentations were made to the City Council. A listing of project meetings is provided in Appendix H.

Citizen Advisory Task Force

CATF members served as a link between the project team and the communities and interests that they represented. CATF members discussed draft study concepts for the 145th Street corridor and provided perspectives from their communities as well as direct input on the design issues and technical analysis. The CATF consisted of 11 representatives, one each from adjacent Shoreline neighborhoods (Briarcrest, Parkwood, Ridgecrest, and Westminster Triangle), adjacent Seattle neighborhoods (Broadview, Haller Lake, Olympic, and Pinehurst), a local business, the Lakeside School, and the North King County Mobility Coalition. CATF members met with the City's project team ten times between February 2015 and March 2016. In addition to supporting the development of the Preferred Design Concept for the 145th Street corridor, the CATF developed a set of design recommendations to provide guiding principles for future design development of the corridor.

Interagency Technical Team

The Interagency Technical Team (ITT) consisted of staff from transportation agencies and neighboring jurisdictions. Agencies that participated include Washington State Department of Transportation (WSDOT), Sound Transit, King County Metro, City of Seattle, Seattle Department of Transportation (SDOT), Seattle City Light, City of Lake Forrest Park, City of Kenmore, City of Bothell, and the Cascade Bicycle Club. This group met monthly during the study to advise Shoreline staff and the consultant team on technical design issues. The ITT reviewed and provided comments on evaluation performance measures, design options, and the development of design concepts.

Figure 2.2 Partners on the ITT

Neighborhood Briefings

City staff provided one-on-one briefings to adjacent neighborhood associations and other interested organizations (Shoreline Council of Neighborhoods, Seattle North District, the Lakeside School, and Friends of Jackson Park) between November 2015 and February 2016. This provided City staff with the opportunity to share information about the corridor study and gather perspectives from organizations invested in the future of the corridor.

Property Owner Drop-in Sessions

In order to ensure that property owners along the corridor were informed of the corridor study and the process to address proper impacts, the City hosted property owner drop-in sessions. In February 2016, the City hosted drop-in sessions at Shoreline City Hall and invited Shoreline property owners along 145th Street to discuss their specific questions about the corridor study with City staff. The City of Shoreline sent a letter to each property owner along the corridor within Shoreline to inform them of the project, the process for identifying and addressing property impacts, and to invite them to the drop-in sessions. A copy of this letter is provided in Appendix F. Understanding the importance of addressing property owner concerns, the City also provided a right of way specialist at Open House #3 to answer questions from property owners on both sides of the corridor.

Open Houses

Open houses provided community members with opportunities to learn about the study process and provide feedback to the project team regarding community input and perspectives. The City hosted three public open houses:

- **Open House #1, City Hall, May 20, 2015:** Project staff introduced the study process and gathered public input on existing conditions along the corridor.
- **Open House #2, City Hall, September 30, 2015:** Project staff presented a range of potential route concepts and gathered public input on what aspects from each concept were appropriate for different segments of the corridor.
- **Open House #3, Shorecrest High School, February 24, 2016:** Project staff presented the preferred concept for the corridor and gathered public input on how appropriately the concept balanced improvements.

To advertise all open houses, the City mailed postcards to residents within a ten block radius of the 145th Street corridor. For the second and third open houses, City staff also placed yard signs along the 145th Street corridor to alert interested community members. Attendance for all three open houses was robust, with approximately 200 people attending Open Houses #1 and #2 and approximately 300 people attending Open House #3.

Prior to each open house, Currents (City Newsletter) advertised the upcoming open house and was mailed to every address in Shoreline. Information was sent to the Seattle Transit Blog and local libraries. Neighborhood coordinators (both Shoreline and Seattle) were asked to share information via email lists, Facebook, and other social media. The City of Shoreline website contained information before and after each open house which allowed anyone to view materials and submit comments.

Figure 2.3 Several methods were used to advertise the project Open Houses, including yard signs lining the 145th Street corridor

At each open house, project staff were available to discuss questions and concerns with stakeholders, and comment forms were offered for qualitative comments. Staff from partner agencies and neighboring jurisdictions were also available at each open house to discuss questions and concerns with meeting attendees. After each open house, City staff consolidated public feedback and used it to inform next steps in the corridor study. Following the second and third public open houses, City staff provided an overview of public comments to Shoreline City Council members.

Open House #1: Introducing the Corridor Study

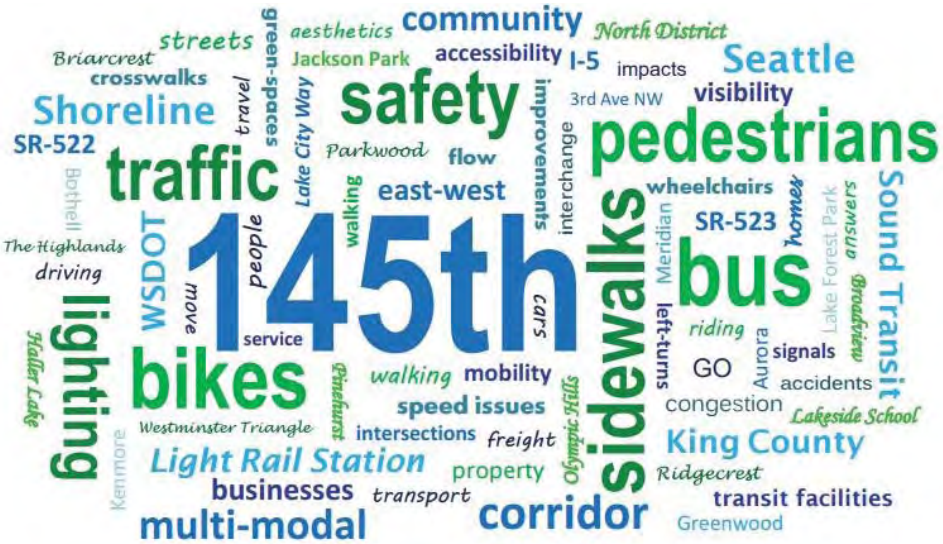
At the first open house, City staff kicked off the corridor study with a focus on the technical data for existing conditions along the 145th Street corridor, as well as hearing from the community about their concerns and ideas for improving the corridor. Large aerial maps of the corridor were provided along with sticky notes, pens, and comment forms for sharing specific ideas.

Figure 2.4 Open House #1 comments collected on aerial map

Common themes in public comments included:

- Interest in reducing traffic congestion and improving traffic flow and signal timing
- Concern about dangerous left-hand turns and desire for dedicated left-hand turn lanes or center lanes for left-hand turns
- Interest in improving pedestrian safety, ADA compliance, and access to the 145th Street light rail station for pedestrians and cyclists
- Interest in improved transit stop locations and bus service speed and reliability
- Interest in safe routes for bicyclists, including ideas to avoid the 145th corridor and select other routes
- Questions or concern about potential impacts to private property
- Questions about land use and density, urban design, wildlife, and other less common topics

Figure 2.5 Open House 1 Word Count. This graphic illustrates the feedback collected and issues raised at Open House 1.



Open House #2: Sharing a Range of Potential Improvements

At the second open house, the City shared draft concepts for the 145th Street corridor with the goal of gathering community input to help narrow the range of improvements and move toward a preferred concept. The City also showed draft visualizations for each of the three options for corridor improvements, as well as updating attendees on how the various concepts would be evaluated. The various road configurations for the study concepts were printed on vellum sheets and were placed on top of aerial mapping. This allowed the public to visualize the concepts and understand the typical footprint of the different concepts.

Meeting attendees were invited to participate in a feedback exercise designed to investigate how the public would balance the benefits of corridor improvements – safety, mobility, accessibility and more – with the project cost and potential property impacts of some of the design concepts.

Figure 2.6 Where you live and work location map at Open House #2

Figure 2.7 Materials for viewing at Open House #2

Figure 2.8 Boards and roll plots for viewing at Open House #2

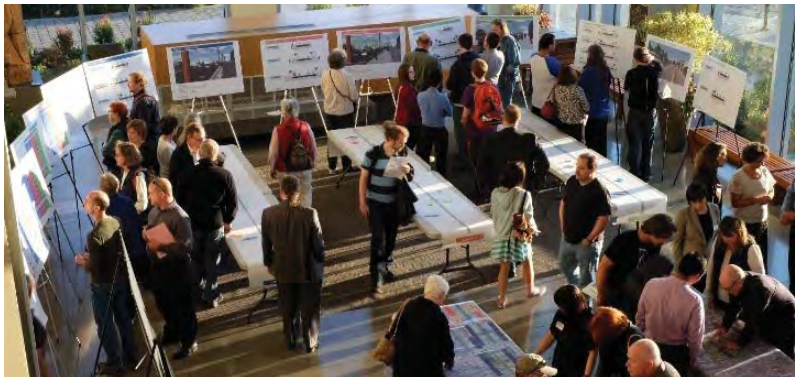
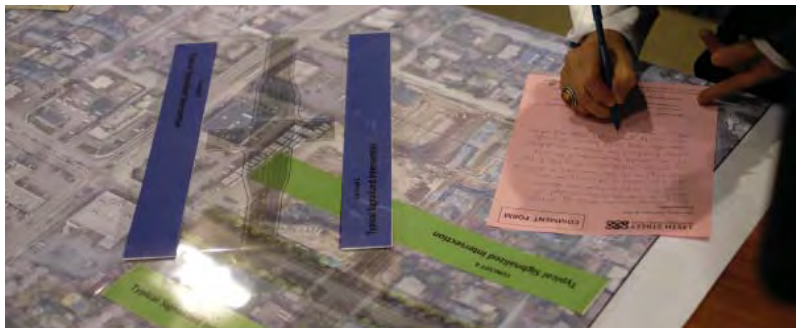


Figure 2.9 Opportunities for meaningful input were provided at Open House #2



Open House #3: Confirming the Preferred Concept

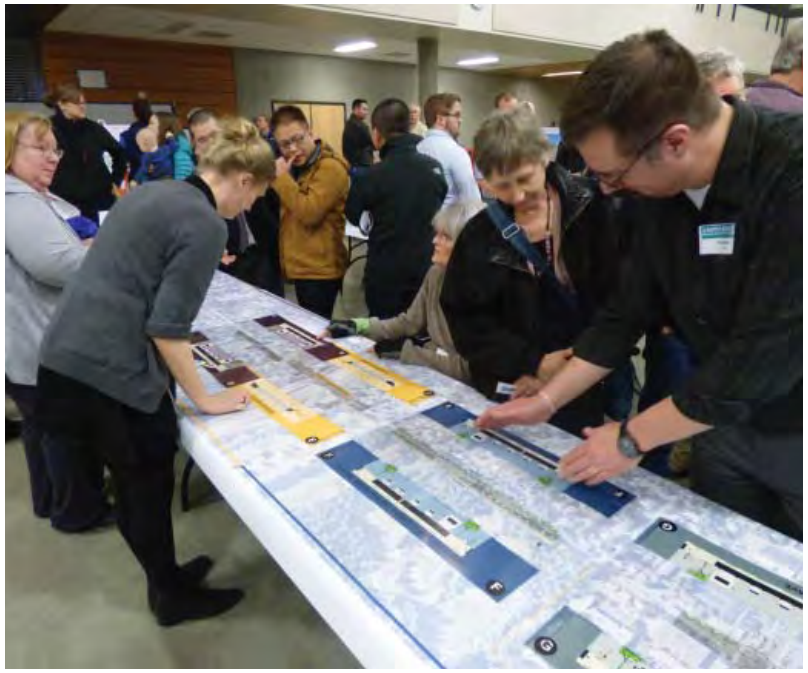
At the Corridor Study final public open house on February 24, 2016, attendees were asked to provide feedback on how effectively the study's Preferred Design Concept (see Chapter 6) for 145th Street balanced improvements. Project staff requested that attendees weigh in on the level of improvements for the preferred design concept, ranging from too few improvements to too many improvements (see Figure 2.10). Open house attendees were able to provide feedback on the degree of improvements along individual corridor segments as well as specific feedback for specific transportation modes along the entire corridor (see Figures 2.13 & 2.14).

- In all cases, a majority of provided feedback demonstrated that the preferred concept incorporated a level of improvements that was "just right."
- With regards to improvements for all corridor segments, more open house attendees felt that "too little" was being done than "too much."

Figure 2.10 Open House 3 Feedback Board

Figure 2.11 Open House 3 Attendees

Figure 2.12



Project Website

The City posted project information on the project website and updated the information regularly. All materials from the public meetings were provided on the website including materials from the three Open Houses, Planning Commission meeting, and CATF meetings. Opportunities to provide meaningful input were provided on the website through public input surveys after Open House 2 and Open House 3.

Project website:
http://www.shorelinewa.gov/government/departments/145th-street-corridor

Figure 2.13 Public Input on the Preferred Concept by Mode of Travel

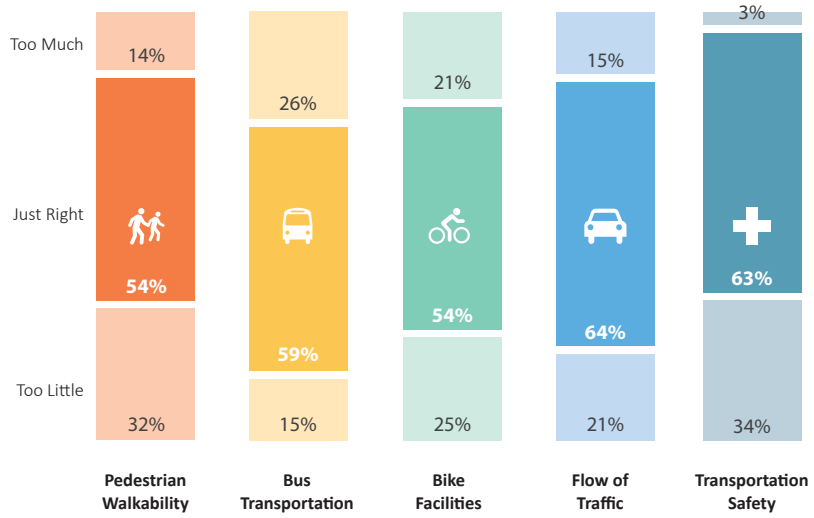
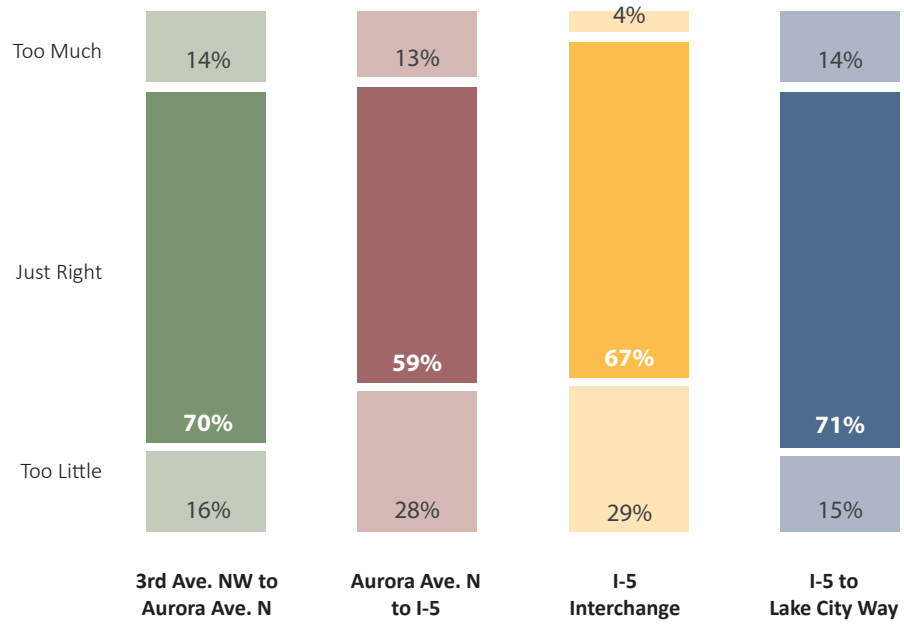


Figure 2.14 Public Input on the Preferred Concept by Corridor Segment



3. EXISTING CONDITIONS AND FUTURE PROJECTIONS

3. EXISTING CONDITIONS AND FUTURE PROJECTIONS

3.1 Existing Conditions

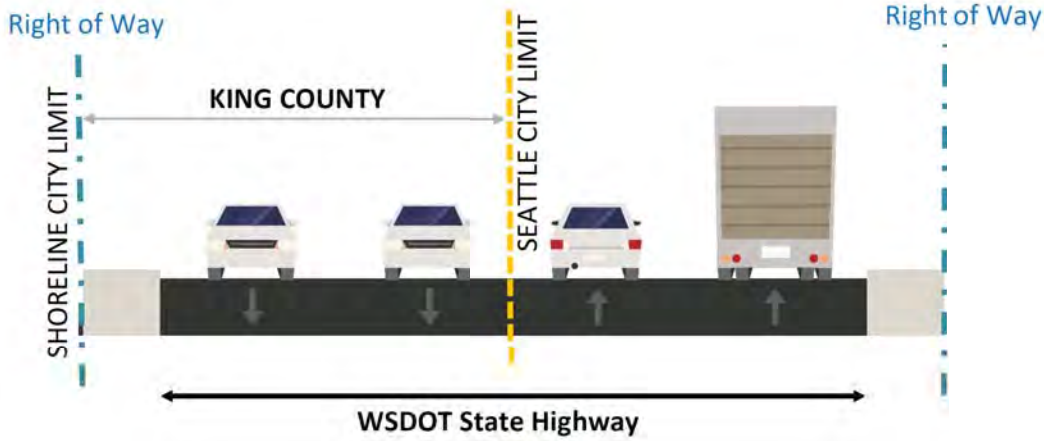
City of Shoreline conducted a study of 145th Street to develop a master plan for proposed improvements to the corridor, which is in need of significant upgrades. 145th Street is a major east-west travel corridor in northwest King County, connecting regional roads and highways, including Greenwood Avenue, Aurora Avenue (SR 99), I-5, 15th Avenue, and Bothell Way (SR 522). 145th Street is also a community street serving Shoreline and Seattle neighborhoods, businesses, schools, and parks.

The corridor is recognized as not serving the transportation needs for all modes of travel. The corridor experiences significant traffic congestion, particularly in the peak hours. For transit users, there is limited bus service through the corridor and many bus stops on the corridor lack the ability to serve people in wheelchairs. It is difficult to walk the corridor due to lack of accessible sidewalks. There are currently no bike facilities on 145th Street. These transportation issues will become even more critical as Sound Transit implements a light rail station at 145th Street and the I-5 interchange.

The study area for 145th Street includes the 145th Street corridor from 3rd Avenue NW to Bothell Way NE (SR 522). The segment east of Bothell Way is not included in the study area. See Figure 3.1.

These photos show existing site conditions and issues along 145th Street.

Figure 3.1 145th Street Typical Section: Multi-jurisdictional responsibilities



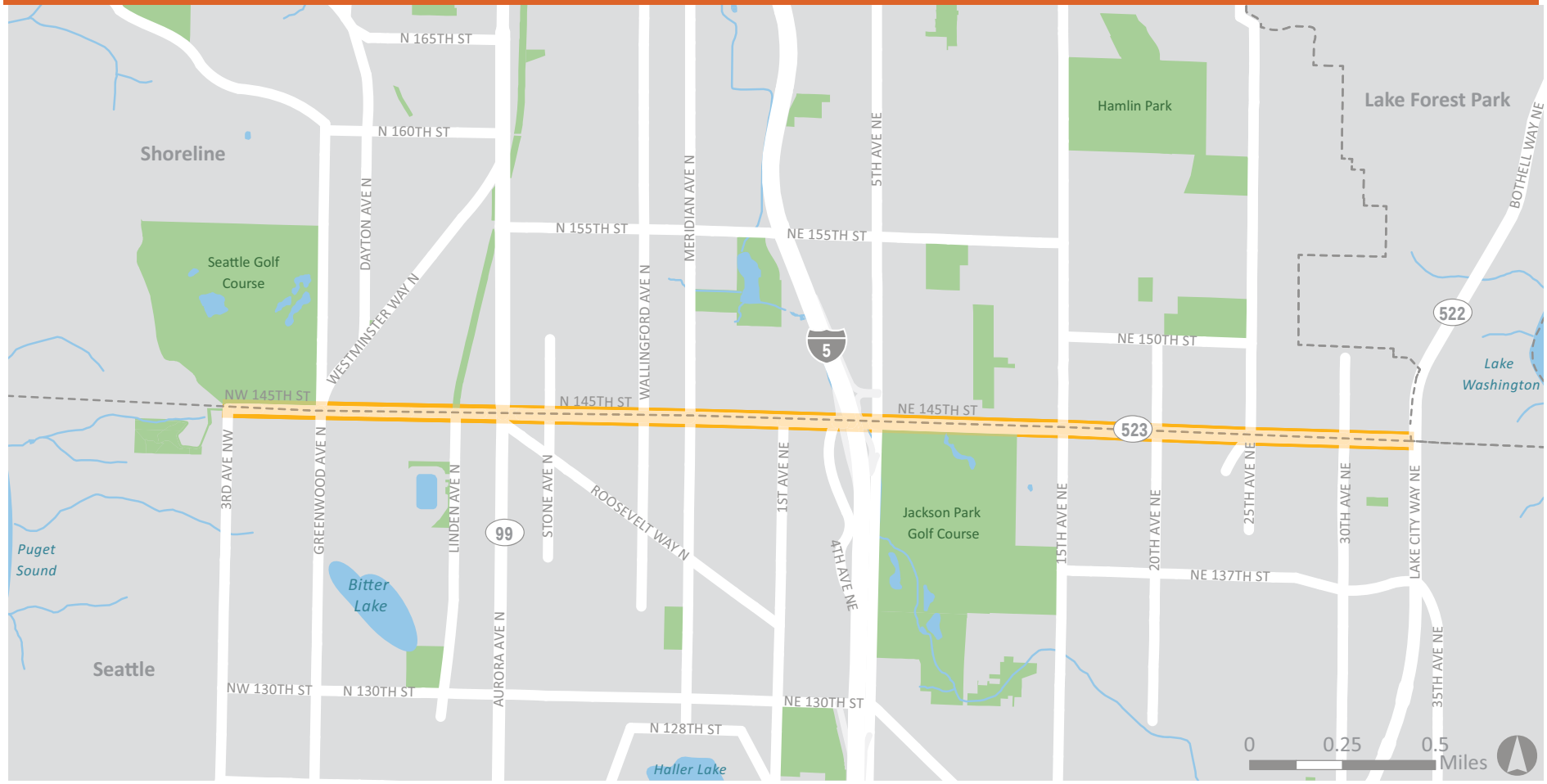
Existing site conditions along 145th Street

3.1.1 Multijurisdictional Nature

One of the major obstacles in addressing the issues along the corridor the facility is the multijurisdictional location and function of 145th Street. 145th Street serves as the jurisdictional boundary between the City of Shoreline and the City of Seattle. The City of Seattle owns the right of way (ROW) on both the north and south side of 145th Street between 3rd Avenue NW to Greenwood Avenue N. For the remaining roadway within the study area (Greenwood Avenue N to Bothell Way NE - SR 522), the ROW ownership is split down the centerline between the City of Seattle (south of the centerline) and King County (north of the centerline) see figure 3.1. Presently, 145th Street falls outside of Shoreline's jurisdiction and is maintained by the City of Seattle. However, the City of Shoreline is interested in exploring the future annexation of this corridor since it serves as a prominent gateway into Shoreline.

145th Street is designated as a state highway (SR 523) from Aurora Ave (SR 99) to Bothell Way NE (SR 522). However, SR 523 is not designated as a Highway of State Significance (HSS) by the Washington State Department of Transportation (WSDOT). As a Non-HSS, the Level of Service (LOS) standard for 145th Street is determined by the City of Seattle. Within the study area, 145th Street is classified by Seattle as a collector arterial from 3rd Avenue NW to Greenwood Avenue N and a principal arterial from Greenwood Avenue N to Bothell Way NE (SR 522) see figure 3.2.

Figure 3.2 145th Street Route Development Plan Study Area



3.1.2 Crossroads

145th Street is intersected 52 times with roads ranging from local neighborhood collectors to major arterials and freeway access. There are 12 signalized intersections and the remaining 40 are unsignalized. The five intersections with significant north-south traffic crossing 145th Street are at the signalized crossings of Greenwood Avenue N, SR 99, 5th Avenue and I-5 ramps (two signals), 15th Avenue NE, and SR 522. Other signals occur at Linden Avenue N, Meridian Avenue N, 1st Avenue NE, 20th Avenue NE, 25th Avenue NE, and 30th Avenue NE. Figure 3.4 indicates the location of intersections along the corridor and provides a schematic depiction of intersection lane configuration. The 12 signalized intersections along 145th Street are generally spaced every 5 blocks (1/4 mile), but varies between 2 blocks to 10 blocks. The largest distance between signals is between 5th Avenue NE and 15th Avenue NE. The shortest distance occurs between Linden Avenue N and Aurora Avenue N.

In addition to the signalized intersections, there are 40 minor street intersections in the 3.2 mile corridor. East of I-5, these intersection are generally evenly spaced at 1/20th mile intervals. However, east of I-5, the spacing can be as little as every 1/33rd mile.

3.1.3 Vertical Alignment

The general vertical alignment profile of the corridor is downhill from west to east. The terrain of the corridor is generally rolling to hilly with grades varying between one-half percent and five percent. The steepest grades on the corridor occur east of 15th Avenue NE, approximately between 17th Avenue NE and 27th Avenue NE. The signalized 25th Avenue NE intersection is on a five percent grade.

3.1.4 Horizontal Alignment

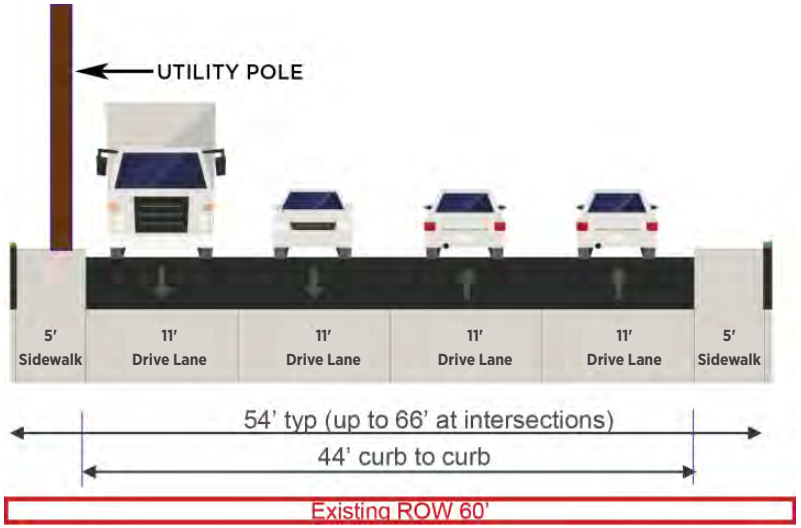
The alignment of 145th Street is essentially straight with slight angle points of less than one degree occurring at a few intersections along the 3.2 mile alignment.

3.1.5 Typical Section

The vast majority of 145th Street is a four lane roadway requiring left turning vehicles to stop within the travel lane at all unsignalized intersections and driveway access points. (See Figure 3.3 for typical cross section.) There are left turn lanes at the major intersections of Greenwood Avenue, SR 99, I-5, 15th Avenue NE, and Bothell Way NE (SR 522).

Throughout most of the corridor, the right of way for 145th Street is 60 feet wide with the center of the ROW generally coinciding with the roadway centerline.

Figure 3.3 Existing Typical Section



3.1.6 Key Corridor Constraints

145th Street serves as a jurisdictional boundary between the cities of Shoreline, Seattle, Lake Forest Park, and unincorporated King County. The center of the roadway is the northern limit of the City of Seattle. The area between the center of the roadway and the north right of way limit of the roadway is in unincorporated King County. The north right of way limit of the roadway is the southern limit of the cities of Shoreline (and Lake Forest Park east of Bothell Way NE/SR 522).

There is a fairly substantial street grid network within the residential areas to the south of 145th Street. There is a discontinuous street grid network to the north of 145th Street, which limits the number of parallel routes that could be used to provide access to parcels on the north side of the street. The use of parallel routes on either side of 145th Street is further interrupted by I-5, which provides an east-west barrier and requires traffic to use 145th Street to cross over I-5. Alternative east-west routes are N 155 Street to the north or N 130th Street to the south.

Lakeside School abuts the south side of 145th Street between 1st Avenue NE and 4th Avenue NE. Jackson Park abuts the south side of 145th Street between 5th Avenue NE and 12th Avenue NE.

3.2 Existing Roadway Operations

145th Street is a regional route to access I-5. A primary use of 145th Street is for access to and from I-5, as traffic volumes are heaviest in the immediate vicinity of the interstate. I-5 presents an east-west barrier, requiring travel on 145th Street to cross the interstate. Tolling implemented on the SR 520 bridge has resulted in increased traffic along 145th Street between Bothell Way NE (SR 522) and I-5.

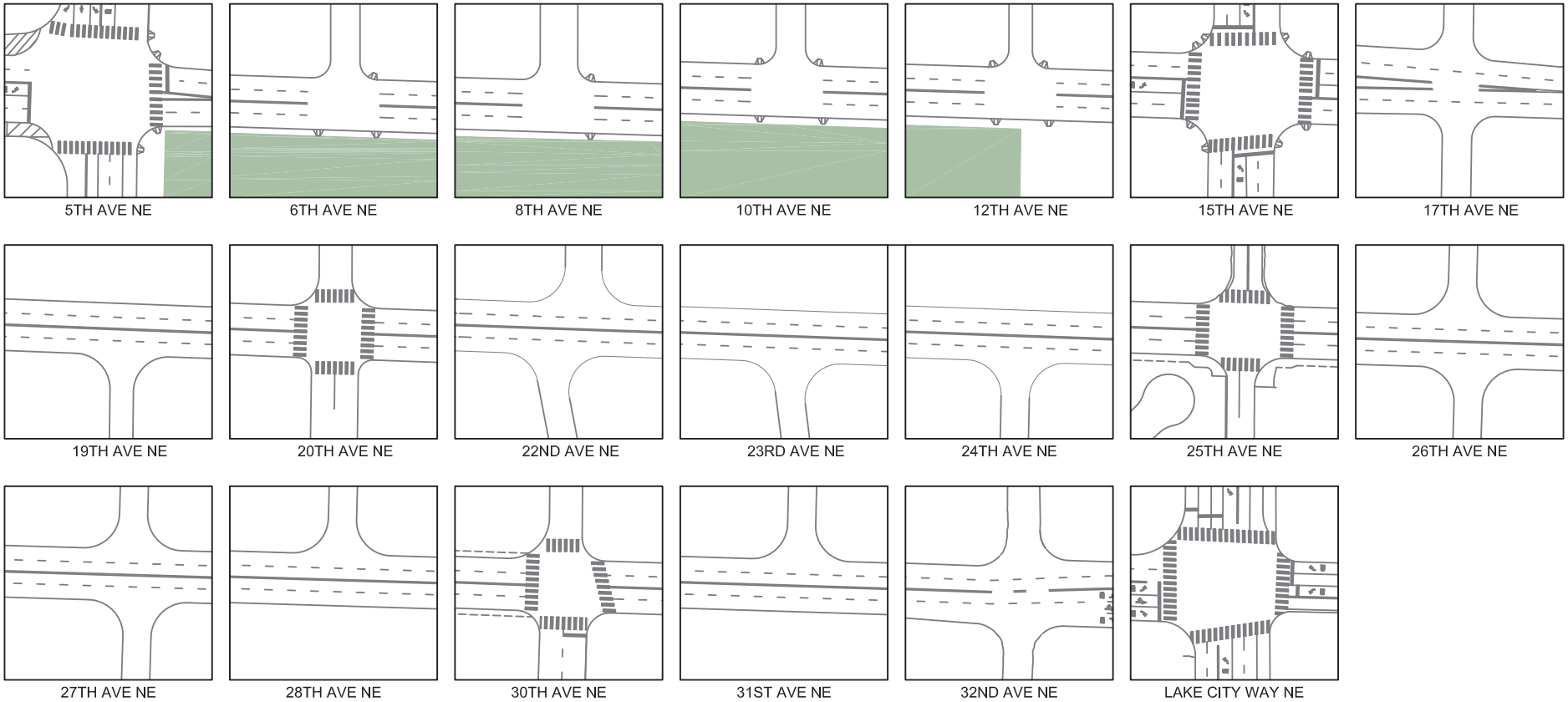
Other major trip generators along the corridor include Jackson Park Golf Course, located on the south side of NE 145th Street immediately east of I-5, and Lakeside School, located on the south side of NE 145th Street immediately west of I-5.

3.2.1 Channelization

An illustration of the existing channelization of 145th Street including the location of signalized and unsignalized intersections is included in Figure 3.4 As a collector arterial, the segment of 145th Street from 3rd Avenue NW to Greenwood Avenue N is a two-lane undivided road with posted speed limits of 30 miles per hour. The segment of 145th Street from Greenwood Avenue N to Bothell Way NE (SR 522), classified as a principal arterial, is primarily a four-lane undivided road with left turn lanes/pockets provided at higher volume signalized intersections (Greenwood Avenue, Aurora Avenue, westbound onto the I-5 S ramp, eastbound onto 5th Avenue N, 15th Avenue NE, and Bothell Way NE (SR 522)) . The posted speed limit for this section is 35 miles per hour.

Figure 3.4 145th Street Graphic illustrating the existing channelization of 145th Street including the location of signalized and unsignalized intersections

Figure 3.4 145th Street Graphic illustrating the existing channelization of 145th Street including the location of signalized and unsignalized intersections (continued)



3.2.2 Collision Data

Collision data along 145th Street from 2010 to 2014 was obtained from the Washington State Department of Transportation. During this period, a total of 829 collisions were recorded including 1 fatality and 7 serious injury collisions. Collision records for this period are summarized in the tables and figures below. Figure 3.5 shows the collisions by location and type.

Table 3.1 145th Street Collision Summary 2010-2014

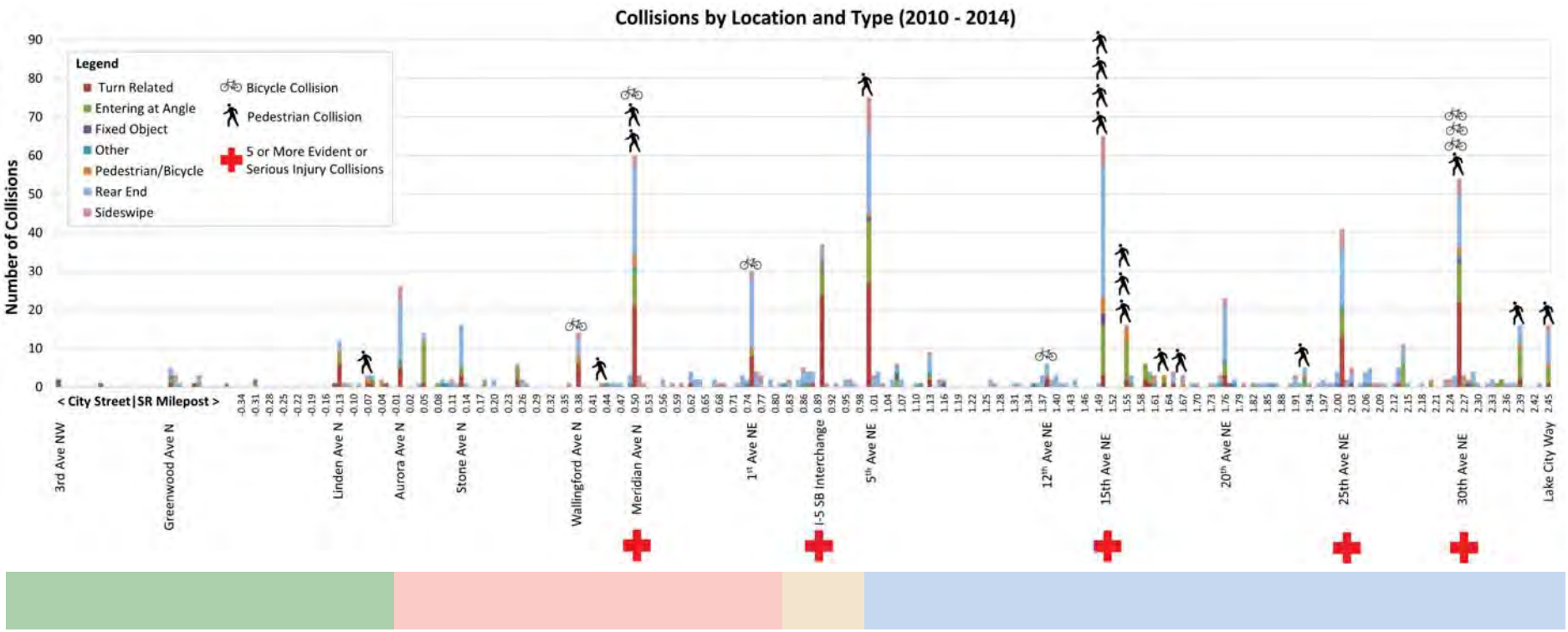
COLLISION SEVERITY	NUMBER OF COLLISIONS
Property Damage only	483
Possible Injury	267
Evident injury	68
Serious Injury	7
Died in Hospital	1
Unknown	3

Poor sight distance and lack of left-turn management contribute to safety concerns such as at 17th Ave NE pictured below

Table 3.2 145th Street Collision Evident and Serious Injury Summary of 2010-2014 Collisions are further broken down by location and type in Figure 3.5. Locations are color coded by segment along the corridor. The area from 15th Avenue NE to 20th Avenue NE experienced a high concentration of pedestrian collisions. 10 evident and serious injury collisions were reported in this area as well.

CROSS STREET	EVIDENT + SERIOUS INJURY
30th Ave NE	10
Meridian Ave N	7
15th Ave NE	7
25th Ave NE	7
I-5 SB Ramps	5
Aurora Ave N	4
Stone Ave N	3
17th Ave NE	3
20th Ave NE	3
Linden Ave N	2
Midvale Ave N	2
6th Ave NE	2
14th Ave NE	2

Figure 3.5 Collisions by Location and Type (2010-2014)



Refer to Table 3.2 to see how location of collisions correlate with color coded band of corridor segments.

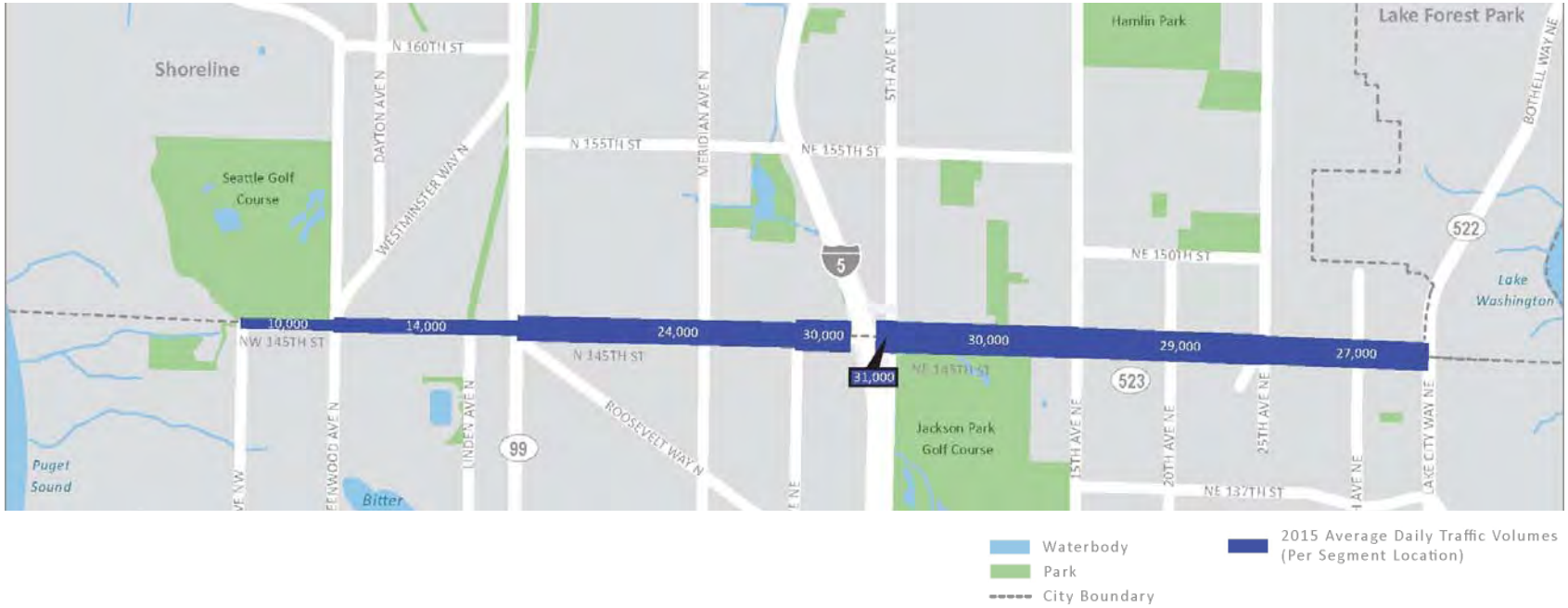
3.2.3 Traffic Volumes and Level of Service

Average Annual Daily Traffic Volumes

The 2013 Average Annual Daily Traffic (AADT) volumes for the 145th Street corridor are illustrated in Figure 3.6. These volumes were provided through the WSDOT Annual Traffic Report and include weekday and weekend traffic counts. As expected, the highest traffic volumes are found in the immediate vicinity of I-5 as vehicles are accessing the interstate via the 145th Street interchange.

Traffic volumes along the 145th Street corridor have increased approximately 0.5% per year over the past 6 years. In December 2011, WSDOT implemented tolling along the SR 520 bridge. An increase in traffic volumes is observed starting in 2012 at count locations east of I-5. This increase is indicative of more drivers traveling around Lake Washington and connecting to I-5 via 145th Street rather than using the 520 bridge to cross the lake. This aligns with the trend that other cities in northern King County are reporting in terms of increased traffic volumes along SR 522 as an alternative route to SR 520. However, after the increase in traffic volumes following the implementation of tolling, the background growth returned to approximately 0.5% growth per year.

Figure 3.6 Average Daily Traffic Volumes



Intersection Turning Movement Volumes

As noted in the introduction, there are a total of 52 intersections along the corridor study area; 12 are signalized and the remaining 40 are unsignalized. For this existing conditions analysis, turning movement counts were collected from WSDOT and Sound Transit near the I-5 interchange. Additional turning movement counts were collected in January 2015 for all remaining locations where recent counts were not available. Figure 3.7 illustrates the intersection turning movements for an illustration of the intersection turning movement volumes for each intersection along the corridor.

Intersection Level of Service (LOS)

LOS is used as a measure of effectiveness for intersection operation. The LOS at signalized intersections is defined by the average vehicle delay for the entire intersection, and at unsignalized intersections is defined by the average vehicle delay for the stop controlled movements. LOS is similar to a "report card" rating ranging from LOS A to F. LOS A represents free-flow conditions with little or no delay. LOS E represents conditions at intersection capacity, and LOS F represents worst case or over capacity conditions. For the signalized intersections, the average LOS and delay of the entire intersection are reported. For unsignalized intersections, the LOS and delay are reported for the worst minor street approach to the intersection.

The existing conditions analysis included, the LOS for each intersection which was calculated as a function of the average vehicle control delay (in seconds) in accordance with the 2010 Highway Capacity Manual (HCM).

Table 3.3 summarizes the LOS and associated delay for the signalized intersections along the corridor, and Table 3.4 summarizes the LOS and associated delay for the unsignalized intersections.

The City of Shoreline has adopted a LOS D for signalized intersections at arterials and unsignalized intersecting arterials within the city. Of the 12 signalized intersections, two (145th Street/5th Avenue NE and 145th Street/Bothell Way-SR 522) are currently operating below LOS D. Should the City of Shoreline annex 145th Street, the LOS for these two intersections will need to be addressed as they do not meet the adopted LOS standard. In addition, WSDOT has level of service standards for state highways. 145th Street (SR523) is identified as a Tier 1 corridor, and per WSDOT standards, the level of service standard is LOS E/Mitigated, meaning the congestion should be mitigated when PM peak hour LOS falls below LOS E. The WSDOT LOS standards for the intersections with Aurora Avenue and the I-5 ramps are LOS D because those routes are identified as Highways of Statewide Significance.

Table 3.3 Existing Conditions PM Peak Hour LOS and Delay (Signalized Intersections)

CROSS ROAD	LOS	DELAY (IN SECONDS)
Greenwood Ave N	D	54
Linden Ave N	D	45
Aurora Ave N	D	50
Meridian Ave N	B	13
1st Ave NE	C	35
I-5 SB Ramps	C	35
5th Ave NE	E	67
15th Ave NE	D	55
20th Ave NE	A	9
25th Ave NE	A	6
30th Ave NE	B	18
Bothell Way NE	E	62

All of the unsignalized intersections along the study corridor are locations where local streets intersect with 145th Street. As such, the City's LOS standard does not apply to these locations. However, the level of service at unsignalized intersections can be used to identify high delay locations for side street approaches and used in conjunction with collision data to identify locations for potential access control improvements in the future. The side streets with the highest levels of delay include: Midvale Avenue N, Stone Avenue N, Ashworth Avenue N, Wallingford Avenue N, and 27th Avenue NE.

Figure 3.7 Intersection turning movements and peak hour volumes

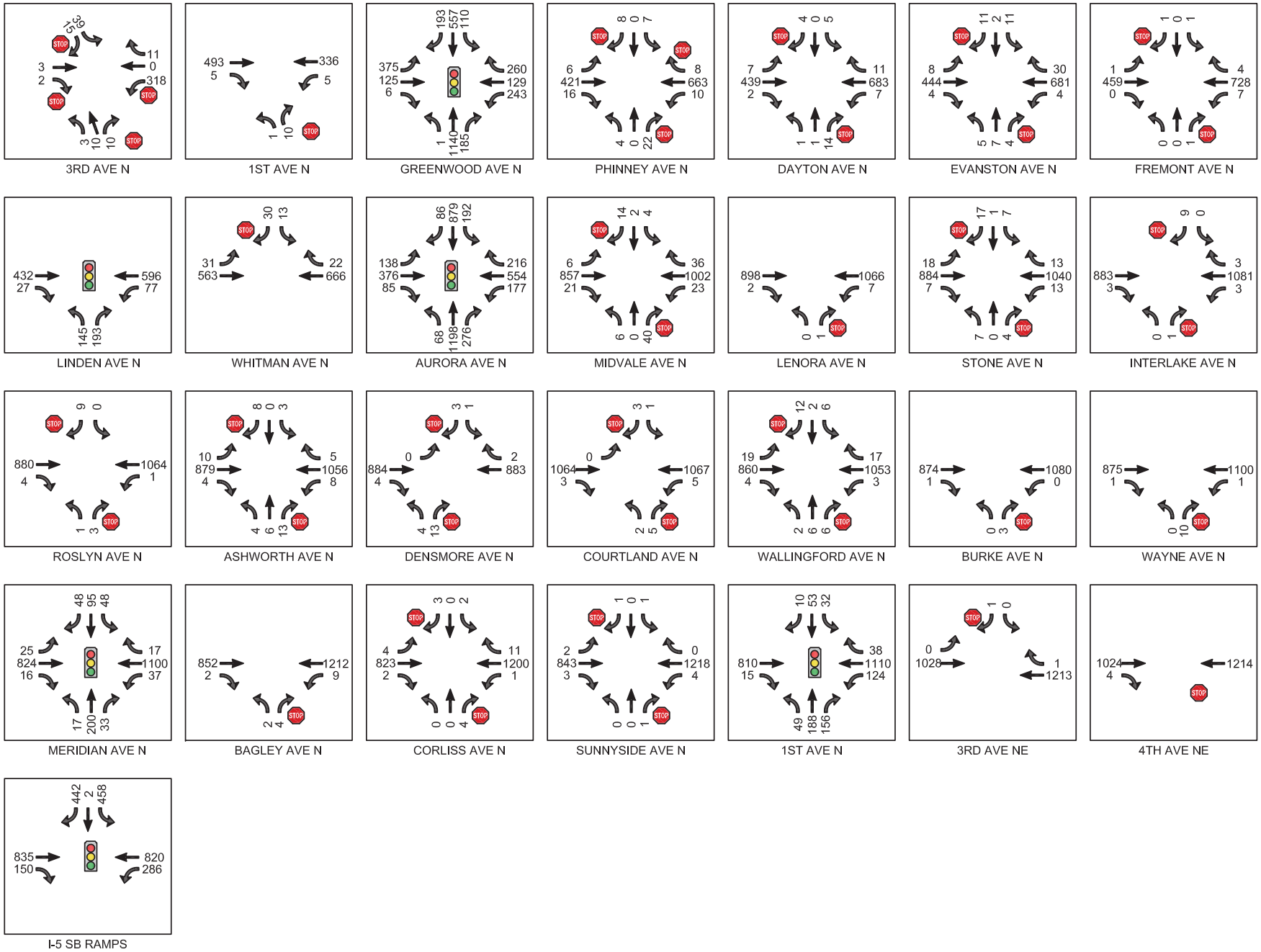


Figure 3.7 Intersection turning movements and peak hour volumes (Continued)

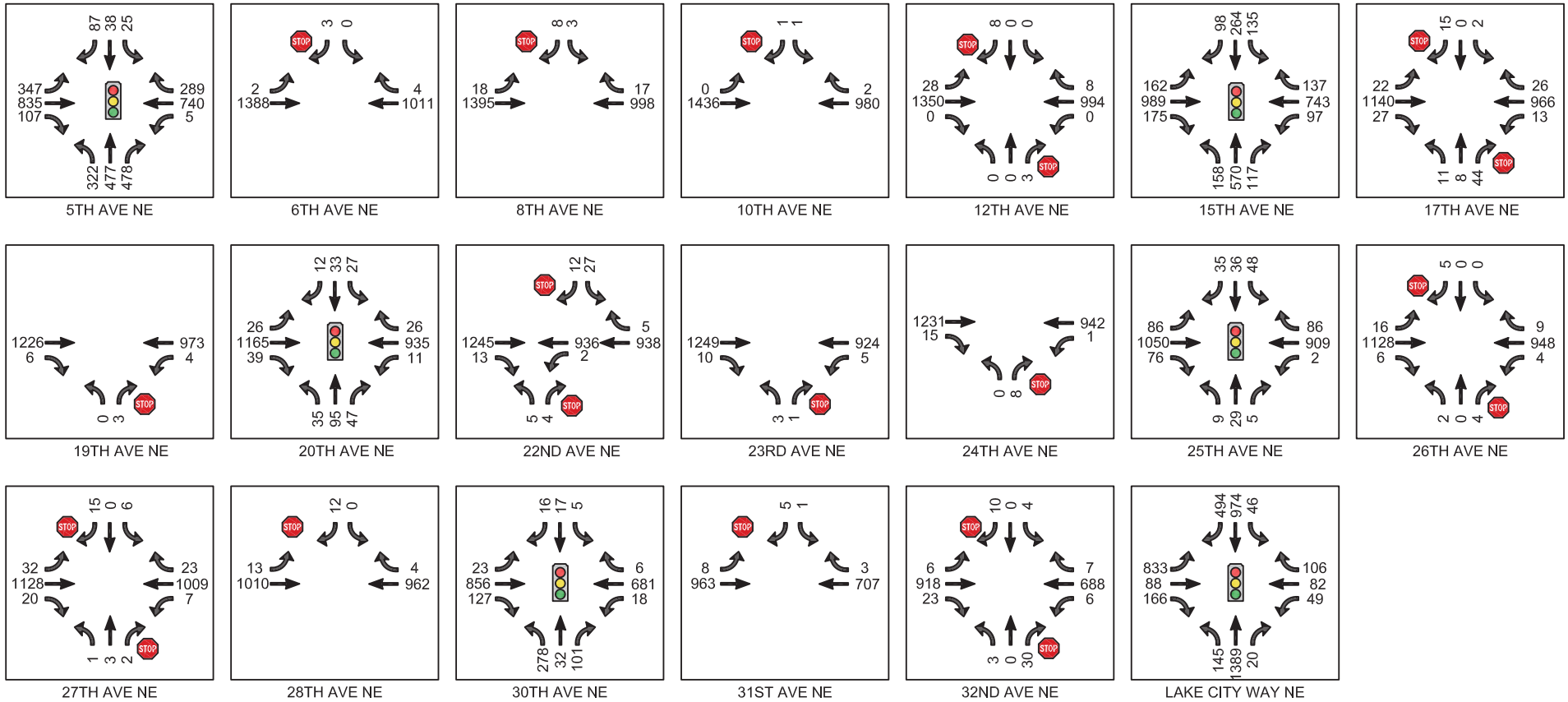


Table 3.4 Existing Conditions PM Peak Hour Level Of Service (LOS) and Delay at Unsignalized Intersections along the 145th Street.

MAIN ROAD	CROSS ROAD	LOS	DELAY (IN SECONDS)
145th	3rd Ave NW	C	16
145th	1st Ave NW	B	12
145th	Phinney Ave N	C	18
145th	Dayton Ave N	C	17
145th	Evanston Ave N	C	18
145th	Fremont Ave N	B	14
145th	Whitman Ave N	B	11
145th	Midvale Ave N	E	36
145th	Lenora Pl N	A	10
145th	Stone Ave N	E	49
145th	Interlake Ave N	B	10
145th	Roslyn Pl N	C	18
145th	Ashworth Ave N	F	66
145th	Densmore Pl N	C	18
145th	Courtland Pl N	C	19
145th	Wallingford Ave N	F	64
145th	Burke Ave N	B	12
145th	Wayne Pl N	B	12
145th	Bagley Ave N	B	12
145th	Corliss Ave N	C	15
145th	Sunnyside Ave N	C	18
145th	3rd Ave NE	B	10
145th	4th Ave NE	B	10
145th	6th Ave NE	B	13
145th	8th Ave NE	D	26
145th	10th Ave NE	D	28
145th	12th Ave NE	B	14
145th	17th Ave NE	C	19
145th	19th Ave NE	B	10
145th	22nd Ave NE	D	31
145th	23rd Ave NE	D	36
145th	24th Ave NE	B	11
145th	26th Ave NE	D	25
145th	27th Ave NE	E	36
145th	28th Ave NE	A	10
145th	31st Ave NE	B	13
145th	32nd Ave NE	C	16

Level of service and delay for unsignalized intersections along the 145th Street corridor

3.2.4 Peak Travel Times

A series of floating car travel time runs were conducted to establish the average vehicle time along 145th Street during the PM peak period (4 PM to 6 PM). Five travel time runs were collected for both the eastbound and westbound directions from 3rd Ave NE to Bothell Way (SR522).

The average eastbound travel time during the PM peak period was 12 minutes, which correlates to a speed of 16 miles per hour (mph) (including stop delays at intersections). The average westbound travel time westbound during the PM peak period was 10 minutes which correlates to an average speed of 19 mph (including stop delays at intersections).

3.3 Parking and Access

3.3.1 On-Street Parking

The City of Seattle has implemented restricted parking at all times on both sides of 145th Street from 3rd Avenue NW to Greenwood Avenue and along the south side of 145th Street from Greenwood Avenue to Bothell Way NE (SR 522). There are no posted parking restriction signs along the north side of the corridor from Greenwood Avenue to Bothell Way. However, no on-street parking has been observed during field work and likely does not occur as it would require parking in a travel lane.

3.3.2 Driveway Access

Land use along 145th Street is generally residential with pockets of commercial/retail near Greenwood Avenue, Aurora Avenue (SR 99), 15th Avenue NE, and Bothell Way (SR 522). Residences along 145th Street are predominantly single-family homes with individual driveways. This has resulted in numerous uncontrolled access points. Table 3.5 presents the number of driveways, sub-totaled between signalized intersections, and by direction. In total, there are 109 access points in the corridor—an average of 34 driveways per mile.

There are a few notable patterns that may pose significant insight in determining future safety, efficiency, or expansion considerations:

- The majority of Shoreline properties connect to 145th Street while Seattle properties primarily connect to an adjacent side street.
- Connection and orientation points are often clustered in groups. For example, a significant grouping of residential buildings/houses in Seattle face side streets between Aurora Avenue and Meridian Avenue N while properties in Shoreline between I-5 and 1st Avenue NE face 145th Street.
- Properties at the corners of Westminster Way, Aurora Avenue, 15th Avenue, and Bothell Way (major connection points) typically provide access points to the arterial and 145th Street.

Table 3.5 Sidewalk Elements

FEATURES	NORTH SIDEWALK (UNINCORPORATED KING CO)	SOUTH SIDEWALK (SEATTLE)
Utility Poles	152	136
Curb Ramps	40	44
Driveways	70	39
Fire Hydrants	8	13
Bus Stops	12	12

3.4 Existing Conditions for Pedestrians and Bikes

3.4.1 WSDOT SR 523/ 145th Cost Estimating Study

In 2014, WSDOT developed a study of existing conditions for pedestrians along SR 523 (145th Street from Aurora Avenue N to Bothell Way NE - SR 522). The intent of the WSDOT SR 523 study was to produce planning level cost estimates to upgrade existing sidewalks to ADA accessibility standards as well as minor operational improvements to the intersections of Aurora Avenue (SR 99), I-5, and Bothell Way NE (SR 522).

To improve traffic flow for the 145th Street corridor, the WSDOT study made a multimodal transportation recommendation: to "increase transit, carpool, and vanpool ridership within the traveling corridor and improve transit speed and reliability along the corridor." (24)

Other relevant policies and standards listed in this document include: SR 523, as a Class 4 highway, should have a design that provides for moderate traffic speeds of 30-35mph; and WSDOT standards dictate that sidewalks are 5 feet wide with a 3 foot wide landscape buffer (City of Shoreline standards are higher, specifying that sidewalks are 8 feet wide with 5 foot buffers).

The WSDOT study found that existing sidewalks on 145th Street do not meet ADA standards, have many obstructions such as utility poles and mailboxes, vary between 4 to 5 feet wide, and are often missing curb ramps. If any curb ramps are present, they are substandard. WDSOT conducted an inventory of the existing sidewalks and found the following features in the sidewalks:

The inventory found that there are 28 bus stops located on SR 523, and that some of these locations were not accessible due to slope, sidewalk width, or lack of a boarding and alighting area. In fact, one of the most frequented stops serving multifamily housing on the corridor, was not accessible by ADA standards.

3.4.2 Sound Transit Lynnwood Link Draft EIS Pedestrian Facility Inventory

The Sound Transit Draft Environmental Impact Statement (DEIS) conducted an inventory of pedestrian facilities on arterials within a half mile of the proposed 145th Street light rail station. The inventory found that "Most primary arterials in Segment A near the NE 130th Street or 145th Street Stations have sidewalks or paths along one or both sides of the street; however, some locations have gaps in the sidewalk network, and others do not meet the current Americans with Disabilities Act (ADA) standards." Moreover, "Some intersection locations have been upgraded to current ADA standards, but most have not yet been upgraded." (3-14)

The transportation technical report included with the DEIS goes into a little more detail on the existing bicycle and pedestrian facilities along 145th Street: "The streets in the vicinity are generally old and lacking ADA-accessible sidewalks at intersections. Some intersection locations have been upgraded to current ADA standards, but most have not yet been upgraded. Sidewalks are typically 5 feet wide without planting strips. This condition occurs all along NE 145th Street...Pedestrian activity is generated at the bus stops located on each leg of the NE 145th Street/5th Avenue NE intersection, the freeway flyer stops, and other periodic pedestrian movements. Pedestrian volumes were six to eight pedestrians per hour in the east-west direction at NE 145th Street and 5th Avenue NW, resulting in LOS A conditions on existing sidewalks." (4-67)

Sound Transit also conducted an inventory for bicycle facilities or multi-use trails within a mile of the proposed station. There are no bicycle facilities on 145th Street, but "there are sharrows along portions of 1st Avenue NE, Roosevelt Way NE, and NE 125th Street. In Shoreline, bicycle lanes or striped and paved shoulders exist on parts of 155th Street, 15th Avenue NE, NE 185th Street, 10th Avenue NE, and NE Perkins Way. A planned project by the City of Shoreline will provide sharrows along 10th Avenue NE, and on NE 180th Street between 10th Avenue NE and 15th Avenue NE." (3-14).

Photos illustrate existing conditions for pedestrians and bicyclists along 145th Street.

3.4.3 Field Observations

First-hand experience of the 145th Street corridor as a bicyclist and a pedestrian confirms the findings of the WSDOT and Sound Transit reports. For pedestrians, sidewalks are narrow, poorly maintained, have many obstructions including utility poles, mailboxes, and sandwich boards, and lack curb ramps. For cyclists, traffic moves very quickly and in high volumes on 145th Street, which is very deterring to cyclists as it feels life-threatening. There are no pavement markings or signs to indicate to drivers that cyclists may be present on this corridor. For the above mentioned reasons, sidewalks are an unacceptable alternative for cyclists.

As shown on the previous page, the collection of photos taken during field observations illustrate the current state of pedestrian and bicyclist conditions along 145th Street. Notable challenges with the corridor's current pedestrian facilities include, utility poles and plant debris drastically reduce the effective width of the sidewalk. In many locations, individuals must walk in a single file and it would be very difficult to push a wheelchair or stroller through these areas. There is no buffer between the sidewalk and travel lanes, which leaves pedestrians feeling exposed and unsafe. Asphalt paved sidewalks have uneven surfaces and offer little distinction from the roadway.

Curb ramps are either entirely absent, or not up to ADA standards. Lack of curb ramps prevents access for wheeled users such as strollers, bicycles, and wheelchairs.

Sandwich boards and uneven surfaces make the sidewalks difficult to navigate.

Some intersections need clearer direction and safe passage for bicycle and pedestrians. The southbound on ramp to I-5 is an obvious example of the need for pedestrian and bicycle connections through the intersections.

The one exceptional facility on the corridor is the Interurban Trail's bicycle crossing of 145th Street to the Linden Avenue Cycle track.

3.4.4 Existing and Potential Walking and Cycling Activity

In lieu of comprehensive user counts across the area, use maps from Strava, a popular fitness app were reviewed to get an understanding of composite walking, running, and cycling activity. While Strava users are typically confident users and represent a small segment of the population, it is useful to understand activity patterns as a starting point.

Figure 3.8 shows cycling activity and indicates that most users completely avoid 145th Street in favor of bike lanes on 155th Street and reinforces the understanding that 145th Street and the freeway both act as barriers to east/west travel in the area.

Figure 3.9 highlights running activity in the area and indicates that travel patterns are fairly similar to cycling activity. While most runners seem to avoid 145th Street, there are concentrated hot spots of activity including: along Jackson Park's perimeter trail, on the sidewalks between Meridian Ave N and Ashworth Ave N, the sidewalks between Aurora Ave N and the Interurban Trail, and the sidewalks Greenwood Ave N and 3rd Ave NW.

At the I-5 southbound on-ramp, the lack pedestrian and bicycle facilities make connections to the I-5 transit station challenging.

Figure 3.8 Bike Activity Map

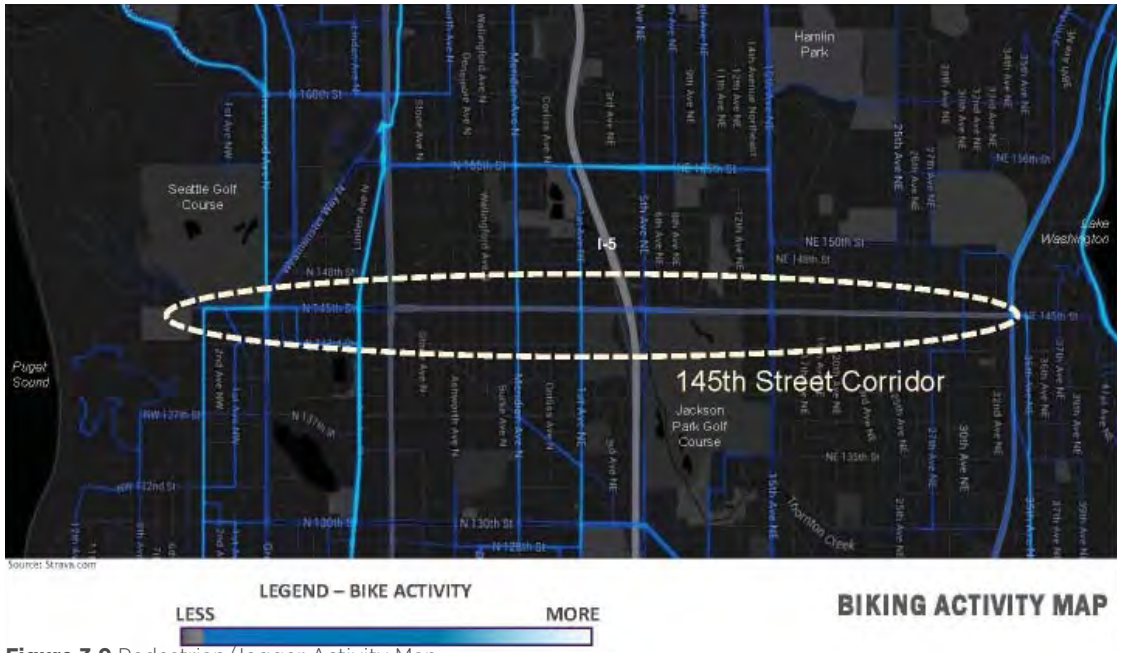


Figure 3.9 Pedestrian/Jogger Activity Map

3.5 Transit

Buses currently operate in mixed traffic along 145th Street. Transit service is provided by both King County Metro and Sound Transit.

The existing design of 145th Street as a four-lane undivided road with limited left turn lanes and significant residential driveway access is not an ideal operating environment for buses. All bus stops located along 145th Street are in-lane stops and there are no dedicated bus or bus and right turn (BAT) lanes. Such lanes would improve transit travel times, in particularly during peak travel times. King County Metro has indicated that service planners avoid routing buses on 145th Street where possible due to the long travel times to operate in this corridor.

3.5.1 Bus Stops and Routes

During the period of this study, there are two primary transit routes operating along 145th Street. Route 304 provides service from the Richmond Beach neighborhood in Shoreline to downtown Seattle via 145th Street from I-5 to Aurora Ave N. Route 308 provides service from the Horizon View neighborhood in Lake Forest Park to downtown Seattle via 145th Street from I-5 to NE Bothell Way. The routes are both peak period only routes, operating southbound (towards Seattle) in the morning peak, and northbound (from Seattle) in the evening peak. Both of these routes operate between three to five buses during each peak period, with headways of approximately 30 minutes.

Several other Metro routes operate along limited segments of N 145th Street. These routes only cross N 145th Street or travel along it for a few blocks before turning off. Bus routes along and within the immediate vicinity of 145th Street are shown in Figure 11. Most of these routes operate all day and have headways between 15 and 30 minutes. The average daily number of people boarding and alighting at bus stops on 145th Street is summarized in Figure 3.10. In total, approximately 550 daily boardings to transit occur for all stops on 145th Street, including the Interstate 5 flyer stops.

Other routes serving 145th Street east of I-5 are 64, 65, 73, 330, 347, and 373. 145th Street currently intersects major north/south routes along SR 99/Aurora Avenue North, I-5, 15th Avenue Northeast, and SR 522/Lake City Way. Most transit related activities are concentrated along these intersections.

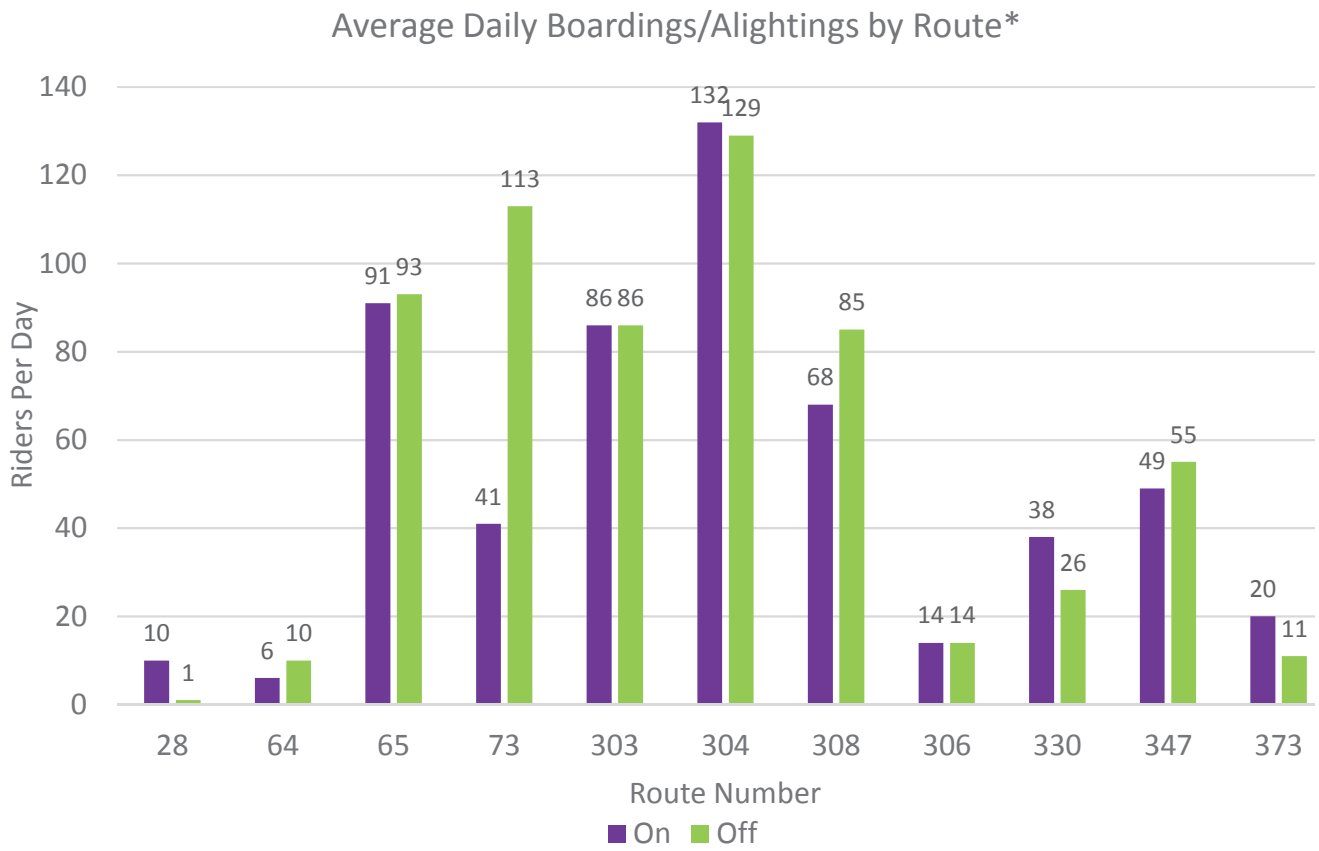
145th Street currently intersects major north/south routes along Aurora Avenue (SR 99), I-5, 15th Avenue, and Bothell Way (SR 522). Most transit related activities are concentrated along these intersections.

3.5.2 Transit Facilities

There is a freeway station on I-5 at 145th Street. Currently, there are four bus shelters along 145th Street: one each on the south side near Greenwood Avenue and Aurora Avenue (SR 99), and one each on the north side near 15th Avenue and Bothell Way (SR 522). Most of the bus stops along 145th Street are not accessible for persons in wheelchairs. Most bus stops do not conform to current King County Metro and ADA accessibility standards for accommodating persons with disabilities.

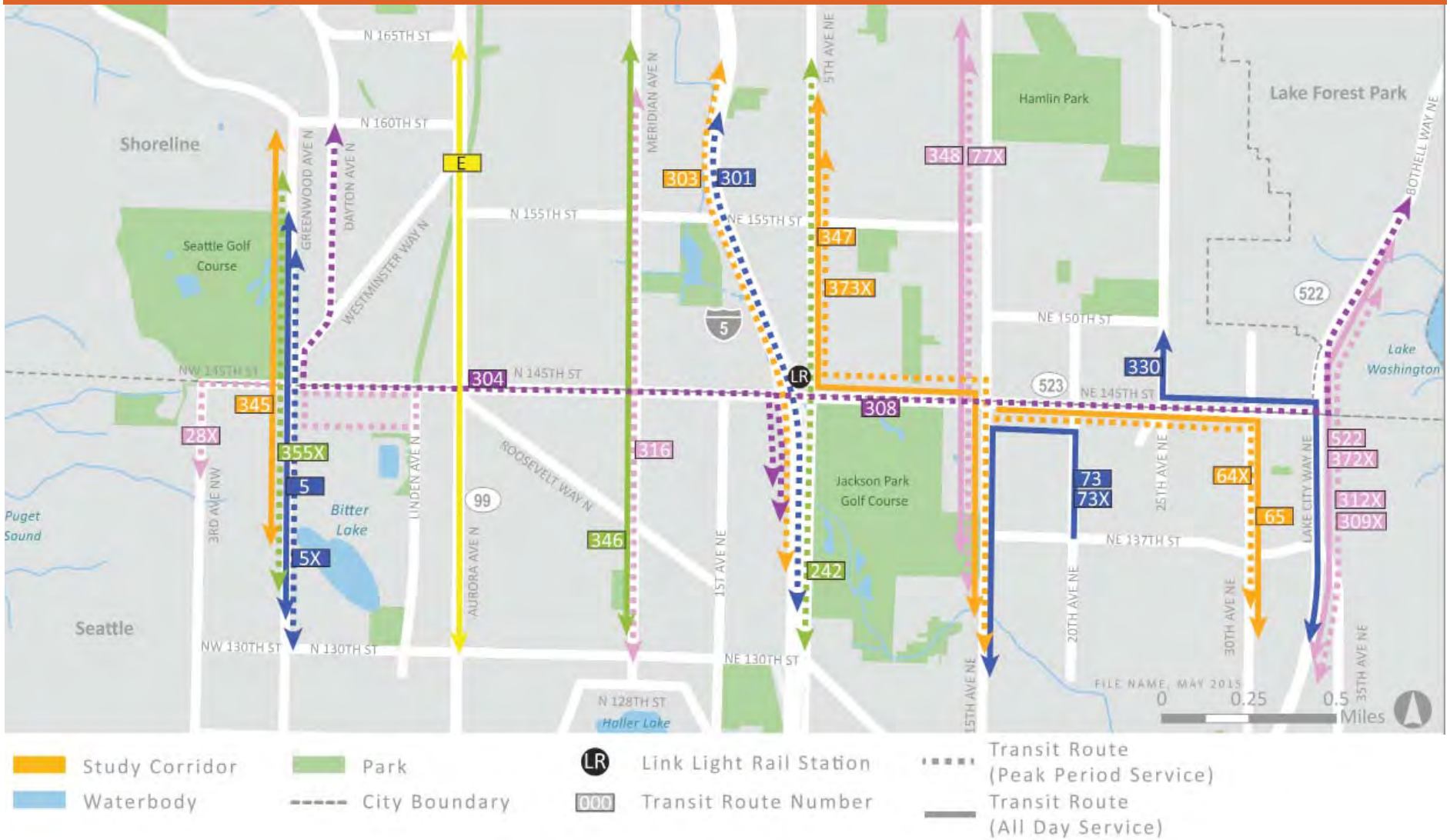
Lack of transit and bus stop facilities due to congestion and poor pedestrian facilities

Figure 3.10 Existing Daily Transit Boardings/Alightings on 145th Street
Average number of people getting on and off transit at bus stops on 145th Street (by Route)



* Includes King County 2015 Automatic Vehicle Location system data and Sound Transit 2014 Incremental Rider.

Figure 3.11 Existing transit routes within the immediate vicinity of the 145th Street corridor



Sound Transit is planning to extend its LINK light rail service into Shoreline by 2023, with a station to be located at 145th Street on the east side of I-5. A 500 person Park and Ride facility is planned to be located near this station. Additionally, King County Metro has identified 145th Street as a future Bus Rapid Transit (BRT) corridor.

3.6 Drainage and Stormwater Utilities

3.6.1 Drainage

The 145th Street corridor extending from 3rd Avenue NW to Bothell Way NE (SR 522) is located in two primary drainage basins. The segment between approximately 3rd Avenue NW and Aurora Avenue drains to Boeing Creek in the City of Shoreline (north of the project). The segment between Aurora Avenue and Bothell Way NE (SR 522) to Thorton Creek and its tributaries in the City of Seattle.

The drainage system along 145th Street is a separate stormwater system (not combined with sanitary sewer flows). Since a majority of the project contains curb and gutter, the system consists primarily of segments with storm drain pipe connected to catch basins and manholes. Catch basins typically capture gutter runoff at the downstream end of the blocks; then it flows in pipes to a number of discharge points along the corridor. The discharge points are typically storm drain systems within north-south oriented streets which eventually flow to other street systems, private systems and eventually the receiving water (creek). A majority of the system is relatively old and likely installed when the street was widened in the past. Recent improvements (near the Shoreline Regional Interurban Trail and Aurora Avenue) have included the installation of some new pipe and catch basins.

According to GIS records and City stormwater management plans, there are no existing water quality or detention systems along the corridor.

Due to the location of City of Shoreline boundary along the north side of the corridor, the City of Seattle currently maintains the drainage system along 145th Street.

3.6.2 Stormwater Regulations

The City of Shoreline, City of Seattle, and WSDOT regulate the discharge of runoff from projects in their jurisdiction to control water quality quantity impacts to streams and lakes. Depending on the selected project footprint, the addition of impervious surface along 145th Street and side streets would require stormwater best management practices (BMPs) to treat runoff pollutants and to control rates and durations of runoff. In addition, roadway projects are required to evaluate and implement (when practical) Low Impact Development (LID) principles and Green Stormwater Infrastructure (GSI), such as bioretention, infiltration, and porous surfaces.

3.7 Land Use

Existing land use is predominantly single family residential with pockets of multifamily, commercial/retail and institutional development clustered around larger arterial street intersections. These higher intensity nodes are likely to accommodate the majority of future growth as the area develops.

Commercial uses are most notably concentrated around the key intersections at Greenwood Avenue N, Aurora Avenue, 15th Avenue, and Bothell Way NE (SR 522).

The City of Shoreline Comprehensive Plan includes redevelopment of pockets along 145th Street, especially near the Sound Transit proposed station where the 145th Street Subarea Plan Zoning Study includes large residential components mixed with complementary commercial and office uses.

Existing land use along the corridor is depicted in Figure 3.12 parcel map.

3.7.1 Landmarks & Varying Character

The 145th Street corridor has several notable changes in development patterns and significant landmarks that contribute to the varied character of the street moving from west to east. A few worth noting are:

- Seattle Golf Club, a private golf course at the north western edge of the project. It was established in 1900 and has been in this location since 1907. This portion of 145th Street is quiet and significantly vegetated with larger coniferous trees lining the golf course.
- The village commercial area at Greenwood Ave, a this growing small-scale commercial strip, offers a local market, restaurants, and neighborhood service oriented retail for the surrounding residences. A short distance north, the Aurora Square Community Renewal Area is currently undergoing a planning effort to create a signature mixed use master plan that expands the commercial retail offerings of the area (currently anchored by stores such as Sears and Central Market).

Figure 3.12 Existing Land Use

- The Aurora Avenue commercial area has undergone much change on the northern Shoreline portion, where the street improvements and new development have more significant pedestrian orientation. This area is evolving into the multimodal boulevard that has been envisioned by the City of Shoreline. The Seattle portion has been slower to realize these changes, but the long term vision is to have a similar approach to the streetscape and development pattern.
- Lakeside School is a long standing private middle and high school, with a highly regarded regional and historic presence. The student body comes from areas throughout the Greater Seattle Metropolitan Region. Students who commute by bus use public transit since a school bus fleet isn't provided. The school buildings and athletic fields are buffered from the 145th Street with significant vegetation and fencing.
- At the I-5 corridor, the future light rail station will be the main transit hub for the 145th Street Subarea Plan that has a phased, with a long term build-out projection. This area is anticipated to have the highest growth and development along the corridor.
- Jackson Park Public Golf Course in the City of Seattle, opened in 1930 and is home to several local area golf clubs. An approximately 2.2 mile public trail runs along the perimeter of the park.
- The 15th Avenue NE commercial corridor contains larger scale commercial service type businesses. A large Goodwill retail store and QFC supermarket anchor the intersection with smaller scale restaurants and services clustered around. Most of the retail businesses are automobile oriented with large parking lots located between the street and the front door.
- The Southern Gateway Mixed Use Village is currently under construction in Lake Forest Park. The proposed build out will include high intensity mixed use development at the corner of 145th Street and Bothell Way as well as a major pedestrian crossing and gateway feature at that intersection.

3.8 Environmental Footprint

The existing corridor was evaluated to determine the potential environmental issues related specifically related to the National Environmental Policy Act (NEPA) compliance in implementing the project. Because the project is anticipated to include federal funds, NEPA approval from a federal agency (i.e., Federal Highways Administration, or Federal Transit Administration) will be required.

The extent of any potential impacts would depend on the alternative(s) to be studied as part of the environmental documentation. In general, the larger/wider the project footprint outside of the existing right-of-way, the greater potential for impacts since a wider footprint could require additional right-of-way acquisitions or move the transportation related uses close to other types of land uses. The evaluation provides a high level summary of the potential issues that could occur but does not identify any specific impacts or mitigation measures since no design information is available.

As the project develops, the specific class of action for the level of NEPA documentation will be determined. A NEPA Documented Categorical Exclusion (DCE) is for actions that do not involve significant impacts (including impacts to planned growth, relocation of a large number of people, significant impacts on cultural, recreation, or natural resource, and significant impacts related to air quality, noise, and traffic). If there is the potential for significant impacts or the potential for any public controversy, then a NEPA Environmental Assessment (EA) would be required which could lead to the preparation of the NEPA Environmental Impact Statement (EIS)if the EA finds there are significant impacts after mitigation. A NEPA EIS is typically required for transportation projects that construct a new highway/freeway system or new transit facilities. It is likely the NEPA class of action would either be a NEPA DCE or EA.

3.8.1 Approach and Assumptions

Existing conditions and the potential for environmental impacts were evaluated through a field visit, GIS data, and review of available information on the project area. The analysis focused on the 145th Street corridor from 3rd Avenue NW to Bothell Way NE (SR 522) and the area about one block north and south of the 145th Street corridor. The analysis does not provide any conclusions as to whether any potential impacts would be significant or identify any mitigation measures. The following environmental elements underwent a cursory review based on the potential extent of the project footprint to determine the extent of any potential impacts:

- Land Use/Property Acquisition
- Social/Environmental Justice
- Parks and Recreation/Section 4(f)/6(f)
- Noise
- Air Quality
- Cultural Resources
- Biological Resources/Threatened and Endangered Species
- Hazardous Materials

Other environmental elements including Geology/Soils, Water Resources (stormwater), Utilities, and Transportation were not included as part of the review since additional analysis and information on the proposed project is required to determine any potential for impacts. This report provides information on what analysis may or may not be required for the types of NEPA action. Where information on potential federal permits is known cursory information is provided (i.e., impacts to wetlands or waters of the U.S. trigger a federal permit from the U.S. Army Corps of Engineers).

3.8.2 Environmental Elements

The following provides summary information on the environmental elements identified. As part of any NEPA documentation, additional analysis may be required and other NEPA elements analyzed to determine the extent of any impacts and applicable measures to mitigate the impacts.

Land Use/Property Acquisition. Expansion of the 145th Street corridor outside of the existing right-of-way would require the acquisition of property including private and public property. The acquisition of property would convert existing land uses to a transportation related use and remove land that could be redeveloped consistent with existing zoning. The exact extent of any property acquisition and displacements is not known at this time, but any property acquisition and displacements would need to comply with the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended (Uniform Act). The Uniform Act ensures that those affected, including property owner and those that rent, are compensated and relocated. Additional analysis would be performed to determine the extent of any impacts and ensure there are suitable locations for those properties affected by acquisition and relocation.

A NEPA DCE would not require any land use or property acquisition analysis and typically consists of identifying the amount of right-of-way required and if there are any relocations.

Social/Environmental Justice. The existing corridor forms the boundary between the City of Shoreline and the City of Seattle and provides connections to other major arterials and I-5. The corridor would not likely act as barrier to interaction given the corridor forms the boundary to the two cities and any neighborhoods. If the project includes new or enhanced sidewalks, bicycle lanes, or improved access to transit, there would likely be beneficial effects to the neighborhoods in the area. Community resources are defined as schools (public and private), social resources (e.g., food banks and affordable housing), religi ous institutions, and government offices. There are 16 community resources shown within the study area, as

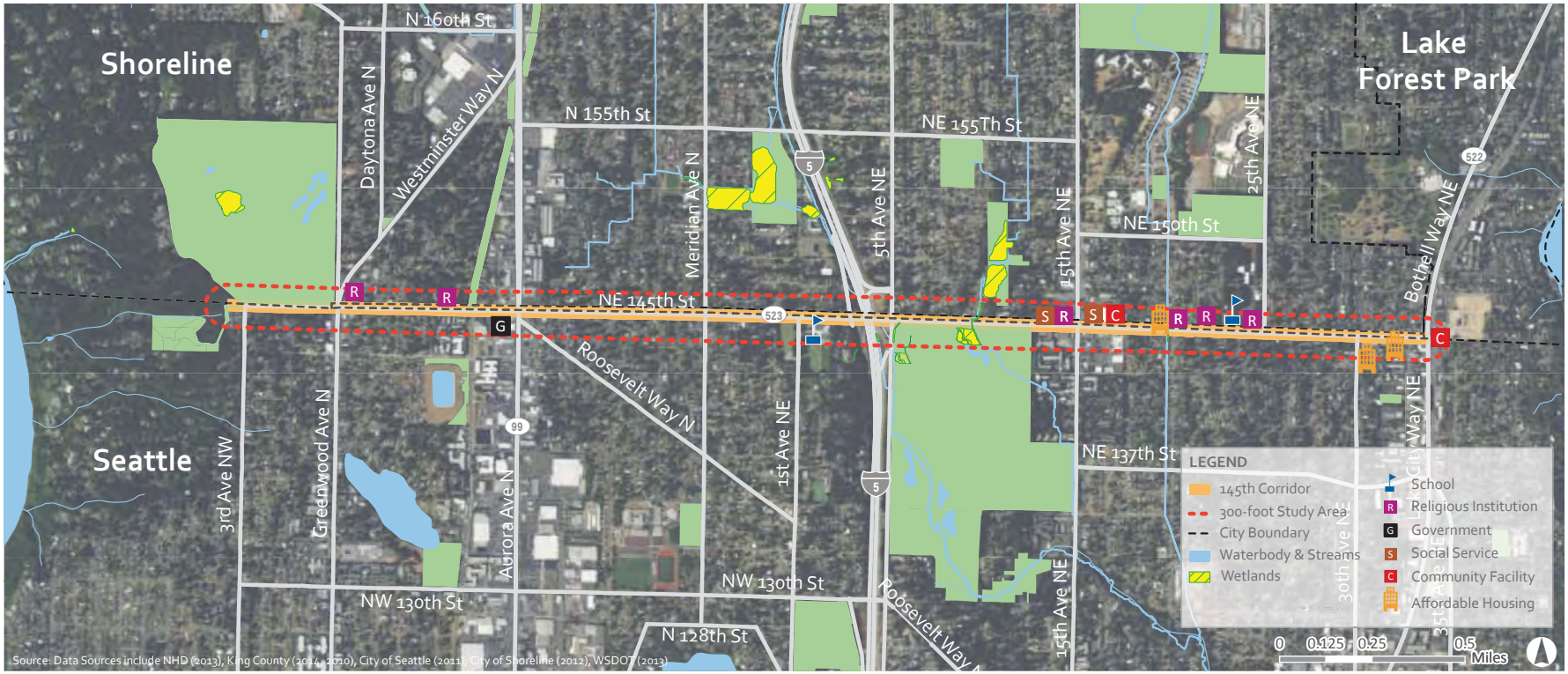
illustrated in Figure 3.13. Of the community resources in the study, area there are nine that are on parcels immediately adjacent to the project corridor and could be affected by project construction and operation including increased noise to potential relocation if the corridor is widened. Once the project is defined it can be determined if the project would have any negative and positive effects on the social environmental.

Note that a NEPA DCE does not require any social analysis and this analysis would only be required for an EA or EIS.

Executive Order 12898, known as the Federal Environmental Justice Policy, requires projects with federal funds to address the potential disproportionately high and adverse effects of the project on minority and low-income populations. An environmental justice analysis typically consists of a demographic characteristics review, a review of the NEPA documentation prepared for the project to determine impacts and if any impacts are adverse, and review of comments received from public outreach. The benefits of the project and any mitigation measures are also taken into consideration as part of the analysis when determining if any of the impacts would result in any dis-proportionality high and adverse impacts on environmental justice populations (minority and low-income populations).

A cursory review of the demographics would include data on the immediate area including minority and low-income populations and provide information on the community resources located along the corridor. There are minority and low-income populations adjacent to the 145th Street corridor who could potentially be impacted by the project. As part of any public involvement process, materials should be provided in appropriate languages to ensure minority populations have the opportunity to provide input on the project. In addition to environmental justice populations, the demographic analysis would

Figure 3.13 Existing Community Resources Map



provide information on other characteristics to help address federal regulations related to Title VI of the Civil Rights Act and Executive Order 13166 ensures meaningful access to project information and outreach activities for those who speak English poorly or not at all.

A NEPA DCE may not require an environmental justice analysis if certain exemptions are met, but an EA or EIS would require the analysis.

Parks and Recreation/Section 4(f)/6(f). Figure 3.13 illustrates the location of the five park and recreation facilities in the study area including both public and private facilities. Any widening of the corridor in the areas of parks and recreation facilities which includes open space areas, trails, publicly owned and operated parks, and golf courses (public and private) could have an impact on those resources. Given the location of the proposed project, it is likely that any widening of the roadway would affect the edge of a resource that is not used for any active or passive use, but the exact location of the impact and the effect on the resource would require additional information.

Because the project would include federal funds, any impacts to parks and the recreation areas on public school properties has the potential to result in Section 4(f) and/or Section 6(f) impacts. Section 4(f) of the Department of Transportation Act of 1966 does not allow the use (in this case, use by the project) of publicly owned park or recreation areas. Any widening that affects publicly owned park or recreation property use would require a Section 4(f) evaluation. Section 4(f) also includes wildlife and waterfowl refuge or any significant historic sites. The potential for Section 4(f) impacts depends on the extent of impact and could be minor or could require an additional alternatives analysis. All Section 4(f) evaluations require some level of public involvement. Section 6(f) properties are those that were either acquired or developed with Land and Water Conservation Funds (LWCF). Based on review of the National Park Service LWCF site, no Section 6(f) resources were identified in the study area, therefore no additional analysis would be required.

All NEPA classes of action would require a Section 4(f)/6(f) analysis if facilities are affected.

Noise. Widening to include a new travel lane on the 145th Street corridor could trigger the need to perform a noise analysis to determine if the proposed project would exceed noise standards for the land uses. For residential areas traffic noise levels that are 66 decibels or greater are considered a traffic noise impact. If the noise analysis indicates that the thresholds are exceeded then mitigation needs to be considered. Typically mitigation includes the construction of noise barriers, but the barriers need to be considered feasible (constructible and able to provide a certain reduction in noise levels) and reasonable (meet certain cost allowances). Along urban corridors if there are a number of access points, the noise barriers are typically not feasible due to sight distance issues and the number of breaks which negatively affects any noise reduction. Noise analysis would require traffic information to complete the required modeling.

All NEPA classes of action would require a noise analysis if the project triggers any of the requirements and an EA and EIS would require additional detail on construction related noise impacts.

3.9 Master Plans and Projects

3.9.1 Shoreline Transportation Master Plan (TMP)

The Shoreline TMP describes a safe, efficient and effective multimodal transportation system to address city-wide mobility and accessibility. It aims to maximize the people carrying capacity of the surface transportation system and makes safety the first priority of citywide transportation. The TMP focuses on encouraging walking and bicycling by recommending implementation of projects that are consistent with the Bicycle System Plan and the Pedestrian System Plan.

Figure 3.14 Existing Bicycle Facilities

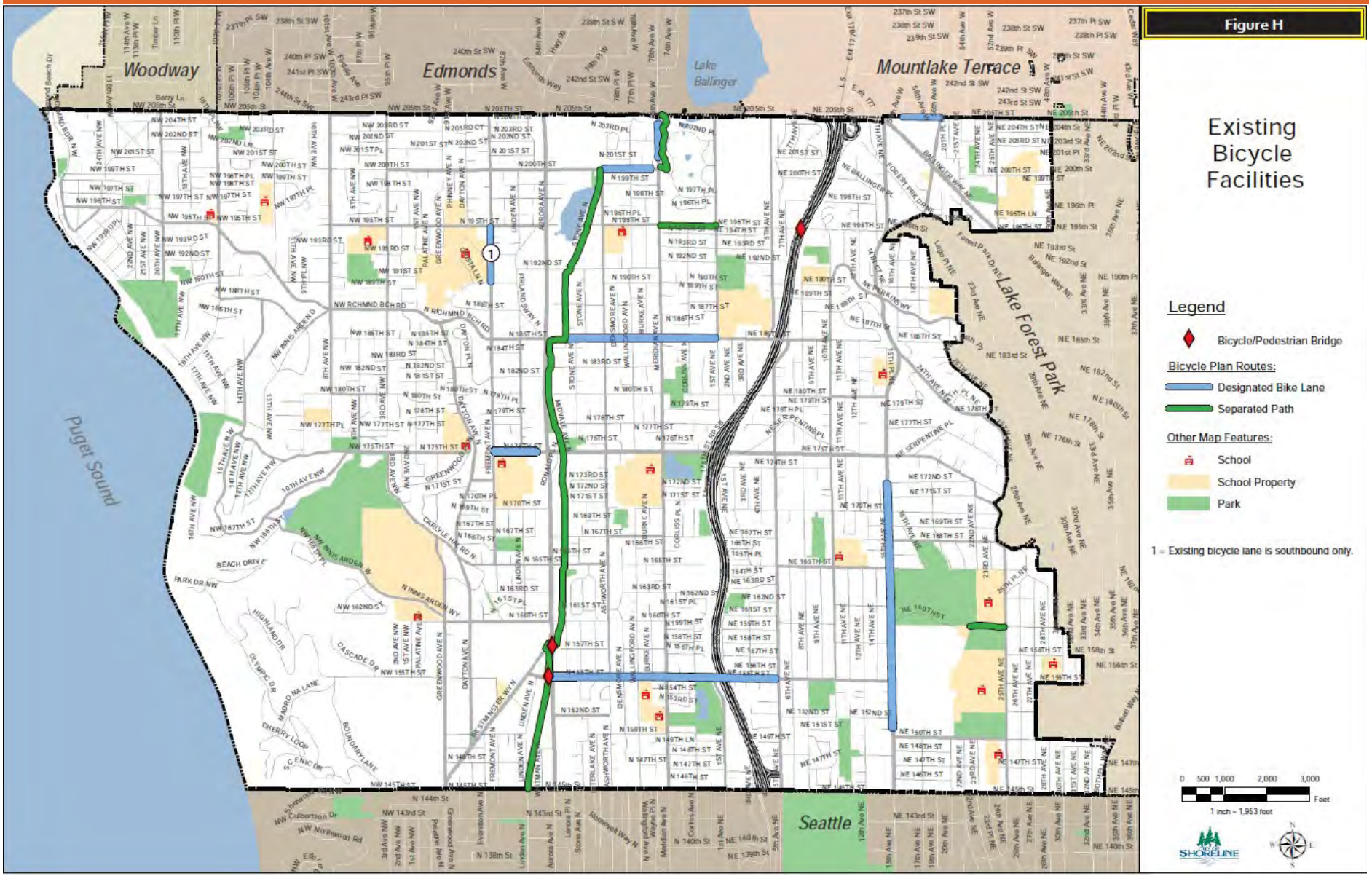
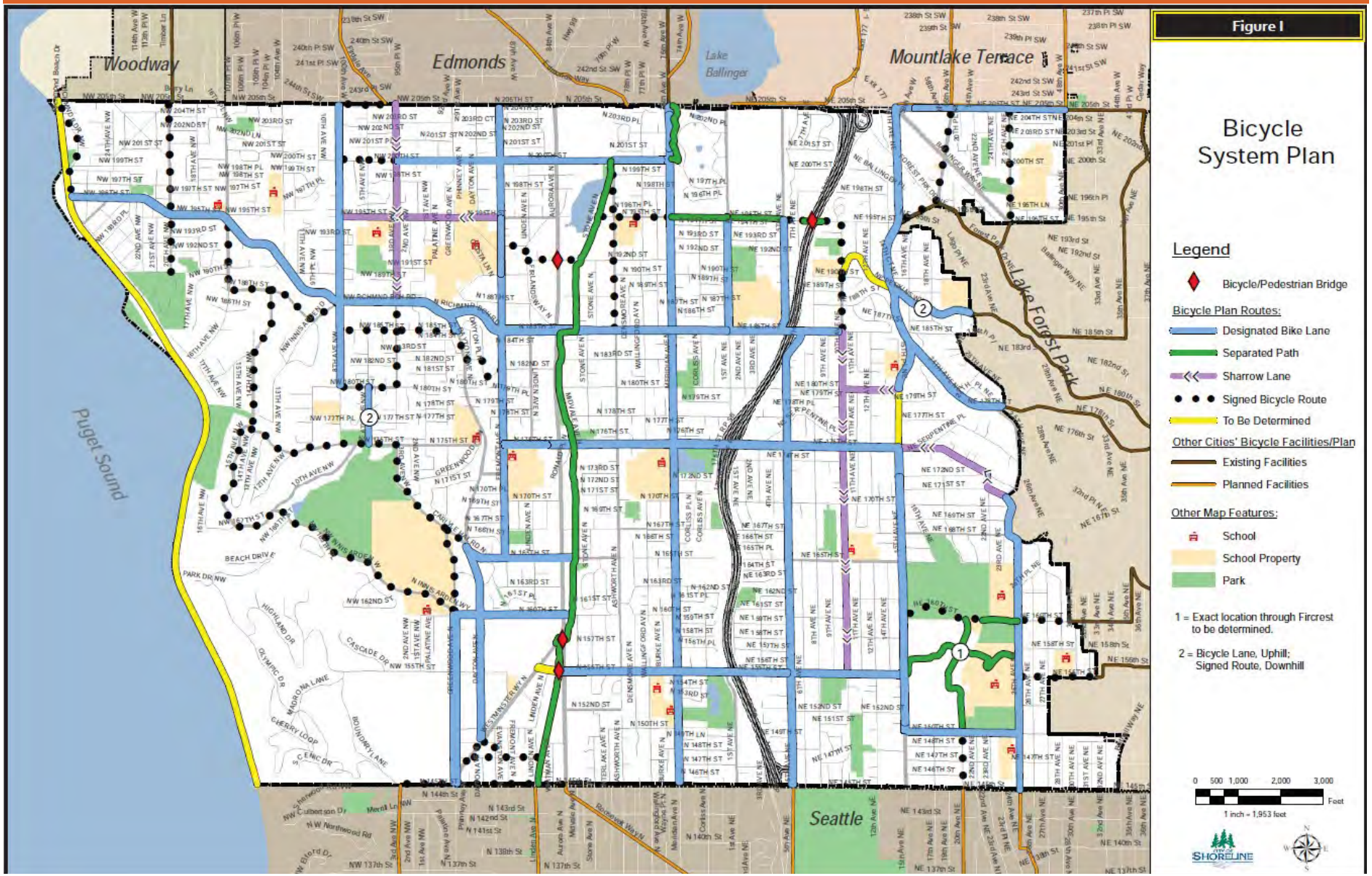


Figure 3.15 Bicycle System Plan



Bicycle System Plan

The Bicycle System Plan is based on the need to accommodate the increasing demand for bicycles. A priority of the plan is to create continuity with existing bicycle routes by connecting gaps in routes and coordinating with adjacent jurisdictions. Figure 3.14 and 3.15 show the existing and planned bicycle systems.

Pedestrian System Plan

The Pedestrian System Plan aims to improve the safety and connectivity for pedestrians throughout Shoreline. It focuses on creating good pedestrian connections by completing missing links of the existing system. The plan emphasizes "the importance of sidewalks for safety, enhanced mobility, convenience, and recreation". Particularly, it proposes improving safety at interchanges and making areas near school and transit facilities accessible. There is also a program dedicated to sidewalk repairs and construction of curb ramps that meet ADA standards.

Master Street Plan

The Master Street Plan identifies specific roadway cross-sections for all Arterial Streets and Local Primary Streets in the City of Shoreline. It is intended to guide the development of streets throughout the City. The planned cross-sections for these streets establish the location of future curbs so that streets can be constructed in the proper location. The Master Street Plan also identifies a general cross-section for Local Secondary Streets which includes provisions for travel in each direction, on-street parking, and sidewalks (on each side of the street). The street classifications are as follows:

- Principal Arterial
- Minor Arterial
- Collector Arterial
- Local Primary Street
- Local Secondary Street

Shoreline Comprehensive Plan

The Shoreline Comprehensive Plan has a powerful vision statement and list of goals related to transportation and livability of the City. As part of the vision 2029 statement,

"Neighborhood main streets also serve as transportation hubs, whether you are a cyclist, pedestrian, or bus rider. Since many residents still work outside Shoreline, public transportation provides a quick connection to downtown, the University of Washington, light rail, and other regional destinations. You'll also find safe, well-maintained bicycle routes that connect all of the main streets to each other and to the Aurora core area, as well as convenient and reliable local bus service throughout the day and throughout the city. If you live nearby, sidewalks connect these hubs of activity to the surrounding neighborhoods, bringing a car-free lifestyle within reach for many."

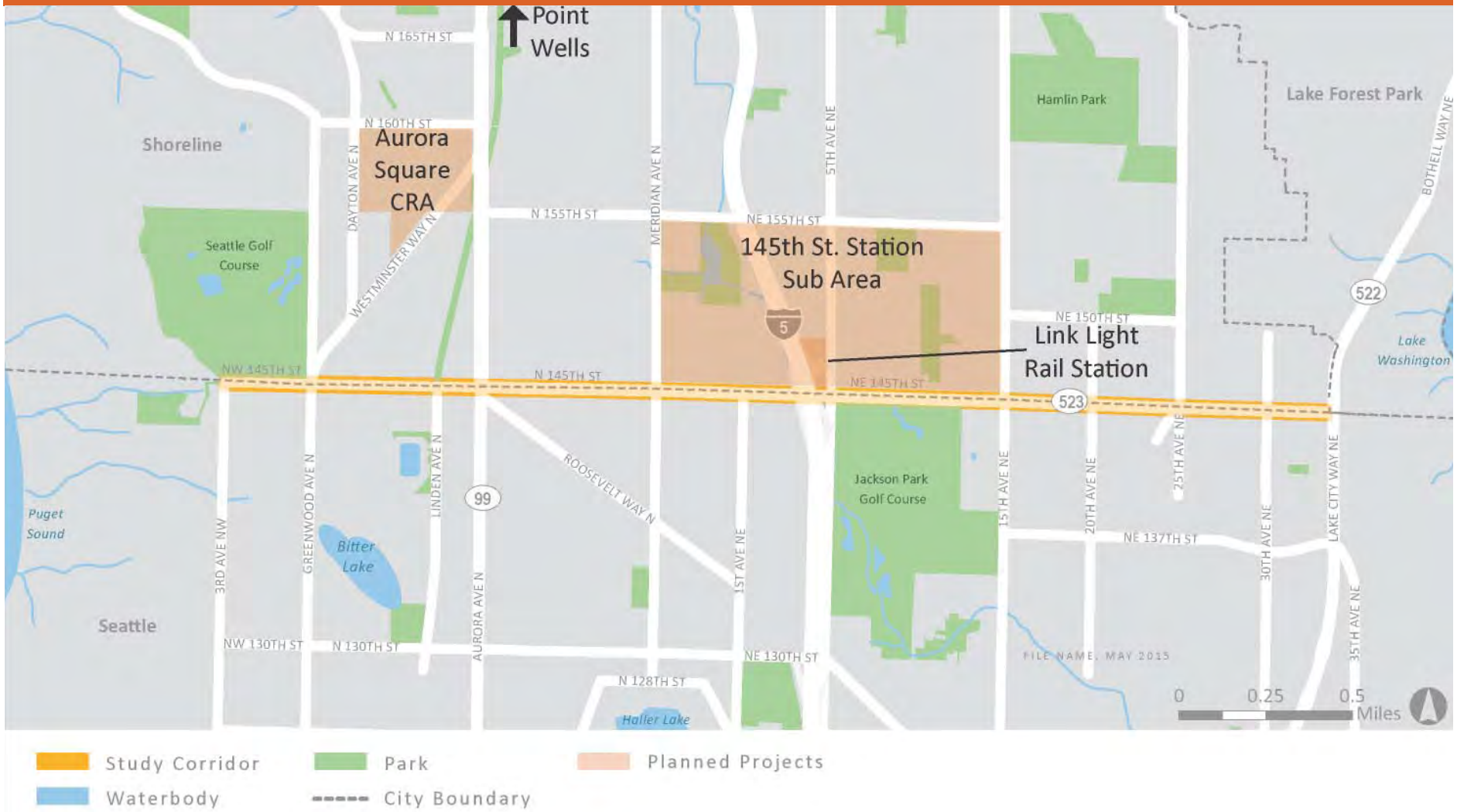
3.9.2 Planned Projects

There are several currently planned developments in or around the study area that are projected to increase traffic volumes on the 145th Street corridor by 2035. Figure 3.16 shows the location of the planned projects relative to the study corridor, brief summary of each project is included below.

Sound Transit Lynnwood Link Extension

The Lynnwood Link Extension expands the Sound Transit Link light rail system from Northgate into Shoreline, Mountlake Terrace, and Lynnwood. A transit station will be located at 145th Street in the northeast quadrant of the existing I-5 interchange. The Link light rail station will also include a 500-stall parking garage for Park-and-Ride access at the station. Vehicular access to the station and parking garage will be via 5th Avenue NE and the existing northbound I-5 on-ramp will be shifted a bit to the north and signalized. The Link light rail DIES assumed modest levels of redevelopment around the light rail station. Details about the project can be found in the Lynnwood Link Extensions, Final Environmental Impact Statement (Sound Transit, April 2015).

Figure 3.16 Location of Planned Redevelopment Projects



Location of planned projects relative to the 145th Street corridor that impact future traffic volumes

145th Street Station Subarea Plan

The City of Shoreline is completing a plan to increase the density of development around the planned 145th Street Link Light Rail Station with the intent of creating a land use, transportation, and infrastructure framework to support implementation of a livable, workable, equitable, and sustainable transit-oriented community in Shoreline. The plan includes redevelopment of the area north of 145th Street between Meridian Avenue N and 15th Avenue NE to higher density, mixed use developments. See Figure 3.17. The plan identifies a range of redevelopment levels within the subarea defined by the annual percent growth in number of households and employment from existing conditions to 2035 and beyond. The lower level of redevelopment assumes that the number of households and employment within the subarea would grow by 1.5-percent per year over the existing conditions. The higher level of redevelopment assumes that the number of households and employment within the subarea would grow by 2.5-percent per year. Additional information on the planned action can be found in the 145th Street Station Subarea Planned Action, Draft Environmental Impact Statement (City of Shoreline, January 2015).

Aurora Square Community Renewal Action (CRA)

The City of Shoreline has identified the 70 acre Aurora Square site as a community renewal area. The Aurora Square site is located in the southwest quadrant of N 160th St and Aurora Ave N and the current business occupants include Sears and Central Market. The intent of the project is to redevelop Aurora Square as a revitalized shopping center with private mixed use commercial and residential development, entertainment, and gathering spaces. The Aurora Square CRA plan identifies a range of redevelopment levels, adding 500 to 1,000 new dwelling units and 250,000 to 500,000 square feet of additional retail or office space to the site. Additional information on the proposed renewal area is available in the Aurora Square Planned Action, Draft Environmental Impact Statement (City of Shoreline, December 2014).

Point Wells Mixed Use Redevelopement Project

The Point Wells Mixed Use Redevelopment project proposes to convert an existing marine fuel terminal and petroleum storage facility into mixed use residential, commercial, and retail space. The project is located north of the King County-Snohomish County Line on the Puget Sound, but the sole access to the site would be from the City of Shoreline via Richmond Beach Road. The project proposes to develop the site in phases, with full-build out including 3,081 new dwelling units and 126,562 square feet of commercial and retail space. A cap on the number of vehicular trips accessing the site has been established per the April 2013 Memorandum of Understanding between the City of Shoreline and BSRE Point Wells developer. More information on the transportation impacts of the redevelopment project can be found on the City's website. http://shorelinewa.gov/government/departments/planning-community-development/planning-projects/point-wells

Interurban Trail/Burke-Gilman Connectors Project

The Interurban Trail/Burke-Gilman Connectors Project will provide two routes to connect Shoreline's section of the regional Interurban Trail to Lake Forest Park and the Burke-Gilman Trail. One of these routes will be on 155th Street, just north of the 145th Street corridor. The routes will include bike lanes and sharrows, wayfinding signage, sidewalk improvements along NE 150th, and construction of a multi-purpose trail. More information on the this project can be found on the City's website. http://www.cityofshoreline.com/government/departments/public-works/capital-improvement-plan/interurban-trail-burke-gilman-trail-connectors-project

Figure 3.17 145th Street Station Subarea Plan

145th Street Light Rail Station Subarea Plan

3.10 Traffic Forecast

3.10.1 Future Traffic Forecast Methodology

The Sound Transit Lynnwood Link Extension project and the 145th Street Station Subarea Plan both developed 2035 forecasts for a portion of the 145th Street corridor. The Sound Transit forecast includes the signalized intersections on 145th Street between Aurora Avenue and 15th Avenue NE, and also for the signalized intersection at Bothell Way NE (SR 522). The 145th Street Station Subarea Plan forecast includes the signalized intersections on 145th Street between Meridian Avenue and 15th Avenue NE. Both sets of forecasts assume the same underlying increase in background traffic volumes due to regional growth for the 2035 No-build conditions. However, both projects assume different levels for redevelopment within the 145th Street subarea associated with the construction of the light rail station.

The traffic forecast and underlying land use redevelopment assumptions from both the Lynnwood Link Extension and 145th Street Station Subarea Plan were reviewed and presented to the City of Shoreline and the 145th Street Multimodal Corridor Study Interagency Technical Team. Based on the results of that review and vetting with the technical team, the 145th Street Station Subarea Plan forecast for the lower level of redevelopment (1.5-percent growth per year in subarea households and employment) was selected as the basis of the 2035 forecasts for the section of the corridor between Meridian Avenue and 15th Avenue NE. This scenario reflects higher levels of redevelopment than is included in the Lynnwood Link Extension forecasts, but lower levels of redevelopment than what was reflected in the 145th Street Station Subarea DEIS (2.5 percent growth per year).

Since neither the Lynnwood Link Extension nor the 145th Street Station Subarea Plan included the full length of the 145th Street corridor, the PSRC 2035 travel demand model was used to forecast increases in traffic volumes due to regional growth for the intersections outside of the 145th Street Station Subarea. The volumes from the 145th Street Station Subarea were then push-balanced along 145th Street to distribute the additional trips due to redevelopment to the other intersections based on the current trip distribution for the corridor.

The Aurora Square CRA and Point Wells redevelopment projects are not reflected in the PSRC travel demand model at the level of development proposed for these locations. Therefore, the net new trips generated due to redevelopment of these sites were added to the 145th Street corridor intersection based on the trip distribution for each project. Trips generated by these projects impact the intersections of Aurora Avenue N and Greenwood Avenue N.

3.10.2 Future Traffic Volumes

The total future traffic forecast considered the sum of the background condition and trips generated by the planned projects. Each of the proposed development project study areas is smaller than the overall 145th Street RDP study area. Therefore, some adjustments were made to through volumes generated from each development to balance the trips throughout the 145th Street corridor. The resulting 2035 PM peak hour traffic volumes are shown in Figure 3.18. The resulting 2035 Average Annual Daily Traffic (AADT) is also shown in comparison to the existing AADT volumes.

3.10.3 2035 No Build Conditions

The 2035 forecasted traffic volumes were to establish the traffic operations for the 2035 No Build PM peak hour conditions. The No Build conditions reflect the existing lane geometry and traffic control types at study area intersections, and assume that the existing signal timing would be optimized for the future volumes at the signalized intersections.

The resulting 2035 No Build LOS and delay for the signalized intersection are reported in Table 3.6. For unsignalized intersections, the LOS and delay for the 2035 No Build conditions are reported for the worst movement of the minor street approach in Table 3.7. Figure 3.20 and Figure 3.21 compare the LOS between the existing and 2035 conditions for signalized and unsignalized intersections, respectively. The 2035 No Build conditions serve a baseline for comparison against alternatives identified in future project tasks.

Figure 3.18 Existing and Future ADT on 145th Street

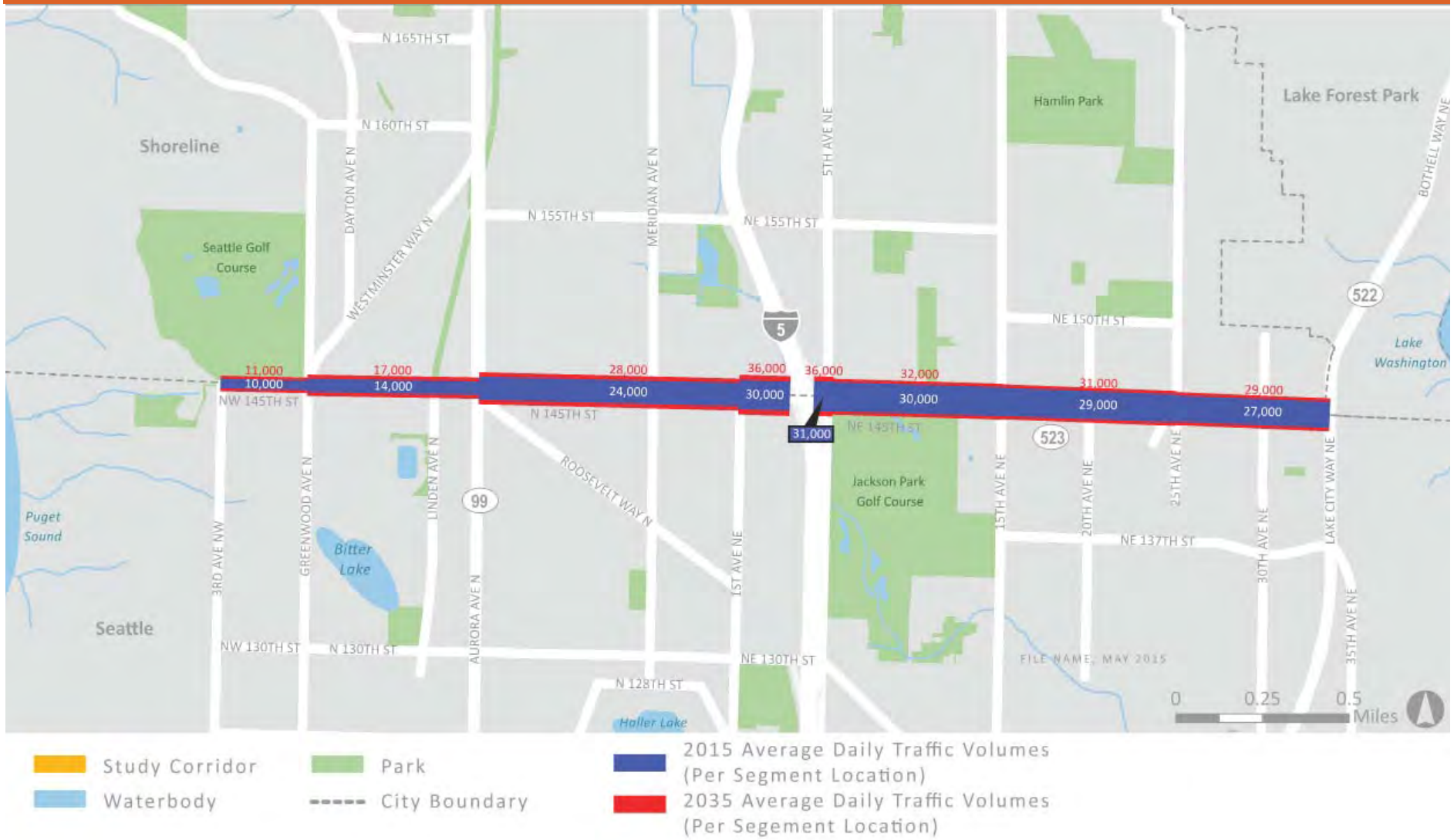


Table 3.6 2035 No Build PM Peak Hour LOS and Delay (Signalized Intersections)

CROSS ROAD	LOS	DELAY (IN SECONDS)
Greenwood Ave N	F	90
Linden Ave N	B	15
Aurora Ave N	E	67
Meridian Ave N	C	33
1st Ave NE	E	126
I-5 SB Ramps	E	44
5th Ave NE	E	129
15th Ave NE	F	90
20th Ave NE	A	10
25th Ave NE	B	12
30th Ave NE	C	30
Bothell Way NE	F	104

Level of service and delay for signalized intersections along the N 145 Street corridor (2035 No Build)

Table 3.7 2035 No Build PM Peak Hour LOS and Delay (Unsignalized Intersections)

CROSS ROAD	LOS	DELAY (IN SECONDS)
3rd Ave NW	C	19
1st Ave NW	B	13
Phinney Ave N	C	22
Dayton Ave N	C	23
Evanston Ave N	C	18
Fremont Ave N	C	16
Whitman Ave N	B	12
Midvale Ave N	E	46
Lenora Pl N	B	10
Stone Ave N	F	108
Interlake Ave N	B	11
Roslyn Pl N	C	20
Ashworth Ave N	F	>300
Densmore Pl N	C	18
Courtland Pl N	C	19
Wallingford Ave N	F	227
Burke Ave N	B	12
Wayne Pl N	B	13
Bagley Ave N	B	11
Corliss Ave N	B	15
Sunnyside Ave N	C	16
3rd Ave NE	B	11
4th Ave NE	B	10
6th Ave NE	C	17
8th Ave NE	C	24
10th Ave NE	C	15
12th Ave NE	C	16
17th Ave NE	D	26
19th Ave NE	B	11
22nd Ave NE	D	27

Table 3.7 Continued from previous page

CROSS ROAD	LOS	DELAY (IN SECONDS)
23rd Ave NE	D	28
24th Ave NE	A	10
26th Ave NE	D	26
27th Ave NE	E	46
28th Ave NE	B	10
31st Ave NE	B	14
32nd Ave NE	C	18

Level of service and delay for unsignalized intersections along the N 145 Street corridor

Figure 3.20 Existing and 2035 No Build LOS at Signalized Intersections
PM Peak hour LOS at signalized intersections

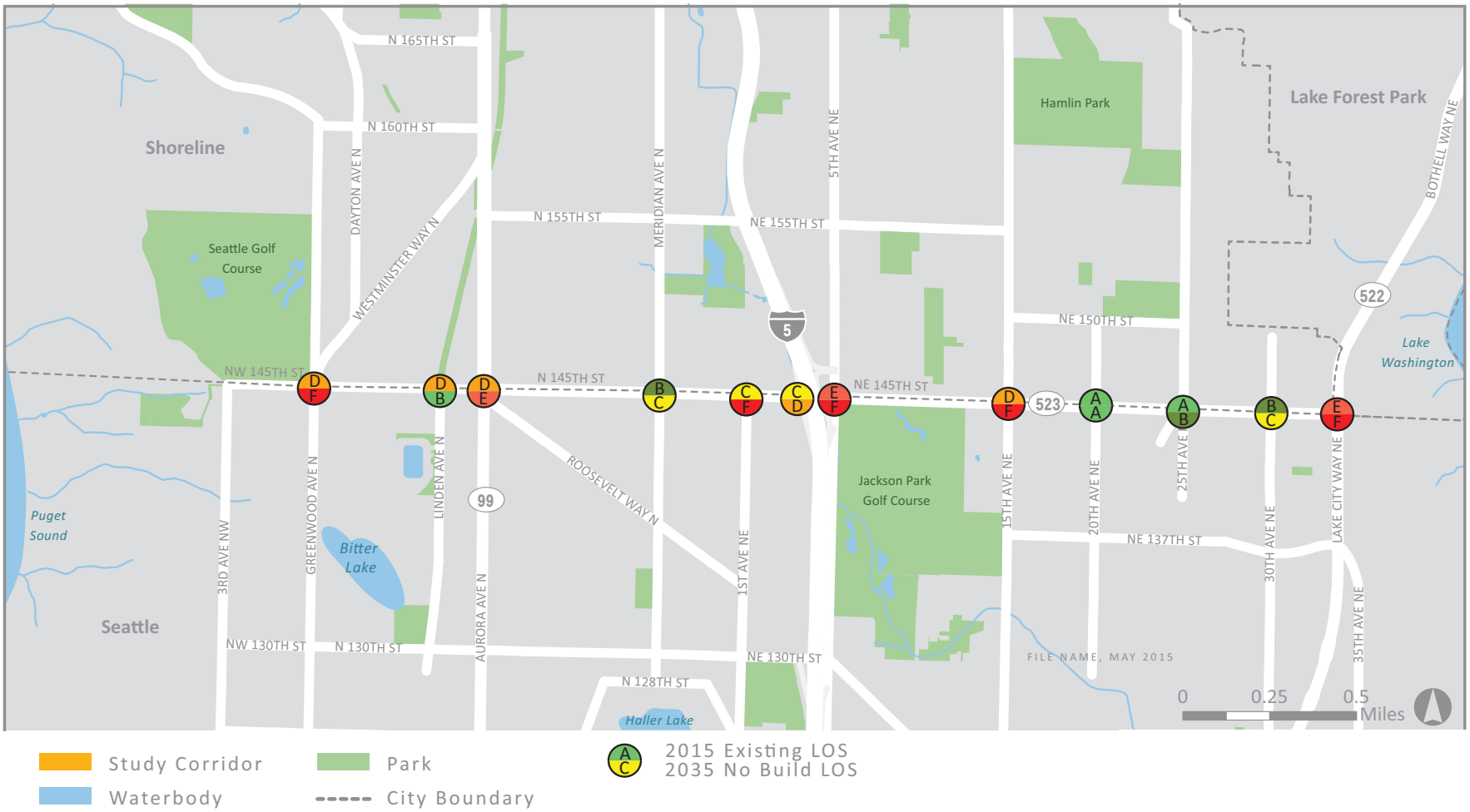
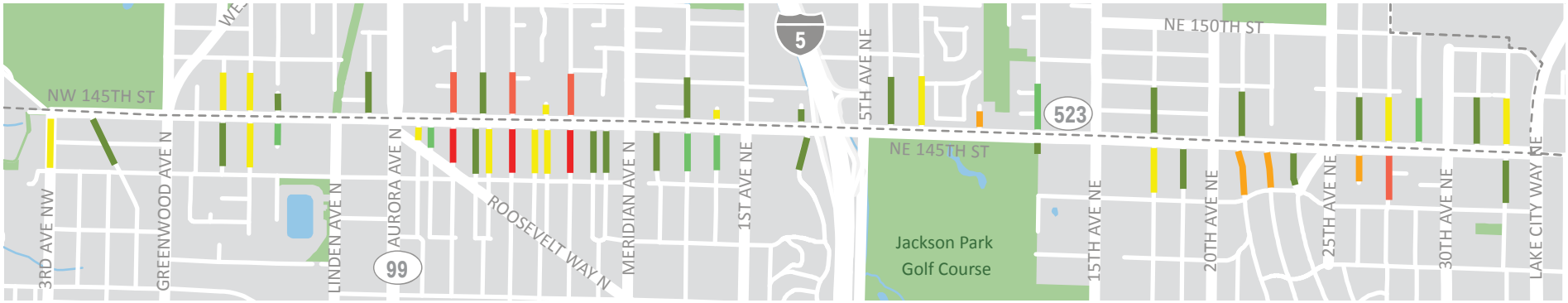
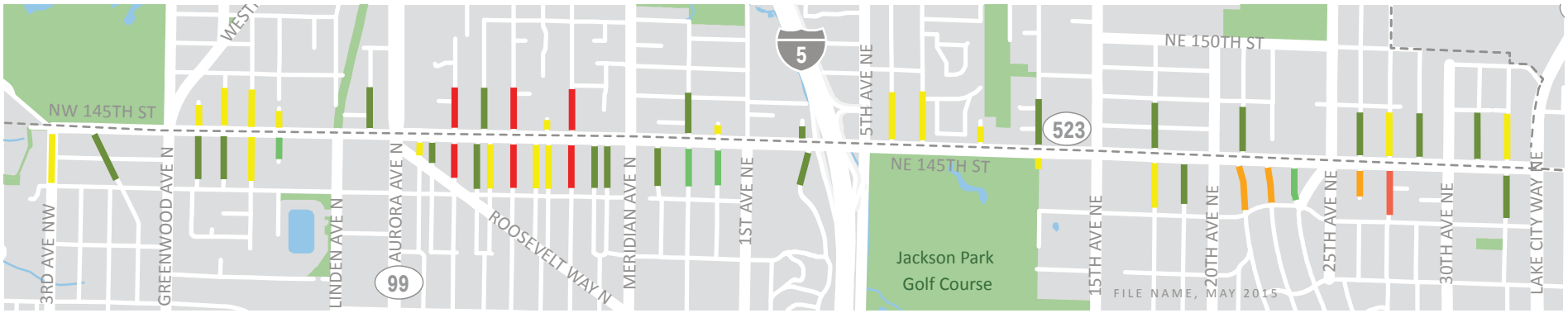


Figure 3.21 Existing and 2035 No Build LOS at Unsignalized Intersections
PM Peak hour LOS at unsignalized intersections

EXISTING CONDITIONS



2035 NO BUILD



0 0.25 0.5 Miles

Park
Waterbody
City Boundary
LOS A
LOS B
LOS C
LOS D
LOS E
LOS F

4. DEVELOPMENT OF STUDY CONCEPTS

4. DEVELOPMENT OF STUDY CONCEPTS

4.1 Process for Developing and Evaluating Study Concepts

One of the ways to arrive at a Preferred Design Concept is to consider a wide range of options for transportation solutions and to study those options to see what elements best meet the goals and context of the project.

The first step in the development of study concepts was to develop and confirm design issues to be addressed through the development of project evaluation criteria. The evaluation criteria was developed by working with the Citizen Advisory Task Force (CATF) and Interagency Technical Team (ITT) advisory teams. These issues were also developed in consideration of public input. Evaluation Criteria include the following:

1. **IMPROVED PEDESTRIAN SAFETY AND ACCESS -** How well does the study concept improve safety, mobility, and accessibility for pedestrians?
2. **IMPROVED TRANSIT SPEED, RELIABILITY, AND QUALITY -** How well does the study concept improve transit performance in the corridor?
3. **IMPROVED BIKE SAFETY AND MOBILITY-** How well does the study concept improve safety, mobility, and accessibility for bike riders?
4. **IMPROVED VEHICLE SAFETY AND MOBILITY -** How well does the study concept improve safety and mobility for vehicles and freight?
5. **CONSISTENCY WITH REGIONAL PLANS -** How well does the study concept integrate with other capital projects including the proposed light rail station and future improvements to the I-5 interchange?
6. **OPPORTUNITIES FOR ENVIRONMENTAL ENHANCEMENT -** How well does the study concept enhance the environment and mitigate impacts to critical areas? How well does the study concept provide for opportunities to upgrade stormwater quality?
7. **SUPPORTS ECONOMIC DEVELOPMENT** - How well does the study concept encourage and support private reinvestment in the corridor through improvements such as transit, upgraded utilities, and enhanced aesthetics?
8. **FUNDING FEASIBILITY -** How well will the study concept support the ability to compete for grant funding or secure direct funding? How well do the improvement elements align with grant funding criteria, such as multimodal improvements, transit, and livability?
9. **PROPERTY IMPACTS -** How well does the study concept minimize impacts to property and business owners by limiting right-of-way acquisition, avoiding existing structures, and improving or maintaining access?
10. **CAPITAL COST -** What is the relative capital cost?

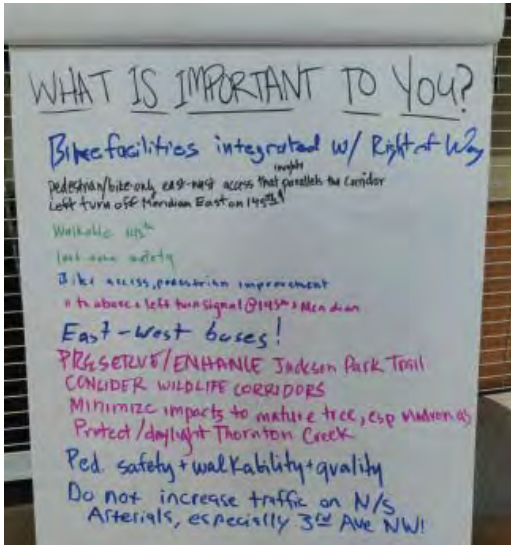


Figure 4.1
Public input, as well as guidance from the advisory teams, was considered in the development of a range of study concepts. Input was gathered in a variety of forms, including the flip charts from Open House #1 pictured right.

A key consideration for the 145th Street corridor is that the context, land uses, and traffic volumes vary along 145th Street from Bothell Way NE/Lake City Way (SR 522) to 3rd Avenue NW. Initially, four unique areas, or sections, along the corridor were identified (see Figure 4.2). These are listed below, east to west:

1. Bothell Way NE/Lake City Way (SR 522) to I-5
2. I-5 Interchange
3. I-5 to Aurora Avenue
4. Aurora Avenue to 3rd Avenue NW

The map below highlights these four sections of the corridor:

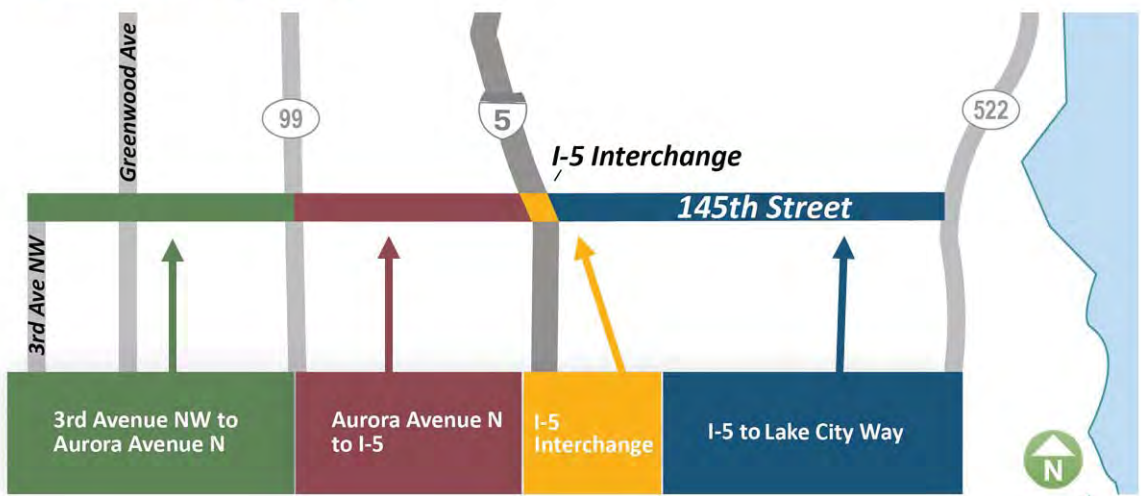
The construction of unique study concepts was an exercise working with the ITT and CATF to capture a range of options for modal improvements along the corridor. After looking at numerous combinations of features, four Study Concepts were developed, one No-Action concept and three build concepts that included some measure of improvement over existing conditions.

The three build Study Concepts were developed as system concepts to maintain travel modes between each context section along the corridor from 3rd Avenue NW to Bothell Way NE/Lake City Way (SR 522). The sections between Aurora Avenue and Bothell Way NE/Lake City Way have similar contexts and traffic volumes, and therefore each Study Concept maintained a typical section across these three corridor context areas. The portion of the corridor between Aurora Avenue and Bothell Way NE/Lake City Way (SR 522) is of greater significance than 3rd Ave NW to Aurora Avenue to the region and the agency partners, and therefore Study Concept descriptions focus on improvement concepts within those sections of the corridor.

In order to visually identify the range of modal improvement ideas considered and the differences between the Study Concepts, a Strategy Table process was used (see Tables 4.1, 4.2, 4.3, and 4.4).

The Strategy Table process involved creating a matrix of improvement concepts for each travel mode. It also included improvement concepts for access safety measures, overhead utilities, and street amenities. For each Study Concept, the Strategy Table shows which improvements are included in that concept by the green highlighted areas of the matrix.

Figure 4.2 Key unique context areas along the 145th Street corridor



4.1.1 Description of Study Concepts

4.1.1.1 Study Concept 1

Study Concept 1 is the No Action concept, meaning no improvements would be made to the corridor. The No Action was studied for how conditions might look in 20 years because even though roadway configuration may not change, there will be changes to traffic volumes and land use along the corridor.

Figure 4.3 Concept 1 Typical Mid-Block Section Looking East (existing condition) - Greenwood Avenue to Bothell Way NE/Lake City Way (SR 522)

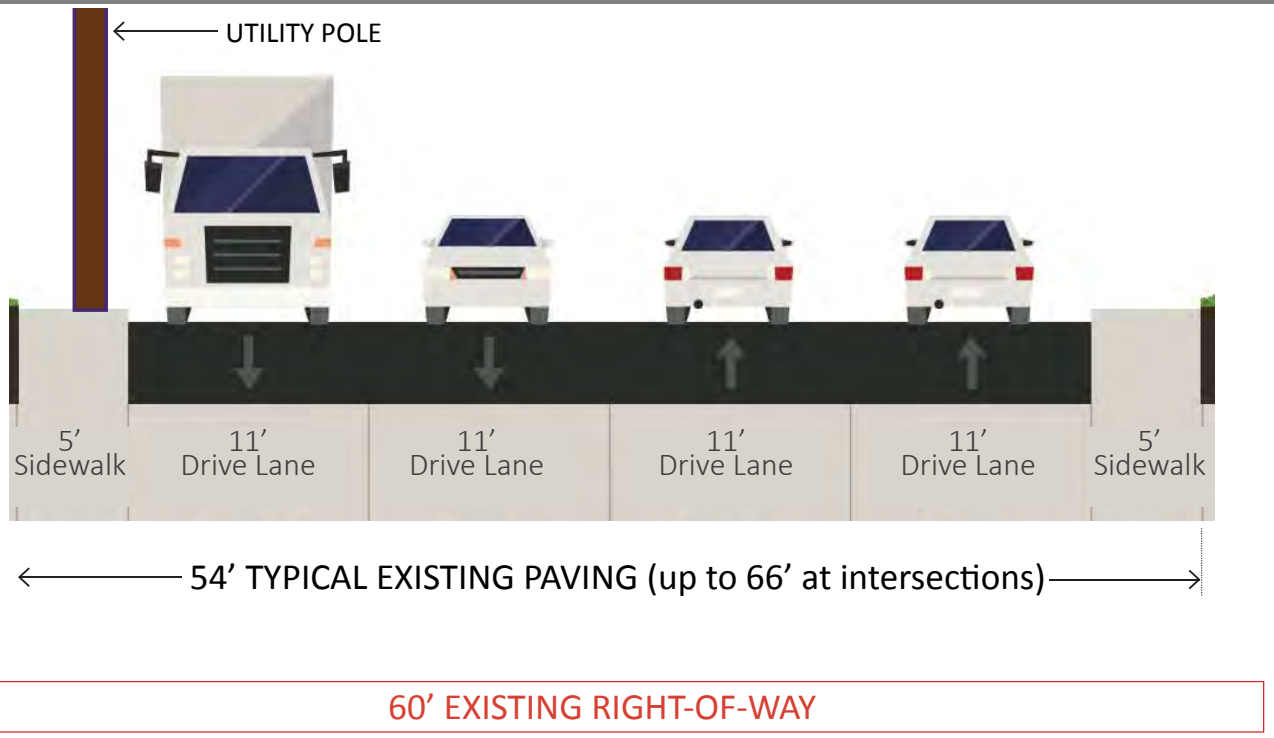


Table 4.1 Study Concept Strategy Table - 145th Street Multimodal Corridor Study

The table shows a menu of potential improvement options with green highlighted boxes that indicate no specific improvements would be incorporated into a "No Action" scenario.

Study Concept 1: No Action/Existing Conditions						145th Street Corridor
Traffic Capacity and Operations Improvements	**Transit Enhancements**	**Access Management Measures**	**Pedestrian Walkability**	**Bikes**	**Overhead Utility Improvements**	**Community Based Design Amenities**
No improvements	No improvements	No improvements	No improvements	No improvements	No improvements	No improvements
Optimize traffic signal timing	New shelters	Consolidate driveways	Pedestrian supportive signals (countdown heads and audible signals)	Bike route signage	Utility poles in sidewalk with 4ft clearance	Plant new street trees in landscape strip along corridor
Left turn storage lengthened to meet design year LOS	Special design of transit zones throughout the corridor including paving, shelters, street furniture.	C-curb / barrier to restrict left turns from driveways	Improved side street sidewalk connections to intersections	Bike storage lockers	Poles in amenty zones	Use special paving for crosswalks
Traffic signal interconnection and coordination	Transit Signal Priority (TSP)	Directional left-turn pockets mid-block	Ped refuges in median	Bicycle detection at signals	Relocate utility poles outside of the sidewalks	Use special paving within intersections
Strategic capacity improvements at intersections	New local transit service connecting along 145th Street to Link Light Rail Station	Two-way left turn lane	Bulb-out curb returns at minor streets	Green bike boxes and 2 stage turns at intersections	Underground overhead utilities	Way finding and signage
Widen to add left-turn lane/median	Queue jumps.	Center raised median with left-turns	WSDOT standard 6' sidewalks (no buffer)	Green lanes in conflict (auto/bike) zones		Incorporate Art
Widen to add Business Access/Transit Lane EB	Widen to add Bus and Right Turn Lane EB	Provide U-turn accommodations	5' sidewalks with 3' landscape buffer	Widen to accommodate buffered bike lanes (2' striping + 5' bike lanes) with route behind bus shelters		Benches, trash and recycling receptacles
Widen to add Business Access/Transit Lane WB	Widen to add Bus and Right Turn Lane WB		8' sidewalks and 5' landscape buffer	Buffered bike lanes in sidewalk		Improve corridor roadway lighting
Reversible traffic lane	Bus pullouts		Multi-use trail along project corridor	Widen to accommodate cycletracks		Special pedestrian scale lighting
Adaptive signals in the network	Median-running bus lanes		8' sidewalks and 5' landscape buffer with 5' bike lanes	Multi-use trail along project corridor		Surveillance cameras for increased security and/or emergency response.
Widen to add additional traffic lane	Reversible Bus Lane			Develop parallel corridor "greenway" for bikes		

4.1.1.2 Study Concept 2

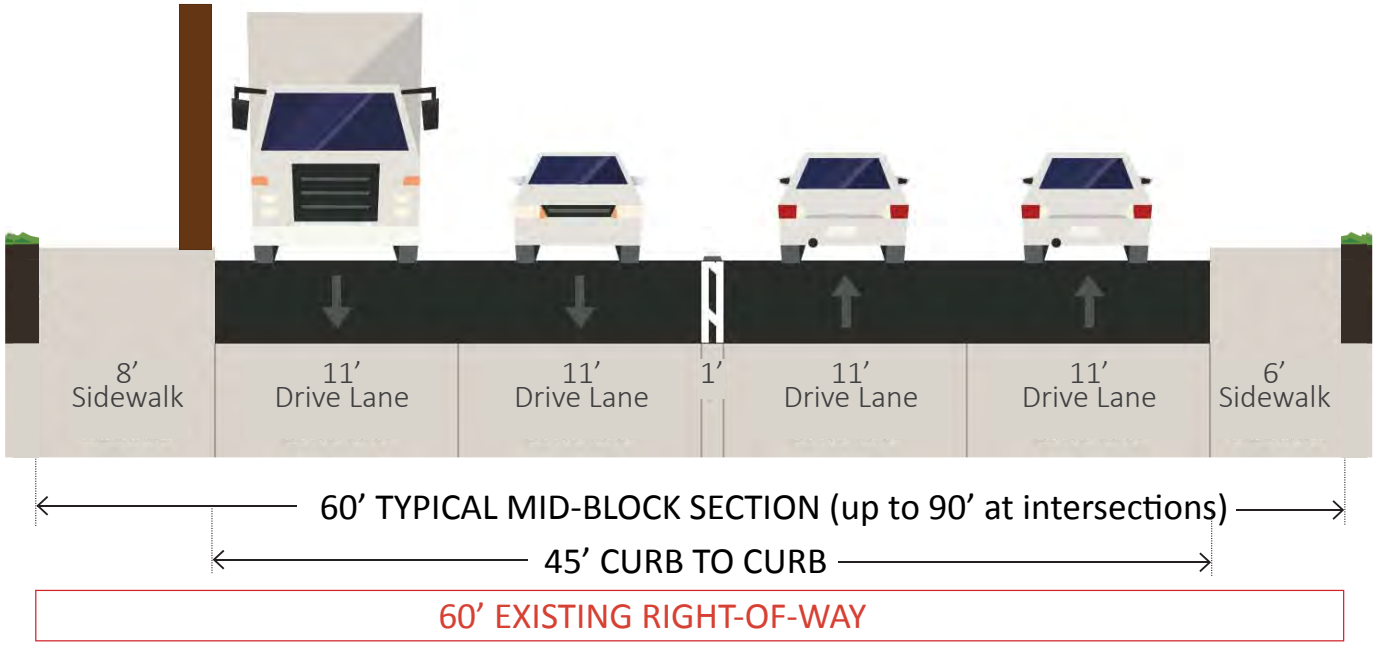
Aurora Avenue to Bothell Way NE/Lake City Way (SR 522)
Study Concept 2 was oriented to minimize widening along the corridor, especially mid-block. The concept keeps the roadway typically at 4 traffic lanes (2 lanes eastbound and 2 lanes westbound) except at signalized intersections where widening would occur to add turn lanes and provide for U-turns. For access management safety, a traffic curb would be placed down the center of the roadway to restrict mid-block left turns. U-turns would be accommodated at signalized intersections.

To improve conditions for transit, new bus stops with shelters would be provided at select intersections where widening for U-Turns would accommodate a bus pullout. Transit Signal Priority (TSP) would be implemented to adjust signal timing to favor approaching buses.

To accommodate bikes through the corridor, a parallel off-corridor bike network would be implemented both north and south of 145th Street.

For pedestrian improvements, Study Concept 2 includes minimal improvements to the existing sidewalk to meet ADA accessibility requirements. The existing utility poles would remain above ground with sufficient pedestrian passage created around the poles.

Figure 4.4 Concept 2 Typical Mid-Block Section Looking East - Aurora Avenue to Bothell Way NE/Lake City Way (SR 522)



3rd Ave NW to Aurora Avenue

Study Concept 2 was oriented to minimize widening along the corridor, especially mid-block. From 3rd Ave NW to Greenwood Avenue, Study Concept 2 keeps the existing cross-section, except for lengthening the left-turn pocket to improve the signal operation at Greenwood Avenue. Between Greenwood Avenue and Aurora Avenue, the concept keeps the roadway typically at 4 traffic lanes (2 lanes eastbound and 2 lanes westbound). For access management safety, a traffic curb would be placed down the center of the roadway to restrict mid-block left turns.

To improve conditions for transit, new bus stops with shelters would be provided at select intersections where widening for U-Turns would accommodate a bus pullout. Transit signal priority (TSP) would be implemented to adjust signal timing to favor approaching buses.

To accommodate bikes through the corridor, a parallel off-corridor bike network would be implemented on 143rd Street beginning at Greenwood Avenue.

For pedestrian improvements, Study Concept 2 includes minimal improvements to the existing sidewalk to meet ADA accessibility requirements. The exhisting utility poles would remain above ground with sufficient pedestrian passage created around the poles.

Figure 4.5 Concept 2 Typical Mid-Block Section Looking East - Greenwood Avenue to Aurora Avenue

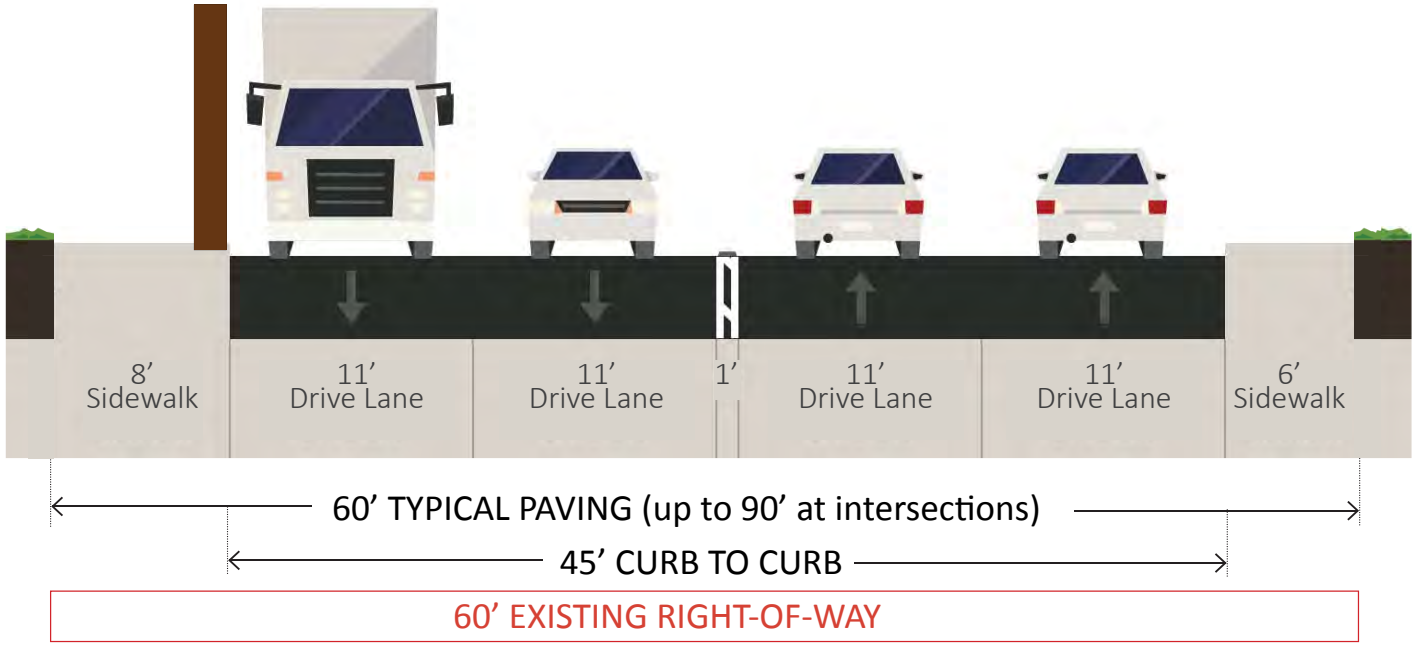


Table 4.2 Study Concept Strategy Table - 145th Street Multimodal Corridor Study

The table shows a menu of potential improvement options with green highlighted boxes that indicate the specific improvements incorporated into the Study Concept 2.

Study Concept 2: Four Traffic Lanes with Off-Corridor focus for Bicyclists						145th Street Corridor
Traffic Capacity and Operations Improvements	**Transit Enhancements**	**Access Management Measures**	**Pedestrian Walkability**	**Bikes**	**Overhead Utility Improvements**	**Community Based Design Amenities**
No improvements	No improvements	No improvements	No improvements	No improvements	No improvements	No improvements
Optimize traffic signal timing	New shelters	Consolidate driveways	Pedestrian supportive signals (countdown heads and audible signals)	Bike route signage	Utility poles in sidewalk with 4ft clearance	Plant new street trees in landscape strip along corridor
Left turn storage lengthened to meet design year LOS	Special design of transit zones throughout the corridor including paving, shelters, street furniture.	C-curb / barrier to restrict left turns from driveways	Improved side street sidewalk connections to intersections	Bike storage lockers	Poles in amenty zones	Use special paving for crosswalks
Traffic signal interconnection and coordination	Transit Signal Priority (TSP)	Directional left-turn pockets mid-block	Ped refuges in median	Bicycle detection at signals	Relocate utility poles outside of the sidewalks	Use special paving within intersections
Strategic capacity improvements at intersections	New local transit service connecting along 145th Street to Link Light Rail Station	Two-way left turn lane	Bulb-out curb returns at minor streets	Green bike boxes and 2 stage turns at intersections	Underground overhead utilities	Way finding and signage
Widen to add left-turn lane/median	Queue jumps.	Center raised median with left-turns	WSDOT standard 6' sidewalks (no buffer)	Green lanes in conflict (auto/bike) zones		Incorporate Art
Widen to add Business Access/Transit Lane EB	Widen to add Bus and Right Turn Lane EB	Provide U-turn accommodations	5' sidewalks with 3' landscape buffer	Widen to accommodate buffered bike lanes (2' striping + 5' bike lanes) with route behind bus shelters		Benches, trash and recycling receptacles
Widen to add Business Access/Transit Lane WB	Widen to add Bus and Right Turn Lane WB		8' sidewalks and 5' landscape buffer	Buffered bike lanes in sidewalk		Improve corridor roadway lighting
Reversible traffic lane	Bus pullouts		Multi-use trail along project corridor	Widen to accommodate cycletracks		Special pedestrian scale lighting
Adaptive signals in the network	Median-running bus lanes		8' sidewalks and 5' landscape buffer with 5' bike lanes	Multi-use trail along project corridor		Surveillance cameras for increased security and/or emergency response.
Widen to add additional traffic lane	Reversible Bus Lane			Develop parallel corridor "greenway" for bikes		
Remove traffic lanes						

4.1.1.3 Study Concept 3

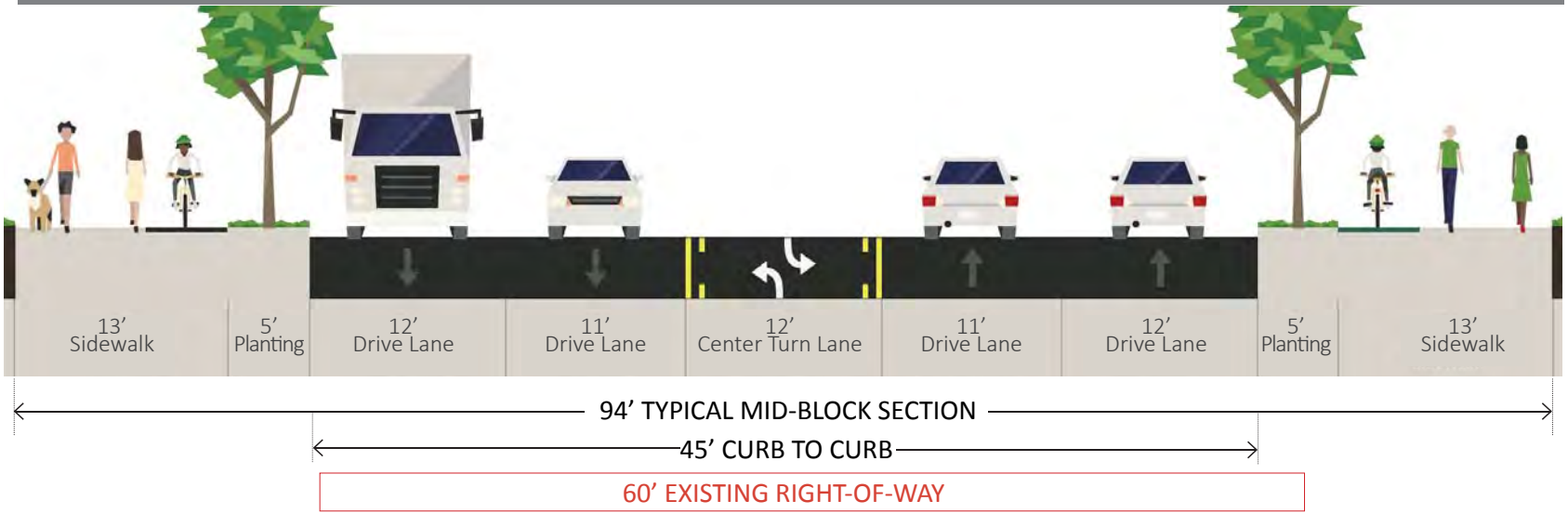
Aurora Avenue to Bothell Way NE/Lake City Way (SR 522)
Study Concept 3 would be oriented to providing local access along the corridor, especially mid-block, and to providing a high level of non-motorized facilities. The concept includes 5 lanes including 2 lanes eastbound, 2 lanes westbound, and a center two-way left turn lane. At signalized intersections, additional lanes may be implemented to improve traffic capacity.

To improve conditions for transit, new high quality bus stops with shelters would be provided. Transit Signal Priority (TSP) would be implemented to adjust signal timing to favor approaching buses. At some locations, transit queue jumps would be provided to improve transit speed and reliability.

To accommodate bikes through the corridor, Concept 3 includes buffered bike lanes located in the sidewalk zone outside of the landscape strip. Bike lanes would be directional and located on both sides of 145th Street.

For pedestrian improvements, Study Concept 3 would add new sidewalks including a 5-ft landscape buffer and 8-ft paved sidewalk. The sidewalk would be outside of the buffered bike lanes. The existing utility poles would remain above ground with sufficient pedestrian passage created around the poles.

Figure 4.6 Concept 3 Typical Mid-Block Section Looking East- Aurora Avenue to Bothell Way NE/Lake City Way (SR 522)



3rd Ave NW to Aurora Avenue

Study Concept 3 would be oriented to providing local access along the corridor, especially mid-block, and to providing a high level of non-motorized facilities. From 3rd Ave NW to Greenwood Avenue, the concept includes widening the roadway to add bike lanes. Sidewalks would be widened to meet City standards by adding a 5-ft landscape buffer and 5-ft paved sidewalk.

From Greenwood Avenue to Linden Avenue, Concept 3 would reconfigure the roadway from four travel lanes to three travel lanes including 1 lane eastbound, 1 lane westbound, and a center two-way left turn lane. East of Linden Avenue, 145th Street would be widened to accommodate additional traffic capacity at the Aurora Avenue traffic signal. Additional lanes would be implemented to improve traffic capacity at signalized intersections.

To improve conditions for transit, new high quality bus stops with shelters would be provided. Transit Signal Priority (TSP) would be implemented to adjust signal timing to favor approaching buses. At some locations, transit queue jumps would be provided to improve transit speed and reliability.

To accommodate bikes through the corridor, Concept 3 includes buffered bike lanes located in the sidewalk zone outside of the landscape strip. Bike lanes would be directional and located on both sides of 145th Street.

For pedestrian improvements, Study Concept 3 would add new sidewalks including 5-ft landscape buffer and 8-ft paved sidewalk. The sidewalk would be outside of the buffered bike lanes. The overhead utility poles would remain above ground.

Figure 4.7 Concept 3 Typical Mid-Block Section - Greenwood Avenue to Aurora Avenue

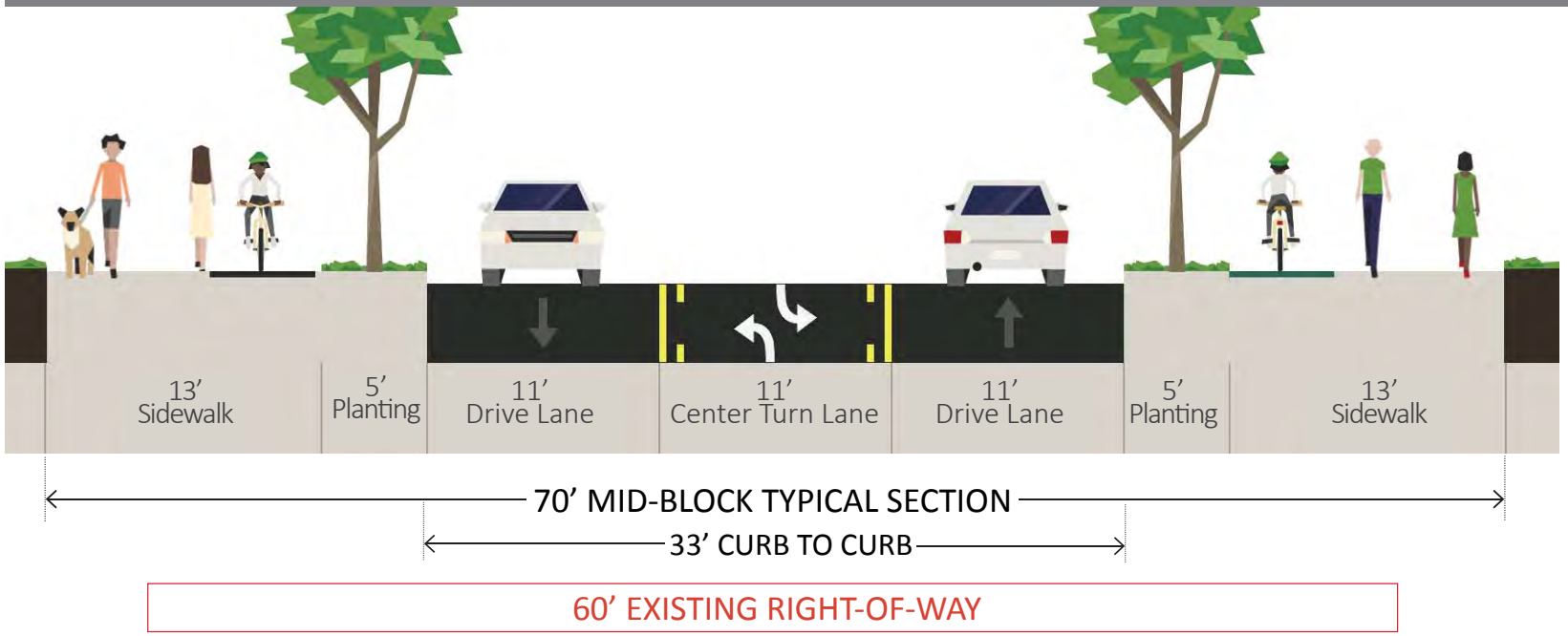


Table 4.3 Study Concept Strategy Table - 145th Multimodal Street Corridor Study

Study Concept 3: Four Traffic Lanes with Median Two-way Left Turn Lane						145th Street Corridor
Traffic Capacity and Operations Improvements	**Transit Enhancements**	**Access Management Measures**	**Pedestrian Walkability**	**Bikes**	**Overhead Utility Improvements**	**Community Based Design Amenities**
No improvements	No improvements	No improvements	No improvements	No improvements	No improvements	No improvements
Optimize traffic signal timing	New shelters	Consolidate driveways	Pedestrian supportive signals (countdown heads and audible signals)	Bike route signage	Utility poles in sidewalk with 4ft clearance	Plant new street trees in landscape strip along corridor
Left turn storage lengthened to meet design year LOS	Special design of transit zones throughout the corridor including paving, shelters, street furniture.	C-curb / barrier to restrict left turns from driveways	Improved side street sidewalk connections to intersections	Bike storage lockers	Poles in amenty zones	Use special paving for crosswalks
Traffic signal interconnection and coordination	Transit Signal Priority (TSP)	Directional left-turn pockets mid-block	Ped refuges in median	Bicycle detection at signals	Relocate utility poles outside of the sidewalks	Use special paving within intersections
Strategic capacity improvements at intersections	New local transit service connecting along 145th Street to Link Light Rail Station	Two-way left turn lane	Bulb-out curb returns at minor streets	Green bike boxes and 2 stage turns at intersections	Underground overhead utilities	Way finding and signage
Widen to add left-turn lane/median	Queue jumps.	Center raised median with left-turns	WSDOT standard 6' sidewalks (no buffer)	Green lanes in conflict (auto/bike) zones		Incorporate Art
Widen to add Business Access/Transit Lane EB	Widen to add Bus and Right Turn Lane EB	Provide U-turn accommodations	5' sidewalks with 3' landscape buffer	Widen to accommodate buffered bike lanes (2' striping + 5' bike lanes) with route behind bus shelters		Benches, trash and recycling receptacles
Widen to add Business Access/Transit Lane WB	Widen to add Bus and Right Turn Lane WB		8' sidewalks and 5' landscape buffer	Buffered bike lanes in sidewalk		Improve corridor roadway lighting
Reversible traffic lane	Bus pullouts		Multi-use trail along project corridor	Widen to accommodate cycletracks		Special pedestrian scale lighting
Adaptive signals in the network	Median-running bus lanes		8' sidewalks and 5' landscape buffer with 5' bike lanes	Multi-use trail along project corridor		Surveillance cameras for increased security and/or emergency response.
Widen to add additional traffic lane	Reversible Bus Lane			Develop parallel corridor "greenway" for bikes		
Remove traffic lanes						

The table shows a menu of potential improvement options with green highlighted boxes that indicate the specific improvements incorporated into Study Concept 3.

4.1.1.4 Study Concept 4

Aurora Avenue to Bothell Way NE/Lake City Way (SR 522)

Study Concept 4 would be oriented to providing transit speed and reliability along the corridor. The concept includes 6 traffic lanes including 2 general purpose lanes eastbound and westbound and Bus And Turn (BAT) lanes in both directions. At signalized intersections, additional left-turn lanes may be implemented to improve traffic capacity. For access management safety, a traffic curb would be placed down the center of the roadway to restrict mid-block left turns. U-turns would be provided at signalized intersections.

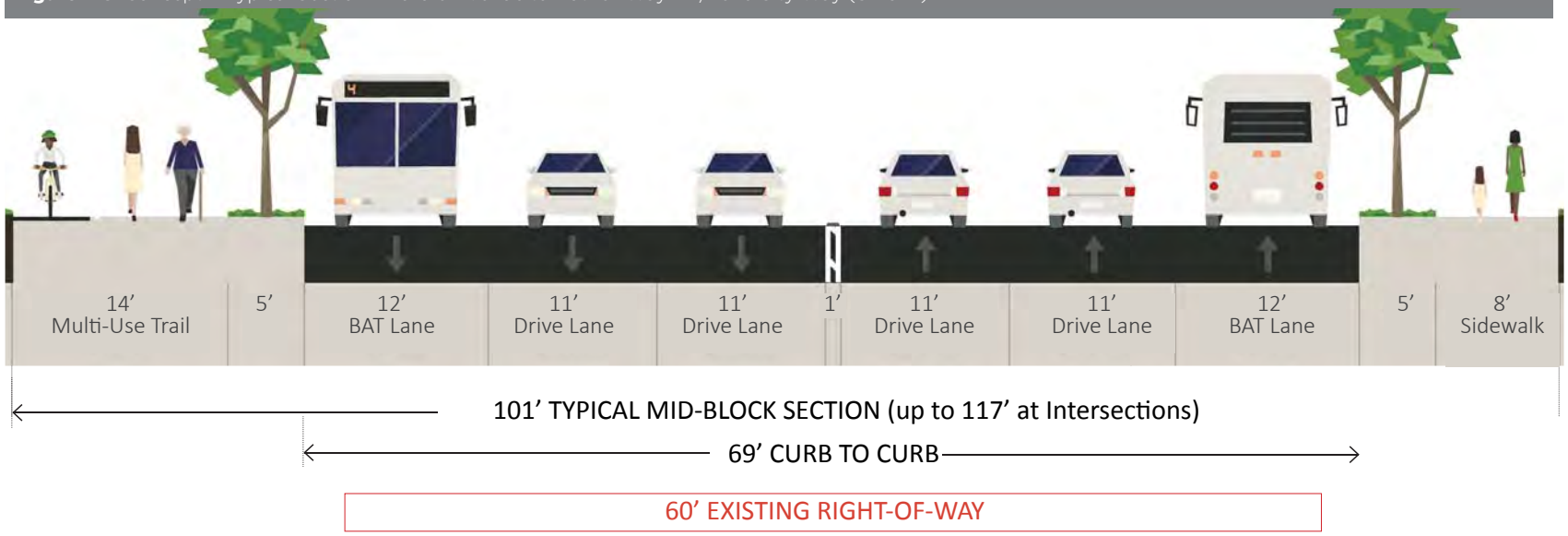
The BAT lanes would provide dedicated lanes to accommodate High Capacity Transit (HCT). Other transit enhancements include new high quality bus stops with shelters and bus zone amenities. Transit Signal Priority (TSP) would be implemented to adjust signal timing to favor approaching buses.

To accommodate bikes through the corridor, Study Concept 4 includes a multi-use trail along the corridor outside of the landscape strip on one side of the roadway only. The trail would accommodate bikes and pedestrians.

In addition to the multi-use trail, Study Concept 4 includes new sidewalks on 145th Street on the side of the street opposite of the trail. The new sidewalks would meet City standards and include 5-ft landscape buffer and 8-ft paved sidewalk.

Study Concept 4 would underground the overhead utility poles.

Figure 4.8 Concept 4 Typical Section - Aurora Avenue to Bothell Way NE/Lake City Way (SR 522)



3rd Ave NW to Aurora Avenue

Between 3rd Ave NW and Aurora Avenue, Study Concept 4 would be oriented to providing consistent pedestrian and bicycle facilities as presented in other parts of the corridor. Between 3rd Ave NW and Greenwood Avenue, Concept 4 narrows travel lanes to 11-ft and widens the sidewalk on the south side of the road to provide a multi-use trail.

From Greenwood Avenue to Aurora Avenue, the concept provides 5 lanes including 2 lanes eastbound, 2 lanes westbound and center two-way left turn lane. Transit enhancements include new high quality bus stops with shelters and bus zone amenities. Transit Signal Priority (TSP) would be implemented to adjust signal timing to favor approaching buses.

To accommodate bikes through the corridor, Study Concept 4 includes a non-motorized trail along the corridor outside of the landscape strip. The trail would accommodate bikes and pedestrians.

In addition to the multi-use trail, Study Concept 4 includes new sidewalks on 145th Street on the side of the street opposite of the trail. The new sidewalks would meet City standards and include 5-ft landscape buffer and 8-ft paved sidewalk.

Study Concept 4 would underground the overhead utility poles.

Figure 4.9 Concept 4 Typical Mid-Block Section - Greenwood Avenue to Aurora Avenue

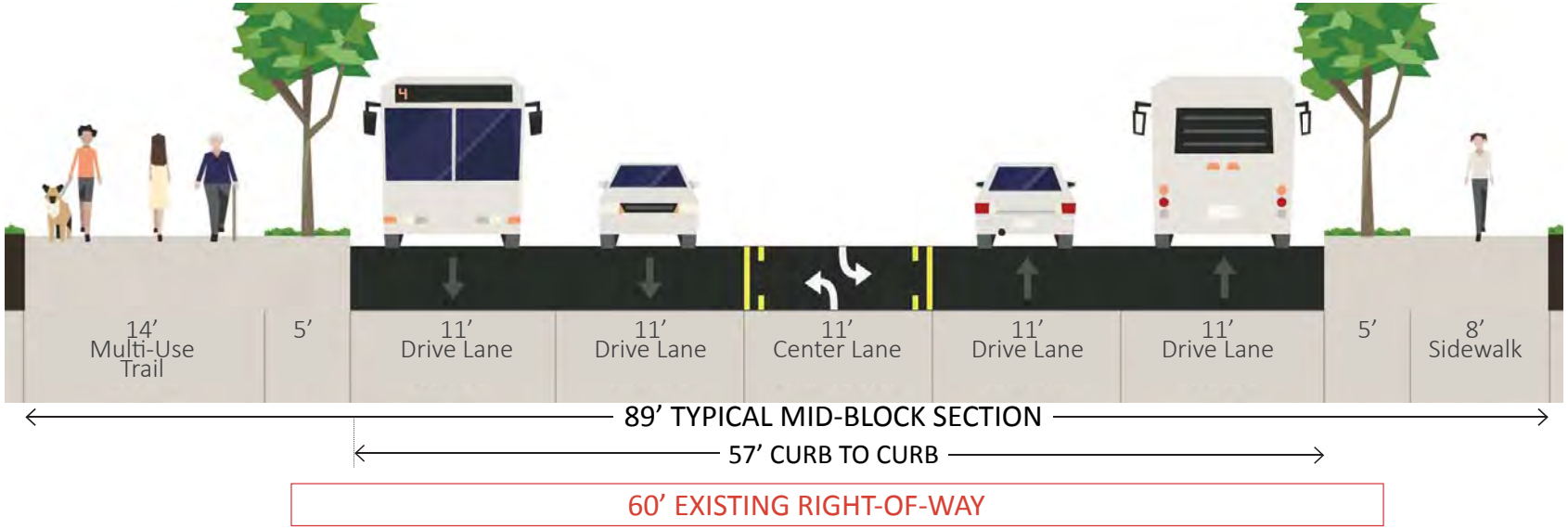


Table 4.4 Study Concept Strategy Table - 145th Street Multimodal Corridor Study

The table shows a menu of potential improvement options with green highlighted boxes that indicate the specific improvements incorporated into Study Concept 4.

Study Conept 4: Four Traffic Lanes with two BAT (Bus and Right Turn Lanes) Lanes						145th Street Corridor
Traffic Capacity and Operations Improvements	**Transit Enhancements**	**Access Management Measures**	**Pedestrian Walkability**	**Bikes**	**Overhead Utility Improvements**	**Community Based Design Amenities**
No improvements	No improvements	No improvements	No improvements	No improvements	No improvements	No improvements
Optimize traffic signal timing	New shelters	Consolidate driveways	Pedestrian supportive signals (countdown heads and audible signals)	Bike route signage	Utility poles in sidewalk with 4ft clearance	Plant new street trees in landscape strip along corridor
Left turn storage lengthened to meet design year LOS	Special design of transit zones throughout the corridor including paving, shelters, street furniture.	C-curb / barrier to restrict left turns from driveways	Improved side street sidewalk connections to intersections	Bike storage lockers	Poles in amenty zones	Use special paving for crosswalks
Traffic signal interconnection and coordination	Transit Signal Priority (TSP)	Directional left-turn pockets mid-block	Ped refuges in median	Bicycle detection at signals	Relocate utility poles outside of the sidewalks	Use special paving within intersections
Strategic capacity improvements at intersections	New local transit service connecting along 145th Street to Link Light Rail Station	Two-way left turn lane	Bulb-out curb returns at minor streets	Green bike boxes and 2 stage turns at intersections	Underground overhead utilities	Way finding and signage
Widen to add left-turn lane/median	Queue jumps.	Center raised median with left-turns	WSDOT standard 6' sidewalks (no buffer)	Green lanes in conflict (auto/bike) zones		Incorporate Art
Widen to add Business Access/Transit Lane EB	Widen to add Bus and Right Turn Lane EB	Provide U-turn accommodations	5' sidewalks with 3' landscape buffer	Widen to accommodate buffered bike lanes (2' striping + 5' bike lanes) with route behind bus shelters		Benches, trash and recycling receptacles
Widen to add Business Access/Transit Lane WB	Widen to add Bus and Right Turn Lane WB		8' sidewalks and 5' landscape buffer	Buffered bike lanes in sidewalk		Improve corridor roadway lighting
Reversible traffic lane	Bus pullouts		Multi-use trail along project corridor	Widen to accommodate cycletracks		Special pedestrian scale lighting
Adaptive signals in the network	Median-running bus lanes		8' sidewalks and 5' landscape buffer with 5' bike lanes	Multi-use trail along project corridor		Surveillance cameras for increased security and/or emergency response.
Widen to add additional traffic lane	Reversible Bus Lane			Develop parallel corridor "greenway" for bikes		
Remove traffic lanes						

4.2 Visual Analysis and Conceptual Drawings

Once the four Study Concepts were set for evaluation, additional development was required to measure costs and impacts of each. In order to generate the required detail, each of the three build Study Concepts (Concepts 2, 3, and 4) were designed to a conceptual level for the entire 3-mile corridor. Plan view drawings over aerial base were prepared for the three build Study Concepts and used by the project team, CATF, and ITT to further understand and refine the design alternatives.

In addition to plan view layouts, three dimensional artist's renderings were prepared to visually represent each Study Concept and how it could look when constructed.

Concept 1 (No Build): Photo of Current Roadway East of I-5 Looking West

145TH STREET
Multimodal Corridor Study

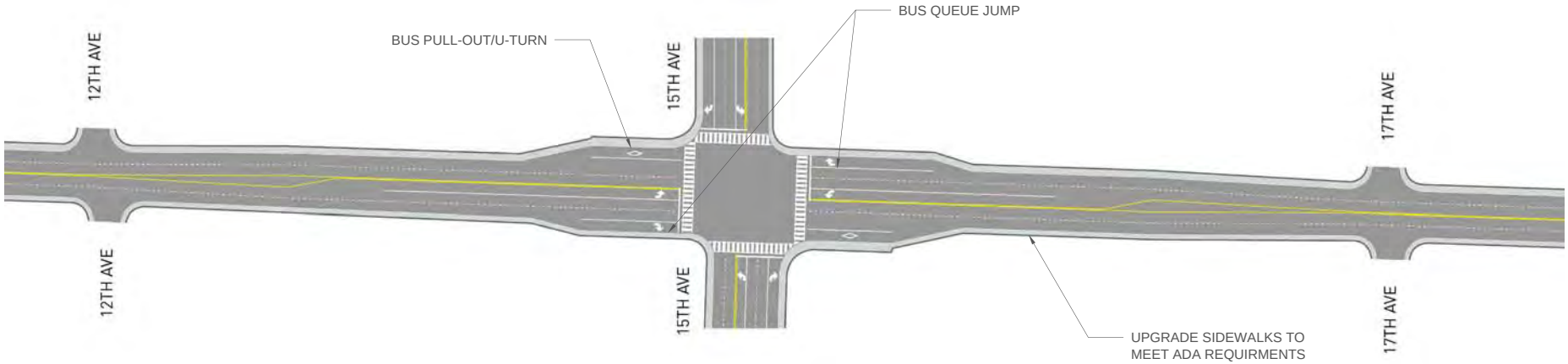
CITY OF SHORELINE

Concept 2 Artist Rendering: Typical Mid-Block East of I-5 Looking West

145TH STREET
Multimodal Corridor Study

CITY OF SHORELINE

CONCEPT 2 PLAN VIEW LAYOUT - TYPICAL INTERSECTION



DRAWING NOTES

1. THE ROADWAY LAYOUT DEPICTED IS FOR PLANNING AND CONCEPTUAL PRE-DESIGN PURPOSES ONLY AND IS SUBJECT TO CHANGE AS THE DESIGN DEVELOPS.
2. DRIVEWAYS ARE NOT SHOWN.

145TH STREET
Multimodal Corridor Study

CITY OF SHORELINE

Concept 3 Artist Rendering: Typical Mid-Block East of I-5 Looking West

145TH STREET
Multimodal Corridor Study

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CONCEPT 3: PLAN VIEW LAYOUT - TYPICAL INTERSECTION

DRAWING NOTES

1. THE ROADWAY LAYOUT DEPICTED IS FOR PLANNING AND CONCEPTUAL PRE-DESIGN PURPOSES ONLY AND IS SUBJECT TO CHANGE AS THE DESIGN DEVELOPS.
2. DRIVEWAYS ARE NOT SHOWN.

145TH STREET Multimodal Corridor Study

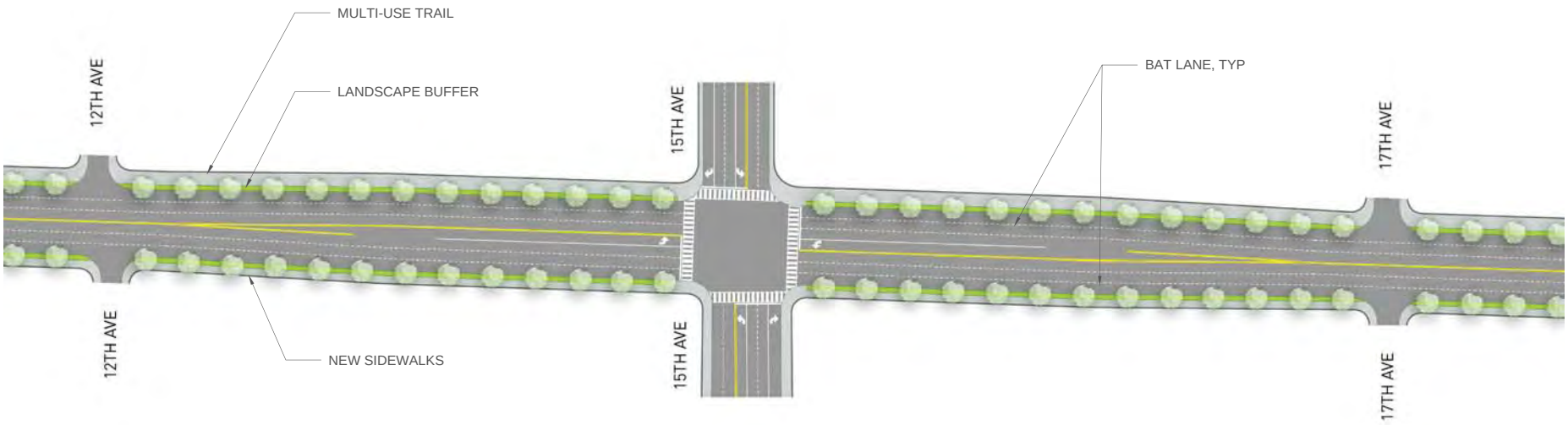
CITY OF SHORELINE

Concept 4 Artist Rendering: Typical Mid-Block East of I-5 Looking West

145TH STREET
Multimodal Corridor Study

CITY OF SHORELINE

CONCEPT 4: PLAN VIEW LAYOUT - TYPICAL INTERSECTION



DRAWING NOTES

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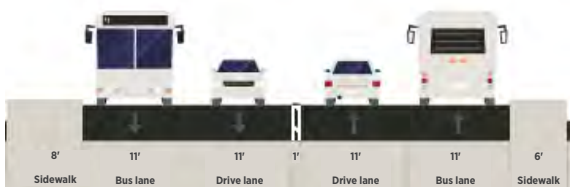
2. DRIVEWAYS ARE NOT SHOWN.

145TH STREET Multimodal Corridor Study

CITY OF SHORELINE

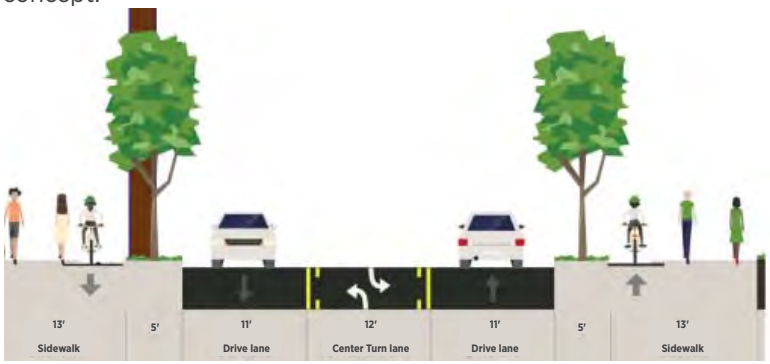
4.3 Additional Concepts Considered

In addition to the four Study Concepts, other concepts were considered for the corridor but were not developed to the level of detail that the Study Concepts were. It was determined by the project team and ITT team that the additional study concepts did not meet the goals of the project and therefore did not require further design development.



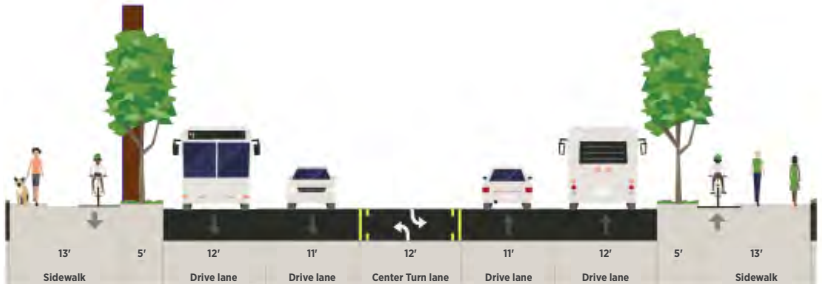
Concept 2A, BAT Lanes, Aurora to SR522

This concept converts two traffic lanes to transit lanes for buses and right turn vehicles. This concept minimized right of way acquisition, however LOS standards for traffic operations are not met with this concept.



Concept 3A, Three Lanes, Aurora to SR522

This concept repurposes the existing project footprint and stripes two traffic lanes with a center turn lane. Additional space is available to provide bike lanes. This concept minimized right of way acquisition, however LOS standards for traffic operations are not met with this concept, and the concept does not support high capacity transit.



Concept 3B, Five Lanes with BAT Lanes, Aurora to SR522

This concept proposes a BAT lane and a traffic lane in each direction with a center turn lane. This is the same footprint as Concept 3, except the outside lane would be a BAT lane. This concept is supportive of high capacity transit, however LOS standards for traffic operations are not met with this concept.

Concept 4A, Six Lanes with Center Transit Lanes, Aurora to SR522

This concept proposes two traffic lanes in each direction and two center-running transit lanes. This concept is supportive of high capacity transit, however property impacts would be the highest with this concept, especially at intersections, and the center running transit lanes are not consistent with the BAT lane configuration on connecting corridors of Aurora Avenue and SR522 .

5. EVALUATION OF STUDY CONCEPTS

5. EVALUATION OF STUDY CONCEPTS

5.1 Methodology

The purpose of the evaluation process for the 145th Street Multimodal Corridor Study was to study a range of potential design concepts to see how the concepts performed against the goals of the study. This preliminary work guided the development of a Preferred Design Concept. The evaluation process was designed to ensure that the Preferred Design Concept directly addressed problems and needs identified in the 145th Street corridor study and directly fulfilled the project goals.

5.2 Evaluation Criteria and Rating

Evaluation criteria were developed with the ITT and CATF and then used to analyze the four Study Concepts. The criteria chosen represent factors unique to the community and City of Shoreline standards as well as typical environmental factors that would be addressed during an environmental assessment.

Performance measures were developed for each evaluation criteria to detail how the Study Concepts would be evaluated for each criteria. Evaluation criteria and their performance measures are described in Table 5.1.

Table 5.1 Evaluation criteria and their performance measures used for comparative analysis of project study concepts

Evaluation Criteria	Performance Measures
Pedestrian Safety and Access	Project improves safety and accessibility. Attributes: • Meets ADA min. accessibility standard and improves lighting. • Sidewalk width meets City of Shoreline standard. • Provides > 4′ separation from vehicles. • Crossing distance less than 6 lanes.
Transit Speed, Reliability, and Access	Project improves experience for Transit users: Transit attributes: • Transit speed, measured by travel time (PM peak average). • Transit reliability based on implementation of: BAT lane, queue jump, TSP. • Quality of transit zones - lighting, amenities, wheelchair accessible, shelters.
Bike Safety and Access	Project improves safety and accessibility: Attributes: • Provides continuous bike pathway facility through the corridor. • Provides separation from vehicles on arterial. • Proximity to the corridor - bike facility is on corridor. • Provides safety measures to separate modes at conflict points (bicyclists, pedestrians, and transit users).

Continued on next page

Continued from previous page

Evaluation Criteria	Performance Measures
Vehicle Mobility and Safety	Project improves mobility and safety for vehicles and freight. Vehicle Mobility: • Meets LOS Standard. • Corridor travel time (PM peak average). • Provides left-turn lanes. • Mid-block left-turn access. Vehicle Safety: • Reduction in uncontrolled left-turn conflicts. • Improves lighting. • Implements speed management measures.
Consistency With Community Plans (including regional plans)	Project improves integration with other transportation projects and supports community vision for adjacent neighborhoods. Integration with: • Lynnwood Link Light Rail. • ST3 and King County Metro Long Range Plans. • SDOT and Shoreline Modal Plans. Consistency with Comp Plans: • Supports multimodal access to LRT station, higher priority on pedestrian and bike safety. • Street trees and landscaping to enhance corridor appearance. • Use Low Impact Development (LID) where feasible for stormwater. • Utility undergrounding.
Supports Opportunities for Environmental Benefits	Project is feasible/compatible with the environment. Attributes: • Does not impact critical areas. • Opportunity to enhance and protect critical areas. • Potential for low impact development (LID). • Upgrades stormwater management facilities. • Potential to improve air quality by traffic congestion and transit enhancement.

Continued in next column

Evaluation Criteria	Performance Measures
Supports Economic Development	Project encourages and supports private reinvestment in the corridor. Economic investment elements: • Quality of improvements measured by landscaping buffer, trees, urban design elements, utility undergrounding. • Supportive of transit oriented development - supports High Capacity Transit (HCT) and pedestrian access. • Improves traffic mobility and property access. • Improves utility infrastructure - power, storm, sanitary, water.
Funding Feasibility	Project aligns with grant funding criteria. Project garners partnerships. Funding Criteria Attributes: • Improves safety and mobility for peds. • Improves safety and mobility for bikes. • Improves transit. • Sustainability. Partnership Attributes: • Provides regional benefit. • Consistent with partner plans (ST, KCM, SDOT, WSDOT). Affordability: • Measured by capital cost and estimated City of Shoreline match.
Property Impacts	Measured by number of properties impacted, full acquisitions, and building impacts.
Capital Cost	Measured by order of magnitude cost estimates.

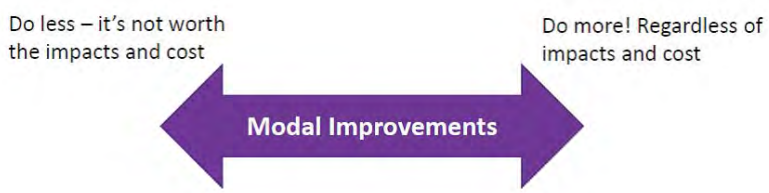
5.3 Comparison of Alternatives

Each evaluation criterion was divided into a five-rating scale. In order to facilitate visual comparison of the Study Concepts, a graphical scale was used to differentiate the rating values. The evaluation results for the four Study Concepts can be found in Appendix D in the form of an evaluation matrix. The matrix provides bulleted items of note related to each respective criterion per Study Concept and the Preferred Design Concept. For each criterion, an open circle represents the least favorable rating and a completely filled circle represents most favorable. Filling the circle by quarters represents the three intervening rating values.

Just as the typical cross sections were developed for 3 different areas along the corridor, an evaluation matrix was developed for each of these distinct areas along 145th Street: I-5 to (Bothell Way) Lake City Way, Aurora Avenue to I-5, and 3rd Avenue NW to Aurora Avenue N. The I-5 interchange area was not included in the evaluation matrices as it is governed by State and Federal regulations.

It becomes clear in assessing how the Study Concepts perform against the Project Evaluation Criteria that for each mode (pedestrians, transit, bikes, and vehicles), there is a continuum of improvements; the higher the level of improvements, the wider the cross-section becomes and the more impacts would occur (see this concept in Figure 5.1). This evaluation of concepts becomes an exercise in evaluating benefits versus trade-offs for each distinct area along the corridor.

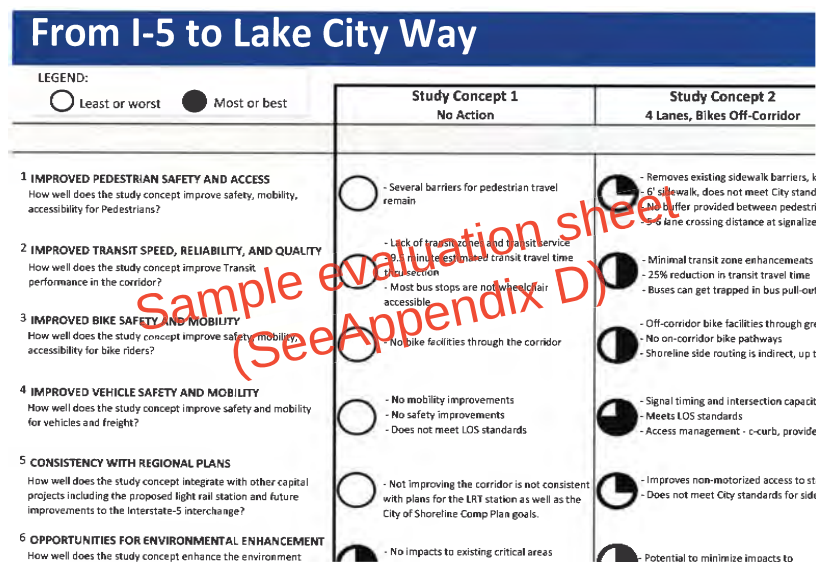
Figure 5.1 Modal improvements continuum



The project advisory teams, ITT and CATF, were asked to weigh in on the importance of improvements in the context of trade-offs and impacts. The public was also asked to weigh in on the importance of modal improvements in the context of trade-offs at Open House #2 and through surveys that were provided on the project website.

Figure 5.2 Open House #2 participants using dots to express their input on the importance of modal improvements

Figure 5.3 Portion of evaluation results (complete documents can be found in Appendix D)



From I-5 to Lake City Way

LEGEND: Least or worst / Most or best

	Study Concept 1 No Action	Study Concept 2 4 Lanes, Bikes Off-Corridor
1 IMPROVED PEDESTRIAN SAFETY AND ACCESS How well does the study concept improve safety, mobility, accessibility for Pedestrians?	- Several barriers for pedestrian travel remain	- Removes existing sidewalk barriers, k - 6' sidewalk, does not meet City stand - No buffer provided between pedestri - 5-6 lane crossing distance at signalize
2 IMPROVED TRANSIT SPEED, RELIABILITY, AND QUALITY How well does the study concept improve Transit performance in the corridor?	- Lack of transit zone and transit service this section - 30.5 minute estimated transit travel time - Most bus stops are not wheelchair accessible	- Minimal transit zone enhancements - 25% reduction in transit travel time - Buses can get trapped in bus pull-out
3 IMPROVED BIKE SAFETY AND MOBILITY How well does the study concept improve safety, mobility, accessibility for bike riders?	- No bike facilities through the corridor	- Off-corridor bike facilities through gre - No on-corridor bike pathways - Shoreline side routing is indirect, up t
4 IMPROVED VEHICLE SAFETY AND MOBILITY How well does the study concept improve safety and mobility for vehicles and freight?	- No mobility improvements - No safety improvements - Does not meet LOS standards	- Signal timing and intersection capacit - Meets LOS standards - Access management - c-curb, provide
5 CONSISTENCY WITH REGIONAL PLANS How well does the study concept integrate with other capital projects including the proposed light rail station and future improvements to the Interstate-5 interchange?	- Not improving the corridor is not consistent with plans for the LRT station as well as the City of Shoreline Comp Plan goals.	- Improves non-motorized access to st - Does not meet City standards for side
6 OPPORTUNITIES FOR ENVIRONMENTAL ENHANCEMENT How well does the study concept enhance the environment	- No impacts to existing critical areas	- Potential to minimize impacts to

Sample evaluation sheet (See Appendix D)

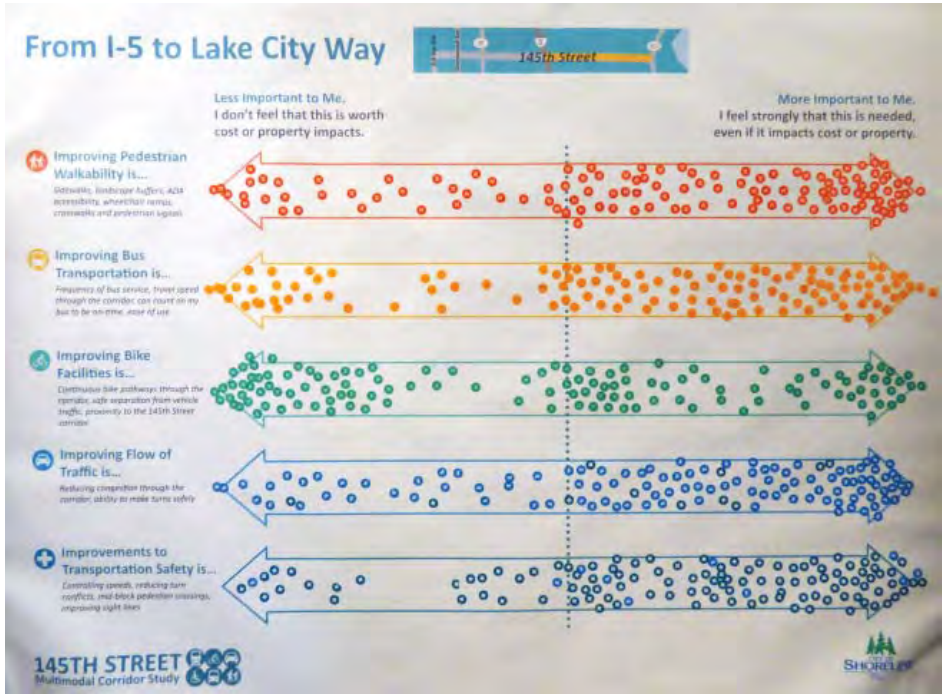
Feedback collected from these stakeholder groups was carefully evaluated, and the general themes that emerged were:

- Strong recognition that the corridor is not working for all users.
- Strong interest in bringing improvements to the corridor while recognizing improvements will likely affect properties along the corridor.
- A desire to minimize impacts if possible.

Appendix I includes actual photos of the Open House #2 exercise boards that show the public input and project advisory teams (a sample is below in Figure 5.4) input on the importance of improving travel for each mode.

Based on the evaluation of study concepts against the goals of the project and feedback from project stakeholders, including the City Council and partner agencies, the Preferred Design Concept for the corridor was developed (Chapter 6).

Figure 5.4 Example of Open House #2 community input



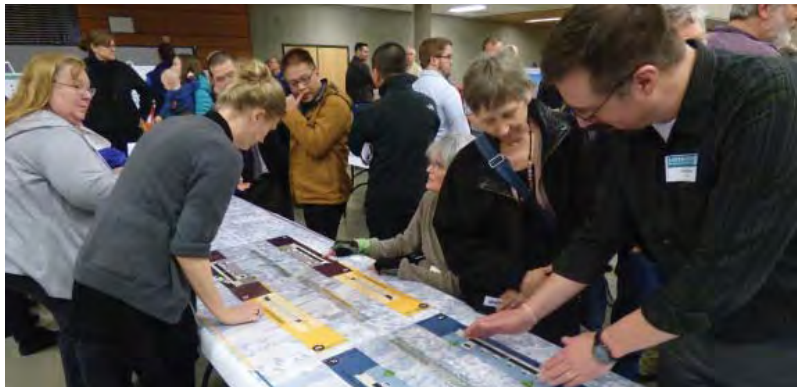
6. PREFERRED DESIGN CONCEPT

6. Preferred Design Concept

Upon review of the evaluation results and community input, the Preferred Design Concept was carefully developed for the corridor. With guidance from the CATF and the ITT, project staff studied the evaluation results of the four Study Concepts in order to develop a Preferred Design Concept that would maximize benefits in terms of meeting project goals while aiming to minimize cost.

The Preferred Design Concept is a vision for multimodal transportation improvements for this corridor. The Preferred Design Concept is considered "pre-design" and will be further refined in the environmental review phase of the project, the preliminary design phase, and the final design phase. The Preferred Design Concept generally establishes the typical cross sections along the corridor, but the exact location of the project footprint has not yet been determined. Because of this, and because the layout is subject to change with further design development, the Preferred Design Concept layout is not shown over aerial imagery.

Figure 6.1 Open House #3 attendees overlaying transparent sheets of Preferred Design Concept's cross sections and design plans on aerial base maps.



At open House #3, the project team presented the Preferred Design Concept with cross sections and design plans on vellum transparent sheets which participants could lay on top of aerial basemaps to convey the Preferred Design Concept's impacts and benefits (see Figure 6.1). Community participants were invited to view the project footprint relative to the aerial basemap to get a sense of potential effects of the improvements. As part of this study, it is unknown if potential impacts may occur on one side of the roadway or both sides. This chapter describes the components of the draft Preferred Design Concept in the following sections:

- Section 6.1 provides an overview of the Preferred Design Concept by corridor section from east to west and provides a summary of public input on the Preferred Design Concept.
- Section 6.2 provides a more detailed descriptions and illustrations of the Preferred Design Concept cross sections and design plans.
- Section 6.3 provides a summary of the traffic operational improvement of the Preferred Design Concept for the design year 2035.

Members of the Interagency Technical Team (ITT)

6.1 Preferred Design Concept Overview

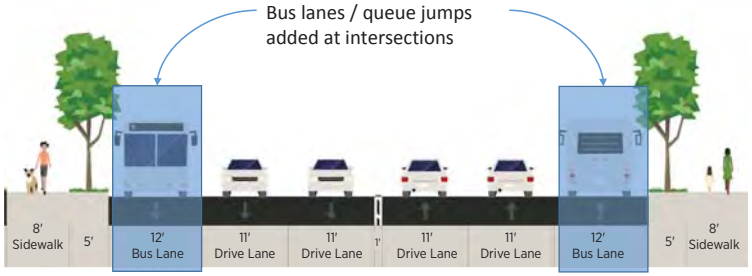
The Preferred Design Concept will be described in four context areas along the corridor.

6.1.1 I-5 to Bothell Way NE/Lake City Way (SR 522)

In the Preferred Design Concept, the majority of the section from Bothell Way NE/Lake City Way (SR 522) will include two through lanes in each direction, intermittent Bus and Right Turn (BAT) lanes, and widening for left turns at intersections (see cross section below). There will be capacity improvements at intersections including 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 using a technology called Transit Signal Priority (TSP).

For safety, left-turn access will be limited mid-block. New sidewalks with a landscape buffer will greatly improve pedestrian safety and mobility. This section will include City standard sidewalks, new ADA accessible curb ramps, improved crosswalks and pedestrian countdown signals, and a new midblock crosswalk and pedestrian refuge at 17th Avenue NW. It 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. In addition, it will evaluate bus stop locations for optimized placement.

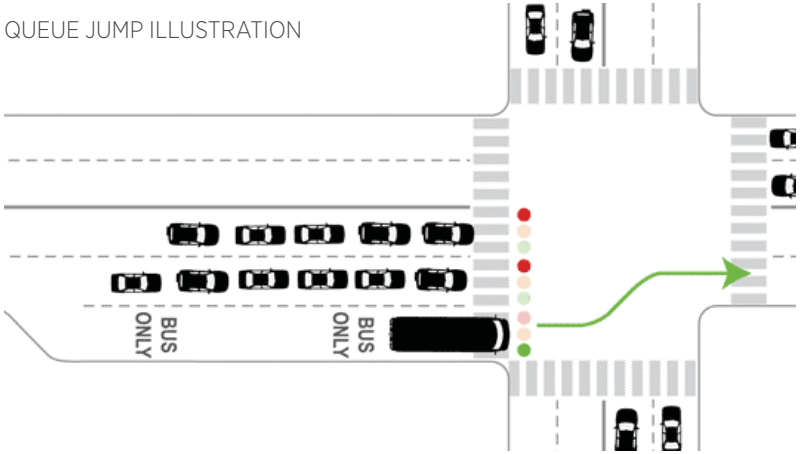
TYPICAL SECTION, I-5 to BOTHELL WAY



Transit queue jumps allow a bus to get around and jump ahead of backed up through traffic at a signalized intersection.

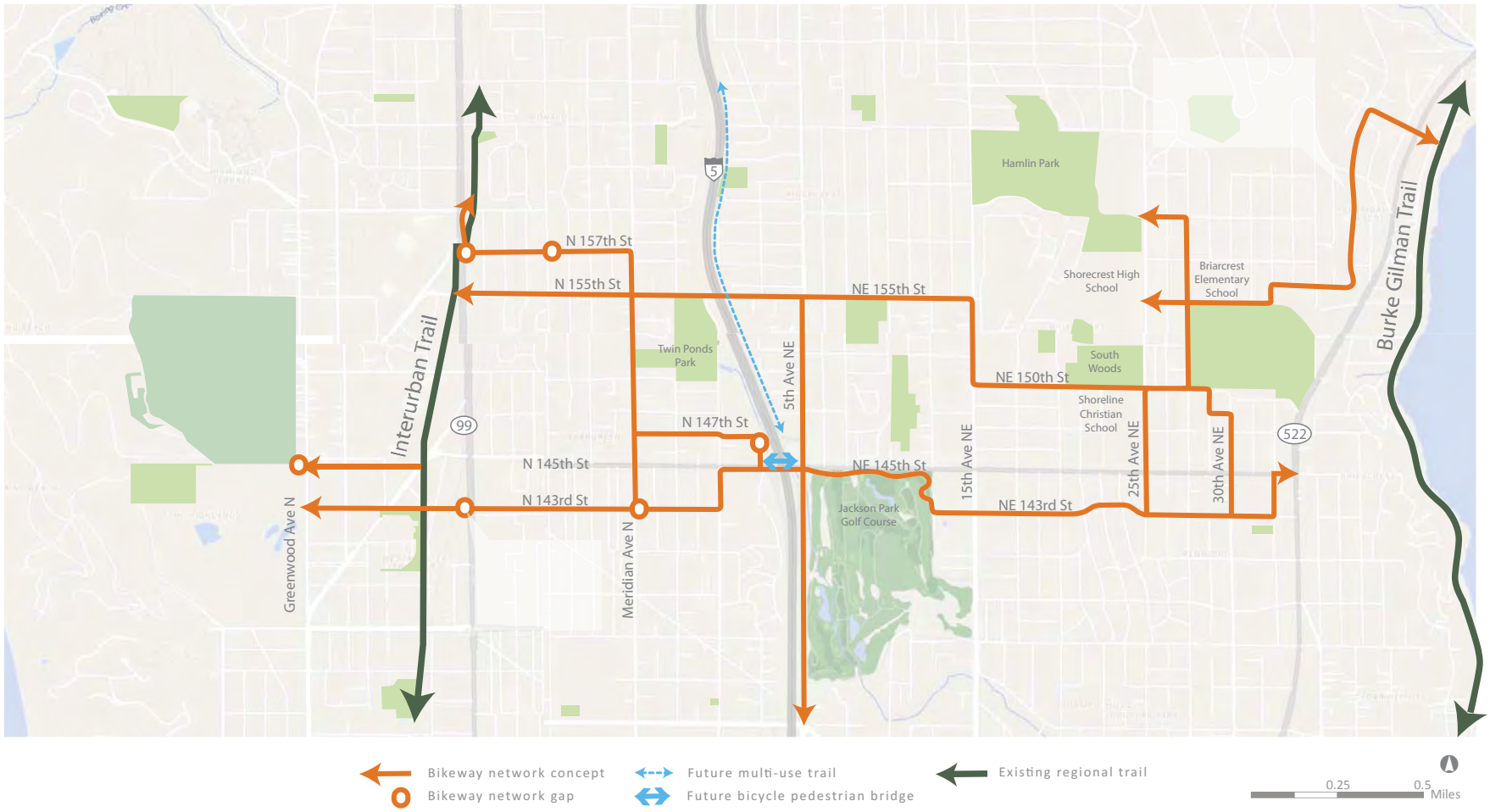
Bicycle connections will be strengthened on an Off-Corridor Bike Network (see Figure 6.2) from the Burke-Gilman Trail to the Interurban Trail, which will provide a parallel route to connect the future light rail station. Enhancing the bike network off the 145th Street corridor allows for safe bike use and minimizes impacts to properties.

QUEUE JUMP ILLUSTRATION



QUEUE JUMP EXAMPLE AT N 45TH ST IN SEATTLE

Figure 6.1 OFF CORRIDOR BIKE NETWORK OVERVIEW MAP (See Figure 6.3 for a more detailed map)



Open House #3 Results

At the Open House #3, staff asked the participants to weigh in on the Preferred Design Concept for this section and how well it achieves project benefits while balancing impacts and costs. The results are shown to the right. In summary, 71% of participants believe the Preferred Design Concept for this section is "just right" in providing improvements.

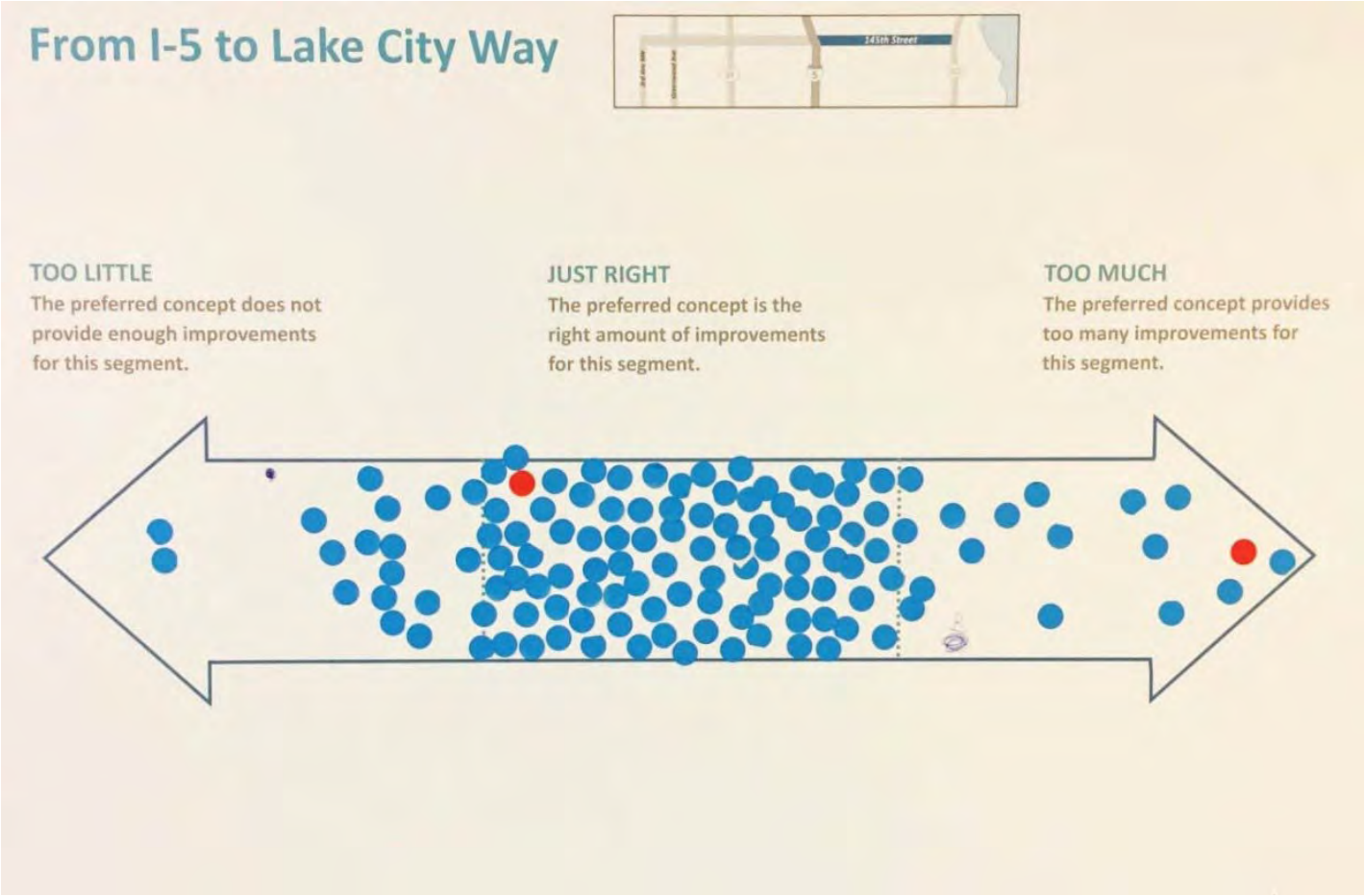


Photo of Open House #3 Input Board

6.1.2 I-5 Interchange Area

Within the I-5 interchange area, staff worked with the Washington State Department of Transportation (WSDOT) and Sound Transit 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 I-5 is currently five (5) lanes. The concept proposes to modify the bridge to provide for six (6) lanes.

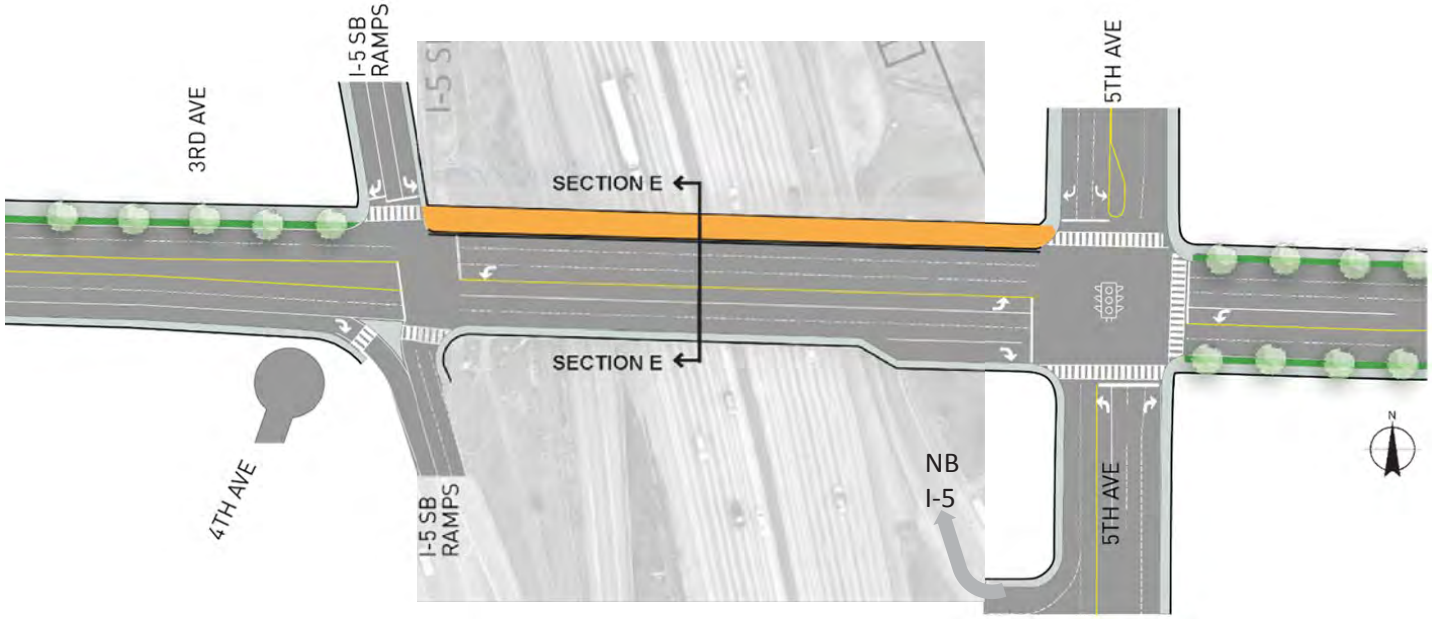
This allows more left-turn storage, which will improve the east-west traffic flow. In addition, the Preferred Design Concept proposes an eastbound 145th Street to northbound I-5 button hook ramp so that vehicles will be able to turn right and loop under the bridge to access I-5 northbound, which will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

A new non-motorized bridge over I-5 will be located on the north side of 145th Street that will tie into the Off-Corridor Bike Network and will connect to the future light rail station via a potential pedestrian plaza. Walkways and crosswalks will be fully upgraded to provide ADA accessibility.

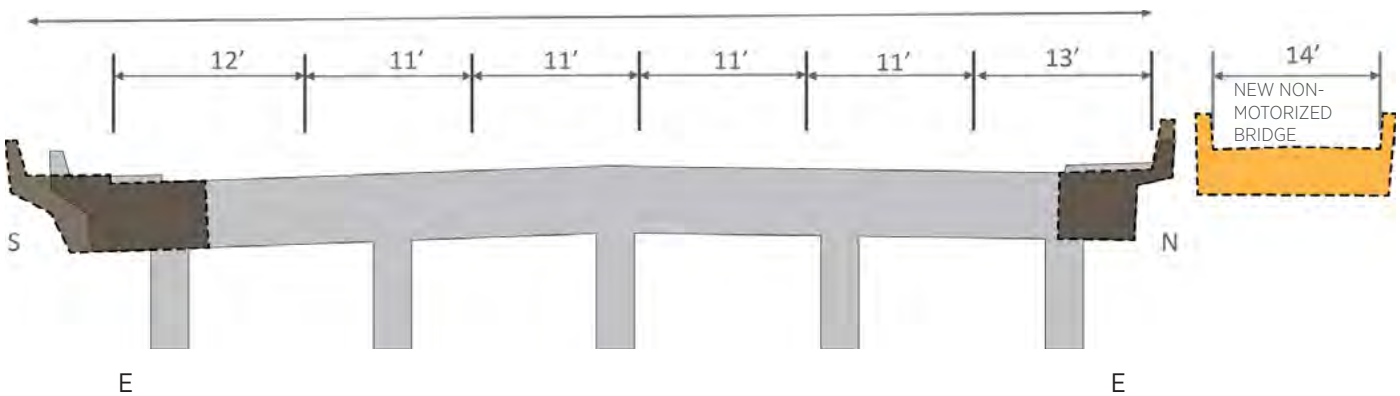
The practical design approach guiding this conceptual design has strong support from the agency partners and is consistent with the concept of maximizing benefits and minimizing impacts. The Preferred Design Concept best supports the light rail station design including a connection to a potential pedestrian plaza/gateway entrance at the northwest corner of 145th Street and 5th Avenue. The improvement elements shown on the 145th Street corridor are the core improvements proposed. Additional non-motorized enhancements off the corridor to improve access to the light rail station will be further evaluated.

In addition to the plan and section graphics shown on the following pages, the improvement concepts for the I-5 Interchange area are depicted graphically in Figure 6.4.

I-5 INTERCHANGE PLAN AND TYPICAL SECTION



WIDENING OF EXISTING BRIDGE



Open House #3 Results

At Open House #3, staff asked the participants to weigh in on the Preferred Design Concept for this section and how well it achieves project benefits while balancing impacts and costs. The results are shown below. In summary, 67% of participants believe the concept for this location is “just right” in providing improvements.

PHOTO OF OPEN HOUSE 3 INPUT BOARD

After Open House #3, additional traffic modeling was developed to more clearly understand and communicate the operational improvements provided by the Preferred Design Concept at the I-5 Interchange area.

Benefits of the Proposed I-5 Interchange Area Improvements

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 southbound I-5 off-ramp and I-5 mainline. The off-corridor bike network feeds directly into this crossing facility.
- Non-motorized crossing of I-5 provides a connection to the future light rail station.
- Pedestrian/bicycle connections to the light rail station are proposed in vicinity of 5th Avenue/145th intersection. This area will be a gateway to the transit station and will look and function very differently from how it does today. Safe and pedestrian/bicycle supportive design will be consistently applied and implemented both in design of station entrance and adjacent streets and intersection.

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 the 5th Avenue intersection.
- Existing 5-lane bridge will be widened to 6 lanes, providing additional storage for left-turns. This also improves traffic flow in the through lanes across the 145th Street bridge and increases signal efficiency.
- Additional intersection 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.
- Traffic signal level of service standards (LOS) for Shoreline and WSDOT are met or exceeded by this design for the design year 2035.

Transit operations at and adjacent to new light rail station

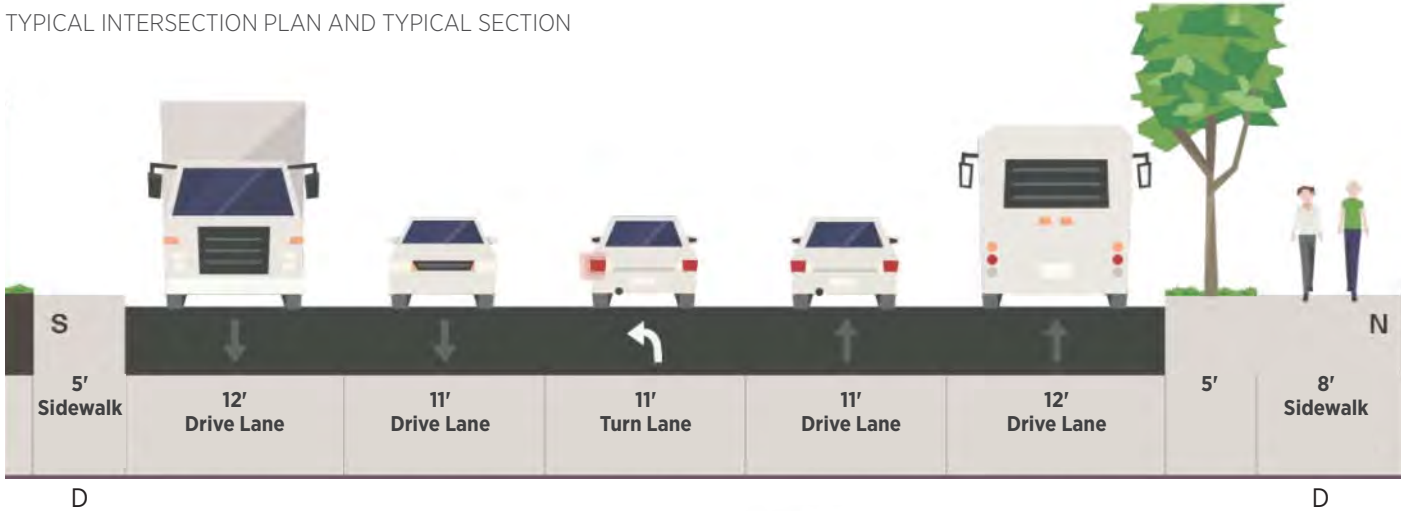
- Direct connection to and circulation within the light rail station is strongly preferred by both Metro and Sound Transit. This is the safest, most convenient, and most efficient approach for transit users under the proposed future service scenarios.
- Proposed concept provides flexibility for future east-west transit service. Right turn lanes in both directions allows for transit signal priority and queue jumps. Space for transit stops and passenger waiting areas will be considered during the design process for potential future expanded transit service.

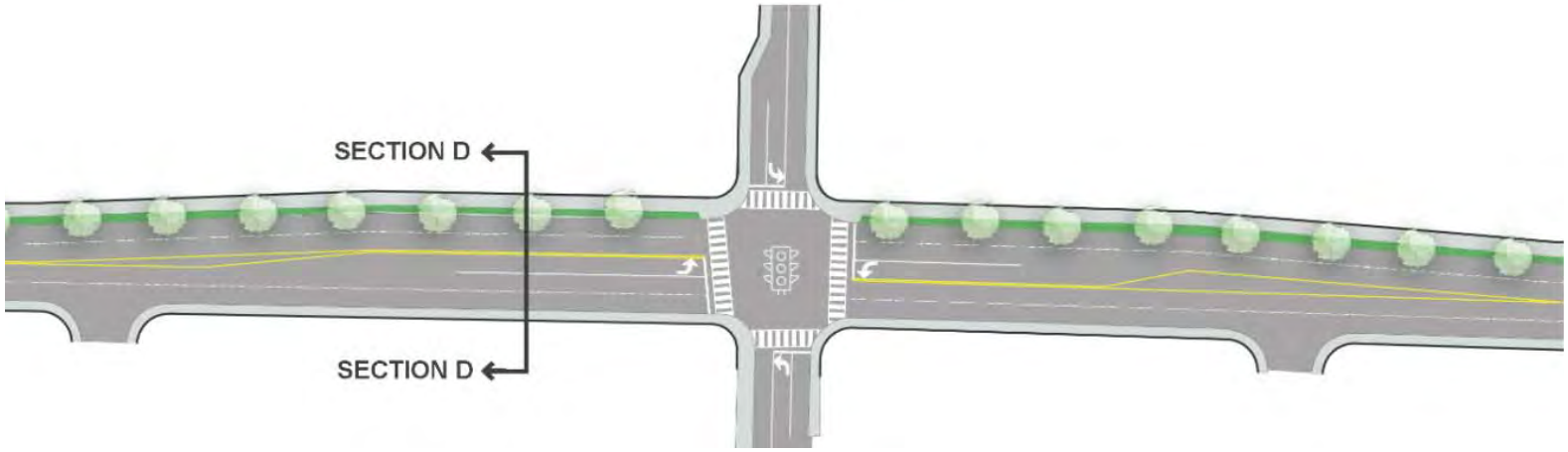
6.1.3 Aurora Avenue N to I-5

In this section of the corridor, the focus of the Preferred Design Concept is on improving signalized intersections. 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. The addition of signalized left turns will also improve safety. A new traffic signal is proposed at Ashworth Avenue, which has the benefit of providing another protected crossing location for pedestrians.

At the intersections where the Preferred Design Concept is focused, including 1st Avenue, Meridian Avenue, Ashworth Avenue, and Aurora Avenue N, sidewalks will be upgraded to 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.

TYPICAL INTERSECTION PLAN AND TYPICAL SECTION

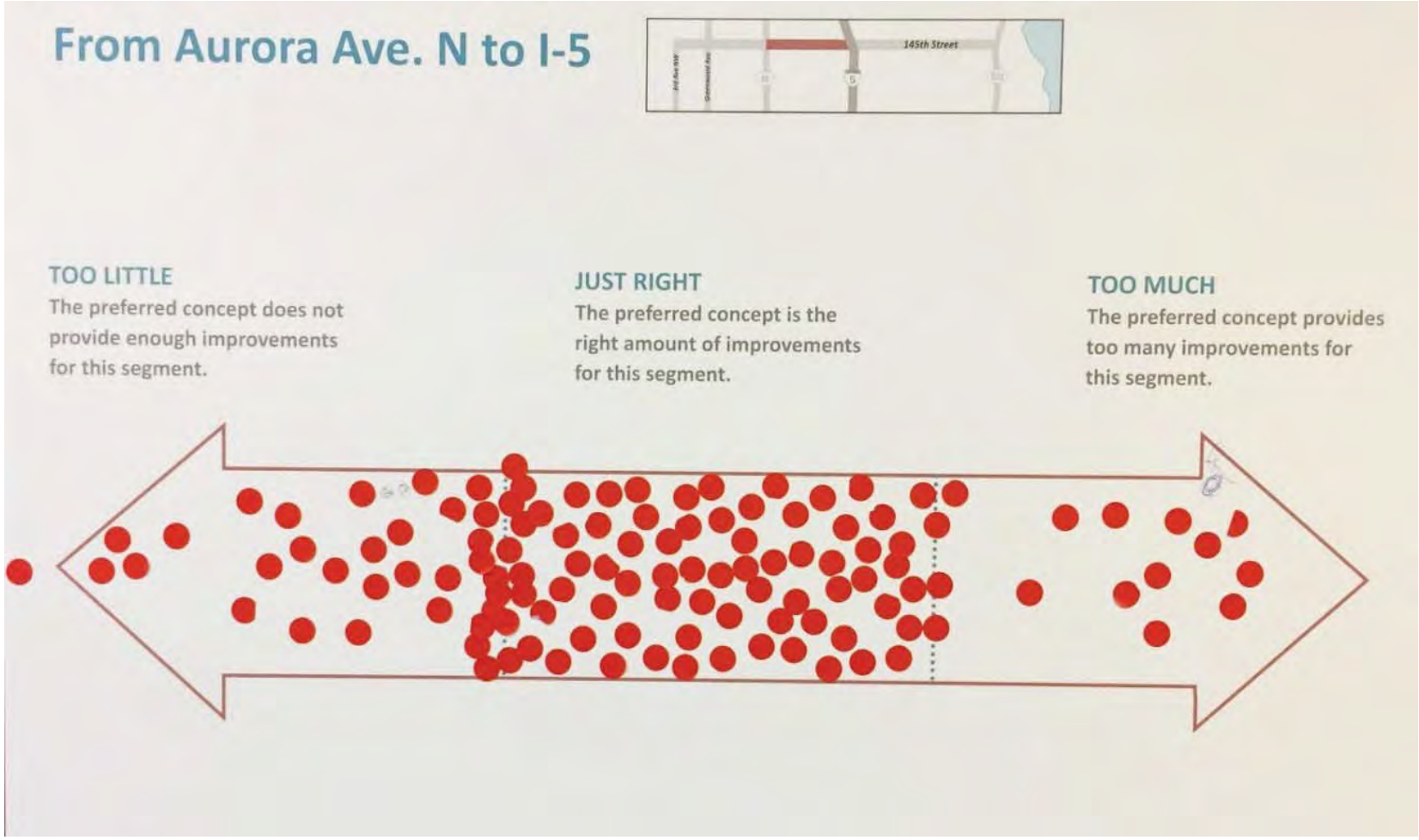




Open House #3 Results

At the third Open House, staff asked the participants to weigh in on the Preferred Design Concept for this section and how well it achieves project benefits while balancing impacts and costs. The results are shown below. In summary, 59% of participants believe the concept for this location is "just right" in providing improvements.

PHOTO OF OPEN HOUSE #3 INPUT BOARD

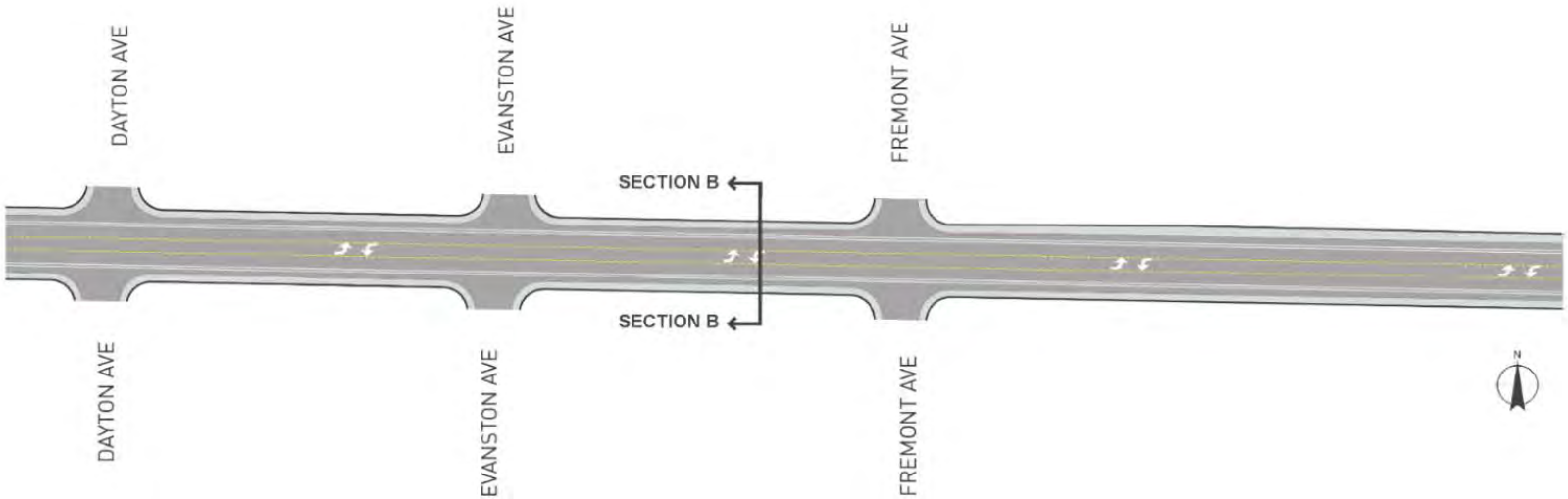


6.1.4 3rd Avenue NW to Aurora Avenue N

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 N, Linden Avenue N, and Greenwood Avenue N. For the area between Linden Avenue N and Greenwood Avenue N (on the following page), traffic volumes are low enough that three lanes will function better than the existing four lanes. This concept provides a center turn lane which allows turning vehicles to get out of the through lanes, reducing friction and improving traffic flow. 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 N to Linden Avenue N which connects to the Interurban Trail. Third Avenue NW to Greenwood Avenue will remain two lanes.

LINDEN TO GREENWOOD AVENUE PLAN AND TYPICAL SECTION

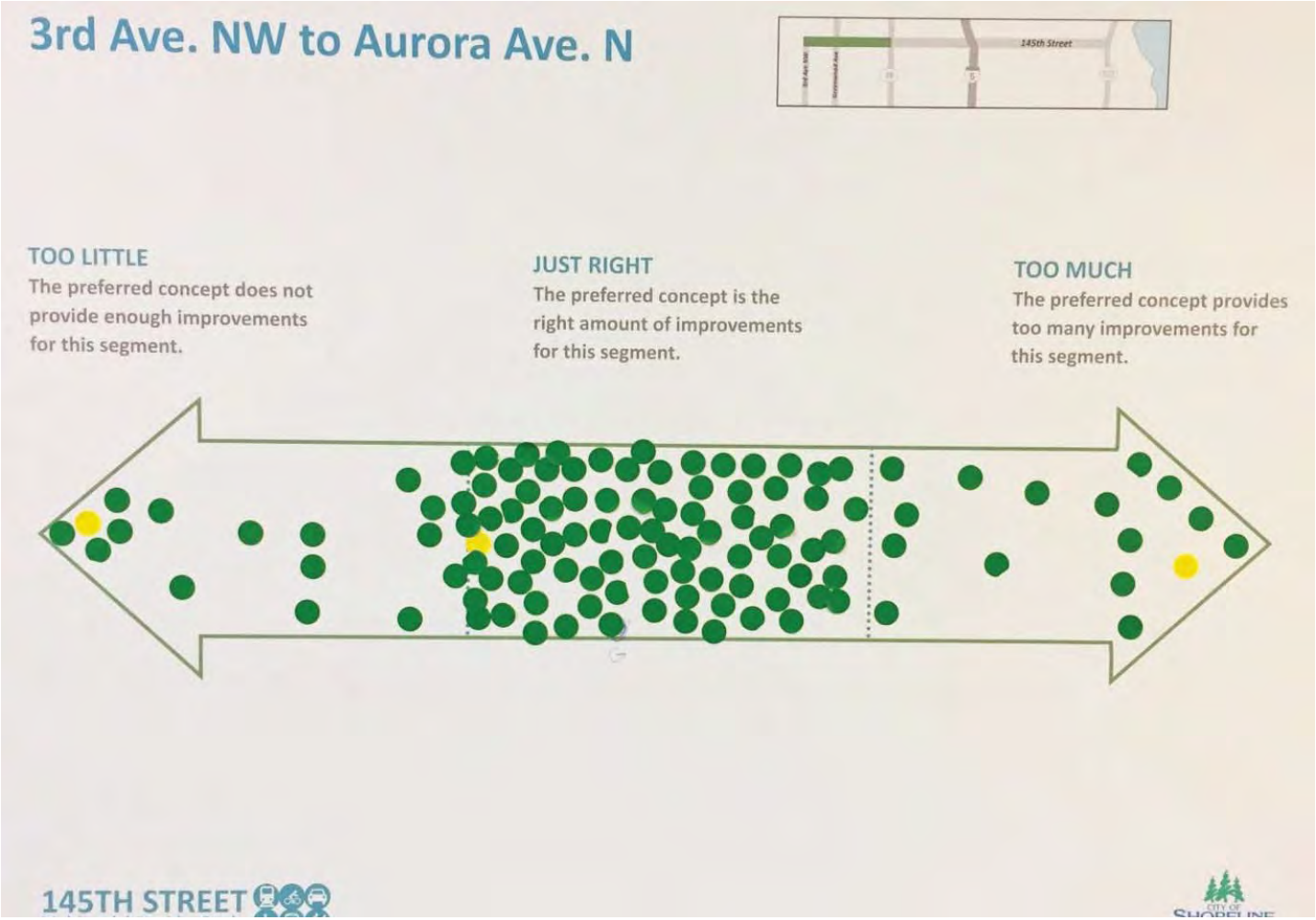
B B



Open House #3 Results

At the third Open House, staff asked the participants to weigh in on the Preferred Design Concept for this section and how well it achieves project benefits while balancing impacts and costs. The results are shown below. In summary, 70% of participants believe the concept for this location is “just right” in providing improvements.

PHOTO OF OPEN HOUSE 3 INPUT BOARD

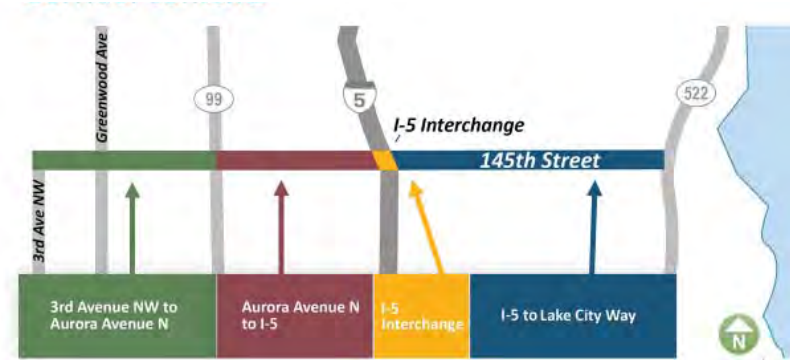


6.2 Preferred Design Concept Description by Typical Sections

The Preferred Design Concept for the 145th Street Multimodal Corridor Study reflects a strategy to maximize benefits in terms of meeting project goals while minimizing impacts, such as costs and property impacts. The Preferred Design Concept is a vision for multimodal transportation improvements that reflects input from the community, the CATF and ITT.

In developing the Preferred Design 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 Bothell Way NE/Lake City Way (SR 522). While the corridor varies throughout, these areas were identified because of similar context in terms of traffic volumes, collision records, and land use. As the study proceeded, in order to better specify the types of improvements and roadway configurations that would be beneficial throughout each of these four contextual areas (and form the actual Preferred Design Concept), each section was eventually divided further.

KEY CONTEXT AREAS ALONG THE 145TH STREET CORRIDOR



The following pages* provide a description of the Preferred Design Concept by walking through the sections of the 145th Street corridor from west to east. The 145th Street corridor sections are as follows:

Third Avenue NW to Aurora Avenue Cross Sections

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

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 Bothell Way NE/Lake City Way (SR522)

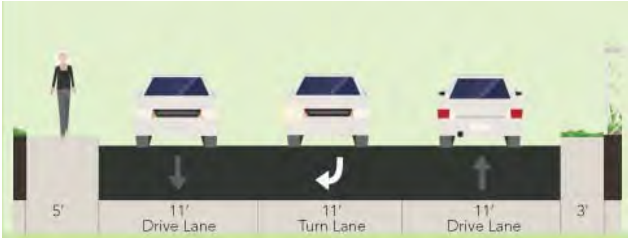
- Section F: Between 5th Avenue and 10th Avenue
- Section G: Near 15th Avenue
- Section H: Near 20th Avenue
- Section I: Near 25th Avenue
- Section J: Near 30th Avenue
- Section K: Near Lake City Way

Figures

- Figure 6.3: Off Corridor Bike Network Preferred Concept
- Figure 6.4: Interstate-5 Interchange Concept
- Figure 6.5: Preferred Design Concept Layout Plans (multiple pages)

*** Following the above pages is a continued discussion evaluating and analyzing portions of the Preferred Design Concept.**

3rd NW Avenue to Greenwood Avenue N Area



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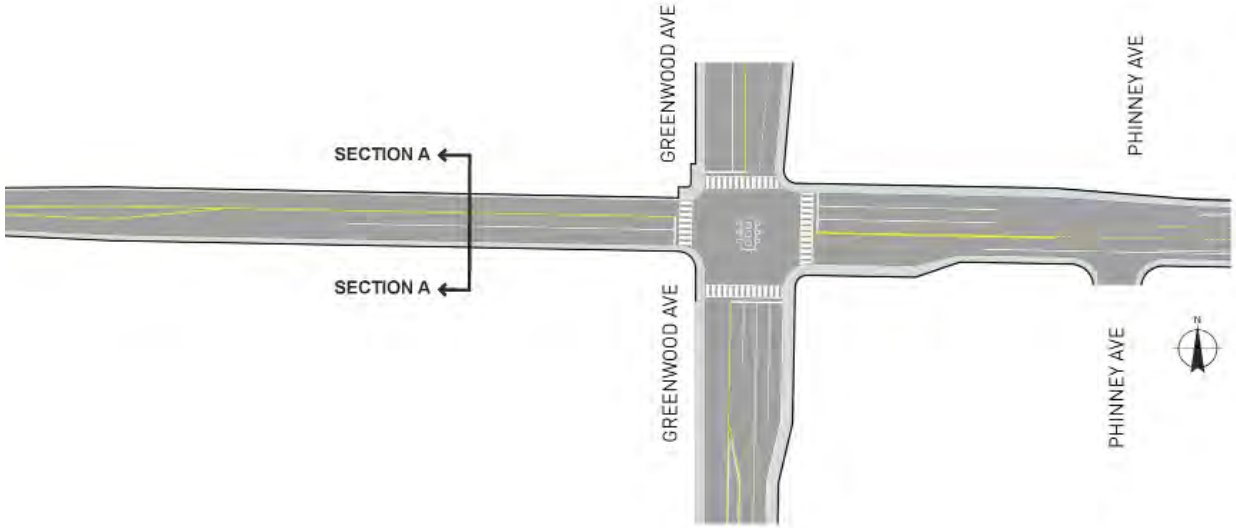
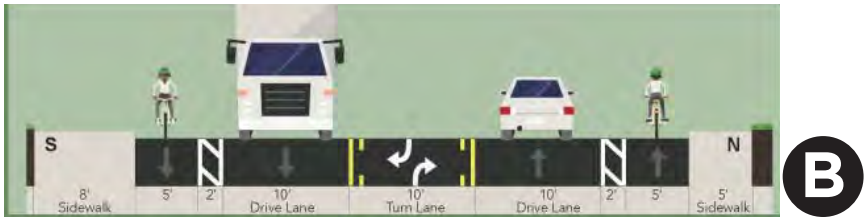
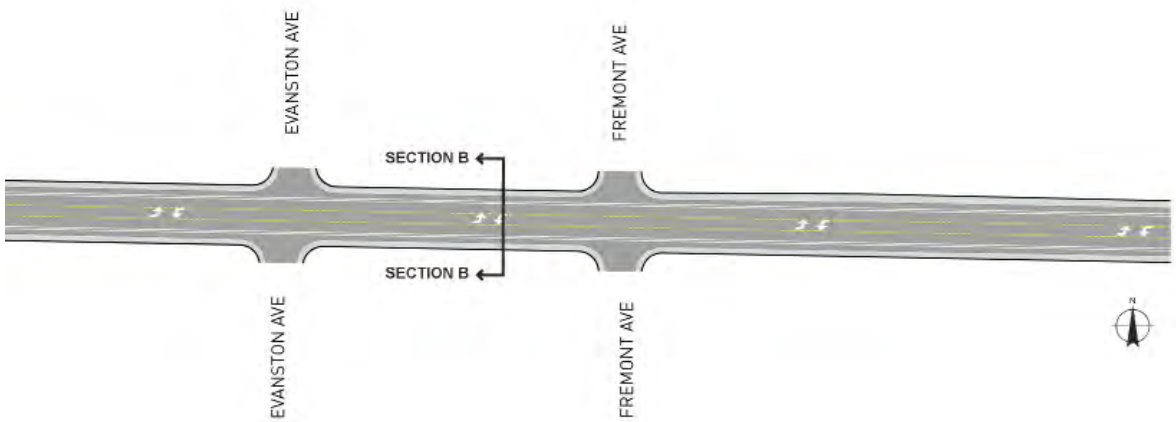


3rd Avenue NW to Greenwood Avenue Area Improvement Characteristics:

- 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.
- Accessible bus stops.
- Left-turn access restrictions proposed.
- Sidewalks upgraded to meet ADA requirements and to support pedestrian connections to bus stops.

Linden Avenue N to Greenwood Avenue N"Complete Street"

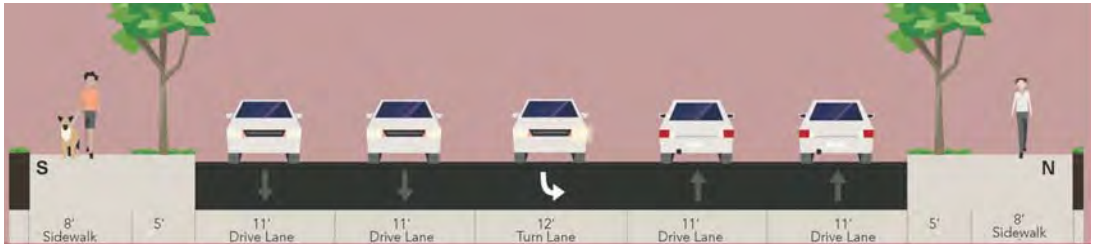


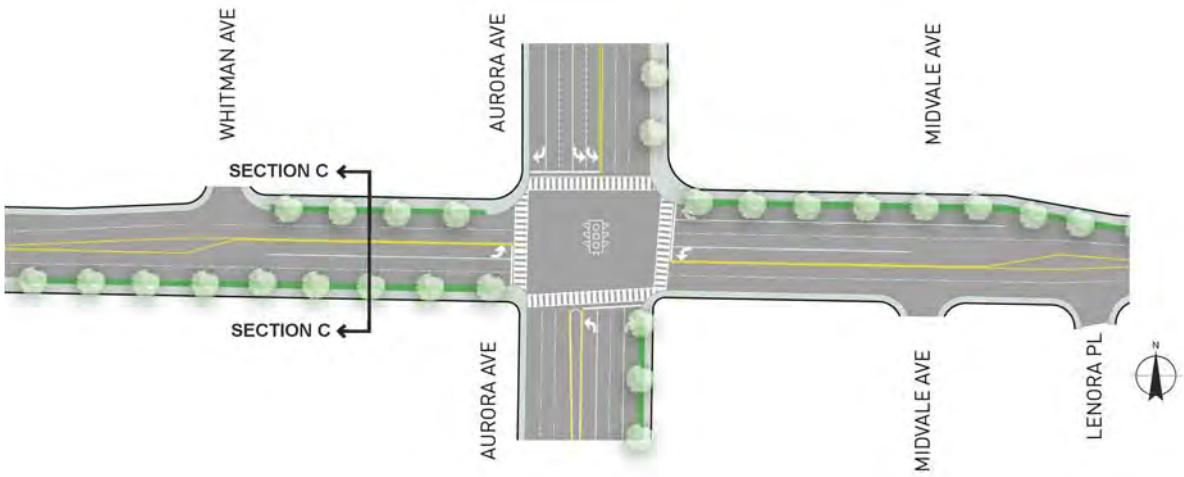


Linden to Greenwood Avenue Improvement Characteristics:

- 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.
- Accessible bus stops.
- Buffered bike lanes, Greenwood Ave to Linden Avenue.
- Strengthened connection from Interurban Trail to future light rail station

Near Aurora Avenue

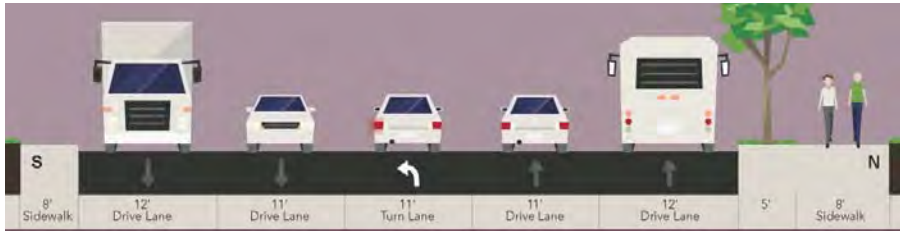




Aurora Avenue improvement Characteristics:

- 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.
- 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



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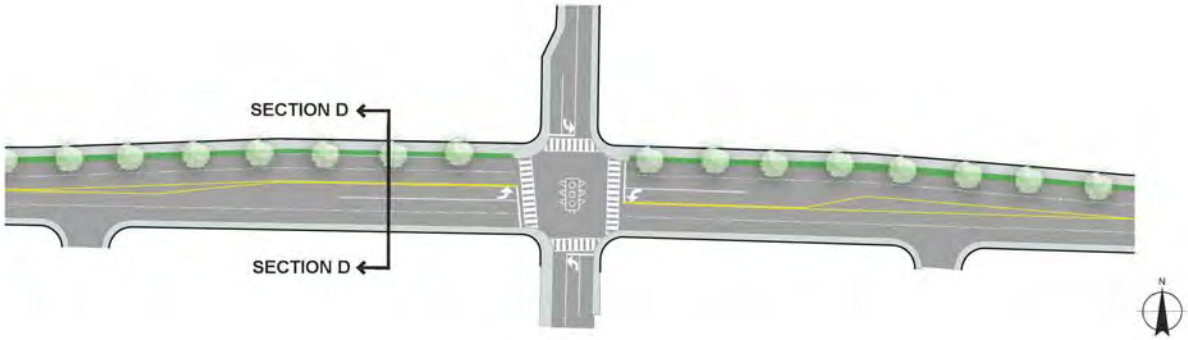
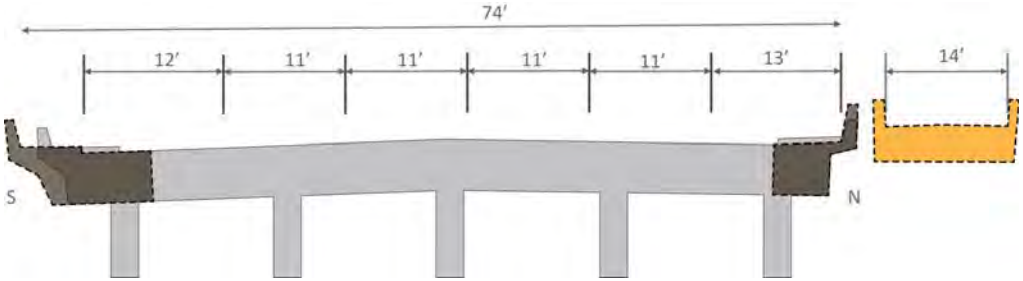
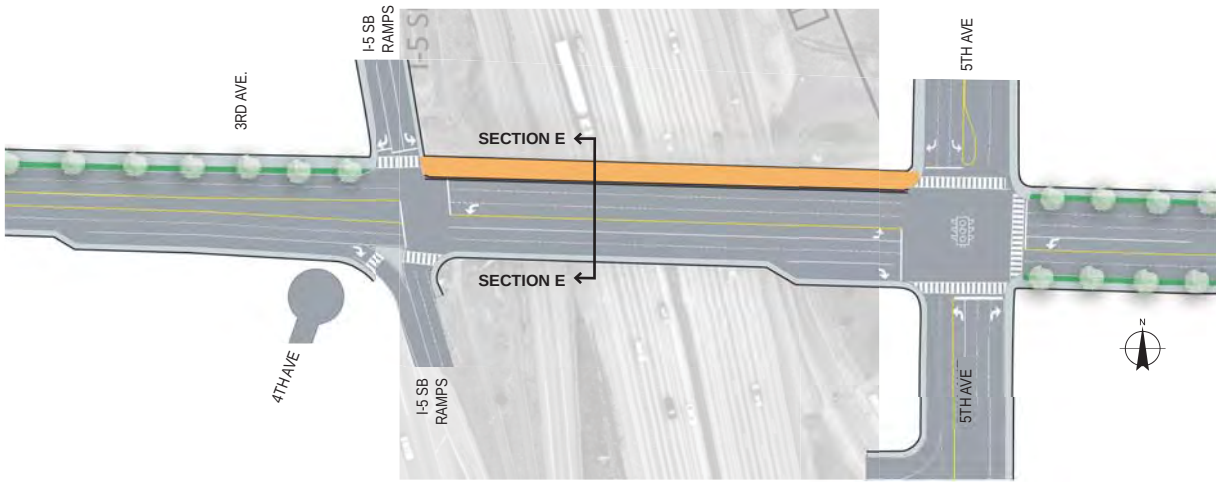


Between Aurora Avenue and I-5 Improvement Characteristics:

- 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.
- 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.

I-5 Interchange





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 southbound 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.
- Pedestrian/bicycle connections are to the light rail station are proposed in vicinity of 5th Avenue/145th intersection. This will be a gateway to the transit station and will look and function very differently from how it does today. Safe and pedestrian/bicycle supportive design will be consistently applied and implemented both in design of station entrance and adjacent streets and intersection.

Continued on next page

I-5 Interchange

Improvement Characteristics Continued:

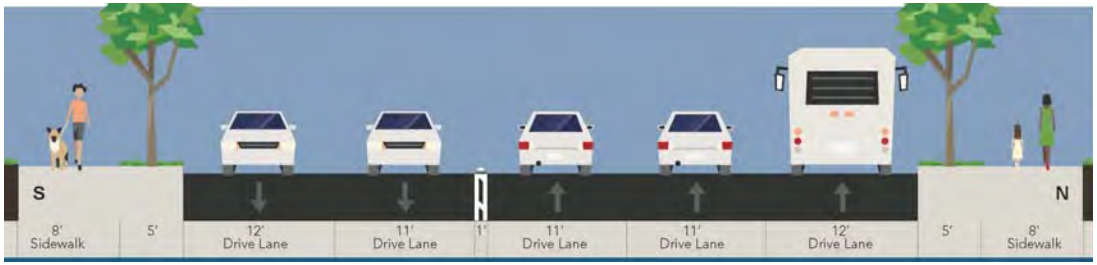
Roadway operations features

- New 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 many left turns from the 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 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.
- Traffic signal level of service standards (LOS) for Shoreline and WSDOT are met or exceeded by this design for the design year 2035.

Transit operations at and adjacent to new light rail station:

- Direct connection to the 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 usually less time than it would be for a pedestrian to cross 145th if the bus stop was on 145th Street.

Typical Mid-block Between 5th Avenue and 10th Avenue



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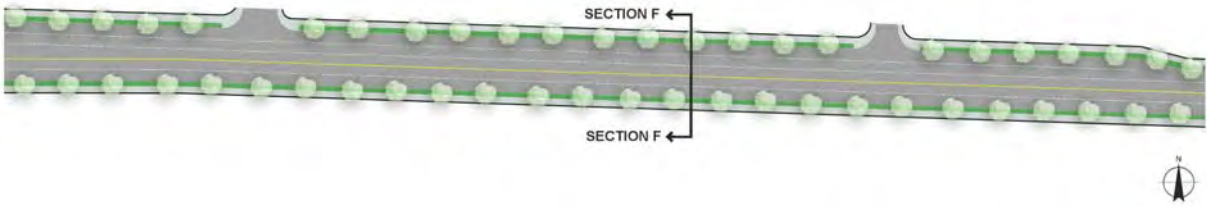
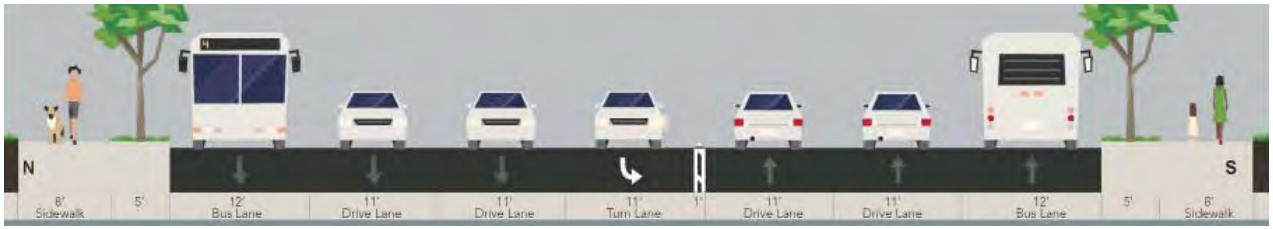
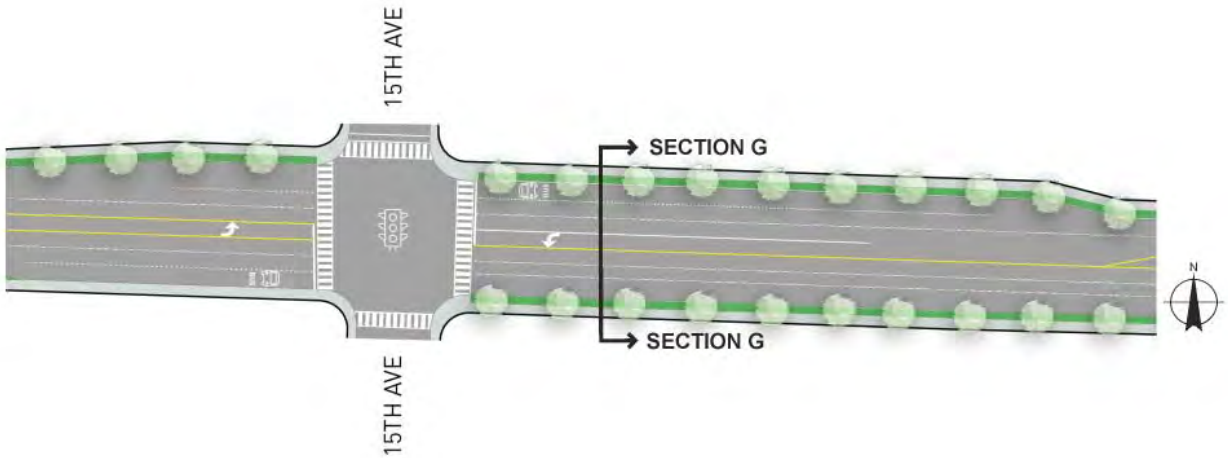


Mid-Block between 5th Avenue and 10th Avenue Improvement Characteristics:

- 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.
- Accessible bus stops
- Off Corridor Bike Network will strengthen bike connection through the corridor and to future light rail station.

Near 15th Avenue



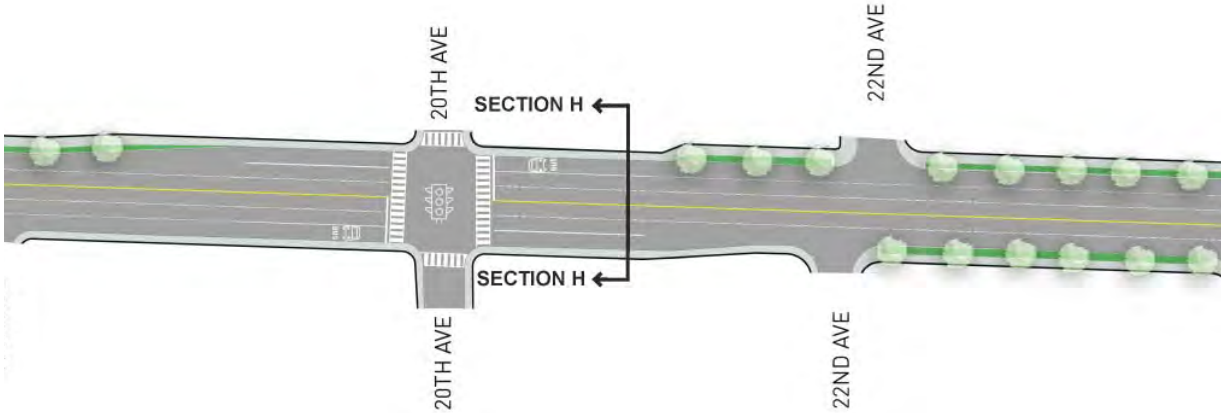


15th Avenue Intersection Area Improvement Characteristics:

- 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, 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.
- Accessible bus stops.
- Off Corridor Bike Network will strengthen bike connection through the corridor and to future light rail station.

Near 20th Avenue

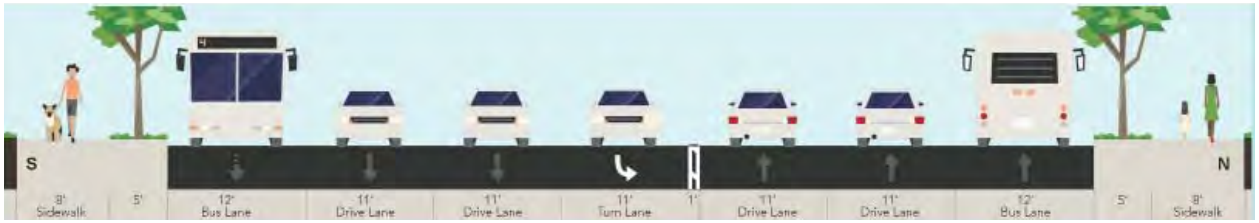
H

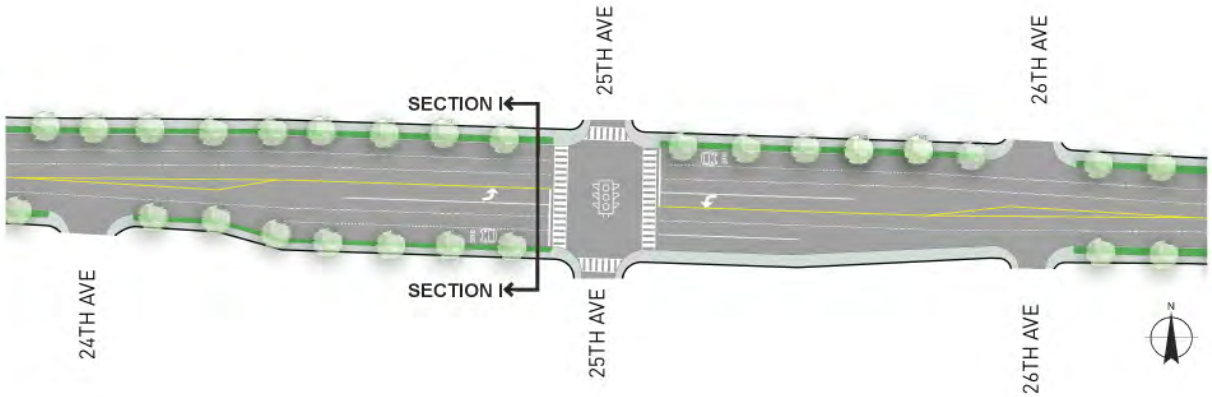


20th Avenue Intersection Improvement Characteristics:

- 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.
- Accessible bus stops.
- Off-corridor bike network will strengthen bike connection through the corridor and to future light rail station.

Near 25th Avenue

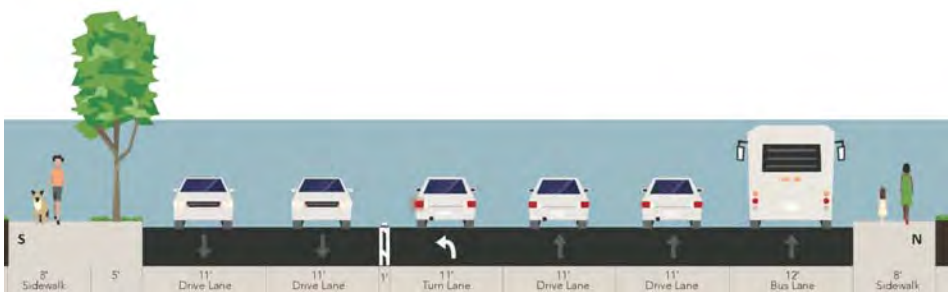


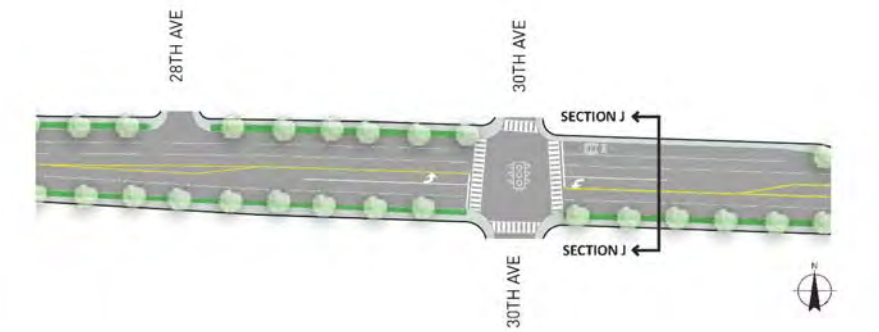


25th Avenue Intersection Improvement Characteristics:

- 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, 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 transit queue jump to improve transit travel time.
- Restricted left-turn access mid-block to improve traffic safety.
- Accessible bus stops.
- Off Corridor Bike Network will strengthen bike connection through the corridor and to future light rail station.

Near 30th Avenue

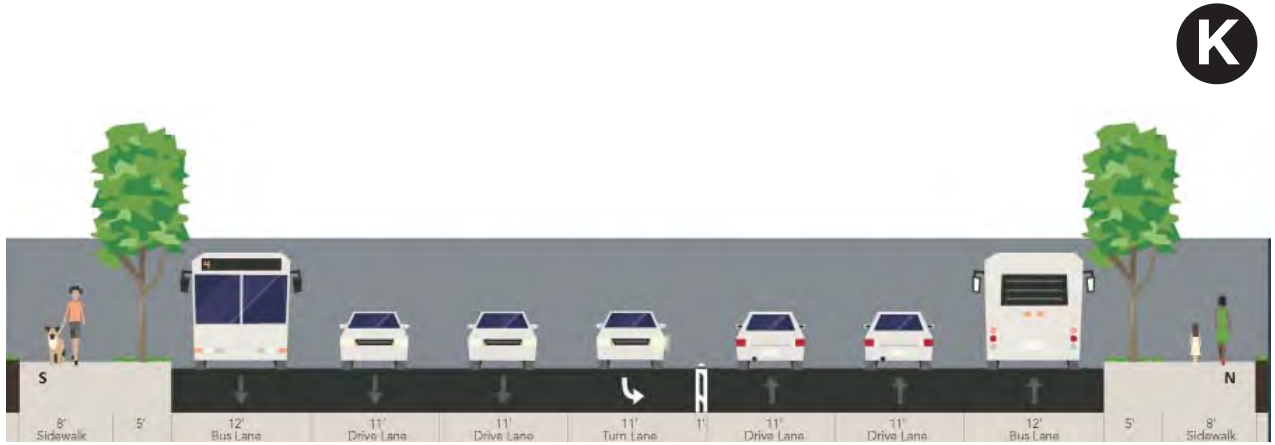


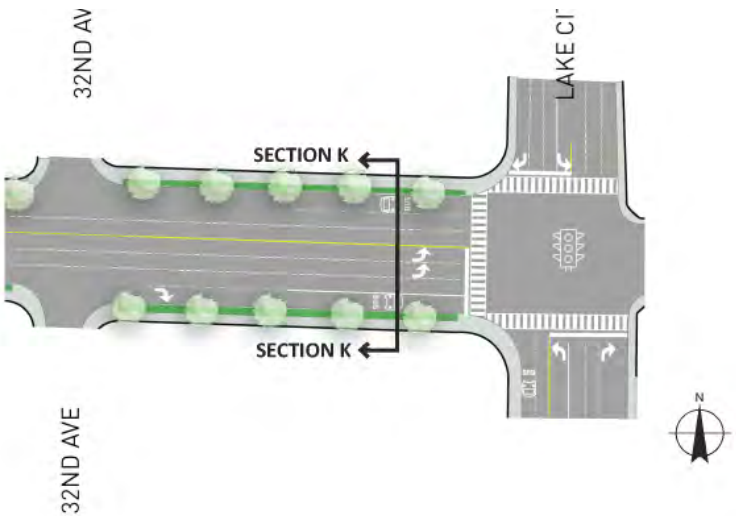


30th Avenue Intersection Improvement Characteristics:

- 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.
- Restricted left-turn access mid-block to improve traffic safety.
- Accessible bus stops.
- Off Corridor Bike Network will strengthen bike connection through the corridor and to future light rail station.

Near Bothell Way NE/Lake City Way (SR 522)





Bothell Way 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 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 to improve transit travel time.
- Restricted left-turn access mid-block to improve traffic safety.
- Accessible bus stops.
- Off Corridor Bike Network will strengthen bike connection through the corridor and to future light rail station.

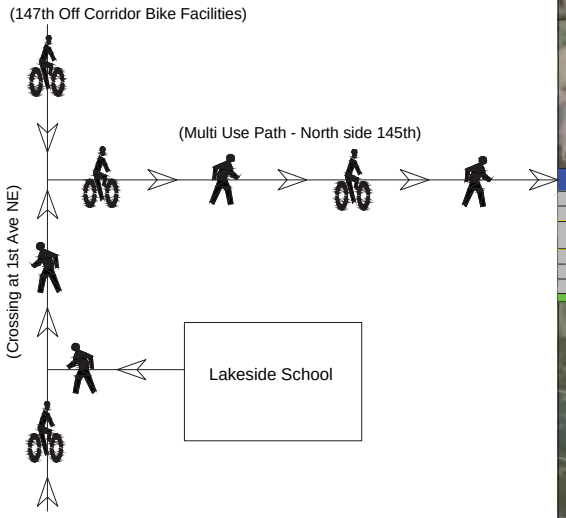
Figure 6.3 Bike Network

Figure 6.4 Interchange Area

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.



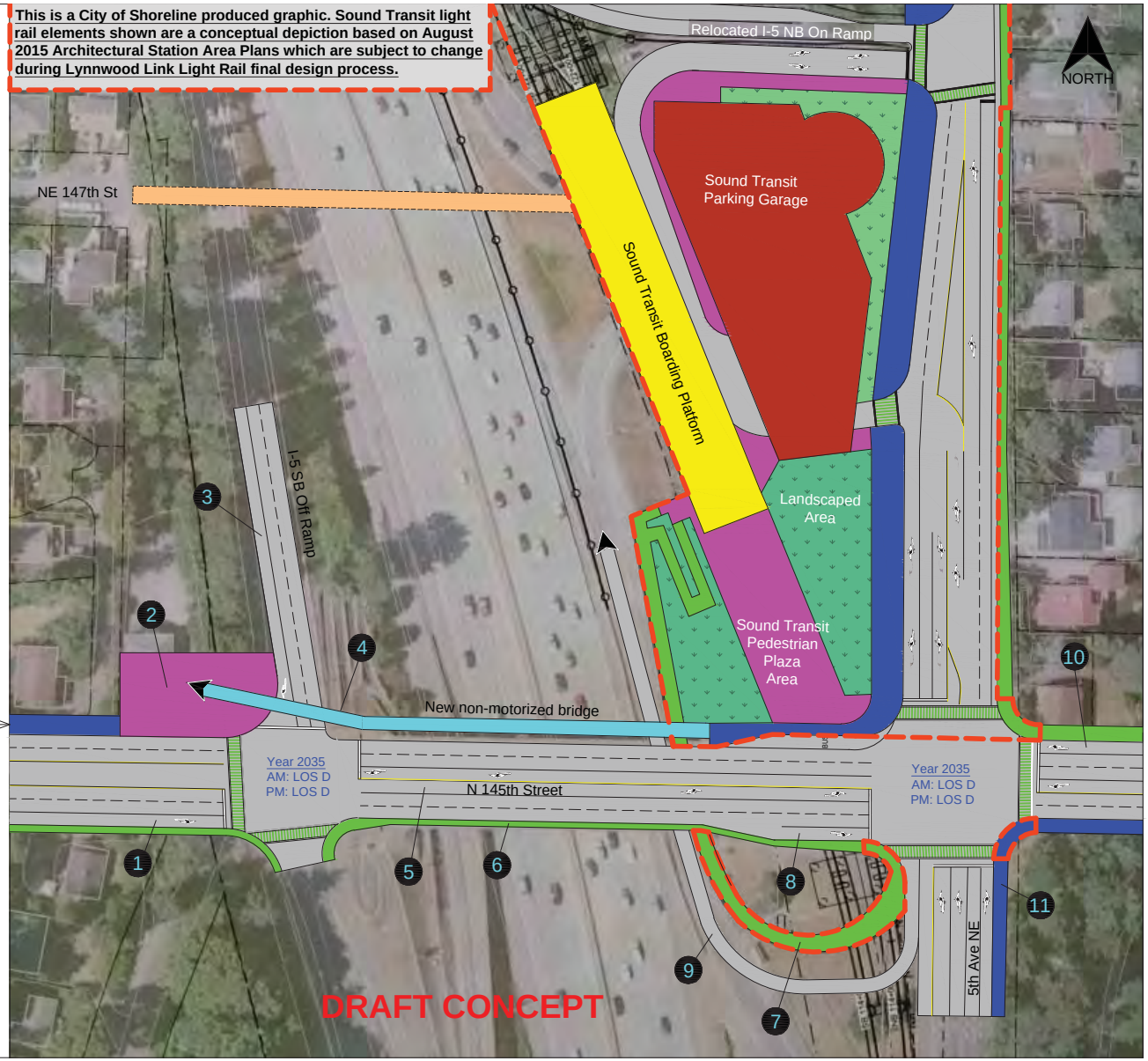
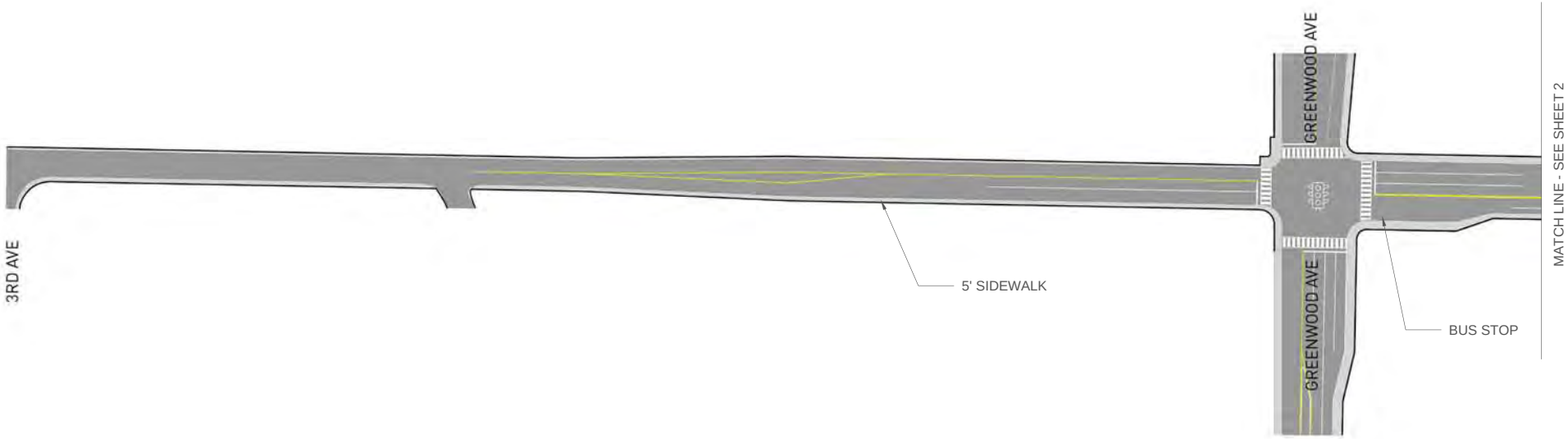


Figure 6.5 Preferred Design Concept Layout Plans (multiple pages)



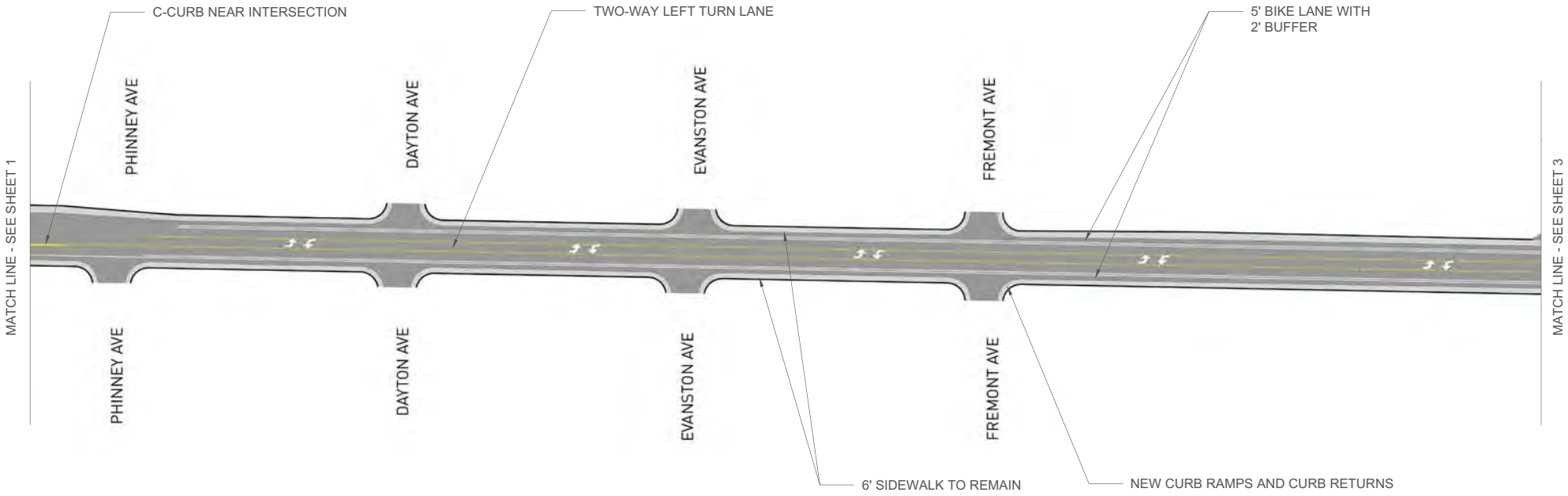
DRAWING NOTES

1. THE ROADWAY LAYOUT DEPICTED IS FOR PLANNING AND CONCEPTUAL PRE-DESIGN PURPOSES ONLY AND IS SUBJECT TO CHANGE AS THE DESIGN DEVELOPS.

2. DRIVEWAYS ARE NOT SHOWN.

145TH STREET
Multimodal Corridor Study

CITY OF SHORELINE

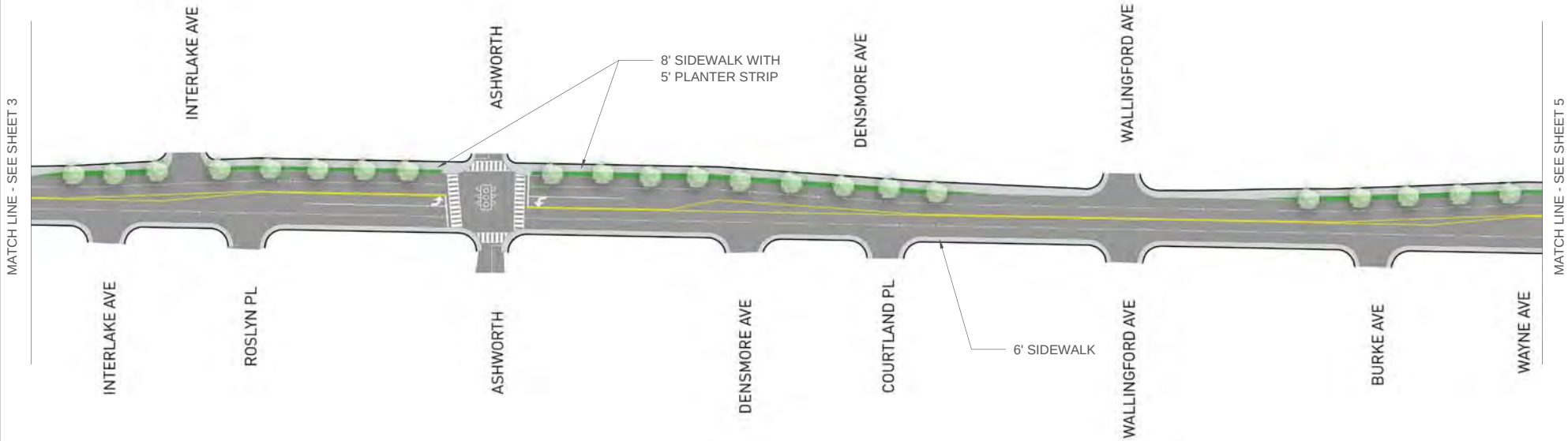


DRAWING NOTES

1. THE ROADWAY LAYOUT DEPICTED IS FOR PLANNING AND CONCEPTUAL PRE-DESIGN PURPOSES ONLY AND IS SUBJECT TO CHANGE AS THE DESIGN DEVELOPS.
2. DRIVEWAYS ARE NOT SHOWN.

145TH STREET
Multimodal Corridor Study

CITY OF SHORELINE



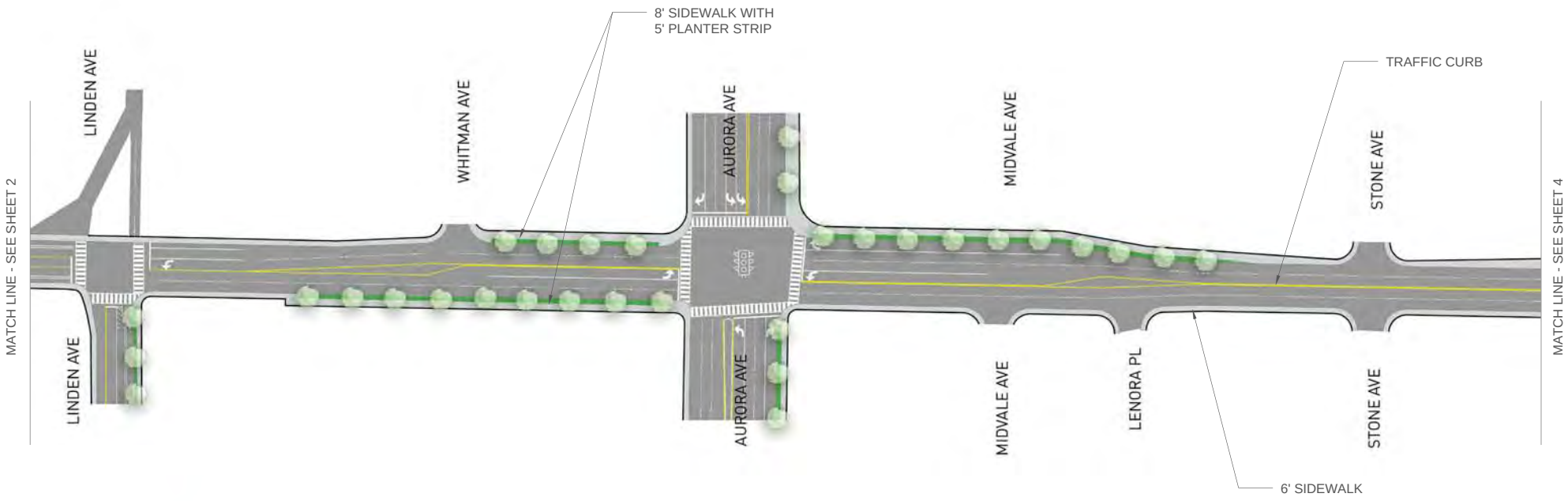
DRAWING NOTES

1. THE ROADWAY LAYOUT DEPICTED IS FOR PLANNING AND CONCEPTUAL PRE-DESIGN PURPOSES ONLY AND IS SUBJECT TO CHANGE AS THE DESIGN DEVELOPS.

2. DRIVEWAYS ARE NOT SHOWN.

145TH STREET
Multimodal Corridor Study

CITY OF SHORELINE



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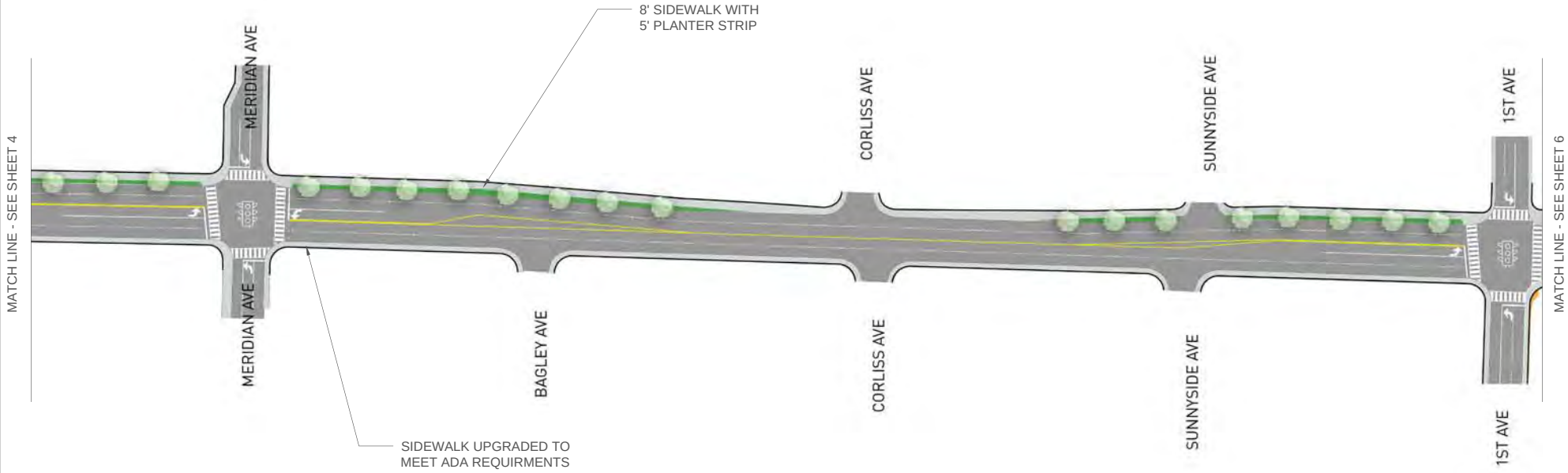

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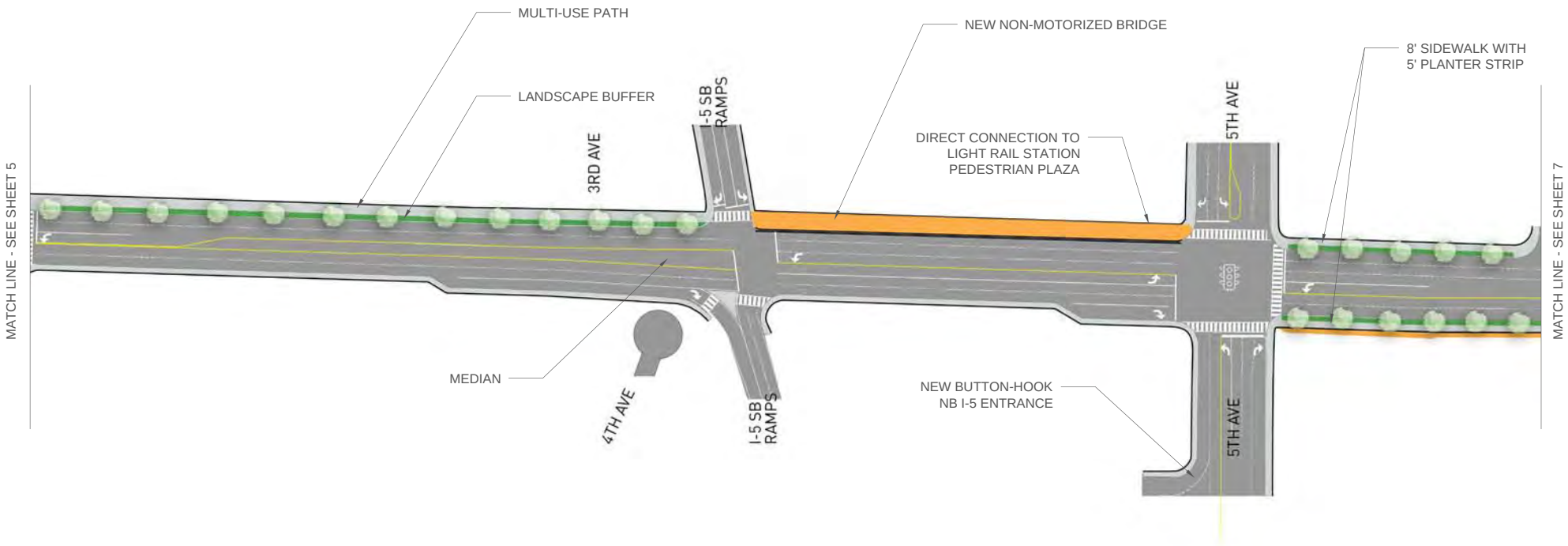

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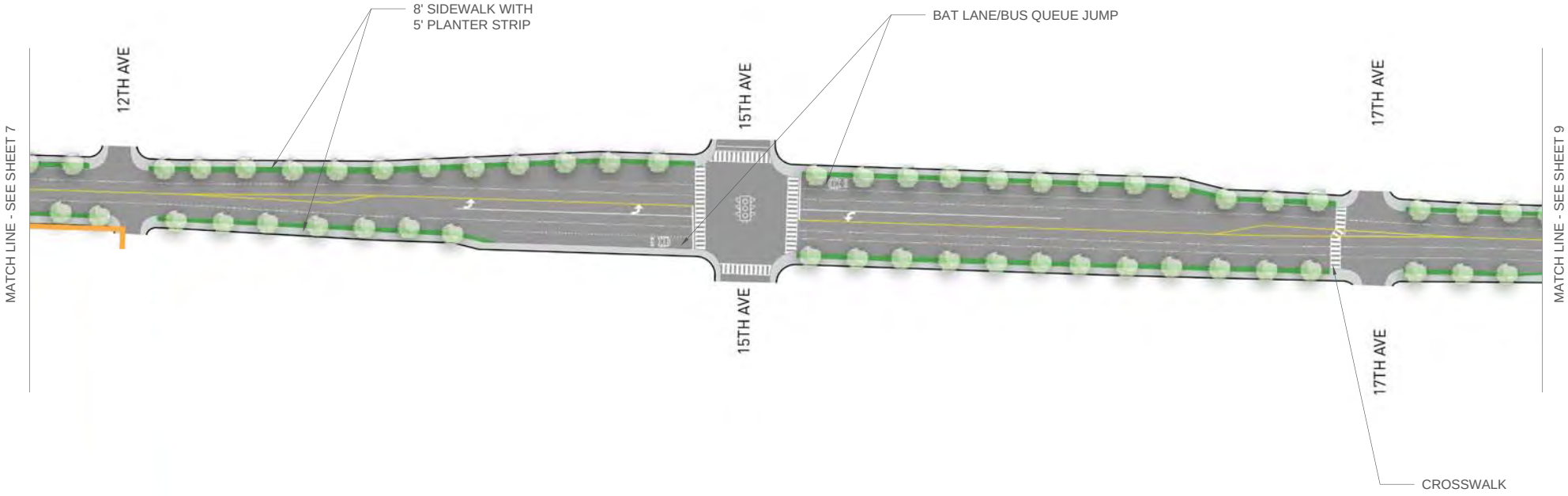

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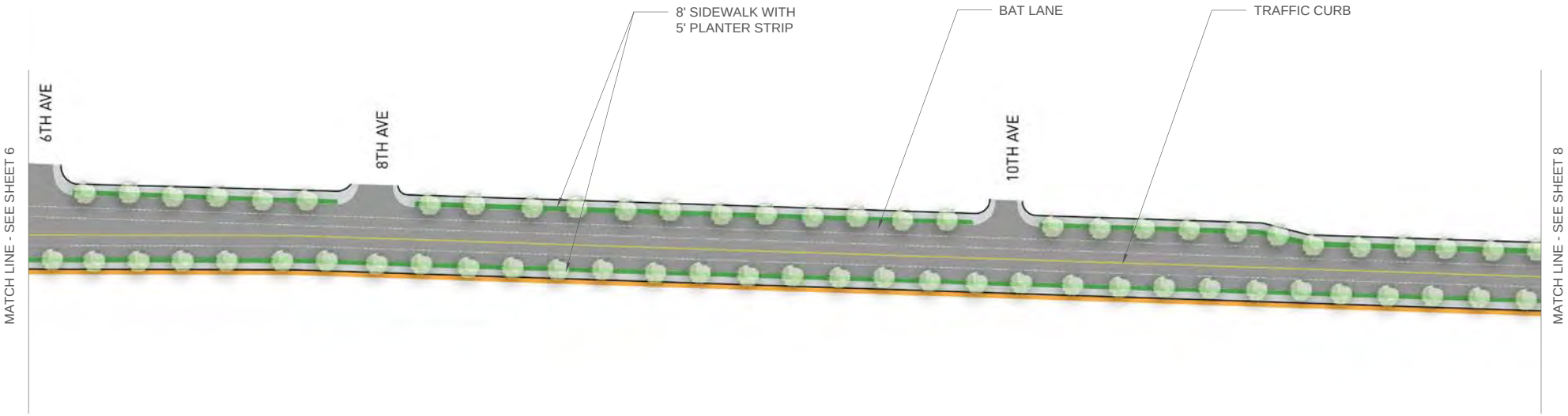

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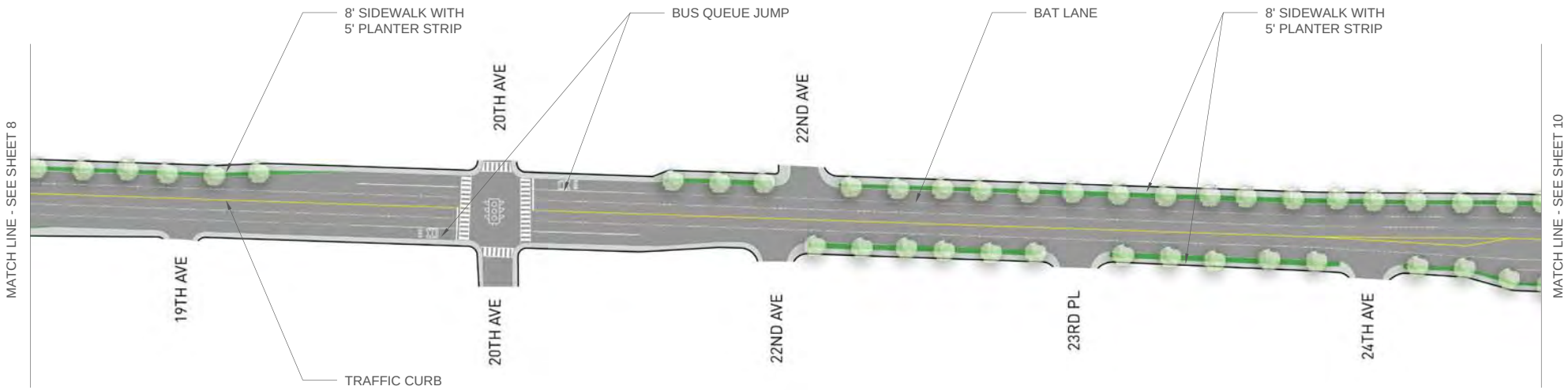

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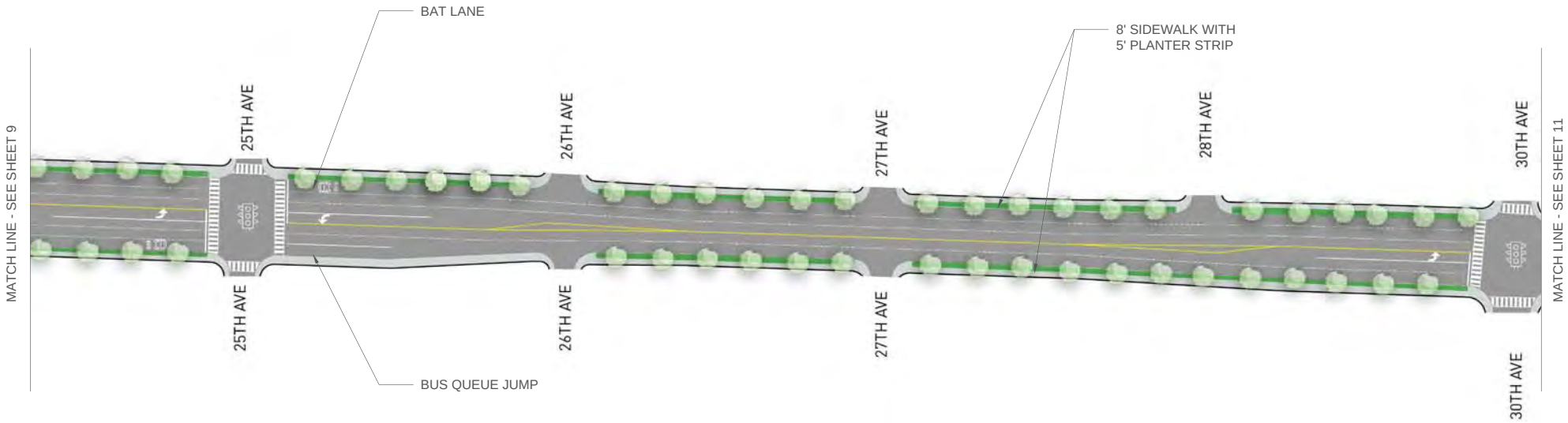

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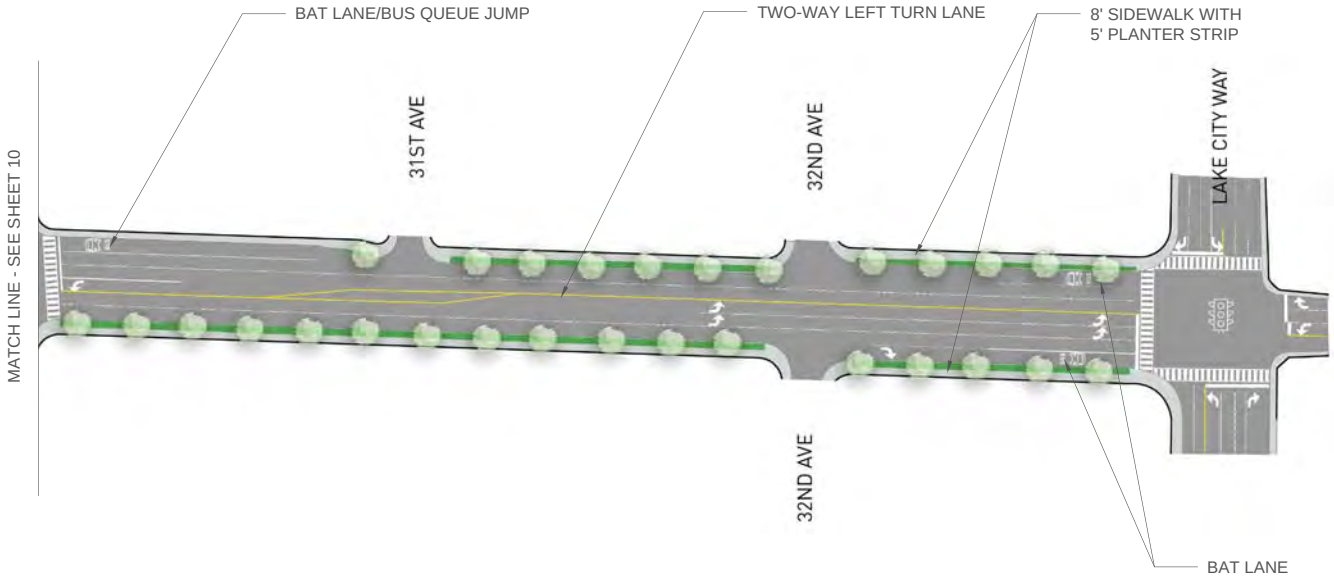

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145TH STREET
Multimodal Corridor Study

CITY OF SHORELINE

6.3 Evaluation of Preferred Design Concept

6.3.1 Traffic Operations Analysis

Traffic analysis of the Preferred Design Concept was performed for design year 2035. Results are compared against the four Study Concepts for the 145th Street Multimodal Corridor Study.

6.3.1.1 Level of Service Analysis

To be consistent with the previous analysis completed, a LOS and delay analysis was completed in Synchro for the Preferred Concept. Table 6.1 summarizes the LOS and associated delay for the signalized intersections along the corridor, and Table 6.2 summarizes the LOS and associated delay for the unsignalized intersections.

Table 6.1 Study Concept PM Peak Hour LOS and Delay (Signalized Intersections) 2035

	PREFERRED CONCEPT		CONCEPT 1 NO BUILD		CONCEPT 2 4-LANE CROSS SECTION		CONCEPT 3 5-LANE CROSS SECTION		CONCEPT 4 7-LANE CROSS SECTION	
145TH CROSS STREET	LOS	DELAY (S)	LOS	DELAY (S)	LOS	DELAY (S)	LOS	DELAY (S)	LOS	DELAY (S)
Greenwood Ave N	D	51.5	E	66.0	E	59.4	D	52.3	E	55.8
Linden Ave N	C	21.7	B	13.8	B	18.7	E	55.1	B	15.1
Aurora Ave N	E	62.5	E	69.5	E	56.5	E	56.7	E	56.5
Ashworth Ave N	B	14.0	-	-	B	17.4	D	34.3	B	11.2
Meridian Ave N	D	38.1	C	32.1	D	40.4	C	25.7	C	32.9
1st Ave Ne	C	22.6	F	125.9	C	26.5	C	26.0	C	28.1
I-5 SB Ramps	C	34.0	D	42.8	C	31.8	C	31.6	C	31.7
5th Ave NE	D	46.1	F	100.1	E	59.1	E	61.2	D	41.9
15th Ave NE	E	57.7	F	92.3	D	52.3	D	45.4	D	46.4
20th Ave NE	B	15.0	B	10.6	B	12.4	B	13.7	B	12.5
25th Ave NE	C	21.0	B	10.4	B	15.8	A	9.3	B	16.4
30th Ave NE	C	28.7	C	23.2	C	28.0	B	17.8	C	27.5
Bothell Way NE	E	56.9	F	113.2	E	57.2	E	60.9	E	58.9

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	PREFERRED CONCEPT		CONCEPT 1 NO BUILD		CONCEPT 2 4-LANE CROSS SECTION		CONCEPT 3 5-LANE CROSS SECTION		CONCEPT 4 7-LANE CROSS SECTION	
145TH CROSS STREET	**LOS**	**DELAY (S)**	**LOS**	**DELAY (S)**	**LOS**	**DELAY (S)**	**LOS**	**DELAY (S)**	**LOS**	**DELAY (S)**
3rd Ave NW	B	11.7	C	18.3	C	18.3	C	18.3	C	18.3
1st Ave NW	B	13.0	B	13.0	B	13.0	B	13.0	B	13.0
Phinney Ave N	C	16.8	C	21.6	B	10.5	C	16.9	C	16.8
Dayton Ave N	C	16.6	C	22.8	A	10.0	C	16.6	C	16.5
Evanston Ave N	C	18.2	C	18.3	A	10.0	C	18.6	C	18.1
Fremont Ave N	C	16.8	B	14.9	A	9.9	C	16.8	C	16.7
Whitman Ave N	C	20.3	B	11.6	A	9.7	B	11.0	C	20.3
Midvale Ave N	B	11.2	E	47.6	B	11.3	B	10.8	B	11.2
Lenora Pl N	B	11.0	B	10.1	B	10.9	B	10.6	B	10.9
Stone Ave N	B	11.1	F	110.2	B	11.1	D	25.8	B	11.1
Interlake Ave N	B	11.1	B	14.2	B	11.0	B	14.2	B	11.0
Roslyn Pl N	B	11.4	C	19.8	B	10.7	B	12.8	B	11.3
Ashworth Ave N	-	-	F	400.9	-	-	-	-	-	-
Densmore Ave N	B	10.5	C	18.2	B	10.5	B	13.9	A	9.9
Courtland Pl N	A	9.3	C	18.0	A	9.3	B	14.1	B	10.0
Wallingford Ave N	B	10.9	F	216.3	B	11.0	C	19.4	B	10.2
Burke Ave N	A	9.5	B	12.3	A	9.1	B	12.3	B	10.1
Wayne Pl N	A	9.7	B	12.6	A	9.2	B	12.6	B	10.4
Bagley Ave N	A	9.3	B	10.6	A	9.3	B	11.9	A	9.4
Corliss Ave N	A	10.0	B	14.9	A	10.0	C	16.1	A	9.8
Sunnyside Ave N	A	9.9	C	16.1	A	9.9	C	16.8	A	9.7
3rd Ave NE	C	18.3	B	10.6	B	11.1	B	11.2	B	10.4
4th Ave NE	A	9.8	B	10.2	A	9.8	A	9.4	B	10.1
6th Ave NE	C	16.6	C	16.6	C	16.7	C	16.6	C	16.6
8th Ave NE	C	15.3	C	23.0	C	15.5	C	16.4	C	15.3

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	PREFERRED CONCEPT		CONCEPT 1 NO BUILD		CONCEPT 2 4-LANE CROSS SECTION		CONCEPT 3 5-LANE CROSS SECTION		CONCEPT 4 7-LANE CROSS SECTION	
145TH CROSS STREET	LOS	DELAY (S)	LOS	DELAY (S)	LOS	DELAY (S)	LOS	DELAY (S)	LOS	DELAY (S)
10th Ave NE	B	11.1	B	14.4	B	10.9	B	11.6	B	10.9
12th Ave NE	C	16.8	C	16.4	C	16.8	C	16.4	C	16.8
17th Ave NE	B	10.6	D	28.4	B	10.9	C	16.2	B	10.8
19th Ave NE	B	10.5	B	11.0	B	10.6	B	10.6	B	10.5
22nd Ave NE	B	10.2	D	29.4	A	9.8	C	16.0	B	10.5
23rd Pl NE	B	10.2	D	25.7	A	9.8	C	17.1	B	10.3
24th Ave NE	B	10.7	B	10.3	A	10.0	B	12.0	B	10.9
26th Ave NE	B	10.3	C	23.5	B	10.2	C	19.5	B	11.7
27th Ave NE	B	10.3	E	42.7	B	10.4	C	22.2	B	10.8
28th Ave NE	B	10.1	A	9.9	B	10.1	B	10.8	B	10.2
31st Ave NE	B	11.3	B	13.2	B	11.3	B	13.6	B	11.3
32nd Ave NE	B	11.4	C	17.3	B	11.4	B	11.4	B	11.4

6.3.1.2 VISSIM Analysis of I-5 to Bothell Way NE/Lake City Way (SR 522)

To estimate benefits and impacts to transit and traffic operations, the microsimulation software VISSIM was utilized. An existing conditions model was calibrated to field conditions including General Purpose (GP) travel time, transit travel time, and observed queuing. Concept 1, No Build, and the Preferred Concept model were developed for the future year 2035.

Study Area

Most of the improvements to transit were proposed for the segment of 145th Street east of I-5. Due to the increased effort required to prepare a detailed model and the planning level of this study, a reduced study area was considered for where most of the transit travel time savings are expected.

The study area modeled includes five signalized intersections and four unsignalized intersections. The signalized intersection include:

- NE 145th St / 15th Ave NE
- NE 145th St / 20th Ave NE
- NE 145th St / 25th Ave NE
- NE 145th St / 30th Ave NE
- NE 145th St / SR 522

The unsignalized intersections include:

- NE 145th St / 17th Ave NE
- NE 145th St / 22nd Ave NE
- NE 145th St / 27th Ave NE
- NE 145th St / 32nd Ave NE

Assumptions

The following assumptions were made to complete the modeling effort:

- In the Preferred Design Concept model, BAT lanes were included for westbound transit from midblock east of 30th Avenue NE to the farside of 20th Avenue NE as well as a short BAT lane approaching 15th Avenue NE. For eastbound transit, BAT lanes were included from the west side of 15th Avenue NE to the farside of 20th Avenue NE and a short BAT lane approaching 25th Avenue NE.
- TSP was included at all signalized intersections to applicable transit movements in the Preferred Design Concept model.
- Queue jumps were implemented at 15th Avenue NE, 20th Avenue NE, 25th Avenue NE, and 30th Avenue NE in the Preferred Design Concept model.
- Left turns off of NE 145th Street were restricted at all unsignalized intersections except 17th Avenue NE in the Preferred Design Concept model.

Travel Time Summary

The travel time was measured for both GP traffic and transit for the length of the corridor and the results are shown in Table 6.3. Travel time decreased for transit in both directions as well as for eastbound GP traffic. Westbound GP travel time increased by approximately 23 seconds. This occurred primarily at 15th Avenue NE and Bothell Way NE/Lake City Way (SR 522) and is due to changes in signal timing related to the new channelization and emphasis on transit travel time improvements. Transit and GP traffic see the greatest benefit in the eastbound direction which is the PM peak direction. The most noticeable benefit to transit and GP traffic occurs at the intersections of NE 145th Street/15th Avenue NE and NE 145th Street/Bothell Way NE/Lake City Way (SR 522). Both of those intersections have high volumes and therefore have the greatest potential benefits for transit improvements. Benefits were not as pronounced between those two intersections where there is less existing and projected congestion. Similar travel time benefits could be expected for westbound transit and GP traffic in the AM peak hour.

Table 6.2 Preferred Design Concept PM Peak Hour Travel Times

Direction	Mode	2035 No Build (min)	2035 Preferred Alternative (min)	Travel Time Reduction (% Change)
WB	GP	2.8	3.2	-14.3%
EB	GP	4.4	3.8	13.6%
WB	Bus	5.6	5.4	3.6%
EB	Bus	7	6	14.3%

Estimated Travel Time for Transit and General Purpose (GP)Traffic during the Evening Peak Hour

Delay and Queuing Summary

Table 6.3 shows the level of service (LOS) and delay values for each signalized intersection as measured in VISSIM. Generally, delay decreased at all signalized intersections in the study area between the No Build and Build scenarios. While some movements experienced increased delay, the overall intersection delay decreased. One example is the GP westbound through movement which increased in delay as well as travel time, mostly at 15th Avenue NE and Bothell Way NE/Lake City Way (SR 522). This was due to signal timing changes that targeted transit improvements.

Table 6.3 Preferred Concept PM Peak Hour LOS and Delay from Vissim

Cross Street	2035 No Build LOS and Delay (s)		2035 Build LOS and Delay (s)	
	GP	Bus	GP	Bus
15th Ave NE	F / 108.3	F / 133.2	F / 92.2	F / 117.1
20th Ave NE	A / 8.7	B / 28.5	B / 17.1	C / 30.4
25th Ave NE	B / 13.4	B / 27.2	A / 8.9	C / 31.8
30th Ave NE	D / 37.1	D / 42.0	D / 45.2	D / 43.2
SR 522	F / 105.5	E / 72.3	E / 73.6	D / 37.4

Summary

The simulation modeling shows that the improvements proposed in the Preferred Design Concept have a positive impact on transit and eastbound GP traffic operations. The improvements are most noticeable at 15th Avenue NE and Bothell Way NE/Lake City Way (SR 522) which are the most congested intersections in the study area. Installation of queue jumps and transit signal priority benefit eastbound GP traffic and transit in both directions along the corridor. Westbound GP traffic shows slight increase in travel time largely due to changes in signal timing that favor transit operations.

6.3.1.3 VISSIM Analysis I-5 Interchange

Following Council presentation of the Preferred Design Concept (on April 11, 2016), concerns were raised regarding non-motorized access to the station, transit speed and reliability, and intersection operations. With these concerns in mind, further refinements were made to the interchange concept which include:

- Elevated crossing of the I-5 southbound off ramp.
- Eastbound right turn lane to I-5 southbound under signal control for pedestrian safety.
- A north-south crosswalk on the west leg of the I-5 southbound intersection to allow another opportunity for pedestrians to utilize a safer, more convenient non-motorized infrastructure on the north side of 145th Street.

These refinements are shown in Figure 6.4.

VISSIM was utilized to better gauge the dynamic nature of the interchange functionality with regard to Level of Service and delay.

Study Area

VISSIM modeling for these refinements were completed for the interchange area on 145th Street from 1st Ave NE to east of 5th Ave NE and also captured operations on 5th Ave NE in the vicinity of the Light Rail Station. The following signalized intersections were analyzed:

- 5th Ave NE / NE 145th Street
- 1st Ave NE / NE 145th Street
- 5th Ave NE / I-5 NB on-ramp
- 5th Ave NE / Light Rail Station driveway
- I-5 southbound ramps / NE 145th Street

Assumptions

The following assumptions were made to complete this modeling effort:

- Revisions to the Preferred Design Concept as described under 6.3.1.3, including a north-south crosswalk on the west leg of the I-5 southbound interchange.
- Conditions of 5th Ave NE were modeled based on the Sound Transit preliminary engineering for the station and garage access.
- A signal cycle length of 120 seconds was utilized along 145th Street. Longer cycle lengths could improve intersection operation however 120 seconds was chosen in order to provide a conservative estimate of LOS and delay.

Summary

The proposed refinements to the I-5 interchange area Preferred Design Concept show that the LOS and delay will be improved over No Build conditions while providing increased safety and mobility for non-motorized trips throughout the interchange area. Some intersections show a slight increase in delay over the original Preferred Design Concept design. This is mainly due to the addition of the north-south crosswalk on the west leg of the I-5 southbound interchange as well as signal controlling the eastbound right turn to I-5 southbound. The results of this VISSIM analysis show that interchange refinements balance the needs of all users while meeting the City and State LOS standards.

Table 6.4 Delay and LOS Summary

	AM				PM			
	2035 Preferred Concept		2035 No Build		2035 Preferred Concept		2035 No Build	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
5th Ave NE at NE 145th Street	41	D	72	E	37	D	64	E
1st Ave NE at NE 145th Street	Not modeled		Not modeled		23	C	56	E
5th Ave NE at I-5 NB on-ramp	16	B	21	C	10	B	13	B
5th Ave NE at Light Rail Station driveway	17	C	18	C	4	A	3	A
I-5 SB ramps at NE 145th Street	50	D	79	E	38	D	61	E

6.3.2 Comparison of Possible Property Impacts and Costs

The following tables provide a comparison of the possible property impacts of the study concepts and the Preferred Design Concept for three of the corridor sections (the I-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.

Table 6.5 Comparison of Property Impacts

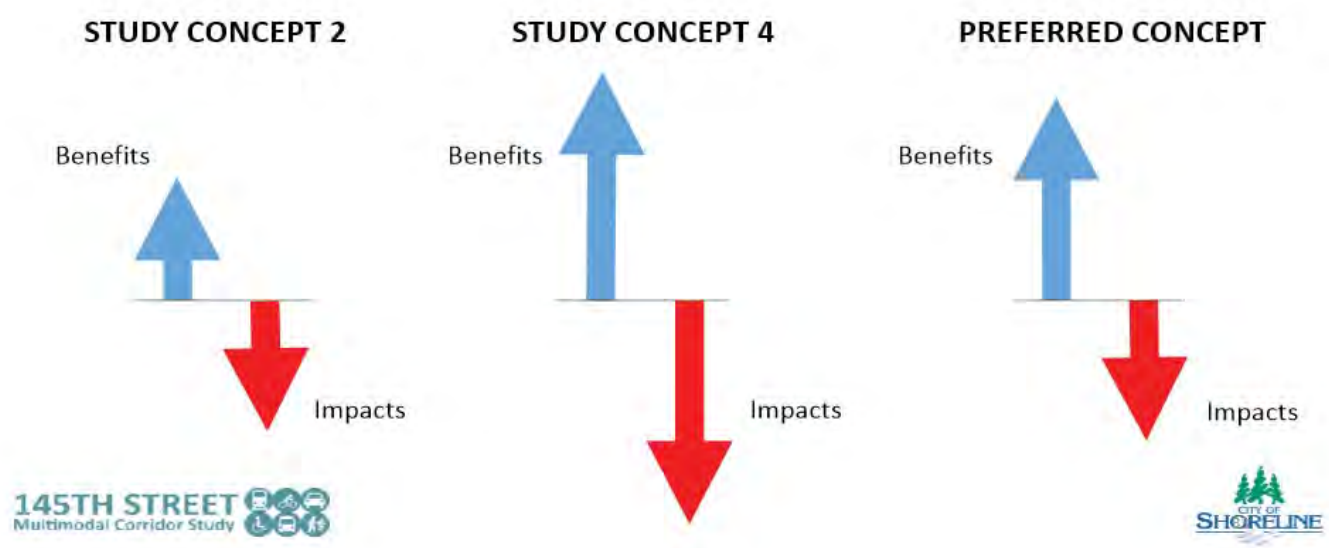
	I-5 to Bothell Way NE (SR 522)			
	STUDY CONCEPT 2	STUDY CONCEPT 3	STUDY CONCEPT 4	PREFERRED CONCEPT
ROW Impacts (ft2)	77,500	144,000	150,000	130,000
Total Acquisitions	17 (14%)	55 (47%)	70 (58%)	21 (17%)
Parcel Impacts	82 (68%)	120 (100%)	120 (100%)	100 (83%)
TOTAL NUMBER OF PARCELS	**120**	**120**	**120**	**120**
	Aurora Avenue N to I-5			
	STUDY CONCEPT 2	STUDY CONCEPT 3	STUDY CONCEPT 4	PREFERRED CONCEPT
ROW Impacts (ft2)	48,000	71,000	52,000	15,000
Total Acquisitions	23 (24%)	40 (42%)	65 (68%)	22 (23%)
Parcel Impacts	63 (66%)	96 (100%)	96 (100%)	44 (46%)
TOTAL NUMBER OF PARCELS	**96**	**96**	**96**	**96**
	3rd Avenue NW to Aurora Avenue N			
	STUDY CONCEPT 2	STUDY CONCEPT 3	STUDY CONCEPT 4	PREFERRED CONCEPT
ROW Impacts (ft2)	30,000	34,000	44,400	10,000
Total Acquisitions	3 (9%)	3 (9%)	15 (29%)	0 (0%)
Parcel Impacts	26 (71%)	26 (71%)	50 (98%)	11 (22%)
TOTAL NUMBER OF PARCELS	**51**	**51**	**51**	**51**

In addition to property impacts, the three study concepts and Preferred Design Concept all have different cost estimates. The concept level cost estimates in Table 6.5 include costs for the undergrounding of overhead utilities from Aurora Avenue to I-5 and from I-5 to Bothell Way NE (SR522). The locations along the corridor where utility undergrounding is feasible and applicable will continue to be evaluated as the design of the corridor develops. Utility undergrounding can add a significant cost to the overall project but also provides a cost-sharing opportunity. The table below provides rough cost estimates for the concepts. Cost estimates are provided in Appendix B.

Table 6.6 Cost Opinion Comparison

	Cost Opinion Comparison			
	STUDY CONCEPT 2	STUDY CONCEPT 3	STUDY CONCEPT 4	PREFERRED CONCEPT
I-5 to Bothell Way NE	$53,000,000	$88,000,000	$111,000,000	$85,000,000
I-5 Interchange	$21,000,000	$27,000,000	$50,000,000	$21,000,000
Aurora Avenue N to I-5	$46,000,000	$66,000,000	$89,000,000	$46,000,000
3rd Avenue NW to Aurora Avenue N	$24,200,000	$29,000,000	$39,800,000	$9,700,000
TOTAL	**$144,200,000**	**$210,000,000**	**$289,800,000**	**$161,700,000**

As can be seen in the property impact tables and cost opinion table, it should be evident that the Preferred Design Concept reflects a strategy to maximize benefits in terms of achieving project goals while minimizing impacts to properties and costs. The graph comparison below illustrates this strategy and outcome for the Preferred Design Concept.



6.3.3 Evaluation Matrices

Using the evaluation criteria and methodology applied to the four Study Concepts, the Preferred Design Concept was evaluated against the goals of the project. Appendix C provides a summary of the evaluation results. The evaluation was developed for three corridor segments:

- Bothell Way (SR 522) to I-5
- I-5 to Aurora Avenue
- Aurora Avenue to 3rd Avenue NW

An evaluation matrix was not prepared for the I-5 interchange area. The I-5 Interchange area concept was developed to match to the Preferred Design Concept east and west of the interchange, and the benefits of the Preferred Concept for the I-5 interchange area are described in detail in Section 6.1.2.

6.4 CATF Recommendations for the Preferred Design Concept

The Citizen Advisory Task Force, upon review of the Preferred Design Concept, provided additional recommendations to consider when further developing the 145th Street corridor.

CATF Recommendations

1. Upgrade and unify the entire corridor: The entire corridor in the study area should receive design attention for all modes of transportation and share a basic palette of coordinated urban design elements, including pedestrian facilities, trees and landscaping, streetscapes, bus zones, and signage. Funding constraints will likely require several phases of construction; however the pedestrian zone in the corridor west of Aurora should receive equal attention and appropriate design treatment as east of Aurora.
2. Recognize unique districts and neighborhoods: This corridor crosses several neighborhoods and commercial areas. The design team is encouraged to work with neighborhood groups to identify unique area contexts such as the light rail area, neighborhoods, parks, and shopping districts and develop design distinctions in the urban design treatments. Within the overall urban design framework, these distinctions could include special treatments/colors/elements for pavements, street trees and plantings, site furniture, wayfinding signage and art elements.
3. Work with an artist early in the project development to determine best options to integrate art into the corridor improvements.
4. Work with a landscape architect and arborist early in the project development to develop a corridor-wide strategy to mitigate tree loss outside of the sidewalk areas and manage/prevent the loss of significant trees. Develop a long term healthy tree canopy along the corridor.

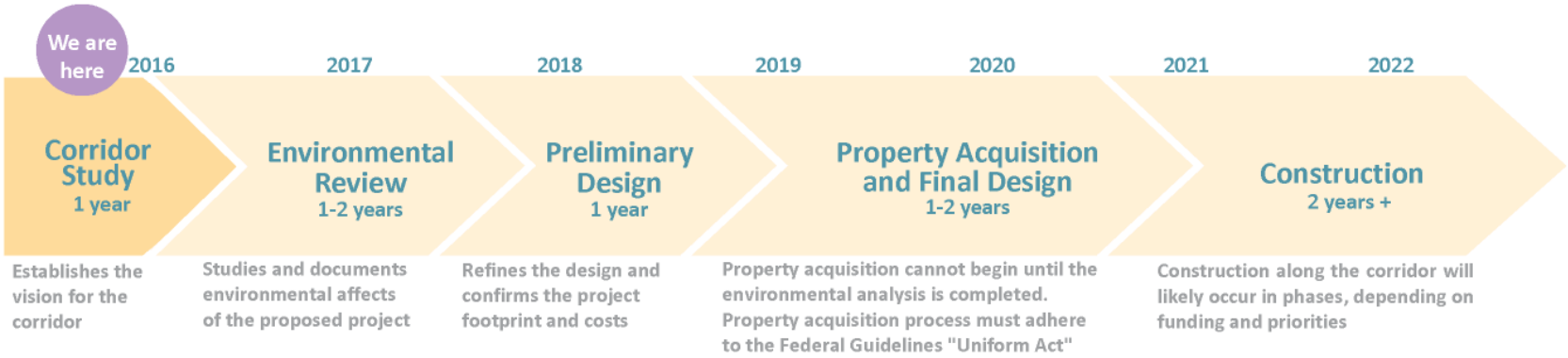
5. Control left turning movements for safety: The design team should carefully explore ways to add raised medians, even if very narrow, along most of the corridor east of Greenwood, to manage turning movements between key intersections. Key intersections should be designed to accommodate vehicle U-turn movements. As properties redevelop, look for opportunities to consolidate or reduce driveway access directly along the corridor.
6. In consideration of equity, property owners along 145th Street should not bear financial responsibility for the upgrades to sewer, water, and electrical utilities along 145th Street. We recommend a public fund be set aside for utility service connections.
7. As far as possible, land acquisition should be coordinated between projects and agencies so that homeowners do not experience multiple acquisition processes.
8. Ensure that each segment of the corridor has a thorough environmental impact review.
9. Prioritize safety and livability for residents and businesses throughout all phases of design and construction. Minimize disruption to residents along the corridor during construction. Provide prior disruption notifications. Maintain pedestrian access and ADA accommodation during construction. Consider developing traffic control plans in the final design development to address pedestrian, bike, and ADA accessibility during construction.
10. Create a pedestrian supportive environment. Work with mobility specialists in the design to create design plans that go beyond minimum ADA compliance and achieve high-level accessibility treatments for persons with disabilities. If feasible, underground overhead utilities to remove pedestrian barriers. Avoid designs that put barriers in pedestrian areas.
11. Look for opportunities to enhance natural resources along the corridor, such as daylighting culverts/stream corridors, improving buffer zones, enhance wildlife corridors, implementing green storm water infrastructure.
12. The project should provide transparent accountability to the public including periodic reporting of project financial information and traffic operations result.
13. As a far as possible, develop the off-corridor bike network in advance of completing the corridor projects.

7. ACTION FOR IMPLEMENTATION

7. ACTION FOR IMPLEMENTATION

The Preferred Design Concept documents the vision for improvements along the 145th Street corridor and was adopted by Shoreline City Council on April 11, 2016 (see Appendix B for the City Council Meeting staff report). Due to the size, complexity, and cost of implementing improvements along 145th Street, the corridor improvements will proceed under several separate projects, each with its own time line as funding becomes available. Each project will move through various phases, beginning with environmental review and preliminary design engineering. The following is a discussion of upcoming action items for implementation, beginning with currently funded projects along the corridor.

Figure 7.1 Project development process / timeline



7.1.1 Action for Implementation – Aurora Avenue to I-5 Project

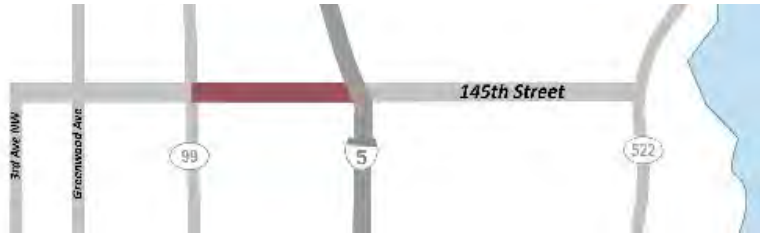
The City of Shoreline has secured funding for environmental review, preliminary design, and final design for this section of the corridor. Next steps include:

Engineering/Design

- Environmental review – begin review and documentation of the environmental analysis
- Basemap – prepare survey and basemap including existing utilities mapping
- Confirm utility upgrades needed, such as water main, sewer, and drainage
- Confirm utility undergrounding
- Bike Network: coordinate design development for Off Corridor Bike Network
- Develop preliminary design and final design

Coordination

- Continue and build partnerships with City of Seattle agencies including SDOT, SCL, and SPU
- Coordinate channelization design with WSDOT
- Continue to engage and coordinate project development with King County Metro and Sound Transit
- Confirm approach to annexation of right of way
- Continue to engage community with the design development



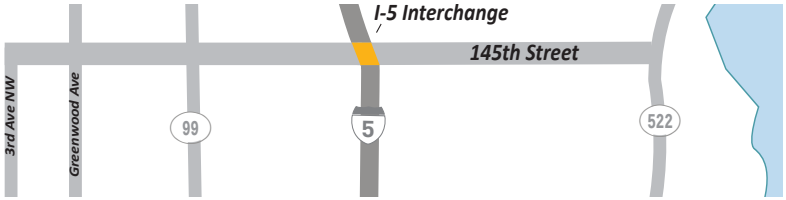
Property Acquisition

- Identify opportunities for early property acquisition
- Develop clear redevelopment requirements along the corridor

Funding

- Pursue funding for right of way acquisition
- Pursue funding for construction through several sources including Washington State Transportation Improvement Board (TIB), Puget Sound Regional Council (PSRC), Sound Transit, WSDOT, and King County Metro

7.1.2 Action for Implementation – I-5 Interchange Project



The City of Shoreline has secured funding for environmental review, preliminary design, and final design for this area of the corridor. Next steps include:

Engineering/Design

- Continue technical coordination with WSDOT, Sound Transit, KC Metro, and Seattle
- Design development of northbound I-5 on-ramp
- Design retrofit of the bridge deck and separate pedestrian overcrossing
- Design development for light rail station access including transit access and layover, pedestrian access, and bicycle access and connections
- Bike Network: coordinate connections to the Off Corridor Bike Network

Coordination

- Continue technical coordination and partnership building with WSDOT, Sound Transit, KC Metro, and Seattle
- Confirm approach to annexation of right-of-way
- Continue to engage community with the design development

Property Acquisition

- Identify any property acquisition needs

Funding

- Federal funding is secured for design
- Pursue funding for possible right-of-way acquisition and construction through several sources including TIB, PSRC, Sound Transit, WSDOT, and King County Metro

7.1.3 Action for Implementation – I-5 to Bothell Way NE/Lake City Way (SR 522)

This section of the corridor is currently part of Sound Transit's proposal for ST3, that voters approved in the November 2016 election. Next steps include:

Engineering/Design

- Continue technical coordination with WSDOT, Sound Transit, Seattle, and KC Metro
- Design development at SR 522/SR 523 intersection
- Bike Network: coordinate design development for Off Corridor Bike Network

Coordination

- Continue and build partnerships with City of Seattle agencies including SDOT, SCL, and SPU
- Continue partnership building with Sound Transit and SR-522 Cities (Lake Forest Park, Kenmore, and Bothell)
- Continue technical coordination with WSDOT, Sound Transit, Seattle, and KC Metro
- Confirm approach to annexation of right of way

Funding

- ST3 ballot measure funding support

Strong Regional Support
On January 20, 2016, a joint Council Meeting of Shoreline, Lake Forest Park, Kenmore, Bothell, and Woodinville was held in support of high capacity transit improvements on 145th Street and SR 522.

7.1.4 Action for Implementation – 3rd Avenue NW to Aurora Avenue

This section west of Aurora will mainly see some intersection improvements and re-striping/channelization. Currently, there is no funding in place for this section.

Engineering/Design

- Identify early wins, such as restriping Linden to Greenwood
- Bike Network: coordinate design development for Off Corridor Bike Network

Coordination

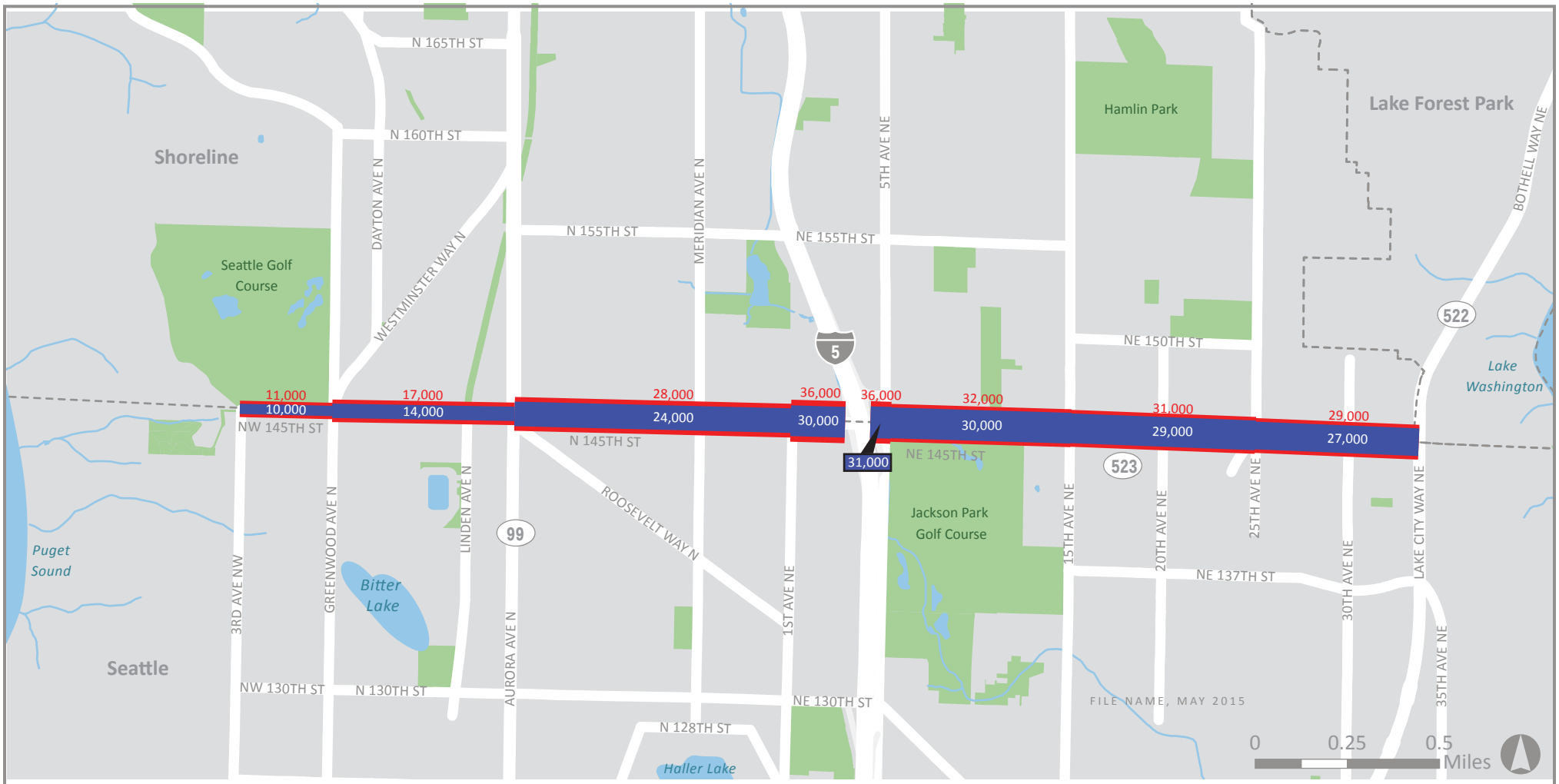
- Continue and build partnerships with City of Seattle agencies including SDOT, SCL, and SPU
- Confirm approach to annexation of right-of-way

Funding

- Pursue project funding through PSRC, SDOT, and local funds

Appendices

A. EXISTING CONDITIONS TECHNICAL FIGURES



Waterbody

Park

City Boundary

2015 Average Daily Traffic Volumes (Per Segment Location)

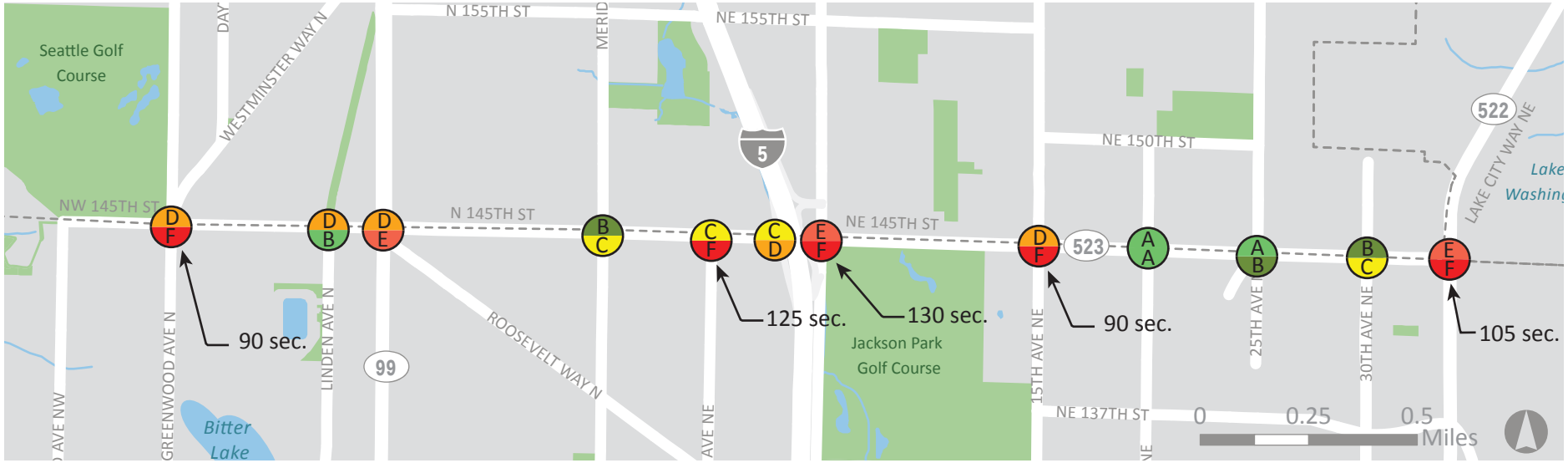
2035 Average Daily Traffic Volumes (Per Segement Location)

AVERAGE DAILY TRAFFIC VOLUMES

145TH STREET
Multimodal Corridor Study

CITY OF SHORELINE

MAY 2015



Waterbody

Park

City Boundary

A C — 2015 Existing LOS

2035 No Build LOS

XX sec. — Average vehicle delay at LOS F locations

The City of Shoreline adopted Level of Service standard is to maintain LOS D or better at signalized intersections.

PM PEAK HOUR LEVEL OF SERVICE SIGNALIZED INTERSECTIONS

145TH STREET Multimodal Corridor Study

CITY OF SHORELINE

MAY 2015

Level of service (LOS) examples

LOS A:

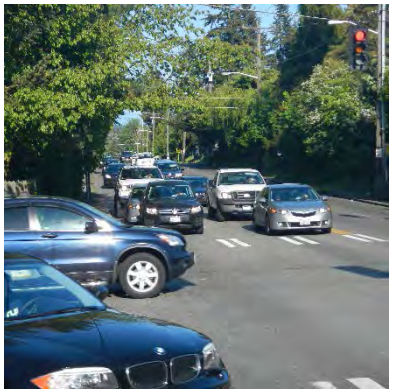
Free flow traffic.
Average delay < 10 seconds

LOS B:

Stable flow, light delay.
Average delay 11 - 20 seconds

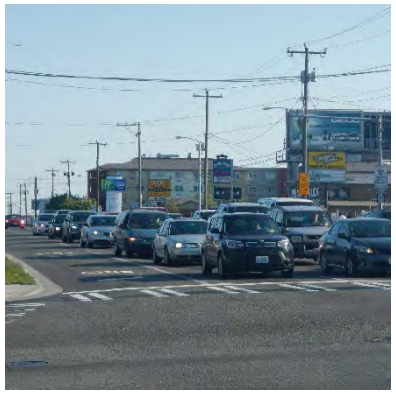
LOS C:

Stable flow with acceptable delay.
Average delay 21 - 35 seconds



LOS D:

Approaching unstable flow, speeds reduced, more vehicles stop and may wait through more than one signal cycle.
Average delay 36 - 55 seconds

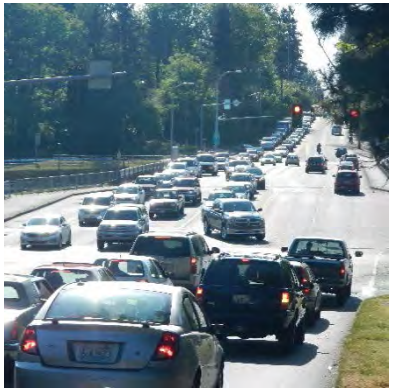


LOS E:

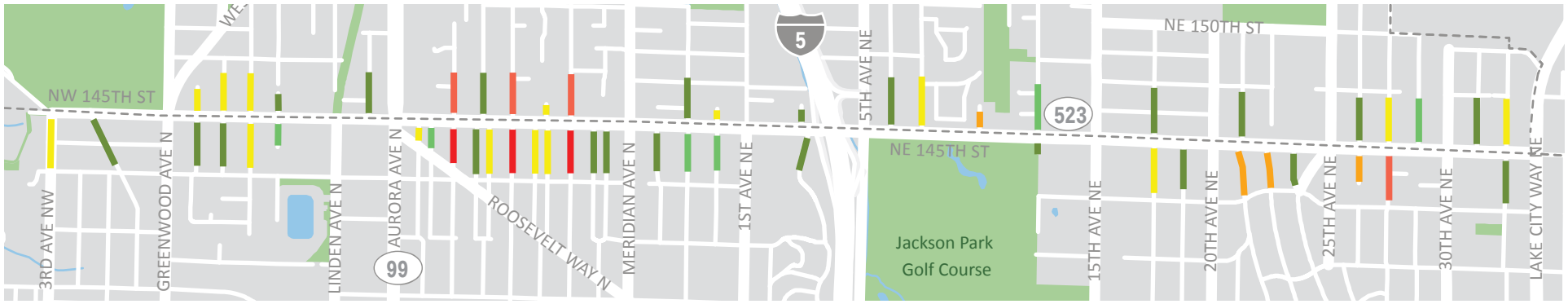
Unstable flow, speeds reduced and highly variable, many vehicles have to wait through more than one signal cycle.
Average delay 56 - 80 seconds

LOS F:

Forced flow, jammed conditions. Long queues occur that do not clear, most vehicles wait through multiple signal cycles.
Average delay > 80 seconds



EXISTING CONDITIONS



2035 NO BUILD

Park
Waterbody
City Boundary

LOS A
LOS B

LOS C
LOS D

LOS E
LOS F

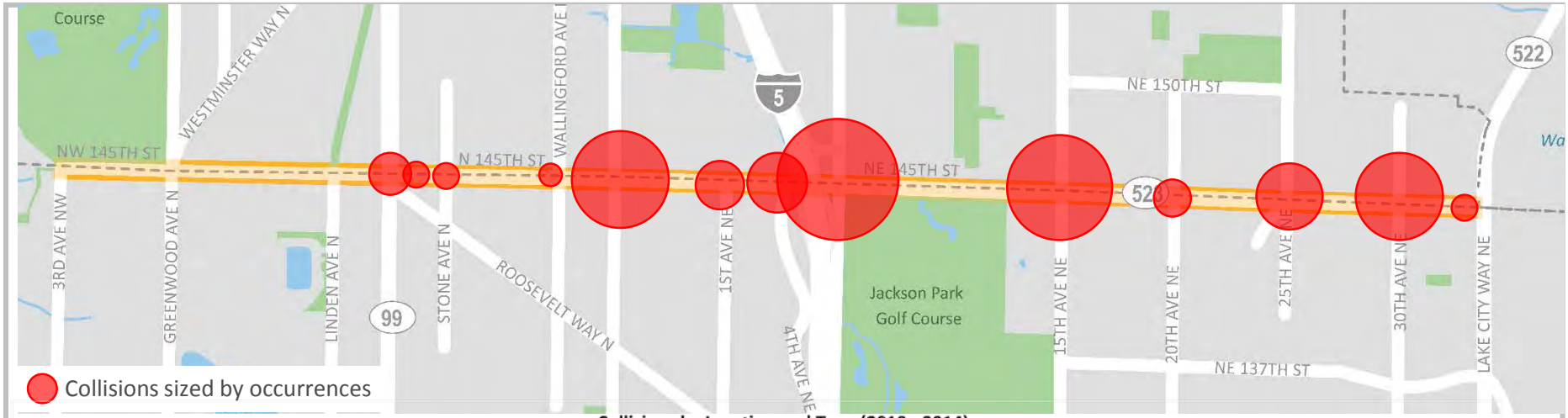
0 0.25 0.5 Miles

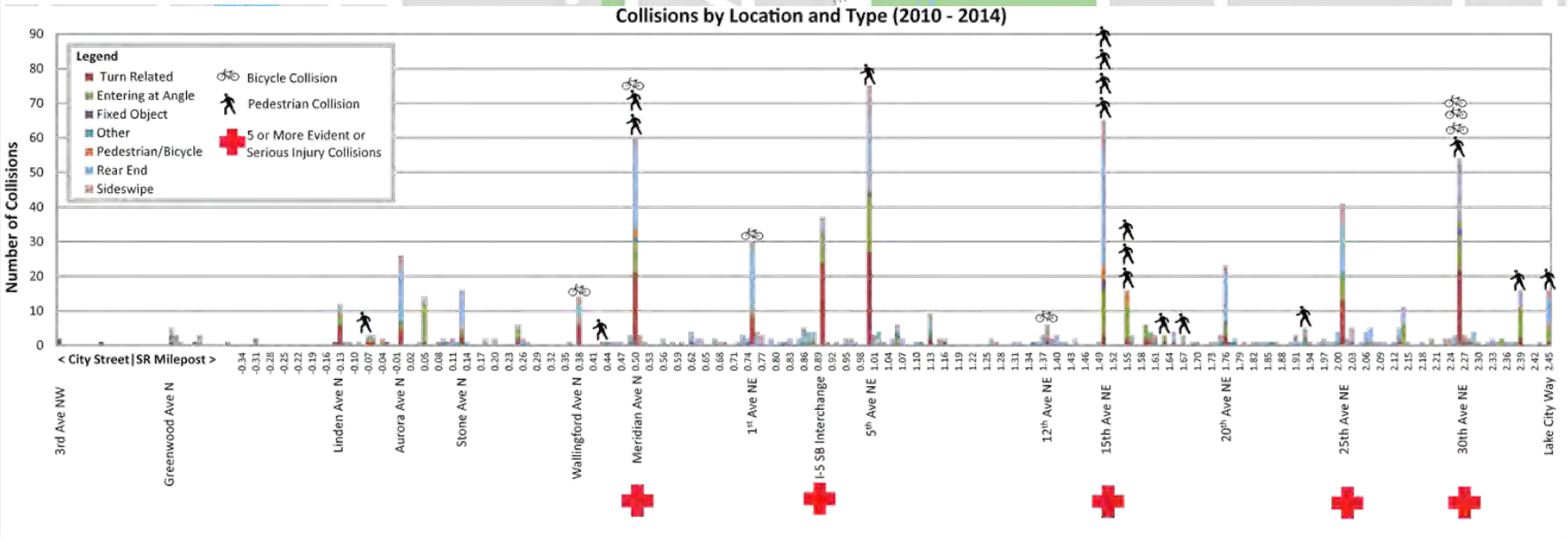
PM PEAK HOUR LEVEL OF SERVICE UNSIGNALIZED INTERSECTIONS

145TH STREET
Multimodal Corridor Study

CITY OF SHORELINE

MAY 2015

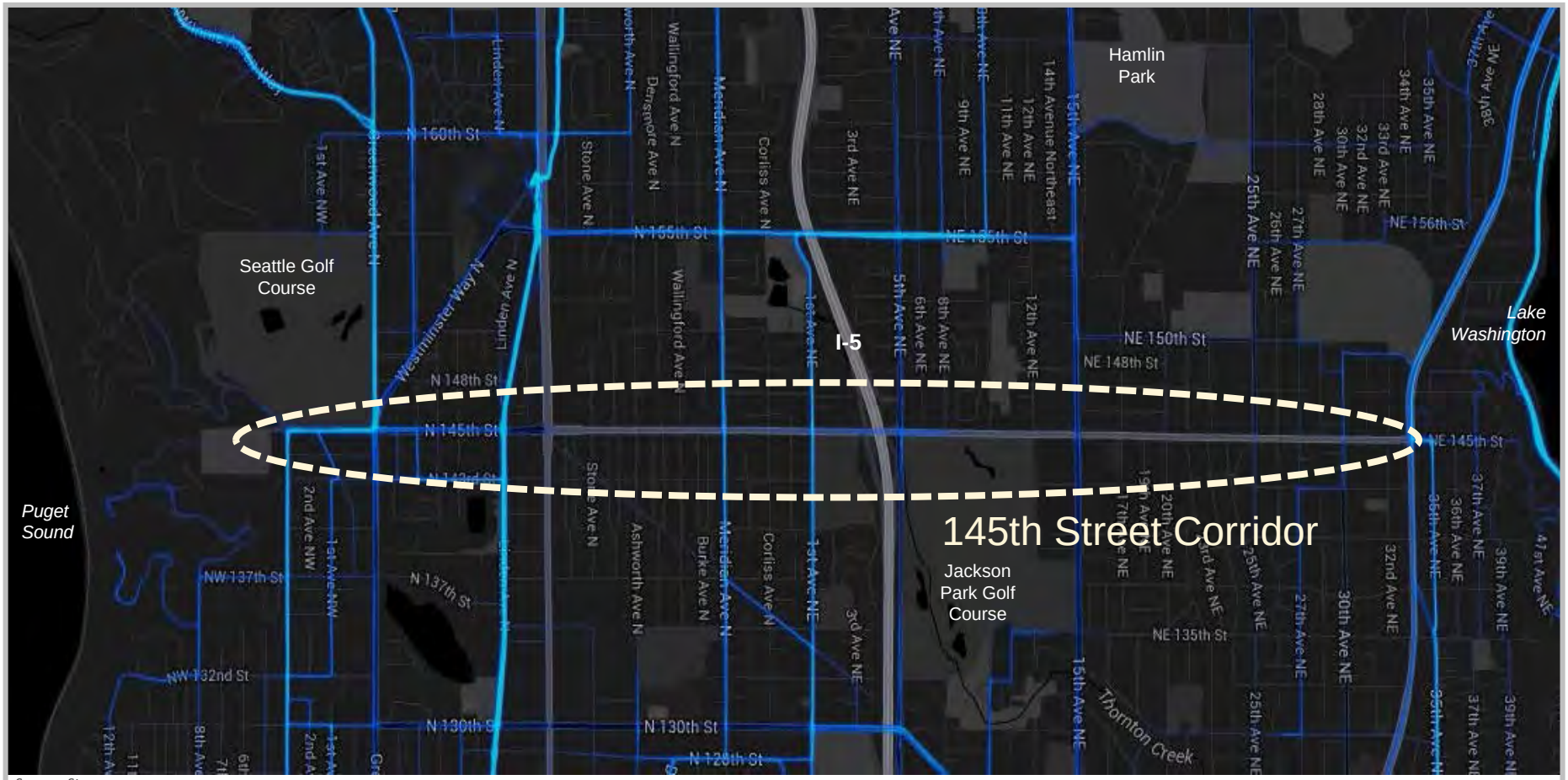




COLLISION HISTORY 2010-2014

145TH STREET
Multimodal Corridor Study

CITY OF SHORELINE



Source: Strava.com

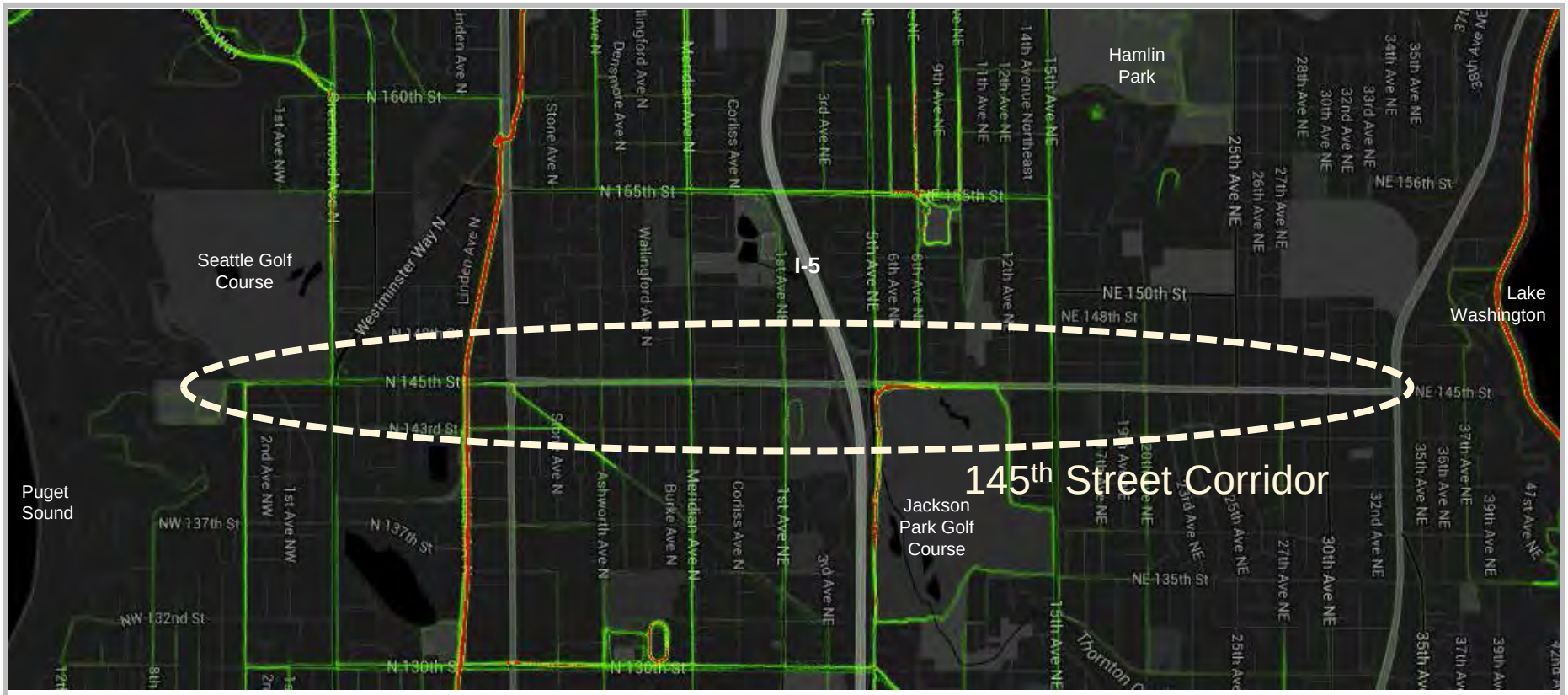
LEGEND – BIKE ACTIVITY

LESS **MORE**

BIKING ACTIVITY MAP

145TH STREET
Multimodal Corridor Study

CITY OF SHORELINE



Source: Strava.com

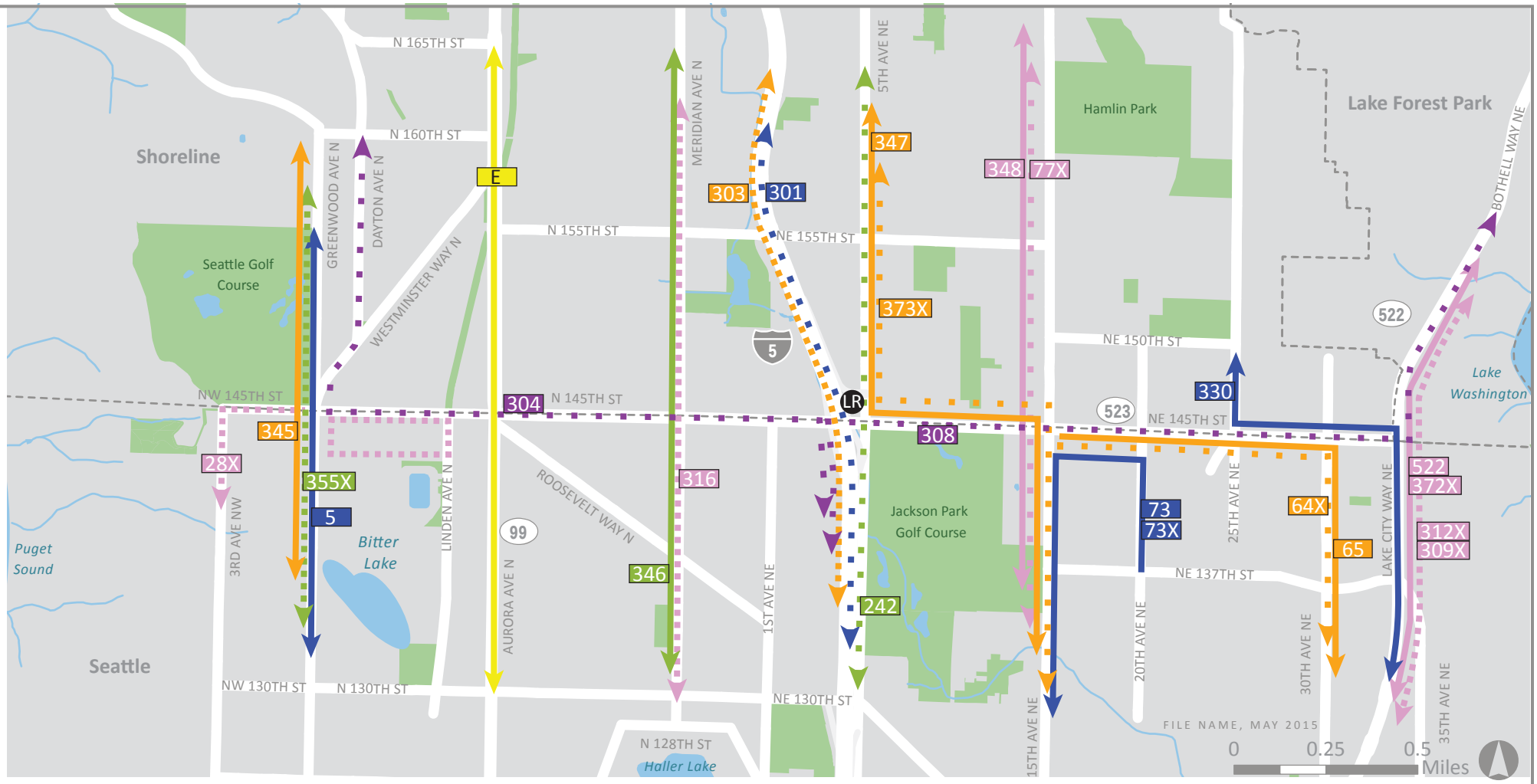
LEGEND – JOGGING ACTIVITY

LESS **MORE**

PEDESTRIAN ACTIVITY: JOGGING/RECREATION INTENSITY

145TH STREET
Multimodal Corridor Study

CITY OF SHORELINE



Waterbody

Park

City Boundary

LR Link Light Rail Station

000 Transit Route Number

Transit Routes

All Day Service

Peak Period Service ≤ 15min. headways

Peak Period Service > 15min. headways

EXISTING TRANSIT ROUTES

145TH STREET
Multimodal Corridor Study

CITY OF SHORELINE

MAY 2015

Study Corridor
Park
Steep Slope (40%)
Wetland
Erosion Hazard Area
Waterbody
City Boundary
Liquefaction Zone
Riparian Corridor

CRITICAL AREAS

145TH STREET
Multimodal Corridor Study

CITY OF SHORELINE

B. ADOPTED PREFERRED DESIGN CONCEPT

On Monday, April 11, 2016, the Shoreline City Council unanimously adopted the Preferred Design Concept for the 145th Street Mutimodal Corridor Study. This important milestone sets a vision for improvements along the corridor.

The following pages include the Staff Report in its entirety. “Attachment A” to the Staff Report is the actual Preferred Design Concept that was adopted. Following the staff report is an excerpt from the meeting summary for the portion of the meeting that included the 145th Street Multimodal Corridor Study discussion and action.

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.

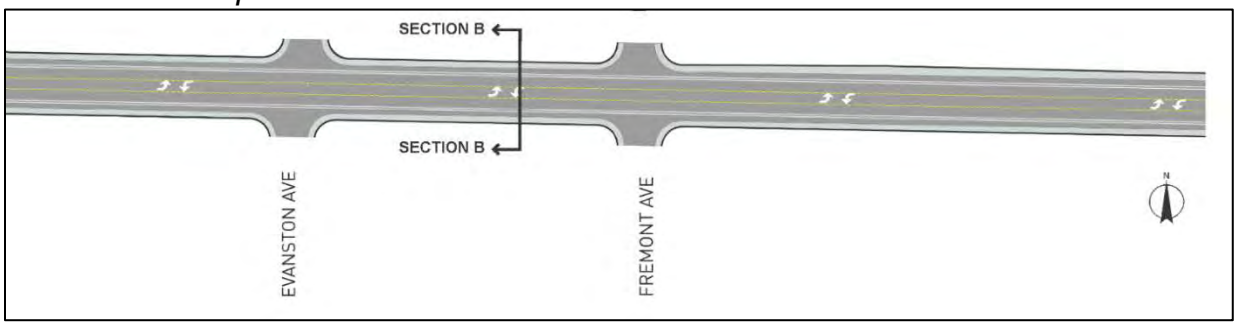
DISCUSSION

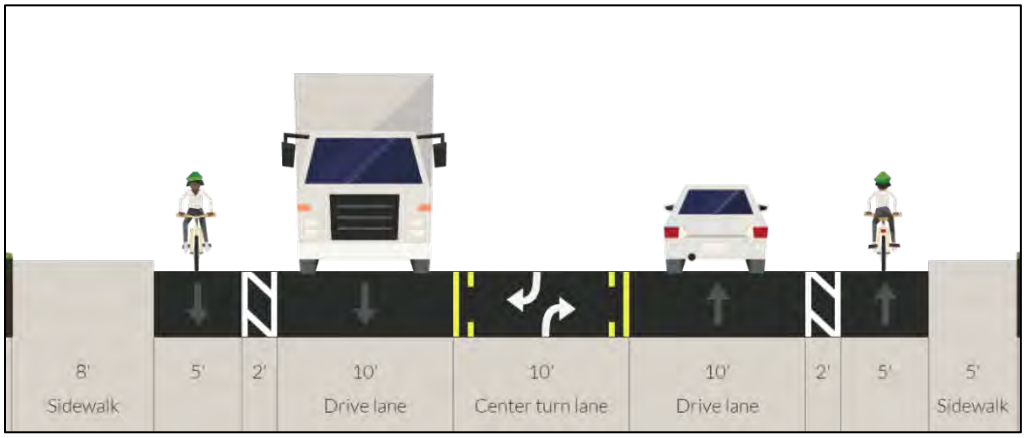
The Preferred Design Concept (Attachment A) is described in below by corridor section. In summary, the Preferred Design Concept reflects a strategy to maximize benefits in terms of meeting project goals, while minimizing cost impacts and effects on properties. The Preferred Design Concept is a vision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

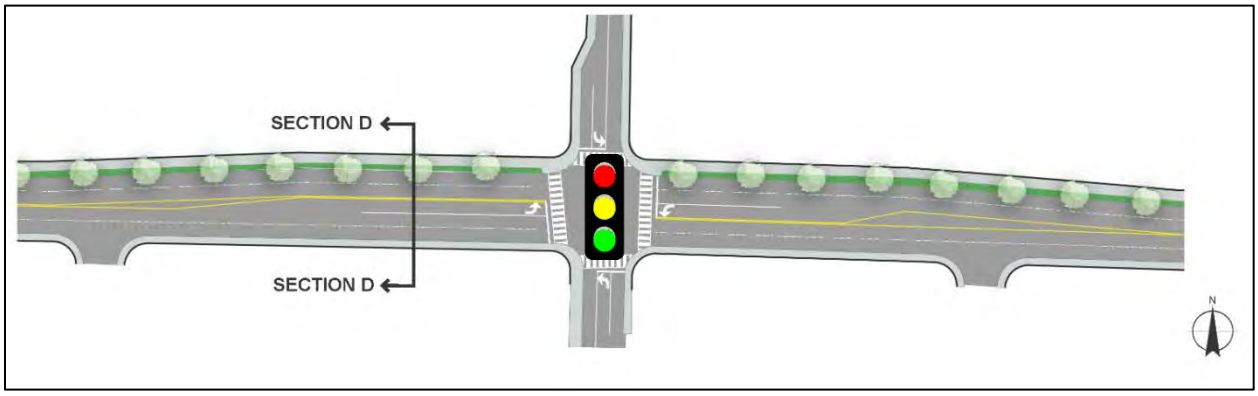
Section 1. 3rd Avenue NW to Aurora Avenue N (Subsections A and B)
The Preferred Design Concept in this section will improve signalized intersections by adding left-turn and right turn capacity, improving signal timing, and rebuilding sidewalks to City standards. This includes the intersections of Aurora 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

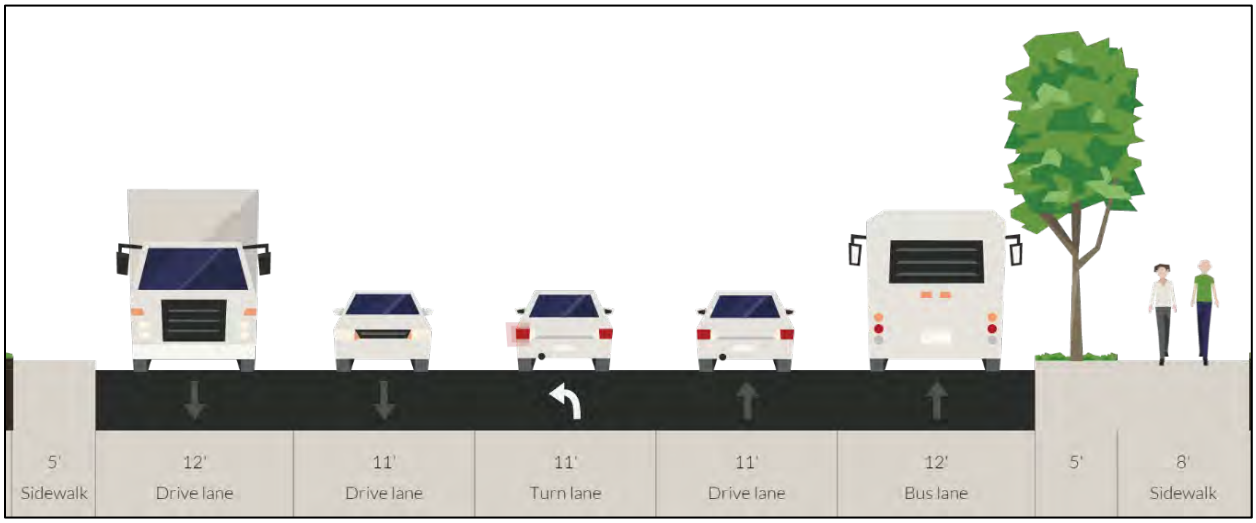




Section 2. Aurora Avenue N to Interstate-5 (Subsections C and D)
In this section, the focus is on improving intersection safety and operations. By improving signalized intersections, including adding left turns and signal timing changes, traffic flow will improve which will reduce delay for buses and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



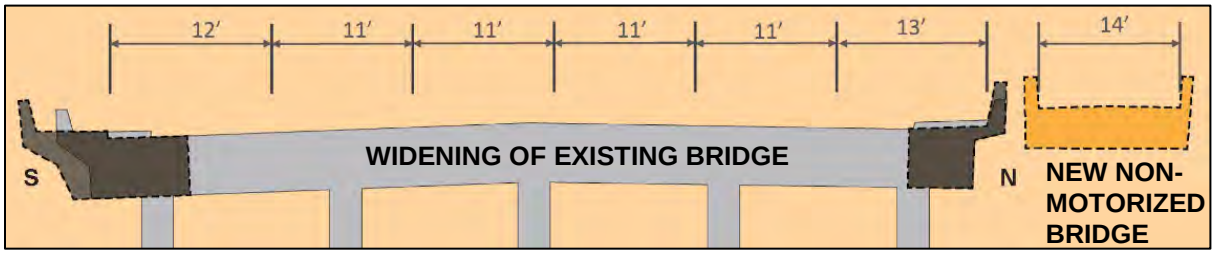
At the intersections where improvements are proposed – 1st Avenue, Meridian Avenue, Ashworth Avenue, and Aurora Avenue - new sidewalks will be implemented that meet City standards. This section will include new ADA accessible curb ramps, improved crosswalks and pedestrian countdown signals. It will be 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.

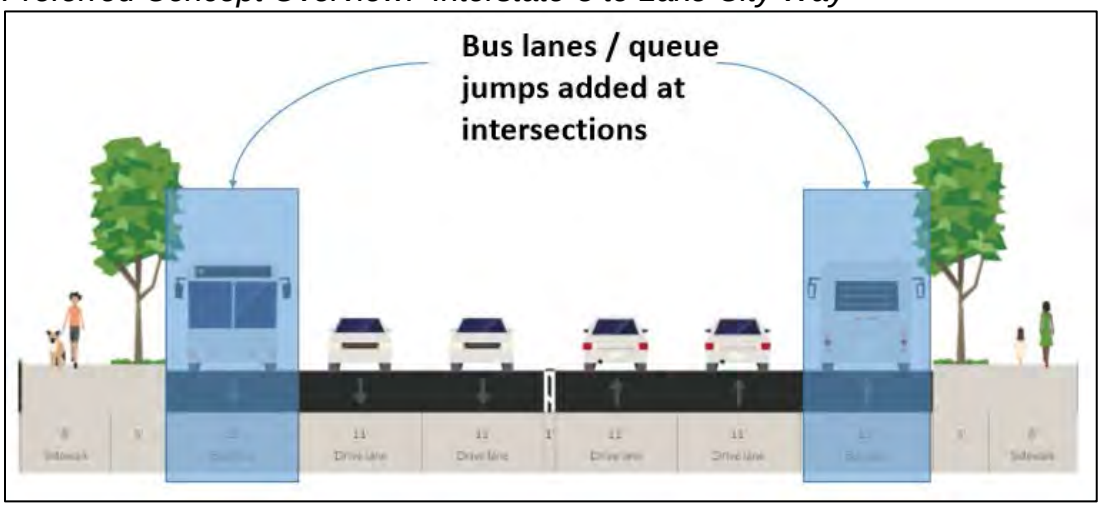
Transit Operations at and Adjacent to the New Light Rail Station

- 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.

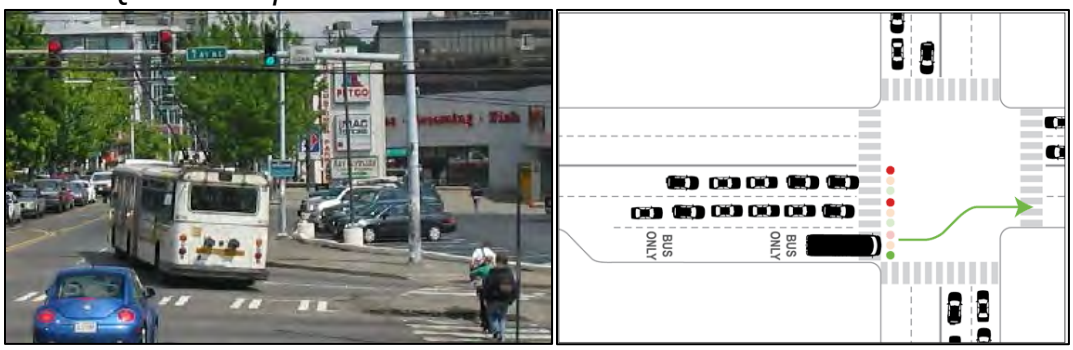
Preferred Concept Overview: Interstate-5 to Lake City Way



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.

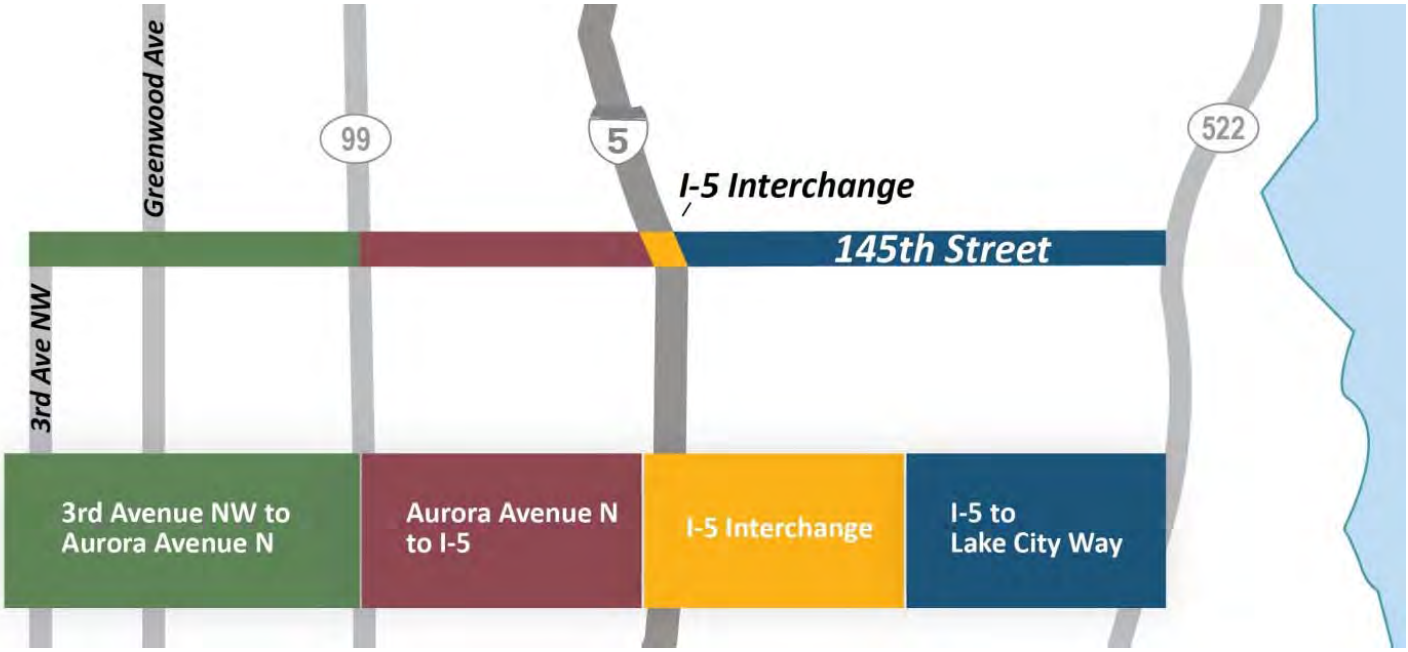
RECOMMENDATION

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

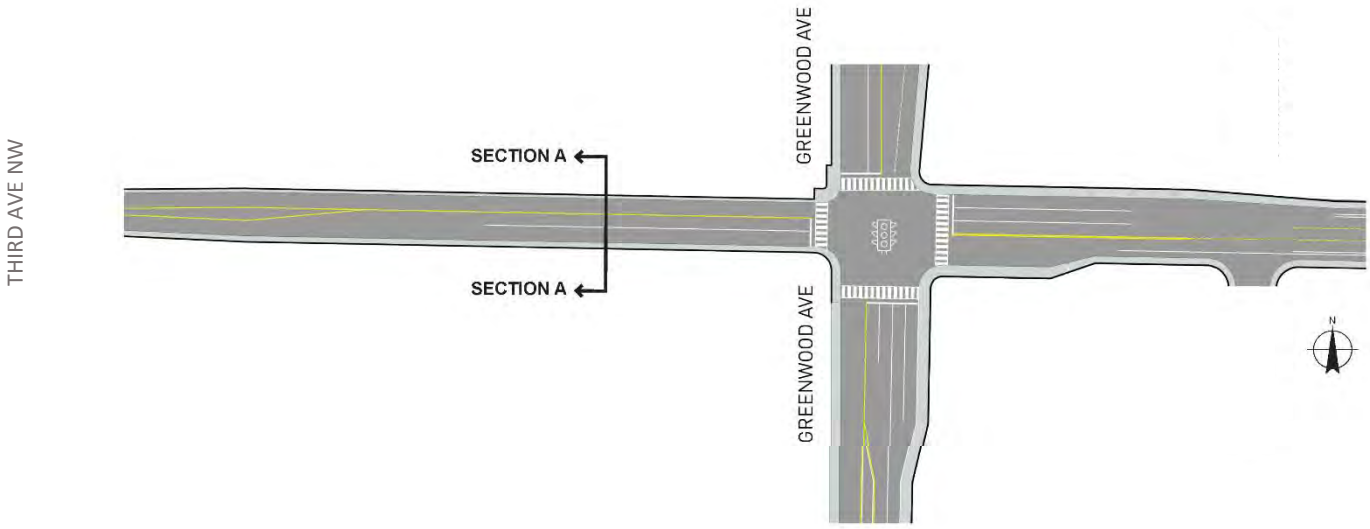
- Section E: Interstate-5 Interchange

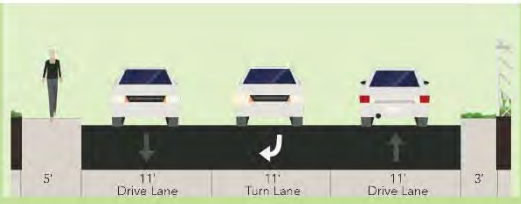
I-5 Interchange to Lake City Way (SR522)

- 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



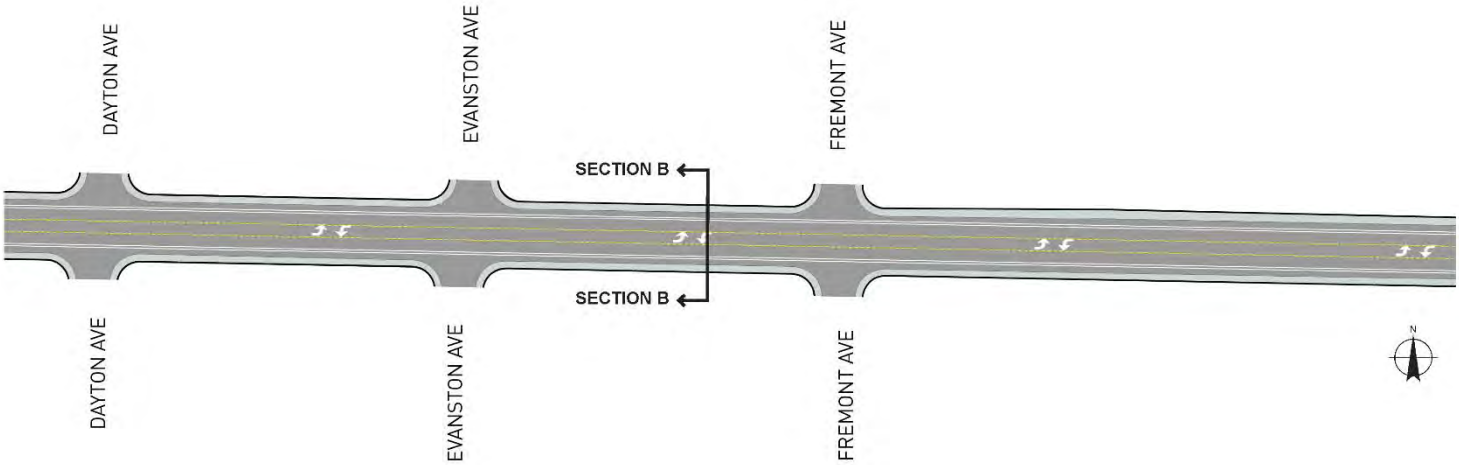


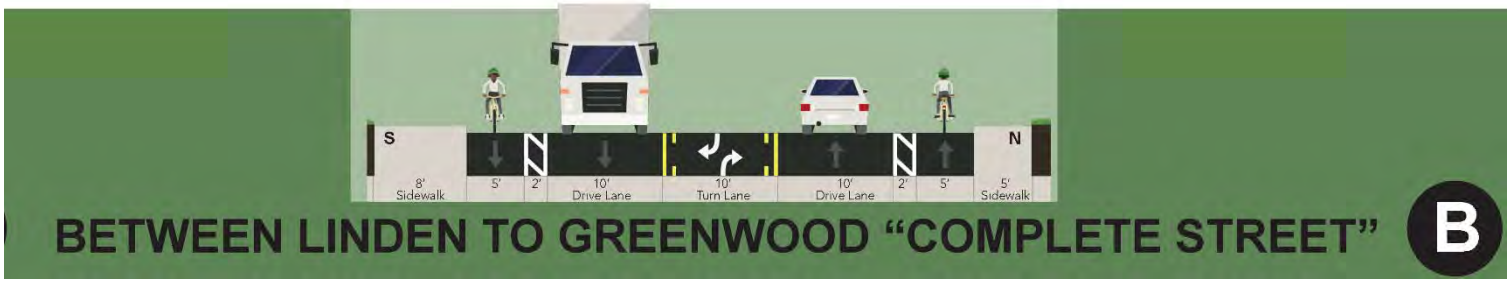
A

3RD AVE TO GREENWOOD AVE AREA

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

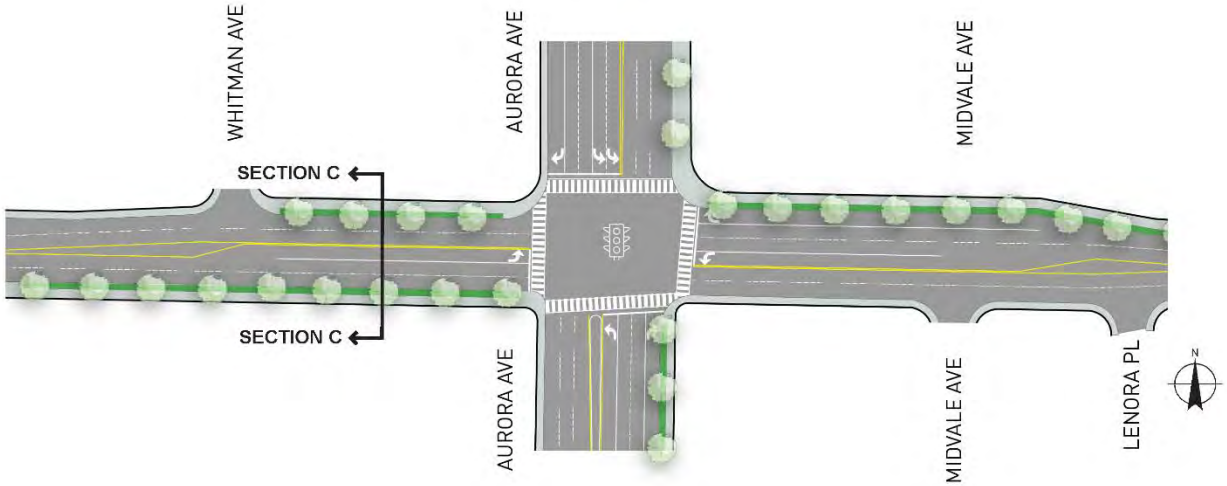
- Improved signalized intersections which include lengthened turn lanes, right turn lanes, and traffic signal timing changes. Improvements will minimize delays and congestion, benefiting buses, vehicles, and air quality
- Transit signal priority enhancements
- New wheelchair accessible bus stops
- No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





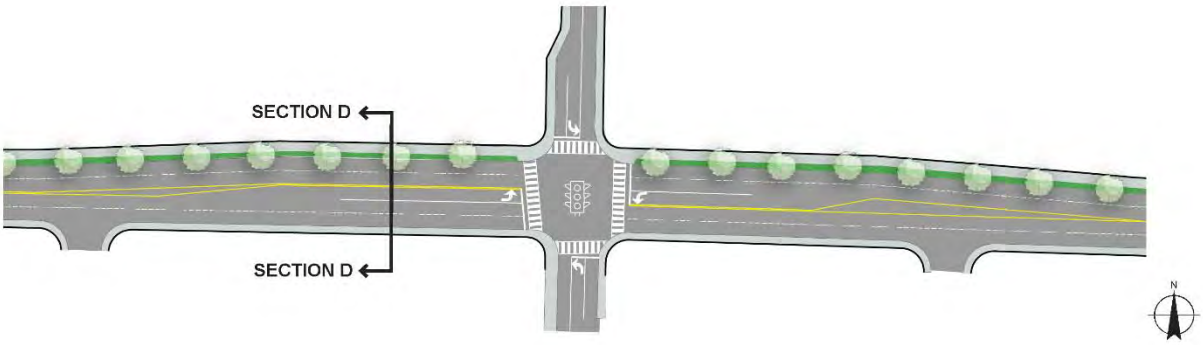
Linden to Greenwood Avenue area improvement characteristics:

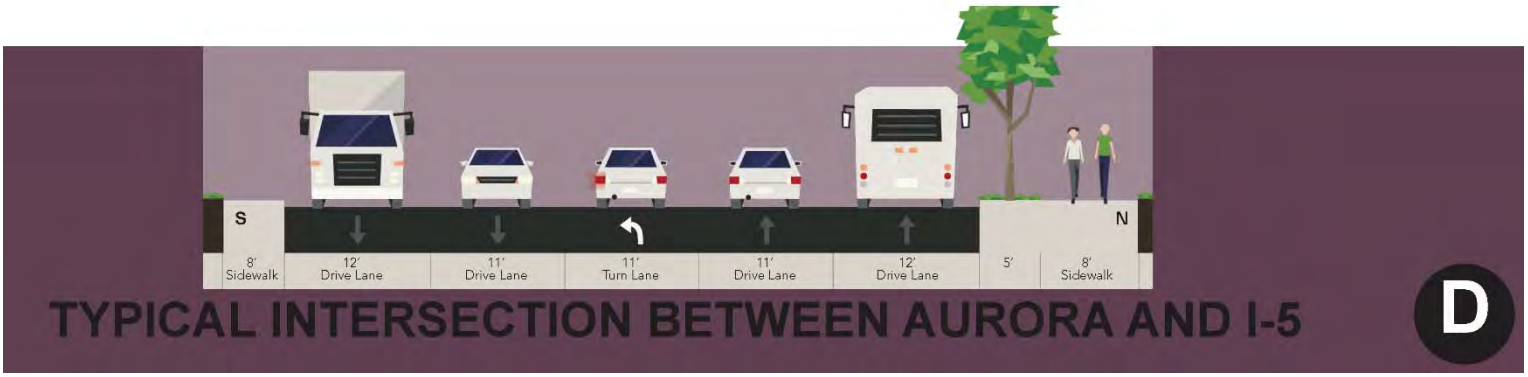
- Improved signalized intersections operations/efficiency by lengthened turn lanes and traffic signal timing changes. Improvements will minimize delays and congestion, benefiting buses, vehicles, and air quality
- Restriping to provide center turn lane. This allows turning vehicles to get out of the 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



<u>Aurora Avenue area improvement characteristics:</u>

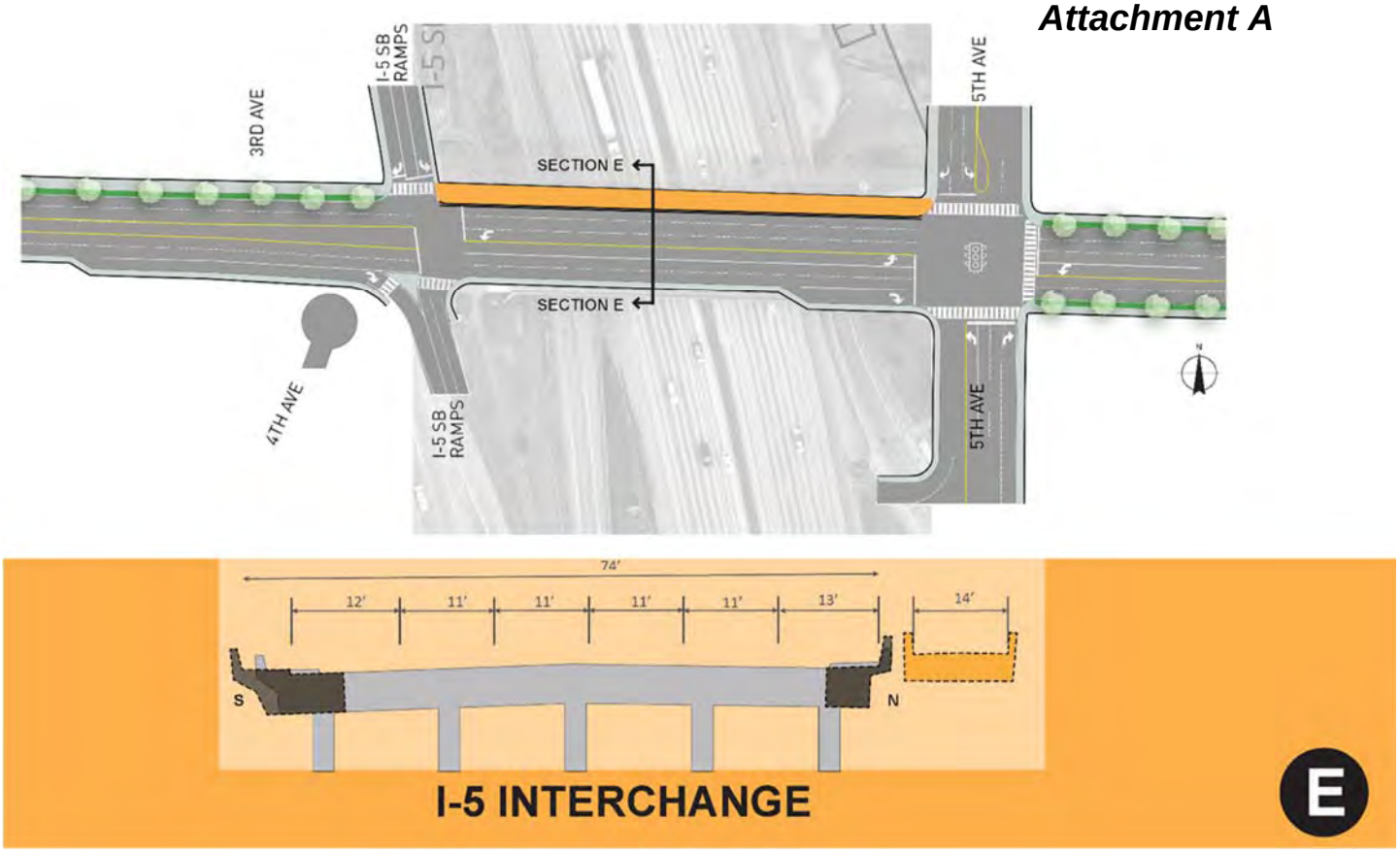
- Improved signalized intersections which include lengthened turn lanes, adding a left-turn lane, and traffic signal timing changes. Improvements will minimize delays and congestion, benefiting buses, vehicles, and air quality
- Transit signal priority to improve bus travel time
- Sidewalks upgraded 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.

<u>I-5 Interchange improvement characteristics:</u>

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:

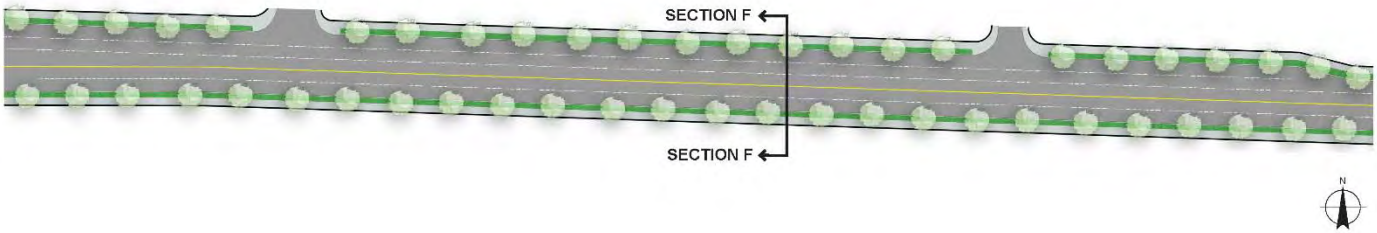
Roadway operations features:

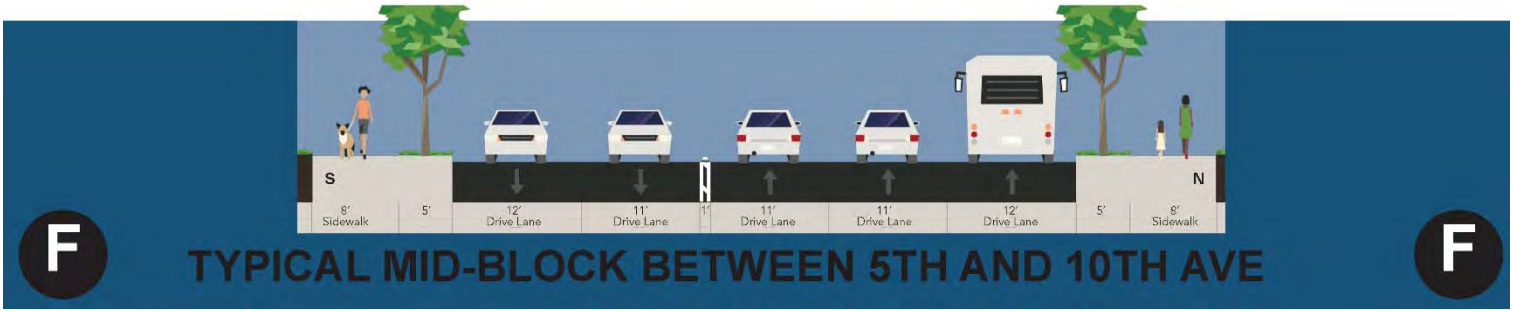
- New button button-hook on-ramp allows eastbound 145th to northbound I-5 traffic to turn right on 5th Avenue and loop under the bridge. This improves signal operations by removing left turns from 5th Avenue intersection.
- Existing 5-lane bridge will be widened to 6 lanes, providing additional storage 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:

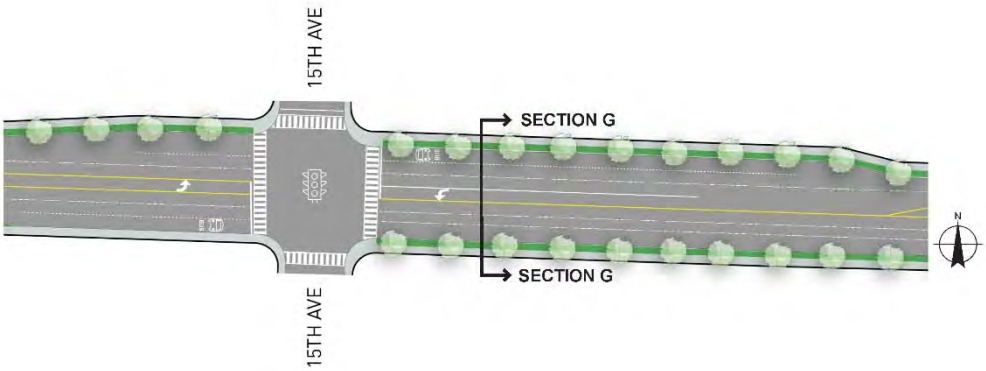
- Direct connection to front of light rail station (off of 5th Avenue) is strongly preferred by both Metro and Sound Transit. This is the safest and most convenient design approach for light rail users. The average travel time for buses to pull into the light rail station is less than one minute, which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





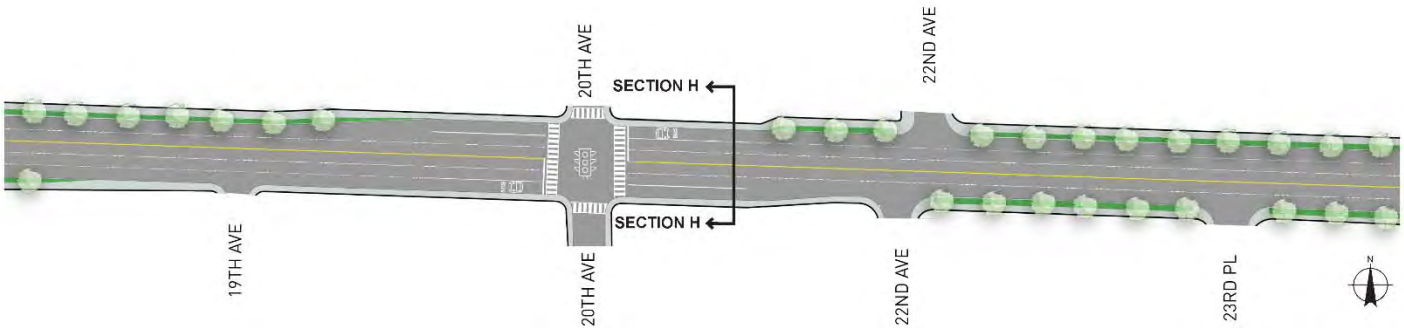
<u>Mid-block between 5th Avenue and 10th Avenue improvement characteristics:</u>

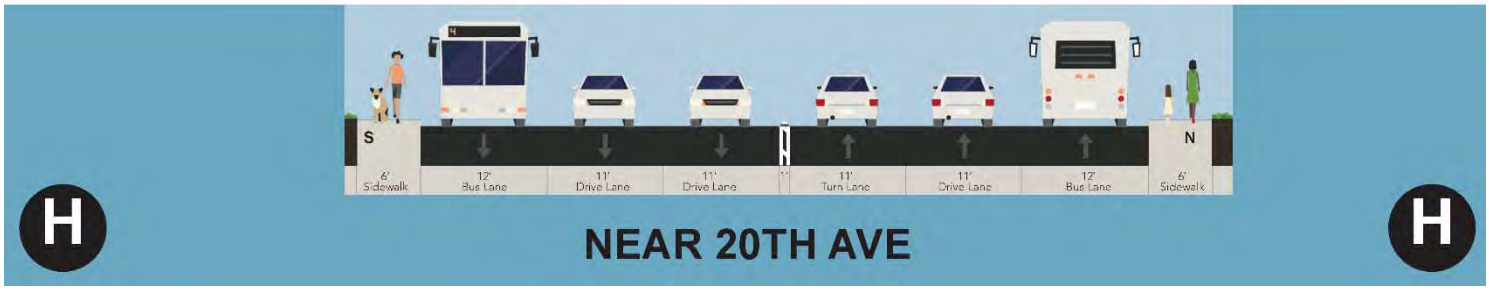
- Sidewalks upgraded to meet City Standards to create a safer pedestrian environment and to support pedestrian connections to bus stops
- Westbound BAT lane/queue jump lane to improve transit travel time
- Restricted left-turn access mid-block to improve traffic safety
- New wheelchair accessible bus 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>

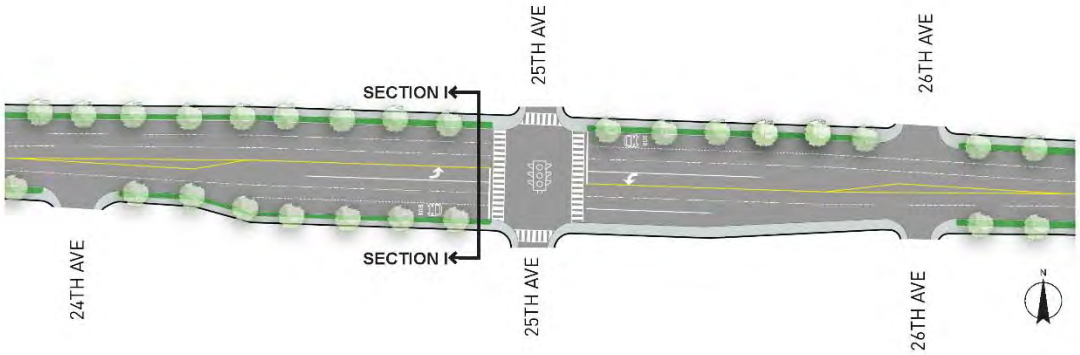
- Sidewalks upgraded to meet City Standards to create a safer pedestrian environment and to support pedestrian connections to bus stops
- Improved signalized intersections which include lengthened turn lanes, right turn lanes, and traffic signal timing changes. Improvements will minimize delays and congestion, 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





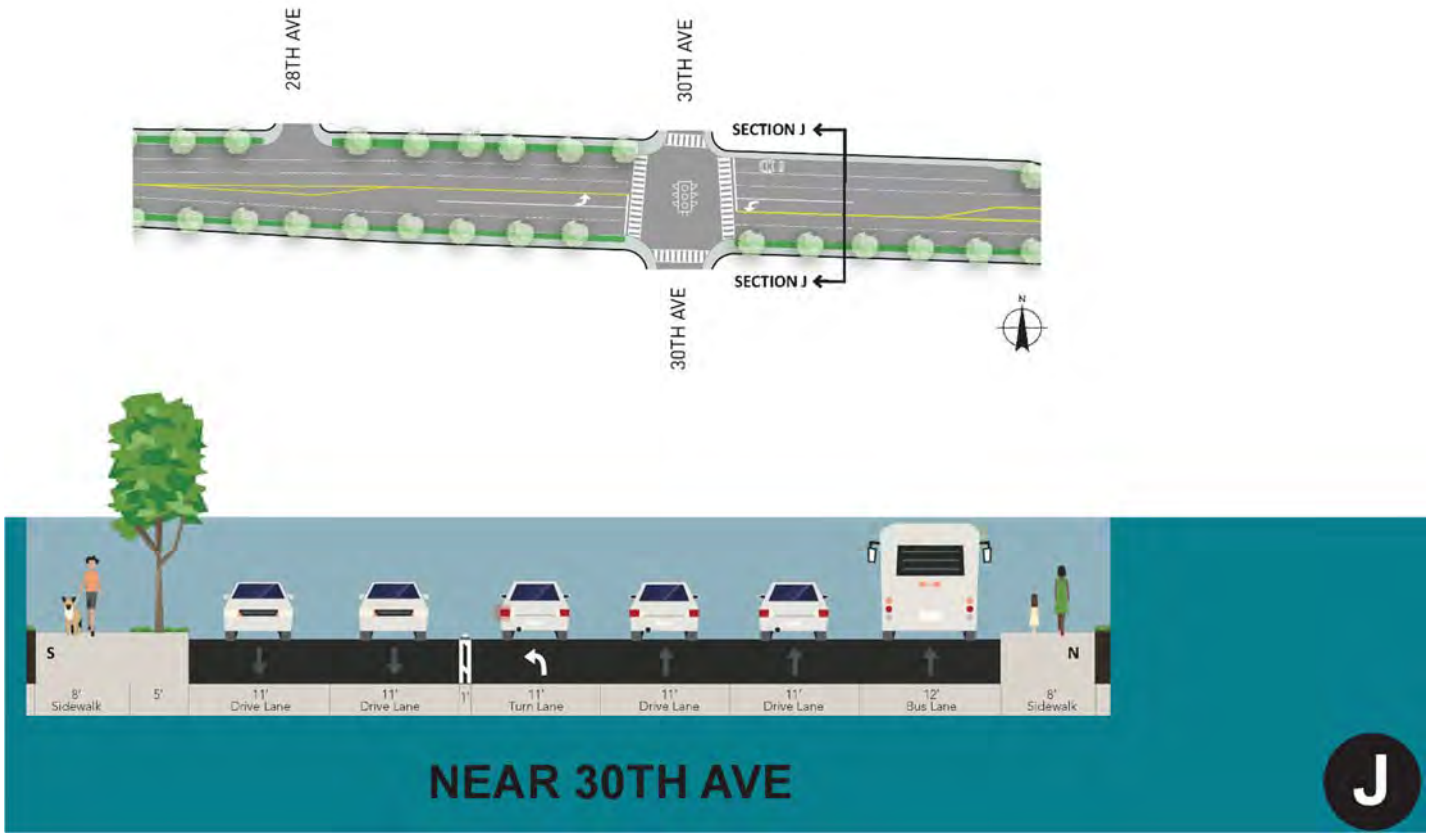
<u>20th Avenue intersection improvement characteristics:</u>

- 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

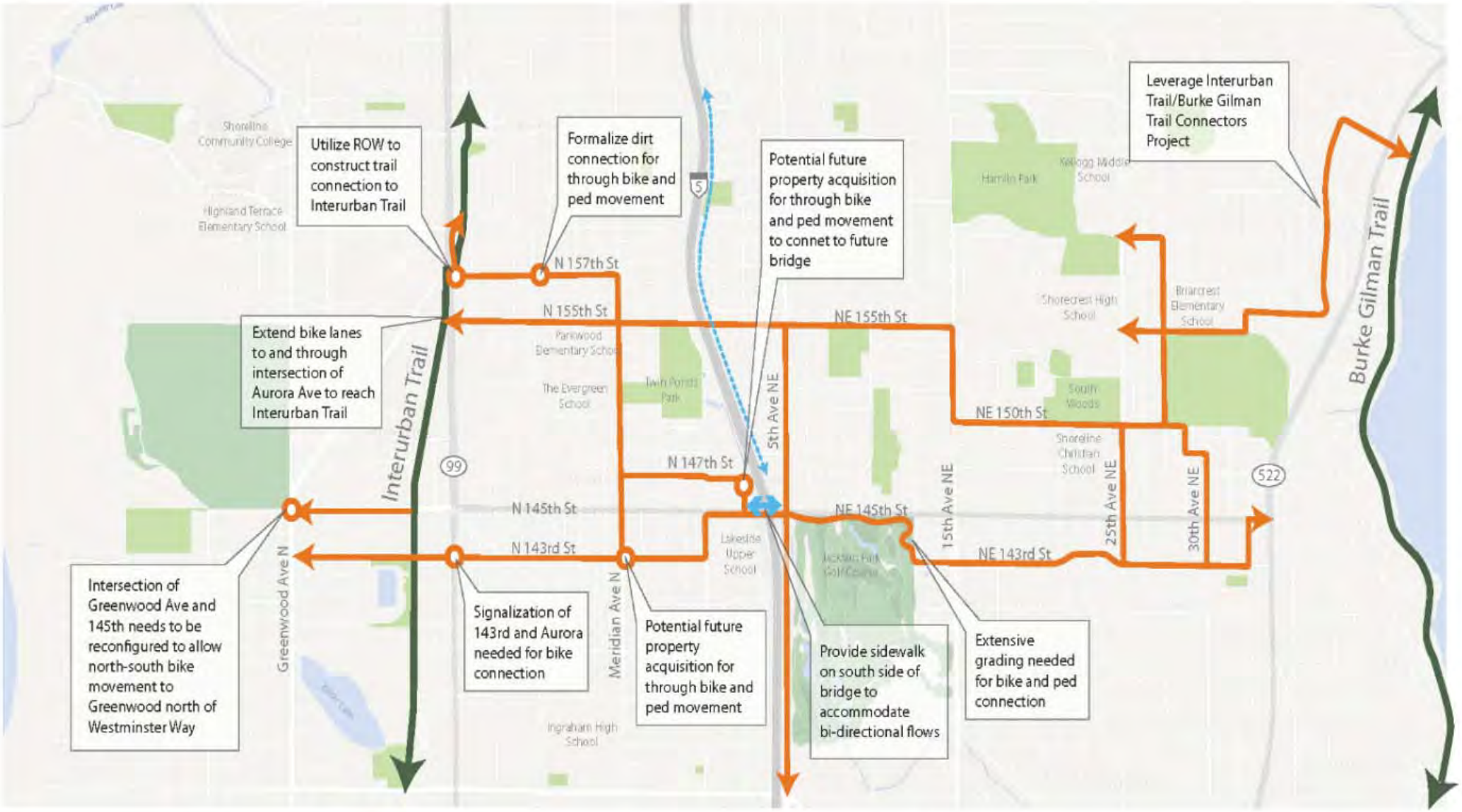


30th Avenue intersection improvement characteristics:

- 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

<u>SR522 intersection area 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, 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

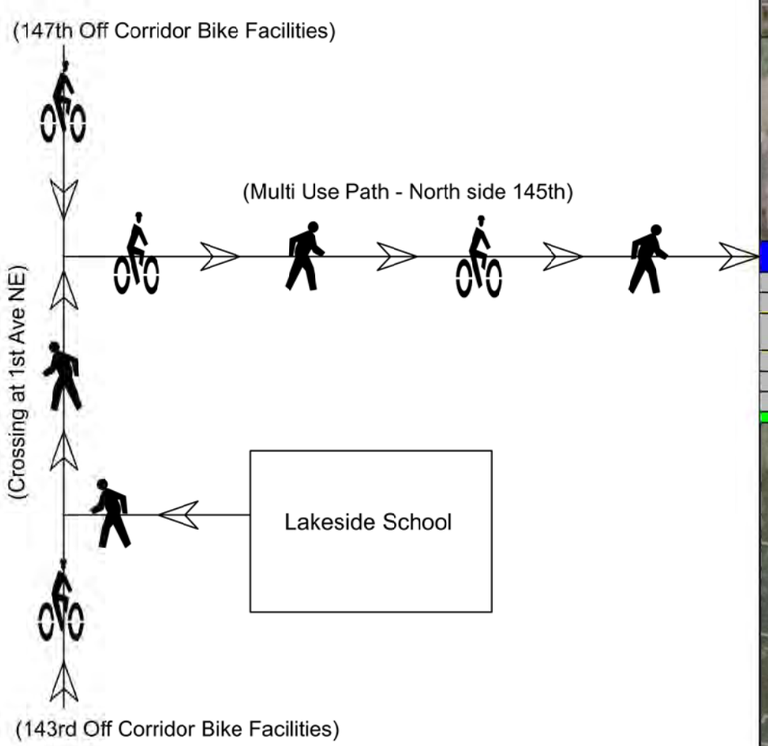
FIGURE 1

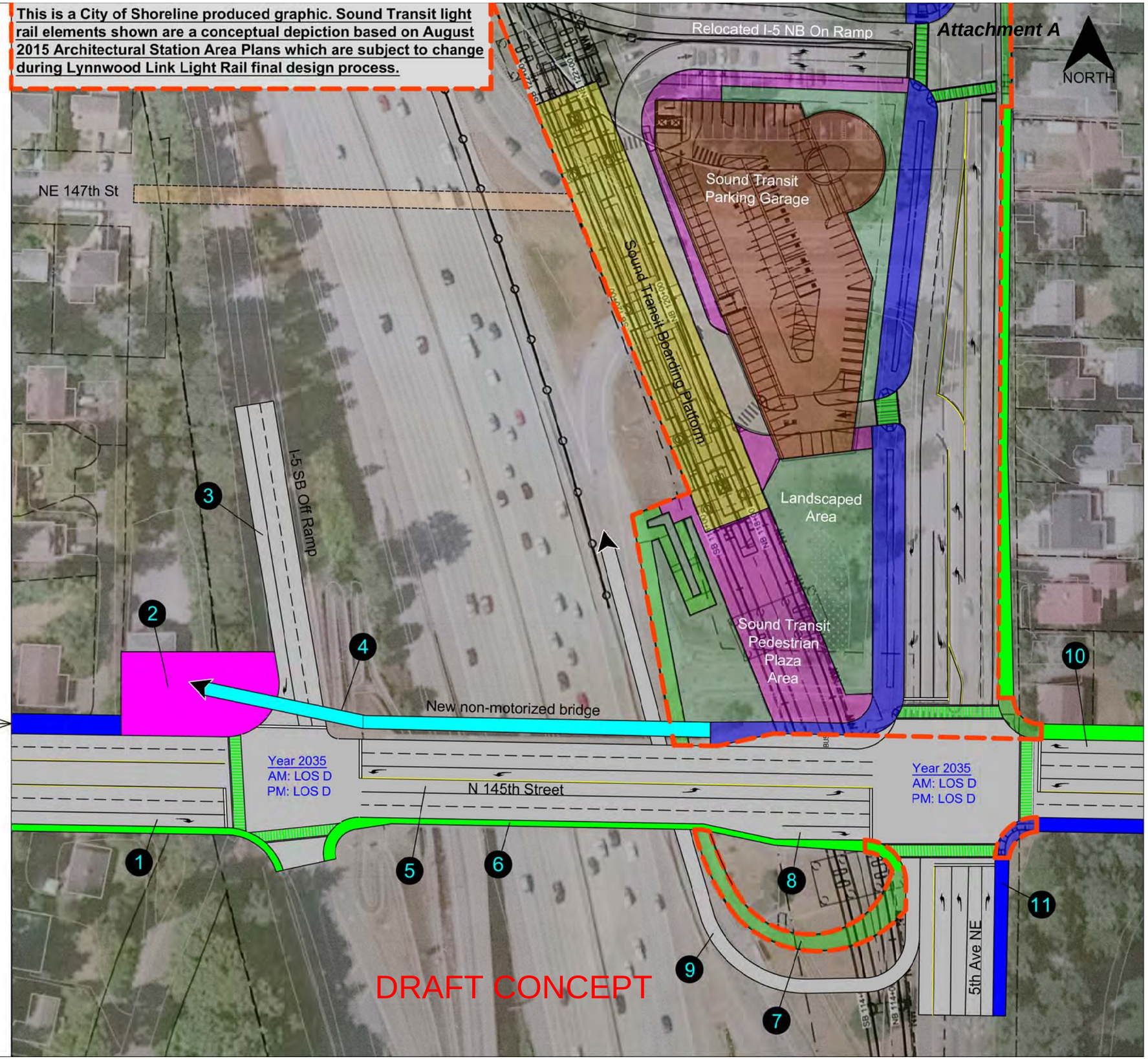
OFF CORRIDOR BIKE NETWORK PREFERRED CONCEPT

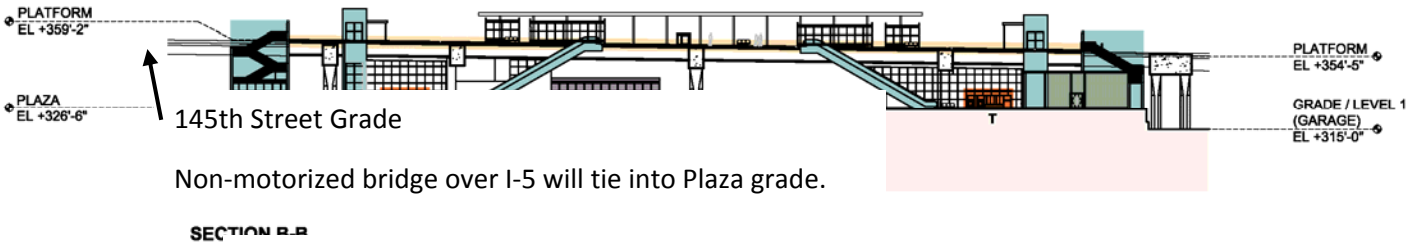
FIGURE 2.
N 145th Street Corridor Study / I-5 Interchange Concept

- 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.

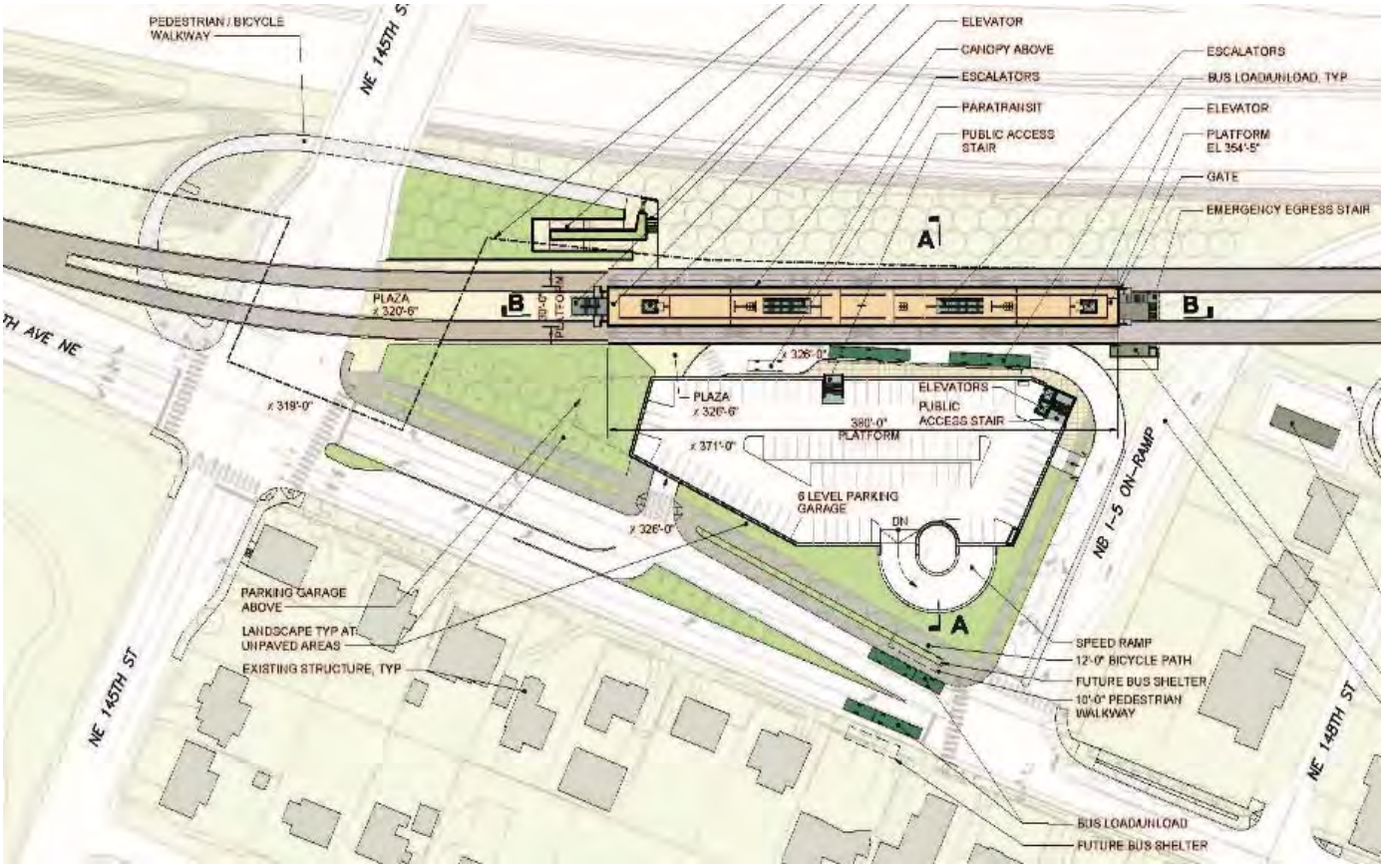






PROFILE

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

CITY OF SHORELINE

SHORELINE CITY COUNCIL
SUMMARY MINUTES OF REGULAR MEETING

Monday, April 11, 2016 Council Chambers - Shoreline City Hall
7:00 p.m. 17500 Midvale Avenue North

PRESENT: Mayor Roberts, Deputy Mayor Winstead, Councilmembers McGlashan, Scully, Hall, McConnell, and Salomon

ABSENT: None

1. CALL TO ORDER

At 7:00 p.m., the meeting was called to order by Mayor Roberts who presided.

8. ACTION ITEMS

(c) Adoption of the 145th Multimodal Corridor Study Preferred Design Concept

Kurt Seeman, Senior Transportation Planner; Nytasha Sowers, Transportation Services Manager; and Kendra Dedinsky, Traffic Engineer provided the staff report. Mr. Seeman recapped Council's March 21, 2016 discussion regarding the 145th Multimodal Corridor Study Preferred Design Concept. He then reviewed changes to the design characteristics for the Interstate 5 Interchange.

Ms. Dedinsky reviewed pedestrian improvements, the multi-use-path, north-south crosswalk, east-west crossing, a south side sidewalk, an underbridge, the plaza bridge landing, and traffic and transit improvements at the intersection.

Mr. Seeman reviewed the point where the City is in the overall process of the Corridor's improvement and said he anticipates the construction portion should finish in 2022. He presented the corridor contexts from 3rd Avenue NW to Aurora Avenue N; I-5 Intersection; Aurora Avenue N. to I-5; and I-5 to Lake City Way, and said they should be completed as four separate projects.

Councilmember McGlashan moved to adopt the Preferred Concept for the 145th Street Multimodal Corridor Study. The motion was seconded by Councilmember Scully.

Councilmember McGlashan said good work has been done on creating a design that is functional and has the least amount of impacts to homeowners. He clarified that the Council is only identifying what is to be studied in the Environmental Impact Study and anticipates changes will be made.

Councilmember Hall asked about having a non-motorized bridge at 147th Street. Mr. Seeman responded that the design identifies a future potential non-motorized crossing. Councilmember

Hall shared that for him to call this a preferred alternative he would like for it to be identified as a new non-motorized bridge.

Councilmember Scully commented that he agrees with the Community that something needs to be done about the Interchange. He said whatever is done should be minimal to get the traffic moving and expressed that he is pleased with the plan.

Councilmember McConnell stated that she is impressed with the work staff has done, specifically the new freeway entrances. She shared that keeping the future potential non-motorize bridge at 147th Street in the plan could help with future funding, but said it is not her priority since there is a bridge at 145th Street.

Deputy Mayor Winstead expressed concern that the recommended improvements are insufficient for the Community when the Light Rail Station opens in 2023. She asked the meaning of having a future potential non-motorized bridge identified in the preferred concept. Mr. Seeman responded that the improvements at 145th is staff's recommended preferred concept and said there was strong partnership support from the Washington State Department of Transport (WSDOT) and Sound Transit (ST) for the non-motorized bridge at 145th Street but not at 147th Street.

Mayor Roberts asked how the preferred concept will be affected by changes ST makes to the Light Rail Station and expressed concern with the underpass beneath 145th Street. He agreed with Councilmember Hall that the non-motorized bridge at 147th should remain in the preferred design concept and inform ST to design the Station to accommodate the bridge. He said there are many good reasons to have the connection there. Mr. Seeman commented that the Station and the 145th Street Corridor are two independent efforts that need to support each other, and in some areas require close coordination. Ms. Dedinsky commented that WSDOT and ST wanted to provide the underpass as an option if people found themselves on the south side of 145th Street. She also explained the underpass component may change.

Councilmember McGlashan asked if Mr. Poitras's drawings were considered and stated that the underpass beneath 145th Street needs to be there to get pedestrian on the south side of the street safely to the Station. He agreed that the 147th bridge should be included provisionally and not as a motorized bridge. Ms. Dedinsky commented that the design in Mr. Poitras's drawings decreases traffic flow efficiency, and prevents eastbound buses from making left hand turns. She explained that the areas are WSDOT and ST property and were not proposed in the Federal Interchange Justification Report process.

The motion passed unanimously, 7-0.

C. COST ESTIMATE – PREFERRED DESIGN CONCEPT

CITY OF SHORELINE Planning Level Opinion of Cost

Project:	NE 145th Street Corridor Study	Entered by:	GMS
Project ID:	Aurora to I-5	Reviewed by:	JAM
Concept #:	Preferred Design Concept	Updated:	5/3/2016

	Cost	Risk Assessment	Contingency %	Contingency Amount	Total
I. Right of Way	$8,678,074	HIGH	40%	$ 3,471,229.44	**$12,150,000**
II. Construction	$14,151,869	MEDIUM-HIGH	35%	$ 4,953,154.08	**$19,106,000**
III. Project Development	$4,953,154	MEDIUM-HIGH	35%	$ 1,733,603.93	**$6,687,000**
IV. Construction Management	$2,122,780	MEDIUM-HIGH	35%	$ 742,973.11	**$2,866,000**
V. Estimate of Probable Cost (2016)			**Subtotal**		**$40,809,000**

VI. Escalation		**Project Escalation**	**$5,363,000**
Year of cost index	2016		
Midpoint of Construction	2021		
Escalation Rate	**2.50%**		
TOTAL ESTIMATE OF PROBABLE COST			**$46,172,000**

See sheet 3 for Assumptions

NOTE: Cost estimates were updated after the Shoreline City Council approval of the Adopted Preferred Design Concept

The above cost opinion is in 2016 dollars for Comparative Level Evaluation of concepts. The cost does not include financial costs or operations and maintenance costs. In addition, there are no costs for the mitigation or remediation associated with the potential discovery of hazardous materials. The order of magnitude cost opinion shown has been prepared for guidance in project evaluation at the time of the estimate. The final costs of the project will depend on actual labor and material costs, actual site conditions, productivity, competitive market conditions, final project scope, final project schedule, and other variable factors. As a result, the final project costs will vary from the estimate presented above. Because of these factors, funding needs must be carefully reviewed prior to making specific financial decisions or establishing final budgets.

CITY OF SHORELINE Planning Level Opinion of Cost

Project:	**NE 145th Street Corridor Study**	Entered by:	**GMS**
Project ID:	Aurora to I-5	Reviewed by:	JAM
Concept No.:	Preferred Design Concept	Updated:	5/3/2016

		Neighborhood:		Residential	
I.	**RIGHT OF WAY**	**Unit**	**Quantity**	**Unit Cost**	**Total**
1	Land Purchase (excludes full takes)	**SF**	15,416	$ 30.00	$462,480
2	Damage / Cure	**%**	10%	of line 1	$46,248
3	Partial Building Take	**SF**	-	$ 150.00	$0
4	Full Acquisitions (sum up of assessed values)	**LS**	$ 6,397,000		$ 6,397,000.00
5	Relocation	**EA**	20.00	$ 10,000.00	$200,000
6	Acquisition Admin. Costs (per Parcel)	**EA**	42.00	$ 3,000.00	$126,000
7	Condemnation Contingency (Estimated)		20%	of lines 1 through 6	$1,446,346
8	**Right of Way Sub-Total**				$8,678,074

II.	**CONSTRUCTION**	**Unit**	**Quantity**	**Unit Cost**	**Total**	
9	Demolition/Clearing	**SF**	540,869	$ 1.00	$540,869	
10	Roadway Excavation	**SF**	540,869	$ 0.25	$135,217	
11	Bridge Demolition & Disposal	**SF**	-	$ 60.00	$0	
12	Curb Ramps	**EA**	62	$ 2,900.00	$179,800	
13	New Pavement - HMA	**LANE-MILE**	2.20	$ 480,000.00	$1,056,000	
14	Pavement Overlay	**LANE-MILE**	2.40	$ 150,000.00	$360,000	
15	Asphalt Path	**SY**	-	$ 20.00	$0	
16	Sidewalks	**SY**	7,400	$ 60.00	$444,000	
17	Curb and Gutter	**LF**	8,700	$ 25.00	$217,500	
18	Walls - Cut (Soil Nail)	**LF**	400	$ 100.00	$40,000	
19	Walls - Fill (MSE)	**LF**	150	$ 80.00	$12,000	
20	Drainage for Roadway	**LANE-MILE**	4.60	$ 180,000.00	$828,000	
21	Stormwater Management & Utility Fees	**LANE-MILE**	2.20	$ 150,000.00	$330,000	
22	Utility Modifications	**MILE**	0.90	$ 100,000.00	$90,000	
23	Utility Undergrounding (SCL)	**LF**	4,500	$ 760.00	$3,420,000	Include?
24	New Water Main	**MILE**	-	$ 100,000.00	$0	
25	Landscaping	**SY**	1,600	$ 70.00	$112,000	
26	Traffic Signal New	**EA**	4	$ 320,000.00	$1,280,000	
27	Traffic Signal Modification	**EA**	-	$ 150,000.00	$0	
28	Channelization / Signing	**LANE-MILE**	5.60	$ 25,000.00	$140,000	
29	Illumination	**MILE**	0.90	$ 500,000.00	$450,000	
30	TESC	**LS**	3%	of lines 9 through 29	$289,062	
31	*user custom*			$ -	$0	
32	*user custom*			$ -	$0	
33	*user custom*			$ -	$0	
34	*user custom*			$ -	$0	
35	*user custom*			$ -	$0	
36	Construction Traffic Control	**%**	10%	of lines 9 through 35	$992,445	
37	Miscellaneous / Allowance	**%**	15%	of lines 9 through 36	$1,637,534	
38	Mobilization	**%**	10%	of lines 9 through 37	$1,255,443	
39	WA State Sales Tax (Non-city utilities)	**%**	10%	of line 23 & 24	$342,000	
40	**Construction Sub-Total**				$14,151,869	

Assumptions listed on next page

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CITY OF SHORELINE Planning Level Opinion of Cost

Project:	**NE 145th Street Corridor Study**	Entered by:	**GMS**
Project ID:	Aurora to I-5	Reviewed by:	JAM
Concept No.:	Preferred Design Concept	Updated:	5/3/2016

	III. Project Development	Unit	Quantity	Unit Cost	Total
41	PE and Environmental Documentation	%	5%	of line 40	$707,593
42	Design Engineering	%	15%	of line 40	$2,122,780
43	Agency Administration	%	12%	of line 40	$1,698,224
44	Public Art	%	1%	of line 40	$141,519
45	Community Engagement	%	2%	of line 40	$283,037
46				of line 40	$0
47	**Project Development Sub-Total**				$4,953,154

	IV. Construction Management	Unit	Quantity	Unit Cost	Total
48	Construction Management	%	15%	of line 40	$2,122,780
49	*user custom*			of line 40	$0
50	*user custom*			of line 40	$0
51	Monitoring agreement cost	%		of line 40	$0
52	**Construction Management Sub-Total**				$2,122,780

Assumptions:

Based on "Preliminary Preferred Design Concept"
Project limits are from Aurora Avenue to I-5 SB ramps
Includes new traffic signals at Aurora, Ashworth, Meridian, and 1st Ave
This concept aims at rehabilitating exisiting pavement and sidewalks
5' sidewalk on South side
8' sidewalk plus 5' amenity zone on north side
Assumes new striping and channelization for entire corridor
Utility Undergrounding is included.
Water main is not included.

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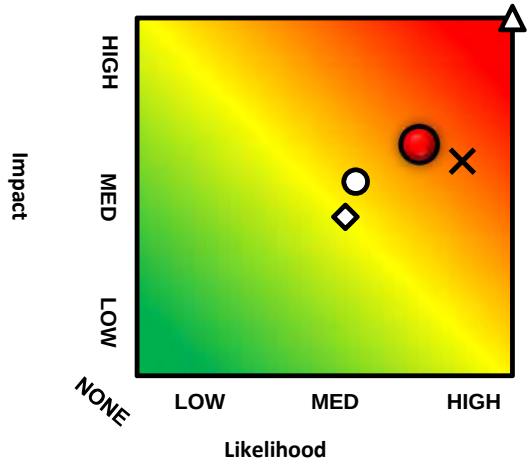
CITY OF SHORELINE Planning Level Opinion of Cost

Project:	**NE 145th Street Corridor Study**	Entered by:	**GMS**
Project ID:	Aurora to I-5	Reviewed by:	JAM
Concept No.:	Preferred Design Concept	Updated:	5/3/2016

Risk Considerations	**Likelihood**	**Impact**	**Risk Assesment**
Environmental Permitting			**MEDIUM-HIGH**
Presence of wetlands	Low	Low	LOW
Impacts to ecological sensitive areas	Low	Low	LOW
Multi-agency approvals needed	High	Med	HIGH
Design and Construction			**MEDIUM-HIGH**
Unknown soil conditions	Med	Low	LOW
Contaminated soils	Low	Med	LOW
Unknown utilities	High	Med	HIGH
Underground utility project elements	Med	Med	MEDIUM
Significant structures	Med	Med	MEDIUM
Work within water table	Low	Low	LOW
Little project definition, many unknowns	High	High	HIGH
New technology	None	None	NONE
Right of Way			**HIGH**
Significant property impacts	High	High	HIGH
Other Factors			**HIGH**
Project scope affected by other projects	Med	Med	MEDIUM
Controversial project	High	Med	HIGH
Multi-jurisdictional project	High	Med	HIGH
Federal funding	High	Med	HIGH
Time constraint	Med	Low	LOW



Risk Matrix

- ◇ Environmental Permitting
- ○ Design and Construction
- △ Right of Way
- ✕ Other Factors
- ● Aggregate Project Risk

CITY OF SHORELINE Planning Level Opinion of Cost

Project:	145th Street Corridor Study: I-5 Interchange	Entered by:	GMS
Project ID:	I-5 Interchange Area	Reviewed by:	JAM
Concept #:	Preferred Concept	Updated:	3/3/2016

	Cost	Risk Assessment	Contingency %	Contingency Amount	Total
I. Right of Way	$110,203	MEDIUM	30%	$ 33,060.96	**$144,000**
II. Construction	$9,677,663	MEDIUM	30%	$ 2,903,298.91	**$12,581,000**
III. Project Development	$3,196,852	MEDIUM-HIGH	35%	$ 1,118,898.26	**$4,316,000**
IV. Construction Management	$1,451,649	MEDIUM	30%	$ 435,494.84	**$1,888,000**
V. Estimate of Probable Cost (2016)			**Subtotal**		**$18,929,000**

VI. Escalation — **Project Escalation** **$2,488,000**

Year of cost index	2016
Midpoint of Construction	2021
Escalation Rate	**2.50%**

TOTAL ESTIMATE OF PROBABLE COST **$21,417,000**

See sheet 3 for Assumptions

NOTE: Cost estimates were updated after the Shoreline City Council approval of the Adopted Preferred Design Concept

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CITY OF SHORELINE Planning Level Opinion of Cost

Project:	145th Street Corridor Study: I-5 Interchange	Entered by:	GMS
Project ID:	I-5 Interchange Area	Reviewed by:	JAM
Concept No.:	Preferred Concept	Updated:	3/3/2016

		Neighborhood:		Residential	
I.	**RIGHT OF WAY**	**Unit**	**Quantity**	**Unit Cost**	**Total**
1	Land Purchase (excludes full takes)	SF	2,019	$ 40.00	$80,760
2	Damage / Cure	%	10%	of line 1	$8,076
3	Partial Building Take	SF	-	$ 150.00	$0
4	Full Acquisitions (sum up of assessed values)	LS	$ -		$0
5	Relocation	EA	-	$ 10,000.00	$0
6	Acquisition Admin. Costs (per Parcel)	EA	1.00	$ 3,000.00	$3,000
7	Condemnation Contingency (Estimated)		20%	of lines 1 through 6	$18,367
8	**Right of Way Sub-Total**				$110,203
II.	**CONSTRUCTION**	**Unit**	**Quantity**	**Unit Cost**	**Total**
9	Demolition/Clearing	SF	150,988	$ 1.00	$150,988
10	Roadway Excavation	SF	150,988	$ 1.00	$150,988
11	Bridge Deck Demolition & Disposal	SF	3,000.00	$ 60.00	$180,000
12	Curb Ramps	EA	8	$ 2,900.00	$23,200
13	New Pavement - HMA	LANE-MILE	1.10	$ 480,000.00	$528,000
14	Pavement Overlay	LANE-MILE	0.70	$ 150,000.00	$105,000
15	Asphalt Path	SY	-	$ 20.00	$0
16	Sidewalks	SY	1,700	$ 60.00	$102,000
17	Curb and Gutter	LF	2,700	$ 25.00	$67,500
18	Walls - Cut (Soil Nail)	LF	-	$ 600.00	$0
19	Walls - Fill (MSE)	LF	-	$ 300.00	$0
20	Drainage for Roadway	LANE-MILE	1.80	$ 180,000.00	$324,000
21	Stormwater Management & Utility Fees	LANE-MILE	1.80	$ 150,000.00	$270,000
22	Utility Modifications	MILE	0.16	$ 100,000.00	$16,000
23	Utility Undergrounding (SCL)	LF	-	$ 580.00	$0
24	New Water Main	MILE	-	$ 100,000.00	$0
25	Landscaping	SY	200	$ 70.00	$14,000
26	Traffic Signal New	EA	1	$ 320,000.00	$320,000
27	Traffic Signal Modification	EA	1	$ 150,000.00	$150,000
28	Channelization / Signing	LANE-MILE	2.10	$ 25,000.00	$52,500
29	Illumination	MILE	0.16	$ 500,000.00	$80,000
30	TESC	LS	3%	of lines 9 through 29	$76,025
31				$ -	$0
32	Pedestrian Bridge	SF	4,400	$ 400.00	$1,760,000
33	Bridge Widening	SF	4,000	$ 600.00	$2,400,000
34	*user custom*			$ -	$0
35	*user custom*			$ -	$0
36	Construction Traffic Control	%	13%	of lines 9 through 35	$880,126
37	Miscellaneous / Allowance	%	15%	of lines 9 through 36	$1,147,549
38	Mobilization	%	10%	of lines 9 through 37	$879,788
39	WA State Sales Tax (Non-city utilities)	%	10%	of line 23 & 24	$0
40	**Construction Sub-Total**				$9,677,663

Assumptions listed on next page

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CITY OF SHORELINE Planning Level Opinion of Cost

Project:	145th Street Corridor Study: I-5 Interchange	Entered by:	GMS
Project ID:	I-5 Interchange Area	Reviewed by:	JAM
Concept No.:	Preferred Concept	Updated:	3/3/2016

	III. Project Development	Unit	Quantity	Unit Cost	Total
41	PE and Environmental Documentation	%	5%	of line 40	$483,883
42	Design Engineering	%	15%	of line 40	$1,451,649
43	Agency Administration	%	10%	of line 40	$967,766
44	Public Art	%	1%	of line 40	$96,777
45	Community Engagement	%	1%	of line 40	$96,777
46	*IJR*	LS	$ 100,000.00		$ 100,000.00
47	**Project Development Sub-Total**				$3,196,852

	IV. Construction Management	Unit	Quantity	Unit Cost	Total
48	Construction Management	%	15%	of line 40	$1,451,649
49	*user custom*			of line 40	$0
50	*user custom*			of line 40	$0
51	Monitoring agreement cost	%		of line 40	$0
52	**Construction Management Sub-Total**				$1,451,649

Assumptions:

Based on "Preliminary Preferred Design Concept"
Assumes new traffic signal at 5th Ave
Assumes new signal at SB ramps
Assumes 14' non-motorized ped bridge
Assumes demo of sidewalks on existing bridge, and bridge widening for lane and sidewalk
Property acquisition from Lakeside school needed for additional right turn lane to SB I-5
Sidewalks and roadway improvements from 3rd Ave to 5th Ave, includes half of 5th Avenue intersection
Includes ramp improvements, additional lane SB off ramp
Button hook ramp, eastbound to northbound I-5
Property acquisition for sidewalk on north side of 145th street is not included
No costs associated with Thornton Creek included, exempt per ST EIS.
Assumes reconstruction of NB ramp from button hook to the merge with existing NB ramp.

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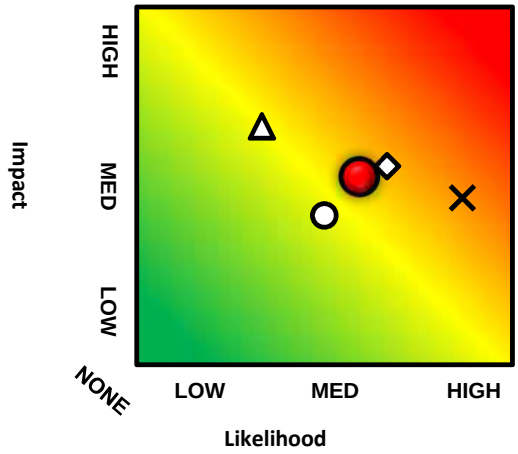
CITY OF SHORELINE Planning Level Opinion of Cost

Project:	145th Street Corridor Study: I-5 Interchange	Entered by:	**GMS**
Project ID:	I-5 Interchange Area	Reviewed by:	JAM
Concept No.:	Preferred Concept	Updated:	3/3/2016

Risk Considerations	**Likelihood**	**Impact**	**Risk Assesment**
Environmental Permitting			**MEDIUM-HIGH**
Presence of wetlands	Low	Low	LOW
Impacts to ecological sensitive areas	Med	Med	MEDIUM
Multi-agency approvals needed	High	Med	HIGH
Design and Construction			**MEDIUM**
Unknown soil conditions	Low	Low	LOW
Contaminated soils	Low	Low	LOW
Unknown utilities	Med	Med	MEDIUM
Underground utility project elements	Low	Low	LOW
Significant structures	High	Med	HIGH
Work within water table	Low	Low	LOW
Little project definition, many unknowns	High	Med	HIGH
New technology	None	None	NONE
Right of Way			**MEDIUM**
Significant property impacts	Low	Med	MEDIUM
Other Factors			**MEDIUM-HIGH**
Project scope affected by other projects	High	Med	HIGH
Controversial project	Med	Low	LOW
Multi-jurisdictional project	High	Med	HIGH
Federal funding	High	Low	MEDIUM
Time constraint	Med	Low	LOW



Risk Matrix

- Environmental Permitting
- Design and Construction
- Right of Way
- Other Factors
- Aggregate Project Risk

CITY OF SHORELINE Planning Level Opinion of Cost

Project:	145th Street Corridor Study	Entered by:	GMS
Project ID:	Aurora Ave to 3rd Ave NW	Reviewed by:	EE
Concept #:	Preferred Design Concept	Updated:	5/3/2016

	Cost	Risk Assessment	Contingency %	Contingency Amount	Total
I. Right of Way	$451,406	MEDIUM	30%	$ 135,421.92	**$587,000**
II. Construction	$3,999,619	MEDIUM	30%	$ 1,199,885.61	**$5,200,000**
III. Project Development	$1,559,851	MEDIUM	30%	$ 467,955.39	**$2,028,000**
IV. Construction Management	$599,943	MEDIUM	30%	$ 179,982.84	**$780,000**
V. Estimate of Probable Cost (2016)			**Subtotal**		**$8,595,000**

VI. Escalation

Year of cost index	2016	**Project Escalation**	**$1,130,000**
Midpoint of Construction	2021		
Escalation Rate	**2.50%**		

TOTAL ESTIMATE OF PROBABLE COST **$9,725,000**

See sheet 3 for Assumptions

NOTE: Cost estimates were updated after the Shoreline City Council approval of the Adopted Preferred Design Concept

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CITY OF SHORELINE Planning Level Opinion of Cost

Project:	**145th Street Corridor Study**	Entered by:	**GMS**
Project ID:	Aurora Ave to 3rd Ave NW	Reviewed by:	EE
Concept No.:	Preferred Design Concept	Updated:	5/3/2016

		Neighborhood:		Residential		
I.	**RIGHT OF WAY**	**Unit**	**Quantity**	**Unit Cost**	**Total**	
1	Land Purchase (excludes full takes)	**SF**	9,884	$ 30.00	$296,520	
2	Damage / Cure	**%**	10%	of line 1	$29,652	
3	Partial Building Take	**SF**	-	$ 150.00	$0	
4	Full Acquisitions (sum up of assessed values)	**LS**	$ -		$ -	
5	Relocation	**EA**	-	$ 10,000.00	$0	
6	Acquisition Admin. Costs (per Parcel)	**EA**	10.00	$ 5,000.00	$50,000	
7	Condemnation Contingency (Estimated)		20%	of lines 1 through 6	$75,234	
8	**Right of Way Sub-Total**				$451,406	
II.	**CONSTRUCTION**	**Unit**	**Quantity**	**Unit Cost**	**Total**	
9	Demolition/Clearing	**SF**	225,073	$ 1.00	$225,073	
10	Roadway Excavation	**SF**	225,073	$ 0.25	$56,268	
11	Bridge Demolition & Disposal	**SF**	-	$ 60.00	$0	
12	Curb Ramps	**EA**	30	$ 2,900.00	$87,000	
13	New Pavement - HMA	**LANE-MILE**	1.00	$ 480,000.00	$480,000	
14	Pavement Overlay	**LANE-MILE**	0.70	$ 150,000.00	$105,000	
15	Asphalt Path	**SY**	-	$ 20.00	$0	
16	Sidewalks	**SY**	2,800	$ 60.00	$168,000	
17	Curb and Gutter	**LF**	3,900	$ 25.00	$97,500	
18	Walls - Cut (Soil Nail)	**LF**	300	$ 600.00	$180,000	
19	Walls - Fill (MSE)	**LF**	100	$ 300.00	$30,000	
20	Drainage for Roadway	**LANE-MILE**	1.00	$ 180,000.00	$180,000	
21	Stormwater Management & Utility Fees	**LANE-MILE**	1.00	$ 150,000.00	$150,000	
22	Utility Modifications	**MILE**	-	$ 100,000.00	$0	
23	Utility Undergrounding (SCL)	**LF**	-	$ 760.00	$0	Not included
24	New Water Main	**MILE**	-	$ 100,000.00	$0	
25	Landscaping	**SY**	400	$ 70.00	$28,000	
26	Traffic Signal New	**EA**	2	$ 320,000.00	$640,000	
27	Traffic Signal Modification	**EA**	-	$ 150,000.00	$0	
28	Channelization / Signing	**LANE-MILE**	2.90	$ 25,000.00	$72,500	
29	Illumination	**MILE**	-	$ 500,000.00	$0	
30	TESC	**LS**	3%	of lines 9 through 29	$74,980	
31	*Critical Areas Mitigation*	**LS**	1	$ 300,000.00	$300,000	
32	*user custom*			$ -	$0	
33	*user custom*			$ -	$0	
34	*user custom*			$ -	$0	
35	*user custom*			$ -	$0	
36	Construction Traffic Control	**%**	10%	of lines 9 through 35	$287,432	
37	Miscellaneous / Allowance	**%**	15%	of lines 9 through 36	$474,263	
38	Mobilization	**%**	10%	of lines 9 through 37	$363,602	
39	WA State Sales Tax (Non-city utilities)	**%**	10%	of line 23 & 24	$0	
40	**Construction Sub-Total**				$3,999,619	

Assumptions listed on next page

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CITY OF SHORELINE Planning Level Opinion of Cost

Project:	**145th Street Corridor Study**	Entered by:	**GMS**
Project ID:	Aurora Ave to 3rd Ave NW	Reviewed by:	EE
Concept No.:	Preferred Design Concept	Updated:	5/3/2016

		Unit	Quantity	Unit Cost	Total
III.	**Project Development**				
41	PE and Environmental Documentation	%	6%	of line 40	$239,977
42	Design Engineering	%	15%	of line 40	$599,943
43	Agency Administration	%	15%	of line 40	$599,943
44	Public Art	%	1%	of line 40	$39,996
45	Community Engagement	%	2%	of line 40	$79,992
46				of line 40	$0
47	**Project Development Sub-Total**				$1,559,851

		Unit	Quantity	Unit Cost	Total
IV.	**Construction Management**				
48	Construction Management	%	15%	of line 40	$599,943
49	*user custom*			of line 40	$0
50	*user custom*			of line 40	$0
51	Monitoring agreement cost	%		of line 40	$0
52	**Construction Management Sub-Total**				$599,943

Assumptions:

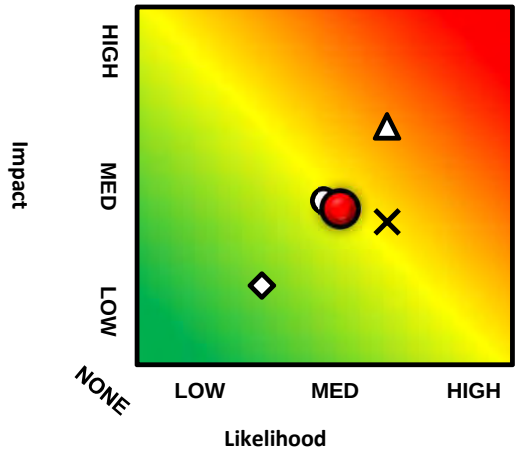
Based on "Preliminary Preferred Design Concept"
Project limits are from 3rd Ave NW to Aurora Ave N
This concept aims at rehabilitating exisiting pavement and sidewalks
5' sidewalks on South side
Does not include utility undergrounding
Restriping only from Linden to Greenwood road-diet

The above cost opinion is in 2016 dollars for Comparative Level Evaluation of concepts. The cost does not include escalation, financial costs, or operations and maintenance costs. In addition, there are no costs for the mitigation or remediation associated with the potential discovery of hazardous materials. The order of magnitude cost opinion shown has been prepared for guidance in project evaluation at the time of the estimate. The final costs of the project will depend on actual labor and material costs, actual site conditions, productivity, competitive market conditions, final project scope, final project schedule, and other variable factors. As a result, the final project costs will vary from the estimate presented above. Because of these factors, funding needs must be carefully reviewed prior to making specific financial decisions or establishing final budgets.

CITY OF SHORELINE Planning Level Opinion of Cost

Project:	**145th Street Corridor Study**	Entered by:	**GMS**
Project ID:	Aurora Ave to 3rd Ave NW	Reviewed by:	EE
Concept No.:	Preferred Design Concept	Updated:	5/3/2016

Risk Considerations	**Likelihood**	**Impact**	**Risk Assesment**
Environmental Permitting			**LOW-MEDIUM**
Presence of wetlands	Low	Low	LOW
Impacts to ecological sensitive areas	None	None	NONE
Multi-agency approvals needed	Med	Low	LOW
Design and Construction			**MEDIUM**
Unknown soil conditions	Med	Low	LOW
Contaminated soils	Low	Low	LOW
Unknown utilities	High	Med	HIGH
Underground utility project elements	Med	High	HIGH
Significant structures	Low	Low	LOW
Work within water table	None	None	NONE
Little project definition, many unknowns	Med	Med	MEDIUM
New technology	Low	Low	LOW
Right of Way			**MEDIUM**
Significant property impacts	Med	Med	MEDIUM
Other Factors			**LOW-MEDIUM**
Project scope affected by other projects	Med	Low	LOW
Controversial project	Med	Med	MEDIUM
Multi-jurisdictional project	High	Low	MEDIUM
Federal funding	Med	Low	LOW
Time constraint	Low	Low	LOW



Risk Matrix

- Environmental Permitting
- Design and Construction
- Right of Way
- Other Factors
- Aggregate Project Risk

CITY OF SHORELINE Planning Level Opinion of Cost

Project:	145th Street Corridor Study	Entered by:	GMS
Project ID:	SR522 to I-5	Reviewed by:	JAM
Concept #:	Preferred Design Concept	Updated:	2/22/2016

	Cost	Risk Assessment	Contingency %	Contingency Amount	Total
I. Right of Way	$12,252,010	HIGH	40%	$ 4,900,803.84	**$17,153,000**
II. Construction	$28,871,867	MEDIUM-HIGH	35%	$ 10,105,153.43	**$38,978,000**
III. Project Development	$9,816,435	MEDIUM-HIGH	35%	$ 3,435,752.17	**$13,253,000**
IV. Construction Management	$4,330,780	MEDIUM-HIGH	35%	$ 1,515,773.01	**$5,847,000**
V. Estimate of Probable Cost (2016)			**Subtotal**		**$75,231,000**

VI. Escalation — **Project Escalation** **$9,886,000**

Year of cost index	2016
Midpoint of Construction	2021
Escalation Rate	**2.50%**

TOTAL ESTIMATE OF PROBABLE COST **$85,117,000**

See sheet 3 for Assumptions

NOTE: Cost estimates were updated after the Shoreline City Council approval of the Adopted Preferred Design Concept

The above cost opinion is in 2015 dollars for Comparative Level Evaluation of concepts. The cost does not include financial costs or operations and maintenance costs. In addition, there are no costs for the mitigation or remediation associated with the potential discovery of hazardous materials. The order of magnitude cost opinion shown has been prepared for guidance in project evaluation at the time of the estimate. The final costs of the project will depend on actual labor and material costs, actual site conditions, productivity, competitive market conditions, final project scope, final project schedule, and other variable factors. As a result, the final project costs will vary from the estimate presented above. Because of these factors, funding needs must be carefully reviewed prior to making specific financial decisions or establishing final budgets.

CITY OF SHORELINE Planning Level Opinion of Cost

Project:	**145th Street Corridor Study**	Entered by:	**GMS**
Project ID:	SR522 to I-5	Reviewed by:	JAM
Concept No.:	Preferred Design Concept	Updated:	2/22/2016

		Neighborhood:		Residential	
I.	**RIGHT OF WAY**	**Unit**	**Quantity**	**Unit Cost**	**Total**
1	Land Purchase (excludes full takes)	**SF**	**129,576**	$ 30.00	$3,887,280
2	Damage / Cure	**%**	10%	of line 1	$388,728
3	Partial Building Take	**SF**	-	$ 150.00	$0
4	Full Acquisitions (sum up of assessed values)	**LS**	$ 5,450,000.00		$ 5,450,000.00
5	Relocation	**EA**	16.00	$ 10,000.00	$160,000
6	Acquisition Admin. Costs (per Parcel)	**EA**	108.00	$ 3,000.00	$324,000
7	Condemnation Contingency (Estimated)		20%	of lines 1 through 6	$2,042,002
8	**Right of Way Sub-Total**				$12,252,010
II.	**CONSTRUCTION**	**Unit**	**Quantity**	**Unit Cost**	**Total**
9	Demolition/Clearing	**SF**	493,323	$ 1.00	$493,323
10	Roadway Excavation	**SF**	493,323	$ 2.00	$986,646
11	Bridge Demolition & Disposal	**SF**	-	$ 60.00	$0
12	Curb Ramps	**EA**	82	$ 2,900.00	$237,800
13	New Pavement - HMA	**LANE-MILE**	8.00	$ 480,000.00	$3,840,000
14	Pavement Overlay	**LANE-MILE**		$ 150,000.00	$0
15	Asphalt Path	**SY**	-	$ 20.00	$0
16	Sidewalks	**SY**	19,600	$ 60.00	$1,176,000
17	Curb and Gutter	**LF**	15,300	$ 25.00	$382,500
18	Walls - Cut (Soil Nail)	**LF**	500	$ 600.00	$300,000
19	Walls - Fill (MSE)	**LF**	200	$ 300.00	$60,000
20	Drainage for Roadway	**LANE-MILE**	8.00	$ 180,000.00	$1,440,000
21	Stormwater Management & Utility Fees	**LANE-MILE**	8.00	$ 150,000.00	$1,200,000
22	Utility Modifications	**MILE**	1.50	$ 100,000.00	$150,000
23	Utility Undergrounding (SCL)	**LF**	8,000	$ 760.00	$6,080,000
24	New Water Main	**MILE**	-	$ 100,000.00	$0
25	Landscaping	**SY**	7,609	$ 70.00	$532,661
26	Traffic Signal New	**EA**	5	$ 320,000.00	$1,600,000
27	Traffic Signal Modification	**EA**	-	$ 150,000.00	$0
28	Channelization / Signing	**LANE-MILE**	8.00	$ 25,000.00	$200,000
29	Illumination	**MILE**	1.50	$ 500,000.00	$750,000
30	TESC	**LS**	3%	of lines 9 through 29	$582,868
31	*Critical Areas Mitigation*	**LS**	1	$ 300,000.00	$300,000
32	*user custom*			$ -	$0
33	*user custom*			$ -	$0
34	*user custom*			$ -	$0
35	*user custom*			$ -	$0
36	Construction Traffic Control	**%**	10%	of lines 9 through 35	$2,031,180
37	Miscellaneous / Allowance	**%**	15%	of lines 9 through 36	$3,351,447
38	Mobilization	**%**	10%	of lines 9 through 37	$2,569,442
39	WA State Sales Tax (Non-city utilities)	**%**	10%	of line 23 & 24	$608,000
40	**Construction Sub-Total**				$28,871,867

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CITY OF SHORELINE Planning Level Opinion of Cost

Project:	**145th Street Corridor Study**	Entered by:	**GMS**
Project ID:	SR522 to I-5	Reviewed by:	JAM
Concept No.:	Preferred Design Concept	Updated:	2/22/2016

	III. Project Development	**Unit**	**Quantity**	**Unit Cost**	**Total**
41	PE and Environmental Documentation	%	5%	of line 40	$1,443,593
42	Design Engineering	%	15%	of line 40	$4,330,780
43	Agency Administration	%	11%	of line 40	$3,175,905
44	Public Art	%	1%	of line 40	$288,719
45	Community Engagement	%	2%	of line 40	$577,437
46				of line 40	$0
47	**Project Development Sub-Total**				$9,816,435

	IV. Construction Management	**Unit**	**Quantity**	**Unit Cost**	**Total**
48	Construction Management	%	15%	of line 40	$4,330,780
49	*user custom*			of line 40	$0
50	*user custom*			of line 40	$0
51	Monitoring agreement cost	%		of line 40	$0
52	**Construction Management Sub-Total**				$4,330,780

Assumptions:

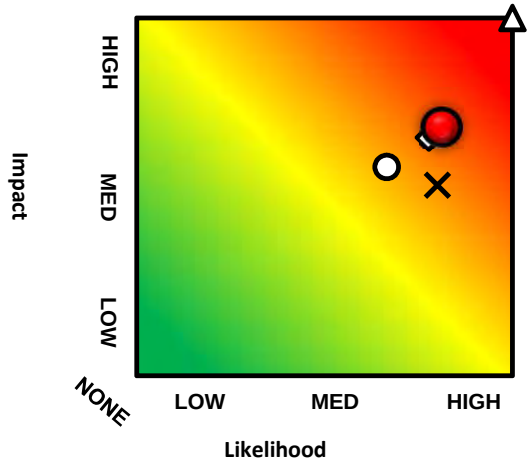
Based on "Preliminary Preferred Design Concept"
From SR522 to 5th Ave
Includes queue jumps and some BAT lanes
This concept aims at achieving maximum transit travel time benefit while minimizing property impacts
13' sidewalks are assumed including 5' amenity zone and 8' sidewalk.
12' outside lanes, 11' thru and turn lanes
Utility undergrounding is assumed.
No improvements to water main or sewer main.

The above cost opinion is in 2015 dollars for Comparative Level Evaluation of concepts. The cost does not include escalation, financial costs, or operations and maintenance costs. In addition, there are no costs for the mitigation or remediation associated with the potential discovery of hazardous materials. The order of magnitude cost opinion shown has been prepared for guidance in project evaluation at the time of the estimate. The final costs of the project will depend on actual labor and material costs, actual site conditions, productivity, competitive market conditions, final project scope, final project schedule, and other variable factors. As a result, the final project costs will vary from the estimate presented above. Because of these factors, funding needs must be carefully reviewed prior to making specific financial decisions or establishing final budgets.

CITY OF SHORELINE Planning Level Opinion of Cost

Project:	**145th Street Corridor Study**	Entered by:	**GMS**
Project ID:	SR522 to I-5	Reviewed by:	JAM
Concept No.:	Preferred Design Concept	Updated:	2/22/2016

Risk Considerations	**Likelihood**	**Impact**	**Risk Assesment**
Environmental Permitting			**MEDIUM-HIGH**
Presence of wetlands	Med	Med	MEDIUM
Impacts to ecological sensitive areas	Med	Med	MEDIUM
Multi-agency approvals needed	High	Med	HIGH
Design and Construction			**MEDIUM-HIGH**
Unknown soil conditions	Med	Low	LOW
Contaminated soils	Med	Med	MEDIUM
Unknown utilities	High	High	HIGH
Underground utility project elements	High	Med	HIGH
Significant structures	Med	Med	MEDIUM
Work within water table	Low	Low	LOW
Little project definition, many unknowns	High	High	HIGH
New technology	None	None	NONE
Right of Way			**HIGH**
Significant property impacts	High	High	HIGH
Other Factors			**MEDIUM-HIGH**
Project scope affected by other projects	Med	Med	MEDIUM
Controversial project	High	Med	HIGH
Multi-jurisdictional project	High	Med	HIGH
Federal funding	Med	Low	LOW
Time constraint	Med	Low	LOW

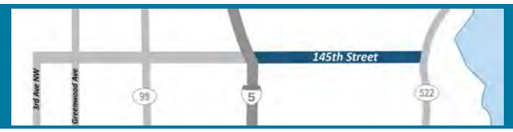


Risk Matrix

- ◆ Environmental Permitting
- ○ Design and Construction
- ▲ Right of Way
- ✕ Other Factors
- ● Aggregate Project Risk

D. EVALUATION MATRICES – PREFERRED DESIGN CONCEPT

From I-5 to Lake City Way



LEGEND:
○ Least or worst
● Most or best

	Study Concept 1 No Action	Study Concept 2 4 Lanes, Bikes Off-Corridor	Study Concept 3 5 Lanes with Two-Way LTL	Study Concept 4 6 Lanes with BAT Lanes	PREFERRED DESIGN CONCEPT Q-jumps / BAT Lanes
BENEFITS MEASURES	**I-5 to Lake City Way (SR 522)**				
1 **IMPROVED PEDESTRIAN SAFETY AND ACCESS** How well does the study concept improve safety, mobility, accessibility for Pedestrians	- Several barriers for pedestrian travel remain	- Removes existing sidewalk barriers, keeps poles in sidewalk - 6' sidewalk, does not meet City standard - No buffer provided between pedestrians and vehicles - 5-6 lane crossing distance at signalized intersections	- New sidewalks, removes pedestrian barriers - 13' sidewalk, meets City Standard - 5' to 10' separation with vehicles creates safe buffer and comfort for pedestrians - 5 - 6 lane crossing distance at signalized intersections	- New sidewalks, removes pedestrian barriers - 13' sidewalk, meets City Standard - 5' separation with vehicles creates safe buffer and comfort for pedestrians - 7 lane crossing distance at signalized intersections	- New sidewalks, removes pedestrian barriers - 13' sidewalk, meets City Standard - 5' separation with vehicles creates safe buffer and comfort for pedestrians - 5 to 7 lane crossing distance at signalized intersections
2 **IMPROVED TRANSIT SPEED, RELIABILITY, AND QUALITY** How well does the study concept improve Transit performance in the corridor?	- Lack of transit zones and transit service - 9.5 minute estimated transit travel time thru section - Most bus stops are not wheelchair accessible	- Minimal transit zone enhancements - 25% reduction in transit travel time - Buses can get trapped in bus pull-outs	- Wide sidewalks provide comfortable environment for transit users - 25% reduction in transit travel time - In-lane bus stops	- Transit zone enhancements and wide sidewalks provide comfortable environment - 38% reduction in transit travel time (best) - BAT lanes provide in-lane bus stops - Transit benefits are provided regardless of congestion in general purpose lanes	- Transit zone enhancements and wide sidewalks provide comfortable environment - 36% reduction in transit travel time (best) - BAT lanes and queue jumps - Transit benefits are provided regardless of congestion in general purpose lanes
3 **IMPROVED BIKE SAFETY AND MOBILITY** How well does the study concept improve safety, mobility, accessibility for bike riders?	- No bike facilities through the corridor	- Off-corridor bike facilities through green network provides pathways on lower speed streets - No on-corridor bike pathways - Shoreline side routing is indirect, up to several blocks from the 145th corridor	- Buffered directional bike lanes on corridor provides separation from vehicles - Intersection designed to reduce bike-vehicle conflicts at intersections - Bike lanes are one-way, both sides of roadway, requiring crossing of 145th to access lanes	- Multi-use trail along the corridor - Shared path, one side of roadway, could present bike-pedestrian conflicts - Bike pathway is two-way	- Off-corridor bike facilities through green network provides pathways on lower speed streets - No on-corridor bike pathways - Shoreline side routing is indirect, up to several blocks from the 145th corridor
4 **IMPROVED VEHICLE SAFETY AND MOBILITY** How well does the study concept improve safety and mobility for vehicles and freight?	- No mobility improvements - No safety improvements - Does not meet LOS standards	- Signal timing and intersection capacity are improved - Meets LOS standards - Access management - c-curb, provides improved safety for turning conflicts	- Signal timing and capacity improvements - Meets LOS standards - Two-way left turn lane does not resolve mid-block turning conflicts, collisions	- Signal timing and capacity improvements - Meets LOS standards - BAT lanes increase roadway capacity - Access management and u-turns privided, improves safety for turning conflicts	- Signal timing and capacity improvements - Meets LOS standards - BAT/Right turn lanes increase roadway capacity - Access management and u-turns privided, improves safety for turning conflicts
5 **CONSISTENCY WITH REGIONAL PLANS** How well does the study concept integrate with other capital projects including the proposed light rail station and future improvements to the Interstate-5 interchange?	- Not improving the corridor is not consistent with plans for the LRT station as well as the City of Shoreline Comp Plan goals.	- Improves non-motorized access to station - Consistent with SDOT Bike Master Plan - Does not meet City standards for sidewalks	- Integration with ST LRT Station - Aesthetic improvements consistent with neighborhood character - Integration with bike master plans	- Integration with ST LRT Station - Integration with ST and KCM long range plans - Highest level of landscaping/urban design elements and utilty undergrounding consistent with neighborhood character - Integration wth modal plans for Seattle and Shoreline	- Integration with ST LRT Station - Integration with ST and KCM long range plans - Landscaping/urban design elements and utilty undergrounding consistent with neighborhood character - Integration wth modal plans for Seattle and Shoreline
6 **OPPORTUNITIES FOR ENVIRONMENTAL ENHANCEMENT** How well does the study concept enhance the environment and mitigate impacts to critical areas? How well does the study concept provide for opportunities to upgrade stormwater quality?	- No impacts to existing critical areas - Does not improve or enhance	- Potential to minimize impacts to critical areas	- Potential for low impact development (LID) - Potential for stormwater improvements - Potential to enhance critical areas - Adds trees and landscaping	- Potential for low impact development (LID) - Potential for stormwater improvements - Potential to enhance critical areas - Adds trees and landscaping	- Potential for low impact development (LID) - Potential for stormwater improvements - Potential to enhance critical areas - Adds trees and landscaping
7 **SUPPORTS ECONOMIC DEVELOPMENT** How well does the study concept encourage and support private reinvestment in the corridor through improvements such as transit, upgraded utilities and enhanced aesthetics?	- No improvements	- Improves traffic capacity - Improves access to transit	- Improves roadway frontages with sidewalk and landscaping - Maintains neighborhood character - Improves traffic capacity and non-motorized mobility - Improves access to transit	- Highest quality landscaping/urban design improvements including utility undergrounding - Highest potential for transit oriented development, supportive of high capacity transit in corridor - Highest increase in traffic capacity	- Opportunity for landscaping/urban design improvements including utility undergrounding - Highest potential for transit oriented development, supportive of high capacity transit in corridor - Increase in traffic capacity
8 **FUNDING FEASIBILITY** How well will the study concept support the ability to compete for grant funding or secure direct funding? How well do the improvement elements align with grant funding criteria, such as multimodal improvements, transit, and livability?	-N/A	- Lowest cost alternative - Provides some mobility improvements for pedestrians - Does not provide significant transit benefits	-Higher cost than Concept 2, lower than Concept 4 - Improves safety and mobility for pedestrians and bikes - Does not provide significant transit benefits	- Highest cost of alternatives - Improves local and regional mobility - Improves safety for all users - Provides most opportunity for funding partnerships	-Lower cost than Concept 4 - Improves local and regional mobility - Improves safety for all users - Provides most opportunity for funding partnerships
TRADE OFFS					
8 **PROPERTY IMPACTS** How well does the study concept minimize impacts to property and business owners by limiting right-of-way acquisition, avoiding existing structures and improvements or maintaining access?	- No property impacts	- Affects up to 68% of parcels along the corridor	- Affects up to 100% of parcels along the corridor	-Affects up to 100% of parcels along the corridor - Highest area of right of way required	-Affects up to 83% of parcels along the corridor.
9 **CAPITAL COST** What is the relative capital cost?	- No implemenation costs - On-going maintenance costs	- Lowest cost of the study concepts	- Higher cost than Concept 2, lower than Concept 4	- Highest cost of alternatives	-Lower cost than Concept 4 and Concept 3, higher than Concpet 2

145TH STREET Multimodal Corridor Study

CITY OF SHORELINE

From Aurora Avenue to I-5

LEGEND:
○ Least or worst
● Most or best

BENEFITS MEASURES	Study Concept 1 No Action	Study Concept 2 4 Lanes, Bikes Off-Corridor	Study Concept 3 5 Lanes with Two-Way LTL	Study Concept 4 6 Lanes with BAT Lanes	PREFERRED DESIGN CONCEPT Intersections, Traffic Signals, Sidewalk
	Aurora Avenue (SR 99) to I-5				
1 **IMPROVED PEDESTRIAN SAFETY AND ACCESS** How well does the study concept improve safety, mobility, accessibility for Pedestrians	- Several barriers for pedestrian travel remain	- Removes existing sidewalk barriers, keeps poles in sidewalk - 6' sidewalk, does not meet City standard - No buffer provided between pedestrians and vehicles - 5-6 lane crossing distance at signalized intersections	- New sidewalks, removes pedestrian barriers - 13' sidewalk, meets City Standard - 5' to 10' separation with vehicles creates safe buffer and comfort for pedestrians - 5 - 6 lane crossing distance at signalized intersections	- New sidewalks, removes pedestrian barriers - 13' sidewalk, meets City Standard - 5' separation with vehicles creates safe buffer and comfort for pedestrians - 7 lane crossing distance at signalized intersections	- New sidewalks, removes pedestrian barriers - 13' sidewalk north side, meets City Standard - 5' separation with vehicles creates safe buffer and comfort for pedestrians - 5 lane crossing distance at signalized intersections
2 **IMPROVED TRANSIT SPEED, RELIABILITY, AND QUALITY** How well does the study concept improve Transit performance in the corridor?	- Lack of transit zones and transit service - 7.3 minute estimated transit travel time thru section - Most bus stops are not wheelchair accessible	- Minimal transit zone enhancements - 28% reduction in transit travel time - Buses can get trapped in bus pull-outs	- Wide sidewalks provide comfortable environment for transit users - 38% reduction in transit travel time - In-lane bus stops	- Transit zone enhancements and wide sidewalks provide comfortable environment - 49% reduction in transit travel time (best) - BAT lanes provide in-lane bus stops - Transit benefits are provided regardless of congestion in general purpose lanes	- Transit zone enhancements and wide sidewalks provide comfortable environment - 25% reduction in transit travel time - In-lane bus stops
3 **IMPROVED BIKE SAFETY AND MOBILITY** How well does the study concept improve safety, mobility, accessibility for bike riders?	- No bike facilities through the corridor	- Off-corridor bike facilities through green network provides pathways on lower speed streets - No on-corridor bike pathways - Shoreline side routing is indirect, up to several blocks from the 145th corridor	- Buffered directional bike lanes on corridor provides separation from vehicles - Intersection designed to reduce bike-vehicle conflicts at intersections - Bike lanes are one-way, both sides of roadway, requiring crossing of 145th to access lanes	- Multi-use trail along the corridor - Shared path, one side of roadway, could present bike-pedestrian conflicts - Bike pathway is two-way	- Off-corridor bike facilities through green network provides pathways on lower speed streets - On-corridor bike pathways, 1st Ave to I-5 - Shoreline side routing is indirect, up to several blocks from the 145th corridor
4 **IMPROVED VEHICLE SAFETY AND MOBILITY** How well does the study concept improve safety and mobility for vehicles and freight?	- No mobility improvements - No safety improvements - Does not meet LOS standards	- Signal timing and intersection capacity are improved - Meets LOS standards - Access management - c-curb, provides improved safety for turning conflicts	- Signal timing and capacity improvements - Meets LOS standards - Two-way left turn lane does not resolve mid-block turning conflicts, collisions	- Signal timing and capacity improvements - Meets LOS standards - BAT lanes increase roadway capacity - Access management and u-turns privided, improves safety for turning conflicts	- Signal timing and capacity improvements - Meets LOS standards - Access management - c-curb, provides improved safety for turning conflicts
5 **CONSISTENCY WITH REGIONAL PLANS** How well does the study concept integrate with other capital projects including the proposed light rail station and future improvements to the Interstate-5 interchange?	- Not improving the corridor is not consistent with plans for the LRT station as well as the City of Shoreline Comp Plan goals.	- Improves non-motorized access to station - Consistent with SDOT Bike Master Plan and Shoreline greenway network - Does not meet City standards for sidewalks	- Integration with ST LRT Station - Sidewalk/aesthetic improvements consistent with neighborhood character goals - Integration with bike master plans for Seattle and Shoreline	- Integration with ST LRT Station - Highest level of landscaping/urban design elements and utilty undergrounding consistent with neighborhood character - Integration wth modal plans for Seattle and Shoreline	- Integration with ST LRT Station - Iintegration with I5 Interchange improvements - Sidewalk improvements meet City standards - Integration with bike master plans for Seattle and Shoreline
6 **OPPORTUNITIES FOR ENVIRONMENTAL ENHANCEMENT** How well does the study concept enhance the environment and mitigate impacts to critical areas? How well does the study concept provide for opportunities to upgrade stormwater quality?	- No impacts to existing critical areas - Does not improve or enhance	- Potential to minimize impacts to critical areas	- Potential for low impact development (LID) - Potential for stormwater improvements - Potential to enhance critical areas - Adds trees and landscaping	- Potential for low impact development (LID) - Potential for stormwater improvements - Potential to enhance critical areas - Adds trees and landscaping	- Potential for low impact development (LID) - Potential for stormwater improvements - Potential to enhance critical areas - Adds trees and landscaping
7 **SUPPORTS ECONOMIC DEVELOPMENT** How well does the study concept encourage and support private reinvestment in the corridor through improvements such as transit, upgraded utilities and enhanced aesthetics?	- No improvements	- Improves traffic capacity - Improves access to transit	- Improves roadway frontages with sidewalk and landscaping - Maintains neighborhood character - Improves traffic capacity and non-motorized mobility - Improves access to transit	- Highest quality landscaping/urban design improvements including utility undergrounding - Highest potential for transit oriented development, supportive of high capacity transit in corridor - Highest increase in traffic capacity	- Improves some roadway frontages with sidewalk and landscaping - Improves traffic capacity and non-motorized mobility - Improves access to transit
8 **FUNDING FEASIBILITY** How well will the study concept support the ability to compete for grant funding or secure direct funding? How well do the improvement elements align with grant funding criteria, such as multimodal improvements, transit, and livability?	-N/A	- Lowest cost alternative - Provides some mobility improvements for pedestrians - Does not provide significant transit benefits	-Higher cost than Concept 2, lower than Concept 4 - Improves safety and mobility for pedestrians and bikes - Does not provide significant transit benefits	- Highest cost of alternatives - Improves local and regional mobility - Improves safety for all users - Provides most opportunity for funding partnerships	-Lowest cost of alternatives - Improves local and regional mobility - Improves safety and mobility for peds and bikes - Provides most opportunity for funding partnerships
TRADE OFFS					
8 **PROPERTY IMPACTS** How well does the study concept minimize impacts to property and business owners by limiting right-of-way acquisition, avoiding existing structures and improvements or maintaining access?	- No property impacts	- Affects up to 66% of parcels along the corridor	- Affects up to 100% of parcels along the corridor	- Affects up to 100% of parcels along the corridor - Highest area of right of way required	- Affects up to 42% of parcels along the corridor
9 **CAPITAL COST** What is the relative capital cost?	- No implemenation costs - On-going maintenance costs	- Lowest cost of the study concepts	- Higher cost than Concept 2, lower than Concept 4	- Highest cost of alternatives	-Lower cost than Study Concepts 2, 3, 4

145TH STREET Multimodal Corridor Study

CITY OF SHORELINE

3rd Avenue NW to Aurora Avenue N

LEGEND:
○ Least or worst
● Most or best

	Study Concept 1 No Action	Study Concept 2 4 Lanes, Bikes Off-Corridor	Study Concept 3 3 Lanes with Two-Way LTL	Study Concept 4 5 Lanes with Two-Way LTL	PREFERRED DESIGN CONCEPT 3 Lanes with Intersection Capacity
BENEFITS MEASURES	**3rd Ave NW to Aurora Avenue (SR99)**				
1 **IMPROVED PEDESTRIAN SAFETY AND ACCESS** How well does the study concept improve safety, mobility, accessibility for Pedestrians	- Several barriers for pedestrian travel remain	- Removes existing sidewalk barriers, keeps poles in sidewalk - 6' sidewalk, does not meet City standard - No buffer provided between pedestrians and vehicles - 4-5 lane crossing distance at signalized intersections	- New sidewalks, removes pedestrian barriers - 13' sidewalk, meets City Standard - 5' to 10' separation with vehicles creates safe buffer and comfort for pedestrians - 3- 4 lane crossing distance at signalized intersections	- New sidewalks, removes pedestrian barriers - 13' sidewalk, meets City Standard - 5' separation with vehicles creates safe buffer and comfort for pedestrians - 5 lane crossing distance at signalized intersections	- Removes existing sidewalk barriers, keeps poles in sidewalk - 6' sidewalk, does not meet City standard - Buffer provided between pedestrians and vehicles - 4-5 lane crossing distance at signalized intersections
2 **IMPROVED TRANSIT SPEED, RELIABILITY, AND QUALITY** How well does the study concept improve Transit performance in the corridor?	- Lack of transit zones and transit service - 4.1 minute estimated transit travel time thru section - Most bus stops are not wheelchair accessible	- Minimal transit zone enhancements - 22% travel time savings	- Wide sidewalks provide comfortable environment for transit users - 30% transit travel time savings	- Transit zone enhancements and wide sidewalks provide comfortable environment - 48% transit travel time savings	- Minimal transit zone enhancements - 22% travel time savings
3 **IMPROVED BIKE SAFETY AND MOBILITY** How well does the study concept improve safety, mobility, accessibility for bike riders?	- No bike facilities through the corridor	- Off-corridor bike facilities through green network provides pathways on lower speed streets - No on-corridor bike pathways - Shoreline side routing is indirect, up to several blocks from the 145th corridor	- Buffered directional bike lanes on corridor provides separation from vehicles - Intersection designed to reduce bike-vehicle conflicts at intersections - Bike lanes are one-way, both sides of roadway, requiring crossing of 145th to access lanes	- Multi-use trail along the corridor - Shared path, one side of roadway, could present bike-pedestrian conflicts - Bike pathway is two-way	- Buffered directional bike lanes on corridor provides separation from vehicles - Bike lanes are one-way, both sides of roadway, requiring crossing of 145th to access lanes - Improved connection with Interurban Trail
4 **IMPROVED VEHICLE SAFETY AND MOBILITY** How well does the study concept improve safety and mobility for vehicles and freight?	- No mobility improvements - No safety improvements - Does not meet LOS standards	- Signal timing and intersection capacity are improved - Meets LOS standards - Access management - c-curb, provides improved safety for turning conflicts	- Signal timing and capacity improvements - Meets LOS standards - Two-way left turn lane does not resolve mid-block turning conflicts, collisions	- Signal timing and capacity improvements - Meets LOS standards - Two-way left turn lane does not resolve mid-block turning conflicts, collisions	- Signal timing and capacity improvements - Meets LOS standards - Two-way left turn lane does not resolve mid-block turning conflicts, collisions
5 **CONSISTENCY WITH REGIONAL PLANS** How well does the study concept integrate with other capital projects including the proposed light rail station and future improvements to the Interstate-5 interchange?	- Not improving the corridor is not consistent with plans for the LRT station as well as the City of Shoreline Comp Plan goals.	- Improves non-motorized access to station - Consistent with SDOT Bike Master Plan and Shoreline greenway network - Does not meet City standards for sidewalks	- improves non-morotized connectivity to LRT - Sidewalk/aesthetic improvements consistent with neighborhood character goals - Integration with bike master plans for Seattle and Shoreline	-Improves non-morotized connectivity to LRT - Highest level of landscaping/urban design elements and utilty undergrounding consistent with neighborhood character - Integration wth modal plans for Seattle and Shoreline	- Improves non-motorized access to station - Consistent with SDOT Bike Master Plan and Shoreline greenway network - Does not meet City standards for sidewalks
6 **OPPORTUNITIES FOR ENVIRONMENTAL ENHANCEMENT** How well does the study concept enhance the environment and mitigate impacts to critical areas? How well does the study concept provide for opportunities to upgrade stormwater quality?	- No impacts to existing critical areas - Does not improve or enhance	- Potential to minimize impacts to critical areas	- Potential for low impact development (LID) - Potential for stormwater improvements - Adds trees and landscaping	- Potential for low impact development (LID) - Potential for stormwater improvements - Adds trees and landscaping	- Potential for low impact development (LID) and some locations - Potential for stormwater improvements - Adds trees and landscaping near intersections
7 **SUPPORTS ECONOMIC DEVELOPMENT** How well does the study concept encourage and support private reinvestment in the corridor through improvements such as transit, upgraded utilities and enhanced aesthetics?	- No improvements	- Improves traffic capacity	- Improves roadway frontages with sidewalk and landscaping - Maintains neighborhood character - Improves traffic capacity and non-motorized mobility	- Highest quality landscaping/urban design improvements including utility undergrounding - Highest increase in traffic capacity - Most property impacts	- Improves traffic capacity - Improves non-motorized mobility - Improves access to transit
8 **FUNDING FEASIBILITY** How well will the study concept support the ability to compete for grant funding or secure direct funding? How well do the improvement elements align with grant funding criteria, such as multimodal improvements, transit, and livability?	-N/A	- Lowest cost alternative - Provides some mobility improvements for pedestrians - Does not provide significant transit benefits	-Higher cost than Concept 2, lower than Concept 4 - Improves safety and mobility for pedestrians and bikes - Provides most opportunity for funding partnerships	- Highest cost ofStudy Concepts - Improves mobility - Improves safety for all users	-Lowest cost of Study Concepts - Improves local non-motorized mobility - Improves safety for all users
TRADE OFFS					
8 **PROPERTY IMPACTS** How well does the study concept minimize impacts to property and business owners by limiting right-of-way acquisition, avoiding existing structures and improvements or maintaining access?	- No property impacts	- Impacts up to 74% of parcels along the corridor	- Impacts up to 100% of parcels along the corridor	- Impacts up to 100% of parcels along the corridor - Highest area of right of way required	- Affects up to 5% of parcels along the corridor
9 **CAPITAL COST** What is the relative capital cost?	- No implemenation costs - On-going maintenance costs	- Lowest cost of the study concepts	- Slightly higher cost than Concept 2, lower than Concept 4	- Highest cost of alternatives	-Lower cost than Study Concepts 2, 3, 4

145TH STREET Multimodal Corridor Study

CITY OF SHORELINE

E. BIKE NETWORK GREENWAYS FAQ

Frequently Asked Questions

Updated: February 2016

145TH STREET
Multimodal Corridor Study

What is the off corridor bike network concept for the 145th Street Multimodal Corridor Study?

The off corridor bike network concept is a collection of quieter, slower paced streets—commonly known as Neighborhood Greenways—that are intended to provide bicyclists and pedestrians with alternate, parallel routes to 145th Street as well as key connections to the future NE 145th Street Link Light Rail Station, the Interurban Trail, and the Burke-Gilman Trail.

What is a Neighborhood Greenway?

Neighborhood Greenways are residential streets generally off of main arterials where low volumes of cars go slow enough to make the people who walk or ride bicycles feel safe and comfortable.

Greenways provide slow-paced connections for people walking and riding bicycles.

What are the key elements of a Neighborhood Greenway?

- Car travel is allowed along the Greenway, but at reduced speeds.
- Trees or greenery may be added in planting strips, hence the name "Greenway".
- Speed bumps, special pavement markings called sharrows, and signage can help to slow automobile traffic on Greenways.
- Where Greenways intersect busy streets, many tools can be used to alert the faster-moving drivers to the presence of bicyclists and pedestrians crossing the road such as a combination of signals, crosswalks, and signage.
- Greenways can be customized for each neighborhood with trees, plantings, art, and wayfinding signage to local parks, schools, and business districts.

Will a Greenway take away the parking on my street?

In most cases, existing parking along Greenways remain. In some instances where stormwater run-off or pedestrian crossings are accommodated—such as curb bulbs for safe crossings and bioswales to take care of street runoff—a few parking places may be eliminated.

Can emergency vehicles use Greenways?

Yes. Neighborhood Greenways are designed so that fire trucks, ambulances, and police cars can get to the houses along the Greenway.

How do I learn more?

Updated information is available at www.shorelinewa.gov/145corridor
To receive email updates, please visit the City of Shoreline homepage at www.shorelinewa.gov and sign up under Alert Shoreline.

CITY OF SHORELINE

F. PROPERTY OWNER LETTER

City of Shoreline
17500 Midvale Avenue North
Shoreline, WA 98133-4921
P (206) 801-2700 ♦ F (206) 546-2200

January 21, 2016

RE: 145th Street Multimodal Corridor Study

Dear Owner and/or Resident,

On behalf of the City of Shoreline, I would like to provide you with an overview of a transportation improvement study the City is currently undertaking on your street (145th Street) and introduce you to the approach the City is taking to work with you and other property owners and residents along the corridor.

Last spring (2015) the City of Shoreline began a year-long process to prepare a corridor study for the 145th Street (SR 523) corridor. The corridor is a key east-west connection for the region linking bus rapid transit on Aurora, light rail, I-5, and Bothell Way (SR 522). Unfortunately this critical east-west corridor has significant problems. The corridor has a vehicle collision rate that is more than two and a half times higher than the regional average for this type of street, it is experiencing increasing traffic congestion, and it contains narrow sidewalks with power poles in the middle impeding access, no bicycle lanes, and limited transit service. Left alone, these problems will only get worse.

To address this need for significant upgrades, the 145th Street Multimodal Corridor Study includes development of a master plan for improving pedestrian and bicycle mobility, safety and operations, transit speed and reliability, and freight mobility on the corridor. The process takes into consideration the future location of the light rail station at I-5 and the additional transportation demands created as a result. It also considers the need to acquire property associated with potential roadway widening.

You may not be aware that the City of Shoreline does not own or have control over 145th Street – rather the street is a designated state highway that is partially owned by King County and the City of Seattle. Even though this is the case, given that 145th Street serves as the City of Shoreline's southern border and that the ability for Shoreline residents to travel this corridor - whether by transit, vehicle, or as a pedestrian - is important to the City and the City has taken a leadership role to create a plan to bring this corridor up to modern standards and to plan for future growth. This is even more critical with the future light rail station to be located just north of 145th Street along the I-5 corridor.

One of the concerns we have heard from residents who live or own property along the corridor is impacts related to the acquisition of property along the corridor to allow for construction of the street improvements. Street improvements could include the widening of sidewalks or the addition of vehicle lanes to ease traffic congestion. Please understand that the City is still in the early planning stages and there have been no decisions on a specific design at this time. As such it is too early to know which properties may need to be acquired, or partially acquired, the City is able to determine areas where it is likely that additional right-of-way (property) will be required. This letter will help explain the schedule and process the City will use to determine which properties may be impacted and the process that would be used to acquire property if needed.

Timelines

Completing the corridor study is the first step in the process needed before determining any future project development. However, it is a very important step because it will help set the vision and plan

for long term improvements to the corridor. Figure 1 below shows the timeline for the corridor study. As you can see, we began working on the study in February 2015 and we expect it to be completed in March of 2016.

Figure 1. Corridor Study Schedule

Once the corridor study is complete, a much longer process of environmental review, design, property acquisition, and construction begins. Looking at the Project Development Process timeline shown below in Figure 2, you can see that we still have two to three years before we would even begin any discussion with property owners about property acquisition. We anticipate that there are three to five years, or more, before construction would even begin. Right-of-way (property) acquisition would only occur once environmental documentation for the project is approved. Because the 145th Street corridor is nearly three miles in length, improvements would likely be constructed in phases, adding to the timeline.

Figure 2. Project Development Process

Property Impacts

Currently the 145th Street sidewalks and roadway are located in a right-of way that is relatively narrow - only 60 feet wide. Although it is too early at this point in the planning process to know which properties would be affected by project improvements, it is fair to say that construction of improvements will necessitate additional width for the roadway or sidewalk area and will have an impact on some properties along the corridor. It is likely that there could be the need for more property acquisition adjacent to key intersections than at mid-block areas.

Property acquisition needed for improvements will follow a clearly prescribed process as set out by State and Federal laws. The process includes determining the fair value of property, an open negotiation process with a property acquisition specialist (not a City employee), and possible relocation assistance if appropriate. An example of the process that is often used on a project like this for acquiring property is the process followed by the Washington State Department of Transportation (WSDOT). If you would like detailed information on how WSDOT conducts the property acquisition

process for their transportation projects, the WSDOT guidebook can be found on Shoreline's 145th Street Multimodal Corridor Study website at www.shorelinewa.gov/145corridor.

The City will let you know well in advance if it needs to purchase any of your property. Most importantly, if all or a portion of your property is needed, the law requires that you will be compensated at the fair market value of your property. Additionally, if there is any loss in market value to your remaining property, you will receive payment for that as well. The City is required to pay all of the costs to purchase your property, which includes recording fees, any title insurance premium, escrow fees, and other standard expenses of sale. Any sale will also be exempt from payment of real estate excise tax. If federal money is involved in the project, there may be additional benefits that the City could be required to provide to you as well.

Conclusion

You may have input to share on the study or questions about the potential impacts to your property, or the future environmental review and property acquisition processes. The project team has scheduled three "drop-in" meeting times for property owners with questions (no phone call necessary, just show up). Those times are:

Friday, February 5, 10:00 a.m. to noon (Shoreline City Hall, Room 303)
Thursday, February 11, 3:00 p.m. – 5:00 p.m. (Shoreline City Hall, Room 303)
Thursday, February 11, 5:30 p.m. – 7:30 p.m. (Shoreline City Hall, Room 303)

If you are not available at any of these times, I invite you to schedule a time to meet with me and my project staff to discuss any questions or concerns you may have. Please contact me, Kurt Seemann, the 145th Street Multimodal Corridor Study Project Manager, at 206-801-2483 or kseemann@shorelinewa.gov to set up a meeting. City staff are available to meet with you one on one or in a small group.

Input from residents, property owners, business owners, and community groups are an important part of the study. I hope you will attend the next project open house scheduled for February 24, 2016. The purpose of this open house will be to confirm an improvement concept for the corridor. In March, the Shoreline City Council will be reviewing a preferred improvement concept for the corridor and the input from this open house will be used to help inform the ultimate preferred design. More information on the project open houses is available on the project website at www.shorelinewa.gov/145corridor.

Regards,

Kurt Seemann
145th Street Multimodal Corridor Study Project Manager
City of Shoreline

Attachments: 145th Street Multimodal Corridor Study FAQ

cc: City Council members
Debbie Tarry, City Manager

Frequently Asked Questions (FAQs)

Updated: September 2015

145TH STREET
Multimodal Corridor Study

What is the purpose of the 145th Street Multimodal Corridor Study?

145th Street is a key regional corridor and one of the primary east-west streets connecting Aurora Avenue, I-5, and Lake City Way. It connects Shoreline and Seattle neighborhoods, businesses, parks, and services in our community. The corridor is not working well today, and with the future light rail station at I-5 and 145th Street, this corridor will become even more regionally significant. The Corridor Study is considering various improvements and how those could impact traffic flow, safety, travel for pedestrians and bicyclists, transit availability, and adjacent properties.

What is the problem with 145th Street today?

The City has heard from residents for many years about the problems with 145th Street, including safety concerns, increasing traffic congestion, narrow sidewalks with obstructions for people with mobility issues, lack of bicycle facilities, limited transit service, and other issues.

Traffic congestion on 145th Street near I-5

Why is the City of Shoreline leading this study?

Many agencies and jurisdictions own right of way or use 145th Street, and the City is coordinating with those partners. The City has recognized how important this corridor is to the Shoreline community and is planning for the future.

Who are the partners the City is engaging in this Corridor Study?

Project partners include the City of Shoreline, City of Seattle, Washington State Department of Transportation, Sound Transit, King County Metro, Puget Sound Regional Council, Seattle City Light, City of Lake Forest Park, City of Kenmore, and City of Bothell. Project partners currently meet monthly to discuss issues and potential solutions.

How is the community involved?

A Citizen Advisory Task Force (CATF), made up of Shoreline and Seattle residents from neighborhoods adjacent to the corridor, meets regularly to provide input on the Corridor Study progress. In addition, a series of three open houses is providing information and gathering input from the public.

How do I learn more?

Updated information is available at www.shorelinewa.gov/145corridor. To receive email updates, please visit the City of Shoreline homepage at www.shorelinewa.gov and sign up under Alert Shoreline.

CITY OF SHORELINE

Frequently Asked Questions (FAQs)

Updated: September 2015

145TH STREET
Multimodal Corridor Study

Why is it important to accommodate transit, bicycles, and pedestrians along the corridor?

In addition to moving vehicles, 145th Street is an important connection for pedestrians, bicyclists, and transit riders. Improving the corridor would provide more travel choices, accommodate people who cannot afford to drive, improve community livability, encourage healthier behavior, and have environmental benefits. If you travel primarily by car, providing the opportunity for others to walk, bike, or ride the bus reduces congestion by taking cars off the road.

How much right of way will be needed for improvements? Will it affect my property?

It is too early at this point to know which properties would be impacted. The City must balance the benefits of corridor improvements with the potential impacts to properties, while considering project costs and many other factors. If necessary, the City would follow a defined process for property acquisition outlined by the Federal government, involving determining fair value for the property, negotiations, relocation assistance if appropriate, and payment.

What comes next in the Corridor Study process?

The next steps are to continue refining the study concepts based on technical analysis and public input, hold a third public open house, and share a preferred design concept with Shoreline City Council and partners in early 2016.

When would the project be constructed?

Due to the length of the corridor and funding considerations, it is likely that if any improvements were to be constructed, they would be phased. If the project were fully funded, the typical timeline could be 1-2 years for environmental documentation, 2 years for design and property acquisition, and 2+ years for construction. Right of way acquisition would occur once the environmental documentation for the project is approved. If constructed in phases, each phase may require these separate steps.

How is this related to the 145th Street Station Subarea Planning?

In March 2015, the Shoreline City Council decided to put station subarea planning on hold until completion of this Corridor Study. Once the Corridor Study is completed, the City will consider the results and an appropriate level of potential zoning scenarios for the subarea.

How would the City of Shoreline pay for these types of improvements?

The City's goal is to fund a portion of the project from local funds, similar to the Aurora project. A portion of the project is currently funded through design from the federal Surface Transportation Program and the project has been awarded appropriations through the State transportation package. Beyond those sources, the City and its partners hope to continue to be successful in attracting grants to fund the improvements.

G. LETTERS OF ENDORSEMENT

Washington State Department of Transportation

Transportation Building
310 Maple Park Avenue S.E.
P.O. Box 47300
Olympia, WA 98504-7300
360-705-7000
TTY: 1-800-833-6388
www.wsdot.wa.gov

March 16, 2016

Nytasha Sowers, Transportation Services Manager
City of Shoreline
17500 Midvale Avenue North
Shoreline, WA 98133

Dear Ms. Sowers:

The Washington State Department of Transportation is pleased to support the efforts of the City of Shoreline and the 145th Street Multimodal Corridor Study.

Through the study the City of Shoreline has built a strong partnership with the local community and regional stakeholders including WSDOT staff. An interjurisdictional technical team has worked together throughout the study to address possible improvements to the interchange that would allow the whole corridor to function better.

We support improvements to this locally and regionally important corridor and Shoreline's preferred concept which serves as a model to improve the safety and mobility of people and goods.

The Washington State Department of Transportation looks forward to a continued partnership with the City of Shoreline in improving this corridor.

Sincerely,

Amy Scarton
Assistant Secretary, Community and Economic Development

cc: Lorena Eng, Northwest Region Administrator

City of Seattle
Edward B. Murray, Mayor

Department of Transportation
Goran Sparrman, Interim Director

April 8, 2014

Mark Relph
Public Works Director, City of Shoreline
17500 Midvale Avenue N
Shoreline, WA 98133

Dear Mr. Relph:

I'm pleased to offer the Seattle Department of Transportation's support for improvements to N/NE 145th Street (SR 523) from Aurora Ave N to Interstate 5.As jurisdictions in King County have just selected projects to advance to Regional grant competitions, we would like to congratulate you on the selection of this project as a high-priority transportation investment and a strong contender for Regional STP funds.

This corridor is an important thoroughfare in the north end of the City of Seattle. It is an important connection for residents and businesses in North Seattle and is critical to the City of Shoreline and other members of the SeaShore Transportation Forum. For many years, it has been one of the few continuous east-west connections for North Seattle and the north King County cities. More recently, the regional significance of this facility has been elevated due to the selection of NE 145th Street as a light rail station location in Sound Transit's Lynnwood Link Extension Preferred Alternative.

Seattle continues to work with Shoreline, King County, WSDOT and other partner agencies to develop improvement plans for NE 145th Street. There is a significant need to undertake improvements to this corridor to accommodate future growth, improve pedestrian and bicycle facilities, enhance safety and accessibility, and improve transit operations. We extend our best wishes as this grant competition proceeds, and offer our support to you in advancing this project.

Sincerely,

Goran Sparrman, P.E.
Interim Director, Seattle Department of Transportation

Seattle Municipal Tower
700 5th Avenue
Suite 3800
PO Box 34996
Seattle, Washington 98124-4996

Tel (206) 684-ROAD / (206) 684-5000
Fax: (206) 684-5180
Hearing Impaired use the Washington Relay Service (7-1-1)
www.seattle.gov/transportation

King County

Department of Transportation
Harold S. Taniguchi, *Director*
KSC-TR-0815
201 South Jackson Street
Seattle, WA 98104-3856
206.477.3800 TTY Relay: 711
www.kingcounty.gov/kcdot

April 7, 2014

Mark Relph
Public Works Director
City of Shoreline
17500 Midvale Avenue N
Shoreline, WA 98133

Dear Mr. Relph:

The King County Department of Transportation is pleased to support the City of Shoreline's application for funding to undertake design and environmental review for improvements to N/NE 145th Street (SR 523) from Aurora Avenue N to Interstate 5.

The N/NE 145th Street corridor extends from SR 522 to the east and Aurora Avenue to the west and is an important thoroughfare in the south end of the City of Shoreline and the north end of the City of Seattle. It is one of the few continuous east-west connections for north King County cities. NE 145th Street is also identified as a light rail station location in Sound Transit's Lynnwood Link Extension Preferred Alternative.

There is a significant need to undertake improvements to this corridor to accommodate future growth, improve pedestrian and bicycle facilities, enhance safety and accessibility, and improve transit operations. The improvements proposed as part of this grant request, as well as those planned for the remainder of the corridor, will provide greater connections to existing and future transit routes and enhance mobility for those using the corridor.

Thank you for your consideration and support of this important project.

Sincerely,

Harold S. Taniguchi, Director
King County Department of Transportation

cc: Kirk McKinley, Transportation Services Manager, City of Shoreline
Peter Heffernan, Grants Administrator, Office of Regional Transportation Planning, King County Department of Transportation

Washington State Department of Transportation
Paula J. Hammond, P.E.
Secretary of Transportation

Northwest Region
15700 Dayton Avenue North
P.O. Box 330310
Seattle, WA 98133-9710

206-440-4000
TTY: 1-800-833-6388
www.wsdot.wa.gov

PUBLIC WORKS DEPARTMENT
MAY 17 2012
RECEIVED

cc: KIRK MCKINLEY
ALICIA MCINTIRE
BETHANY WOLBRECHT-DUNN

May 8, 2012

Mark Relph, Director
City of Shoreline Public Works
17500 Midvale Avenue North
Shoreline, WA 98133

Subject: SR 523 (SR 522 to SR 99)
N/NE 145th Route Development Plan Project
Letter of Support

Dear Mr. Relph:

I am writing this letter in support of the City of Shoreline's application for funding to undertake a route development planning effort along N/NE 145th Street (SR 523) in order to determine necessary improvements for pedestrians, bicyclists, and to enhance safety and transit operations.

The N/NE 145th Street corridor extends from SR 522 to the east and SR 99 to the west and is an important thoroughfare in the south end of the City and north end of the City of Seattle. It is one of the few continuous east-west connections for the north King County cities. North 145th Street is also identified as a potential location for a light rail for the North Link Rail line. There is a significant need to embark on a corridor / route development plan to accommodate future growth, the potential Link Light Rail station and improve connectivity between locally designated centers.

This letter of support is for design concept only and WSDOT will be an active participant in the planning process once the study is funded. As details are finalized, WSDOT will have to review and approve final channelization prior to construction. We look forward to working with the City of Shoreline towards completion of this project.

Sincerely,
Washington State Department of Transportation

Russell S. East, PE
Assistant Regional Administrator for King and Snohomish Counties

cc: Project File/Day File
E. Conyers (Highways and Local Programs)
R. Roberts (King Area Traffic)

From: Eric Bratton
Sent: Thursday, September 11, 2014 9:30 AM
To: Shoreline AreaNews; Susan Will
Subject: City of Shoreline press release - 145th Street Tour
Attachments: 9.11.2014 145th Tour_standing.jpg; 9.11.2014 145th Tour_walking.jpg

City of Shoreline

NEWS

September 11, 2014

Media Contact: *Senior Transportation Planner Alicia McIntire, (206) 801-2483, amcintire@shorelinewa.gov*

City partners with State and local governments to address 145th Street Corridor

On Monday, August 25, Shoreline City Council and City staff toured the 145th Street corridor (State Route 523) with Washington State Department of Transportation (WSDOT) Secretary Lynn Peterson, legislative and council representatives from the area and partner agency staff. 145th Street is a key east-west connection for the region. Thoughtful, coordinated investments in the corridor will support economic growth, enhance safety and access, and make the most of investments already being made in light rail and bus rapid transit. A well-functioning 145th Street is vital to the safe movement of people and goods throughout the region.

However, 145th Street is in need of significant capital improvements. Characteristics of the corridor as it currently exists include significant traffic congestion; an extremely overcrowded interchange at I-5; poor accessibility for cyclists, pedestrians, and people with disabilities; limited transit service and accessibility; a collision rate nearly three times that of the similar roadways in the region; and restricted freight mobility. The need for improvements will only increase in the future with traffic diversion resulting from tolling of the Lake Washington bridges and the operation of light rail. The purpose of the tour was to bring attention to the corridor and the critical need for capital improvements in order to meet the needs of current and future residents and corridor users.

Not only does 145th Street serve as the boundary between Shoreline and Seattle, it is also a state highway from Aurora Avenue N (SR 99) to Bothell Way NE (SR 522). King County Metro is the bus service provider along the corridor and a light rail station at I-5 is planned to open for service in 2023. Because so many jurisdictions and agencies have a stake in the successful operation of the corridor, it is imperative that Shoreline work closely with these entities and other stakeholders to ensure they understand the need for improvements and appreciate the value in working together. Community input from residents and property and business owners along 145th Street will also be key when developing a future vision for the corridor. Shoreline wants to ensure that the investments being made in the 145th Street Light Rail Station and connecting corridor will promote long-term economic vitality.

In order to fully understand the necessary improvements, participating agencies, including WSDOT, Sound Transit, King County Metro Transit, and the Cities of Shoreline and Seattle will need to identify their key investments and priorities. It is anticipated that future improvements will include:

- Enhanced safety and accessibility for all users
- Improved capacity
- Improved regional mobility and connectivity

- Improved transit operations
- Coordinated utilities upgrades
- Improved I-5 interchange

An improved corridor will be safer, more efficient, carry more people, and stimulate investment and redevelopment.

To learn more about the City's plans regarding 145th Street, contact Senior Transportation Planner Alicia McIntire at (206) 801-2483, amcintire@shorelinewa.gov.

###

_____
Eric Bratton
Communications Program Coordinator
City Manager's Office
City of Shoreline
17500 Midvale Ave N.| Shoreline, WA 98133
T: 206.801.2217|C: 206.510.6313|F: 206.546.2200
ebratton@shorelinewa.gov
www.shorelinewa.gov

Shoreline City Council and City staff toured the 145th Street corridor (State Route 523) with Washington State Department of Transportation (WSDOT) Secretary Lynn Peterson, legislative and council representatives from the area, and partner agency staff on August 25, 2014.

Shoreline City Council and City staff toured the 145th Street corridor (State Route 523) with Washington State Department of Transportation (WSDOT) Secretary Lynn Peterson, legislative and council representatives from the area, and partner agency staff on August 25, 2014.

H. OUTREACH DOCUMENTATION

APPENDIX H

Outreach Documentation Contents:

1) 145th Street Corridor Study Outreach Meetings Schedule
2) Open House #1 Comments
3) Outreach Efforts for Open House #2
4) Open House #2 Comments
5) Open House #2 On-Line User Survey
6) Open House #3 Comments
7) Invitations to local municipalities to participate in ITT
8) Invitations to citizens to participate in CATF
9) Project Postcards
10) Currents Newsletters with project advertisements
11) Planning Commission March 3, 2016 Meeting Materials

145th Street Corridor Study Outreach Meetings

Date	Public (including Open Houses, Council, Neighborhood, & Property Owner), Technical Team, and Task Force
January 13, 2014	Shoreline City Council meeting
April 28, 2014	Shoreline City Council meeting
June 5, 2014	Interagency Technical Team (ITT) Meeting No. 1
October 20, 2014	Shoreline City Council meeting
January 12, 2015	Interagency Technical Team (ITT) Meeting No. 2
February 11, 2015	Interagency Technical Team (ITT) Meeting No. 3
February 12, 2015	Citizen Advisory Task Force (CATF) Meeting No. 1
April 8, 2015	Interagency Technical Team (ITT) Meeting No. 4
April 16, 2015	Citizen Advisory Task Force (CATF) Meeting No. 2
May 14, 2015	Citizen Advisory Task Force (CATF) Meeting No. 3
May 20, 2015	Public Open House No. 1
June 10, 2015	Interagency Technical Team (ITT) Meeting No. 5
June 10, 2015	Citizen Advisory Task Force (CATF) Meeting No. 4
July 1, 2015	Citizen Advisory Task Force (CATF) Meeting No. 5
July 2015	Small Council Group meetings
July 8, 2015	Interagency Technical Team (ITT) Meeting No. 6
August 12, 2015	Interagency Technical Team (ITT) Meeting No. 7
August 17, 2015	Shoreline City Council meeting
September 3, 2015	Planning Commission
September 9, 2015	Interagency Technical Team (ITT) Meeting No. 8
September 9, 2015	Citizen Advisory Task Force (CATF) Meeting No. 6
September 30, 2015	Public Open House No. 2
October 2015	Small Council Group meetings
October 14, 2015	Interagency Technical Team (ITT) Meeting No. 9
October 21, 2015	Citizen Advisory Task Force (CATF) Meeting No. 7
November 4, 2015	Interchange Design meetings with WSDOT Bridge Engineers and WSDOT, ST, SDOT staff
November 2015	Small Council Group meetings
November 10, 2015	Neighborhood / Community meeting – Briarcrest
November 11, 2015	Neighborhood / Community meeting – Parkwood
November 18, 2015	Interagency Technical Team (ITT) Meeting No. 10
December 2, 2015	Citizen Advisory Task Force (CATF) Meeting No. 8
December 2, 2015	Neighborhood / Community meeting – Shoreline Council of Neighborhoods
December 3, 2015	Neighborhood / Community meeting – Haller Lake – Seattle
December 7, 2015	Neighborhood / Community meeting – The Highlands
December 9, 2015	Interagency Technical Team (ITT) Meeting No. 11
December 9, 2015	Neighborhood / Community meeting – Council of Neighborhoods – Seattle North District

145th Street Corridor Study Outreach Meetings

Date	Public (including Open Houses, Council, Neighborhood, & Property Owner), Technical Team, and Task Force
December 11, 2015	Neighborhood / Community meeting – Lakeside School
January 11, 2016	Neighborhood / Community meeting – Olympic Hills – Seattle
January 13, 2016	Interagency Technical Team (ITT) Meeting No. 12
January 19, 2016	Neighborhood / Community meeting – Ridgecrest
January 27, 2016	Interchange discussions with WSDOT Bridge Engineers, WSDOT, ST, SDOT staff
January 28, 2016	Citizen Advisory Task Force (CATF) Meeting No. 9
February 5, 2016	Drop-in property owner meeting, 10:00 a.m. to noon – Shoreline
February 8, 2016	Neighborhood / Community meeting – Friends of Jackson Park
February 9, 2016	Interchange discussions with WSDOT Bridge Engineers, WSDOT, ST, SDOT staff
February 11, 2016	Drop-in property owner meeting, 3:00 p.m. to 5:00 p.m. – Shoreline
February 11, 2016	Drop-in property owner meeting, 5:30 p.m. to 7:30 p.m. – Shoreline
February 24, 2016	Public Open House No. 3
March 3, 2016	Planning Commission
March 9, 2016	Interagency Technical Team (ITT) Meeting No. 13
March 9, 2016	Neighborhood / Community meeting – Parkwood
March 21, 2016	Shoreline City Council meeting
March 29, 2016	Citizen Advisory Task Force (CATF) Meeting No. 10
March 30, 2016	Interchange discussions with WSDOT Bridge Engineers, WSDOT, ST, SDOT staff
April 11, 2016	Shoreline City Council meeting

Sample of Concerns from Comments - Open House #1, May 20, 2015

145th Street Multimodal Corridor Study

Following is a sampling of comments received as a result of the first public open house for this corridor study. These are individual comments and do not indicate how often some of these comments were heard. For example, a comment of an unsafe pedestrian environment may be listed once below, but was a recurring theme.

Congestion/Traffic:

Increased use, vehicle congestion, and poor off-ramp design.

Must enforce speed limits – drivers speed, run red lights.

Tolls on SR-520 have made traffic worse locally.

Potential for lots of construction traffic with upcoming zoning.

Freeway access back-up.

Traffic accidents throughout corridor.

Concerned about increase of traffic on 3rd Ave NW. North/south traffic needs to be directed to Greenwood. 3rd is a minor arterial lacking sidewalks/crosswalks/stop signs/curbs/etc. and is already very dangerous for peds and bikes.

Numerous accidents at 145th & 15th with drivers running red lights and hitting cross traffic.

Roadway / vehicles (configuration, operation, condition, left-turn pockets, signals, safety):

Not enough visibility from side-streets to 145th. Vehicles must creep out and threaten traffic on 145th.

Lack of turn pockets.

Dangerous left hand turns throughout corridor.

A center lane the length of the corridor.

Need left turn signals.

Concern about safety of 145th/25th intersection. No dedicated left turn. Drivers speed / run red lights. Have witnessed multiple accidents. Three schools in vicinity. Puts families and children at serious risk every day.

Limit the number of streets where left turns can be made and improve timing at main cross streets like LCW, 15th, 5th. Left turn lights at 25th and 27th.

Left turn signals at 145th and 25th. Suggest that the turn signal [on 145th] be at the beginning of the green light and at the end. At the beginning to allow some of the cars to turn to help ease the traffic, and at the end of the green light to avoid the accidents.

Must have left turn lane at 145th & Meridian both directions.

Center lane on 145th NE to turn left from or into.

"Barrier" along parts of 145th from I-5 to 15th Ave NE to prevent cars turning left when coming from north or south.

Left turns on 27th during rush hour are unsafe.

Poor visibility at many intersections.

No dips in the roadway.

Unsafe drivers at the 145th/15th intersection. Removing the free right-turn-on-red would have prevented many of the near-hit or actual collisions I've witnessed. The four-lane roadways and difficulty to see past corners cause many drivers to turn right-on-red unsafely.

Respect green spaces on both sides of street.

Uniform surfacing.

No reduction of number of vehicle travel lanes.

Traffic calming at Greenwood.

Better lighting at intersections.

Pavement deterioration.

Better signal timing.

Terrible signal timing for east/west traffic.

Provisions for U-turns along 145th could reduce nuisance traffic (drivers turning around) on cross streets.

Paint "Pedestrian" on ped crossing of entrance ramp (westside, I-5 south). Clear vegetation around yellow sign at this location.

Difficult to turn from side streets onto 145th – cannot see because of vegetation. Drivers speed.

Lanes are too narrow.

Do not narrow streets - no one is on the sidewalks anyway.

Put bus stops before intersections not directly after them…would help avoid backups into intersections.

Put in smart signals with both weight sensitive & electronic eyes so idle is kept to a minimum & intersections smartly adapt to traffic flow rather than being on an old school timer system.

Reduce vehicle speed and road diet to regulate traffic flow to steady movement.

Increased bus and car traffic on NE 143rd St east of 15th Ave NE due to increasing traffic on NE 145th St.

Biggest concern is that 145th will become a "road diet" street with one automobile lane in each direction and dedicated bicycle and pedestrian lanes taking up the remainder. Most residents of this neighborhood agree that would be the WORST possible solution!

As someone who uses and crosses 145th daily I am EXTREMELY concerned that we do NOT reduce traffic lanes by putting in bike facilities!!!!!!!

ADA:

Better wheelchair access on corridor and buses.

Put my life on the line riding my electric wheelchair on the sidewalks / lack of sidewalks.

Need sidewalks for ADA travel.

Pedestrians:

Even though there is some sidewalk, it is scary as a pedestrian to walk along 145th.

Unsafe pedestrian environment.

Very important that people feel safe getting to the new station, without feeling they must drive.

Safety of pedestrians crossing 145th (even at lights).

Trail for bikes and peds in Jackson Park golf course.

Walkers should walk elsewhere. Who wants to walk along the side of a State Highway?

Green space and walking trail around perimeter of Jackson Park.

NE 145th segment of Jackson Park trail should be improved or relocated further from street.

Crosswalks with flashing / stop lights.

Alternate "greenway streets" adjoining 145th.

Walking would be encouraged by retail, greenery, general beautification.

Quit catering to pedestrians - they need to learn how to cross streets safely.

Unsafe pedestrian crosswalks. Need crossing flags. Does Shoreline have a budget to make crossing flags?

Sidewalks:

Unsafe sidewalks.

Remove power poles.

Better sidewalks with curb cuts.

Sidewalks are atrocious. Sometimes see people in wheelchairs riding in the street as they cannot get through on the sidewalks.

Jersey barrier sidewalks from 8th to I-5 and Meridian to I-5.

Walkways distinctly separate & safe from vehicles, buses, trucks.

Barrier between traffic and peds. Buffers between cars and sidewalks.

Wider sidewalks.

Narrow sidewalks are okay if vegetation is cut and poles/obstacles removed.

Unsafe sidewalks – no shoulder.

Grass strip between sidewalks and street.

Vegetation control on sidewalks.

Clean underbrush from sidewalks to make them as safe as possible – cheap!

Landscape maintenance (trees, brush) - public and private.

No clear stipulations on garbage / recycle bin placement.

Need to enforce not blocking sidewalks!!!

Cars in driveways which partially or completely block sidewalks.

More clearly marked sidewalks as in pedestrian signs warning drivers pedestrians have a right to cross. Better signals indicating to drivers that pedestrians are crossing. Blinking lights in the crosswalks?

When walking between 15th and 5th on 145th, I always feel like I will be hit by a car as the sidewalks are so narrow with obstructions.

On rainy days have been drenched by cars speeding by when crossing over I-5 to catch express bus on west side.

No improvements would encourage me to walk – it is a busy, unpleasant street to be on and all I want to do is get thru as quickly as possible.

Safe sidewalks, pedestrian friendly crosswalks & lights.

Pedestrian / bicycle bridge across Aurora Ave N at 145th.

It would be great to link the pathway near 145th & 15th with a pedestrian bridge to enter the park (nature) across the way.

Crosswalk or overpass to get to bus at corner on 145th next to Walgreens. Would be great to have a crossing midway between 145th and McDonald's/155th. Maybe like crossover down at 130th & Aurora.

Buses:

Put bus stops before intersections not directly after them…would help avoid backups into intersections.

Better bus service.

Bus service is pretty good.

Need bus shelters / rain protection at stops.

Bus stop turn outs to avoid impeding traffic.

Transit center.

Need this as an east-west transit corridor with a dedicated east-west bus or trolley to join Aurora/Greenwood/Haller Lake to Lake City Way/Shoreline/Kenmore/Seattle with 145th station as midpoint.

East/west bus on 145th 24/7.

Provide small daytime bus shuttle along 145th between Greenwood and Aurora and Lake City Way.

Express bus LCW to 145th and 185th stations.

Buses that travel all the way from Aurora to Lake City.

Must have bus service to downtown (304) at least until train is built and to/from train stops.

Move ST-522 bus onto 145th to Aurora. Return to Bothell Way & UW Bothell.

Safe place to stand while waiting for bus.

Express routes that are synchronized with light rail.

Some kind of priority for buses so they don't sit in traffic like everybody else.

Bikes:

Have separate ped, bike, and bus corridors.

Not enough right-of-way for bike lanes once sidewalks and turn lanes are added.

No bikes /bikes redirected to 155th.

Efficient needs to be the key word. Needs to be efficient for CARS. 145th is the last remaining EAST-WEST Corridor that has not been tampered with to provide preferential treatment to bicycles.

Route bikes safely along 130th – leave sidewalk for pedestrians walking to/from buses.

Bike facilities w/roadway or integrated w/peds.

Dedicated bike lanes.

Keep bike lanes off the street.

Do not take lanes away from 145th for bikes.

Multi-use trail.

Would be nice, but where?

Bike lanes distinctly separate & safe from vehicles, buses, trucks.

If parallel bike paths are not within 1 block of 145th, they are not acceptable.

Put bikes on sidewalk (safer for them, easier for drivers).

Exclusive bike facilities that are separated from vehicles.

I would be afraid to bike on 145th, however, it would be nice for access to the Interurban Trail – especially section between Aurora & the Interurban.

(Need) bike access to Interurban Trail from east direction.

Leave 145th for rapid, mass transit (buses) focused on on-time, scheduled delivery.

Alternate “greenway streets” adjoining 145th.

Easier access to the Interurban.

My parents won’t let me ride my bike or walk along this street. It is too dangerous.

Too busy for bikes.

Enough traffic lanes have been eliminated. Put back the lanes (vehicle). No one uses the bike lane (i.e. 125th) – waste of money.

Do not put bike lanes on 145 or any arterial. They are to move cars/trucks and facilitate commerce. Few people ride bikes yet they inconvenience thousands of people a day. No more "sharrows.”

Put bikes on side / neighborhood streets and figure out a way to add bike crossings across arterials.

If you choose to include bike lanes, choose a shared pedestrian option rather than dedicated bike lanes. Do not decrease current car traffic lanes to add bike lanes or dedicated bus lanes.

Add I-5 facility overpass to run across 150th.

Light Rail Station / I-5:

Extend Light Rail station to SW corner of 145th/5th.

Build 500 car garage with potential to add on in the future.

Increase 145th garage by 100-250 spots.

Build adequate parking garages to support light rail.

Charge $2.50 to park at stations, then reduce bus fares.

How can changes be determined to 145th without knowing what the state is going to do to the interchange.

Wrong location for transfer station and 500 car garage – should be located on SR-99 where all the businesses are, not homes.

Left hand turn lanes onto I-5 cause back-ups.

R.O.W. / Property Acquisition:

I noticed that in all the information and concerns you have there is nothing mentioned about the homes on 145th. It appears to me that at many points there is no room to widen the roadway which means properties will have to be taken. Where is the concern for that aspect?

Eminent Domain?…should we sell and move now?

Either Seattle or Shoreline should own entire roadway.

Property acquisition should not all be on Shoreline side.

Loss of low income housing.

I live on the South side of 145th Street. If Shoreline takes ownership of the street itself, I WANT TO REMAIN A RESIDENT OF SEATTLE with all of the same privileges.

Miscellaneous:

Plaza at 5th & 145th.

Underground utilities.

Reconfigure I-5 interchange

Use Jackson Park in a better way.

Shoreline residents should not bear costs alone. Include Seattle, LFP, State, and County.

Pedestrian friendly businesses along corridor.

Closer amenities – something nice to walk to (restaurants, coffee, etc.).

The corridor can't be everything unless there are unlimited funds.

Concerns about increased density.

There are not improvements the City can do on 145th.

Preserve mature trees. Minimize impacts to mature trees, esp. Madronas.

More street trees.

If work is not completed on the 145th corridor until after the light rail station opens at 145th, it could mean congested roads in the neighborhoods for an even longer period of time.

The future year 2035 ADT's seemed a little low for all the growth potential over the next 20 years.

Consider wildlife corridors. Animal tunnel below street.

Need safe way to access Landover Woods Park. There is no crosswalk here.

Bike lanes & walking paths / sidewalks to new redevelopment of Aurora Square [north on Greenwood].

Two left turn lanes from westbound 145th onto southbound 99 (Aurora).

Sidewalks to Twin Ponds Park from 145th.

What about driveways that back on to the street?

Lake City Way at 145th intersection enhanced signaling. New development on NE corner will [increase] traffic flow dramatically east of Lake City Way on 145th as well as on Lake City Way.

Need to make this street an urban boulevard with center median and adequate sidewalks with landscaped buffers.

Outreach efforts for Open House #2 (to date)

Post cards in mail 9/16/2015. Mailed to physical addresses 10 blocks north (Shoreline) and 10 blocks south (Seattle) of 145th Street.

September Currents: Contained info for open house (front page) and study update so all Shoreline addresses have received an invitation.

Open house information listed on the City's webpage calendar and on the project's webpage.

Electronic copy of postcard sent to:

1. **Shoreline PIO** (Eric Bratton) (9/10/2015) – will issue press release on 9/25 and send to Alert Shoreline and neighborhood groups.
2. **CATF** (9/11/2015) – They have been asked to share and spread the word.
3. **ITT** (9/14/2015) – This group includes member from **Feet First** and **Cascade Bicycle Club**. They have been asked to share and spread the word.
4. **Interested parties list (from 1st open house, etc.) and SubArea Plan list** (9/15/2015).
5. **Constance Perenyi, Shoreline Neighborhood Coordinator** (9/14/2015) – asked to please forward to all neighborhood association coordinators and spread far and wide.
6. **Seattle North Region Neighborhood District Coordinators (Christa Dumpys, Karen Ko, and Tom Whittemore)** (9/14/2015) – they have been asked to use invitation information in newsletters, blogs, websites, group emails, etc. Christa confirmed including this in their newsletter.
7. **Lake Forest Park, Kenmore, Bothell** (9/14/2015) – Sent to communications staff and asked that they share with appropriate staff who could help get the word out. They have staff on the ITT who have indicated safer/more reliable travel corridors heading south are important to their citizens.
    - **Kenmore** (9/17/2015) **–**Verified they have shared Open House invitation on Facebook, Twitter, and Nextdoor.
8. **Futurewise** (9/16/2015).
9. Shoreline United Methodist, Prince of Peace Lutheran, and St. Dunstan's **churches** (9/18/2015).
10. **Thornton Creek Alliance** (9/21/2015).
11. **Pinehurst Neighborhood (Friends of Jackson Park)** (9/21/2015).
12. **Seattle Transit Blog** (9/21/2015). Has been posted under Events and on Calendar.

Copies mailed to Seattle Broadview, Richmond Beach, King County Shoreline **Libraries** (9/21/2015).

Seattle Times online began 9/21/2015 and will continue randomly until 100,000 viewings are reached.

48 "Campaign" style signs placed along 145th Street (9/23/2015).

Comments for Open House # 2 (September 30, 2015)

Source	City	Comment
OH2 Comment Form	Shoreline	Poorly planned meeting. Could not hear. Not enough chairs. Lights were not turned on. Did you do these things on purpose? 6 lanes
OH2 Comment Form	Shoreline	This event is chaos. Can't hear anything. Can't see with sun glare. Not helpful!
OH2 Comment Form		How dare you come in to Seattle to fix Shoreline problems?
OH2 Comment Form	Shoreline	Use the money to clean up Shoreline property crimes. Shoreline is 100% higher than the national average. More full-time 24x7 police. More programs for drug addicts that are breaking into homes to pay for their habits.
OH2 Comment Form	Shoreline (Briarcrest)	Concept #2 - Best option. Concept #3 - Not enough bicycles will use - check the bike traffic on 130th where a bike lane exists - I have never seen a bike on 130th. To my knowledge the bike Assoc. said they would <u>not</u> use 130th because it is too steep. - not sure if there is enough turning traffic to give them a whole lane - maybe just a traffic signal for turning would be better/cheaper. Concept 4 - crazy - stupid - until the congestion is relieved at the traffic light at NE 145th & Lake City Way moving more traffic to that point is wrong. Why is there approximately 800 cars/day on 30th Ave NE between NE 145th & NE 149th? They are trying to avoid the traffic light at NE 145th and Lake City Way.
OH2 Comment Form		Give bikes a separate and protected lane. Let cars drive without concern for hitting a bike or another car from swerving to miss a slower bicyclist!! Lane markers for separate bike and peds. Sweden & Finland got it right!
OH2 Comment Form	Seattle (1/2 block S of 145th)	How can we take you seriously when you can't even get the street names right? There is no Greenwood Blvd. It's Greenwood Ave! Aren't you embarrassed?!! The need for dedicated bus lanes? There is no regular full-time bus route on 145th! <u>NOT</u> due to deficiency, due to Metro not creating routes, hello! Bicycles? 1 or 2 per week on 145th, leisure riders, <u>not commuters</u>! Stop with wasting money on bike lanes! We're sick of it. Deficient pedestrian and bike environment??? Pedestrians don't <u>want</u> to walk on 145th. Exhaust? When I walk in the neighborhood <u>DAILY</u> I use quiet, scenic streets. Transportation by car is important too. Take 3-4 kids to new ST station on foot or bike?
OH2 Comment Form		Westlake Plaza = 145th & 15th Ask the construction company to buy the houses that will be destroyed.
OH2 Comment Form	Shoreline (155th & 27th)	Bikes are important - <u>but</u> they should be on streets parallel to 145th, not on 145th. It would require too much widening of the right of way. Single-family neighborhoods should be protected as much as is feasible - esp. west of I-5, west of Aurora. But it's difficult, because there will be increased traffic from the west too. What kind of projections do you have, comparing the increase in traffic from Lake City Way to I-5 vs I-5 to the west?
OH2 Comment Form	Shoreline	1) The concepts seem tilted to #4 - on the artist renderings, #4 was made most attractive. How about #2 & #3 with underground utilities? For that matter, why not have the option of <u>improving</u> the no action option? If you placed the utilities underground, the current right of way would be vastly improved & you would minimize property impacts. 2) You need to address property acquisition 1st & foremost. That's what brought many people to this open house. 3) What is the position of City of Seattle & State of WA?
OH2 Comment Form	Seattle	To everyone involved in putting this event together. Thank you! It was informative and I am happy to see the possible improvements coming to the 145th corridor. I live right off of 145th and think pedestrian safety is SO important along the busy street. As someone who takes the bus to work, sometimes returning home late at night, I appreciate your effort to make walking along 145th safety for pedestrians, bicyclists and vehicles. I understand that for some people the property impacts are significant but I believe it is necessary to make the corridor safer & more efficient for all that live along/near it now and all those who will in the future. Thanks again!

Source	City	Comment
OH2 Comment Form	Seattle	I am horrified by this. As a Seattle resident, where is my representation? Affordable housing is so rare in Seattle & Shoreline too. Yet you will be taking away much of it. You guys need to get CREATIVE* and figure out a way to minimize the impacts to property owners! If you add all the lanes - how do they squeeze down @ the I-5 bridge? That is barely 2+ lanes - how will traffic squeeze in?! * Attendee suggestions like bury power lines & sidewalks on one side.
OH2 Comment Form	Shoreline 14514 20th Ave NE	Concept 2 - off-corridor greenway off-corridor bike network. I strongly support off-corridor BIKE AND PEDESTRIAN routes. Sidewalks and bike trail/lanes 2 blocks either side of 145th would allow buses to meet riders off the highway. Use highway funds to provide bike, walk and ADA accessibility on side streets. No smart human being wants to walk or bike on (SR)523. This would enhance property values on 143rd and 146/7/50, and minimize property impacts on 145th.
OH2 Comment Form		Thanks to everyone for all the hard work going into this. My thoughts on this 1) Improvements to the walkway are definitely needed. I think it's important to remove the obstacles or incorporate them into a planter area. I support having a buffer between the roadway and the walkway so pedestrians feel safe. 2) With 145th becoming a busier corridor, I think it's important to take steps to mitigate noise and air pollution it creates in the largely residential areas it passes through. I'd like to see denser foliage than depicted in the concepts as a step for this, or perhaps a rock wall.
OH2 Comment Form	Shoreline	I prefer Option 1 - minimal impacts to property owners. I think the primary improvements should be to improve automobile & bus traffic flow.
OH2 Comment Form	Shoreline	What a tough corridor to address. It has to be done. Concept #1 does not address all the change coming. Already a tough roadway. Can't see any way to really improve the corridor without property acquisition. * Please send to email information about what to expect in the property acquisition process. We own property along 145th & 9th PL NE.
OH2 Comment Form	Shoreline	Swales look pretty disgusting & I would imagine no one presenting would enjoy the job cleaning the trash/debris out. Center turn lane = good, bus lane = not so much (sucks). 1 bike path = so so. You have to take some property anyways. With the growth in Seattle this is a prime chance to facilitate the desirability of the region. I hope that the council is able to overcome the pushback and fully utilize this chance. It is easy to squander an opportunity like this without the right dynamics in place. Best of luck. I don't envy your job on nights like this. Bike/pedestrian bridge (preferably ~ Twin Ponds?) over I-5 would be a personal request and lighten foot congestion. 155th sucks too.
OH2 Comment Form	Seattle	During the Aurora Ave revisions many small business owners were not treated well (lost access temporarily or permanently, lost footage without compensation). I hope that we will be treating business and property owners more fairly during this process.
OH2 Comment Form	Seattle	Thornton Creek is currently in a culvert under I-5, south of Ronald Bog. Please plan for daylighting Thornton Creek by providing a channel under the elevated Light Rail along I-5 in that area, with infiltration, native plants, and possibly a walking trail. Consider providing infiltration (not just grass planting strips) along 145th, especially where it crosses our waterways.
OH2 Comment Form	Shoreline	Curious about the financing with & without Seattle / King County / Washington State. Would like information regarding the acquisition of properties.
OH2 Comment Form	Seattle (barely)	IMHO, stipulating that bike lanes are good because they remove automobiles from the road is disingenuously specious (not worthy of an ENGINEER at the least). When you remove a traffic lane for bikes, it is there regardless of bike usage and decreases the carrying capacity (e.g. left turn lane) of the road permanently.
OH2 Comment Form	Shoreline, Chair Parkwood Neighborhood	It seems like I-5 to Aurora may be different than I-5 to Lake City Way in terms of the need for multiple lanes, right turn lanes, etc. It's more residential, there is a high school, elementary school close by. Scale it down similar to Greenwood to Aurora. Also, I'd like to hear more about noise dampening efforts along 145th between Aurora and I-5. Also would like to hear more about how trees will be maintained. 1st Ave NE & 145th - drivers run red lights, difficult to cross in crosswalk. Meridian & 145th - difficult to turn left

Source	City	Comment
OH2 Comment Form	Seattle	I am a bicycle commuter, but I tend to ride (very politely) on sidewalks as much as possible. Therefore, sidewalk accessibility = improved bike accessibility.
OH2 Comment Form	Seattle	It would make sense to provide the planting strip in the area where the power poles are, if possible, so utilities would not have to be moved. At least on one side of the street. It's shown that way on the board titled "Concept 3 looking west."
OH2 Comment Form	Seattle side of 145th	*[see sketches on comment sheet]* Bike lane (1 side). Planter. Sidewalk. Curb bump for bus stops. 2 lanes in each direction. Bike lane on one side. Planter strip on other. Sidewalks on the outside Bump-ins for bus stops.
OH2 Comment Form	Kenmore	Please provide for adequate improvements to allow for proper & extensive traffic flow. Concerned that the improvements will not be extensive enough to handle significant traffic increases on NE 145th St between Lake City Way NE and I-5. Concerned about traffic mobility & movement from SR-522 (LFP, Kenmore, etc.)
OH2 Comment Form		Good walking connections (sidewalks) are critical. Current sidewalks too narrow. This is particularly important from Sound Transit to 15th NE.
OH2 Comment Form		Already on 155 between Aurora and 15th is a bicycle lane. Why do we need one more on 145th?
OH2 Comment Form	Shoreline	Roadway needs to be expanded to 6 lanes, 3 in each direction from Lake City Way (522) to Aurora (Hwy 99). Bike lane from Aurora to I-5 on the south side of roadway. No bike lane on any uphill portion of the roadway eastbound or westbound. Standard sidewalks. Staff and council need to quit sugar coating this and provide a long term solution.
OH2 Comment Form	Shoreline	Creating a multi-modal corridor is crucial to this region. The complete street model is needed to ensue that people of all abilities / limitations, and <u>income levels</u> can have access to the region's growing transportation options. Please consider Public Art in the early design phase of this project. Shoreline's % For Art Program should adopt the design team artist model (like Seattle & 4Culture) to incorporate art work into the project, rather than add art afterwards. Perhaps a joint effort between Shoreline, Seattle's % For Art, 4Culture, and Washington State Arts Council should be investigated.
OH2 Comment Form	Seattle	I really liked the slide that shows the bike lanes one street away from 145th. I would like to promote bike lanes not on the main thoroughfares. There are too many road nazi in the NW. Otherwise I prefer option 3 or 4. Thanks for doing all this work. The slides are fantastic.
OH2 Comment Form	Seattle	Concern for Shared Bike / Pedestrian paths on 145th. Because of the hills - this could pose a serious accident risk - for both cyclists & pedestrians. Encourage planning to include separate Bike / Pedestrian corridors. Plantings (buffers) between car and bike / pedestrian sections would be best - cars going at the typical speed of traffic on 145th (especially considering downhill speeds) make walking or biking next to them hazardous & scary. Pedestrian crossing on south side of 145th at I-5 juncture is horrible!!
OH2 Comment Form	Seattle	As the selection moves forward, please keep your website updated. Also, please anticipate questions that may arise for the next Show & Tell, as first session tonight there was nobody from City Hall in the room that could address <u>ANY</u> property owner concerns. Folks were told to go in the lobby to ask. However, there were ~25 people that needed answers & at least another 25 that also wanted to hear the answers to the property owner's questions. * Very good job getting the word out about this informational meeting. Very very good.
OH2 Comment Form	Seattle	It's about moving PEOPLE not cars. Thanks for progressive ideas.
OH2 Comment Form	Shoreline	Good event. Need signal on 5th south of 145th at the north off-ramp control 4th south of 145th on bridge southwest corner wildlife tunnel between golf course to open space.
OH2 Comment Form		Bus lanes are <u>essential.</u> Why not Version 3 including bus lanes?
OH2 Comment Form	Lake Forest Park	Also tolls on the bridges of 405 have also caused some of our problems. I could not see how traffic will get better if you don't address the increase amount of people that are using the corridor . LF & south gateway is planning more High Density Housing & Lake City has already increased their high density with no transit. This will continue to impact the area. Sidewalks & bike lanes don't help traffic. I've seen it over & over. Removing people from the single housing dwelling is also unjust.

Source	City	Comment
OH2 Comment Form	Seattle	My concern is how this project would impact low income housing on the Seattle side of 145th. Seattle Housing Authority owns 4 properties in the Little Brook Park neighborhood. (Little Brook Park boundaries are 137th NE to the south, 145th to the north, 30th Avenue on the west and Lake City Way to the east.) 2 of the Little Brook properties are right on 145th. Jackson Park at 30th & 145th & the Blue Topaz @ 32nd & 145th. Additionally, there are many Section 8 voucher holders in the Little Brook Park neighborhood. Many of the Section 8 residents live in the Sherwood Apartments which also owns property on 145th. My #1 concern is the impact on low incomes housing in Seattle.
OH2 Comment Form	Shoreline Briarcrest	Prefer Concept 3 for contexts I-5 to Lake City Way with turn lane for turners & bike lane. Sidewalks could be wider than present but less wide than if bike lanes on outsides. Also I don't believe any Bus & Turn lanes should be designated / implemented until station is functional in 2023 (7-8 years from now).
OH2 Comment Form	Shoreline	The concept art should show before and after at real locations. For instance, what would the intersection at 20th Ave NE look like?
OH2 Comment Form		No Light Rail
OH2 Comment Form	Seattle	Nicely presented. Nice graphics. Well organized. Sensitive to issues of costs & benefits. Large crowd was great but presented challenges to. I still think we need a complete street solution to all parts of the corridor (car, bus, peds, & bikes) but lesser devel. & widths ok at west end as long as all consider the incr. impact & need for all to get to the transit center. I live in Broadview, Seattle, & represent my neighborhood on the CATF. Shoreline is great to lead on this effort. I think the City of Seattle also needs to make this corridor a priority for planning & implementation.
OH2 Comment Form	Seattle	This has been a frustrating experience!!! You should have considered the volume of attendees - no parking nearby! (you could have arranged room in empty store lot across the street). Then the room to present too small, bad acoustics, the presenters mumble platitudes about "trade-offs" - Well the "trade off" is MY HOME! Call it what it is - eminent domain land grab. Would we ever see market value compensation? I doubt it! And where would we ever be able to purchase another home in Seattle??? Properties are selling for double what we paid - we won't even see the benefits of this project - only the detriments! We can't give feedback until we know the true impact to our neighborhood & our home! We want answers or at least a public forum to discuss our concerns. Where is our representation???
OH2 Comment Form	Shoreline	If a "good" off corridor route is developed for bicycles, then I am ok with not including it in the cross section. This is for Greenwood to Lake City Way. 3rd to Greenwood is in need of a bicycle facility for connecting the north south connection. 1st Ave is used as a greenway.
OH2 Comment Form	Shoreline	Specifics & Generalities: * Must improve 145th x Whitman. It is short block, usually blocked by east bound stopped traffic, no light, poor sightlines, poor pedestrian safety (mid-block xwalk?) * Maximize ped, bike, transit capacity. Cars have enough * Raise I-5 crossing east to daylight more Thornton Creek & other waterways * Connect side streets N of 145th to increase total corridor connection - fill in the city street grid!
OH2 Comment Form	Shoreline (North City)	It's extremely important to improve the I-5 interchange, and not only on 145th but also on adjacent streets. 5th Ave NE is one of the most dangerous sections in Shoreline: cars leaving the highway at high speed, crossing a southbound lane and a northbound lane. I'm surprised there hasn't been many fatal accidents at that particular intersection.
OH2 Comment Form	Seattle	The sidewalks need to be cleared in the interim for safety. Bikes do no belong next to cars.
OH2 Comment Form	Seattle	I think the priorities should be: 1) Transit to light rail (including park-n-ride) 2) Functional thoroughfare that is not intimidating (and safe) for all users 3) Environmental mitigation Don't be afraid to spend money. This area is growing and change will come no matter if you prepare or not. Try to create the skeleton where by the community will grow organically. Question: Can you put bike and pedestrian traffic on parallel route to mitigate the impact on 145th?

Source	City	Comment
OH2 Comment Form	Shoreline	145th is extremely dangerous. I currently live on 145th and would be willing to sell my property in order to widen the road. The Shoreline side should have been rezoned when it was proposed about 10 years ago. Strongly consider rezoning the properties on 145th to commercial to act as a buffer for the neighborhoods. Take part of the properties as the road & build commercial on the remaining land.
OH2 Comment Form	Shoreline	* Appreciate all the work that has gone into the study so far. Recognizing all the entities involved. * I am for supporting vibrant community life - especially a healthy, safe & family oriented area for the section @ 25th Ave NE & surrounding near so many schools. * I think a pedestrian overpass may need to be considered at the 145th & Lake City Way intersection. * Traffic flow & safety priority.
OH2 Comment Form	Shoreline	Bothell [Way] to I-5 concept 101' typical I-5 to Aurora Concept 3 - 94 width. Aurora to Greenwood Concept 3. Greenwood to 3rd NW - Concept 4 but #3 if prop acquisition is <u>not</u> a big issue. * Pedestrian / Bike Bridge over I-5 - avoid peds/bikes on road bridge. Thank you for this open house! The area that needs most attention is from Bothell Way to I-5 especially incorporating the LR Station access. Area from Aurora to I-5 is almost as big of an issue - but could be more modest.
OH2 Comment Form	Seattle	Thanks! Good to improve this nasty area! For stretch between I-5 and 15th NE: * Consider unique issues with JPG course and cut/fill areas - maybe not possible to widen without structures (bridges?). * Protect madronas on N side, across from Jackson Park GC. *Support bike /ped - 6 lanes for cars/ buses is too much * Can we trust GC trees will remain? If so, could compromise sidewalk trees on south side. Risky though! * Encourage movement of JPGC perimeter trail into green space.
OH2 Comment Form	Seattle	Need: Bigger room with better audio system so that everyone can hear the presentation (we left because we couldn't hear anything). Thank you for inviting local residents who don't live in Shoreline. We live on the Seattle side and experience the cut-through traffic every evening from people going around the 145th back-up. No road diet on 145th!
OH2 Comment Form	Shoreline	Any plan with turn lanes we support. Turn lanes are the most important piece.
OH2 Comment Form	Shoreline	It is very important to allow bus lanes to get easily to and from the new station. I'm glad to see Kenmore, Lake Forest Park, and Bothell symbols listed. Is it possible to get funding from these cities to improve the livability in those cities as well. There is no crosswalk shown from the station west across the freeway (as in station concepts) to allow safe travel for pedestrians, wheelchairs, walkers, and bikes.
OH2 Comment Form		I-5 to Lake City Way * Slow down the speeds! * Reduce to 2 drive lanes and a center turn lane with separated bike lanes. * an of Concept 3A - "Road Diet"
OH2 Comment Form		While we all would like the concept of #4, the cost of property taking and implementation is not worth the number of people that would, on a daily basis use the bike paths and wide pedestrian walkway. You need to provide a cost versus benefit to an estimated number of people that would use bike and pedestrian walkways to convince people to give up their homes and properties.
OH2 Comment Form	Shoreline	Without addressing traffic flow off and onto Lake City Way, we will continue to have major backups. Traffic calming and speed bumps on neighborhood streets to discourage cut through traffic is needed. An alternative route for bikes, <u>not on 145th</u> should be created. Biking on 145th is too steep and the traffic makes it too dangerous, even with bike lanes.
OH2 Comment Form	Seattle	Hi, We live on 26th Ave NE - just off 145th. 26th is one of the only (maybe the only) single block dead end. Our block will be severely impacted by this proposal and we have questions as to whether there would be a break through on 26th going south to alleviate the traffic going in or out of our block?

Source	City	Comment
OH2 Comment Form		1st importance is traffic, do not diminish the amount of lanes. 2nd: Transit 3rd: Good pedestrian pathways. 4th: Put the bicycles somewhere else. Use the more residential streets for you bike paths. You can't fix this without taking property, It will be necessary to get an effective result.
OH2 Comment Form	Seattle	Well presented. I think pedestrian safety and accessibility is essential. I live off Interlake Ave and 145th (south of) and we can't safely use the sidewalks. I am concerned about the impact of a huge road expansion on the neighborhoods - will it bring greater traffic, noise, people? I am glad you have taken on this project as Seattle seems to have abandoned our area. Thank you!
OH2 Comment Form	Seattle	We live on 20th south of 145th. 20th Ave NE is below the level of 145th. My concern if you take land south of 145th is how you will have the new road levelled. I would be very concerned if there was an overpass type structure at the end of our block. This might provide an area for illegal activities (drugs) or transients. *[see map]*
OH2 Comment Form	Seattle	At this point Concept 1 or possibly Concept 2 makes most sense to me…I am a property owner in Seattle with the only entrance to my home off 145th (we are on a dead end w/no other access). This greatly impacts my home and its value.
OH2 Comment Form	Seattle (Bitter Lake)	My primary concern about all of this has to do with the future concept of what this neighborhood can become - the sex workers on Aurora upset me terribly as do the homeless & difficult non paying individuals riding the E bus - if we create an environment for only better traffic flow - how can we change what the area could become. I want this area to grow in its scope and while this is only one issue, how it is designed / created does affect the cultural development of Aurora/ Greenwood as well. Are there any ways to impact change for the neighborhood?
OH2 Comment Form	Shoreline	Don't increase zoning density until you fix the damned road! Fix it before the light rail comes in.
OH2 Comment Form		* *[Don't]* bikes space on 145th - put them on 125th & 155th where there is less traffic anyway. There aren't enough bikers to warrant putting them on 145th. * Plan for more people and have more seating next time!
OH2 Comment Form		More bike lanes less cars on 145th !
OH2 Comment Form	Shoreline	Yes - 4 lanes plus turn lane Yes - better bus transportation Yes - walkability No - biking - other routes are available & better It should have been fixed 40 years ago.
OH2 Comment Form		Way too big a re-zone (maybe in 100 years). Water & electric, will there be enough? Seattle is issuing a ton of building permits. If a garage is built @ train station, lots of North Seattle people will park there, lots of increased congestion. 3 gov owning 145th how will this be resolved?
OH2 Comment Form		Concerned about: Weight of community input. Will people who live next to 145th have more weight? How does King County, feel about the project? Are they supportive of widening the road.
OH2 Comment Form	Seattle	I am disappointed that <u>3rd Ave to Greenwood</u> only has 2 options that address concerns about traffic, access, and non-motorized use. This section is fed or / feeds into 3rd Ave NW, a major arterial that will only get busier. <u>Please</u> take this opportunity to improve this section of 145th.
OH2 Comment Form	Seattle	* I can't stand <u>Bus Only</u> lanes. They are almost always empty so I see them as a waste of space. * One thing to add to the concept is the idea of this being <u>major</u> infrastructure for growing cities. It will be a <u>Legacy</u> to future generations and residents. Let's think about what this region will be like 50 - 100+ years from now and make sure the project is something to be proud of as well as functional. This multimodal study is a great early step. Keep up the good work. * In my opinion, bike accommodation needs to be physically buffered from cars to be safe. Shared lane & arrows aren't good for this capacity of street.

Source	City	Comment
OH2 Comment Form	Seattle	I live just east of Aurora on the Seattle side. In this area, any 'property' impact would likely come from Seattle due to the steep slope on the Shoreline side to the north (costly to fill, etc.). I am not opposed to property concessions on the Seattle side, but I am far enough in where my property will not be affected. I welcome plans 3 or 4 - and can't wait for improved safety and accessibility as well as genuine aesthetic improvements. Good Luck!
OH2 Comment Form	Seattle	Please consider stormwater drainage on 145th St. It has a major impact on pedestrians during the winter months. I regularly get hit by a huge wave of water when cars pass me while walking east from 27th Ave to Lake City Way.
OH2 Comment Form	Shoreline	145th needs major changes and improvements for the future. If anything is done, it should be as wide as possible with as many improvements as possible because it won't be done again for a long time. It hasn't changed in over 50 years, so now is the time to act.
OH2 Comment Form	Seattle	My comment is about how the meeting was structured and how the information was shared. Many people got a postcard and thought oh-no! My house is going to be leveled and I won't get paid for it. Please share information about this, even on a best-to-worst case scenario. I can't give you feedback on how I value bike/bus/safety/pedestrian etc. until I know at least a little bit more about how it might affect me as a homeowner and how it might affect businesses & other homeowners in my neighborhood. How might we be compensated? Market value? (MV before or after improvements?) Tax value? Eminent domain? People see that their house in in the way and get scared and panicked. Please please please address this first - then I can tell you how walk/bike/bus/safety leverages against those impacts.
OH2 Comment Form	Shoreline	I have lived in Lake Forest Park & Shoreline since 1961. The 145th St corridor has never changed in my life time. Do this project right. Do it as wide and include as many lanes and sidewalks as you can now. It will be another 50 years before it changes again!
OH2 Comment Form		Biggest problem for congestion and safety is where 145 meets I-5. We need spaghetti ramps that allow traffic to flow smoothly from 145th to I-5 - in both directions of 145th to I-5.
OH2 Comment Form		Trees along the road are a safety hazard. Don't spend the money for trees.
OH2 Comment Form	Shoreline	We need better information about property acquisition, because home values, ability to sell, mortgage options will all be affected fairly quickly.
OH2 Comment Form	Seattle	If Shoreline annexes the road - will there be police presence from Shoreline? With increased widening of roads & better access, is there more crime to deal with? And how will this be addressed for neighborhood? Bicycles on a widened road are a large concern along this road - I believe the only solution & has worked well is off the main road bike travel.
OH2 Comment Form		Rapid Ride on Aurora looks like it runs very well north & south. Did anyone consider east and west more cost effective and no one loosing homes. On 15th, going north went from 4 lanes to 3. Now there is more gridlock and twice as long to 175th. Seattle is a mess. They don't finish 1 thing before they create another or have anything paid off. I don't want more homeless people because we can't afford to live. I see people living in their cars. Why aren't people taking transit more? I live 10 min from work and pick my granddaughter up from school. Please think very carefully on how you can do this without more [chaos] and stress than people already have. Think of fundraisers to get more community involvement.
OH2 Comment Form	Shoreline	As a resident on 145th St, it is apparent that methods to handle property impacts is not well thought out. How can you pick a concept in 4 months without knowing how you are going to handle property impacts. How close does the side have to be to a home before you buy the whole property vs a strip of land? The people on 145th St are around the poorest in the city. How are you going to help them relocate? How do you choose a concept without understanding the cost?

Source	City	Comment
OH2 Comment Form	Seattle 145th & Wallingford	I like Concept 3 overall the most. I like bus lane of Concept 4, bigger sidewalks, clear crosswalks, stop lights. Thank you for putting all the info online; I appreciate the transparency. I know this is an extremely early part of the development. I am in favor of widening of sidewalks, first & foremost. I am in favor of rain gardens, swales, lots and lots of trees! I am the younger few who moved in to Haller Lake - I think Haller Lake's median age is about 36? I'm 23. I do not drive, by choice. I choose to walk to the grocery, shopping, etc. As a pedestrian - I would love wider sidewalks w/more trees. I also fear the pollution issue that will greatly effect the health of your citizens if the road widens and nothing is helping to deter the smog, the noises, and the exposure. More trees protect citizens health - not to mention the Lakeside Schools, the Parkwood School children, the doggy day care and children day cares all on 145th. 145th is still quite a sleepy residential neighborhood - this change is a jarring one - but this change is necessary and I support it. All I ask for is 1. sidewalks, 2. trees, buffers, gardens, rock walls, anything to block the noise, pollution, etc. 3. ADA compliant 4. Have one bus that caters to 145th to I-5's new light rail station. * more trees *swales! Not permeable pavers…because pavers are hideous * Rain garden * Lakeside School * Parkwood School * Dog and child cares * ADA * costly but necessary to become a hub * research shows more trees less vandalism * high visibility crosswalk * landscape [street]
OH2 Comment Form	Shoreline	1. Concept 4 is a very wide section. It makes 145th as large as Aurora but through residential rather than commercial areas. It should not be 6 lanes. 2. Bus lanes dedicated 24x7 is a waste of a lane unless there will be thousands of buses per day. 3. Bus stop pockets are a good trade-off to remove traffic blockages by stopping buses without requiring a full dedicated lane. 4. 4th Ave @ I-5 SB is an awkward and dangerous junction. It should be dead ended and not connect to 145th or be one way southbound allowing only right turn onto it. 5. Option 2 & 4 show signal @ Ashworth. Ashworth is a major road for school bus etc. however it dead ends @ 151st. Traffic using Ashworth northbound must navigate maze of streets @ 150th. Or... 6. Wallingford goes through to 155th and serves Parkwood Elementary. Would signal not be better here? 7. Change will be painful but long term vitality of our area is valuable. People argued against wide sidewalks for Aurora corridor, now we all love them. 8. Prioritize people, bikes, children, trees, transit, and the cars will survive. 9. Eliminating left turns would be great but neighborhood street connectivity is poor north and south of 145th. That is, it is a long drive around if traffic is allowed only certain left turns. For example, Bagley Ave south of 145th one must drive very far south on Meridian to come up Bagley. Same with other streets north and south side. Given this, I think a solution with a 2-way left turn lane is desirable. It allows continued access to neighborhoods but not jamming traffic for left turns @ minor streets. 9. Post office turns are a major source of blockage between Aurora and Linden. Westbound, dis-allow direct left turns and allow U-turn @ Linden. Traffic re-entry from post office parking is an issue. Cars merge straight over to left turn onto Aurora. 10. Southbound Greenwood left turn lane onto 145th is way too short. 11. Trees in corridor are important!
OH2 Comment Form	Shoreline	1. I agree to improvements with as little impact as possible on property owners (families). 2. I would add: remove the electrical lines and bury them to make a clearer safer & wider area. 3. Make one sidewalk narrow & one wider. 4. Re-route bike path to side streets as much as possible. Bike paths along a street paralleling 145th then at 15th route to the Interurban. 155th to cross to Aurora. Re-route to 5th then along 130th. There may require some major changes in thinking about bikes on limited major arterials & highways - a little more [distance] to be safe (use the Interurban as much as possible). 15th & 150th to bike alternative route. Go to 155th. Cross on 155th to Interurban *[see map]* .
OH2 Comment Form	Shoreline	I'm thinking that Concept 4 is a joke - so maybe people won't think that Concept 3 isn't so bad. I mean really - we're going to turn 145th into a freeway!!!!!!!!!! Improvements to sidewalks would be good. No bikes on 145th! We don't need plantings! If you leave it alone - there's lots of trees etc on the corridor. How about having left turn arrows at the intersections? There is one at 1st heading west - that seems to work. Do people on the corridor have more weight in their opinions - since they will be the ones to lose their property?
OH2 Comment Form	Briarcrest (Shoreline)	Pedestrian alternative to walking on 145th noted by dotted line [see map].

Source	City	Comment
Email 20150930		I love this study for bringing attention to the fact this corridor is way behind civic planning and execution. Where can I submit comments & take surveys like they discussed in the open house today? I feel it is important to keep costs down while implementing quick-win changes as soon as possible and developing a great long-term plan to get funding and space to make it even better. I see quick wins as: Further elevated sidewalks - not just bus stops need protection, cars jump the curb all the time. Flashing crosswalks with flashers the whole way across, since cars often don't see pedestrians when all there is are white strips on pavement. Flashing sidewalks mid-span on 145th wherever a bus stop exists - I often have to wait 5 minutes for a break in traffic and RUN across 145th before more cars come along. And move those utility poles out beyond the sidewalk wherever possible and let the others remain until more property can facilitate those remaining to be moved. And lastly, the intersection of 145th and the I-5 overpass on the west side has NO PROTECTION WHATSOEVER for pedestrians walking that way with the side street south of 145h just west of the highway - that really needs to be fixed with an advanced notice caution flasher you can see back down 145th by those driving eastward.
Email 20150930		After attending city hall meeting tonight clearly there are no proposal models that do not severely impact property owners directly on 145th such as myself. So I foresee this will get ugly and go on for a long time. No representation for Seattle residents. For working people like myself the bulk of my financial security for the future is wrapped up in my property and home and the expectation of increasing value. "Property Impacts" was a topic left unaddressed. Very disappointing as well as distressing.
Email 20151001		*[Regarding information heard at recent meeting]* Aside from the expected and understandable concerns about cost, I heard three things that stuck with me: 1. Concern for more and safer means for pedestrians to cross 145th. 2. Strong desire to not encourage bikes on 145th. The sense I got was there are alternate paths, it drives up costs unnecessarily, and it is unsafe given the traffic. I concur with this view. 3. Strong concerns regarding the lack of parking at the 145th ST station, and the potential spill-over of commuters into adjacent neighborhoods. I think this is an indirect issue for us, but something to be mindful of.
Email 20150915		I did not see any other place to provide input on the web page so here are some comments. I really do NOT like the idea of making a bus only lane on 145th. It will not solve the traffic issues but will make traffic even worse by limiting the number of cars that can use that throughway. And the buses are only during certain hours so that would take away two lanes of four 24x7 which makes absolutely NO SENSE to one with common sense. One thing that would help traffic to flow better would be to change the light timings so that you can make the lights without stopping at 2 or 3 along the route because you “just” miss them. I have noticed that even on the smaller surface streets that intersect 145th where there are lights, the 145th, eastbound especially, is stopped for 1 car off a street that isn’t even marked for two lane traffic (20th) which has never made any sense to me. Even the light at 30th and 145th has a very short light timing for the yellow so I understand there are many accidents at that intersection, which further disrupts traffic flow when an accident occurs during rush hour due to someone thinking they have more time to run that light. While I agree the streets are in disrepair, there are never bicycles on that road because there are long hills and there is no room for them. Taking space for bicycles and bus lanes will not alleviate the traffic issues. I urge you to not pursue those ideas**. **Bicycle lanes have been added all over the Seattle area & the east side and I RARELY see anyone riding bicycles in the north end. I live in Kenmore and work in Totem Lake/Kirkland and for the past 5 working days I have seen three bicycles commuting on my 5-mile route to work. So, in one case a full lane was removed to accommodate 2 bike lanes and they are NOT BEING USED! Bad idea! And when I hear someone compare the Seattle area to Portland and how bike friendly they are, that’s a pipe-dream because Portland is flat and Seattle has so many hills so that is not a fair comparison at all. Stop trying to make us Portland! Thanks for your time.

Source	City	Comment
Email 20150812		Hi Debbie, Welcome back—Hope the OR coast treated you well. Rob mentioned in passing that I should drop an email describing input received on a NNO visit from a Ridgecrest resident about persistent illegal activities in Paramount Open Space. ... This long term resident is also upset about 145th corridor citizen committee composition (doesn't feel it represents interests of their street), the proposal of widening 145th to six lanes (could impact his back yard) , and of course, the 145th light rail station's looming arrival. He stated that in spite of the fact that many city leaders have said they care about what residents think, not one has visited their neighborhood to discuss concerns that long-term residents have, concerning these changes. He stated that although he has attended meetings at City Hall and shared his opinions in various formats, he doesn't feel represented by the City's current leadership directions and his detailed accusations reflected an overall distrust of the current City Council's intentions. We were sitting at a long rectangular table with at least 7 other less vocal residents who seemed to share his general opinions. This was [*Ms. X's]* party, who apologized for the lengthy and somewhat argumentative tone to [*Mr. X's]* concerns. *[Ms. X]* stated several times, she is not against development and welcomes some of the proposed changes, but the scale that is being proposed for their neighborhood is too much for the neighborhood to embrace. Based upon our 45 minute conversation, I felt *[Mr. X's*] comments showed considerable time spent trying to learn/understand the changes coming and although he was heavily invested in his opinions, I did not find him mean spirited or totally unreasonable. It seems like the resolution of parking and illegal activities at Paramount Open Space would constitute a concrete, tangible neighborhood improvement, in the face of the many development-related changes that are less likely to be mitigated to the satisfaction of this street that abuts 145th. I would be curious to know if Shoreline police have records of complaints from Ridgecrest neighbors about illegal activities in Paramount Open Space and if so, what steps were taken by police to limit illegal activities taking place. I will ask Constance to follow up with Patty Hale to see if she is aware of the long-standing problem at Paramount Open Space described by *[Mr. X]* .
Online Comment		I would like to see the power lines into the underground, new signs, new streetlight poles, new traffic signals on the master arm and pole, nice landscaping and new widen sidewalks, lanes, bat and bike lane and safety for ADA.
Online Comment	Seattle	I own property on the corner of 145th and 6th, but was unable to make it to the Wednesday night meeting. I feel strongly that losing some of my property frontage for pedestrian or bus improvements is acceptable and necessary to accommodate the increased transit and pedestrian traffic to the light rail station. However I strongly oppose property takes to add general purpose lanes. I intend to develop my property once the rezoning Occurs. If I do end up having some of my frontage acquired I would like the city to consider impacts on the development potential of my property and potential mitigations.
Online Comment		Aurora to I5 is the worst. Bikes can't navigate the sidewalk, barriers even walking. Floods when it rains at Corliss making the cars run through huge puddles splashing anyone who walks by. Also the water freezes making it an icerink and the cars have no barrier to the sidewalk. But it would be almost impossible to widen to the 107 ft wide option, which would be the safest way and nicest. It would improve the property values, especially if connects to the train. Please do this!
Online Comment	Seattle	I'm writing as a Seattle resident, and also on behalf of my aunt, who lives in a nursing facility on 145th. My aunt is wheelchair bound, but her neighborhood is an incredible unsafe area to be a pedestrian. I never feel safe taking her for short trips outside her home, but this project could make an incredible difference for residents like her. I am extremely excited for the safety improvements proposed for the 145th. I hope Shoreline, Seattle, and the state emphasize pedestrian mobility, ADA compliance, and bike facilities to ensure this dangerous street becomes a safe place for pedestrians and cyclists. I am very pleased by the emphasis on pedestrian safety and accessibility in your recent presentation. Thanks very much for your work - it will make a big different in the life of my aunt!
Online Comment	Shoreline	Improvements to safety of all modes of transportation are critical to making the coming light rail station work effectively. The current pedestrian and bike access is substandard and needs much improvement. Comfortable separation from vehicles with a planted buffer and dedicated bike lanes along the corridor is important. Off corridor lanes will be less efficient/underutilized. Rapid bus service along the corridor only works well with dedicated transit lanes. More commuters from north of lake Washington will want to use light rail at 145th, so transit from those areas to the station is critical. Don't want light rail parking to be sole access to the station for these users. I support options 3 and 4.

Source	City	Comment
Online Comment	Seattle	Improving walkability and promoting non-automobile connections to bus and light rail along this corridor are key. This corridor has the potential to be remade from the current auto-oriented, suburban-type thoroughfare into a key backbone for a more livable, urban area for both Shoreline and Seattle. I don't think that the roadway should have any more than 4 travel lanes with a two-way left turn lane. While I fully support bus lanes, the six-lane cross section just feels way too wide if we also want it to be an inviting corridor for walking and biking.
Online Comment	Shoreline	I wish there was another option between In-between/more and more important, it feels like the "more important" is putting words and thoughts into a process that I personally am not thinking. The stretch between I-5 and Lake City Way needs the most done yet presents some of the most impactful to property ... yet there are one size fits all questions for each stretch of the corridor. Some of the questions concerning bus traffic address areas where there is no bus service and not the sort of development to attract enough riders (mostly those areas west of Aurora to 3rd). Some of the sections already have sidewalk, especially those from Greenwood to (mostly) I-5, so again, the questions are more one size fits all and it makes it that much harder to answer with any degree of accuracy. Bikes do NOT belong on 145th to Lake City and it would be impractical to accommodate them, even given the Burke Gilman Trail, there are too many cars using this section of the roadway and little way to accommodate the few bikes that might use this route. The tolling will have an effect on local traffic but the bigger impact will be the types of development The City of Shoreline is trying to push through, people will NOT give up their cars just because there are transit options and already when there are issues with I-5, 5th and 15th, Greenwood and Aurora, become bumper to bumper with commuters avoiding those back ups, creating yet another headache for those who live in the areas in question. Even the rezone of the 185th area will have an affect on 145th. The issues need to be addressed with far more minute detail in some areas ... and this survey doesn't quite allow for that.
Online Comment	Shoreline	Keep up the good work - I truly appreciate all you folks do!
Online Comment	Seattle	The 5 categories are often including items that would strengthen other categories if amalgamated (i.e. a mid-block pedestrian crossing is a pedestrian issue and should not be in transportation safety). For the open houses, those of us who travel for a living have difficulty attending. This on-line version is helpful. However, have you taken into consideration the bias created when an open house is held in the middle of a business week, instead of a weekend. The unemployed, under-employed and retirees will have much higher representation and input into your process. Each time a citizen is unable to attend, it increases the likelihood that they won't feed back to your process. Consequently, those citizens that are able to attend are able to feed back throughout the entire process. This devalues the input from those of us directly involved in commerce and gives much higher weight to those that would spend tax dollars on "improvements" that they don't have to fund through property taxes and B&O taxes. The suggested alternatives for the corridor, from the video, stated that bicycles would be part of the solution. Not all forms of transportation are appropriate for all roadways. Why do cities like Shoreline feel compelled to spend scarce resources and give up public right of way to a tiny fraction of the commuting populace? Bicycle lanes can be placed on roads just off 145th and still provide easy access to the light rail station.
Online Comment	Shoreline	I support the MOST AGRESSIVE plan to upgrade this arterial. I also think we should bury all the utility cables.
Online Comment	Shoreline	The lack of turn lanes makes this busy road dangerous. Trying to get onto I-5 during rush hour is BAD.
Online Comment	Shoreline	I am a strong advocate of commuting by bike, but ranked "improving bike facilities" as low because I think there are opportunities to provide bike routes on adjacent streets through the neighborhoods along most of the corridor segments. There are some gaps and bottlenecks, particularly near the 145th station, Jackson Park, and over I-5 to the west. Most cyclists would prefer to ride along neighborhood greenways than along a busy corridor. Also, it may be difficult to justify property acquisitions for bike facilities when they could be located a block away. The bike facilities should strongly consider topography so as to encourage a broader range of cycling abilities.

Source	City	Comment
Online Comment	Shoreline	Sounds like some more Shoreline residents will be losing their homes. Here we go again.. I do agree that the power lines should be put underground, that would be a good start.
Online Comment		I forgot to add this comment: It is so critical that we utilize this existing highway to safely control vehicle transit to and from the train station/ highways / and freeway, rather than forcing inappropriate single vehicle traffic onto residential roads. Keeping in mind that neither the city nor Sound Transit has adequate plans for what to do with parking at the station, thus side streets will be choked with parked vehicles, pedestrian traffic, and cyclists.
Online Comment	Lake Forest Park	The lack of public transportation options along the 145th corridor is laughable. While, ultimately, I'd like to see more light rail options incorporating the 522 corridor, improvement along 145th will definitely help.
Online Comment	Shoreline	There should be no (unprotected) left turns except at signalized intersections between Aurora and Lake City Way. Bus lanes needed to improve reliability toward the light rail station.
Online Comment		Please stop wasting time on LOS. Please add bus lanes throughout.
Online Comment		It's time to build for the future. We've outgrown 145th, and with it as a major connector with light rail, we've got to think big. I do really feel for the people who have to move to make more room and didn't have the awareness to realize that property next to a state highway and a major arterial is at risk for imminent domain. There is an unfortunate element of buyer beware here. I hope that they are fairly compensated for their property and the trouble of an unplanned move. But this is about so many more people than those living along 145th. Thank you for this opportunity to comment.
Online Comment	Seattle	I'm most familiar with the area of 145th around 15th Ave NE because I have close friends who live near there, and I bike to see them. I've always found 145th frightening whether I've been walking, biking, driving, or in a bus -- and it seems to have gotten worse in the last ten or fifteen years. I know it's been challenging to deal with the problems because of the multiple jurisdictions involved, and I'm so excited that Shoreline is taking the lead on this effort. The most vulnerable users should be prioritized - especially elderly, disabled, and young people walking on the sidewalks and crossing at intersections (or at in-block crossings, if those are included). Everyone should be able to get where they're going and stay alive in the process. People riding bicycles are the next most vulnerable, and they (we) should be able to travel safely and comfortably. Transit reliability is important, as you can move more people through a corridor more efficiently in buses than in SOVs. What we've seen over and over again in Seattle and in other parts of the country is that improvements made for people walking and biking -- changes that make the road safer for the most vulnerable users -- benefit people in cars as well. I look forward to a 145th St that works better for everyone. Thank you!!
Online Comment	Seattle	Transit priority, safety for pedestrians and cyclists should come at the highest priority. Make 145th a place for people, not just a car sewer.
Online Comment	Seattle	DON'T RUIN 145TH WITH BIKE LANES. 145th is FIRST AND FOREMOST A STATE HIGHWAY.

Source	City	Comment
Online Comment	Seattle	In planning for the light rail station goes in at 145, I would hope high-quality pedestrian, bike and bus transfers are given priority. Any changes done now should not impede sensible route changes for the bus system. For example KC Metro's route 65 I believe terminates a few blocks East of the planned Link station. Ideally that connection would be much more direct. Because 130th has fewer entrance/exits to I-5 and a Link station is a possibility there as well, some consideration should be given to the transportation share between the two stations. Buses coming from the North could go straight to 130th, but then those buses would not serve all of Lake City. I don't know what the ideal balance is, but sending more buses than cars down 125th/130th might make a lot of sense. Both routes need safe bike/pedestrian connections to Lake City in any case, but the share of bus traffic and efficient bus/Link transfers will be interesting. The 130th street station is probably competetive with Northgate for me to bike to. I doubt 145th would be a station I'd bike to, but for many others biking to 145th would be a great way to access Link. Taking the 65 Bus to 145th (or 130th depending on the route) might even be better for my neighborhood than transferring at Lake City and Northgate (65->41->Link). Driving occasionally down 130th/125th vs 145th from Aurora, I find that the lane changes on 125th aren't bad with respect to slowing traffic. They are completely worth the safety improvements and opening other modes of travel. I usually avoid 145th even in the car. Granted 145th is a busier street because of access to I-5, but I don't think driving on 145th would be slowed much (and safety would be improved) by making 145th more like 125 (and soon 130). I realize this is a Shoreline survey, but I hope Shoreline and Seattle can work together on balancing routes (particularly bus and bike routes) among 145th, 125th and the planned link stations.
Online Comment	Seattle	Please improve the safety of 145th! There are many, many folks who live in the corridor who do not have access to cars- this means they walk, use the bus or ride a bike. Currently 145th feels incredibly unsafe. I avoid walking it if at all possible. When you take the bus, you invariably have to walk places from the stop - on 145th that doesn't feel safe. There are few East-West routes that go all the way through and it would be nice to have a safe street to walk and bike on.
Online Comment	Seattle	Bikes already have corridor improvements on 125th/130th and we don't need to strangle 145th with them. East/West travel for cars is terrible in North Seattle and needs to be improved.
Online Comment	Seattle	Bike and pedestrian safety is very important to me.
Online Comment	Seattle	I live in North Seattle, infrastructure is horrible! We need safer streets, sidewalks, bike lanes, etc.
Online Comment	Seattle	We really need sidewalks north of 85th and west of Aurora.
Online Comment	Shoreline	I DO NOT want my property to be made smaller by imminent domain. Shoreline City Council does not represent Jane & Joe average home owners.
Online Comment	Seattle	As one of the primary E-W corridors in the area, I feel that it is very important to have safe bike access all the way across. It seems to me that safe pedestrian access is important from the west end - 3rd ave, at least through Aurora. Thank you for soliciting input on adding bicycle facilitites!
Online Comment		All of your maps incorrectly depict 1st Ave NE as ending at 145th in Seattle. In fact, 1st NE continues into Shoreline and is a major artery used by many cars to get between 145th and 155th. There is a lot of traffic coming from Shoreline on 1st NE trying to turn left onto 145th that typically has to wait several light cycles to successfully turn left, since there is so much traffic coming straight through the light from Seattle into Shoreline at that intersection.
Online Comment	Seattle	Let's ecourage bicycles to use a different street. Even with all the planned improvements, 145th is not a safe or prudent route for bike commuters.
Online Comment	Shoreline	145th should be modified to improve everyone's access to light rail. If it is not feasible to acquire properties to allow for sidewalks, bike paths, and bus lanes, maybe look at the possibility of having bike paths on non-arterial streets adjacent to 145th. Also, 145th is ugly even though there are some sections that are wooded. People will be more inclined to use the new transit options if 145th is pleasant and beautiful. Please preserve trees and add landscaping that supports urban/suburban wildlife!

Source	City	Comment
Online Comment	Shoreline	By submitting these comments I declare myself a party of record. It is not appropriate to have bikes and pedestrians travelling on a major transportation corridor that is devoted to truck and auto traffic. Between I-5 to Lake City Way it is not appropriate to add bike lanes and wheel chair and pedestrian access running along 145th street. It is appropriate to have separate overpasses or cross walks crossing 145th that are bike, wheel chair and pedestrian friendly at key intersections such as the Transit station and Lake City Way and near the Golf Course. Bikes and pedestrians will need good access to the Transit station from both the north and the south side of 145th. Best achieved if the station straddles 145th. Traffic safety would be improved along 145th if there were a barrier separating the West bound traffic from East bound with left turn pockets and traffic lights at intersections. Prior to making any zoning changes along the corridor or approving any plans the City needs to: Consult with the impacted utilities, Fire and Police to determine the costs of increased service levels. A traffic study needs to include the probability of cut through traffic in Seattle and Shoreline neighborhoods of commuters headed to or from the transit station. Given that according to Sound Transit at full build out the Transit system only expects to remove 1% of the vehicles from the freeway the Traffic study needs to take into account that there will not be any significant reduction in the number of cars traveling to and from I-5 along 145th. With the addition of cars traveling to the Transit station congestion along 145th is expected to increase. A “project level” EIS will need to be completed if the 145th Street Corridor will include any “Planned Action” ordinances. The City of Shoreline as the lead in this endeavor will have to have a funding plan in place prior to approval of any plans. Thank you
Online Comment	Shoreline	In favor of Concept 2. Don't feel added green spaces or buffers for pedestrian and bike paths are worthwhile if it impacts existing residential property owners. Could a concept be created that included a two way (left turn) center lane from Lake City Way to Aurora (Hwy. 99), WITH OUT the added green space (Planting) spaces? Due to amount of traffic on the 145th Street corridor, possibly consider a shared bike and pedestrian trail/sidewalk? If residential properties need to be acquisitioned, owners should be fairly compensated (in the eyes of the owner) for the impact the acquisition would have on that owners overall life style.
Online Comment	Shoreline	If transit and traffic flow and safety were prioritized over bicycle and pedestrian access through the entire project, could non motorized traffic be directed to another east-west corridor near 145th so one thoroughfare doesn't have to "do it all"?
Online Comment	Shoreline	I'm concerned as a property owner who lives on the Shoreline side of 145th. The meeting didn't provide much information in the way that we, the homeowners and communters could see how this project will move forward. I'm aware that the City, County, and State are in the early stages of planning, but I'm very concerned that by the time the planners come up with a rough draft if will be too late for those of us who will have homes directly impacted. 1) Better traffic flow is important. 2) Sefety is important 3) Side walks can be expanded without taking t0o much property from home owners. 4) Light rail doesn't mean that there will be that many more bikes. I'm an avid cyclist and a trail/lane can be put on many other streets then 145th. For example 155/165th is a great street providing west/east trafffic flow as well as providing access to and from the Brik. Bike Path. We don't have to fit everything onto this one street. Thank you. The next open house: I feel its important to see the prefered plans. I hope at that time citizens voices can shape the course of this project.

Source	City	Comment
Online Comment	Shoreline	1. I attended the open house and thought the in-person version of this survey was confusing for the following reasons: (a) there were separate boards up for each section of the corridor, but it was obvious that not everyone understood that (and just put their stickers on one board--perhaps believing it to cover the entire corridor); (b) the way the survey was presented, and with the rush of people crowding around the boards to put their stickers on them, I do not believe it was clear that participants were to weigh their responses to each question against impacts to property--I think the results likely will be skewed in favor of all of the above improvements as a result; and (c) it was, and remains, wholly unclear what "property impacts" means, and there is no way to indicate through this exercise how one would feel about a particular improvement if "property impacts" means a partial property acquisition, versus full parcel acquisitions along the corridor. Full disclosure: I live on 145th between I-5 and Bothell Way, on the Shoreline side. 2. I am deeply concerned that (as far as I could tell) there were no representatives from the City of Seattle at the meeting. Each of the City of Shoreline reps I talked to when I had questions about how to match the mylar overlays of each concept over the aerial photos (i.e., where to put the centerline) told me that that is unknown at this time because property acquisition could take place on either the Shoreline or Seattle side. But who will own this project? If the City of Shoreline owns it, how does it plan to acquire property from the City of Seattle side? I appreciate that the City of Shoreline is taking the lead on improving the corridor, but given the benefits to both the City of Shoreline and the City of Seattle, Shoreline property owners shouldn't bear the brunt of the "property impacts." 3. To reiterate what I alluded to above, the mylar overlays and aerial photos at the presentation were a nice touch, but limited in their usefulness because there was no good information available about where to center the mylar overlays over the existing roadway.
		4. PLEASE DO NOT PUT A BIKE LANE OR BIKE PATH DIRECTLY ON THE 145TH STREET CORRIDOR. I am an occasional cyclist, and like most other cyclists I know, I will pick a quieter, less noisy, and more pleasant route over the one that's most direct. 145th Street has a pretty significant grade change from Bothell Way up to about 20th, and even with a bike path, cyclists would still be cycling alongside a four (or more!)-lane highway, and having to deal with turning traffic at major intersections. MOREOVER, the easiest access form the Burke-Gilman to 145th, for those commuting in from the north, is NOT at 145th--it's up at 165th. I do think it's important to think about bikes, but the route needs to make sense, otherwise it will be underutilized. (If you put a bike path on 145th, where are bikes supposed to go from 145th & Bothell Way?) Having off-corridor access from the Burke-Gilman/165th through Sheridan Heights, then the Shorecrest HS/Fircrest area, then Ridgecrest (155th, then 5th ave), to the new light rail station seems to make a lot more sense than putting a bike lane right on 145th. PLEASE KEEP BIKES OFF CORRIDOR AND ON SIDE STREETS! The traffic engineer at the open house made the conclusory statement that "We know that bikes will come because there's a light rail station coming" or something to that effect. Where is the analysis to back that statement up? Anyone who has ridden the light rail from downtown to SeaTac knows that light rail doesn't necessarily equal significantly more bike utilization--planning around bikes has to make sense and tie in with existing, UTILIZED bike routes easily. 5. The section of the corridor from I-5 to Bothell Way keeps getting discussed as if it's uniform. Please remember that there are portions of this section that are still single-family residential.
		6. I have a very fast internet connection (i.e., no problems streaming videos), but the video replay of the open house presentation was slow slow SLOW and kept having to buffer. Moreover, when I paused the video in hopes that it would buffer in the background, it started over from the beginning instead. It took me well over an hour to get through the video with all the pauses for buffering. If this is a common issue, it significantly decreases the accessibility of the information presented at the open house. Please consider leaving the materials up; I don’t understand why the materials from the open house even need to be pulled down after 10/11. 7. Can we get additional safety improvement with regard to left-hand turns simply by putting left-turn arrows in favor of left turns that are going in the direction of the commute and adding center dividers to prevent left turns mid-block? I note that a number of the collisions reported on the Collision History board occurred in spots where people shouldn't even be turning left across traffic (i.e., double yellow line). As someone with 145th street frontage, I would be happy to take a left at an arrow, and take a couple of extra right turns to get to my house, if it means fewer "property impacts."

Source	City	Comment
Online Comment		Overall, my greatest concern is the flow of traffic. Traffic can get ridiculously backed up on this street. My least concern is for bikes. This does not seem like an appropriate street for bikes. My only concern for pedestrians is that the Jackson Park trail uses part of the sidewalk and that needs to be maintained.
Online Comment	Shoreline (Ridgecrest)	duplicate to above
Online Comment	Shoreline (Ridgecrest)	duplicate to above
Online Comment	Kenmore	Added public transportation are vital for us to be a successful city and retain people of all economic levels and diverse backgrounds. Please make public transportation a priority so we can be proud of our city/region.
Online Comment		Street design should take into account the need for safety improvements to protect more vulnerable road users such as pedestrians and bicyclists. A 4 to 3 road diet should be considered for 145th ST between Greenwood Ave N and Aurora Ave N, and between 5th Ave NE and Lake City Way. The space freed by this reconfiguration should be used for improved sidewalks and dedicated bike lanes.
Online (145th Street Station Light Rail Workshop comments		4. What transportation improvements are needed in the subarea, and for pedestrians and bicyclists? Better sidewalks, bike lanes and busing. It is ridiculous that there is not any east/west buses on 145th between Greenwood (at a minimum Aurora) and Lake City Way. I know an alternate bike path is being discussed. This is not a bad idea, but believe it is imperative that there are bike lanes on 145th as bikes will be on this road regardless if there is an alternate route. People will take the most direct path. As per comment regarding the bridge, need a way to separate bikes from pedestrians for safety purposes. With respect to general transportation - we need to think big picture and like this is a once in a life time opportunity to get it right. While I do not want to see people lose homes, land or businesses, this is a major thoroughfare and as such needs to be expanded to be able to accommodate not just today's traffic and needs but those of the future. Between Aurora and Lake City/Bothell Way I think there should be 2 lanes each direction, a bus lane, and a left turn lane (at least at the lights). I think that this design should be consistent for this stretch as otherwise it causes traffic issues if lanes end or become bus only at certain locations. Also need a sidewalk on one side of the street and on the other would be a side walk and bike path. 5. What is the best way for pedestrians from the west side of the freeway to access the station? What features should be included in the bridge design for 145th Street? I think a covered enclosed pedestrian and bike bridge where there is a physical divider between pedestrians and bikes. Would need 2 lanes for bikes and sufficient space for pedestrians to pass.
		7. Do you have future plans for your property? What would be the best case scenario for you personally? What are your biggest concerns? If the road is widened to where the houses behind us are taken for the project under eminent domain, then we will be among the row of houses backing on to 145th on the North side of the street. Our neighbor approached us earlier this year to discuss selling to a developer once the rezoning was approved. We were all very disappointed that the decision was postponed. At one point in time he had about 6 properties to market to a developer. Since then it has shrunk to 2 properties. A couple of people have gotten greedy. One of our neighbors decided to put their house on the market and of course have an offer in less than a week. Out of a long list of developer that were approached (between 30 and 40) only one was interested. My concerns - the city wants people to sell their homes so it can be developed. I cannot afford to sell for less than FMV. The one developer told us the problem is our homes are too nice and not enough land to justify the price they would have to pay. Other developers are waiting to see what happens. It sounded like many are gun shy from being the 1st. My neighbor also said they mentioned dealing with the city of shoreline. one issue brought up is not enough people available when need to subdivide land. they said 50 in City of Seattle, 1 in Shoreline (now keep in mind this is 2nd hand information I am passing on). It also sounded like they just thought in general it was difficult to deal with the City of Shoreline. My question, is what is the city going to do about this. We want to sell, but nobody was even interested in talking about a deal contingent on the zoning passing. And it sounds like it still might be difficult once the zoning passes if the developers have too many barriers in there way (besides the price issue). So - what can the City do to help facilitate making the process more streamlined and easier to complete?

Source	City	Comment
		8. What are your recommendations for integrating housing options for seniors and for a range of incomelevels? Where should affordable and senior housing be located? I think that both senior and affordable housing should be located within walking distance of mass transit to promote easy travel in the area and close to grocery stores, yet also be within close proximity to parks and green spaces. Locating off of Aurora and 145th (once there is reliable mass transit 24/7 on 145th) and maybe areas like 160th/165th & 5th Ave would seem to be appropriate. I can see a phased in idea where start with businesses/ apartments working way to single family homes. 9. What about in 40 to 50 years - what should the neighborhood be like when your grandchildren are raising their own families? I can foresee that 145th contains multifamily housing and businesses. I think that you will see smaller pieces of properties and that the current trend to tear down older homes and subdivide land and build townhouse like homes (more vertical) to take up less acreage. parks/Green spaces for neighborhoods to share.
OH2 Concept 2 Rollplot		Please work with Seattle to coordinate on 3rd Ave NW. This is a key arterial that is now at its limits.
OH2 Concept 2 Rollplot		Please consider safety and accessibility for non-motorized users here. There is a city park @ 3rd & 145th!!
OH2 Concept 2 Rollplot		Many kids in this neighborhood of Seattle commute to Shoreline Schools along this route…think of them!!
OH2 Concept 2 Rollplot		Don't miss this chance to improve this neglected section of 145th *[145th just west of Greenwood].* A lot of traffic will flow from 3rd Ave to 145th (and already does).
OH2 Concept 2 Rollplot		This turn lane too short *[SB on Greenwood left to EB on 145th]*
OH2 Concept 2 Rollplot		What buses? *[note written east of Greenwood]*
OH2 Concept 2 Rollplot		#304 #28 *[note written east of Greenwood]*
OH2 Concept 2 Rollplot		There are no bike commuters. Use a smaller street for the 1-2 bikes per week.
OH2 Concept 2 Rollplot		Yes - use off street for bikes - too many cars for bikes to ever be safe *[whole stretch].*
OH2 Concept 2 Rollplot		Uh, I'd bike to light rail…if it could be made safe. At least provide a close, comfortable, & parallel route.
OH2 Concept 2 Rollplot		* Exactly. If every cyclist drove, traffic would be worse.
OH2 Concept 2 Rollplot		U-turn for post office traffic *[at Linden Ave]*
OH2 Concept 2 Rollplot		This is my intersection [Whitman Ave]. Aurora is the high point and a blind hill for anyone turning left from Whitman. In many cases it is easier to go right & find some other way to go east (130th, 155th) as traffic stopped for a red light at Aurora entirely blocks left turn opportunities.
OH2 Concept 2 Rollplot		Add pedestrian crosswalk somewhere here *[Aurora to Ashworth]*
OH2 Concept 2 Rollplot		Love this option !! *[Concept 2]*
OH2 Concept 2 Rollplot		In consult w/ Seattle can R.O.W widening wander N/S to maximize width but minimize condemnations and required demolition.
OH2 Concept 2 Rollplot		Add pedestrian crosswalk somewhere here *[Ashworth to Meridian]*
OH2 Concept 2 Rollplot		Add left turn signals *[Meridian]*
OH2 Concept 2 Rollplot		Make the 4 lanes you have more workable and smart then you won't need to take more room!
OH2 Concept 2 Rollplot		This "option" has the least amount of impacts to people who live by this corridor! *[Concept 2]*
OH2 Concept 2 Rollplot		Close 145th to all car traffic! Buses / bikes only.
OH2 Concept 2 Rollplot		Let Shoreline expand 175th!
OH2 Concept 2 Rollplot		Boo hiss
OH2 Concept 2 Rollplot		Cars on this side (going north) trigger the signal quickly *[1st Ave].*
OH2 Concept 2 Rollplot		Cars on this side *[north]* of the intersection *[at 1st]* wait forever for the green light (heading south)
OH2 Concept 2 Rollplot		Need safe ped crossing *[north side of 145th crossing I-5].*
OH2 Concept 2 Rollplot		Close this - dangerous and awkward *[4th Ave - street just west of I-5, southside of 145th]*
OH2 Concept 2 Rollplot		I-5?
OH2 Concept 2 Rollplot		Four lanes need from Aurora - Lake City Way
OH2 Concept 2 Rollplot		Lots of bikes should / will use this *[5th Ave - north and south]*
OH2 Concept 2 Rollplot		Unused *[SE corner of 145th and 5th]*
OH2 Concept 2 Rollplot		bus *[145th south side at 6th Ave]*
OH2 Concept 2 Rollplot		Trail *[drawn on southside from 6th Ave to 5th Ave - one or two parcels in]*
OH2 Concept 2 Rollplot		Need trash collection *[south side of 145th at 6th Ave]*
OH2 Concept 2 Rollplot		Jackson Park perimeter trail is here *[southside, 6th - 12th].* It is unpleasant along the roadway. Please protect and improve this community resource.
OH2 Concept 2 Rollplot		AMEN! *[to comment to protect and improve Jackson Park trail]*

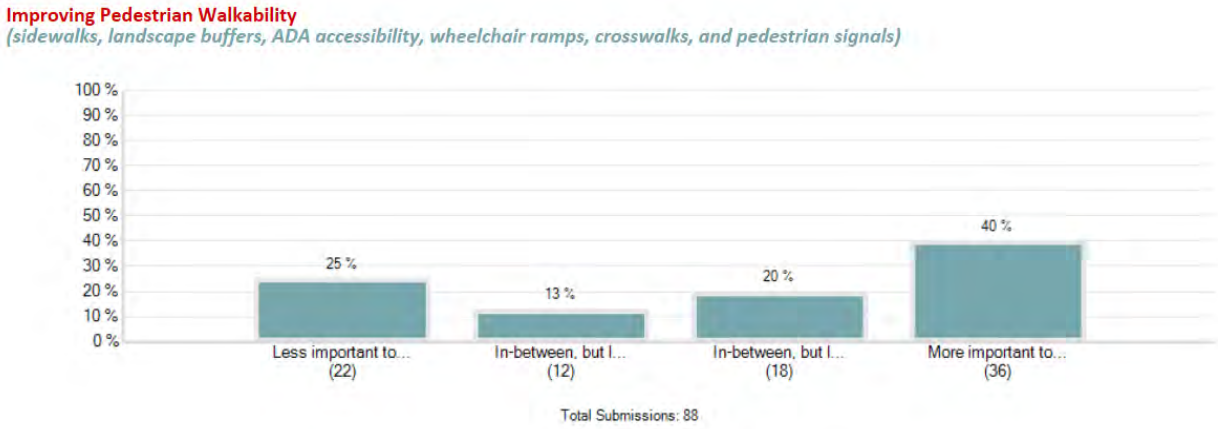
Source	City	Comment
OH2 Concept 2 Rollplot		Wider and / or move trail *[Jackson Park]* to inside fence
OH2 Concept 2 Rollplot		Leave space for cyclists. Address blackberry encroachment on sidewalk (by mowing or replacement with native species on southside of fence)
OH2 Concept 2 Rollplot		Sidewalk or trail *[southside of 145th near 8th Ave]*
OH2 Concept 2 Rollplot		Where? *[referring to 10th Ave not named but not shown on map]*
OH2 Concept 2 Rollplot		Major power lines on 8th NE. Unless they go underground, can't have street trees.
OH2 Concept 2 Rollplot		I bike everywhere. I do not need a bike lane on 145th. But need open road no barrier.
OH2 Concept 2 Rollplot		Best solution due to least amount of property infringement *[Concept 2]* . But do not have a center barrier!!
OH2 Concept 2 Rollplot		I have biked from this neighborhood (Olympic Hills) to Shoreline library. The route could be safer. It was challenging. *[note on map written near 17th, southside]*
OH2 Concept 2 Rollplot		Ped crossing light at 17th. People always walking to QFC.
OH2 Concept 2 Rollplot		NO! *[regarding ped crossing at 17th].* Cars won't be able to see peds on 17th. Need bridge or move ped crossing light west to QFC entrance.
OH2 Concept 2 Rollplot		Please do not allow left turns, they slow traffic. People can turn at lights and circle around.
OH2 Concept 2 Rollplot		Please allow left turns to side streets. No center barrier. This will help with traffic. U-turns impede traffic & require longer lights.
OH2 Concept 2 Rollplot		Ped crossing light at top of hill. 23rd PL.
OH2 Concept 2 Rollplot		*[Drawing placed at 25th Ave over roadway. Looks like it funnels traffic on east side of 145th down to a few lanes, channeling most cars south onto 25th, or it may be a round-about.]*
OH2 Concept 2 Rollplot		Ped crossing light *[at]* 27th
OH2 Concept 2 Rollplot		The traffic flow onto Lake City Way must be taken into consideration. Back-ups now go 9 blocks without light rail traffic.
OH2 Concept 3 Rollplot		This is great! Opportunity to change this dangerous section of roadway. However, Seattle must improve 3rd Ave NW to integrate with this plan. Please work with them!!
OH2 Concept 3 Rollplot		No road diets.
OH2 Concept 3 Rollplot		Greenwood through Lake City Way needs to have four lanes.
OH2 Concept 3 Rollplot		If no future improvements to Greenwood or 3rd, keep traffic from this section. No point in huge cost improvements for little more traffic *[?]* / bicycle. *[note written near Linden]*
OH2 Concept 3 Rollplot		This section doesn't currently see high pedestrian traffic. Unless the pedestrians come after this is built out, it seems to lack cost effectiveness. *[note written near Fremont / Evanston]*
OH2 Concept 3 Rollplot		No one walks here because it lacks infrastructure. My family of 6 uses 143rd to bike / walk / run. *[note written near Fremont / Evanston]*
OH2 Concept 3 Rollplot		I live on Lenora and would love to be able to turn left safely. I like this option! *Concept 3]*
OH2 Concept 3 Rollplot		Schools *[note is placed far south of 145th in the Densmore vicinity]*
OH2 Concept 3 Rollplot		No trees. Safety coming from side streets. *[note place south of 145th near Densmore / Courtland PL]*
OH2 Concept 3 Rollplot		More trees! And sidewalks! *[heart[* Concept 3
OH2 Concept 3 Rollplot		Buses still impact driving lane *[note written between Ashworth and Wallingford]*
OH2 Concept 3 Rollplot		? *[Placed next to un-named street on north side between Wayne and Meridian]*
OH2 Concept 3 Rollplot		Who's property are you going to take?? *[note written on northside of 145th between Bagley and Corliss Avenues]*
OH2 Concept 3 Rollplot		No more trees. They are the cause of bad sidewalks.
OH2 Concept 3 Rollplot		We don't need 13' sidewalks anyplace! Get Real.
OH2 Concept 3 Rollplot		Hate this signal! Triggered easily by northbound traffic BUT NOT southbound! Add a left turn signal All Ways *[note written at 1st Ave].*
OH2 Concept 3 Rollplot		Drive thru (hospital) *[looks like some of the stickers placed by children - looks like more of a drawing, not a comment].*
OH2 Concept 3 Rollplot		Safe ped crossing please *[note placed on northside of 145th crossing over I-5]*
OH2 Concept 3 Rollplot		Vacate street. Awkward & dangerous *[note shows blocking turning on 4th Ave, the street just west of the southbound I-5 entrance on the westside]*
OH2 Concept 3 Rollplot		I like Concept 3 as room for improvements but no need to be a cadillac street. Shoreline City did a good job on Aurora. Thanks!
OH2 Concept 3 Rollplot		Assumes bridge widening? Who pays for this? *[note placed between I-5 and 5th Ave]*
OH2 Concept 3 Rollplot		Separated ped bridge to transit! *[note place NE corner of I-5 - light rail station area]*
OH2 Concept 3 Rollplot		trail *[written on map on SE corner of 5th and 145th]*
OH2 Concept 3 Rollplot		Jackson Park trail - move existing trail into G.C. woods *[golf course woods, witten on southside of 145th]*

Source	City	Comment
OH2 Concept 3 Rollplot		Consider center median planter with street trees
OH2 Concept 3 Rollplot		Consider right in - right out at cross streets *[arrows pointing to 6th and 8th Avenues]*
OH2 Concept 3 Rollplot		Make sure adequate bus service is provided to/from link station.
OH2 Concept 3 Rollplot		Ditto! *[to comment about adequate bus service to link station]*
OH2 Concept 3 Rollplot		I love trees! But…given GC has trees - southside stretch along GC could do with less room for trees and more for bikes.
OH2 Concept 3 Rollplot		U Park *[written on southside of 145th between 6th and 8th Avenues]*
OH2 Concept 3 Rollplot		Demolish 2 rows of houses and businesses - 8 lanes
OH2 Concept 3 Rollplot		Nuts! *[appears to be in regard to 8 lane comment]*
OH2 Concept 3 Rollplot		Not mine or I kill you *[pointing to comment about demolishing two rows of houses…]*
OH2 Concept 3 Rollplot		Put bike lanes on 155th and 125th NOT 145th.
OH2 Concept 3 Rollplot		Are these targets and explosions? *[pointing to graphic of trees lined along sidewalks]*
OH2 Concept 3 Rollplot		Ped bridge *[drawn across 145th west of QFC building - QFC drive?]*
OH2 Concept 3 Rollplot		Make sure to include RT phase overlaps for added capacity *[arrow points to NE corner of 15th and 145th]*
OH2 Concept 3 Rollplot		Not sure we need 6 lanes - so I favor Concept 2 - 5 (with turning lane in middle)
OH2 Concept 3 Rollplot		Make middle turning lane for bikes also and have separate sidewalks for peds
OH2 Concept 3 Rollplot		Bus stop *[drawn on northside of 145th at 19 Ave].* Dangerous crossing to bus stop. Add a light or a crosswalk and a turn lane. *[written on southside of 145th at 19th Ave]*
OH2 Concept 3 Rollplot		Fan of Concept 3
OH2 Concept 3 Rollplot		NOT fan of Concept 3!
OH2 Concept 3 Rollplot		Very dangerous intersection and bad for pedestrians *[points to 20th Ave]*
OH2 Concept 3 Rollplot		More signalized crosswalks
OH2 Concept 3 Rollplot		On demand crosswalks at intersections *[note placed between 22nd and 25th Avenues*
OH2 Concept 3 Rollplot		Need good bike and ped facilities I-5 LR station to 25th.
OH2 Concept 3 Rollplot		Noooooo *[note points to 145th between 23rd and 24th.*
OH2 Concept 3 Rollplot		Forget 13' sidewalks
OH2 Concept 3 Rollplot		I love this street.
OH2 Concept 3 Rollplot		Lake Forest Park should have been in the Citizen's Committee.
OH2 Concept 3 Rollplot		Top of super steep hill.Traffic speeds up going downhill from here x2! *[between 22nd and 28th Avenues]*
OH2 Concept 3 Rollplot		Why no markers here for 145th and Bothell / Lake City Way? Are we to wait forever at the traffic light? Need solution!
OH2 Concept 4 Rollplot		Lots of traffic here *[3rd Ave NW].* Not safe for pedestrians.
OH2 Concept 4 Rollplot		Traffic here is bananas. Please don't ignore this opportunity to work on it!! *[[points toward westside intersection at Greenwood]*
OH2 Concept 4 Rollplot		Not enough traffic to justify 5 lanes. Keep bikes off / to other road *[note is east of Greenwood]*
OH2 Concept 4 Rollplot		Traffic levels along here barely justify 4 lanes, 5 lanes seems a huge waste *[note is east of Greenwood]*
OH2 Concept 4 Rollplot		Lighted, safer intersections @LCW @bus stops. *[note placed near Aurora]*
OH2 Concept 4 Rollplot		This area is dangerous with steep slope and frequent accidents *[note placed Aurora to Lenors.*
OH2 Concept 4 Rollplot		Too wide!
OH2 Concept 4 Rollplot		No trees. Safety entering from side streets. *[note place in vicinity of Ashworth]*
OH2 Concept 4 Rollplot		Steep slope=unlikely to happen on this side *[note placed on northside of 145th in vicinity of Stone Ave]*
OH2 Concept 4 Rollplot		Do not like that you cannot turn left (heading west) onto residential streets.
OH2 Concept 4 Rollplot		Ashworth dead ends @ 151st. Signalized intersection sends traffic into maze of streets @ 150th (Wallingford <u>is</u> a thru street and serves Parkwood Elementary) better for signal.
OH2 Concept 4 Rollplot		Would love crosswalk for bus stop *[note placed on northside of 145th near Densmore]*
OH2 Concept 4 Rollplot		Need crosswalk between the two intersections - not safe for pedestrians *[note placed on southside of 145th between Wallingford and Burke]*
OH2 Concept 4 Rollplot		Don't zone Meridian commercial. This is <u>residential.</u>
OH2 Concept 4 Rollplot		Need left thru lane @ Meridian and 145th (going to the north)
OH2 Concept 4 Rollplot		Who's property are you going to take? *[Corliss circled]*
OH2 Concept 4 Rollplot		Come on - cannot possibly answer that for a year of more! "Concepts" "visioning" not Design yet. *[written next to comment "Who's property are you going to take?"*
OH2 Concept 4 Rollplot		Reduce 145th road noise - sound wall! This is a residential area. Other sound dampening methods? *[note place near Sunnyside Ave]*
OH2 Concept 4 Rollplot		Reduce 145th road noise - sound wall! *[written near Sunnyside Ave]*
OH2 Concept 4 Rollplot		Can we get a bridge for pedestrian/bike? Over I-5.
OH2 Concept 4 Rollplot		145th drivers run the red light here quite a bit! *[placed near 1st Ave]*
OH2 Concept 4 Rollplot		It's scary to cross 145th here as a pedestrian!
OH2 Concept 4 Rollplot		Will land be taken equally on both sides of 145th? What about Lakeside School?
OH2 Concept 4 Rollplot		Need safer crossing *[note placed near I-5]*

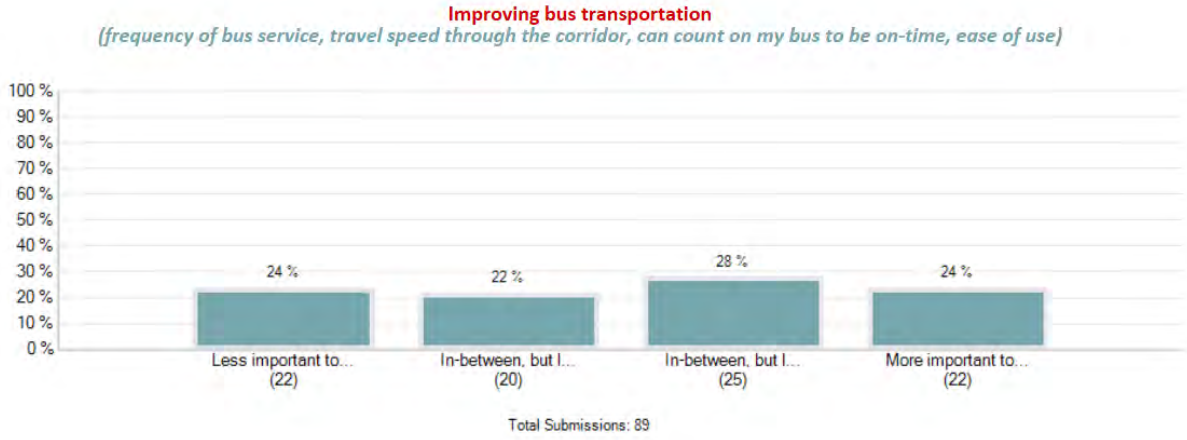
Source	City	Comment
OH2 Concept 4 Rollplot		Need a better interchange
OH2 Concept 4 Rollplot		Add light rail to maps
OH2 Concept 4 Rollplot		Add pedestrian bridge between 145th and 155th *[note near I-5 / ST station]*
OH2 Concept 4 Rollplot		Fan of Concept 3 & 4.
OH2 Concept 4 Rollplot		Yes! *[points to comment, "Fan of Concept 3 & 4]*
OH2 Concept 4 Rollplot		May not need trees 5th to 15th NE (if trade off, the GC greenery is not bad)
OH2 Concept 4 Rollplot		This section needs bike / ped access - wide is Good! *[indicates southside of 145th from 5th to 12th Avenues]*
OH2 Concept 4 Rollplot		Note that if Jackson Park trail goes into wooded area, that would be ok. Otherwise, trail will remain as a sidewalk…Concept 3 is best for noise reduction, though.
OH2 Concept 4 Rollplot		Can we have bike lanes on only one side of 145th to reduce impacts to property?
OH2 Concept 4 Rollplot		It is scary to cross there on my bike and walking with my kids. Decent sidewalk and bike facilities would make one feel safer. Making the road wider, however, may encourage speed in this already high speed prone area *{points to 20th Ave]*
OH2 Concept 4 Rollplot		I bike everywhere. I do not need a bike lane on 145th. Ben Howe.
OH2 Concept 4 Rollplot		I would bike more if there were bike facilities
OH2 Concept 4 Rollplot		I prefer to bike on the sidewalks and agree a dedicated bike lane is a poor use of the available resources.
OH2 Concept 4 Rollplot		Traffic speeds up *[arrows point in both directions from about 19th to 28th]*
OH2 Concept 4 Rollplot		Please no barrier in the middle. Allow left turns. *[note placed near 27th Ave]*
OH2 Concept 4 Rollplot		In favor of protected turn @ 30th.
OH2 Concept 4 Rollplot		Need 145th & 30th NE: I called before the striping was done for the crosswalk E-W on northside of NE 145th. The street was not level @ that point. It is worse now after the crosswalk was done. There are walkers (assistive aids) that the wheels catch on the unevenness. Also - manual w/c (wheelchairs) are getting caught on the unevenness. Even power chairs are getting broken forks / tires / springs because of the unevenness!

From 3rd Ave NW to Greenwood

Question 1



Question 2



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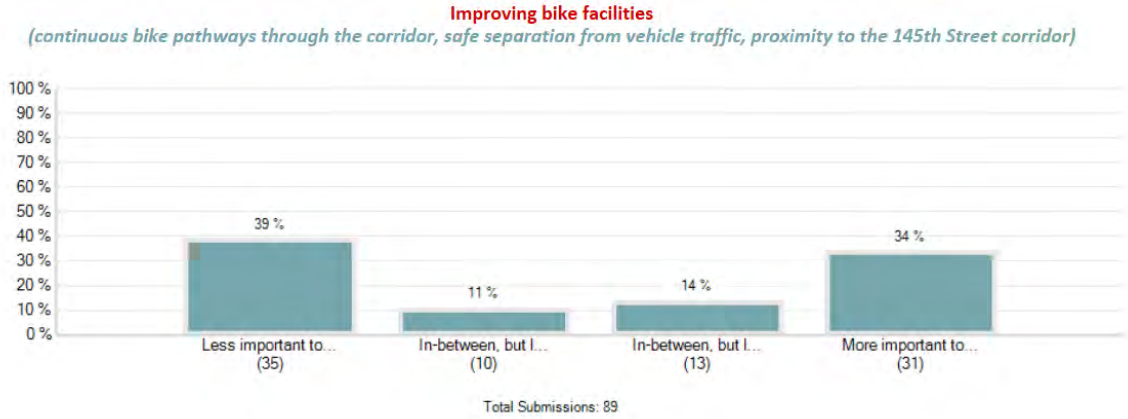

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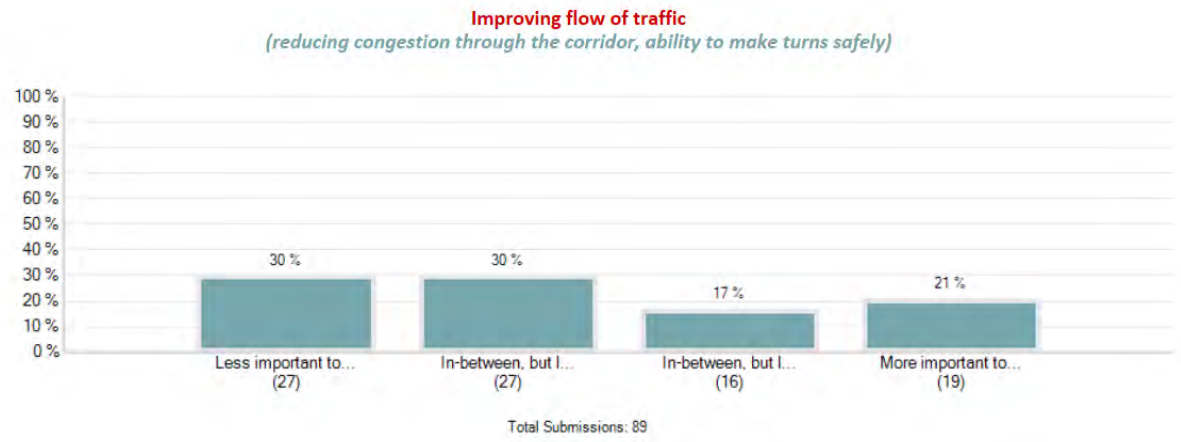
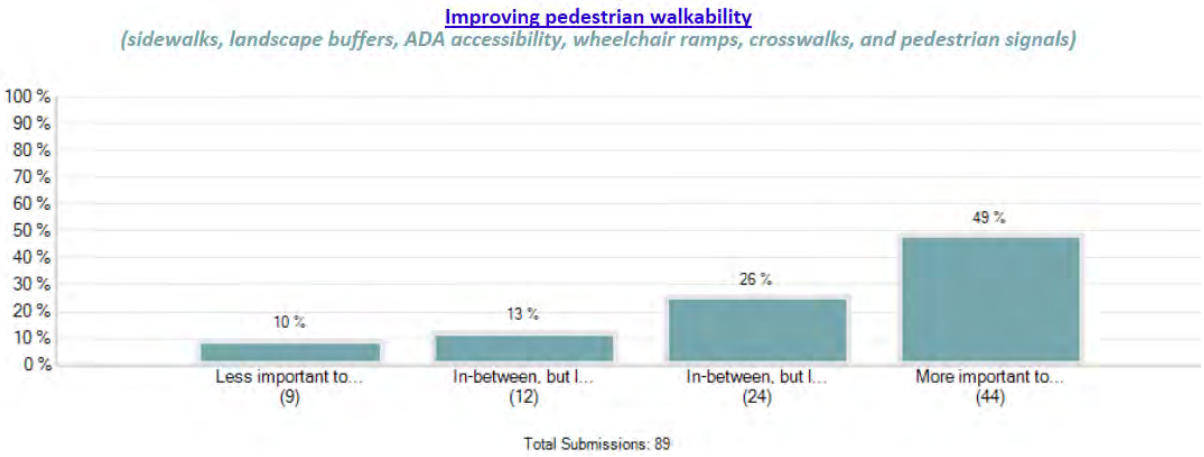


Question 5

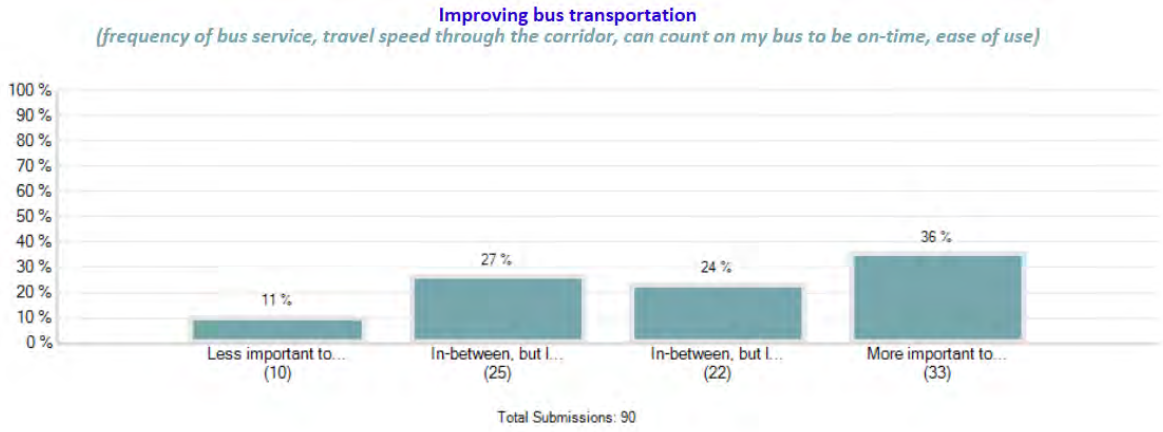
From Greenwood to Aurora

Question 6

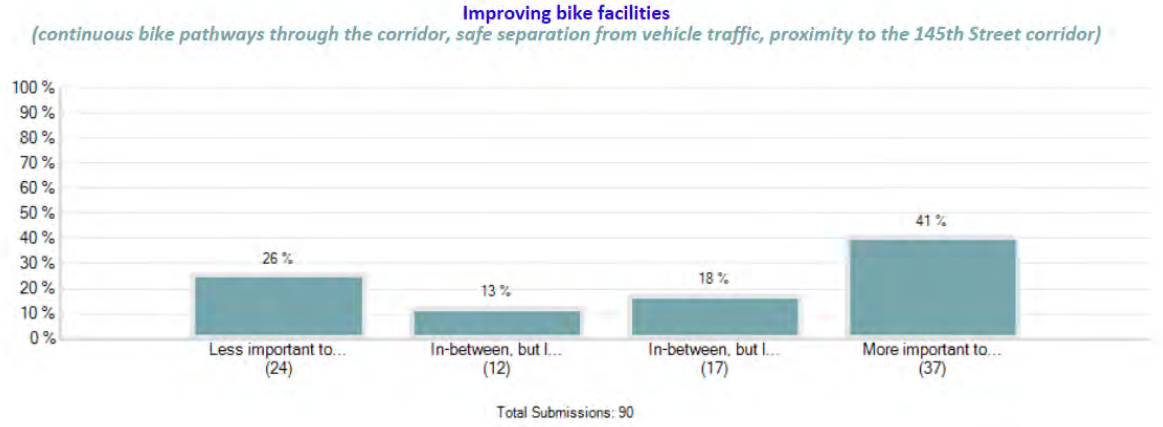


Open House 2: On-Line User Survey

Question 7



Question 8



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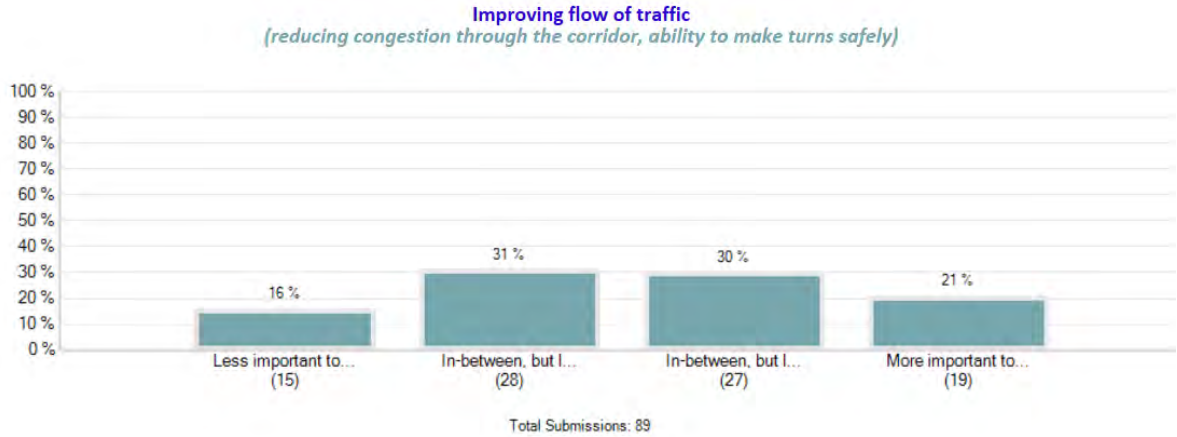
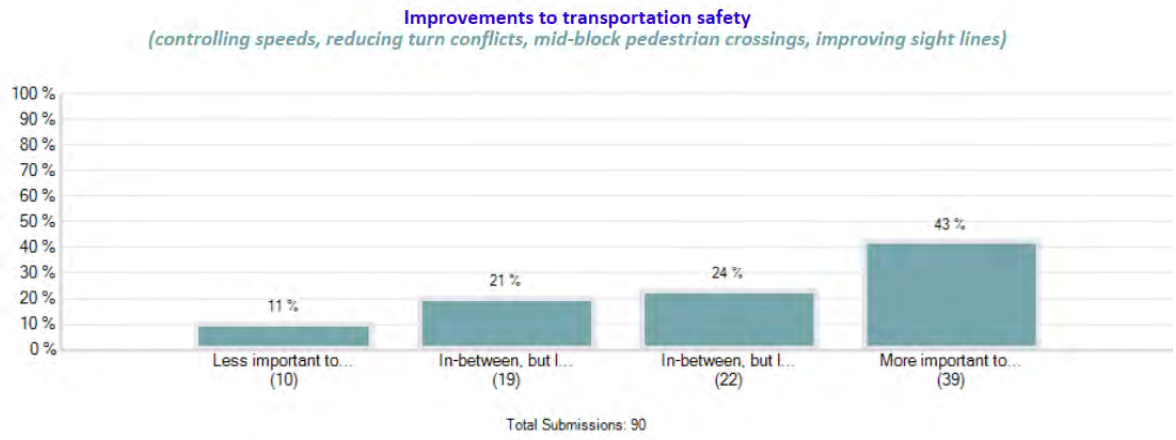
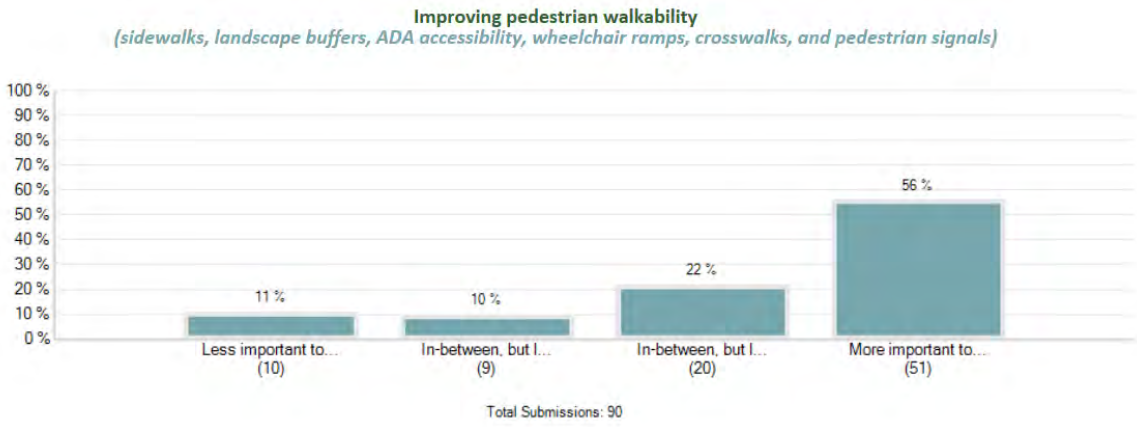


Question 10

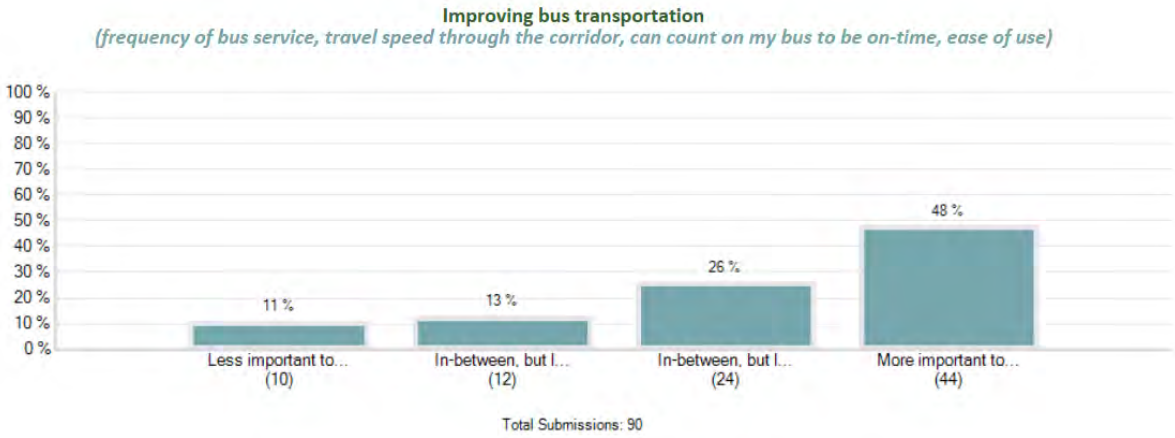


From Aurora to I-5

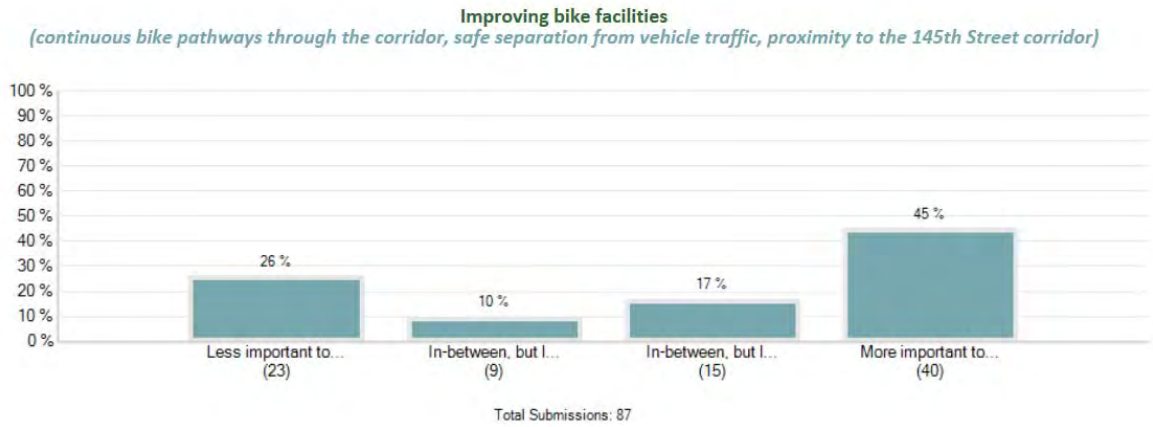
Question 11



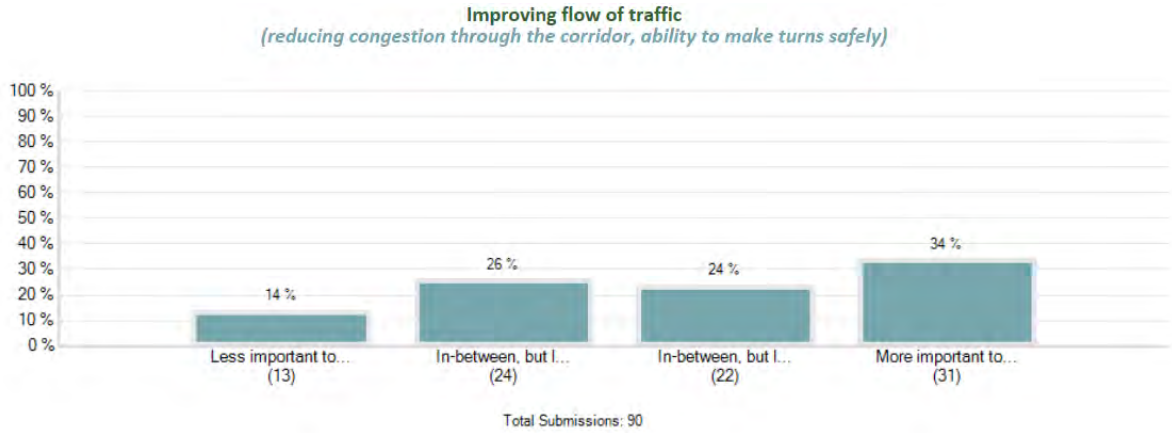
Question 12



Question 13



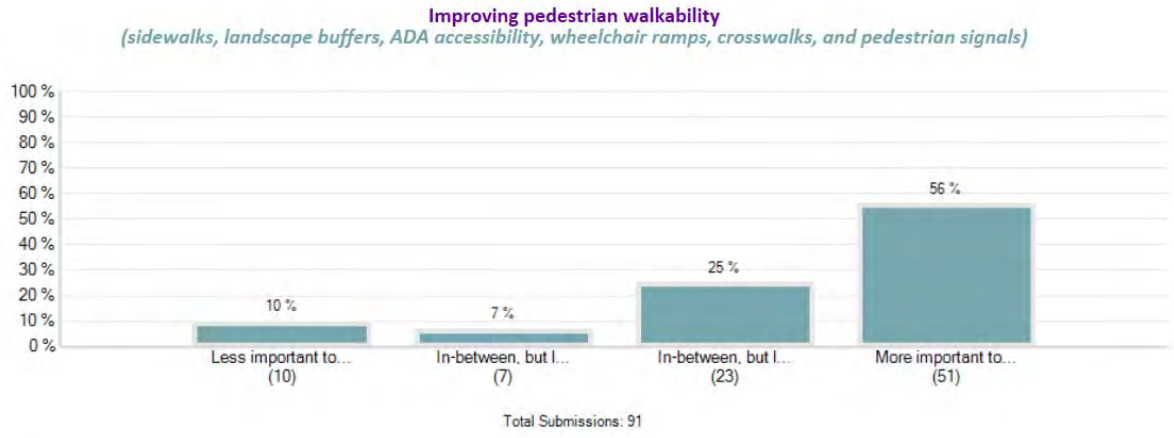
Question 14



Question 15

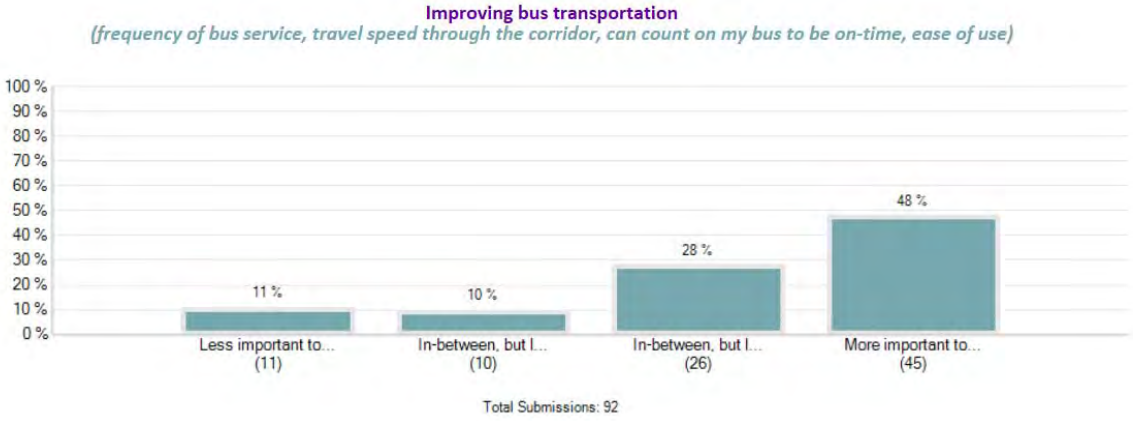
From I-5 to Lake City Way

Question 16

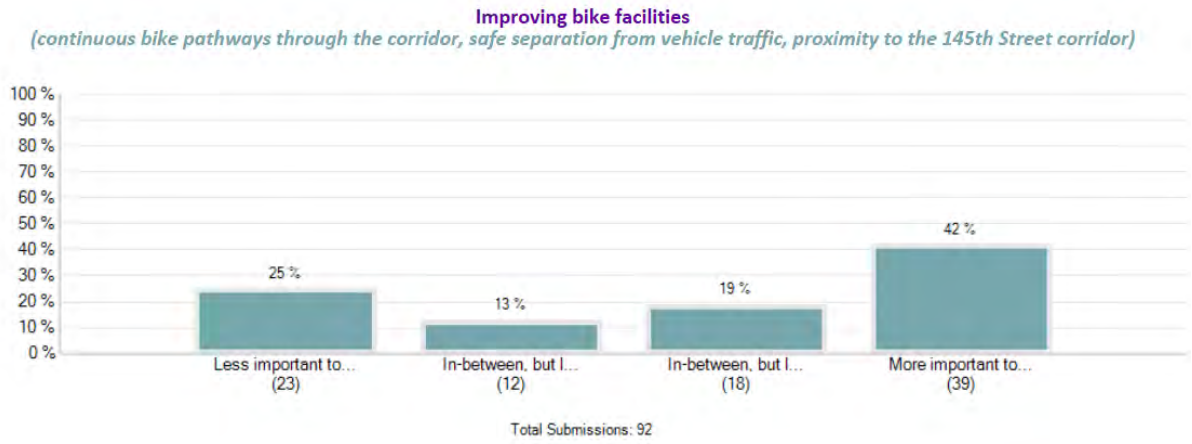


BACK

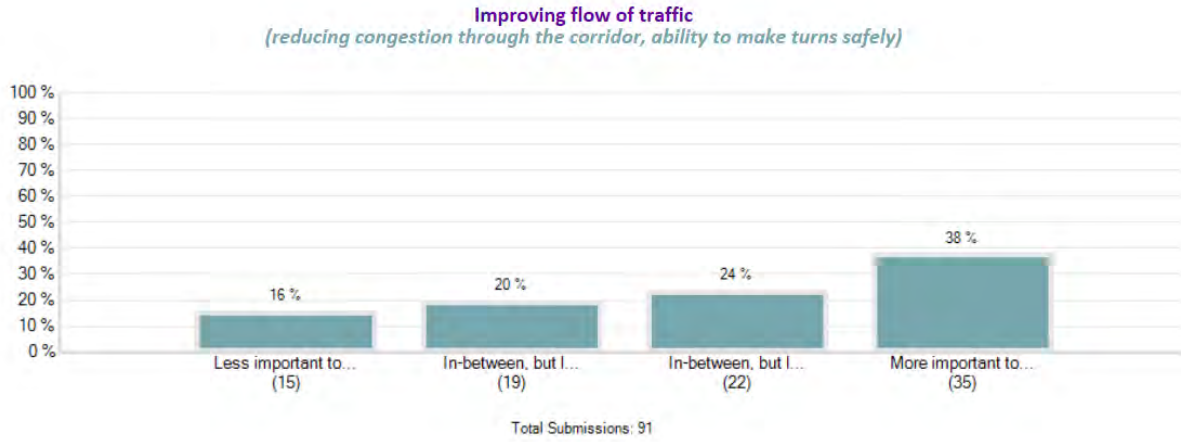
Question 17



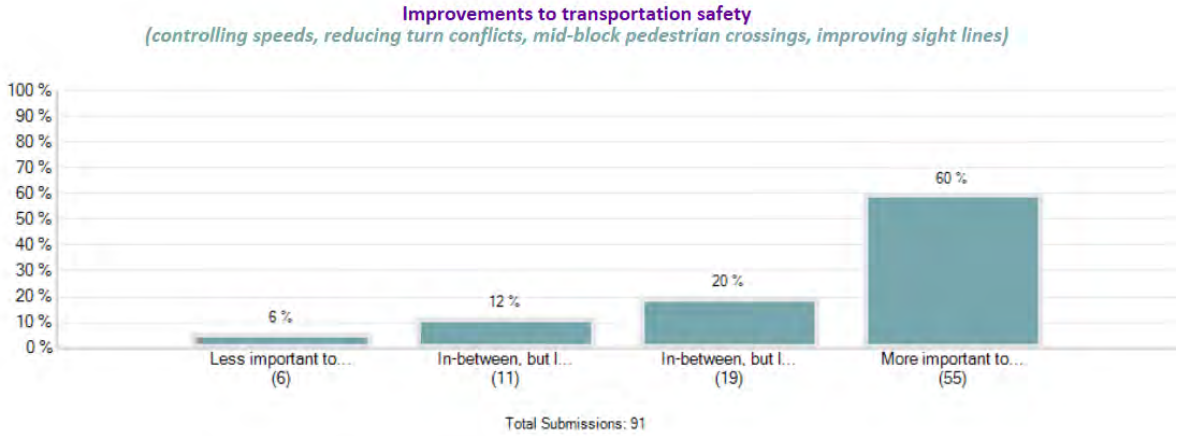
Question 18



Question 19



Question 20



Sampling of the Types of Comments from Open House #3, February 24, 2016

145th Street Multimodal Corridor Study

Urban design improvements should be continuous across segments for more consistency and ped safety.

Would like an additional turn lane down the center to aid in left turns from Aurora to I-5.

Need a signal at 145th and Stone & a curb at Walgreens to keep people from trying to turn there. There are many accidents at this corner with people making U-turns at Stone (heading east on 145th) to go back and access Walgreens.

Minimize left turns off of 145th. With few exceptions, traffic can access cross streets from nearby intersections, circling back without much of an imposition. Concrete barriers to left turns would help, and be safer for bikes too.

Would like a noise wall.

Would like better info on how sidewalks will take private property.

Too many lanes.

Instead of a new traffic signal at Ashworth, block it off and add a wall or trees. This would keep traffic calm on Ashworth.

The idea of routing bikes on parallel street is a great idea.

Would like the environmental process to provide data on pollution levels during construction (take into account pollution from asbestos and dust created from demolished buildings and that affect on the neighborhood residents and vegetation.

Have Seattle do more to their sidewalks.

8-ft plus sidewalk along entire corridor.

Too little done for bikes.

If you build infrastructure for cars, you get more cars. You build it for people that enjoy the community.

Need more focus on buses in section from Aurora to I-5.

Like the preferred concept very much. It's a good fit for minimizing impact and maximizing benefits for safety and convenience.

No bikes on 145th. Bike trail on 155th. Focus on transit and vehicles. Pedestrian path on one side. Limit property acquisitions.

Need pedestrian/bike bridge over I-5.

Excited to see left-turn lanes on Meridian!

Concerned about lack of Seattle representation and a long wait wondering about what the property impacts will be.

Thank you for doing a great job engaging the local communities and listening to our voice.

Concerned about walk-ability and bike-ability.

Concerned about property impacts.

Too many improvements for cars.

The addition of left-turn lanes and signal at Meridian is long overdue.

The preferred option doesn't provide information about potential impacts to properties. While it's important to study impacts on traffic and safety and provide a preferred "vision," it's equally important to provide clear impact information to property owners as soon as possible.

Widen sidewalks and underground utilities.

Address left turns into the post office (either add left turn lane or barrier to block turns) and provide safe access. There is always a huge back-up here.

It shouldn't be turned from 4 lanes to 3 lanes at any point - have crossing lights for pedestrians for crossing safety - putting all traffic into one lane doesn't give pedestrians or vehicles breaks to cross.

Do not put bike lanes between Aurora and Greenwood Ave N! They can ride on 143rd.

Linden to Greenwood - BAD. Keep as 4 lanes. NO BIKE LANE. It's a stupid idea to put or encourage any bike route on 145th. This is a major vehicle traffic corridor. Not every street and arterial needs to have a bike lane.

It is important to have bike lanes in the section west of Aurora. Greenwood to Aurora should also be treated equally in terms of urban design – trees, planted medians, complete sidewalks.

Pedestrian crossing on 145th & Lake City Way is extremely unsafe. There needs to be more monitoring of traffic lights. Cars do not observe red lights.

Don't like 3 lanes on westside - works horrible on 15th. Bring back 4 lanes. Problem is don't have crosswalks on 4 lane unless light there.

Light rail people need to add more parking.

Don't like your public meeting without taking questions. I understand your tactic. Hate it.
Many people upset.

Section from 3rd Ave NW to Aurora Avenue improvements is the only section that looks reasonable.

This area of the plan west of Aurora is very weak. We do not need a turn lane between Aurora and Greenwood. Cars turn at only 2 points: Linden and Greenwood. We are better served by bike lanes and good sidewalks. Also the plans appear to have no improvements in terms of plantings along the street.

Please consider how difficult it is to walk 145th in the rain on narrow sidewalks with cars whizzing by inches away - you get drenched. Wider sidewalks would be better than adding a bike lane.

There are no traffic issues currently in section west of Aurora (except at post office), so why change the lanes? If traffic was to increase, we would have to fight for the extra lanes back. The bike network is being added to 143rd in other sections, why not keep the bikes off the arterial and on 143rd where it is safer for cyclists?

Do not include left turn lane from 145th westbound to 5th Ave northbound. There is a golf course on one side and freeway on other side until 125th. Better flow and use of land would be served better without this.

Like the eastbound to northbound on-ramp at I-5.

The ped/bike bridge, button-hook ramp, and bridge widening make sense.

Need more traffic flow in and out of parking garage. I'm not confident one lane in and one lane out is enough to handle expected capacity of +/- 600 cars.

Passenger load and unload zones for autos north and southbound on 5th Avenue near bus stops

Wetland / creek corridor mitigation. 3 - 1 tree replacement (75 trees at P&R alone!)

This plan is doomed to failure unless you fix the 1/2-baked north entrance to I-5! It is not a legitimate entrance. It is a left turn off a surface street. As a result, during the morning commute, traffic backs up east to 15th NE on a regular basis, and west to Meridian Ave N.

Delete westbound left turn at 5th Ave NE. Traffic controls I-5 off-ramp northbound. Traffic controls I-5 on-ramp southbound.

Move bus stops out of station to 5th & 145th. Bus routes shouldn't start or end in station.

Plan for a creek channel, to daylight the north fork of Thornton Creek.

More needs to be done for pedestrian safety. This is too low a priority.

Putting bicycles on the Jackson Park trail along its north and east edges would destroy its value for many users; it could accommodate both pedestrians and bikers only by turning it into a much wider path, which would take away its out-of-the -city nature.

It will be important to provide the long term capacity and not build the corridor to meet short term objectives, though often more politically acceptable.

It will be important to provide the long term capacity and not build the corridor to meet short term objectives, though often more politically acceptable.

Make sure the historic Olympic Hills (horse riding) Trails pillar artifact is preserved.

There needs to be a left turn arrow both east and west on 145th St NE and 20th Ave NE!

Friends of Jackson Park Trail are glad to see inclusion of a bike route - which seems to run inside the golf course fenceline.

Any expansion should be done with careful attention to preserving trees, greenspace, water quality, and Thornton Creek.

Really like idea of a pedestrian bridge across I-5.

I fear this solution will not suffice to handle the traffic in the growing region for more than a few years.

I think a narrow raised median should be used in many locations to restrict left turns, and intersections allow for some U-turns, as in parts of 522 in Bothell.

Need more crosswalks for pedestrians. Current design allows for crosswalks every 5 blocks, which does not make a very walkable corridor.

The preferred concept looks good but more north/south pedestrian crossings are needed in this section. I would recommend adding a signalized pedestrian crossing of 145th at 27th Ave.

Not sure if in 8-10 years the most aggressive plan meets traffic volume and need of communities.

Limit left turn access between LCW and Aurora.

Provide bus/transit lane in BOTH directions (both east and west).

Install stormwater drains. Buses or trucks splash water onto pedestrians along the 145th.

Need sidewalk next to Taco Bell - north side of 145th eastside of Bothell Way.

Concerned about acquiring only a portion of a property leaving it close to the ROW. Would prefer an all or nothing approach.

Will there be improvements to the 'off-corridor' bike network that you propose?

Travelling west from LCW to 26th Ave NE, will there be a left onto 26th?

Very disappointed to see the lack of bike lanes on 145th.

Take the land from Seattle side. Shoreline is already losing homes to the light rail station.

Please think long term in the design of this corridor. The design that is preferred is a good one but I don't think it will stand the test of the development in this area.

A lot of the housing in this section[east of I-5] that will be affected by the project is low income. Assistance in relocation (costs and alternate housing) should be included in project budget.

The culvert that Littles Creek travels thru under 145th should be re-configured - lowered - or whatever is necessary to allow salmon to access Paramount Park wetlands.

Concern Water table at 145th and 30th . Issues of ground water level affecting residences in the area to north and south of that intersection. "Limnology" - an interesting concept - see prior comments by Sigrid

Strom from the So East Neighborhood Sub Committee. How will this influence the engineering of the roadway?

I don't see a good way to get to QFC if you are coming from Shoreline.

Section H - It's unclear whether there is a turn lane. It needs two drive lanes, a bus lane and a turn lane. Note: currently the bank at the ditch is crumbling and falling into the ditch at the southwest corner of 20th and 145th. There is hardly any space to stand in the corridor. It's unsafe.

Way too many lanes [east of I-5].

Be Bold! How does the preferred solution hold up to 10 years of growth? 5 years? What will be the costs for timidity?

145th and LCW is the most dangerous intersection for pedestrians trying to cross in the crosswalk. Your preferred plan does NOT do enough to make peds safe.

Will there be sufficient Rapid Ride transit from SR-522 (from LFP, Kenmore) to 145th and on 145th to handle the excess capacity caused by too little parking spots at station?

In icy conditions - 145th from about 25th to LCW - is a nightmare.
During certain times of year - sun from west is a big problem for drivers.

Strongly encourage Shoreline and Lake Forest Park to work together on mitigating impacts of cut thru traffic in Briercrest/Sheridan neighborhoods.

[I-5 to Bothell /LCW] No bikes - way too dangerous. Bike / pedestrian trail on 155th. Pedestrians on one side.

Replace culvert for Littles Creek. Must be fish passable.

At 10th NE - 9th Place is a FEMA liquifaction zone.

Severely limit takings of private property.

6 foot sidewalks on Seattle side are not good enough. At a minimum, add a protective concrete barrier. More trees is best !!!

Our greenway is on 25th and we don't need more traffic there. 143rd is too steep as a bike option. Also, no protection from cars.

There should be bike lanes. To make the level of improvements entailed in the preferred concept and not include bike lanes makes no sense. This should be a corridor re-designed and enhanced for the future, not in the need of the present. We should be encouraging and facilitating bike use rather than shunting "those people" off to backways. Not to dismiss the greenway concept altogether, however, because it should be noted that 25th Ave is a greenway on the Seattle side. There should be massively obvious treatments - green paint, etc. - at the 145th / 25th intersection to make that crossing safer.

I don't believe bus-only lanes are necessary. Their convenience doesn't out-weigh the impacts.

Please underground the utilities

Let big trucks (3 or more axels) use the bus lanes. They are big and slow, but won't seriously impact the few buses (also big and slow). Otherwise, the bus lanes are underutilized (wasted).

I think a good job has been done to reduce impacts and increase benefits. Getting bikes off 145th would be good, but bicyclists do what they want and may ride on the 145th sidewalk. Please make a fuss, so Seattle pays attention to this.

Provide better east west connection for bicyclists. Bike lanes on N 155th are not all ages and abilities. With station on north side of 145th, need separate bridge at N 147th Street. 1st Ave NW is used as a greenway from N 145th to 105th. Need bike facilities between 3rd and Greenwood Ave.

The preferred plan will not adequately support the traffic, nor provide good transit options to access the light rail station. The light rail will have peak commuter traffic that will overflow the planned intersections.

Currently, there are many small feeder streets that are not addressed in the proposed plan. It is very difficult and unsafe to use these roads during peak traffic. The proposed plan does nothing to divert traffic to the signals, not to provide safe access.

I-5 to Aurora, this is going to be a bottle-neck if you don't match the improvements of east of I-5. Need to do the major bus lanes between Aurora and I-5.

I wanted to point out the drainage problem at the corner of 145th St and Linden. During periods of heavy rain, the sloped services in both the east and west directions lead to water levels that cannot be drained fast enough with the current drainage. This leads to about 1 foot deep standing water in the intersection that cars driving quite fast run into, which is a serious safety concern at that intersection.

On the sections w/ smaller sidewalks without a tree buffer, can you put in a concrete barrier? This would only take a small amount of space and could increase safety.

I'd like to have a well defined, safe, beautiful path from neighborhoods east of I-5 to the Interurban Trail.

Keep landscape buffer in the plan on the Seattle side.

I am disappointed with the off corridor bike network approach. It seems short-sighted to leave out a mode when the RE take would provide the option. The alternate route for bikes is significantly less attractive and may lead to bikes using 145th sidewalks and travel lanes, degrading the modes the project is addressing.

Biggest problem driving too fast and running ped light not because there sitting in traffic. No one wants to stop at light.

Please widen 145th for cars as much as possible so 145th doesn't become a new "Mercer Mess" moving east/west.

Desperately Need 2 left turn lanes on 145th westbound to 5th Ave NE southbound when developed. Right of way is available (golf course) and large volume of traffic goes westbound on 145th to northbound I-5. This is critical.

Enhancing natural water tables using rain gardens as much as possible should be included in budget and design.

I think it is important for there to be a left turn lane @ 22nd Ave NE. This is a hard place to make left turns as people going east have to cross the westbound lanes just below the crest of the hill. Limited site plus impatient drivers make this hazardous. Likewise, turning onto 22nd southbound from the westbound lanes is hard and unsafe. Traffic from behind comes over the hill quickly and doesn't slow down making stopping to turn there dangerous.

Would prefer more of the 8-ft and 5-ft sidewalk and landscaping sections be 13-ft and mixed use (bike and ped) pathways. Landscaping is far less important to me than safe and convenient bike travel.

Consider formalizing allowing bikes in the bus lanes, similar to Lynnwood and Edmonds do along Hwy 99.

Do provide better traffic flow by NOT reducing traffic lanes. I live on N 143rd. If lanes are reduced my street will become more of a thoroughfare than it already is. More cars will cut through.

Still too much widening in my opinion. "You're" turning the 145th corridor into a freeway!!!!! Holy yikes from I-5 to Lake City Way!! 6 lanes!! Kidding?!

The bike lanes on 145th between Linden and Aurora area bad idea - it's already very crowded in that area because Linden was converted into a 2 lane street to accommodate Interurban Trail cyclists. Consider keeping the bicycles on 143rd in that area since they are routed there anyway in the next section.

Please include new student projections into planning and how Shoreline will handle it.

Given the light rail project, I would expect traffic to increase astronomically. Therefore the only long term solution will be to increase other public transportation or plan for more right of way space.

Keep minimum 2 lanes (traffic) east and west on 145th (Greenwood to Aurora).

Use light at 145th for bike crossings and DO NOT add another light on Aurora at 143rd!

10-foot minimum width for bikes and sidewalks *[northside of Jackson Golf Course].*

I think more needs to be done for bikes. It seems odd to expect cyclists to go off corridor. And I expect they probably won't. As a driver I prefer dedicated bike lanes. It makes it easier for me to know where the cyclists are in relationship to my car. I expect if you don't create bike lanes cyclists will still travel along 145th.

It is important to me that the 145th I-5 interchange is improved. I live close to 130th (Seattle) but it has no north bound freeway access. So I have to use another freeway ramp. I avoid the 145 exit because it's awful. I go to 175th instead.

I think neighbors between Aurora and 3rd Avenue NW would appreciate more improvements.

I would say the plan is OK. But I would like to see more changes.

Invitations to area municipalities to participate in the Interagency Technical Team

CITY OF SHORELINE

December 23, 2014

SHORELINE CITY COUNCIL

Shari Winstead
Mayor

Chris Eggen
Deputy Mayor

Will Hall

Doris McConnell

Keith A. McGlashan

Chris Roberts

Jesse Salomon

Bob Stowe, City Manager
City of Bothell
18305 101st Avenue NE
Bothell, WA 98011

Dear Mr. ~~Stowe~~: Bob

The City of Shoreline would like to invite your city to participate in the development of a corridor study for the 145th Street/SR523 Street Corridor Study.

As you may be aware, the City of Shoreline has begun a corridor study for the potential redevelopment of 145th Street/SR 523 between SR-99 and SR 522. The corridor is a key east-west connection for the region linking bus rapid transit on Aurora, regional bus service on SR-522, light rail, and I-5. In need of significant upgrades, Shoreline's corridor study will include development of a master plan for improving pedestrian and bicycle mobility, safety and operations, transit speed and reliability, and freight mobility on the corridor. We anticipate the corridor study will take one year, concluding in December 2015.

Given the regionally significant nature of this corridor and the strong relationship between it and the SR 522 corridor, it is likely that many of your residents will be using NE 145th Street to access the station, therefore your city's input will be critical to a thoughtful and complete corridor study process. We need to hear your thoughts, as well as those of your residents, regarding the future design and function of this roadway.

In order to provide a variety of opportunities for input, the City of Shoreline proposes outreach through the following:

1. Elected Officials - project staff will provide regular updates to the SeaShore Transportation Forum and 522/523 Coalition to ensure that elected officials are kept up-to-date and hear their comments and concerns.
2. Public Presentations - provide periodic presentations and updates to your City Councils, Transportation Committees, etc at key points during the Corridor Study process; there could be several presentations during the year at key points. We will want to coordinate this through your agenda processes.
3. Technical Staff Working Group - Invite your Public Works Directors to participate as part of our Interagency Technical Team (ITT). This staff only group is comprised of representatives from WSDOT, Seattle Department of Transportation, Seattle City Light, King County Metro, Sound Transit and PSRC. The first meeting of the ITT is scheduled for January 12, 2015.
4. Communications - coordinate with the staff responsible for communications from SR 522 cities and request that they help get the word out to their residents via websites, emails, etc.

17500 Midvale Avenue North ◈ Shoreline, Washington 98133-4905
Telephone: (206) 801-2700 ◈ www.shorelinewa.gov

We look forward to hearing your input as we plan for the future of this corridor. Please do not hesitate to contact the City's 145th Street Corridor Study Project Manager Alicia McIntire, Senior Transportation Planner, at 206-801-2483 or email at amcintire@shorelinewa.gov if you have any questions or need additional information.

Sincerely,

Debra S. Tarry
City Manager

cc: Shoreline City Council
John Norris, Assistant City Manager
Mark Relph, Public Works Director
Alicia McIntire, Senior Transportation Planner

Invitations to area municipalities to participate in the Interagency Technical Team

CITY OF SHORELINE

December 23, 2014

SHORELINE CITY COUNCIL

Shari Winstead
Mayor

Chris Eggen
Deputy Mayor

Will Hall

Doris McConnell

Keith A. McGlashan

Chris Roberts

Jesse Salomon

Rob Karlinsey, City Manager
City of Kenmore
18120 68th Avenue NE
Kenmore, WA 98028

Dear Mr. ~~Karlinsey~~: Rob

The City of Shoreline would like to invite your city to participate in the development of a corridor study for the 145th Street/SR523 Street Corridor Study.

As you may be aware, the City of Shoreline has begun a corridor study for the potential redevelopment of 145th Street/SR 523 between SR-99 and SR 522. The corridor is a key east-west connection for the region linking bus rapid transit on Aurora, regional bus service on SR-522, light rail, and I-5. In need of significant upgrades, Shoreline's corridor study will include development of a master plan for improving pedestrian and bicycle mobility, safety and operations, transit speed and reliability, and freight mobility on the corridor. We anticipate the corridor study will take one year, concluding in December 2015.

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Debra S. Tarry
City Manager

cc: Shoreline City Council
John Norris, Assistant City Manager
Mark Relph, Public Works Director
Alicia McIntire, Senior Transportation Planner

Invitations to area municipalities to participate in the Interagency Technical Team

CITY OF SHORELINE

December 23, 2014

SHORELINE CITY COUNCIL

Shari Winstead
Mayor

Chris Eggen
Deputy Mayor

Will Hall

Doris McConnell

Keith A. McGlashan

Chris Roberts

Jesse Salomon

Pete Rose, City Administrator
City of Lake Forest Park
17425 Ballinger Way NE
Lake Forest Park, WA 98155

Dear ~~Mr. Rose~~: Pete

The City of Shoreline would like to invite your city to participate in the development of a corridor study for the 145th Street/SR523 Street Corridor Study.

As you may be aware, the City of Shoreline has begun a corridor study for the potential redevelopment of 145th Street/SR 523 between SR-99 and SR 522. The corridor is a key east-west connection for the region linking bus rapid transit on Aurora, regional bus service on SR-522, light rail, and I-5. In need of significant upgrades, Shoreline's corridor study will include development of a master plan for improving pedestrian and bicycle mobility, safety and operations, transit speed and reliability, and freight mobility on the corridor. We anticipate the corridor study will take one year, concluding in December 2015.

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Sincerely,

Debra S. Tarry
City Manager

cc: Shoreline City Council
John Norris, Assistant City Manager
Mark Relph, Public Works Director
Alicia McIntire, Senior Transportation Planner

Invitations to participate in the Citizen Advisory Task Force

CITY OF SHORELINE

SHORELINE
CITY COUNCIL

Shari Winstead
Mayor

Chris Eggen
Deputy Mayor

Will Hall

Doris McConnell

Keith A. McGlashan

Chris Roberts

Jesse Salomon

January 8, 2014

Shoreline Chamber of Commerce

RE: 145th Street Corridor Study

As you may be aware, the City of Shoreline has begun a study to analyze and ultimately to determine the future design of the 145th Street/SR 523 corridor. The corridor is a key east-west connection for the region linking bus rapid transit on Aurora, regional bus service on SR-522, light rail, and I-5. In its current form, this corridor will not be able to safely handle increased traffic, transit, pedestrians or bicycles without significant upgrades. Shoreline's corridor study will include development of a master plan for improving pedestrian and bicycle mobility, safety and operations, transit speed and reliability, and freight mobility. We anticipate the corridor study will take one year, concluding in December 2015.

One of the critical components of the corridor study will be public input, including that of business and property owners and residents along and near 145th Street. To help facilitate this input, the City is forming a 12 person Citizen Advisory Task Force (CATF). Neighborhood and business representatives, the North King County Mobility Coalition and Lakeside School are all being invited to participate. We would like the CATF to represent a broad range of perspectives regarding the future of the corridor so that many viewpoints can be considered and evaluated through this process.

The CATF will be tasked with the following:

- Assisting City staff with the development of recommended goals and evaluation criteria for the project
- Reviewing existing conditions and future growth projections for the corridor
- Participate in the development of potential alternatives for corridor improvements
- Advise in the selection of a recommended preferred alternative to the Shoreline City Council.

This project is very important to the City of Shoreline and to the Shoreline Council. CATF input will help it be successful. The City of Shoreline would like to invite you or a designated representative(s) from the business

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Telephone: (206) 801-2700 ◆ www.shorelinewa.gov

community along this corridor to participate in the development the 145th Street Corridor Study. **Interested parties should contact Alicia McIntire at 206.801.2483 or via email at amcintire@shorelinewa.gov by January 28, 2015.** The City Manager will select the final membership of the task force. Selected representatives will be notified by February 6, 2015.

CATF members will be expected to represent viewpoints and express issues of concern on behalf of their neighborhoods, businesses or respective agencies, listen to those of other members and assist the city with development of a recommended preferred alternative. It is also expected that team members will consult with their membership or constituency to ensure that there is agreement with the outcomes as well as disseminate information to the community about the project and opportunities for public input.

All CATF recommendations will be presented to the public for review and the Shoreline City Council will adopt a final preferred alternative at the end of the process. Once adopted, the preferred alternative will serve as the master plan for the corridor which will guide future design, right-of-way acquisition and construction.

It is expected that the CATF will meet 5-8 times over the next year, beginning on February 12, 2015 at 6:30 pm. Meetings will be held at Shoreline City Hall and each meeting will be approximately 2 hours long. The first meeting will be an overview and purpose of the corridor study process, the role of the CATF Team and the appointment of a chair for the team. The members will also identify the preferred time(s) for future CATF meetings. We will send you an agenda beforehand. I would like to emphasize that it is extremely important that team members attend all meetings and commit to reading and participating in discussions on the materials provided for review.

In addition to the CATF process, the City anticipates a rigorous public outreach effort including three open houses at key milestones during the process. Additionally, staff is always available to attend your group meetings to provide project updates.

We look forward to hearing your input as we plan for the future of this corridor. If you have any questions or need additional information, please do not hesitate to contact the City's 145th Street Corridor Study Project Manager Alicia McIntire, Senior Transportation Planner, at 206.801.2483 or email at amcintire@shorelinewa.gov.

We very much appreciate your assistance helping us through the planning process for the 145th Street corridor.

Sincerely,

Debra S. Tarry
City Manager

cc: City Council
Kirk McKinley, Transportation Services Manager
Alicia McIntire, Senior Transportation Planner

Invitations to participate in the Citizen Advisory Task Force

CITY OF SHORELINE

SHORELINE
CITY COUNCIL

Shari Winstead
Mayor

Chris Eggen
Deputy Mayor

Will Hall

Doris McConnell

Keith A. McGlashan

Chris Roberts

Jesse Salomon

January 8, 2014

Lakeside School
14050 1st Avenue NE
Seattle, WA 98125-3099

RE: 145th Street Corridor Study

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McIntire, Senior Transportation Planner, at 206.801.2483 or email at amcintire@shorelinewa.gov.

We very much appreciate your assistance helping us through the planning process for the 145th Street corridor.

Sincerely,

Debra S. Tarry
City Manager

cc: City Council
Kirk McKinley, Transportation Services Manager
Alicia McIntire, Senior Transportation Planner

Invitations to participate in the Citizen Advisory Task Force

CITY OF SHORELINE

SHORELINE
CITY COUNCIL

Shari Winstead
Mayor

Chris Eggen
Deputy Mayor

Will Hall

Doris McConnell

Keith A. McGlashan

Chris Roberts

Jesse Salomon

January 8, 2014

Cameron Duncan
North King County Mobility Coalition

RE: 145th Street Corridor Study

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like to invite you to participate in the development the 145th Street Corridor Study. **If you are interested in participating on the CATF, please contact Alicia McIntire at 206.801.2483 or via email at amcintire@shorelinewa.gov by January 28, 2015.** The City Manager will select the final membership of the task force. Selected representatives will be notified by February 6, 2015.

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We look forward to hearing your input as we plan for the future of this corridor. If you have any questions or need additional information, please do not hesitate to contact the City's 145th Street Corridor Study Project Manager Alicia McIntire, Senior Transportation Planner, at 206.801.2483 or email at amcintire@shorelinewa.gov.

We very much appreciate your assistance helping us through the planning process for the 145th Street corridor.

Sincerely,

Debra S. Tarry
City Manager

cc: City Council
Kirk McKinley, Transportation Services Manager
Alicia McIntire, Senior Transportation Planner

SHORELINE
CITY COUNCIL

Shari Winstead
Mayor

Chris Eggen
Deputy Mayor

Will Hall

Doris McConnell

Keith A. McGlashan

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Jesse Salomon

January 8, 2014

North Seattle Neighborhood Representatives

RE: 145th Street Corridor Study

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This project is very important to the City and to the Council and the CATF input will help it be successful. The City of Shoreline would like to invite you or a designated representative from your neighborhood to participate in the

17500 Midvale Avenue North ◆ Shoreline, Washington 98133-4905
Telephone: (206) 801-2700 ◆ www.shorelinewa.gov

development of a corridor study for the 145th Street Corridor Study. Ideally, your neighborhood representative will be a resident that lives in close proximity to 145th Street. The City would greatly appreciate your assistance in working with your neighbors to nominate a representative for the CATF. **Interested parties should contact Alicia McIntire at 206.801.2483 or via email at amcintire@shorelinewa.gov by January 28, 2015.** The City Manager will select the final membership of the task force. Selected representatives will be notified by February 6, 2015.

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McIntire, Senior Transportation Planner, at 206.801.2483 or email at amcintire@shorelinewa.gov.

We very much appreciate your assistance helping us through the planning process for the 145th Street corridor.

Sincerely,

Debra S. Tarry
City Manager

cc: City Council
Kirk McKinley, Transportation Services Manager
Alicia McIntire, Senior Transportation Planner

CITY OF SHORELINE

SHORELINE CITY COUNCIL

Shari Winstead
Mayor

Chris Eggen
Deputy Mayor

Will Hall

Doris McConnell

Keith A. McGlashan

Chris Roberts

Jesse Salomon

January 8, 2014

Council of Neighborhoods Chairs
Highlands, Westminster Triangle, Parkwood, Ridgecrest and Briarcrest

RE: 145th Street Corridor Study

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17500 Midvale Avenue North ◆ Shoreline, Washington 98133-4905
Telephone: (206) 801-2700 ◆ www.shorelinewa.gov

or a designated representative from your neighborhood to participate in the development of a corridor study for the 145th Street Corridor Study. Ideally, your neighborhood representative will be a resident that lives in close proximity to 145th Street. The City would greatly appreciate your assistance in working with your neighbors to nominate a representative for the CATF. **Interested parties should contact Alicia McIntire at 206.801.2483 or via email at amcintire@shorelinewa.gov by January 28, 2015.** The City Manager will select the final membership of the task force. Selected representatives will be notified by February 6, 2015.

CATF members will be expected to represent viewpoints and express issues of concern on behalf of their neighborhoods, businesses or respective agencies, listen to those of other members and assist the city with development of a recommended preferred alternative. It is also expected that team members will consult with their membership or constituency to ensure that there is agreement with the outcomes as well as disseminate information to the community about the project and opportunities for public input.

All CATF recommendations will be presented to the public for review and the Shoreline City Council will adopt a final preferred alternative at the end of the process. Once adopted, the preferred alternative will serve as the master plan for the corridor which will guide future design, right-of-way acquisition and construction.

It is expected that the CATF will meet 5-8 times over the next year, beginning on February 12, 2015 at 6:30 pm. Meetings will be held at Shoreline City Hall and each meeting will be approximately 2 hours long. The first meeting will be an overview and purpose of the corridor study process, the role of the CATF Team and the appointment of a chair for the team. The members will also identify the preferred time(s) for future CATF meetings. We will send you an agenda beforehand. I would like to emphasize that it is extremely important that team members attend all meetings and commit to reading and participating in discussions on the materials provided for review.

In addition to the CATF process, the City anticipates a rigorous public outreach effort including three open houses at key milestones during the process. Additionally, staff is always available to attend your group meetings to provide project updates.

We look forward to hearing your input as we plan for the future of this corridor. If you have any questions or need additional information, please do not hesitate

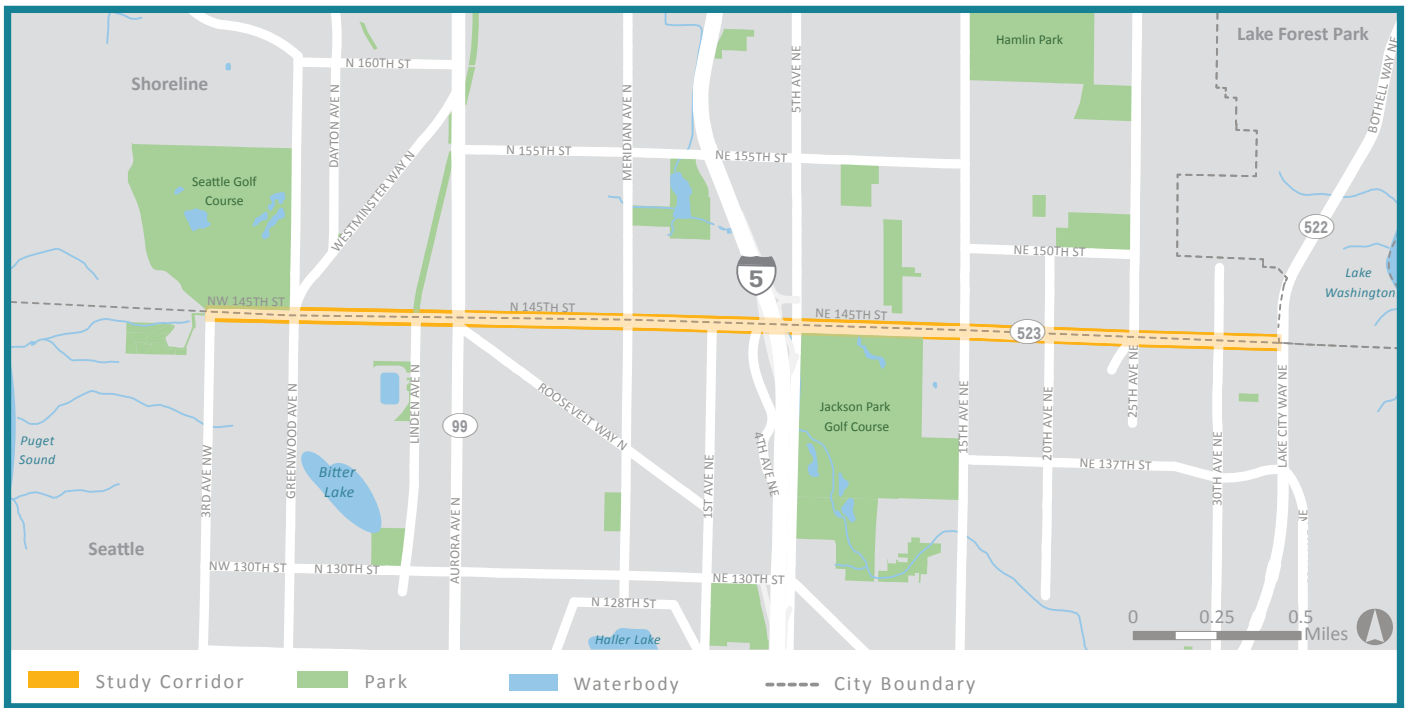
to contact the City's 145th Street Corridor Study Project Manager Alicia McIntire, Senior Transportation Planner, at 206.801.2483 or email at amcintire@shorelinewa.gov.

We very much appreciate your assistance helping us through the planning process for the 145th Street corridor.

Sincerely,

Debra S. Tarry
City Manager

cc: City Council
Kirk McKinley, Transportation Services Manager
Alicia McIntire, Senior Transportation Planner



Join us for an open house on May 20!

145th Street Multimodal Corridor Study

145th Street Multimodal Corridor Study

145th Street (SR 523), which borders Shoreline and Seattle, is a major east-west travel corridor connecting north King County with Aurora Avenue (SR 99), Lake City Way (SR 522), and a future light rail station near I-5.

People are getting stuck on this critical corridor that serves Seattle and Shoreline residents. 145th Street is congested for hours each day and is difficult for pedestrians and bicycle users to access.

The City of Shoreline is leading a corridor study to address traffic congestion and improve safe pedestrian, bike, and transit access.

We need your help. What are you concerned about? What do you think will improve this important travel corridor?

Come to our open House on May 20th to talk about the existing conditions on the corridor and the goals and objectives that have been developed to guide the corridor study.

145th Street Multimodal Corridor Study open house

Wednesday, May 20, from 6:00-8:30 p.m.

Shoreline City Hall, 17500 Midvale Avenue N, Shoreline, WA 98133

If you have any questions, please contact Catherine Lander at **clander@shorelinewa.gov** or **(206) 801-2415**.

For additional project information, visit the project webpage at **shorelinewa.gov/145corridor**

Open House - Sept. 30 - Shoreline City Hall - 6:00 p.m. to 8:00 p.m.

145TH STREET
Multimodal Corridor Study

145th Street (SR 523) runs between Shoreline and Seattle and is a major east-west travel corridor connecting north King County with Aurora Avenue (SR 99), Lake City Way (SR 522), and a future light rail station.

145th Street has significant traffic congestion, higher than average collision rates, a poor pedestrian environment, no designated bike facilities, and limited bus service. The need for improvements has existed for some time and will only increase in the future.

The project team has developed draft study concepts with input from the community and project stakeholders that serve as bookends for the kinds of improvements that could be made. These concepts will be presented at the September 30 open house. The project team looks forward to hearing from you.

This will be an important opportunity for information and input.

Open House – September 30
6:00 to 8:00 p.m., with presentation at 6:30 p.m.
Shoreline City Hall
17500 Midvale Ave N
shorelinewa.gov/145corridor

The presentation will be videotaped and available for viewing on the website at a later date.

To: Shoreline, Seattle, Lake Forest Park, Kenmore, and Bothell Neighbors …

We hope to see you there !

Open House

February 24, 2016

Mobility

Location: Shorecrest High School
15343 25th Ave NE, Shoreline

Time: 6:00 p.m.—8:00 p.m.
Presentation at 6:30 p.m.

for more information
shorelinewa.gov/145corridor

Safety

CITY OF SHORELINE

145TH STREET
Multimodal Corridor Study

Please join City of Shoreline staff, partner agencies, and your neighbors at the third and final open house for the

145TH STREET
Multimodal Corridor Study

The project team will be presenting a **draft preferred concept** for the corridor *(the product of much analysis, numerous meetings with residents and stakeholders, and feedback).*

You are invited to review & comment. We hope you can join us.

Please note the new venue:

Open House - Wednesday, February 24, 2016
Shorecrest High School
15343 25th Ave NE, Shoreline WA 98155
6:00 p.m. to 8:00 p.m. with presentation at 6:30 p.m.

CITY OF SHORELINE

17500 Midvale Ave N
Shoreline, WA 98133

CITY OF SHORELINE

CURRENTS

News from the City of Shoreline Volume 16 No. 10

Winter 2014

City begins planning for 145th Street/SR 523 Corridor

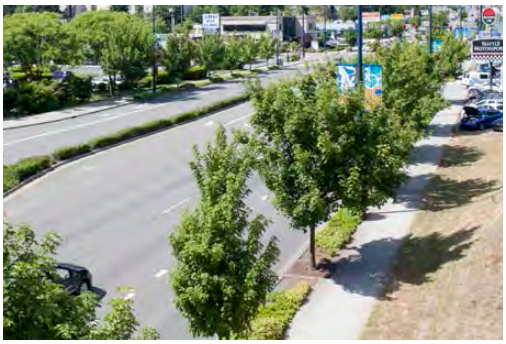
Beginning in early 2015, the City will engage the community in a year-long process to prepare a Corridor Study for the 145th Street/State Route 523 Corridor. The corridor is a key east-west connection for the region linking bus rapid transit on Aurora, light rail, and I-5. In need of significant upgrades, the study will serve as the master plan for improving pedestrian and bicycle mobility, safety and operations, transit speed and reliability, and freight mobility on the corridor.

A major obstacle to addressing these issues in the past has been the multijurisdictional nature of 145th Street's location and function. The southern border of the City of Shoreline ends where the northern edge of the sidewalk begins on 145th Street. As the diagram on page 5 shows, the complex arrangement of ownership and regulatory authority for the roadway includes the City of Seattle, King County, and the Washington State Department of Transportation (WSDOT).

Shoreline does not own any of the right-of-way but experiences significant traffic and safety issues associated with this street. Traffic volumes on this street are anticipated to increase due to highway tolling on the Lake Washington bridge(s), regional growth, and the future light rail station at NE 145th Street and I-5. As a result, upgrades will be needed to accommodate these volumes, as well as improve safety for bicycles and pedestrians, and speed and reliability for transit. At this time, improvements can only be made by WSDOT, King County or the City of Seattle; all of which have stated that improvements to 145th Street are not a priority.

The best way to achieve effective multi-modal improvements that address the needs of all users is to implement them corridor wide. However, with the current multi-jurisdictional ownership, it has become clear that the only way improvements to 145th Street will be undertaken in the near future is if ownership is consolidated. The City has been meeting with the City of Seattle, King County, and WSDOT and they are all supportive of the City's efforts to consolidate ownership under the City of Shoreline

continued on page 5



Aurora tree pruning **Page 4**

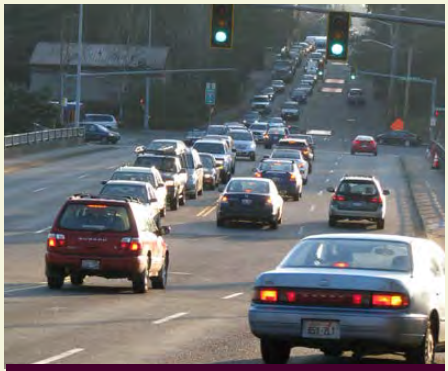
Prepare for winter weather **Page 6**

Holiday safety tips **Page 7**

Planning begins for the 145th Street/SR 523 Corridor

Purpose of a Corridor Study (continued from page 1)

The redevelopment of the 145th Street corridor promises to be a significant and complex capital improvement project in the City of Shoreline.

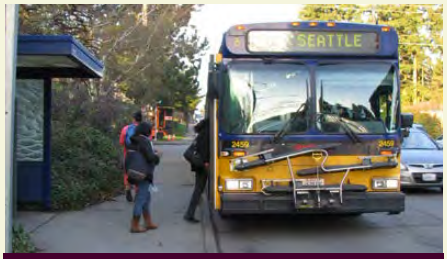


During peak periods, the I-5 interchange is extremely congested.

The Study will serve as the master plan for the proposed improvements to the corridor. The Study process will evaluate several options for accommodating multiple travel modes, including vehicles, buses, walking, cycling, and freight. It will also consider the impacts to property owners associated with potential roadway widening. The Study process will take into consideration the future location of the light rail station at I-5 and the additional transportation demands created as a result. The interchange at I-5 greatly influences the function of the entire corridor, thus evaluation of improvements at that location will be an important component of the Corridor Study.

Input from residents, property owners, business owners, community groups and human service organizations will be important during the process. Over the course of 2015, the City will engage in a rigorous public engagement process seeking such input. The City will conduct a series of open houses that will build upon each other as it develops the Study.

For more information about the 145th Street Corridor Study visit shorelinewa.gov/145Corridor or contact Senior Transportation Planner Alicia McIntire at amcintire@shorelinewa.gov or (206) 801-2483.

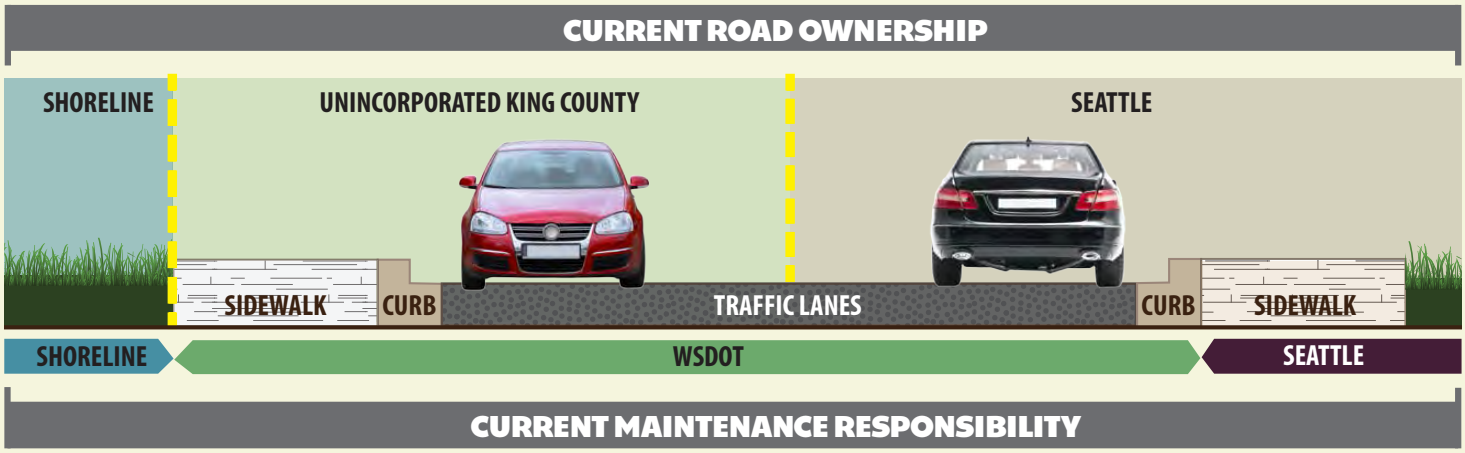


One of the busiest roadways in the area but not a very highly used transit corridor due to its congested nature and marginal pedestrian facilities.

The collision rate for 145th Street is more than two and a half times higher than the regional average for urban principal arterials.

Sidewalks are poorly constructed and maintained, falling far short of ADA requirements.

Ownership and Responsibility for 145th Street



CITY OF SHORELINE

CURRENTS

News from the City of Shoreline Volume 17 No. 7

September 2015

20 years as a City - Past to Present

Innovations in transportation influence a changing Shoreline

CELEBRATING 20 YEARS OF PROGRESS

The Puget Sound region is one of the fastest growing areas in the country. And while Shoreline has experienced relatively little growth since incorporation in 1995, that trend is beginning to change. People outside of Shoreline are beginning to see the great community that exists here. Shoreline is a first tier suburb located within 25 miles of major job centers north, south, and east. With the addition of light rail, Shoreline will become an even more desirable place to live.

Ever since the Great Northern Railroad made its debut in Richmond Beach in 1891, Shoreline's development has been greatly influenced by innovations in transportation. Richmond Beach grew up around the railroad. With the construction of the Seattle to Everett Interurban Trolley line through Shoreline in 1906 and the paving of the North Trunk Road with bricks in 1913, Shoreline began to develop as a suburb. Its rural, but more easily accessible location, attracted new developments.

The construction of Highway 99 and later I-5 changed the area forever as Shoreline went from a rural suburb to a dense suburb of a major American City. Light rail will continue Shoreline's evolution and will impact settlement patterns just as the Interurban, Highway 99, and I-5 did in the past.

People from across the region will be attracted to living near light rail because of the convenient access it provides to the University of Washington, downtown Seattle, Sea-Tac airport, and other locations. They will also be attracted to the vibrant Shoreline community that we have all come to love.

145th STREET/SR 523 Multimodal Corridor Study

Open House
Wednesday, Sept. 30, 6:00 to 8:00 p.m.
Shoreline City Hall
See page 5 for more information

Aurora construction update **Page 3**

Shoreline Community College **Page 5**

Station Area planning update **Page 9**

N 145th STREET/SR 523 MULTIMODAL CORRIDOR STUDY

Corridor Study update

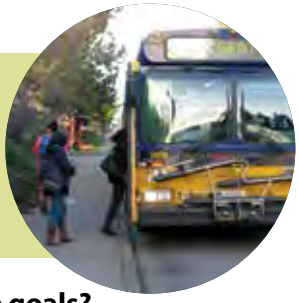
The 145th Street Multimodal Corridor Study is underway with a second public open house scheduled for the evening of September 30. The primary purpose of the open house is to share our work since the last open house, including cross-section concepts, view renderings of what the future corridor could look like, and most importantly, hear from you.

Traffic volumes range from 29,000 to 45,000 average daily trips

Why are we doing this study?

145th Street is a critical east-west regional corridor that connects people and freight in north/northeast King County with I-5, Aurora, and Lake City Way. Improvements to the 145th Street corridor are overdue with existing congestion levels having a substantial impact on regional mobility.

With Sound Transit's light rail station scheduled to open in 2023, having improvements in place by the time of opening will ensure that riders can quickly, reliably, and safely get to the station and relieve regional roadway congestion.



No dedicated bus or bike lanes

What are the goals?

The overall goal is to create a corridor that is safe to walk, bike, bus, and drive, and to develop transportation

Narrow sidewalks further hindered by almost 300 utility poles

improvements that support the local economy, protect the environment, support a vibrant community, and support future light rail. The eventual goal of the study is to arrive at a preferred design concept that addresses these goals.

What has been done to date?

The project team has been meeting with key stakeholder agencies over the last couple of years to gain support. In August of 2014, staff met with federal, state, and local officials and toured the corridor to bring awareness to the challenges faced here.

Our efforts paid off. As part of the $16 billion transportation package recently passed by the Washington State Legislature and signed by Governor Inslee, the City has been awarded $25 million for construction of improvements.The $25 million is a significant statement on the importance of the project for the region. It will also help the City in leveraging additional money through federal, state, and local grants, much as was done with the Aurora Corridor project. Grants paid for 88% of the Aurora improvements.

In February of this year, a Citizen Advisory Task Force (CATF) began meeting with staff to help facilitate public input. Information on their work can be found at shorelinewa.gov/145corridor.

Where are we now?

Based on community feedback from the first open house in May, the project team developed three preliminary design concepts. These concepts will be presented at the September 30 open house for feedback along with the results of our preliminary evaluation based on the project goals.

OPEN HOUSE

Wednesday, Sept. 30
6:00 to 8:00 p.m.
Shoreline City Hall

Please participate in an open house and learn more about the multimodal corridor study for 145th Street. The goal of the study is to evaluate future improvements that would increase mobility and safety along this important arterial. Project staff will be on hand and want to hear community input regarding the next important steps in this process. There will be a presentation at 6:30 p.m. in the Council Chambers.

Congestion causing significant delays for buses, cars, and freight

Desired outcomes of this study

After in-depth analysis of the three study concepts, a preferred concept will be presented to the City Council for possible further environmental review and detailed engineering design.

For more information visit shorelinewa.gov/145corridor. For questions contact Senior Transportation Planner Kurt Seemann at kseemann@shorelinewa.gov or (206) 801-2483.

Collision rate 2.5 times higher than regional average

CITY OF SHORELINE

CURRENTS

News from the City of Shoreline Volume 18 No. 1

February 2016

Your new Shoreline City Council

On January 4, Superior Court Judge Richard Eadie swore newly elected Councilmember Keith Scully into office. Judge Eadie also swore in returning Councilmembers Doris McConnell and Jesse Salomon. Following the swearing in ceremony, the Council selected Councilmember Chris Roberts as Mayor and Councilmember Shari Winstead as Deputy Mayor.

As the City's governing body, Shoreline's seven elected part-time Councilmembers establish City policies and laws, adopt an annual budget, and approve contracts for services. The issues involved are often complicated and require Council to review hundreds of pages of data and analysis each week to understand how policies might affect residents and businesses. Council meets most Monday evenings at City Hall at 7:00 p.m. The public is encouraged to attend meetings. Thos wishing to track Council decisions but who are unable to attend can watch the meetings online at shorelinewa.gov/CouncilLive.

In addition to Council meetings, Councilmembers represent the City at community events, in meetings with community members, and on national, state, and regional boards and committees. While it may seem that Councilmembers serve as full-time elected officials, they are actually considered part-time councilmembers. Most work at other full or part-time jobs.

The Council directs City policy based on input from residents, staff, and other stakeholders. In order to receive as much input as possible, Councilmembers are available by email and phone, and often meet one-on-one with individuals and community organizations.

Visit Shoreline's website at shorelinewa.gov/council or call the Agenda Line at (206) 801-2236 for the latest meeting information. The website also features agenda packets, meeting video archives, Councilmember biographies, and contact information.

Pool closure Page 3

Shoreline's parks crew Page 4

Aurora corridor update Page 5

145TH STREET/SR 523 MULTIMODAL CORRIDOR STUDY

Open House
Wednesday, Feb. 24, 6:00 to 8:00 p.m.
Presentation at 6:30 p.m.
Shorecrest High School, 15343 25th Ave NE
More information on page 7

145TH STREET/SR 523 MULTIMODAL CORRIDOR STUDY

Final open house scheduled for February 24

The 145th Street Multimodal Corridor Study is nearing completion. A final open house is scheduled for the evening of February 24. The primary purpose of this open house is to share our work since the last open house, including the preferred design concept for the corridor, and to hear from you.

WHY ARE WE DOING THIS STUDY?

145th Street is a critical east-west regional corridor that connects Shoreline and north King County with I-5, Aurora, and SR 522. Improvements to the corridor are long overdue, with improvements needed to improve mobility for all modes of travel. Sound Transit will open their light rail station in 2023 and it is important to have improvements in place by the station opening to ensure that riders get to the station quickly, reliably, and safely.

WHAT ARE THE STUDY GOALS?

The overall goal is to create a corridor that is safe and comfortable to walk, bike, bus, and drive. We also need to develop transportation improvements that protect the environment, foster a vibrant economy, and support light rail. At this final open house, staff will share a preferred design concept that supports these goals, while balancing potential impacts.

WHAT HAS BEEN DONE TO DATE?

The project team has been meeting with key stakeholders over the last several years to gain support for this important effort. Staff has met monthly with a core team of local agencies that have provided input and direction to establish the preferred concept. Additionally, a Citizen's Advisory Task Force has met with staff on a regular basis to help facilitate public input and to provide their own input to the design.

WHERE ARE WE NOW?

Based on a detailed study of the corridor and on community input from the first two open houses held in May and September, the project team developed three preliminary design concepts and refined those concepts into a preferred concept, which they will present at the February 24 open house.

WHAT'S NEXT?

Based on input from the community at the February 24 open house, staff will refine the preferred concept and present it to the City Council for further environmental review and final engineering design. For more information, visit shorelinewa.gov/145corridor. For questions, contact Senior Transportation Planner Kurt Seemann at kseemann@shorelinewa.gov or (206) 801-2483.

OPEN HOUSE

Wednesday, Feb. 24
6:00 to 8:00 p.m.
Presentation at 6:30 p.m.
Shorecrest High School Commons
15343 25th Ave NE

Parking is in lots along 25th Avenue NE. Enter at the main entrance and proceed to the "Commons" just past the entrance.
Come provide input on the draft preferred concept for the corridor, which staff will present at the open house.

Traffic volumes on 145th range from 29,000 to 45,000 daily trips

CITY OF SHORELINE

CURRENTS

News from the City of Shoreline Volume 18 No. 2

March 2016

City works with partners to address homelessness

On December 14, 2015, the Council passed a resolution supporting King County's declaration of emergency due to homelessness. While the issue of homelessness in the Puget Sound Region is not new, it has been on the rise in recent years. To this end, on November 2, 2015, King County and the City of Seattle declared states of emergency.

The extent of homelessness and those at risk of homelessness in Shoreline can be seen through data that comes from schools and service providers, and from anecdotal data provided by the City's Parks, Recreation and Cultural Services Department. Since 2010, the number of Shoreline School District students who self-identify as homeless has almost tripled, rising from 134 in the 2010-11 school year to 349 in 2014-15 school year. This is a 160% increase over the course of five years. School staff also report that they are on track this year to exceed the numbers of the 2014-15 school year.

In addition to school data, the One Night Count of the Homeless reported a 21% increase in 2015 across King County. Throughout the year, those entering the homeless housing system report on their last place of residence. In 2014, over 750 people seeking shelter in places across the County indicated that they came from Shoreline zip codes.

Hopelink reports that the volume of emergency food bags (a short-term supply of food that can be prepared without a full kitchen) requested by households has increased by 49% from 2011 to 2015 (from 296 household requests to 442).

While the City does not keep formal statistics on homeless encampments in the City's park system, Parks staff estimates that approximately 20 encampments are removed each year from Shoreline Parks and other governmental property that the City maintains.

continued on page 7

HOME IMPROVEMENT WORKSHOPS

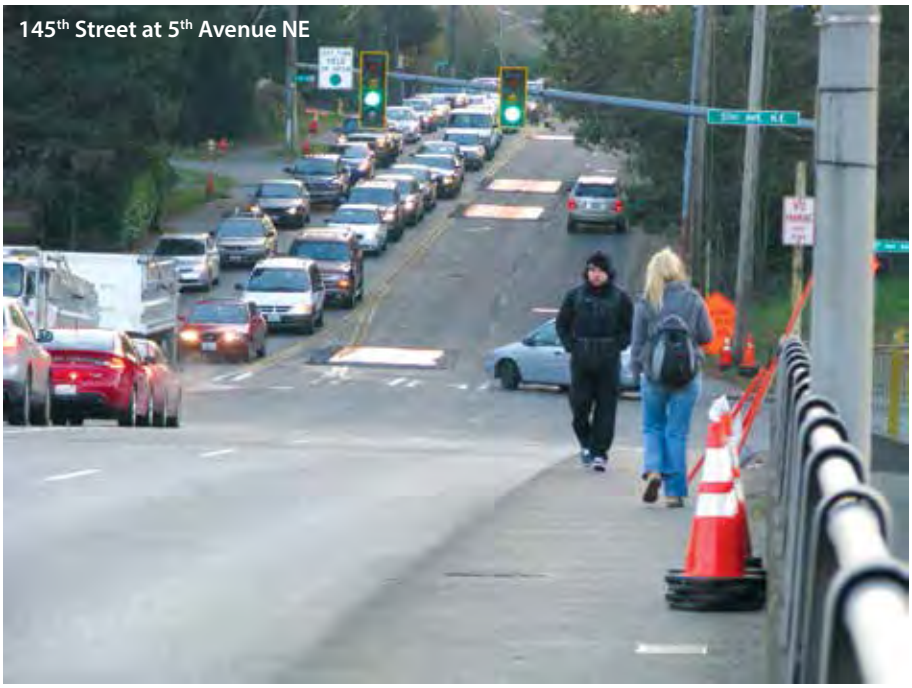
TUESDAY, MARCH 29 AND TUESDAY, APRIL 26

Join us for free workshops to help you get started with your home improvement projects. Learn more on page 2.

145th Corridor update **Page 3**

Shoreline's neighborhoods **Page 4**

Recycling and yard waste **Page 7**



145th STREET/SR 523 MULTIMODAL CORRIDOR STUDY

Preferred concept presented at February 24 open house

On February 24, the City held its third and final open house for the 145th Street Multimodal Corridor Study. City staff presented the preferred concept for the corridor. It has a combination of lane configurations, with most intersections seeing improvements and widening. Generally, the eastern portion of the corridor (east of 1-5) has a stronger emphasis on supporting transit, so the street cross-section is wider, and includes queue-jumps to give buses an advantage at signalized intersections. The portion west of Aurora features a three-lane section that provides an opportunity to meet the multimodal goals of the project while staying within the existing right-of-way. The middle section is a transition between each end, and provides a four-lane roadway with improvements for pedestrians.

The preferred concept seeks to balance the benefits of a variety of improvements to the corridor against potential property impacts. The City has received substantial input that supports the project's multimodal approach to transportation including building sidewalks, establishing a route for bicycles, providing for better transit service, and increasing safety and mobility for cars.

Each of these improvements has varying degrees of impact on the existing 60 foot right-of-way. The preferred concept looks at how to best maximize these improvements and their associated benefits while considering potential property impacts.

Based on input from the community at the February 24 open house, staff will refine the preferred concept and present it to the City Council on March 21 for discussion. Council is scheduled to make a final decision on the preferred concept on April 4. The Council adopted preferred concept will then go through further environmental review and final engineering design.

MORE INFORMATION

WEBSITE:
shorelinewa.gov/145corridor

CONTACT:
Senior Transportation Planner
Kurt Seemann, (206) 801-2483
kseemann@shorelinwa.gov

CRIME PREVENTION

Lock your doors and close your windows

Last year, 35% of residential burglary reports taken in Shoreline involved no forced entry. This means that burglars entered through open/unlocked windows, doors, or garages. As the weather gets warmer, many people are tempted to leave a window open for ventilation. It is our recommendation that all doors and windows be locked when you're away from home, especially ground level doors and windows.

Do we mean to say that those 35% of burglaries wouldn't have occurred by forced means if the doors were locked? Of course not. However, we must do everything we can to make it hard for criminals to act.

Sign up for: ALERT SHORELINE

Get alerted about emergencies and other important community news by signing up for Alert Shoreline. The system enables us to provide you with critical information quickly in a variety of situations, such as a police alert for your neighborhood, unexpected road closures, and traffic. It will also allow us to alert you to community news you are interested in receiving, such as Council agendas, Parks facility closures, City Hall news or crime prevention tips and alerts.

You can choose the news categories you would like to receive.

Sign up or manage your current subscription at:
shorelinewa.gov/alert

CITY OF SHORELINE

CURRENTS

News from the City of Shoreline Volume 18 No. 4

May 2016

2015 Police Services Report:
Shoreline continues to be a safe community

Every year, Shoreline Police provide the community with an Annual Police Services Report outlining police services and crime activity for the prior year. Shoreline continues to be a safe community. According to the 2015 report, Part 1 crimes (violent crimes) were at the lowest level in ten years. In addition, last year saw a 13% reduction in burglaries, a 20% reduction in larceny thefts, and a 30% reduction in auto thefts from 2014.

Property crimes continue to be a priority and a focus for Shoreline Police. Safety and security is everyone's responsibility with the police and community working together. In 2015, Shoreline Police participated in 42 community crime prevention meetings. One of the best weapons the police have in their efforts to prevent crime is a vigilant community. Shoreline Police stress the importance of calling 911 immediately when you notice suspicious activity. It is the job of Shoreline Police to respond and determine if the activity is legitimate, or a crime in-progress. The message is helping. Calls for service have increased over the past several years; Shoreline officers responded to 14,871 calls made to 911 last year and initiated 14,370 contacts on their own, making a total of 1,405 arrests.

In 2015, the Shoreline Police Department, in conjunction with Lake Forest Park Police, conducted three "Nurturing Trust with Family, with Community" workshops. These workshops focused on building trust and working relationships between the Police and the community. Police educated participants on laws and basic police procedures on important issues that may affect any family, especially those from underrepresented communities. Childcare was provided and workshops were offered in English and Spanish. Topics covered in the workshops included positive parental discipline, domestic violence, child abuse, bullying, drugs, and teen suicide. Police will continue to offer this popular and successful program in 2016.

continued on page 3

SHORELINE farmers market

Shoreline Farmers Market
Opening day: Saturday, June 11
Aurora Square, 15300 Westminster Way N
shorelinefarmersmarket.org

Annual Traffic Report **Page 3**

Financial sustainability meetings **Page 4**

145th Corridor Preferred Design **Page 5**

Council adopts Preferred Design Concept for 145th Street Multimodal Corridor Study

On April 11, the City Council adopted the preferred design concept for the 145th Street Multimodal Corridor Study. The design concept has a number of lane configurations over its three-mile length, with most intersections being improved and widened. Generally, the eastern portion of the corridor (east of I-5) has a strong focus on transit, so the street cross-section is wider, and includes queue-jumps for buses at signalized intersections. The portion west of Aurora features a three-lane section that provides an opportunity to meet the multimodal goals of the project while staying within the existing right-of-way. The middle section is a transition between each end, and provides a four-lane roadway with intersection improvements as well as improvements for pedestrians.

The preferred design concept for the 145th Street Multimodal Corridor Study reflects a strategy of maximizing benefits while minimizing impacts, such as costs and impacts to properties. The preferred design concept is a vision for multimodal transportation improvements that reflects broad community input. Over the past year, City staff have engaged residents of Shoreline and Seattle in the Corridor Study. The City held three open houses, met with numerous neighborhood groups and property owners, and conducted regular meetings with a Citizens Advisory Task Force. The City also worked closely with a number of other governmental agencies with an interest in the corridor.

Next Steps

With adoption of the preferred design concept, the City will begin working on development of the different sections of the corridor. The study divided the corridor into four separate sections, each of which will have a different path to completion. As it did with the Aurora project, the City will aggressively seek grant funding for constructing the 145th Street improvements.

- **I-5 to Lake City Way**: This section is currently included in the ST3 draft plan recently released by the Sound Transit Board. Staff will continue to work with Sound Transit and partner agencies to advocate for this project to be included in ST3 funding. The design for this section is comparable to one of the ST3 concepts.
- **I-5 Interchange**: The City 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.
- **Aurora to I-5**: This section will advance through final design funded by a Puget Sound Regional Council Countywide grant and the City will continue to pursue grant funding for ROW acquisition and construction of this section.
- **3rd Avenue NW to Aurora:** The City will work with SDOT and the City of Seattle to develop this project.
- **Off-corridor Bike Network:** The City will work closely with SDOT to develop this project.

MORE INFORMATION:
shorelinewa.gov/145corridor

CELEBRATE PUGET SOUND

At a Mariners Game!

Mariners vs Angels
Saturday, May 14, 6:10 PM
Safeco Field
$15 View Level
$32 Main Level

PURCHASE BY:
Friday, May 13, 5:00 PM
Mariners.com/PugetSound

Join us on Puget Sound Starts Here Night to celebrate your actions that help keep our waters clean. Free gift with discounted ticket purchase!

To find out what is happening around the region visit pugetsoundstartshere.org/events-list/.

Puget Sound Starts Here.org

PLANNING COMMISSION
REGULAR MEETING
AGENDA

Thursday, March 3, 2016
7:00 p.m.

Council Chamber · Shoreline City Hall
17500 Midvale Ave North

		Estimated Time
1.	**CALL TO ORDER** A. Swearing in Ceremony for Newly Appointed Planning Commissioner, Performed by City of Shoreline Mayor Chris Roberts	7:00
2.	**ROLL CALL**	7:05
3.	**APPROVAL OF AGENDA**	7:07
4.	**APPROVAL OF MINUTES** a. February 18, 2016 Meeting Minutes - Draft	7:08

Public Comment and Testimony at Planning Commission

During General Public Comment, the Planning Commission will take public comment on any subject which is not specifically scheduled later on the agenda. During Public Hearings and Study Sessions, public testimony/comment occurs after initial questions by the Commission which follows the presentation of each staff report. In all cases, speakers are asked to come to the podium to have their comments recorded, state their first and last name, and city of residence. The Chair has discretion to limit or extend time limitations and the number of people permitted to speak. Generally, individuals may speak for three minutes or less, depending on the number of people wishing to speak. When representing the official position of an agency or City-recognized organization, a speaker will be given 5 minutes. Questions for staff will be directed to staff through the Commission.

5.	**GENERAL PUBLIC COMMENT**	7:10
6.	**STUDY ITEM** a. 145th Street Corridor Study Staff Report • Staff Presentation • Public Comment	7:15
7.	**DIRECTOR'S REPORT**	8:15
8.	**UNFINISHED BUSINESS**	8:20
9.	**NEW BUSINESS**	8:25
10.	**REPORTS OF COMMITTEES & COMMISSIONERS/ANNOUNCEMENTS**	8:26
11.	**AGENDA FOR MARCH 17, 2016** a. Discussion of Zoning Scenarios analyzed in DEIS for 145th Street Station Subarea Planning b. Docket Items 5-10 Staff Report	8:29
12.	**ADJOURNMENT**	8:30

The Planning Commission meeting is wheelchair accessible. Any person requiring a disability accommodation should contact the City Clerk's Office at 801-2230 in advance for more information. For TTY telephone service call 546-0457. For up-to-date information on future agendas call 801-2236

Planning Commission Meeting Date: March 3, 2016 Agenda Item: 6a.

PLANNING COMMISSION AGENDA ITEM

CITY OF SHORELINE, WASHINGTON

AGENDA TITLE:	145th Street Corridor Study and Potential Implications for 145th Street Station Subarea Plan
DEPARTMENT:	Public Works
PRESENTED BY:	Kurt Seemann, Senior Transportation Planner Nytasha Sowers, Transportation Planning Manager
ACTION:	____ Ordinance ____ Resolution ____ Motion __X_ Discussion ____ Public Hearing

INTRODUCTION

The 145th Street corridor is a three mile roadway from 3rd Avenue NW on the west to SR-522 (Lake City Way/Bothell Way) on the east, and is the border between the City of Shoreline and the City of Seattle. There are significant traffic and safety issues on145th Street. Sidewalks do not generally comply with the Americans with Disabilities Act. 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. Because of these issues, the City began working on a Corridor Study in early 2015.

On March 23, 2015, Council accepted the Planning Commission's recommendation to postpone further discussion of the 145th Street Station Subarea Plan until completion of the 145th Street Corridor Study. Tonight Kurt Seeman, Project Manager for the 145th Street Corridor Study, will provide the Commission with an overview of the study, including a presentation that was given at the third and final public open house on February 24. The Commission will discuss potential implications of the Corridor Study on the Preferred Alternative zoning scenario for the 145th Street Station Subarea Plan.

BACKGROUND

The 145th Street Corridor Study began by defining project goals and evaluation criteria and analyzing existing conditions. Project goals included:

- Ensuring that everyone can walk, bike, bus, access light rail and drive safely and reliably along and across the corridor; and
- Developing transportation improvements that:
  - Support the local economy
  - Protect the environment
  - Support a vibrant community

Approved By: Planning Director___ Project Manager___

Staff has engaged in ongoing robust community outreach, including holding three open houses in May and September of 2015 and February of 2016, and conducting ongoing monthly meetings with a Citizens Advisory Task Force (CATF) as well as ongoing local agency coordination with the Inter-jurisdictional Technical Team (ITT). The CATF is an eleven-member group consisting of residents representing adjacent Shoreline neighborhoods (Briarcrest, Parkwood, Ridgecrest, and Westminster Triangle), Seattle neighborhoods (Broadview, Haller Lake, Olympic, and Pinehurst), a local business representative, a representative from the Lakeside School, and a representative from the North King County Mobility Coalition. The ITT consists of representatives from WSDOT, Sound Transit, the Puget Sound Regional Council (PSRC), King Country Metro, and the Cities of Seattle, Bothell, Kenmore, and Lake Forest Park.

At this point in the project, City staff and CH2M, the City's consultant team, have developed a Preferred Concept that improves pedestrian, bicycle, transit and vehicular mobility, while balancing impacts to right-of-way and potential project costs. The Preferred Concept will be explained in detail during the presentation.

The project schedule is included as Attachment A. Additional background on the study may be found on the project web page:
http://www.shorelinewa.gov/government/departments/145th-street-corridor.

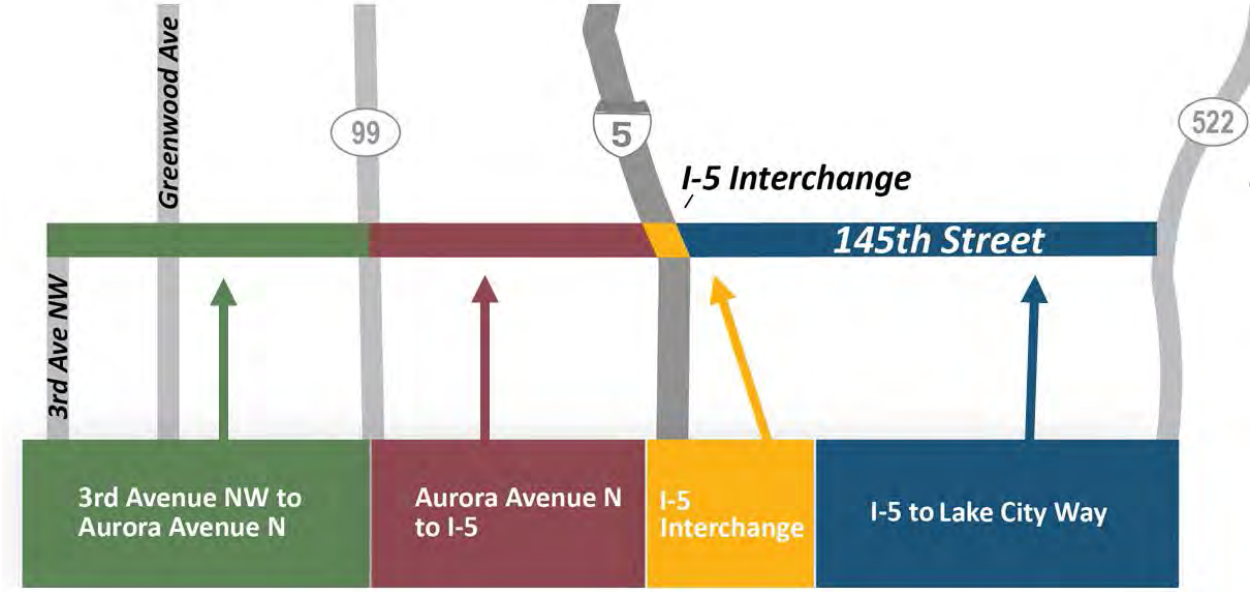
DISCUSSION

Segments

The Preferred Concept represents a design that maximizes corridor benefits while minimizing property impacts, to the extent feasible. The Preferred Concept is composed of two components, a roadway component (between the two curbs) and a non-motorized component that includes sidewalks, bicycle facilities, and multi-use paths.

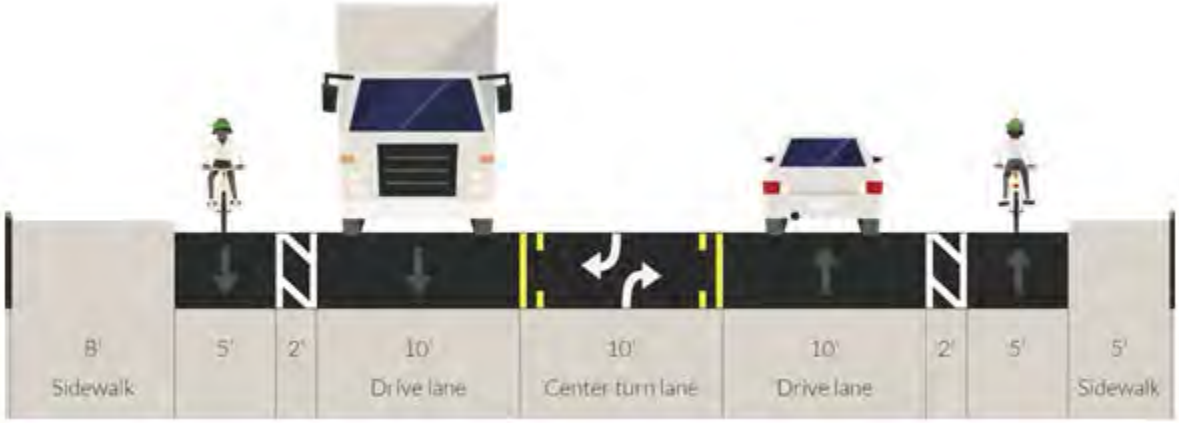
For the purposes of this study, the corridor has been divided into four segments:

1) 3rd Avenue NW to Aurora Avenue N (green in diagram below);
2) Aurora Avenue N to I-5 (red);
3) The I-5 interchange (yellow); and
4) I-5 to SR-522 (blue).



The most westerly segment stretches from **3rd Avenue NW to Aurora Avenue N**. In this segment, traffic volumes are low enough that a "road diet" could be utilized to add non-motorized improvements for pedestrians and bicycles, and increase safety by providing a turn lane. Generally, the concept proposed for this segment could be constructed within the existing right-of-way with minimal impacts to adjacent properties.

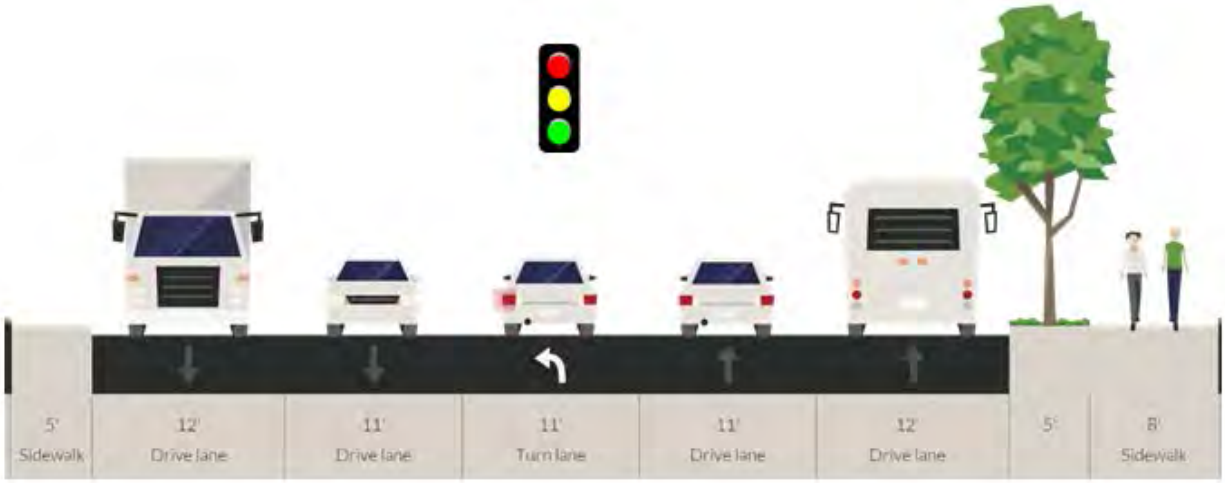
Below is a potential mid-block cross-section between Linden and Greenwood:



The segment from Aurora Avenue N to SR-522 includes three distinct segments (Aurora to I-5; the I-5 interchange, including on-ramps/off-ramps and interstate bridge; and I-5 to SR-522).

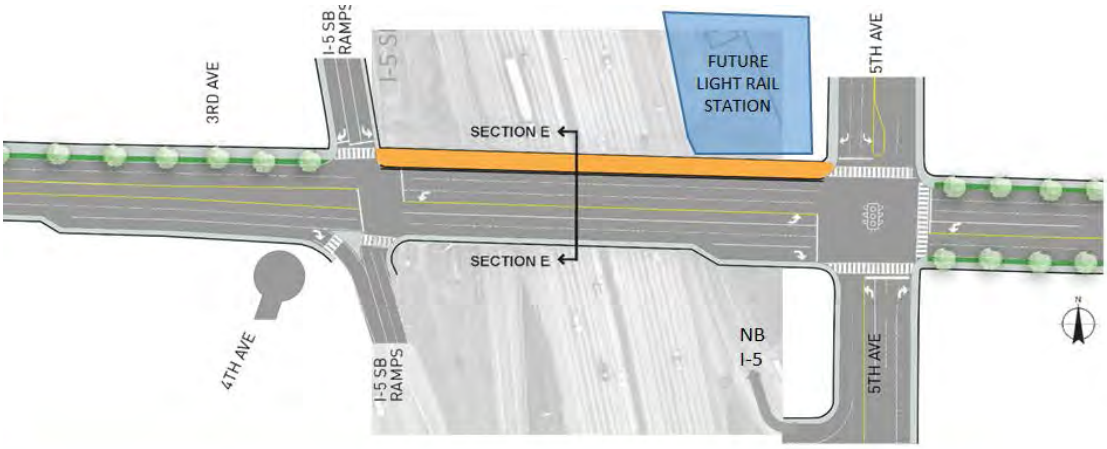
The Preferred Concept from **Aurora to I-5** is generally a four lane section with sidewalks and improvements, including adding left turn lanes, at key intersections.

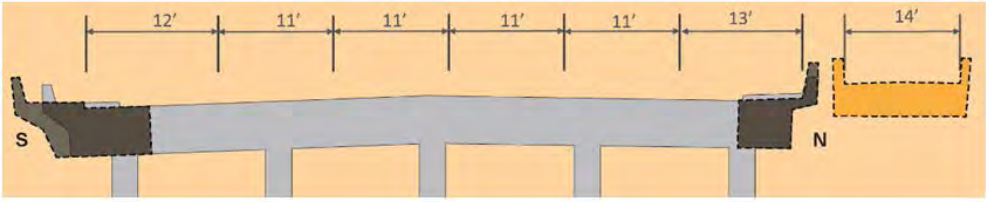
Below is a potential intersection between Aurora and I-5:



The **I-5 Interchange** design requires that Shoreline work closely with the Washington State Department of Transportation (WSDOT) and Sound Transit to identify constraints and opportunities.

Below is a potential plan view of the interchange and a cross-section of a potential non-motorized bridge that could be constructed across the interstate:



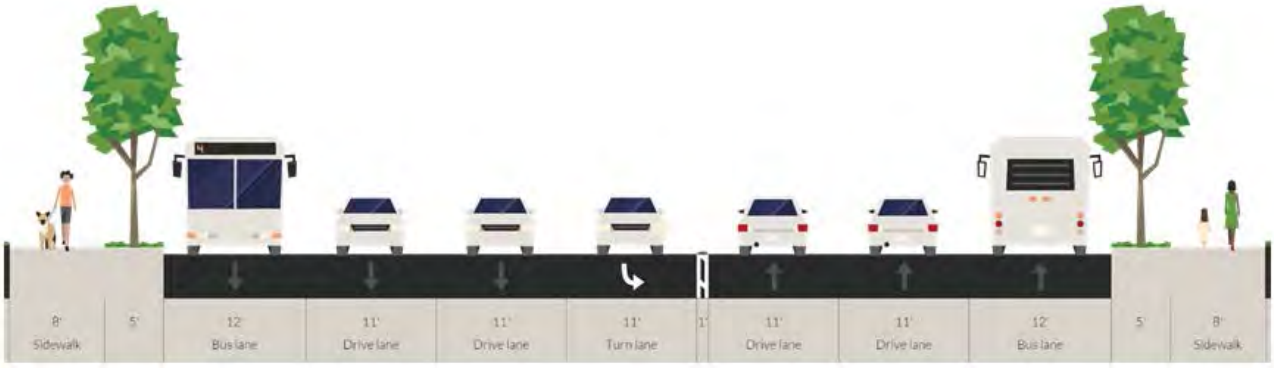


New non-motorized bridge

From **I-5 to SR-522**, the Preferred Concept is wider to support transit through the use of queue jumps. A queue jump is a type of roadway geometry used to provide preference to buses at intersections. It consists of an additional travel lane on the approach to a signalised intersection. This lane is often restricted to transit vehicles only. A queue jump lane is usually accompanied by a signal which provides a phase specifically for

vehicles within the queue jump. Vehicles in the queue jump lane get a "head-start" over other queued vehicles and can therefore merge into the regular travel lanes immediately beyond the signal. The intent of the lane is to allow the higher-capacity vehicles to cut to the front of the queue, reducing the delay caused by the signal and improving the operational efficiency of the transit system.

Below is a potential cross-section at 15th Avenue:



Bicycle Facilities
The City has been looking at using parallel bike corridors that could provide bike connectivity for 145th Street without actually using the corridor. This concept originated from Design Workshops for the 145th Street Station Subarea Plan and was shown on potential zoning scenarios as a “Green Network” (Attachment B). Through the Corridor Study and additional conversations with Seattle through the ITT, the concept has evolved (Attachment C). This approach could make use of existing local streets in both jurisdictions and provide a safe route for bicycles without the need to acquire additional right-of-way.

Potential Property Impacts
For much of the corridor, the existing right-of way is 60 feet. The Preferred Concept generally keeps the roadway within the existing 60’ corridor west of Aurora and provides sidewalks along the roadway. East of Aurora, intersections would typically be widened to accommodate turn lanes, and therefore would require additional right-of-way. Other properties could potentially be impacted when differences in grades require retaining wall or driveways to be reconstructed.

Further east (outside of the subarea boundaries), additional right-of-way may be required to provide for bus queue jumps. Because of the number of buildings close to the existing right-of-way, any widening could affect a significant number of properties. Transportation staff have held a series of meetings with potentially impacted property owners, in addition to providing roll plots with conceptual cross-sections and plan views at open houses.

Next Steps for the Corridor Study
Staff and the consultant team have developed a Preferred Concept based on how well it addresses all the benefits while taking into consideration potential tradeoffs such as impacts to property owners and project cost. Staff will be present this Preferred Concept to City Council on March 21, with potential adoption on April 4. Following

Council adoption of the Preferred Concept, the project would enter into multi-year phases of environmental review and design prior to property acquisition and construction. The goal would be to have improvements constructed prior to the opening of light rail service in 2023.

Potential Implications for 145th Street Subarea Plan

The Preferred Concept identifies the potential need for additional right-of-way, both within the subarea plan boundaries and along the entire 145th Street corridor. However, this potential need will need to be refined through environmental review and final design. Using a similar approach to 185th Street in that station subarea plan, it may be prudent for the City to amend setbacks along the 145th Street corridor, between roughly 15th and Meridian Avenues (depending on boundaries of the Preferred Alternative zoning scenario selected) through adoption of the subarea plan. This would prevent redevelopment from extending into land that may need to be acquired for right-of-way in the future.

RECOMMENDATION

No action is required as part of this discussion. However, the Commission should consider information from the Corridor Study at the March 17 and April 7 meetings when making recommendations to Council about the Preferred Alternative zoning scenario to be studied in the Final EIS for the 145th Street Station Subarea Plan.

ATTACHMENTS

Attachment A- 145th Street Corridor Study Project Schedule
Attachment B- “Green Network” from 145th Street Station Subarea Plan
Attachment C- Off-Corridor Bike Network Concept from 145th Street Corridor Study

Attachment A

Project Development Process

FEBRUARY 2015	APRIL 2015	JUNE 2015	SEPTEMBER 2015	DECEMBER 2015	APRIL 2016
1 **Define** Establish study purpose and goals	2 **Investigate** Research existing conditions and future projections	3 **Develop** Create different concepts for how to improve 145th Street	4 **Evaluate** Evaluate concepts to see which best meet the project goals	5 **Refine** Develop a preferred design concept to best meet project goals	6 **Approve** Council will review and may approve concept for 145th Street

Open House #1: Learn about the study process and share your knowledge of the 145th Street corridor

Open House #2: Review the ideas for improving 145th Street and give your feedback

We are here

Open House #3: Learn about the design concept for 145th Street and give your feedback

Ongoing Community Advisory Task Force Meetings

Ongoing Interagency Technical Team Meetings

Ongoing opportunities for public feedback – call, email or visit the website anytime!

2016	2017	2018	2019	2020	2021	2022
We are here **Corridor Study** 1 year	**Environmental Review** 1-2 years	**Preliminary Design** 1 year	**ROW/Property Acquisition and Final Design** 1-2 years			**Construct** 2 years +

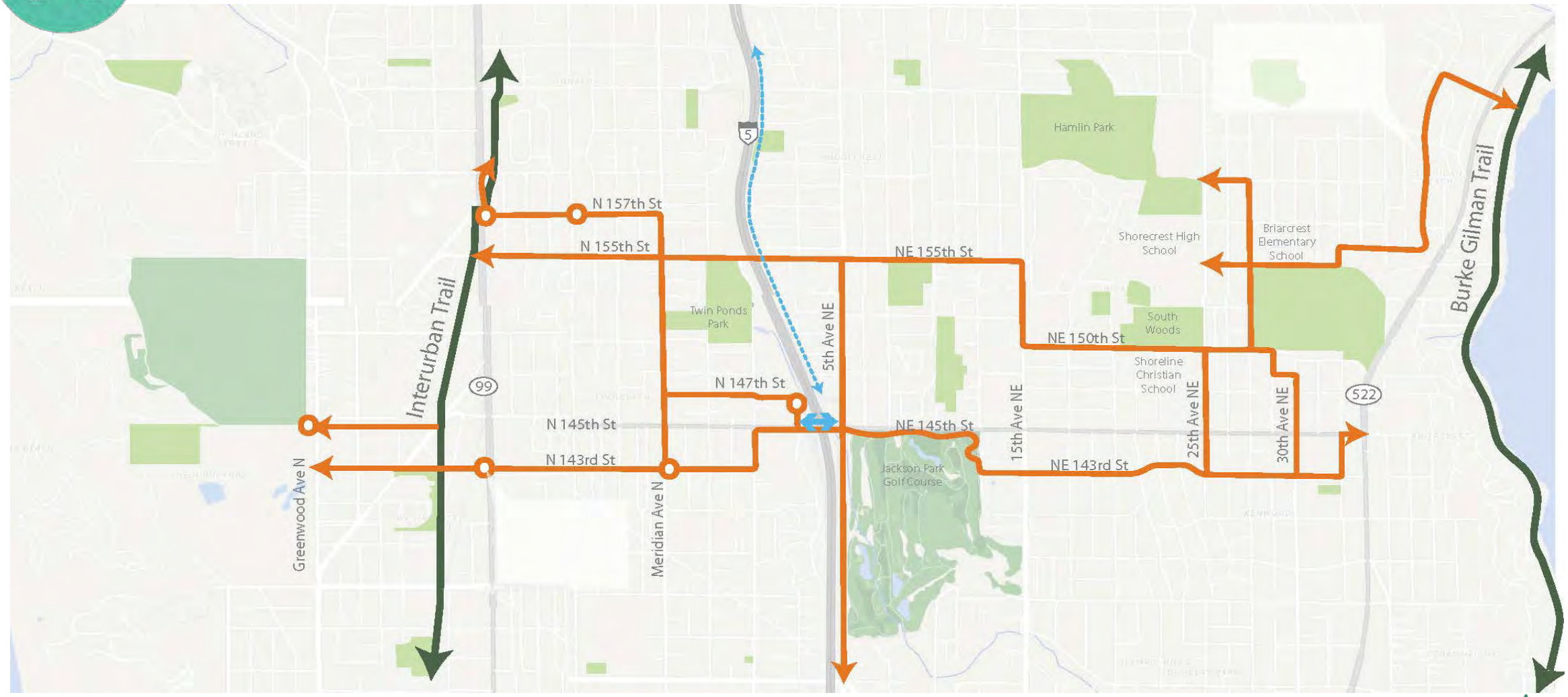
145TH STREET
Multimodal Corridor Study

CITY OF SHORELINE

Green Network Concept- Attachment B

Attachment C

Off-Corridor Bike Network



145TH STREET
Multimodal Corridor Study

CITY OF SHORELINE

PLANNING COMMISSION
REGULAR MEETING
AGENDA

Thursday, September 3, 2015
7:00 p.m.

Council Chamber · Shoreline City Hall
17500 Midvale Ave North

		Estimated Time
1.	**CALL TO ORDER**	7:00
2.	**ROLL CALL**	7:01
3.	**APPROVAL OF AGENDA**	7:02
4.	**APPROVAL OF MINUTES** a. August 20, 2015 Meeting Minutes	7:03

Public Comment and Testimony at Planning Commission

During General Public Comment, the Planning Commission will take public comment on any subject which is not specifically scheduled later on the agenda. During Public Hearings and Study Sessions, public testimony/comment occurs after initial questions by the Commission which follows the presentation of each staff report. In all cases, speakers are asked to come to the podium to have their comments recorded, state their first and last name, and city of residence. The Chair has discretion to limit or extend time limitations and the number of people permitted to speak. Generally, individuals may speak for three minutes or less, depending on the number of people wishing to speak. When representing the official position of an agency or City-recognized organization, a speaker will be given 5 minutes. Questions for staff will be directed to staff through the Commission.

5.	**GENERAL PUBLIC COMMENT**	7:05
6.	**STUDY ITEM** a. 145th Street Corridor Study • Staff Presentation • Public Comment	7:10
	b. Development Code Amendments – Part III • Staff Presentation • Public Comment	8:10
7.	**DIRECTOR'S REPORT**	9:10
8.	**UNFINISHED BUSINESS**	9:15
9.	**NEW BUSINESS**	9:16
10.	**REPORTS OF COMMITTEES & COMMISSIONERS/ANNOUNCEMENTS**	9:17
11.	**AGENDA FOR SEPTEMBER 17, 2015** a. Public Hearing - Critical Areas Ordinance Update Regulations	9:18
12.	**ADJOURNMENT**	9:20

The Planning Commission meeting is wheelchair accessible. Any person requiring a disability accommodation should contact the City Clerk's Office at 801-2230 in advance for more information. For TTY telephone service call 546-0457. For up-to-date information on future agendas call 801-2236

Planning Commission Meeting Date: September 3, 2015 Agenda Item

PLANNING COMMISSION AGENDA ITEM

CITY OF SHORELINE, WASHINGTON

AGENDA TITLE: **145th Street Corridor Study**
DEPARTMENT: **Public Works**
PRESENTED BY: **Kurt Seemann, Senior Transportation Planner**

☐ **Public Hearing** ☐ **Study Session** ☐ **Recommendation Only**
☐ **Discussion** ☒ **Update** ☐ **Other**

INTRODUCTION

The purpose of this agenda item is to provide the Planning Commission with an update on the progress of the 145th Street Corridor Study (a project schedule is attached to this staff report as Attachment A). It is appropriate to provide an update now because the project team has refined the information into four draft concepts (Attachment B). These include a "no action" concept (Study Concept 1) and three study concepts (Study Concepts 2-4). Staff will review the three study concepts, go over potential property impacts, and outline next steps in the process.

The 145th Street corridor runs 3.2 miles from 3rd Avenue NW on the west to SR-522 (Lake City Way/Bothell Way) on the east side of the city and is the border between the City of Shoreline and the City of Seattle. 145th Street experiences significant traffic and safety issues and 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 and I-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.

BACKGROUND

The 145th Street Corridor Study began in early 2015 by defining project goals and evaluation criteria and analyzing existing conditions. Currently, City staff and CH2M, the City's consultant team, have developed study concepts that are meant to "bookend" the range of concepts that would improve how the corridor addresses pedestrian, bicycle, transit and vehicular mobility, while considering impacts to right-of-way and potential project costs.

Staff has engaged in ongoing robust community outreach, including holding an open house and conducting ongoing monthly meetings with a Citizens Advisory Task Force (CATF) as well as ongoing local agency coordination with the Inter-jurisdictional Technical Team (ITT).

PROPOSAL & ANALYSIS

The three current study concepts represent a range of design options that could be applied to the corridor. Each study concept is composed of two components, a roadway

Approved By: **Project Manager** ____ **Planning Director** ____

component (curb to curb) and a non-motorized component that includes sidewalks, bicycle facilities, and multi-use paths. These non-motorized elements could be "mixed and matched" between roadway concepts to arrive at a preferred design alternative for the corridor. All proposed study concepts show a typical mid-block section with the roadway and overall widths shown. The alternatives would typically be wider at the intersections to accommodate left, right, and U-turns.

For the purposes of this study, the corridor has been divided into three segments:

1) 3rd Avenue NW to Greenwood Avenue N,
2) Greenwood Avenue N to Aurora Avenue N, and
3) Aurora Avenue N to SR-522.

The most westerly segment from 3rd Avenue NW to Greenwood Avenue N is the shortest segment. The proposed study concepts are similar, and include two travel lanes and improvements to the non-motorized elements (for pedestrians and bikes). Generally, the study concepts proposed for this segment could be constructed within the existing right-of-way with minimal impacts to adjacent properties.

The existing corridor segment from Greenwood Avenue N to Aurora Avenue N is typically four lanes, 44 feet from curb to curb. The concepts proposed for study for this portion of the corridor range from adding sidewalks to the construction of a five lane section.

The segment from Aurora Avenue N to SR-522 includes three distinct segments (Aurora to I-5, the I-5 interchange (on-ramps/off-ramps and interstate bridge), and I-5 to SR-522. These three segments within this larger segment have similar components and have been combined for simplification in this presentation. The interchange design requires that Shoreline work closely with the Washington State Department of Transportation (WSDOT) to identify constraints and opportunities. The three concepts for this section of the corridor range from a four lane section with sidewalks to a six lane concept that includes dedicated bus lanes.

Bicycle Facilities

Bicycle facilities are proposed and shown in each of the non-motorized components of the concepts. As previously discussed, the non-motorized concepts could be "mixed and matched" with any of the proposed roadway sections. In addition, the City has been looking at using parallel bike corridors that could provide bike connectivity for 145th Street without actually using the 145th Corridor (Attachment C). This concept has generally received support as long as the route was direct. This approach could make use of existing local streets and could provide a safe route for bicycles while reducing right-of-way.

Potential Property Impacts

For much of the corridor, the existing right-of way is 60 feet. Study Concept 2 generally keeps the roadway within the existing 60' corridor and provides sidewalks along the roadway. Intersections would typically be widened to accommodate turn lanes and therefore would require additional right of way. Other properties could potentially be impacted when differences in grades require retaining wall or driveways to be reconstructed.

As the study concepts (Study Concepts 3 and 4) add more lanes and more substantial non-motorized facilities, the potential property impacts are greater. Because of the number of buildings close to the existing right-of-way, any widening could affect a significant number of properties.

STAKEHOLDER OUTREACH

Stakeholder outreach includes an open house held in May and two additional open houses planned before the end of the year. Staff continues to have ongoing coordination with local agencies.

The first open house for the 145th Street Corridor Study was held on Wednesday, May 20, 2015. Attendees viewed materials that described the study process, discussed project goals, and shared thoughts about existing conditions along the corridor. The open house was very well attended, with approximately 150 people participating. A wide variety of citizens attended, from people who lived along the corridor to others from the community, including residents from both the City of Shoreline and the City of Seattle. Many views were shared, including strong support for improved pedestrian facilities, transit, and safe bicycle facilities either on the corridor or adjacent to it. Safety was mentioned as a prime concern. Also, residents were looking for improvements to vehicular mobility, including adding turn lanes at intersections and improving the I-5 interchange.

As well, the CATF continues to provide valuable input into the process. This eleven-member group consists of residents representing adjacent Shoreline neighborhoods (Briarcrest, Parkwood, Ridgecrest, and Westminster Triangle), Seattle neighborhoods (Broadview, Haller Lake, Olympic, and Pinehurst), a local business representative, a representative from the Lakeside School, and a representative from the North King County Mobility Coalition.

The ITT also continues to meet. This group consists of representatives from WSDOT, Sound Transit, the Puget Sound Regional Council (PSRC), King Country Metro, and the Cities of Seattle, Bothell, Kenmore, and Lake Forest Park.

To date staff has held five CATF meetings and five ITT meetings. Staff will continue to meet with these groups throughout the corridor study process. Additionally, staff has met with the Cascade Bicycle Club and Feet First.

This study has a total budget of $596,000, with revenues of $246,000 from the U.S. 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.

TIMING AND SCHEDULE

Staff and the consultant team are currently evaluating each concept against the project objectives and criteria. Generally, each study option will be evaluated to see how well it benefits pedestrians, bicycles, transit, and vehicles. In addition, we will look at how consistent each concept is with existing plans, as well as evaluate the environmental

benefits and potential impacts of each plan. Staff and the consultant team will look at potential tradeoffs, including potential property impacts, and overall project costs.

Finally, staff and the consultant team will develop a preferred alternative based on how well it addresses all the benefits while taking into consideration potential project tradeoffs. Once the preferred concept is selected, design and environmental work could begin on the Aurora to I-5 portion of the corridor, as there is funding for the final design of this section. (As mentioned above, see Attachment A for project schedule.)

RECOMMENDATION

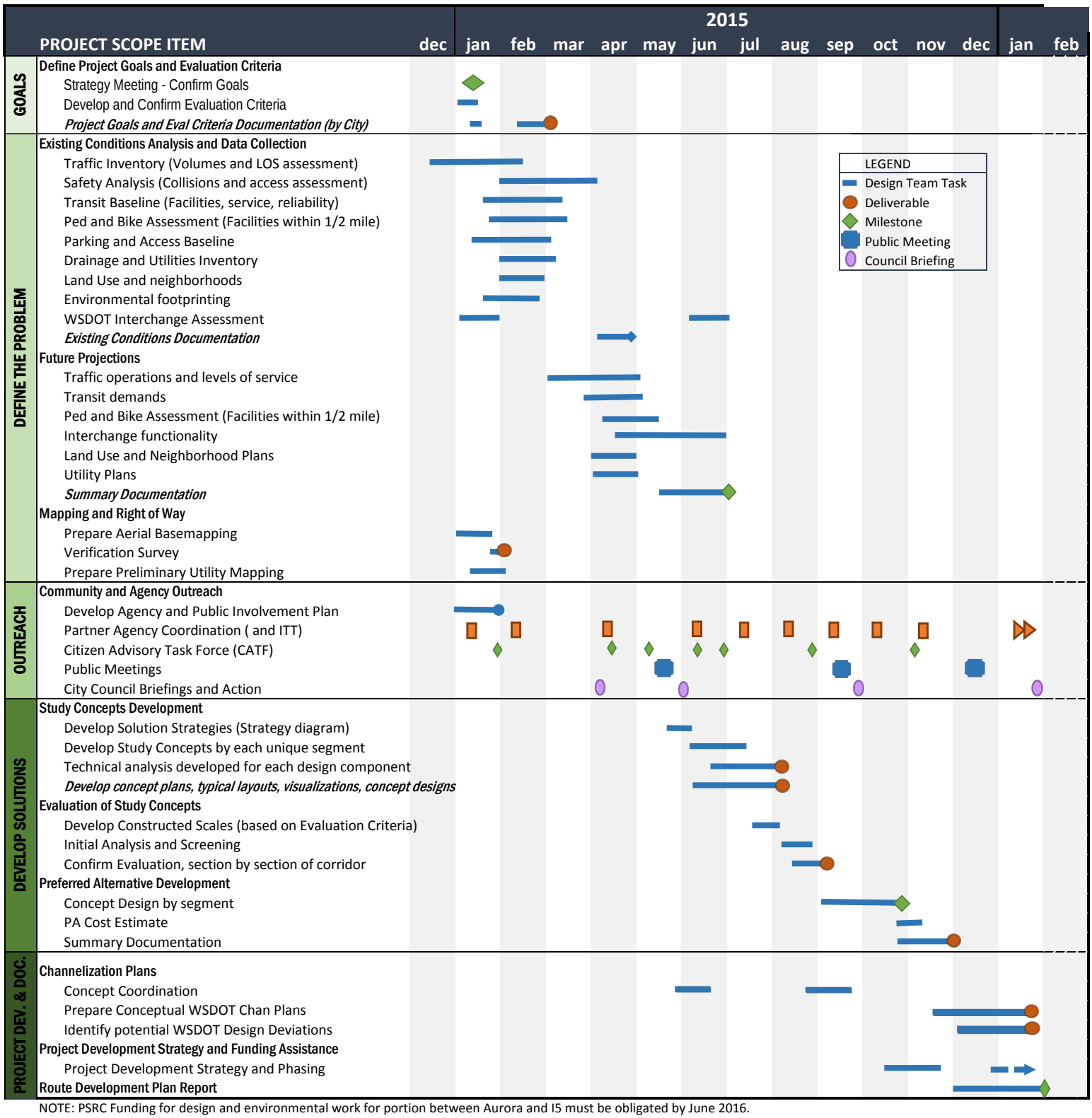
No formal action is required at this time.

ATTACHMENTS

Attachment A – 145th Street Corridor Study Project Schedule
Attachment B – Corridor Study Concepts
Attachment C – Off-Corridor Bike Network Study Concept

145th Street Corridor Study

PROJECT SCHEDULE



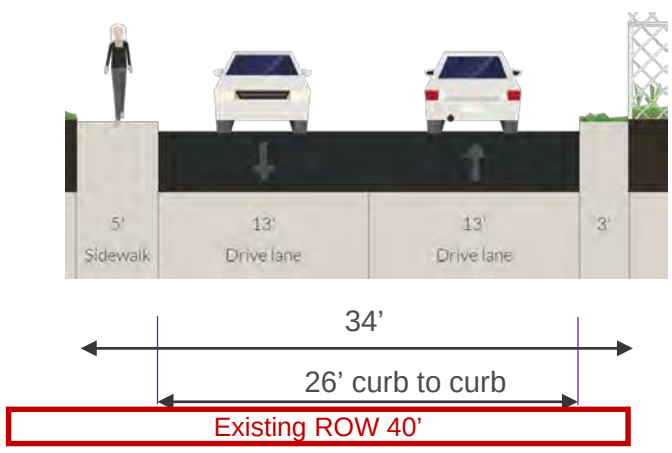
NOTE: PSRC Funding for design and environmental work for portion between Aurora and I5 must be obligated by June 2016.

Study Concepts
August 6, 2015

Study Concept 1 – No Action/Existing Conditions

3rd Ave W to Greenwood

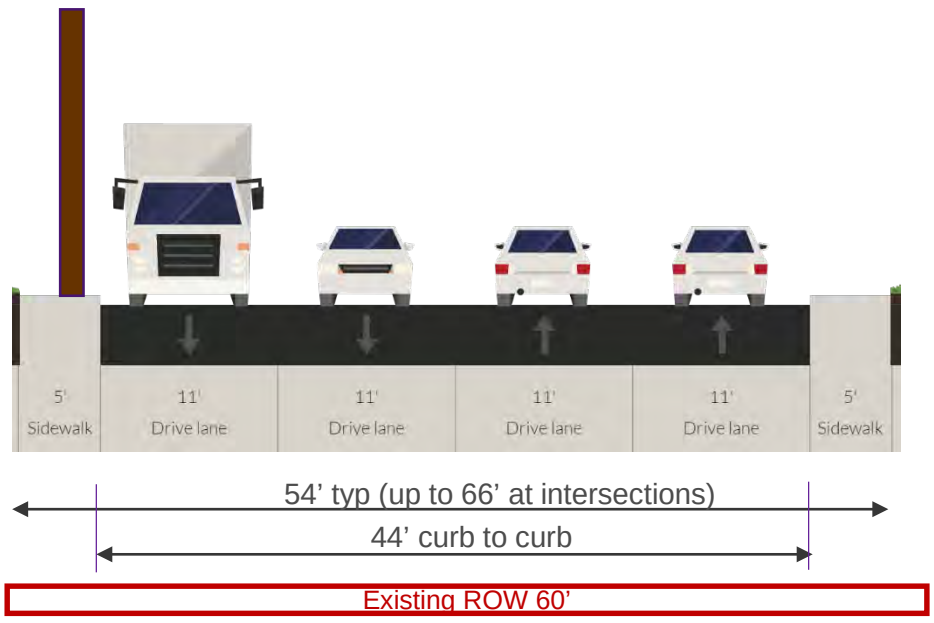
Length = 0.25 miles



- 2 traffic lanes
- 5' sidewalk south side

Greenwood to SR522

Length = 2.95 miles

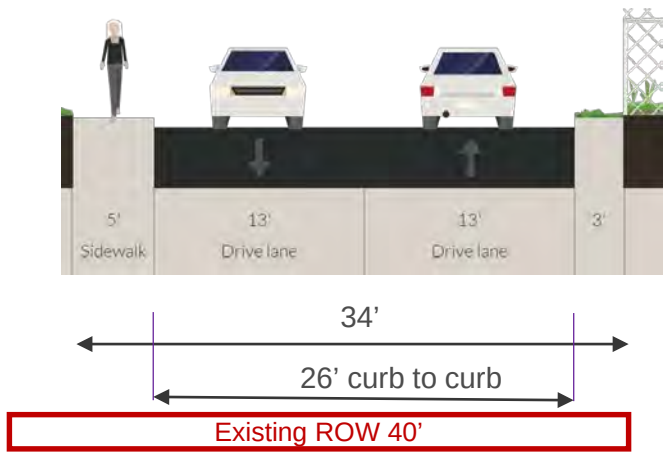


- 4 traffic lanes
- No bus lanes
- Non-accessible sidewalks
- No bike facilities
- Utility poles exist on both sides of roadway

Study Concept 2

3rd Ave W to Greenwood

Length = 0.25 miles

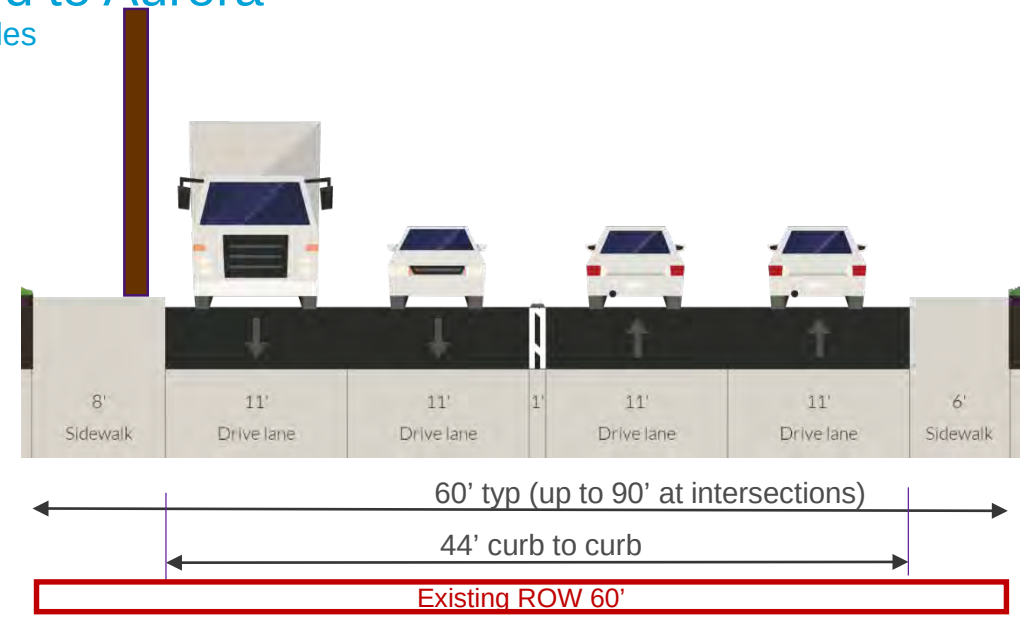


ROW Impacts (ft^2)	1,770
Full Acquisitions	0 (0%)
Parcel Impacts	1 (6%)
Total Number of Parcels	16

- 2 traffic lanes
- 5' sidewalk south side
- No improvements except at traffic signal

Greenwood to Aurora

Length = 0.50 miles

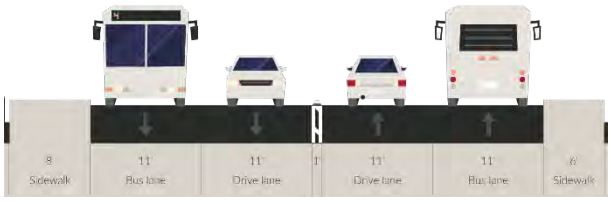


ROW Impacts (ft^2)	29,000
Full Acquisitions	3 (9%)
Parcel Impacts	25 (71%)
Total Number of Parcels	35

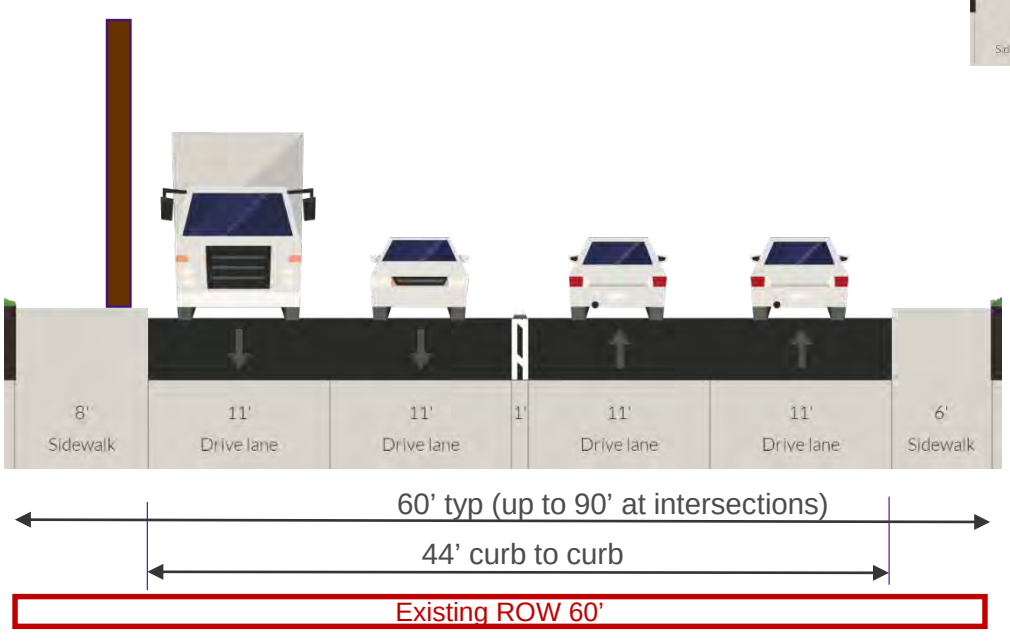
- 4 traffic lanes, limited left turns, U-turns
- No bus lanes
- Minimal ADA accessible sidewalks
- Off-corridor bike facilities, "greenway"
- Utility poles on both sides of roadway. Sidewalk will vary based on presence of utility pole.

Aurora to SR522

Length = 2.45 miles



Concept 2A – with BAT lanes



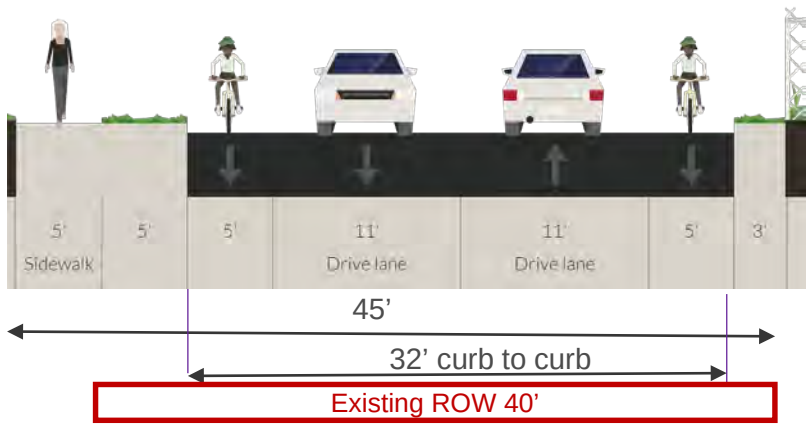
	Aurora Ave to I-5
ROW Impacts (ft^2)	38,400
Full Acquisitions	23 (24%)
Parcel Impacts	63 (66%)
Total Number of Parcels	96

	I-5 to Lake City Way
ROW Impacts (ft^2)	65,300
Full Acquisitions	17 (14%)
Parcel Impacts	82 (69%)
Total Number of Parcels	120

- 4 traffic lanes, limited left turns, U-turns
- No bus lanes
- Minimal ADA accessible sidewalks
- Off-corridor bike facilities, "greenway"
- Utility poles on both sides of roadway. Sidewalk will vary based on presence of utility pole.

Study Concept 3

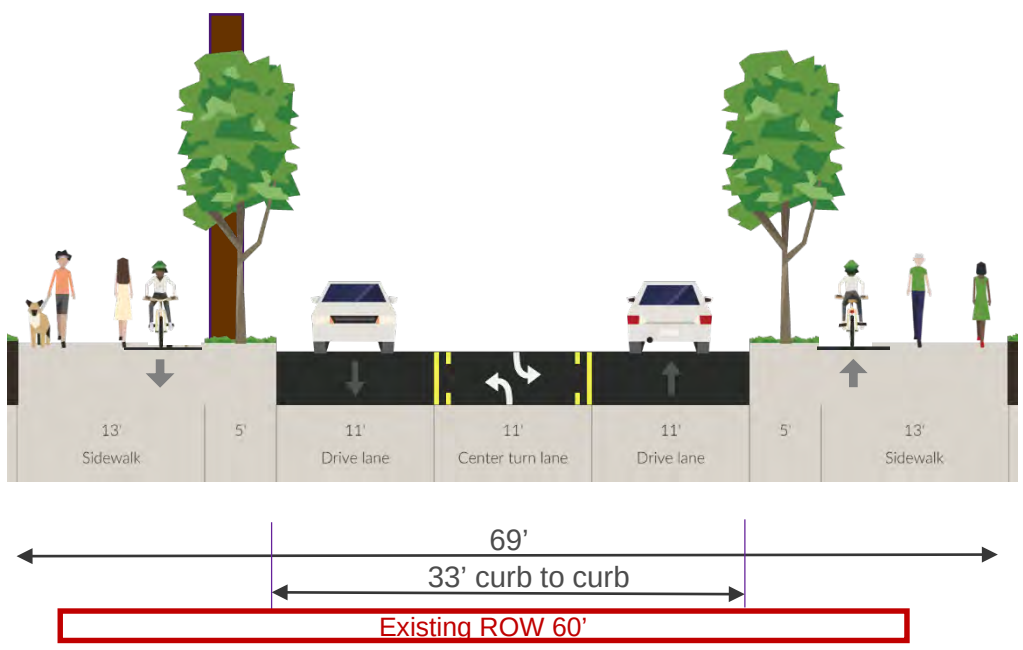
3rd Ave W to Greenwood
Length = 0.25 miles



ROW Impacts (ft^2)	8,450
Full Acquisitions	0 (0%)
Parcel Impacts	15 (94%)
Total Number of Parcels	16

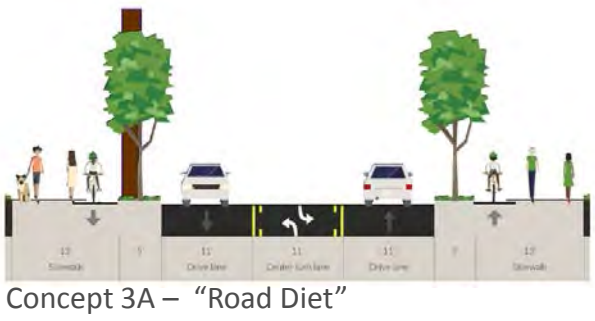
- 2 traffic lanes with bike lanes
- 5' sidewalk south

Greenwood to Aurora
Length = 0.50 miles



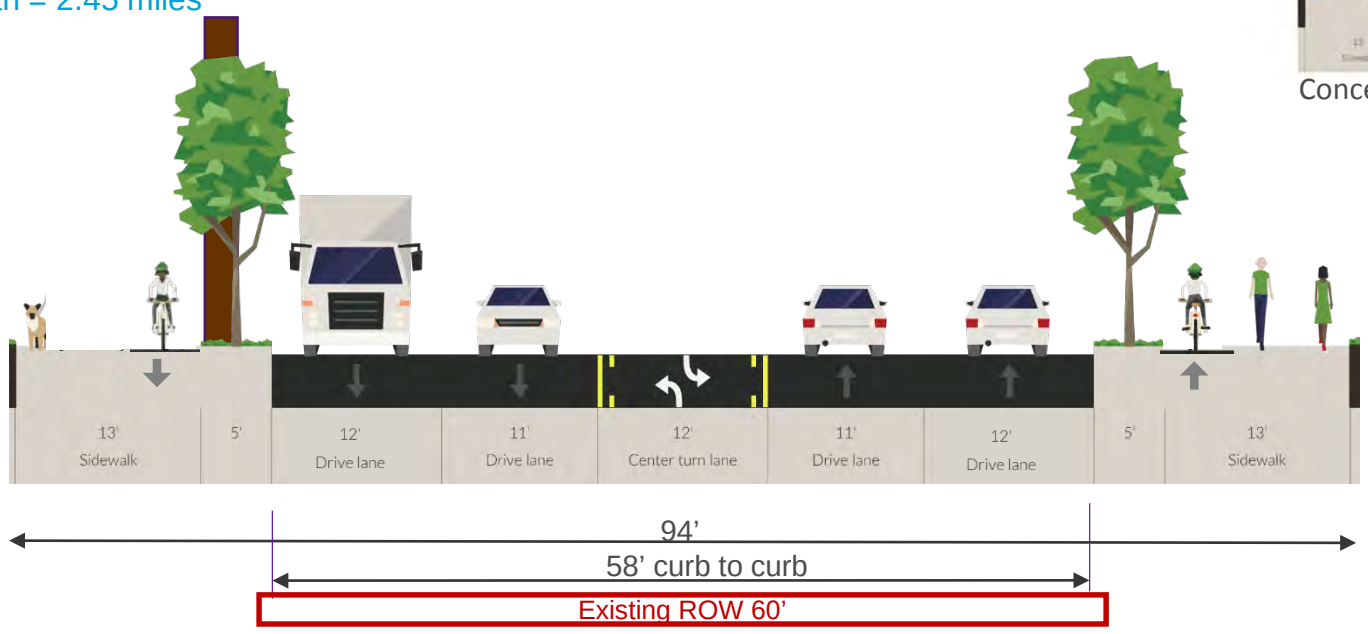
ROW Impacts (ft^2)	31,350
Full Acquisitions	6 (17%)
Parcel Impacts	34 (97%)
Total Number of Parcels	35

- 2 traffic lanes with two-way left turn lane
- No bus lanes
- 5' amenity zones/planter
- 13' sidewalks includes 5' striped directional bike lane each side
- Utility poles in amenity zones



Concept 3A – "Road Diet"

Aurora to SR522
Length = 2.45 miles



	Aurora Ave to I-5
ROW Impacts (ft^2)	124,200
Full Acquisitions	40 (42%)
Parcel Impacts	96 (100%)
Total Number of Parcels	96

	I-5 to Lake City Way
ROW Impacts (ft^2)	221,500
Full Acquisitions	55 (46%)
Parcel Impacts	120 (100%)
Total Number of Parcels	120

- 4 traffic lanes with two-way left turn lane
- No bus lanes
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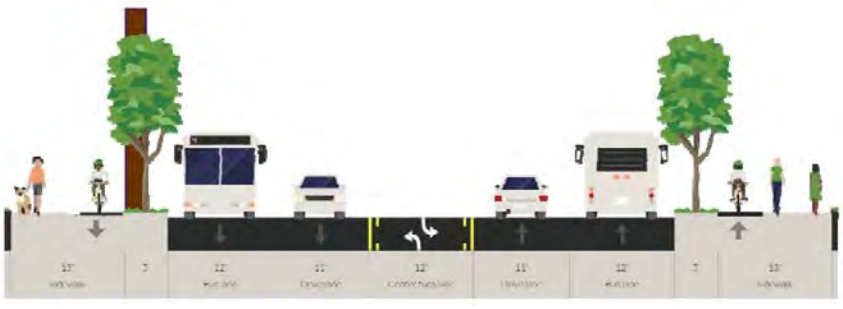
- 13' sidewalks includes 5' striped directional bike lane each side
- Utility poles in amenity zone

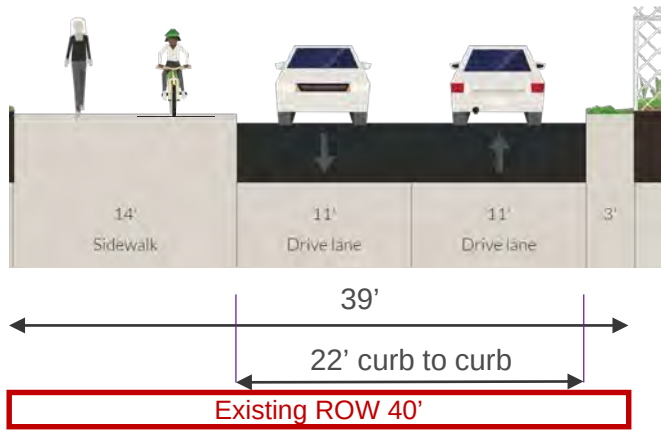


Concept 3B – with BAT lanes

Study Concept 4

3rd Ave W to Greenwood

Length = 0.25 miles

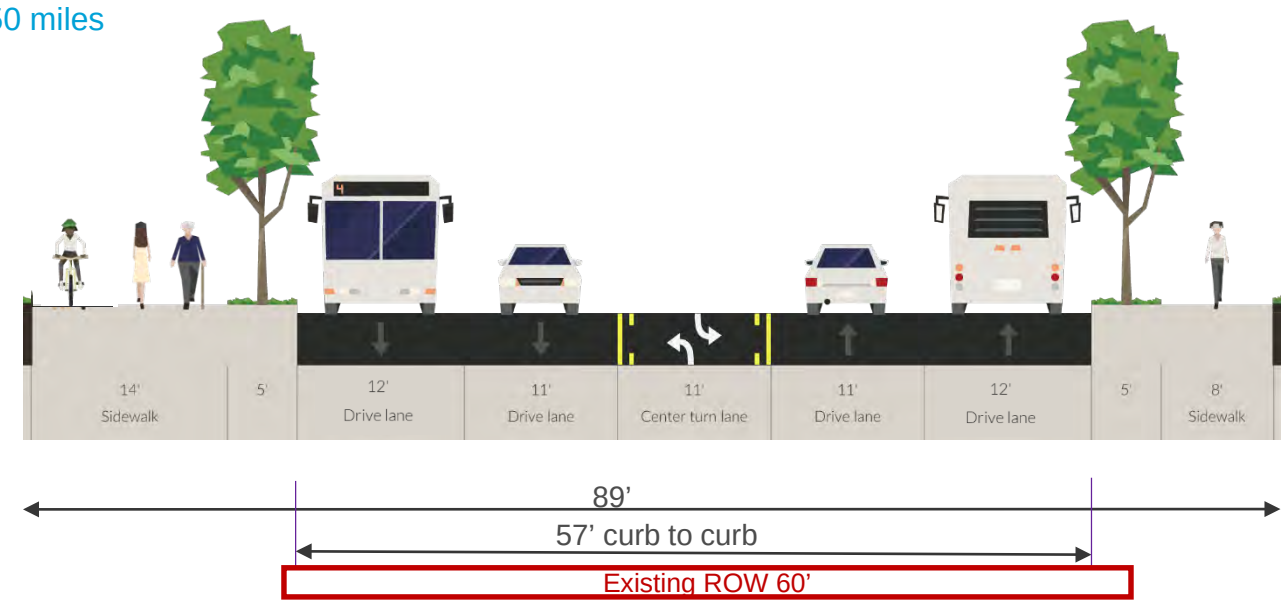


ROW Impacts (ft^2)	4,720
Full Acquisitions	0 (0%)
Parcel Impacts	8 (50%)
Total Number of Parcels	16

- 2 traffic lanes
- Shared path on south side

Greenwood to Aurora

Length = 0.50 miles



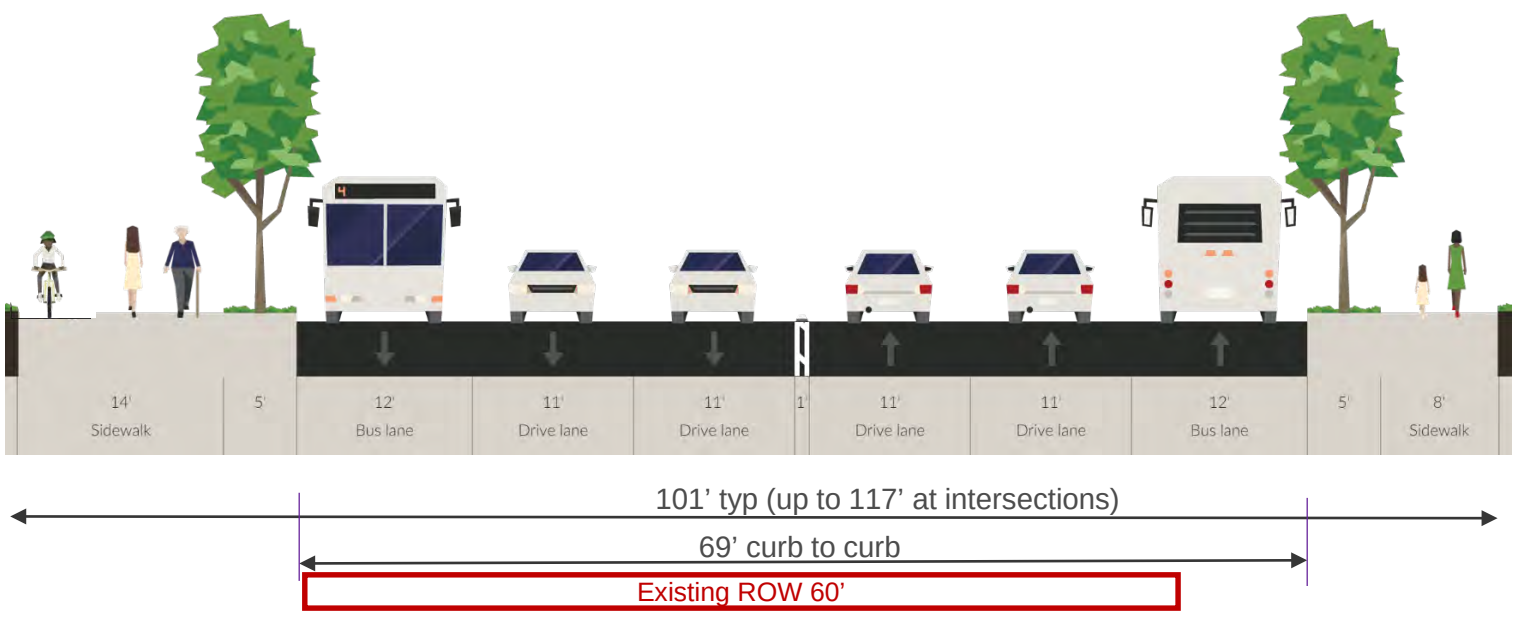
ROW Impacts (ft^2)	55,700
Full Acquisitions	17 (17%)
Parcel Impacts	34 (49%)
Total Number of Parcels	35

- 4 traffic lanes with two-way left turn lane
- No bus lanes
- Sidewalk and amenity zone
- Shared path on north side
- Utility undergrounding

Aurora to SR522

Length = 2.45 miles

Concept 4A –Center Two-lane Bus way



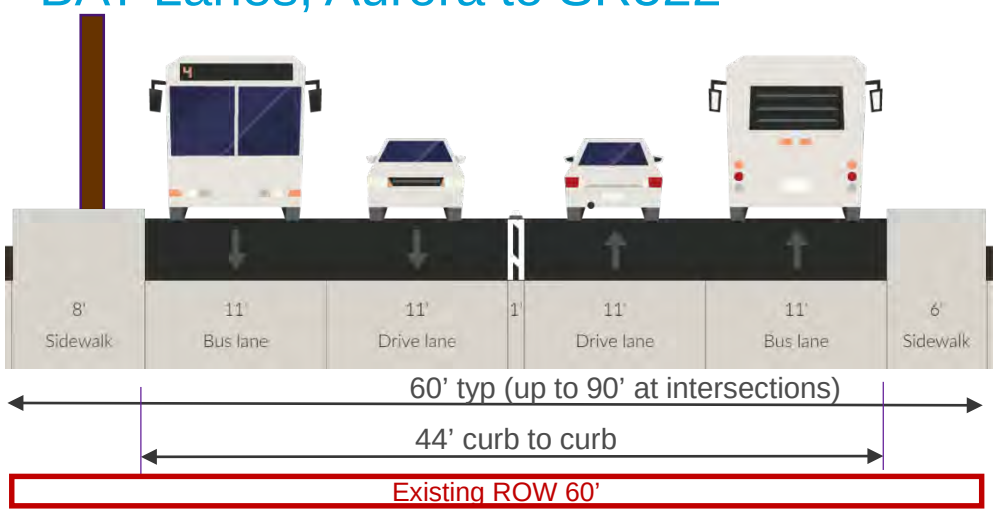
	Aurora Ave to I-5
ROW Impacts (ft^2)	145,000
Full Acquisitions	65 (68%)
Parcel Impacts	96 (100%)
Total Number of Parcels	96

	I-5 to Lake City Way
ROW Impacts (ft^2)	256,200
Full Acquisitions	70 (58%)
Parcel Impacts	120 (100%)
Total Number of Parcels	120

- 4 traffic lanes, limited left turns, U-turns
- Bus lanes / right turn lanes
- 8' sidewalks with 5' amenity zones/planter on one side
- Shared path on one side
- Utility undergrounding

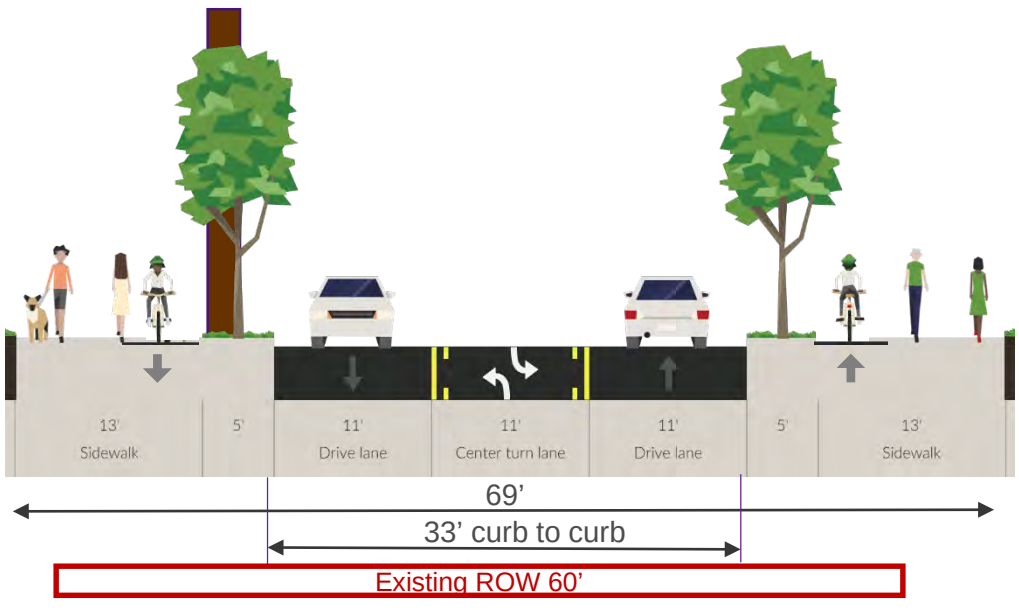
Additional Study Concepts

Concept 2A – BAT Lanes, Aurora to SR522



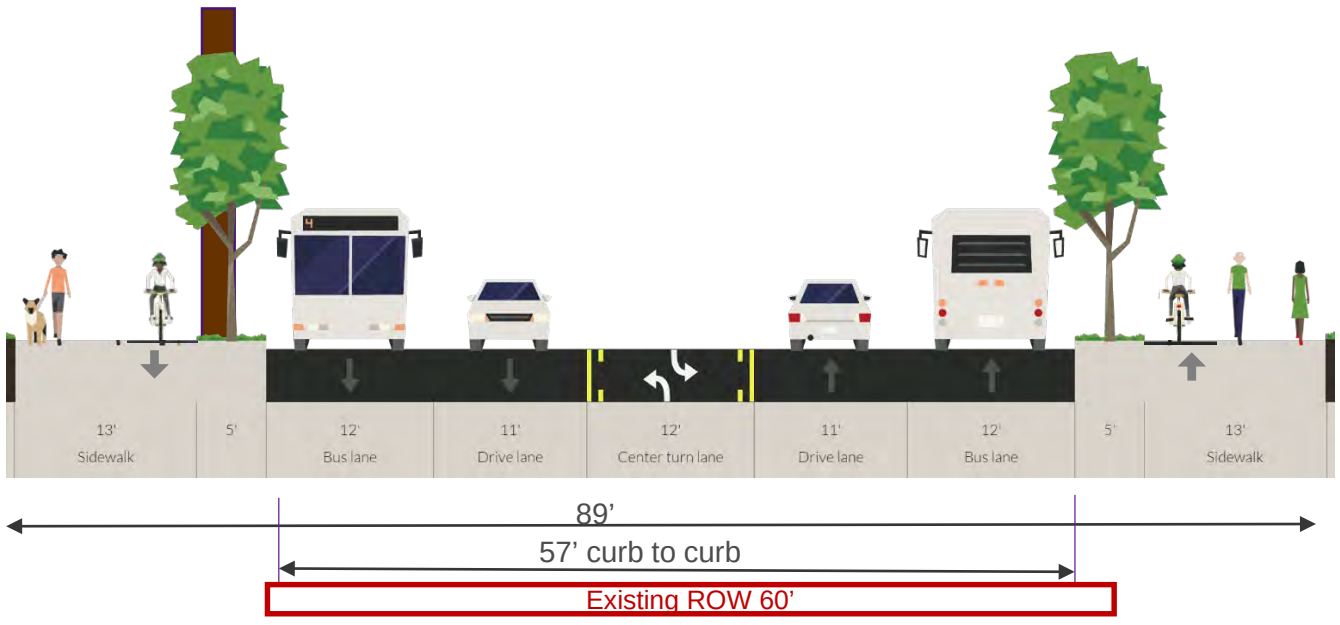
- 2 traffic lanes, limited left turns, U-turns
- BAT Lanes

Concept 3A – Three Lanes "Road Diet", Aurora to SR522



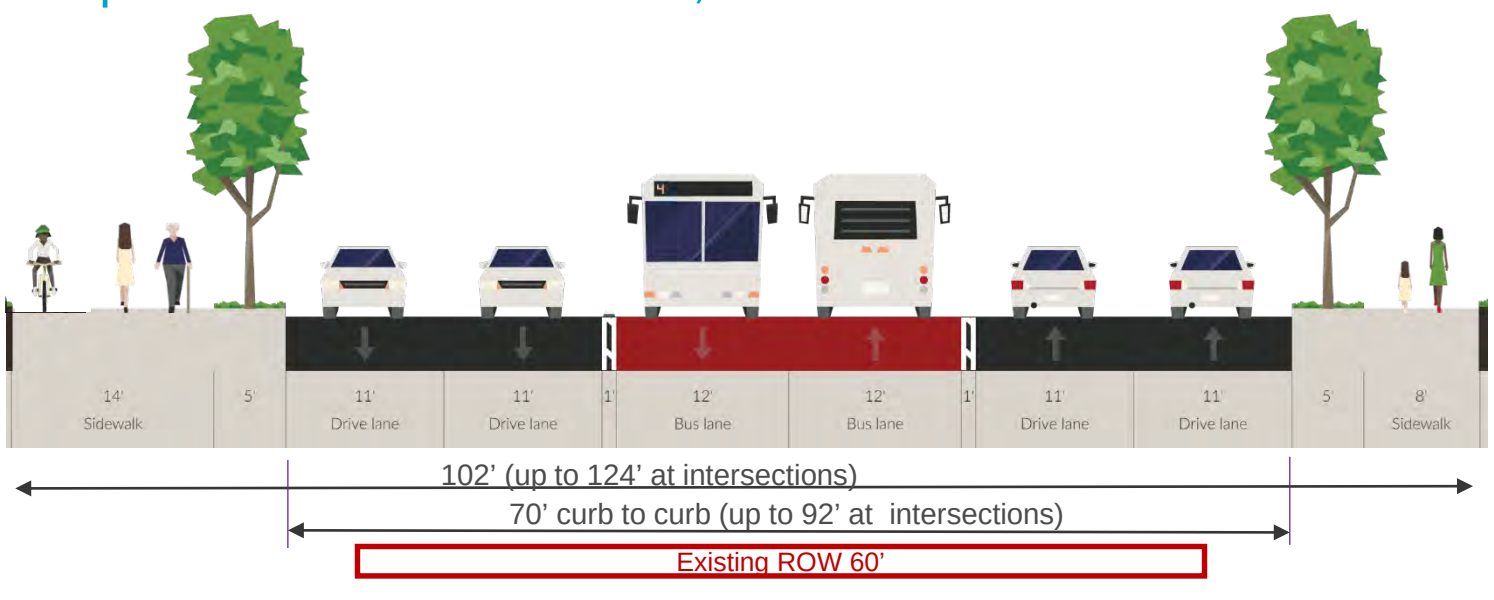
- 2 traffic lanes with two-way left turn lane
- No bus lanes

Concept 3B – with BAT Lanes, Aurora to SR522



- 2 traffic lanes with two-way left turn lane
- Bat lanes

Concept 4A –Center Bus Lanes, Aurora to SR522



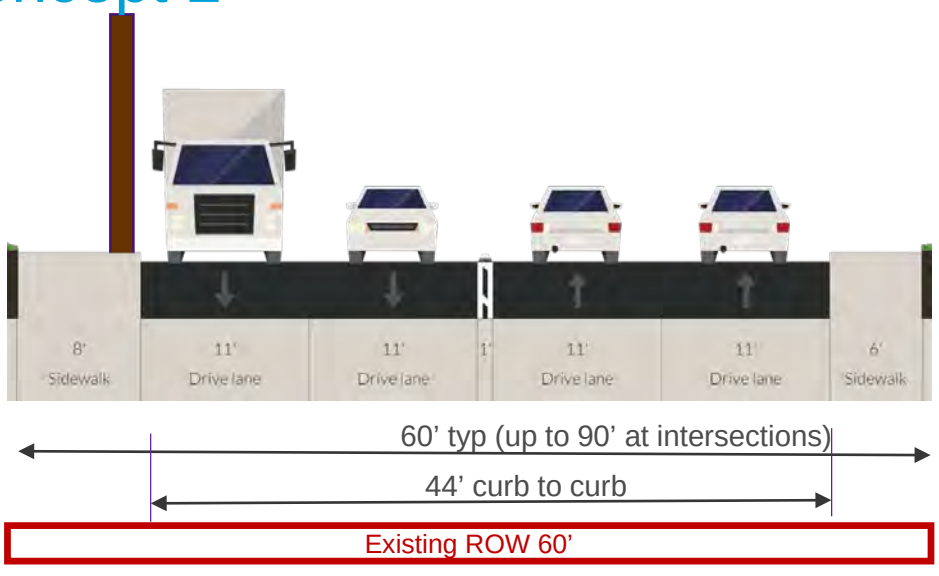
- 4 traffic lanes
- Center two-lane bus way

Typical Sections – Mid-block

Aurora to SR522

Length = 2.45 miles

Study Concept 2



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Preliminary Property Impact Summary

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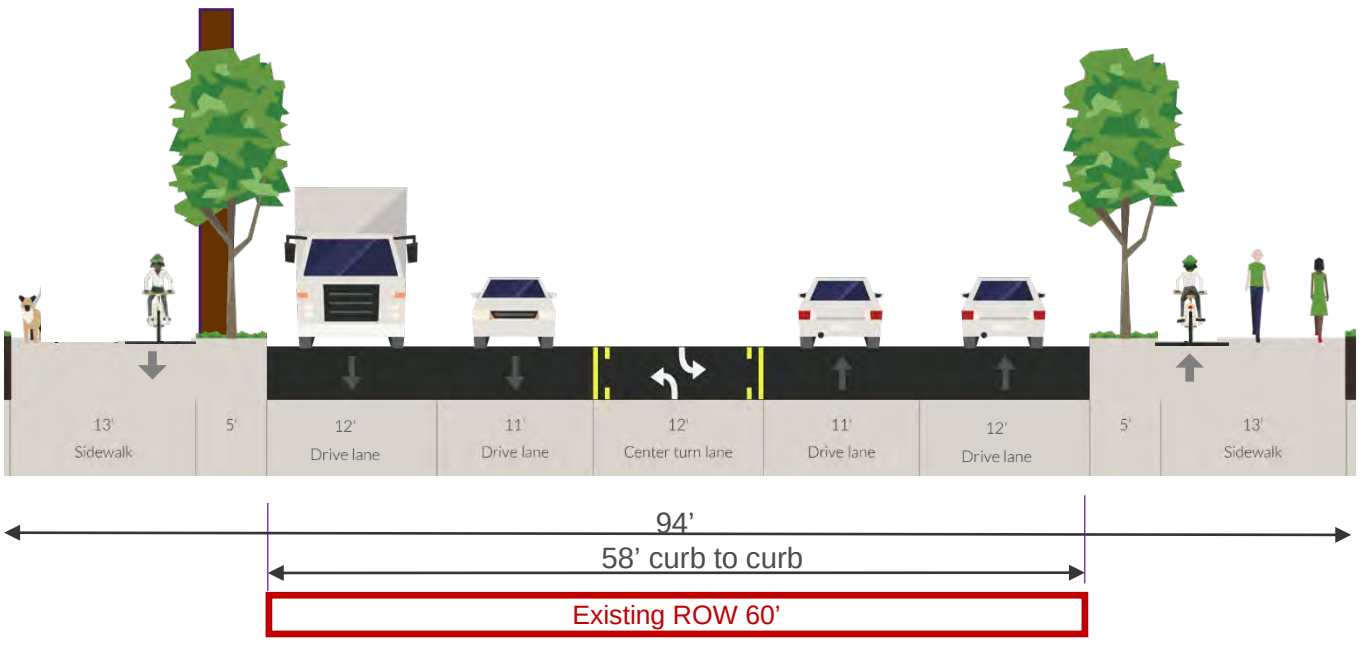
Study Concept 3



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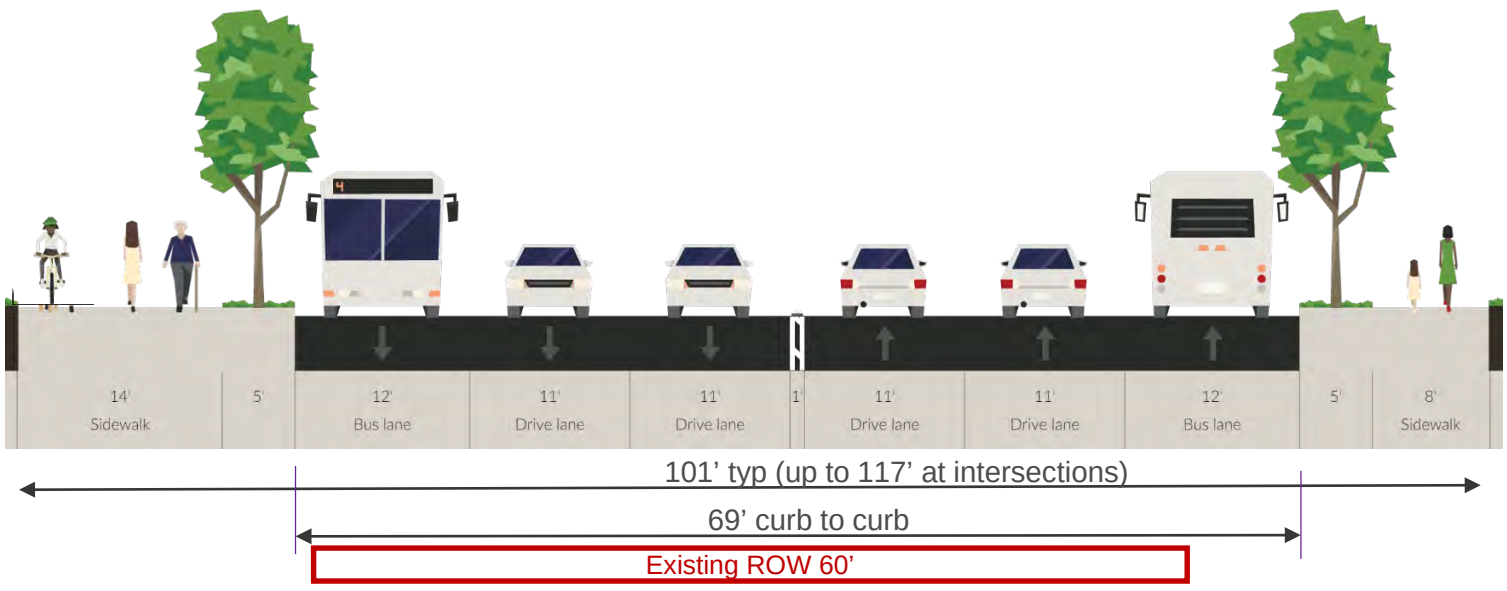
Study Concept 4



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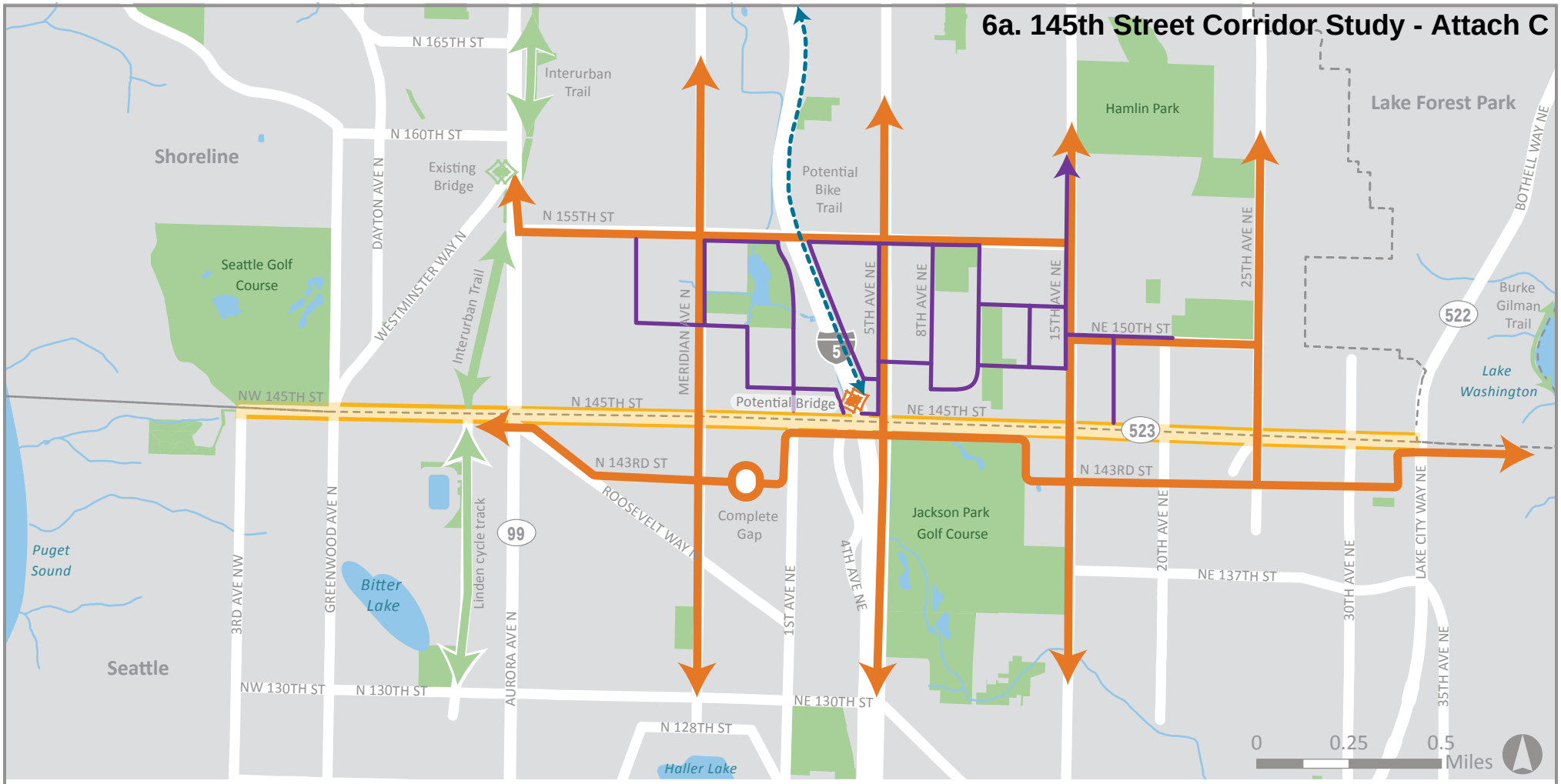


Study Corridor
Waterbody
Park/Trail
City Boundary
Proposed Bike Network
Sound Transit Lynnwood Link Potential Bike Trail
N 145th St Station Subarea Potential Green Network Concept

OFF CORRIDOR BIKE NETWORK STUDY CONCEPT 2

145TH STREET
Multimodal Corridor Study

CITY OF SHORELINE

I. MODAL IMPORTANCE COMMUNITY FEEDBACK BOARDS

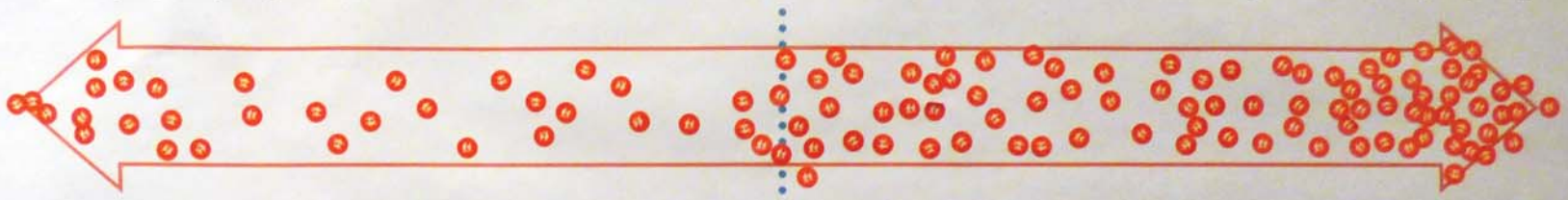
From I-5 to Lake City Way

Less Important to Me.
I don't feel that this is worth cost or property impacts.

More Important to Me.
I feel strongly that this is needed, even if it impacts cost or property.

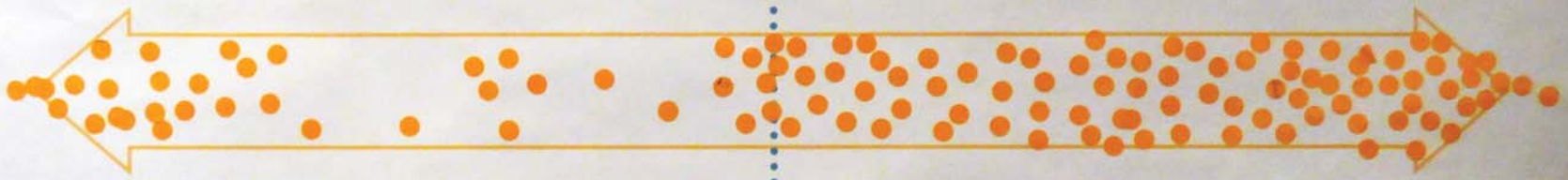
Improving Pedestrian Walkability is...

Sidewalks, landscape buffers, ADA accessibility, wheelchair ramps, crosswalks and pedestrian signals



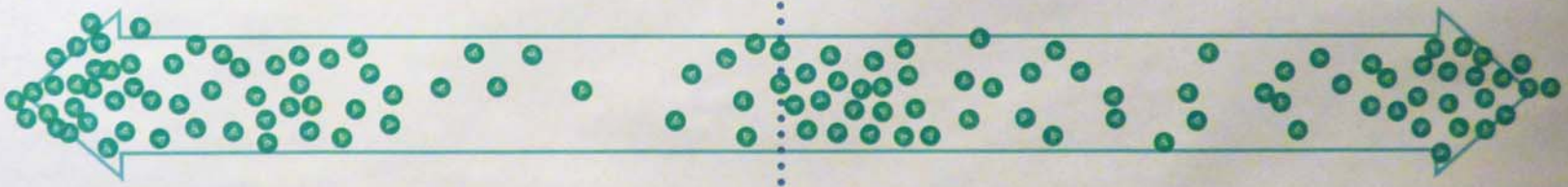
Improving Bus Transportation is...

Frequency of bus service, travel speed through the corridor, can count on my bus to be on-time, ease of use



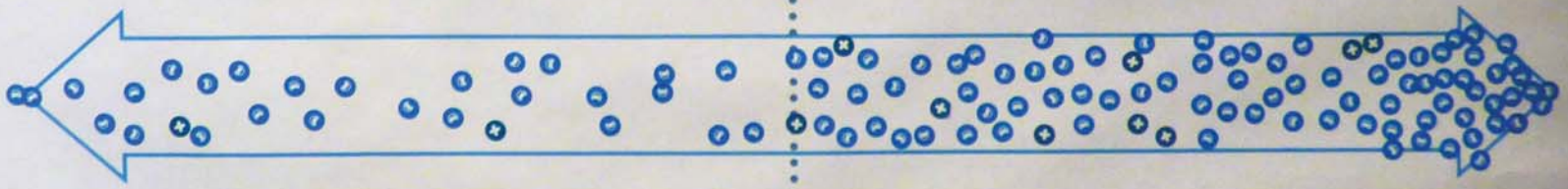
Improving Bike Facilities is...

Continuous bike pathways through the corridor, safe separation from vehicle traffic, proximity to the 145th Street corridor



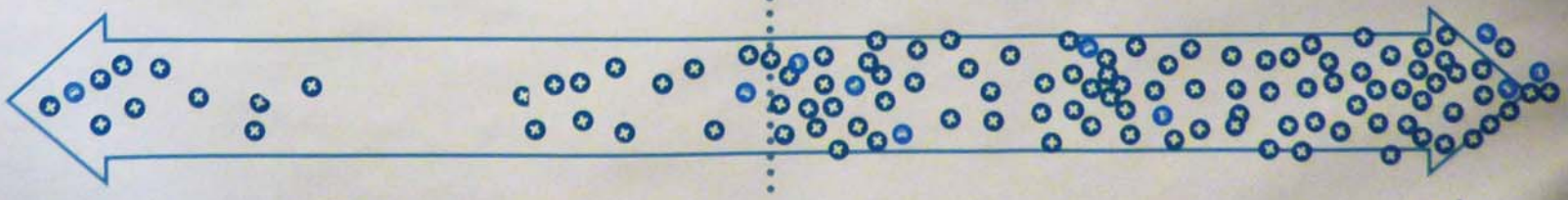
Improving Flow of Traffic is...

Reducing congestion through the corridor, ability to make turns safely



Improvements to Transportation Safety is...

Controlling speeds, reducing turn conflicts, mid-block pedestian crossings, improving sight lines



145TH STREET
Multimodal Corridor Study

CITY OF SHORELINE

From Aurora Ave. N to I-5

Less Important to Me.
I don't feel that this is worth cost or property impacts.

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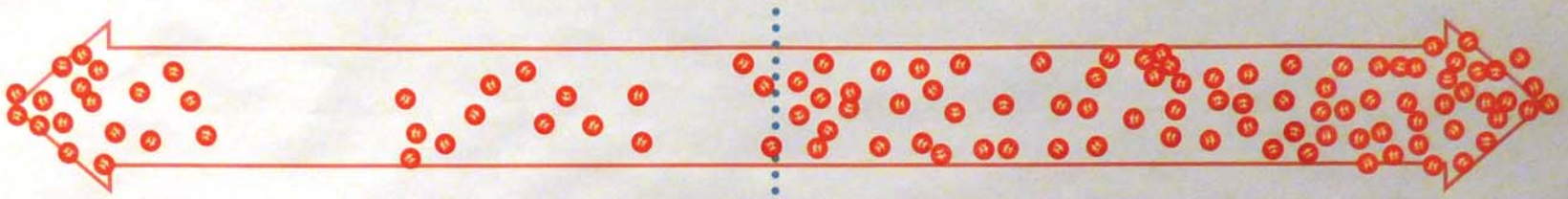
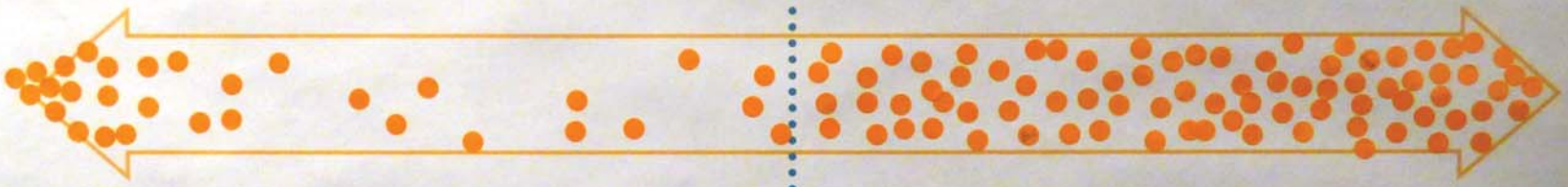
Improving Pedestrian Walkability is...

Sidewalks, landscape buffers, ADA accessibility, wheelchair ramps, crosswalks and pedestrian signals



Improving Bus Transportation is...

Frequency of bus service, travel speed through the corridor, can count on my bus to be on-time, ease of use



Improving Bike Facilities is...

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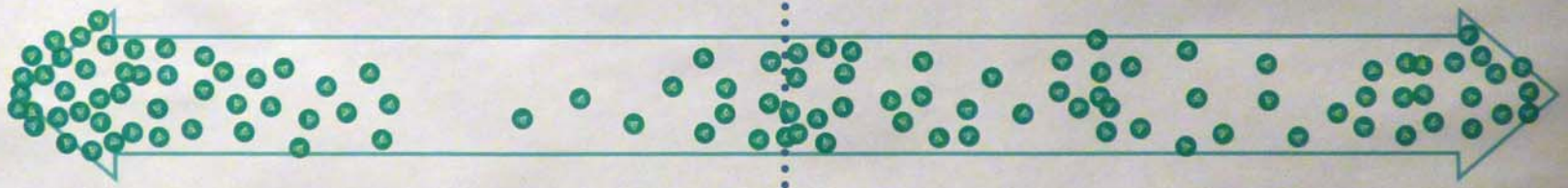

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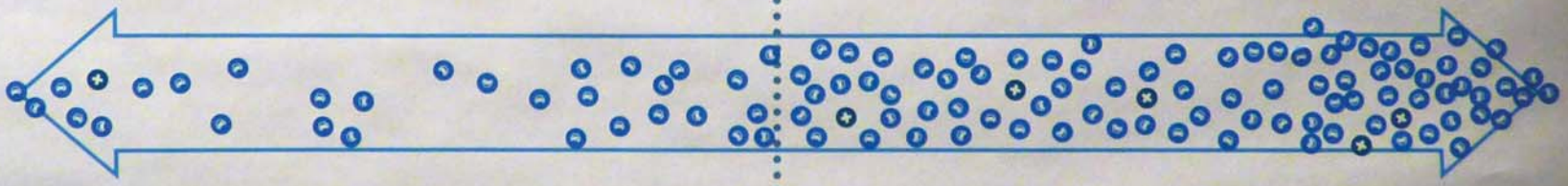

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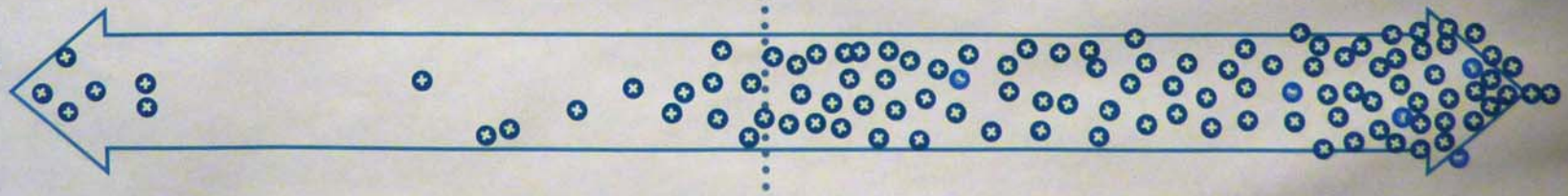

145TH STREET
Multimodal Corridor Study

CITY OF SHORELINE

Greenwood Ave. N to Aurora Ave. N

Less Important to Me.
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More Important to Me.
I feel strongly that this is needed, even if it impacts cost or property.

Improving Pedestrian Walkability is...

Sidewalks, landscape buffers, ADA accessibility, wheelchair ramps, crosswalks and pedestrian signals

Improving Bus Transportation is...

Frequency of bus service, travel speed through the corridor, can count on my bus to be on-time, ease of use

Improving Bike Facilities is...

Continuous bike pathways through the corridor, safe separation from vehicle traffic, proximity to the 145th Street corridor

Improving Flow of Traffic is...

Reducing congestion through the corridor, ability to make turns safely

Improvements to Transportation Safety is...

Controlling speeds, reducing turn conflicts, mid-block pedestian crossings, improving sight lines

145TH STREET
Multimodal Corridor Study

CITY OF SHORELINE

3rd Ave. NW to Greenwood Ave. N

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Improving Bike Facilities is...

Continuous bike pathways through the corridor, safe separation from vehicle traffic, proximity to the 145th Street corridor

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Reducing congestion through the corridor, ability to make turns safely

Improvements to Transportation Safety is...

Controlling speeds, reducing turn conflicts, mid-block pedestian crossings, improving sight lines

145TH STREET
Multimodal Corridor Study

CITY OF SHORELINE

ITT Input

September 9, 2015

From I-5 to Lake City Way

For each improvement topic, please mark along the arrows to indicate level of importance to you.

Less Important to Me.
I don't feel that this is worth cost or impacts to properties.

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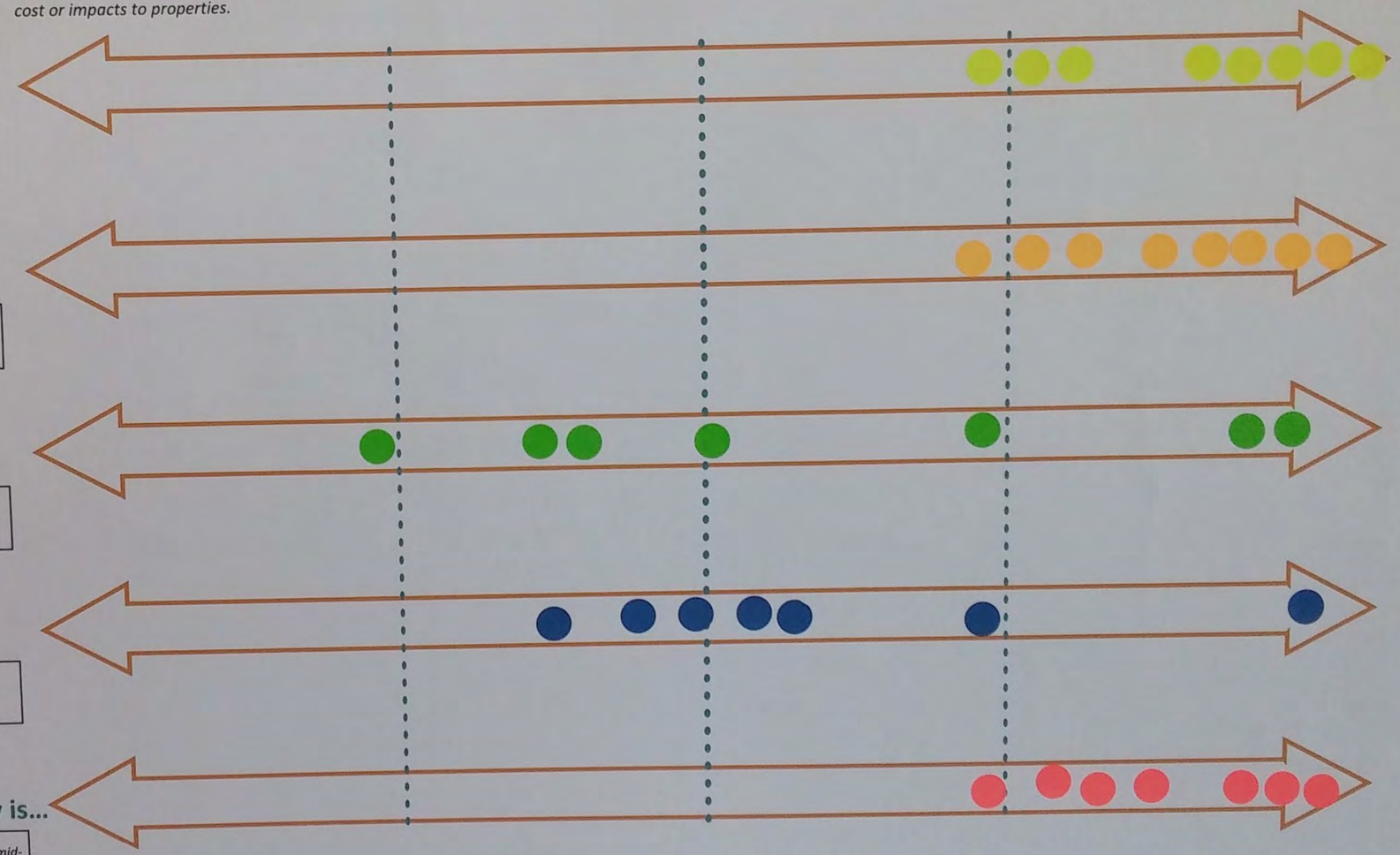

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Improving Bus Transportation is...

Frequency of bus service, travel speed through the corridor, can count on my bus to be on-time, ease of use

Improving Bike Facilities is...

Continuous bike pathways through the corridor, safe separation from vehicle traffic, proximity to the 145th Street corridor

Improving Flow of Traffic is...

Reducing congestion through the corridor, ability to make turns safely

Improvements to Transportation Safety is...

Controlling speeds, reducing turn conflicts, mid-block pedestian crossings, improving sight lines

145TH STREET
Multimodal Corridor Study

CITY OF SHORELINE

ITT Input

September 9, 2015

From Aurora Avenue to I-5

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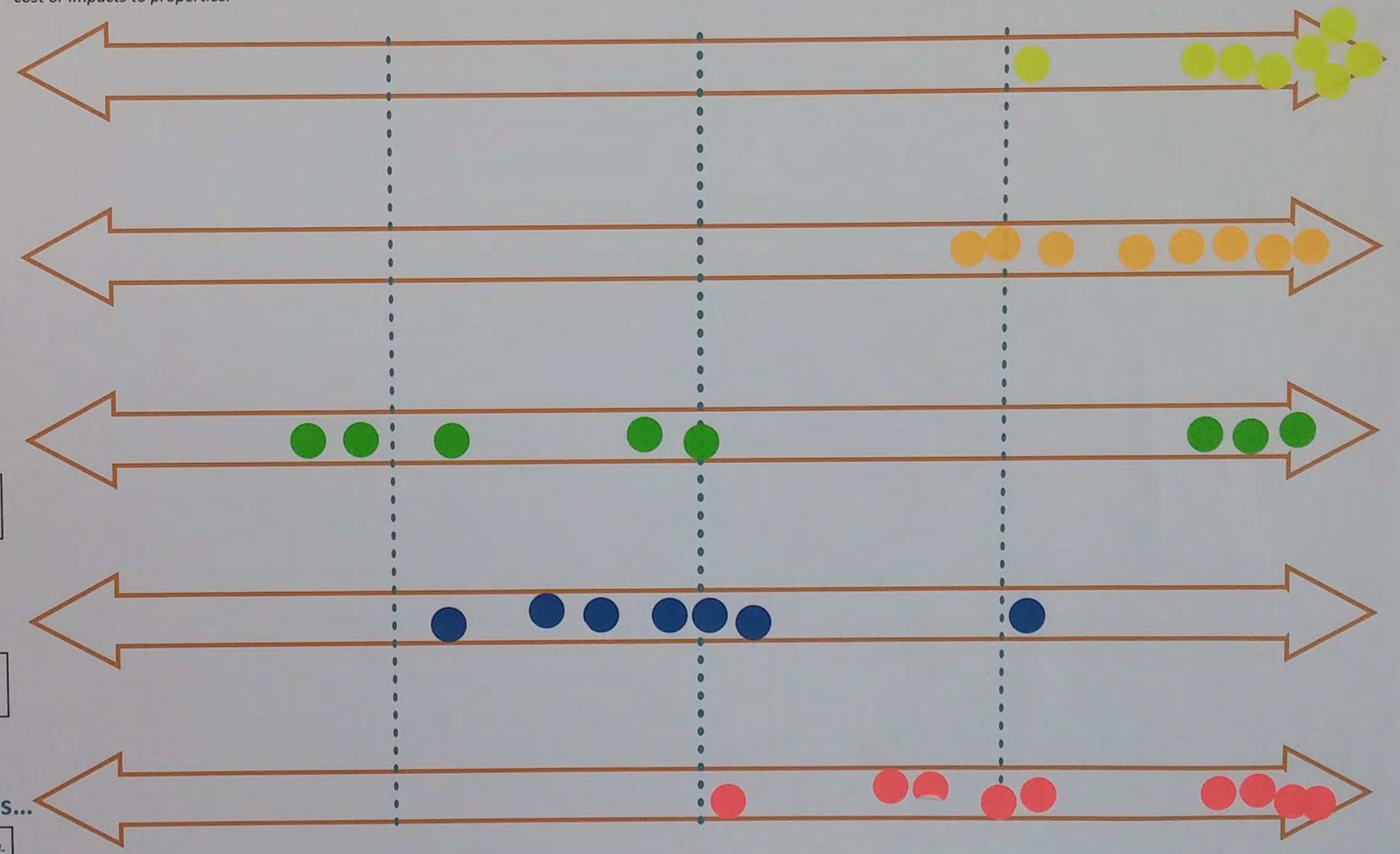

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Improving Bike Facilities is...

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Improving Flow of Traffic is...

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145TH STREET
Multimodal Corridor Study

CITY OF SHORELINE

ITT Input

September 9, 2015

From Greenwood Avenue to Aurora Avenue

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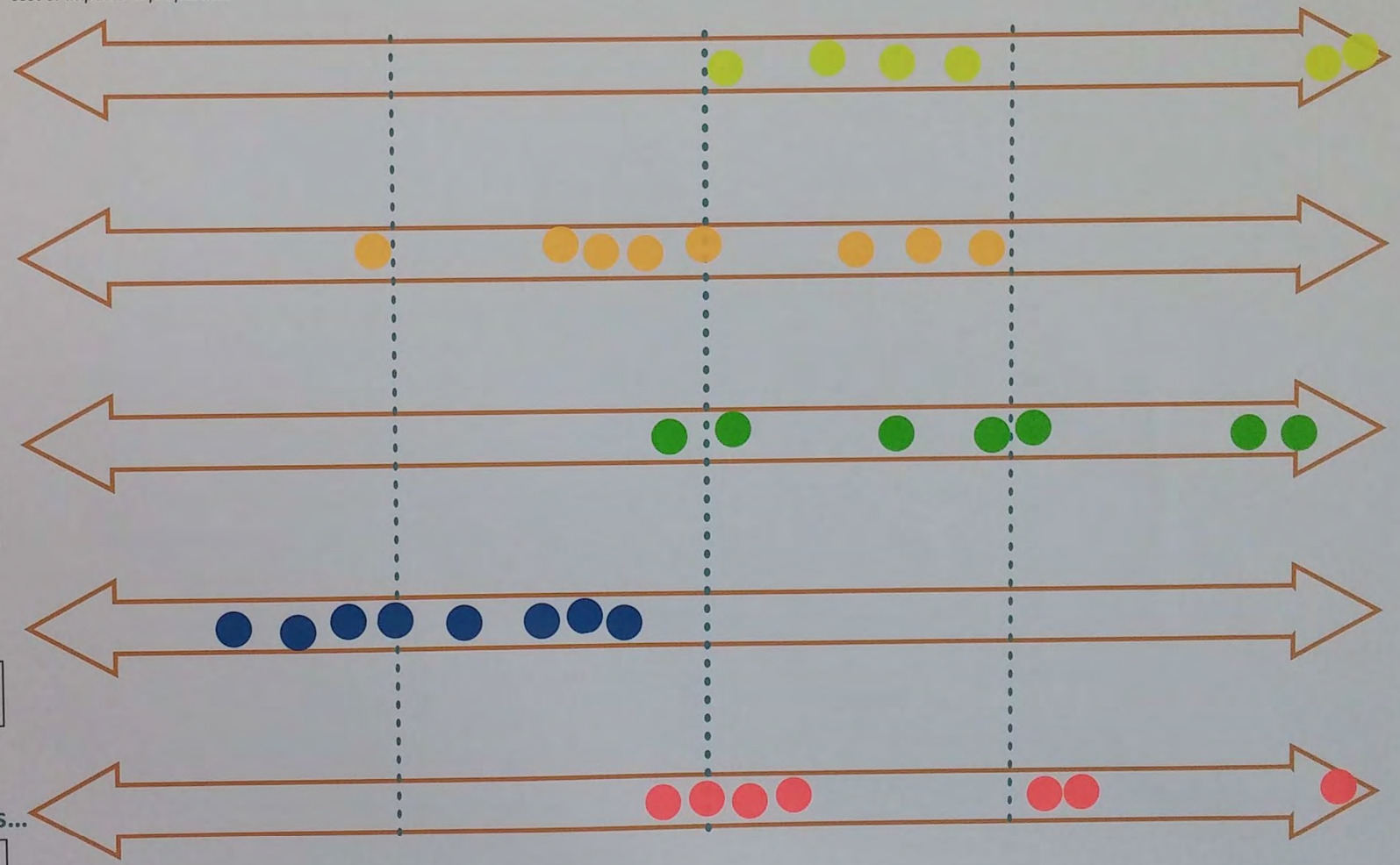

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145TH STREET
Multimodal Corridor Study

CITY OF SHORELINE

ITT Input

September 9, 2015

From 3rd Ave W to Greenwood Avenue

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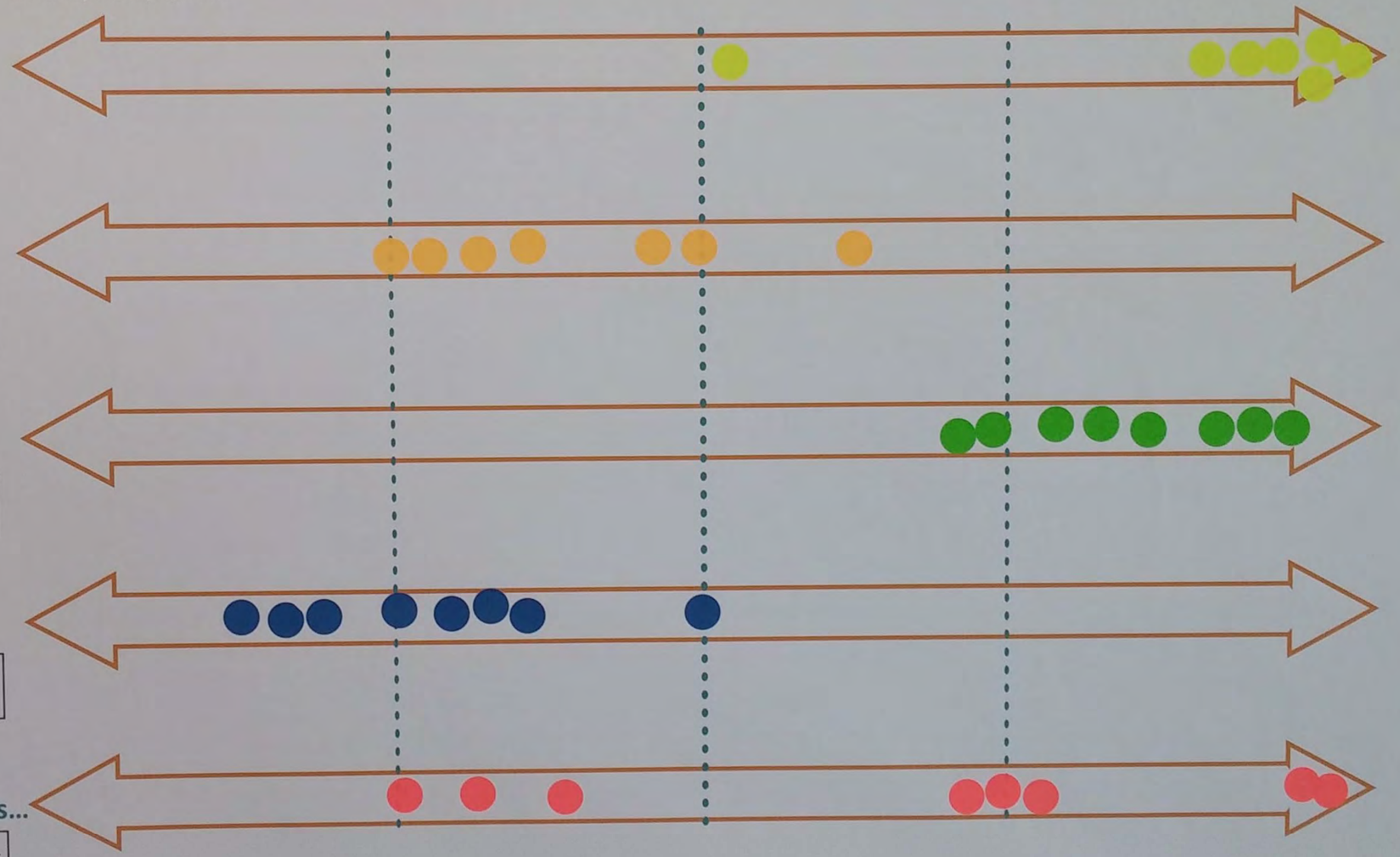

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145TH STREET
Multimodal Corridor Study

CITY OF SHORELINE

CATF Input

September 9, 2015

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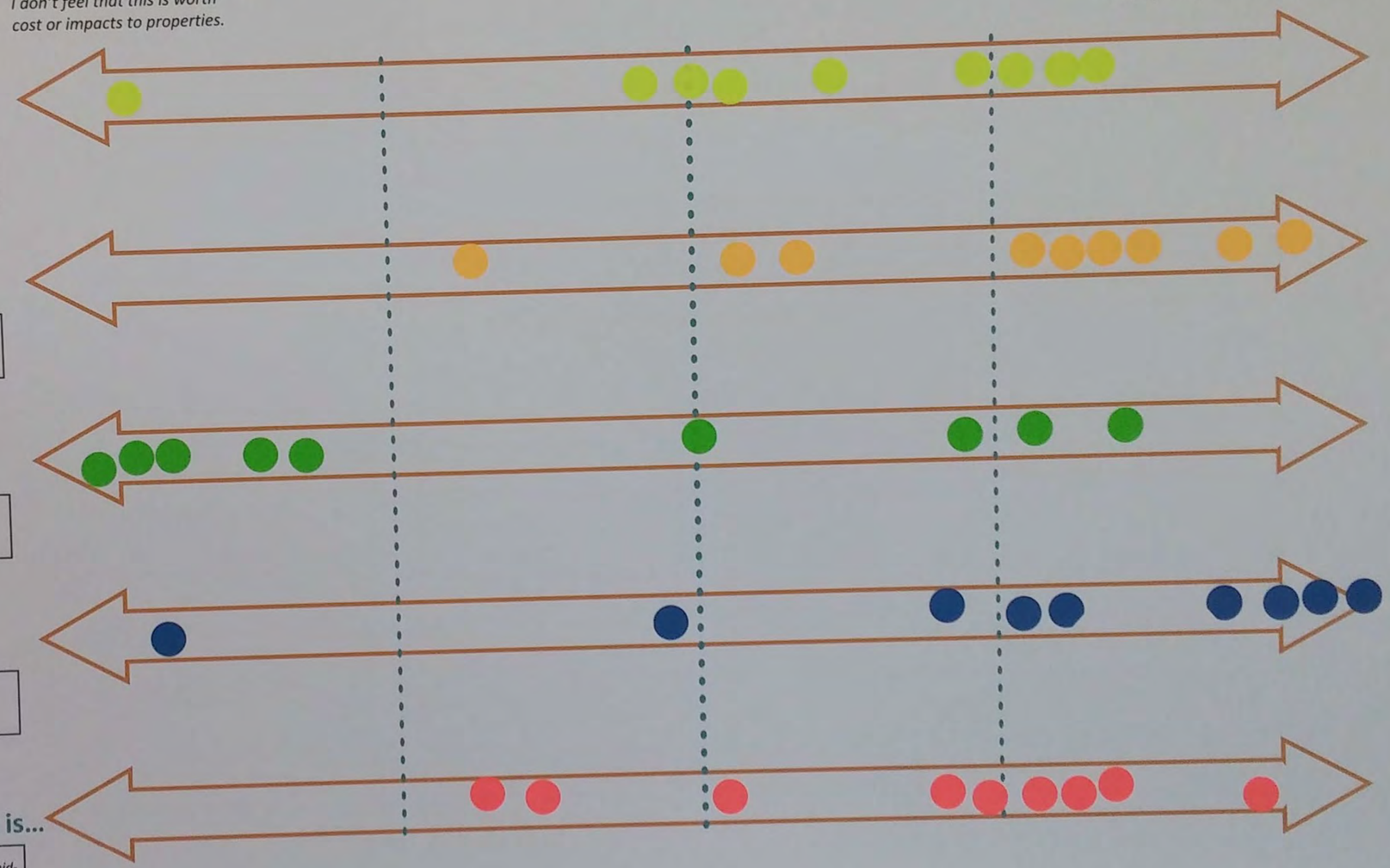

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Sidewalks, landscape buffers, ADA accessibility, wheelchair ramps, crosswalks and pedestrian signals

Improving Bus Transportation is...

Frequency of bus service, travel speed through the corridor, can count on my bus to be on-time, ease of use

Improving Bike Facilities is...

Continuous bike pathways through the corridor, safe separation from vehicle traffic, proximity to the 145th Street corridor

Improving Flow of Traffic is...

Reducing congestion through the corridor, ability to make turns safely

Improvements to Transportation Safety is...

Controlling speeds, reducing turn conflicts, mid-block pedestian crossings, improving sight lines

145TH STREET
Multimodal Corridor Study

CITY OF SHORELINE

CATF Input

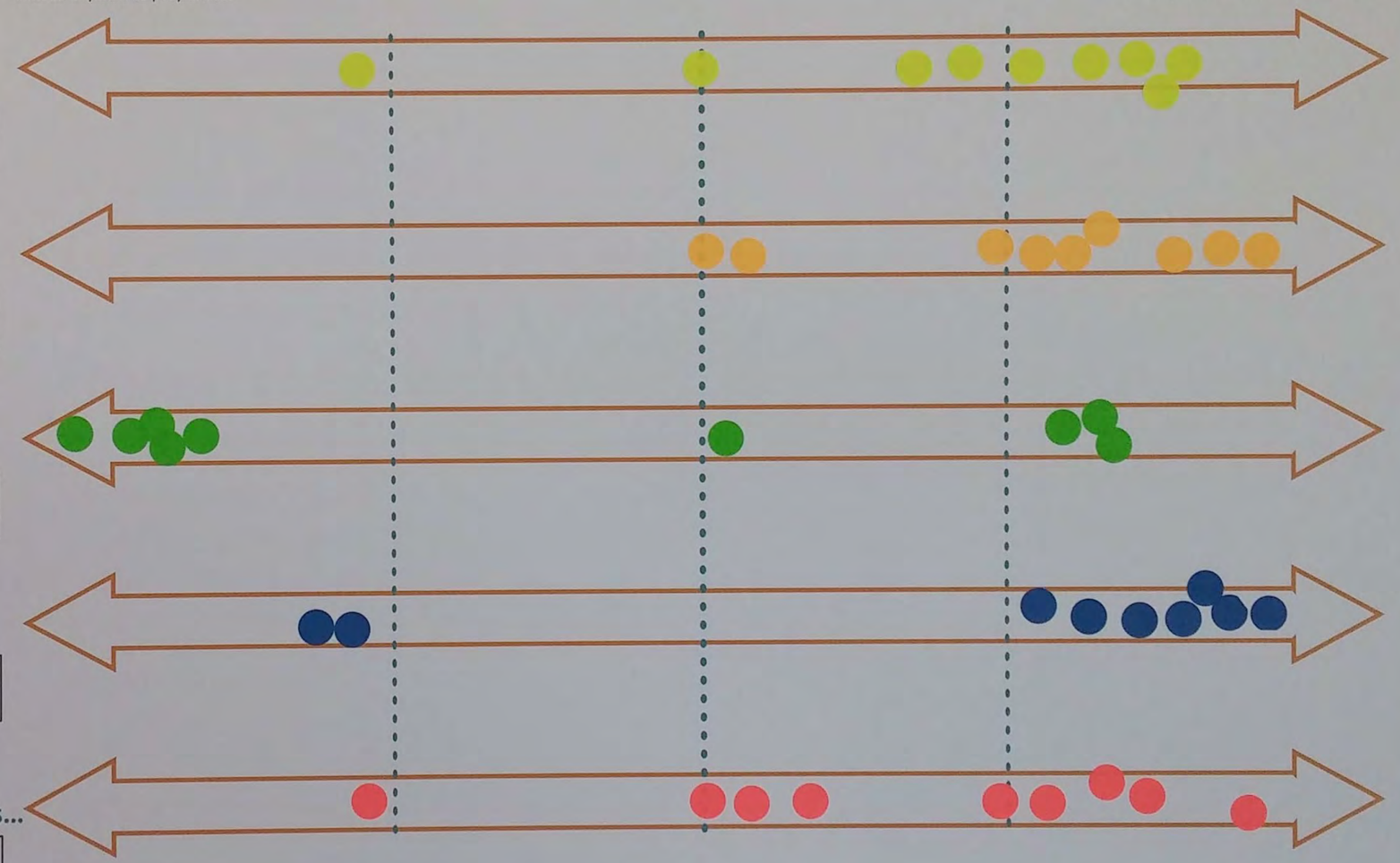
September 9, 2015

From Aurora Avenue to I-5

For each improvement topic, please mark along the arrows to indicate level of importance to you.

Less Important to Me.
I don't feel that this is worth cost or impacts to properties.

More Important to Me.
I feel strongly that this is needed, even if it impacts cost or properties.



Improving Pedestrian Walkability is...

Sidewalks, landscape buffers, ADA accessibility, wheelchair ramps, crosswalks and pedestrian signals

Improving Bus Transportation is...

Frequency of bus service, travel speed through the corridor, can count on my bus to be on-time, ease of use

Improving Bike Facilities is...

Continuous bike pathways through the corridor, safe separation from vehicle traffic, proximity to the 145th Street corridor

Improving Flow of Traffic is...

Reducing congestion through the corridor, ability to make turns safely

Improvements to Transportation Safety is...

Controlling speeds, reducing turn conflicts, mid-block pedestian crossings, improving sight lines

145TH STREET
Multimodal Corridor Study

CITY OF SHORELINE

CATF Input

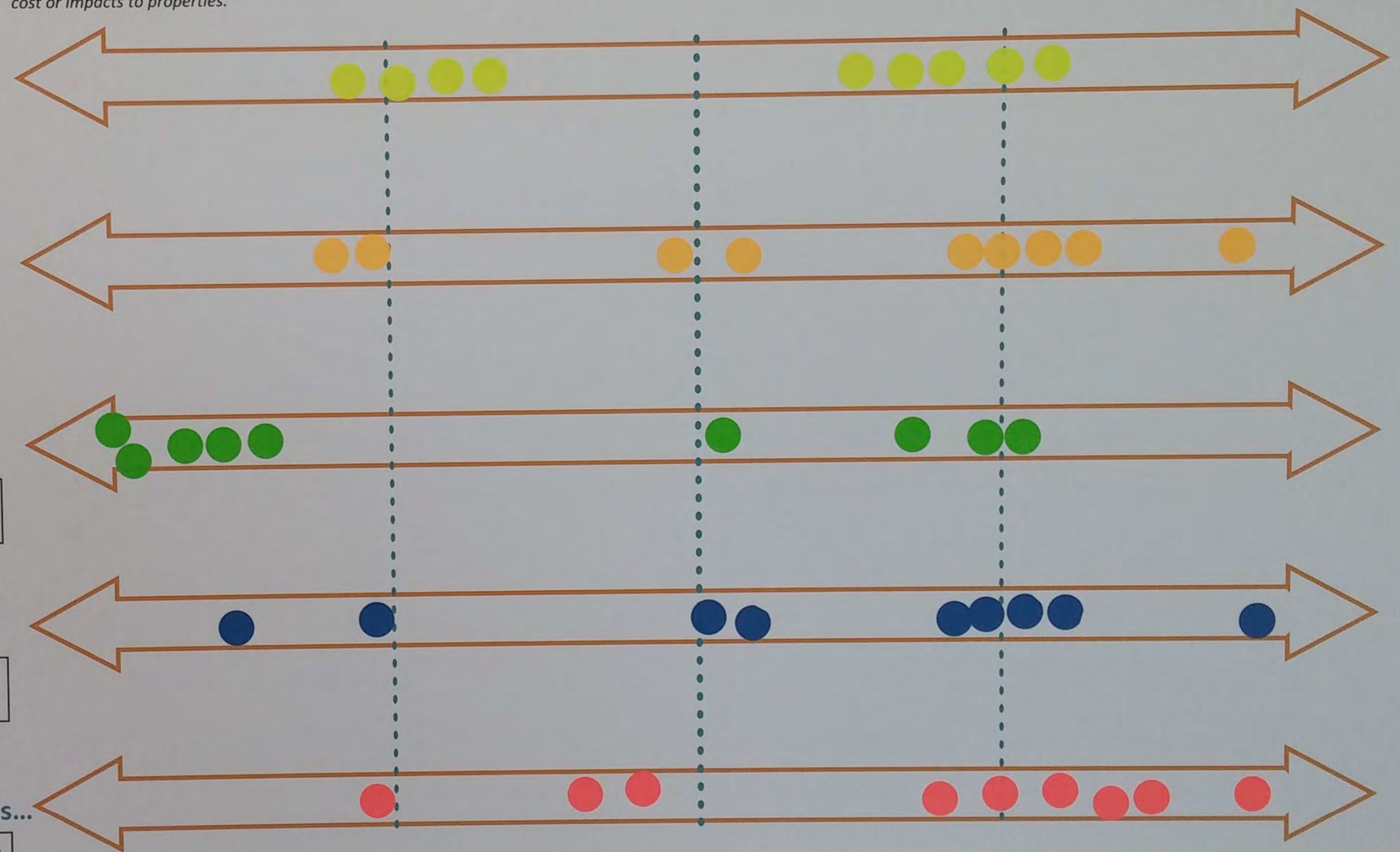
September 9, 2015

From Greenwood Avenue to Aurora Avenue

For each improvement topic, please mark along the arrows to indicate level of importance to you.

Less Important to Me.
I don't feel that this is worth cost or impacts to properties.

More Important to Me.
I feel strongly that this is needed, even if it impacts cost or properties.



Improving Pedestrian Walkability is...

Sidewalks, landscape buffers, ADA accessibility, wheelchair ramps, crosswalks and pedestrian signals

Improving Bus Transportation is...

Frequency of bus service, travel speed through the corridor, can count on my bus to be on-time, ease of use

Improving Bike Facilities is...

Continuous bike pathways through the corridor, safe separation from vehicle traffic, proximity to the 145th Street corridor

Improving Flow of Traffic is...

Reducing congestion through the corridor, ability to make turns safely

Improvements to Transportation Safety is...

Controlling speeds, reducing turn conflicts, mid-block pedestian crossings, improving sight lines

145TH STREET
Multimodal Corridor Study

CITY OF SHORELINE

CATF Input

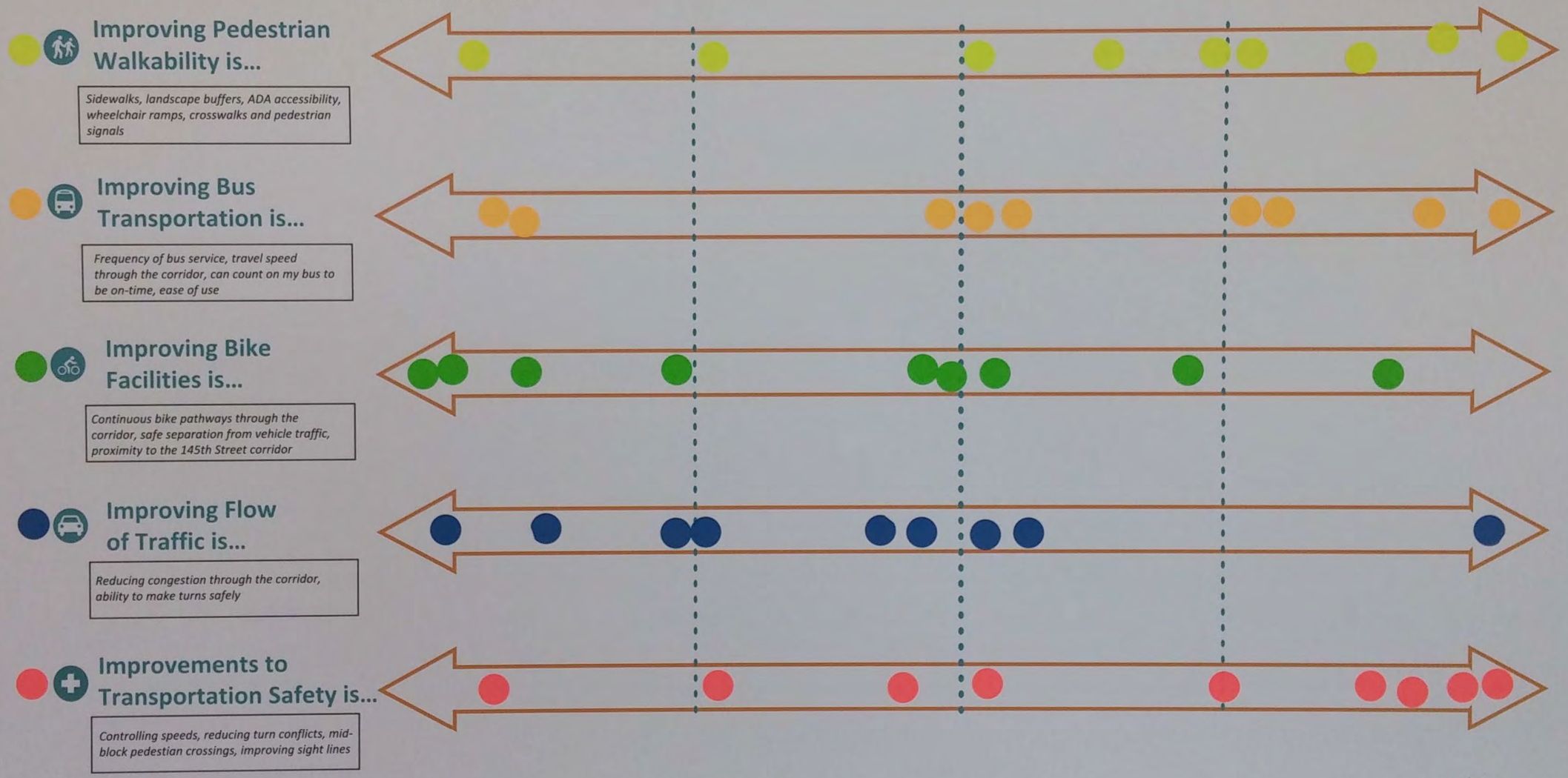
September 9, 2015

From 3rd Ave W to Greenwood Avenue

For each improvement topic, please mark along the arrows to indicate level of importance to you.

Less Important to Me.
I don't feel that this is worth cost or impacts to properties.

More Important to Me.
I feel strongly that this is needed, even if it impacts cost or properties.



145TH STREET
Multimodal Corridor Study

CITY OF SHORELINE