

TRANSPORTATION AND MOBILITY COMMISSION MEETING MINUTES

Vancouver City Hall – Aspen Room – 415 W. Sixth Street
PO Box 1995 – Vancouver, Washington 98668-1995

www.cityofvancouver.us

Jeananne Edwards • Connor Godsil • Corey Grandstaff • Leah Jackson • Soroush Mohandessi
Mike Paine • Thinh Phan • Mario Raia • Eduardo Ramos • Derya Ruggles • Ken Williams

August 1, 2023

CALL TO ORDER AND ROLL CALL

The August 1, 2023 meeting of the Transportation and Mobility Commission (TMC) was called to order at 4:02 p.m. by Chair Ramos.

Present: Chair Eduardo Ramos, Vice Chair Jeananne Edwards, Commissioners Connor Godsil, Leah Jackson, Soroush Mohandessi, Mike Paine (joined at 5:30 pm), Thinh Phan, Mario Raia, Derya Ruggles and Ken Williams

Absent: Corey Grandstaff

Rebecca Kennedy was present as the staff liaison for the meeting, and Becky Rude was present as the staff attorney assigned to the Commission.

ACTION ITEMS

ADOPTION OF MINUTES

Commissioner Jackson requested an amendment to the June meeting minutes to indicate the staff liaison for each meeting to facilitate follow up questions after the meetings. Staff indicated they would integrate this as a regular practice going forward.

Motion by Commissioner Jackson, seconded by Commissioner Williams, and carried unanimously to approve the June minutes as amended.

Motion by Commissioner Jackson, seconded by Vice Chair Edwards, and carried unanimously to amend the August 1 meeting agenda to extend the Community Forum beyond the 30-minute time limit.

WORKSHOP

Highway 99 Bus Rapid Transit and Upper Main Street Safety & Mobility Project

Taylor Eidt, Planning Project Manager, C-TRAN; Kate Drennan, Principal Transportation Planner, CDD

Taylor Eidt presented an overview of the Locally Preferred Alternative (LPA) for the Highway 99 Bus Rapid Transit (BRT) project, the design of the route and stations at the Waterfront, City Hall, Washington & 7th Street, Washington & Broadway, Broadway and Fourth Plain, Main & 33rd Street, Main and 36th/37th Streets, Main & 45th Street, Highway 99 & 78th Street, and the bike bypass design.

The bullets below summarize the Commission's questions and staff responses:

- The section of the route that serves the Salmon Creek Park and Ride. Staff responded in the northbound direction, after serving the station at 129th Street, the route turns left onto 134th to access the Park and Ride. Southbound from the WSU campus, buses serve 23rd, 20th, the Salmon Creek Park and Ride, then back on 20th to head south on Highway 99.
- Stops that serve Legacy Hospital and Vancouver Clinic. Staff responded the 23rd Avenue station is the closest stop to Legacy Hospital and Vancouver Clinic.
- Gap between stops on 63rd Street and 45th Street. Staff responded that this section crosses I-5 and there are not a significant number of cross streets or uses that generate high demand in that area.
- Transit signal priority. C-TRAN staff will continue to work with the City and County to use signal priority for the BRT where appropriate.
- Safety concerns during construction of BRT stops. Staff responded that there are several challenging and busy intersections on the route and that partners continue to work to improve and refine construction timing and safety measures and continue to monitor safety during the construction of the new route. The City also provided feedback to C-TRAN during the construction of the route on Fourth Plain that contributed to significant improvements in construction schedule and impact mitigation for the Mill Plain BRT project.
- Acquiring right of way to accommodate tight spots. Staff responded there is an example of this at the 78th Street stop. There will be some minor needs to obtain right of way on sidewalks along the route to construct the station platforms.

Kate Drennan presented the project study area for the Upper Main Street Safety & Mobility Project, the project phases, analysis of the modes of transportation on the corridor, existing and future vehicle traffic, review of pedestrian and bicycle/small mobility facilities and gaps, and next steps for this project.

The bullets below summarize the Commission's questions and staff responses:

- Northern boundary of the project and the bike path connection at Highway 99. Staff responded the project ends at the City limits and will follow up with more information on the bike crossing at a future workshop.
- Improvement of freight routes to use Mill Plain rather than Fourth Plain. Staff responded Fourth Plain carries freight efficiently. The function of those two routes is necessary until there is another north-south connection from the port.

WORKSHOP

Main Street Promise

Ryan Lopossa, Streets and Transportation Manager, PW; Teresa Brum, Deputy Director, Economic Prosperity and Housing; Jason Graf, Consultant Project Manager, First Forty Feet

Ryan Lopossa presented a project overview, goals and guiding principles, and the project timeline. Teresa Brum presented an overview of the community engagement plan and feedback, the project advisory group, public engagement, and the business mitigation program. The presentation continued with proposed project design elements, specific improvements to enhance safety, and how paving materials will be used to indicate the different zones on the corridor.

The bullets below summarize the Commission's questions and staff responses:

- Ways to communicate with those who have visual impairments where to walk and sit. Staff responded the tactile differences in materials will indicate the edges of each zone.
- Different treatments in the building zone for chair seating and business entrances. Staff responded the building zone is intended for different types of furnishings and the paving designates the areas. There are options to add tactile strips to indicate a business entrance. Staff also received feedback from instructors at the School for the Blind for a desire for a direct unimpeded path on the sidewalk.
- Concern for pedestrian safety with a curbless street. Staff have looked to other examples of curbless streets in the area to understand how this might work on Main Street, including Esther Short, the Vancouver Waterfront, and in Sherwood, Oregon. No major safety issues or concerns have been raised with these designs.
- How is runoff treated on a curbless street? Staff responded the roadway and sidewalk slope towards the valley gutter, between the road and the parking zone. Water drains from the valley gutter to the underground storm system.

The presentation continued with the NACTO guidance for small mobility facilities on Main Street, TSP policy guidance for the density of the low stress mobility network, accessible design elements, connectivity from Main Street to other areas in the vicinity, and next steps in this project.

The bullets below summarize the Commission's questions and staff responses:

- Infrastructure to support access to Main Street via walking and biking. Staff responded the parking plan will be reviewed in 2024, and will consider satellite parking lots, shuttles, and other options to get to the area. There are also recent and ongoing projects to improve small mobility facilities, including Columbia Street, upper Main Street, and the new Highway 99 BRT project.
- Consider designing the parking area to be adaptable to a bike lane in the future. Staff responded the sidewalk extends out to the drive aisle to shorten the crossing distance for pedestrians and would not interfere with a bike lane if it was converted from the parking area in the future due to the curbless design.
- Concern with biking uphill on Main Street with traffic and support for traffic calming measures on Main Street.

COMMUNITY FORUM

Michael Doherty was present to support less parking as part of the Main Street redesign and data related to parking and economic activity.

Jadie Freitag was present to support traffic calming on Main Street to enhance safety and accessibility for small mobility users and pedestrians.

Jason Cromer was present to support a car free design for Main Street.

Israel Lopez was present to support prioritizing pedestrian and bicycle infrastructure on Main Street as a strategy for building community.

Peter Fels was present to support a car free design for Main Street and connected this to implementing the City's climate goals by reducing single occupancy vehicle traffic.

Robin Cody was present to support removal of street parking on Main Street and connecting the bicycle network in the downtown area.

Heidi Cody was present to support a car free design for Main Street as a way to support the City's climate goals.

Richard Kolber was present to provide references and information to the Commission on Complete Streets and Vision Zero that support multimodal transportation options.

Sara Schmit was present to encourage the City and Commissioners to consider additional sources of information on parking and economic activity and supported improved safety measures for pedestrians and bicyclists.

Dan Packard was present to support traffic calming measures on Main Street and focus on space for pedestrians and bicyclists. He also suggested painting shoulder lanes on neighborhood streets to increase safety for bicyclists.

John Russell was present to support the McGillivray Blvd Safety and Mobility Project, specifically the design option 3, adding median refuge islands at all major intersections, encouraged the Commission to support a parking study of the corridor, and ADA upgrades for pedestrian pathways west of 132nd.

Monica Zazueta was present to support a car free design for Main Street to improve pedestrian safety.

Karrie Brower was present to support including protected bike infrastructure on Main Street similar to what exists on Columbia.

Samin Sepasi was present to support a car free design for Main Street to improve pedestrian safety and encourage economic growth.

Scott Reed was present to support a car free design for Main Street to improve the experience of those who visit the businesses.

Jan Verrinder was present to support a Main Street design that encourages people to stay in the area, rather than a route through. She also supported a protected mobility lane on Main Street.

Zach Gatton was present to support a car free design for Main Street as a way to support the City's climate and transportation goals. He supported a design that focuses on pedestrian and bicycle access and safety.

WORKSHOP

McGillivray Blvd Safety & Mobility Project

Emily Benoit, Senior Transportation Planner, CDD; Kara Hall, Consultant Project Manager, Fehr & Peers

Emily Benoit presented the purpose and targeted outcomes of this project. Kara Hall presented design option 1, which includes a parking separated mobility lane, conceptual designs for key intersections, and the benefits and challenges to this alternative.

The bullets below summarize the Commission's discussion on design option 1:

- Sharrows in the mobility lane could cause confusion for drivers. Staff responded the symbol could be changed to more clearly indicate the lane is only for pedestrians and small mobility devices.
- Suggestion to widen the mobility lane to accommodate the varying speeds of walkers, bicyclers, and e-scooters and e-bikes.
- Support for measures to lower vehicle speed and increase safety at crossings. Staff responded the lane reconfiguration will narrow the vehicle travel lane and reduce the travel lanes from two to one to reduce the pedestrian crossing distance.

The presentation continued with design option 2, which includes a center running mobility lane, conceptual designs for key intersections, and the benefits and challenges to this alternative.

The bullets below summarize the Commission's discussion on design option 2:

- Speed limit on this corridor. Staff responded it's currently 25 MPH and will remain that speed. However, the majority of drivers on the roadway are speeding.
- Pros and cons of no turn lane at the SE Village Loop intersection. Staff responded there is not currently a left turn lane at this intersection. With higher traffic volume there can be queuing issues, and a turn lane can make it more efficient for those who are turning and going through the intersection. The downside at this intersection would be introducing another conflict point with vehicles and those in the mobility lane.
- Potential conflict with drivers and mobility lane users when making U turns at major intersections. Staff responded most U turns today happen mid-block and not at the major intersections. It would be restricted at 136th and Village Loop due to the vertical barriers that restrict the turning radius.
- Other options for vertical barriers besides the candlestick style. Staff responded there are options for low concrete barriers. Staff has received mixed feedback on ziclas. Bicyclists/small mobility device tend to be favorable towards the candlestick style of vertical barrier.
- Adding bike/small mobility signals along this corridor. Staff responded at Chkalov, would need to review the signal phasing, but could explore that option. The only other intersection on this corridor with a signal is at 164th.

The presentation continued with design option 3, which includes a shared mobility lane/residential access lane, conceptual designs for key intersections, and the benefits and challenges to this alternative.

The bullets below summarize the Commission's discussion on design option 3:

- Support for this option with fewer conflict points between vehicles and mobility lane users.
- Examples of this design in other cities. Staff responded there are examples in some Seattle suburbs, including Bellevue and Bellingham.
- Speed limit in the mobility/residential access lane. Staff responded it would be much slower at around 10 MPH. There are also options for raised cross walks to access bus stops and speed tables in this lane.
- Is adding concrete barriers within scope of a Complete Streets project? Staff responded in the last budget cycle, City Council added approximately \$8 million per year for Complete Streets projects. There are more resources now for these types of projects. The long term maintenance of concrete is lower compared to other types of barriers that wear down more quickly and need to be replaced.

- Low parking utilization. Staff responded the existing parking is maintained, except at intersections to increase site distance. There are sections of the corridor where the existing parking is utilized. The Commission could suggest calibrating parking based on demand.
- Maintenance and snow removal in the mobility/residential access lane. Staff responded there would need to be coordination for maintenance. The City currently has a miniature street sweeper/snow plow.

The presentation concluded with a comparison of the three design options alignment with the project goals.

The bullets below summarize the Commission's discussion on comparison of the three design options:

- General support for adding concrete barriers where possible in all options to increase the separation from the vehicle and mobility lanes.
- Support for lowering vehicle speeds in all three options.
- Support for reducing parking in areas where it's not currently utilized to widen the mobility lane for more types of users.
- For option 3, remove all or most of the parking to have a wide mobility lane with concrete separation from vehicle travel lane.
- Staff suggested clustering a few parking spaces along the corridor to create a chicane for separation to the residential access lane as well as a traffic calming measure.
- Support for street murals for traffic calming.

STAFF COMMUNICATIONS

Katherine Kelly, Senior Policy Advisor, CDD and Shilpa Mallem, Deputy Design Manager for the IBR Program presented a preview of the upcoming workshop on the Interstate Bridge Replacement Program. The program is currently studying the environmental impacts to the modified locally preferred alternative. The draft report is expected to be released at the end of 2023, after which there will be a public comment period.

Rebecca Kennedy shared information regarding a follow up memo from the workshop in June on Jefferson and Kauffman. Additionally, the November meeting of the TMC is cancelled. The annual retreat is scheduled for September 19, 2023.

COMMISSION COMMUNICATION

There were no Commission Communication items.

ADJOURNMENT 8:57 PM

Eduardo Ramos, Chair

Meetings of the Transportation Mobility Commission are electronically recorded on audio. The audio is kept for a period of six years.

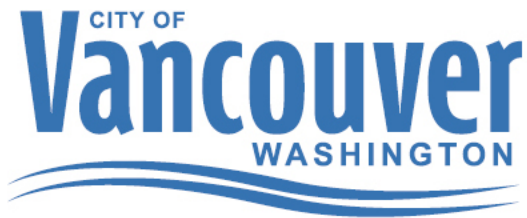
To request other formats, please contact: Julie Nischik | 360-487-7813 | Relay: 711 |
Julie.Nischik@cityofvancouver.us



112th Avenue Safety and Mobility Project

Transportation and Mobility Commission Workshop #1

September 5, 2023



Kate Drennan
Principal Transportation Planner
Community Development

Ryan Farncomb
Project Manager
Parametrix

Agenda

- Project Overview
- Existing Conditions: Key Findings
- Community Engagement Update
- Draft Evaluation Framework
- Workshop Discussion
 - Do the key findings resonate?
 - Do you have feedback on the draft evaluation framework?



Project Purpose



Safety

- Make travel safer and more comfortable for all travelers



Equity

- Engage with - and provide solutions that benefit - a full range of community members



Climate

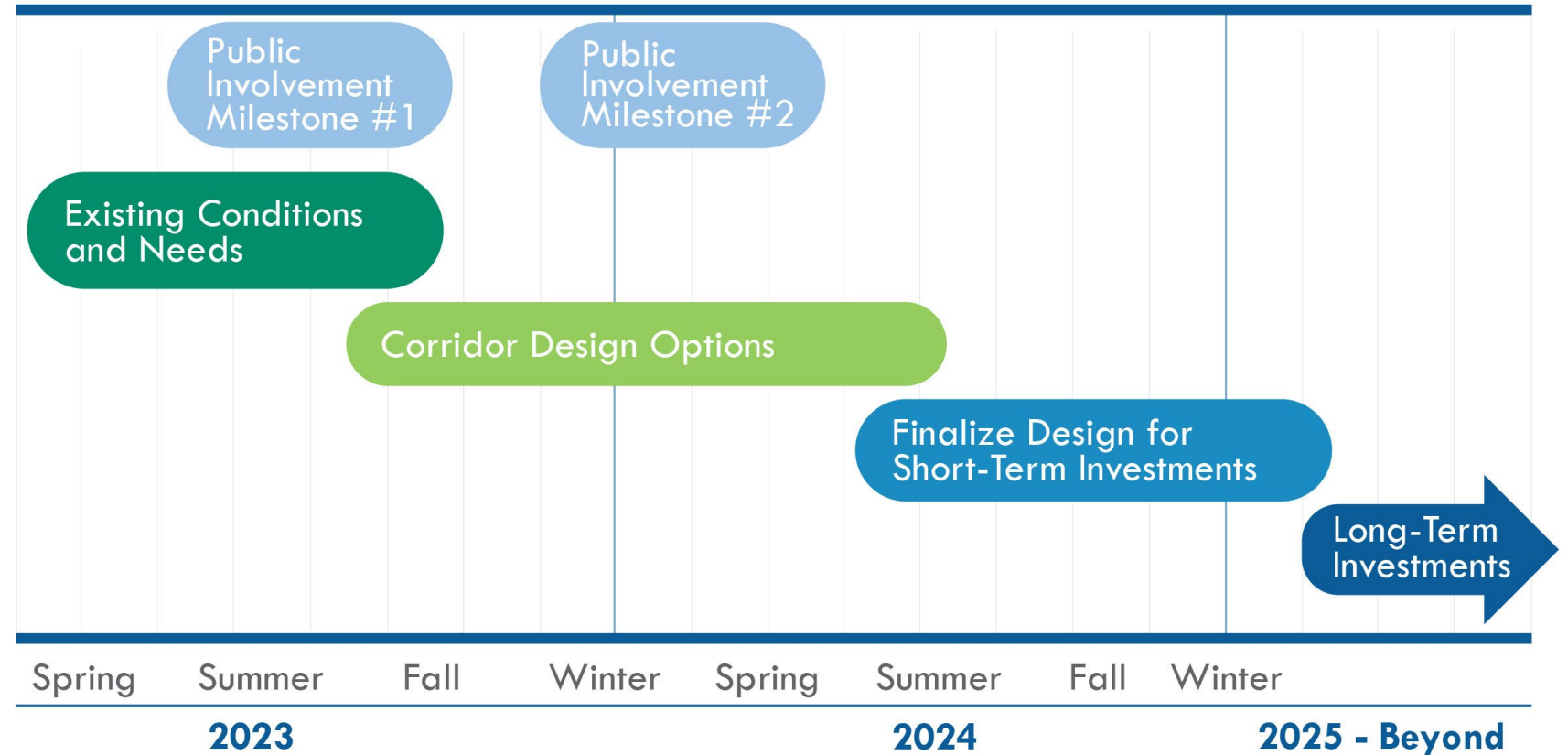
- Identify solutions that improve walking & small mobility options

Project Area

Project Area Map



Project Timeline



Future TMC Touchpoints

December 2023

- Workshop: Outreach Phase #1 findings and design alternatives

March 2024

- Outreach Phase #2 findings and preferred design concepts

May 2024

- Recommendations for Council

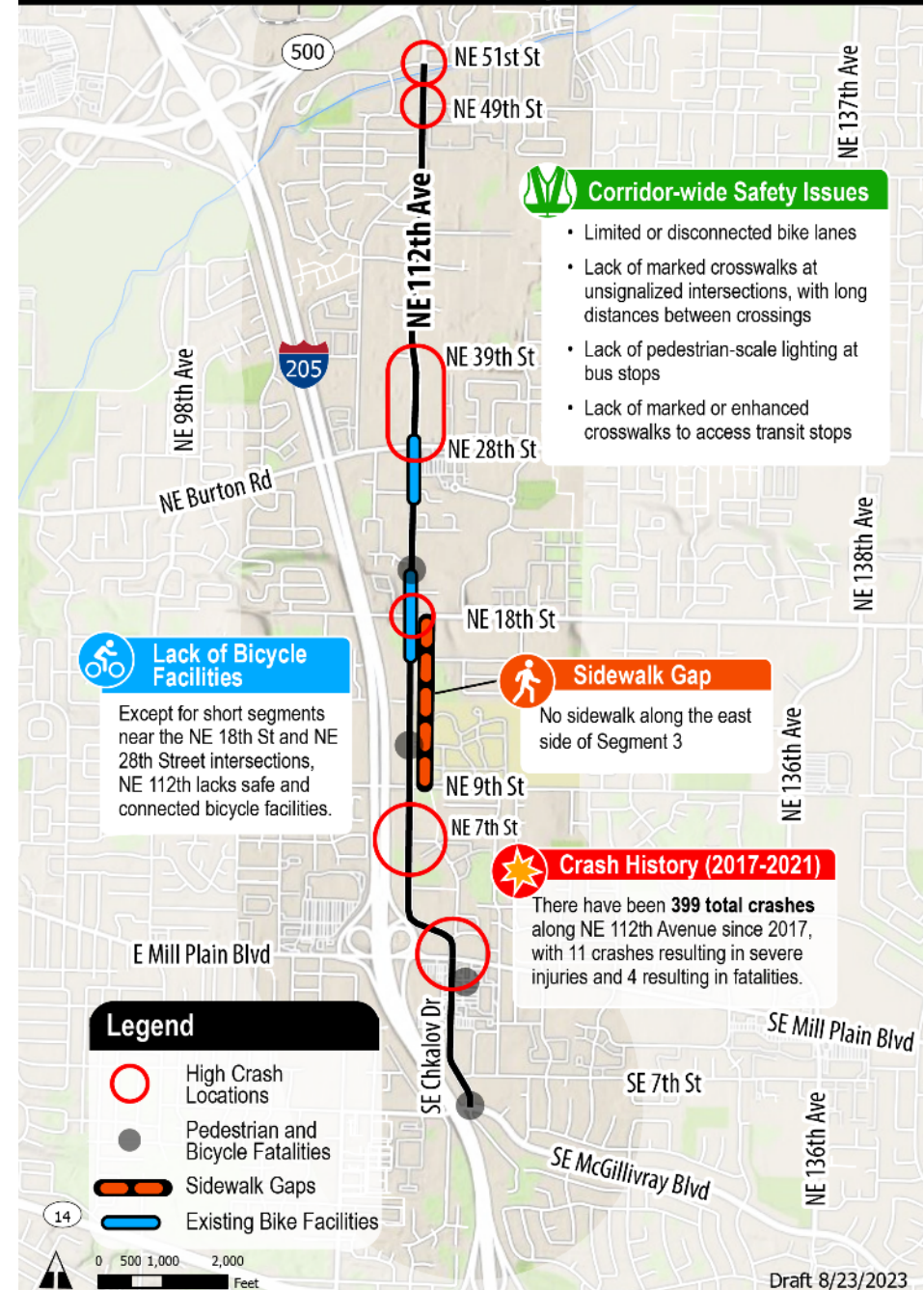
Other dates as needed



Key Issues

- High number of crashes, many involving peds and bikes
- Long distances between marked crossings
- Ped, bike & transit gaps

112TH SAFETY AND MOBILITY STUDY Corridor Issues and Needs Summary



Traffic



Year 2023 daily traffic

- 15,000 to 40,000+ vehicles traveling north and south on 112th Avenue
- Average speed: NB 20 mph SB: 22mph
- The worst performing intersections include:
 - Mill Plain/Chkalov - level of service (LOS) D
 - NE 23rd/NE 112th – LOS D
 - NE 28th/112th – LOS D

Location (on 112 th Ave)	Number of vehicle trips per day
McGillivray Blvd to NE 18 th St	15,000 to 18,500
NE 18 th to SR 500	30,000 to 46,000

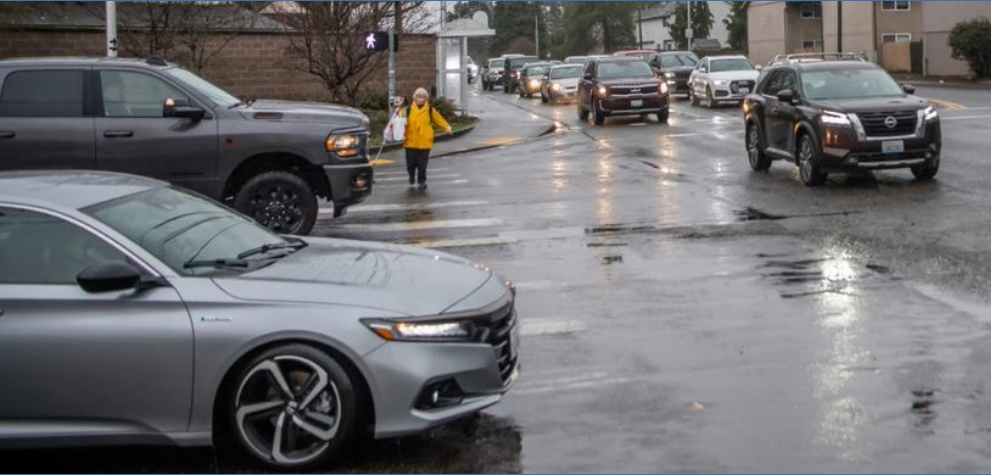
Safety – Crash Data



Crash data (2017-2021)

- 399 recorded crashes
 - 15 fatal or severe
 - 22 involving people walking or biking, 4 resulting in a fatality
 - Additional fatality in March 2023 on 900 block of 112th Ave (outside data period)
- Pedestrian fatalities
 - All at dusk or dark
 - SE Chkalov/SE McGillivray
 - SE Chkalov/Mill Plain
 - Between NE 20th and NE 23rd

Safety – Crash Analysis



Local Road Safety Plan hot spots

- SE Chkalov/Mill Plain intersection
- SE 7th - Mill Plain segment
- NE 28th – NE 39th segment

Safety hot spots when compared to similar roadways elsewhere

- NE 112th/NE 18th intersection
- NE 112th/NE 28th intersection
- NE 112th/NE 49th intersection
- NE 112th/NE 51st intersection

Data indicates the 85th percentile speed is between 41.5 MPH and 44.9 MPH between NE 9th and NE 28th, with a speed limit of 35 MPH

Engagement Activities



Two focused phases of engagement

- Fall 2023
 - Opportunities, challenges, vision
- Winter/Spring 2024
 - Draft design options

Ongoing engagement throughout project, including digital communication, small group briefings, in-person events and other tools

Engagement Activities

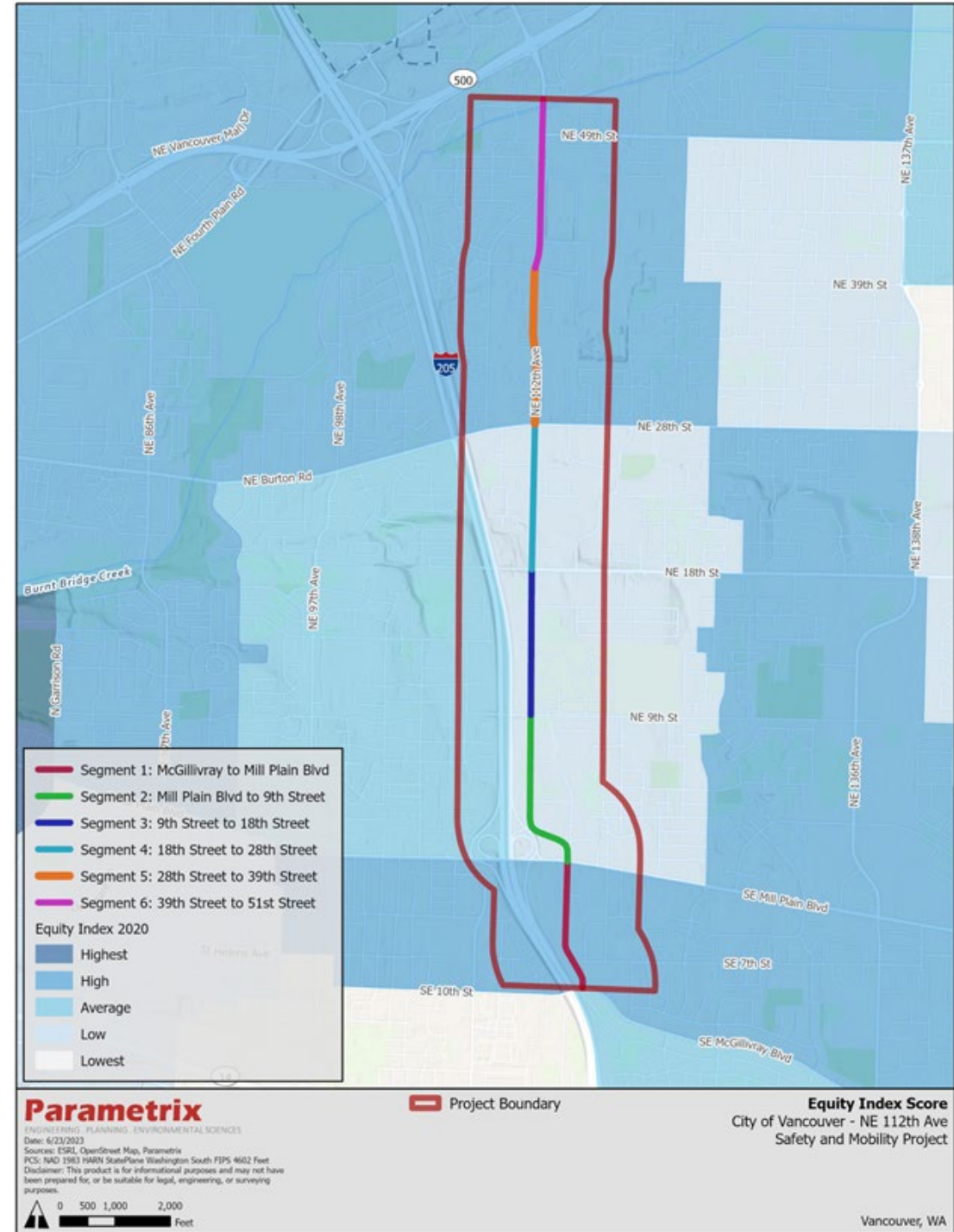


Phase 1 Engagement

- Digital communication, website, social
 - Fact sheet in English and Spanish
- Community surveys
 - Survey is live in English and Spanish
- Tabling sessions
 - Farmers Market, National Night Out
- Small group briefings
 - East Vancouver Business Association
- Canvassing phone and in-person

Early Findings: Equity Analysis

- Corridor includes Spanish and Russian speakers with greater concentrations at north and south ends
- Outreach is using this information to reach community members



Draft Project Goals & Evaluation Criteria

Criteria	Questions the team will ask	How will we measure it?
Mobility improvement for people walking, using a mobility device, bicycling, or using the bus	Does the alternative make it more comfortable and easier for people to walk, roll, bike, use a mobility device or use the bus? Does the alternative avoid serious negative impacts to freight and personal vehicle travel in the corridor? Does the alternative connect to past or planned mobility improvements?	Alternative applies known best practices for increasing comfort and mobility for people walking, using a mobility device, bicycling, or using the bus. Alternative maintains or improves transit travel time reliability. Alternative meets traffic mobility standards on NE 112th Avenue Alternative minimizes diversion to local streets or diversion is mitigatable. Degree to which alternative connects with past or planned mobility improvements.

Draft Evaluation Framework

Criteria	Questions the team will ask	How will we measure it?
'Safe Systems' approach to improvements for all users of the corridor, including people walking, using a mobility device, bicycling, driving, or using the bus	Does the alternative make it safer for people to walk, roll, bike, or use the bus?	Alternative provides greatest safety benefits (based on literature review and safety countermeasure performance) relative to implementation cost.
	Does the alternative make it safer for people driving?	Alternative would improve safety for people driving by applying known safety countermeasures.

Draft Evaluation Framework

Criteria	Questions the team will ask	How will we measure it?
Access to housing, businesses, jobs, services, parks and recreation, and educational opportunities.	Does the alternative increase access to essential places as identified in the City's equity atlas? Does the alternative increase access to businesses for people walking, using a mobility device, riding a bike, or using the bus?	Degree to which alternative support increased access to businesses and services, based on improvements in transportation safety and comfort for all users in the corridor.

Draft Evaluation Framework

Criteria	Questions the team will ask	How will we measure it?
Greenhouse gas (GHG) reduction benefits	Does the alternative support the City's goals to reduce GHG emissions and/or reduce VMT?	Degree to which alternative supports mode shift, based on results from regional travel model.
Equitable outcomes	Does the alternative provide benefits or mitigate burdens to equity populations specifically?	Direct benefit (reduced transportation costs) or reduced burden to identified equity populations living or working within the corridor (within ¼ mile of NE 112th Avenue).

Questions for the Transportation and Mobility Commission



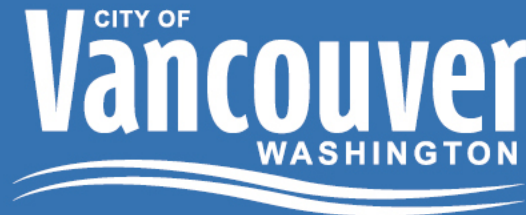
Questions for TMC feedback

1. Do the technical findings and early engagement findings resonate?
 - Is there anything missing?
2. Do the draft project goals and criteria reflect the City's Strategic Goals Complete Streets policy? Any feedback?

Thank You

To learn more, visit:

Beheardvancouver.org/112thAveProject



DATE: September 5, 2023

TO: Chair Ramos and Transportation and Mobility Commission (TMC) Members

FROM: Kate Drennan, Principal Transportation Planner, Community Development

CC: Rebecca Kennedy, Deputy Director, Community Development
Ryan Lopossa, Streets & Transportation Division Manager, Public Works

RE: **112th Avenue Safety and Mobility Project – TMC Workshop on Key Findings and Evaluation Framework**

Background

The 112th Avenue Safety and Mobility Project is studying opportunities to make travel safer and more comfortable between SE McGillivray Blvd and NE 51st Street, in coordination with upcoming pavement work slated for 2025/2026. The 3.3-mile project corridor is an important north-south connector to several neighborhoods, businesses, schools, and other community destinations. The project will look at addressing safety issues and the traveling experience for people on foot, using transit, bicycling, using mobility devices or driving along the corridor.

The project team is studying corridor conditions, engaging the community about their experience using the corridor, defining project values and goals, and creating corridor design options to improve user safety and mobility. Recommendations will include striping plans that leverage upcoming paving work and will consider complementary safety projects and programs. The team is engaging neighbors, businesses, stakeholders such as schools and C-TRAN, and the wider public throughout the project process.

Project Area Map

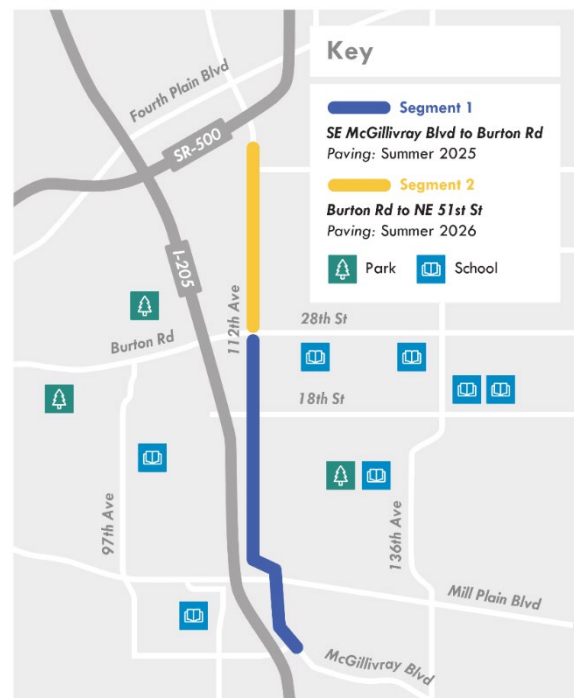


Figure 1: 112th Avenue Safety and Mobility Project Area Map

The Project began in Spring 2023 and is expected to conclude in Winter 2024, with pavement work slated for 2025/2026 and other long-term investments identified for future implementation.

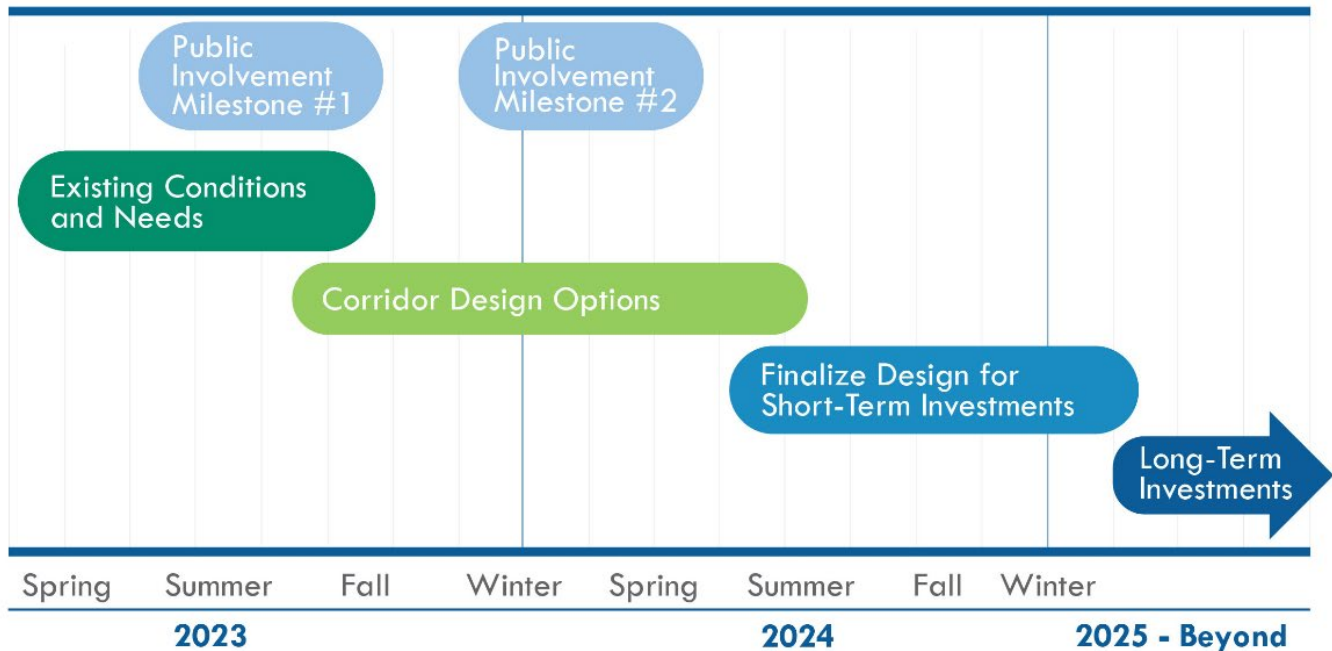


Figure 2: 112th Avenue Safety and Mobility Project Timeline

Key Findings from Existing Conditions

NE 112th Avenue is served by CTRAN Route 80, which turns north onto NE 112th Avenue from 28th Street and continues along NE 112th Avenue until turning west onto Fourth Plain Boulevard. On weekdays, Route 80 runs from 6:30 a.m. to 9 p.m. at a 30-minute frequency. On weekends and holidays, Route 80 runs from 7:30 a.m. to 7:30 p.m. at a 30-minute frequency, with a final stop at 8:30 p.m.

Bus stops along NE 112th Avenue are spaced irregularly, with a relatively high density of stops between NE 39th Street and NE 49th Street. Many stops do not have access to nearby crosswalks, with marked crossings available only at NE 28th Street, NE 39th Street, NE 49th Street, and NE 51st Street. This leaves bus stops near NE 34th Circle and NE 44th Street without access to a crosswalk for nearly a quarter mile. Several bus stops consist of a sign with no shelter or seating. Five stops along NE 112th Avenue have a basic covered shelter.



Figure 3: 112th Avenue Transit Stops and Marked Crossings

The project team conducted an analysis of existing conditions along the corridor for all modes of travel, including walking, biking and small mobility, and transit gaps. The team also evaluated crash history, level of traffic stress for vulnerable users, and traffic conditions. Figure 3 depicts transportation system gaps and crash history.

NE 112th Avenue is one of the busiest corridors in the city with over 40,000 vehicles moving through its busiest sections each day. The average speed is 20 miles per hour (mph) in the northbound direction and 22 mph in the southbound direction. The intersections on 112th Ave with the greatest traffic delay include SE Mill Plain Boulevard/SE Chkalov Drive, NE 23rd Street/NE 112th Avenue, and NE 28th Street/NE 112th Avenue.

The existing conditions task also documented the following deficiencies on NE 112th Avenue:

- Limited or disconnected mobility lanes on the corridor
- Lack of marked crosswalks at unsignalized intersections, with long distances between crossings
- Lack of pedestrian-scale lighting at bus stops
- Lack of marked or enhanced crosswalks to access bus stops

There have been 399 crashes on 112th Ave between 2017 and 2021, with 15 crashes resulting in fatal or severe injuries. Additionally, in March 2023, a fatal crash occurred at the intersection of the 900 block of NE 112th Avenue which involved an automobile and a cyclist.

- The intersection with the highest frequency of crashes (66 crashes) was SE/NE Chkalov Drive and Mill Plain Boulevard
- The roadway segment with the highest frequency of crashes (39 crashes) was between SE 7th Street and Mill Plain Boulevard

There were 22 crashes along the corridor that involved pedestrians or bicyclists, with 4 crashes resulting in a fatality. The fatal crashes occurred at the following intersections:

- SE Chkalov Drive & SE McGillivray Boulevard intersection
- SE Chkalov Drive & Mill Plain Boulevard intersection
- NE 20th Street to NE 23rd Street segment of NE 112th Avenue
- 900 block of NE 112th Avenue



Figure 4: 112th Avenue Safety and Mobility Project Facility Gaps and Crash History

Community Engagement Update

This Project includes two key public involvement phases:

- **Public Involvement Phase #1 (Summer/Fall 2023):** Input on existing conditions and needs used to help inform the development of the evaluation framework and the range of potential design options.
- **Public Involvement Phase #2 (Winter/Spring 2024):** Input on corridor design options, used to finalize the selection and design of short- and long-term investments.

In addition to these two focused rounds of engagement, community engagement will continue throughout the project via digital communication, social media, small group briefings, BBQs, and other in-person events and online activities. The project team will coordinate with partner agencies and convene with the TMC at key project milestones to shape the project and ensure it reflects City and community values.

Public Involvement Phase #1 includes broad outreach communication through the [Be Heard Vancouver](#) website, and in-person engagement including community tabling events, small group briefings, and canvassing

Draft Evaluation Framework

The following draft evaluation framework will be used to assess potential safety and mobility treatments. The draft framework was informed by the City's Strategic Plan, Transportation System Plan goals and our Complete Streets Policy. Refinements to this draft framework will be informed by public feedback on priorities, received during Phase #1 engagement.

Table 1: Draft Evaluation Framework

Criteria	Questions the team will ask	How will we measure it?
Mobility improvement for people walking, using a mobility device, bicycling, or using the bus	Does the alternative make it more comfortable and easier for people to walk, roll, bike, use a mobility device or use the bus?	Alternative applies known best practices for increasing comfort and mobility for people walking, using a mobility device, bicycling, or using the bus.
	Does the alternative avoid serious negative impacts to freight and personal vehicle travel in the corridor?	Alternative maintains or improves transit travel time reliability.
	Does the alternative connect to past or planned mobility improvements?	Alternative would meet traffic mobility standards on NE 112 th Avenue.
		Alternative minimizes diversion to local streets or diversion is mitigatable. Degree to which alternative connects with past or planned mobility improvements.
'Safe Systems' approach to improvements for all users of the corridor, including people walking, using a mobility device, bicycling, driving, or using the bus	Does the alternative make it safer for people to walk, roll, bike, or use the bus?	Alternative provides greatest safety benefits (based on literature review and safety countermeasure performance) relative to implementation cost.
	Does the alternative make it safer for people driving?	Alternative would improve safety for people driving by applying known safety countermeasures.

Criteria	Questions the team will ask	How will we measure it?
Greenhouse gas (GHG) reduction benefits	Does the alternative support the City's goals to reduce GHG emissions and/or reduce VMT?	Degree to which alternative supports mode shift, based on results from regional travel model.
Equitable outcomes	Does the alternative provide benefits or mitigate burdens to equity populations specifically?	Direct benefit (reduced transportation costs) or reduced burden to identified equity populations living or working within the corridor (within ¼ mile of NE 112 th Avenue).
Access to housing, businesses, jobs, services, parks and recreation, and educational opportunities	Does the alternative increase access to essential places as identified in the City's equity atlas? Does the alternative increase access to businesses for people walking, using a mobility device, riding a bike, or using the bus?	Degree to which alternative support increased access to businesses and services, based on improvements in transportation safety and comfort for all users in the corridor.

Kate Drennan, Principal Transportation Planner, Community Development, 360-487-7959,
Kate.Drennan@cityofvancouver.us

Attachments:
Existing Conditions Memo
112th EC Appendix Safety Analysis

Existing and Future Traffic and Safety Analysis NE 112th Avenue Safety and Mobility Project

Prepared for

City of Vancouver
415 W 6th Street
Vancouver, WA 98660

Prepared by

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CITATION

Parametrix. 2023. Existing and Future Traffic and Safety Analysis
NE 112th Avenue Safety and Mobility Project. Prepared for City
of Vancouver by Parametrix, Portland, Oregon. August 2023.

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- A Peak-Hour Analysis
- B Synchro/SimTraffic Reports
- C Safety Analysis - Corridor Detail

ACRONYMS AND ABBREVIATIONS

HSM	Highway Safety Manual
LOS	Level of Service
LRSP	Local Road Safety Plan
PSI	Potential for Safety Improvement
TSP	Transportation System Plan
TSSA	Transportation System Safety Analysis

EXECUTIVE SUMMARY

This memorandum documents existing (2023) and future (2040) baseline traffic and safety conditions on NE 112th Avenue from SE McGillivray Boulevard to NE 51st Street in Vancouver, Washington. This baseline traffic and safety information, in addition to prior plan recommendations, will inform development of lane reconfiguration alternatives and other corridor safety improvement recommendations.

This project team will use information contained in this report, along with community input and feedback, to develop improvement concepts for the corridor. The selected improvement concepts will become project recommendations that will be advanced by the City in part through a preservation and resurfacing project on NE 112th Avenue in 2025 and 2026. Some recommendations that are outside the paving scope may be advanced as part of other capital investment safety or redevelopment projects in the future. Phase 1 of the resurfacing will take place in 2025 from Mill Plain Boulevard to NE 28th Street. Phase 2 will take place in 2026 and will extend from NE 28th Street north to the city boundary. The study area south of Mill Plain Boulevard is not on the list for preservation and resurfacing. However, the section of NE 112th Avenue between Mill Plain Boulevard and McGillivray Boulevard was included in the study area because the City is currently conducting a Complete Streets project on McGillivray Boulevard, so there may be opportunities to create mobility connections in this southern section and have plans in place for the next time that preservation and repaving occurs on this segment of roadway.

Study Area

The study area for the project is NE 112th Avenue from McGillivray Boulevard to NE 51st Street in Vancouver, Washington, an approximately 3.3-mile-long corridor. Figure ES-1 shows the study area boundaries and key issues along the corridor. In addition to the maps in this report, information can also be viewed on the project's online map.¹

¹ <https://parametrix.maps.arcgis.com/apps/webappviewer/index.html?id=6598fbd6f2f44058833bf1a2265d7790>

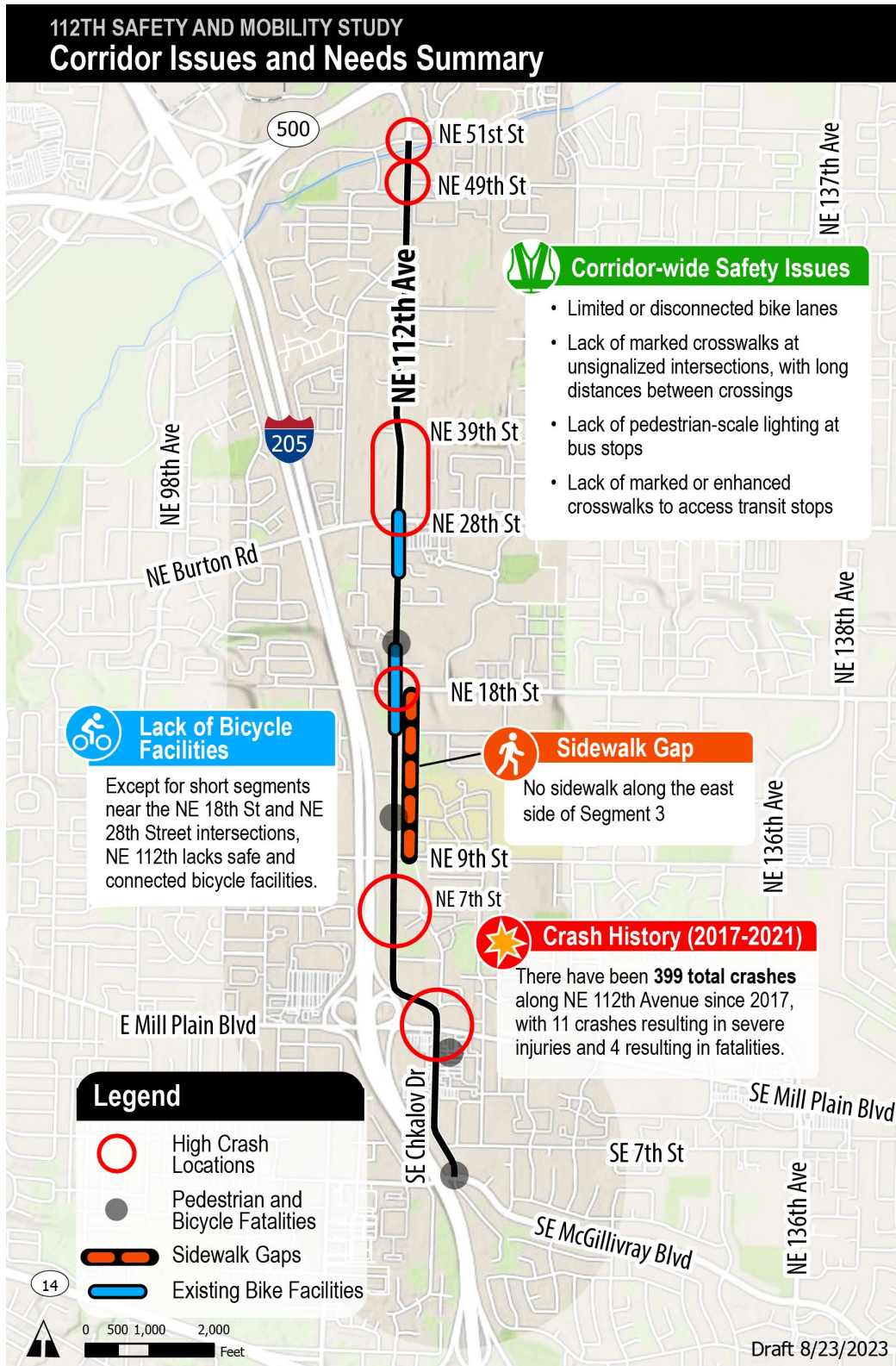


Figure ES-1. Project Segments and Key Facility Gaps

Land Use and Demographics

The 3.3-mile study area is an important north-south connector for several neighborhoods, businesses, schools, assisted living facilities, shopping centers, and other community destinations.

A large portion of study-area residents are members of equity populations who may have been historically excluded from transportation decision-making in the past. The City of Vancouver's Equity Index is a tool used to guide policy, program, and public investment priorities based on where equity populations reside in the City. The Equity Index considers the following variables:

- People of color (non-white and/or Hispanic/Latinx)
- Median Family Income
- Renters
- Adults without a 4-year college degree
- Households with limited English proficiency
- Persons with disabilities
- Households with children (below 18 years of age)
- People 65 and over

Neighborhoods north of NE 28th and south of Mill Plain score highest with respect to the equity index.

Cycling, Walking, and Rolling

The City's updated Transportation System Plan (TSP) identifies the 112th Avenue corridor as a Pedestrian Corridor, meaning the roadway is intended as a low-stress walking and rolling corridor. Additionally, the corridor is part of the Small Mobility Network, prioritized for low-stress cycling and use by people with small mobility devices such as scooters. Today, much of the corridor has sidewalks, but these directly abut the travel lane in most cases (no buffer present) and are 6' or less in width, leading to higher-stress conditions for people walking and rolling the corridor. There are virtually no cycling facilities in the corridor, creating a very stressful environment for cyclists.

Additionally, parallel adjacent streets such as NE 110th Avenue have been identified as low-stress Neighborhood Greenways in the TSP.

Figure ES-1 shows a summary of the major facility gaps in the corridor, summarized below:

Cycling Facilities

- No bike lanes are present throughout most of the corridor, and where present, are disconnected.
- Several areas along NE 112th Avenue are considered "difficult connections" which is defined by the City of Vancouver as an area with higher speeds and/or volumes, combined with narrow lane widths or other problems for cyclists.

Pedestrian Facilities

- Marked pedestrian crosswalks are present only at signalized intersections throughout the corridor, and in some places, are up to a half mile apart.
- In Segment 3 (NE 9th Street to NE 18th Street), sidewalks are missing on the east side of the street.
- In Segment 6 (39th Street to 51st Street), a fence or wall runs directly parallel to the sidewalk for approximately 900 feet without street lighting. This may result in a less comfortable experience for people walking or using a mobility device, due to the tunnel-like experience of walking between a wall and fast-moving traffic.

Transit

NE 112th Avenue is served by C-TRAN Route 80, which turns north onto NE 112th Avenue at 28th Street and continues along NE 112th Avenue until turning west onto Fourth Plain Boulevard. C-TRAN is planning to introduce a new transit route on 112th Avenue in September 2024, with changes (including construction of new bus stops) to be implemented in summer 2023. The new route will include service south of NE 28th, where no service currently exists.

Existing notable transit conditions include:

- Many stops are not located near marked or enhanced crosswalks, and marked and/or signalized crossings (consisting of crosswalk markings and stop bars at signalized intersections) are available only at NE 28th Street, NE 39th Street, NE 49th Street, and NE 51st Street.
- Many bus stops are not located adjacent to street lighting and likely do not meet industry standards for illumination.

Traffic Analysis

Current Traffic Volumes and Corridor Travel Times (2023)

- The number of trips on the 112th Avenue corridor (northbound and southbound trips) is generally higher north of NE 18th Street and lower south of NE 18th Street. North of NE 18th, the number of weekday vehicle trips is approximately 30,000, increasing to over 45,000 at the SR 500 ramps just north of the study area. South of NE 18th Street, the number of weekday vehicle trips is between approximately 15,000 and 18,500. The Federal Highway Administration (FHWA) advises that roadways with average daily trips of 20,000 or fewer are potential candidates for lane reconfigurations.
- The peak travel hours are from 7:45 to 8:45 a.m. and from 4:30 to 5:30 p.m. The northbound direction accounts for 48% of the trips, while the southbound direction constitutes 52%. Corridor speed data indicates that speeding may be an issue between NE 9th and approximately NE 28th Street on 112th Avenue; data indicates the 85th percentile speed (the speed at which 85% of drivers are travelling at or under) is between 41.5 MPH and 44.9 MPH in this section, with a speed limit of 35 MPH.

- Table ES-1 shows corridor travel speeds, both current and future (2040), as they compare to the City's corridor travel time concurrency standards. The concurrency standards specific a minimum corridor travel speed target. The corridor is forecast to *not* meet concurrency standards between 28th Street and 51st Street in the future year during PM peak hour.

Table ES-1. PM Peak Hour Travel Speeds and Concurrency Standards

Time Period	Segment	Concurrency Threshold (mph)	2023 Existing Speed (mph)			2040 No-Build Speed (mph)		
			NB	SB	Average	NB	SB	Average
AM Peak Hour	Mill Plain Blvd to 28th St	11	25	24	24.4	25	24	24.1
	28th St to 51st St	15	20	17	18.3	20	17	18.2
PM Peak Hour	Mill Plain Blvd to 28th St	11	24	23	23.2	23	22	22.6
	28th St to 51st St	15	19	15	17.0	13	14	13.9

Blvd = Boulevard; mph = miles per hour; NB = northbound; SB = southbound; St = Street

Traffic Operations – Current Year (2023) and Future Year (2040)

The project team conducted intersection traffic operations analysis to understand how much delay and congestion drivers experience in the corridor today and in the future (2040). The future year modeling is based on information from the regional travel model, which projects travel demand out to the year 2040. The following section highlights those intersections that are congested today and/or are anticipated to be congested in the future. Two metrics are used to evaluate traffic congestion:

- Volume to capacity ratio (v/c ratio):** This measures the amount of traffic on the roadway or intersection relative to the amount of traffic the roadway or intersection is designed to accommodate. In general, v/c ratios below 0.85 are considered acceptable traffic conditions based on Highway Capacity Manual (HCM) guidance.
- Level of service (LOS):** This is a measure of delay for vehicles at intersections, graded on a scale from A (free flow conditions) to F (very heavy congestion). In general, LOS of D or above is considered acceptable traffic conditions.

Table ES-2 highlights those intersections where LOS or v/c ratio exceed LOS D or a v/c ratio of 0.85, respectively.

Table ES-2. Intersection Operations Results

112th Avenue Results			2023 Existing				2040 No-Build			
North/South Street	East/West Street	Control Type	Delay (s)	LOS	v/c Ratio	Worst Movement	Delay (s)	LOS	v/c Ratio	Worst Movement
AM Peak Hour										
Chaklov	Mill Plain	Signal	40	D	0.64	SB	41	D	0.69	SB
112th	NE 23rd	TWSC	26	D	0.26	WB	25	C	0.25	WB
112th	NE 28th	Signal	48	D	0.69	EB	47	D	0.71	EB
PM Peak Hour										
Chaklov	McGillivray	Signal	22	C	0.85	NB	22	C	0.91	NB
Chaklov	Mill Plain	Signal	38	D	0.73	NB	40	D	0.79	NB
112th	NE 23rd	TWSC	54	F	0.30	WB	71	F	0.36	WB
112th	NE 28th	Signal	93	F	0.81	NB	105	F	0.86	NB
112th	NE 49th	Signal	33	C	0.76	NB	49	D	0.84	NB
112th	NE 51st	Signal	13	B	0.82	EB	15	B	0.89	EB

EB = eastbound; LOS = level of service; NB = northbound; SB = southbound; TWSC = two-way stop control; WB = westbound

The following intersections have high levels of vehicle delay today and/or in the future (2040):

- Mill Plain Boulevard and Chkalov Drive.
- NE 112th Avenue and NE 23rd Street. This intersection is not signalized today.
- NE 112th Avenue and NE 28th.

All other intersections within the study area operate at a level of service ranging from LOS A to C, which is considered acceptable and does not result in significant delays or congestion during peak hours.

Safety Conditions

There are a high number of crashes and multiple fatalities in the NE 112th Avenue corridor, indicating that there is significant opportunity for safety improvements overall. Analysis of recent crash data (2017–2021) revealed:

- There were 399 reported crashes in the corridor. Of those, 15 were severe injury and fatal crashes, and 22 were pedestrian- or bicyclist-involved crashes.
- Three of the fatal crashes involved pedestrians, all of which occurred during dusk or dark (with streetlights) conditions. The fatal pedestrian crashes occurred at the following locations:
 - SE Chkalov Drive & SE McGillivray Boulevard intersection
 - SE Chkalov Drive & Mill Plain Boulevard intersection
 - NE 20th Street to NE 23rd Street segment of NE 112th Avenue

Additionally, in March 2023, a fatal crash occurred at the intersection of the 900 block of NE 112th Avenue which involved an automobile and a cyclist.

The project team conducted analysis (using *Highway Safety Manual*² [HSM] methods) to understand how 112th Avenue safety performs relative to other roadways with similar conditions. This analysis identified intersections that are experiencing more than one additional crash per year on average than would be predicted for a similar roadway elsewhere, and may represent priority locations for safety countermeasures. These include:

- NE 112th Avenue & NE 18th Street
- NE 112th Avenue & NE 28th Street
- NE 112th Avenue & NE 49th Street
- NE 112th Avenue & NE 51st Street

Overall, the corridor is performing slightly worse than predicted (i.e., compared to similar sites), largely due to the locations identified above. While improvements are possible along the entire corridor, the locations highlighted in the HSM crash analysis represent the areas with the most opportunity to reduce crashes and improve safety performance along the corridor.

² <https://www.highwaysafetymanual.org/Pages/default.aspx>

Finally, the City has conducted previous safety analysis through its *Local Roads Safety Plan*.³ This plan identified the following three locations for safety investment opportunities:

- *Intersection of Chkalov Drive and Mill Plain Boulevard*. This intersection experienced the most crashes along the corridor under prior analysis, including the greatest number of fatal and severe injury crashes (three) at an intersection.
- *Segment between SE 7th Street and Mill Plain Boulevard*. This segment was the most dangerously ranked segment under a previous analysis, as well as the segment with the greatest total crashes per mile per year.
- *Segment between NE 28th Street and NE 39th Street*. The project team assessed this area with the HSM analysis method noted above and found that this segment is performing better than other roadways with similar characteristics; however, there were two severe injury crashes here during the study period.

3

https://www.cityofvancouver.us/sites/default/files/fileattachments/community_development/page/1023/vancouver_lrsp_09122022.pdf

1. INTRODUCTION

This report documents existing (2023) and future (2040) baseline traffic and safety conditions on NE 112th Avenue from SE McGillivray Boulevard to NE 51st Street. The project team conducted traffic analysis using traffic counts collected in 2023. Safety analysis is derived from existing plans and documents such as the 2018 Transportation System Safety Analysis (TSSA), the 112th Avenue Corridor Traffic Safety Project (2009), the 112th Avenue Corridor Subarea Plan (2011), and the City of Vancouver's Safety Dashboard, as well as novel analysis conducted by the project team. This baseline traffic and safety information, in addition to prior plan recommendations, will inform development of lane reconfiguration alternatives and other corridor safety improvement recommendations.

In addition to the maps in this report, mapped information can also be viewed in the project's online map.⁴

⁴ <https://parametrix.maps.arcgis.com/apps/webappviewer/index.html?id=6598fbd6f2f44058833bf1a2265d7790>

2. BACKGROUND AND STUDY AREA

This project will develop improvement concepts for the corridor, partner with the community to provide feedback, and make recommendations on striping redesigns as well as other safety and mobility improvements. The recommendations will be advanced by the City through a preservation and resurfacing project on NE 112th Avenue in 2025 and 2026. Some recommendations may be advanced as part of other capital investments outside of the paving projects. Phase 1 of the resurfacing will take place in 2025 from Mill Plain Boulevard to NE 28th Street. Phase 2 will take place in 2026 and will be from 28th Street north to the City boundary. The study area south of Mill Plain Boulevard is not on the list for preservation and resurfacing, however, the section of NE 112th Avenue between Mill Plain Boulevard and SE McGillivray Boulevard was included in the study area because the City is currently conducting a Complete Streets project on SE McGillivray Boulevard. The Project Team will be looking for opportunities to create mobility connections in this southern section when this segment is scheduled for repaving.

The study area is an approximately 3.3-mile-long corridor along NE 112th Avenue from SE McGillivray Boulevard to NE 51st Street in Vancouver, Washington. Figure 2-1 shows the study area boundaries and major intersections in the corridor.

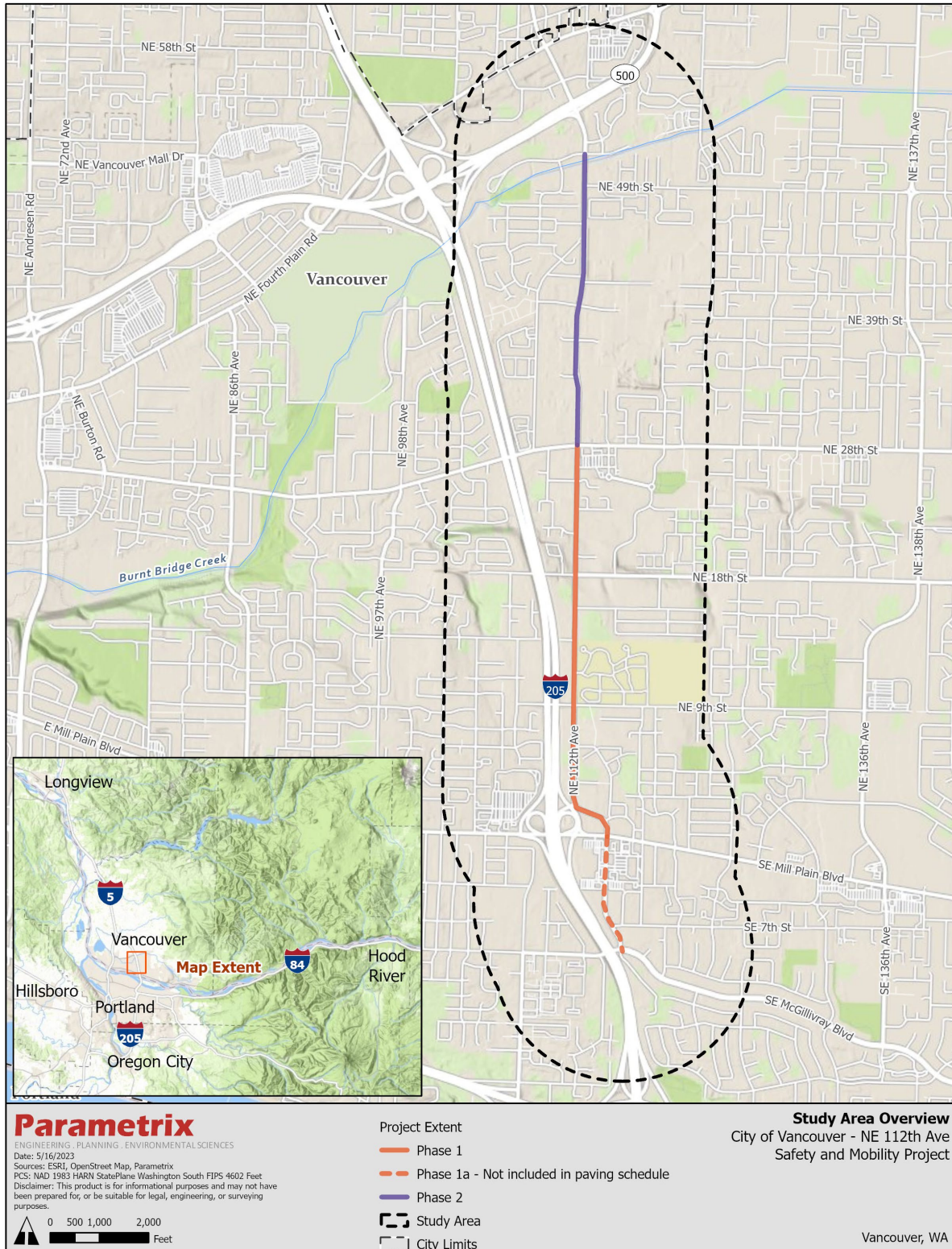


Figure 2-1. Study Area

2.1 Study Area Demographics

The 3.3-mile project study area is a vibrant and growing corridor, encompassing several neighborhoods, businesses, schools, assisted living facilities, shopping centers, and other community destinations. 51-73% of housing units are renter-occupied within the project study area. In comparison, approximately 49% of housing units are renter-occupied within the City of Vancouver.

As demonstrated in Figure 1, equity index scores indicate that a large portion of project-area residents are populations who may have been historically excluded from transportation decision-making in the past. The City of Vancouver's Equity Index Map is a tool used to guide policy, program, and public investment priorities based on where equity populations reside in the City. The map below was created using the City of Vancouver's Equity Index Map. The Equity Index Map considers the following variables:

- People of color (non-white and/or Hispanic/Latinx)
- Median Family Income
- Renters
- Adults without a 4-year college degree
- Households with limited English proficiency
- Persons with disabilities
- Households with children (below 18 years of age)
- People 65 and over

Neighborhoods in the north and south ends of the project study area contain the highest equity index scores. According to [2021 U.S. Census](#) data and as demonstrated in Table 2, Spanish and Russian/Ukrainian language support will be needed when engaging with residents throughout the project area.

Table 2-1. Percentage of People Within the Project Study Area Who Speak Languages other than English

Project Study Area	% of People Who Speak Spanish	% of People Who Speak Russian/Slavic Languages
Segment 1		
Census Tract 412.07	18.3%	0%
Census Tract 413.22	11%	7.4%
Segment 2-4		
Census Tract 412.06	8.5%	9.6%
Census Tract 413.17	2.1%	9.7%
Segment 5-6		
Census Tract 413.13	7.3%	2.1%
Census Tract 413.31	6.6%	9.6%

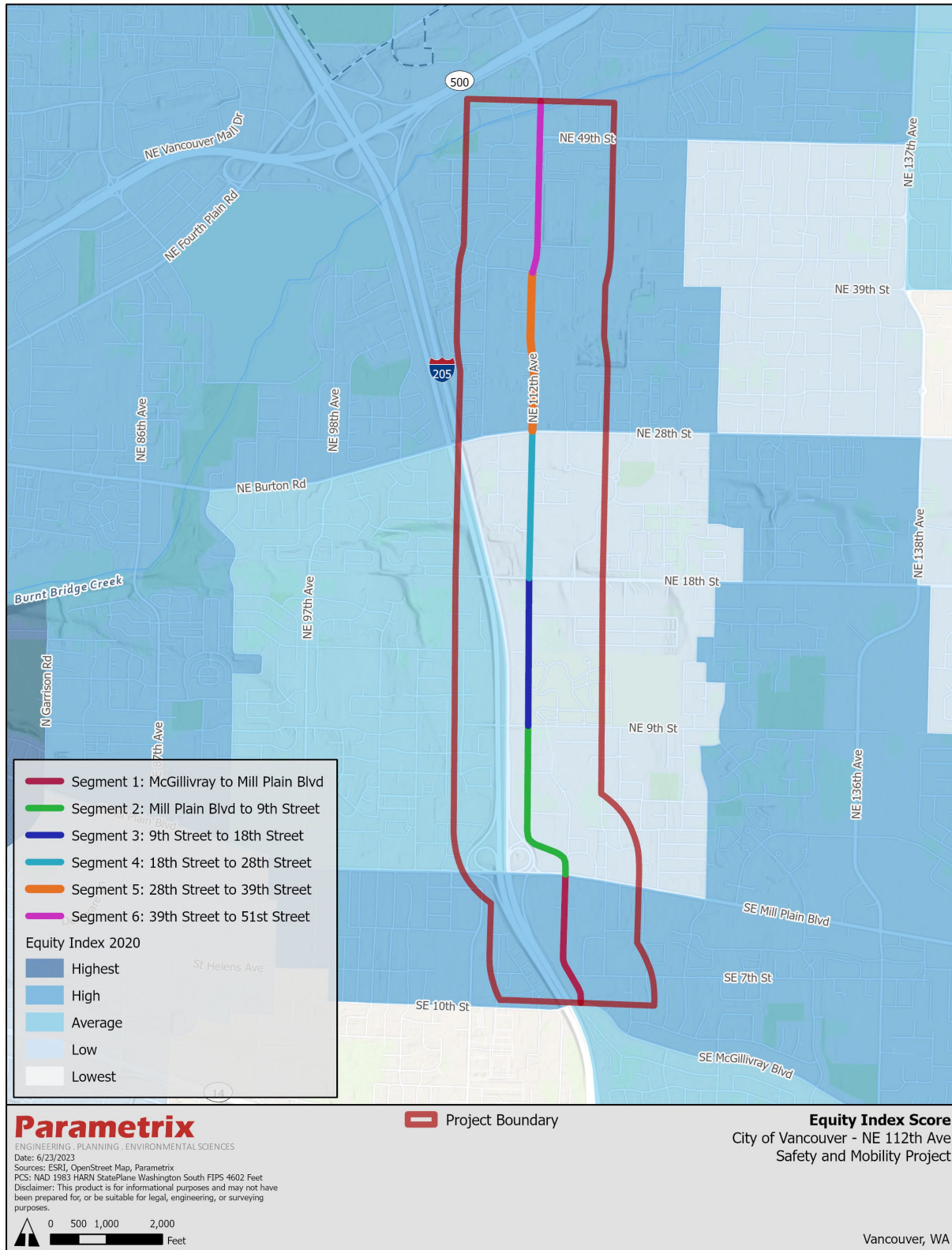


Figure 2-2. Project Study Area Equity Index Scores

2.2 Prior Planning Efforts

Due to the corridor’s crash history, NE 112th Avenue has been included in multiple studies, planning efforts, and improvement initiatives over the last decade. Table 2-2 includes a summary of past planning efforts, key findings, and recommendations.

Table 2-2. Prior Efforts – Key Findings and Recommendations

Plan/Initiative	Key Findings	Recommendations
112th Avenue Repaving Project (TBD)	City’s pavement management section will be repaving NE 112th Avenue from NE 51st Street to Mill Plain Boulevard in 2025 and 2026.	Consider coordinated safety and mobility improvements with the repaving project.
City of Vancouver Transportation Improvement Program (TIP) - Updated Annually	- The City of Vancouver TIP identifies capital transportation system improvement projects over a 6-year period. - Projects listed in the TIP include planning studies and major street, bicycle, pedestrian, and traffic signal improvements. - Complete Streets policies and a citywide collision study were reflected in the plan and helped prioritize future transportation needs. - Extensive public outreach, which includes an increased focus on communities underrepresented in previous transportation planning efforts, helped inform the update.	Projects include: - NE 112th Avenue Sidewalk: Chkalov Drive to NE 9th Street (2020–2025). - Corridor improvements to bring NE 112th Avenue up to urban arterial standards and address safety and accessibility issues for all modes of travel (2023–2028).
Vancouver Moves – City of Vancouver Transportation System Plan (TSP) Update (2020 – 2022)	- Safety was identified as the top transportation value to guide the development of TSP policies, goals, and projects. - NE 112th Avenue was included as a “Site with potential for safety improvements” for both intersections and segments along the corridor. - Mill Plain Boulevard/Chkalov Drive ranked #1 in the Safety Performance Index conducted as part of developing the updated TSP. - The entire NE 112th Avenue study area was identified as a “site which may respond to countermeasures.”	- As part of the Proposed Pedestrian Network, NE 112th Avenue was identified as a low-stress walking and rolling network; improvements may include better sidewalks, ramps, and crossings in places with higher concentrations of pedestrian destinations and needs (see Figure 2-3). - As part of the Proposed Bicycling and Small Mobility Network, NE 112th Avenue was identified as part of the future low-stress bicycling and small mobility network; includes proposed new or upgraded low-stress facilities, which may include protected lanes, striped bike lanes, multiuse paths, and bike routes where people can safely and comfortably travel

Plan/Initiative	Key Findings	Recommendations
		by bicycle, scooter, or other small mobility devices throughout the city (see Figure 2-4). - NE 112th Avenue was proposed as an enhanced transit corridor. The TSP proposes an enhanced transit network to designate streets where the City will prioritize working with C-TRAN to support investments in transit speed and reliability. The enhanced transit network also designates where the City should focus on station access improvements such as pedestrian crossings and sidewalks. 109th Avenue (parallel to NE 112th Avenue) was identified as a Neighborhood Greenway and a low-stress facility.
Local Road Safety Plan for 2022–2026 (August 2022)	- The 2022 LRSP looks at crashes that resulted in an injury on the City of Vancouver’s locally controlled streets from 2016 through 2020, with a focus on crashes that resulted in a fatality or severe injury. - This plan evaluates crash data from previous years to identify trends, high priority locations, countermeasures, and recommendations for updates to the City’s LRSP.	Potential safety countermeasures: - Convert intersections to roundabouts. - Convert four-lane roadways to three-lane roadways with a center turn lane (road reconfiguration). - Modify signal phasing to implement a leading pedestrian interval. - Install lighting. - Install refuge islands and raised crossings, crosswalk sight distance and visibility enhancements, advance stop marking. - Invest in bike lanes. - Explore options for access management. - Shorten crossing distances with bicycle friendly curb extensions.

Plan/Initiative	Key Findings	Recommendations
City of Vancouver Transportation System Safety Analysis (TSSA) (2018)	• Portions of NE 112th Avenue had some of the highest collision rates across the City. Between 2010 and 2016, two of the top 20 crash intersections are within the study area. • NE 112th Avenue at NE 51st Street ranked twelfth in the City's safety performance index with 51 total crashes (3 fatal and serious, 1 ped/bike). • NE 112th Avenue at NE 39th Street tied for seventeenth place with 13 total crashes (3 fatal and serious, 5 ped/bike). • In a Segment Prioritization Analysis, NE 112th Avenue from Mill Plain Boulevard to NE 9th Street was identified as a higher-ranking segment for the Principal Arterial classification and was identified as a segment with potential for safety improvements. • Five-lane cross sections such as NE 112th Avenue had higher rates of pedestrian crashes (all severities).	• Analysis revealed countermeasures that could be implemented throughout the city: implement leading pedestrian interval phasing, increase driver compliance with traffic signals, improve wayfinding, reduce speeding, and evaluate opportunities to reconfigure the roadway cross section. • NE 112th Avenue at NE 9th Street Project. Increase all-red clearance interval, review sight distance triangles at intersections, add retroreflective sheeting to signal backplates, install rectangular rapid flashing beacons (RRFBs) at marked pedestrian crossings, install leading pedestrian interval phase at all approaches.
Complete Streets Program (2016)	• Vancouver City Council adopted the City's 2016–2021 Strategic Plan, which includes actions to adopt and implement a Complete Streets program designed to enable safe mobility for all users. In 2017, the City Council adopted a Complete Streets ordinance.	Complete Streets ordinance vision and intent: • A safe, accessible street system that benefits all users, ages, and abilities, regardless of how they choose to travel. • A convenient and interconnected transportation network that improves accessibility to adjacent land uses and fits the dynamics and character of each neighborhood throughout the city. • Leverage local funding for Complete Streets projects with regional, state, and federal grant funding programs.

Plan/Initiative	Key Findings	Recommendations
112th Avenue Corridor Subarea Plan (2011)	- The corridor currently contains a mix of land uses and housing types and vacant/underutilized parcels waiting for future development. - The challenge is to incorporate newer major transportation facilities, including two I-205 split-diamond interchanges, an improved NE 18th Street & NE 112th Avenue intersection, and a future park and ride, in a way that enhances the livability of the area. - Although portions of NE 112th Avenue have been improved with public projects and private development, much of 112th is built to less than full urban standard. Frontage improvements are spotty or substandard in places, and corridor right-of-way width is inconsistent and lacking in several locations. - The existing development of the corridor is conducive to high-speed automobile traffic.	- Consider small, landscaped medians that enhance safety and appearance at strategic locations. - Integrate gateway treatments. - Explore lane configuration options south of NE 18th Street to allow for sidewalks, bike lanes, and street trees and other traffic management and safety options. - Explore traffic management and safety options. - Work with property owners on potential sidewalk options. - Encourage mixed-use development. - Promote integrated and compatible development with connected, attractive circulation and small, centralized common open spaces. <i>Note: These recommendations have not been completed.</i>
112th Avenue Corridor Traffic Safety Project (2009)	- The Washington State Corridor Safety Program identified NE 112th Avenue as a corridor safety project in 2009. - The Corridor Safety Program works to reduce collisions on roadways using low-cost, near-term solutions through the use of partnerships with engineering, enforcement, education, and emergency services. - The program was locally coordinated, which included invitations to local leadership to chair steering committee meetings, participation from local government, interested citizens, businesses, schools and any other agencies that had a vested interest in the safety of their roadways.	- Short median installation and I-205 ramp signal installation at Chkalov Drive mid-block between NE 2nd Street and I-205 off-ramp. - Striping of northbound to westbound left-turn lane modified to reduce queue length at Mill Plain Boulevard/Chkalov Drive. - Left-turn signal upgraded to protected (green arrow) phasing at the Chkalov Drive/Fred Meyer traffic signal. - Radar sign installed between Chkalov Drive and NE 7th Street. 18th Street intersection widened and upgraded. <i>Note: These recommendations have not been completed</i>

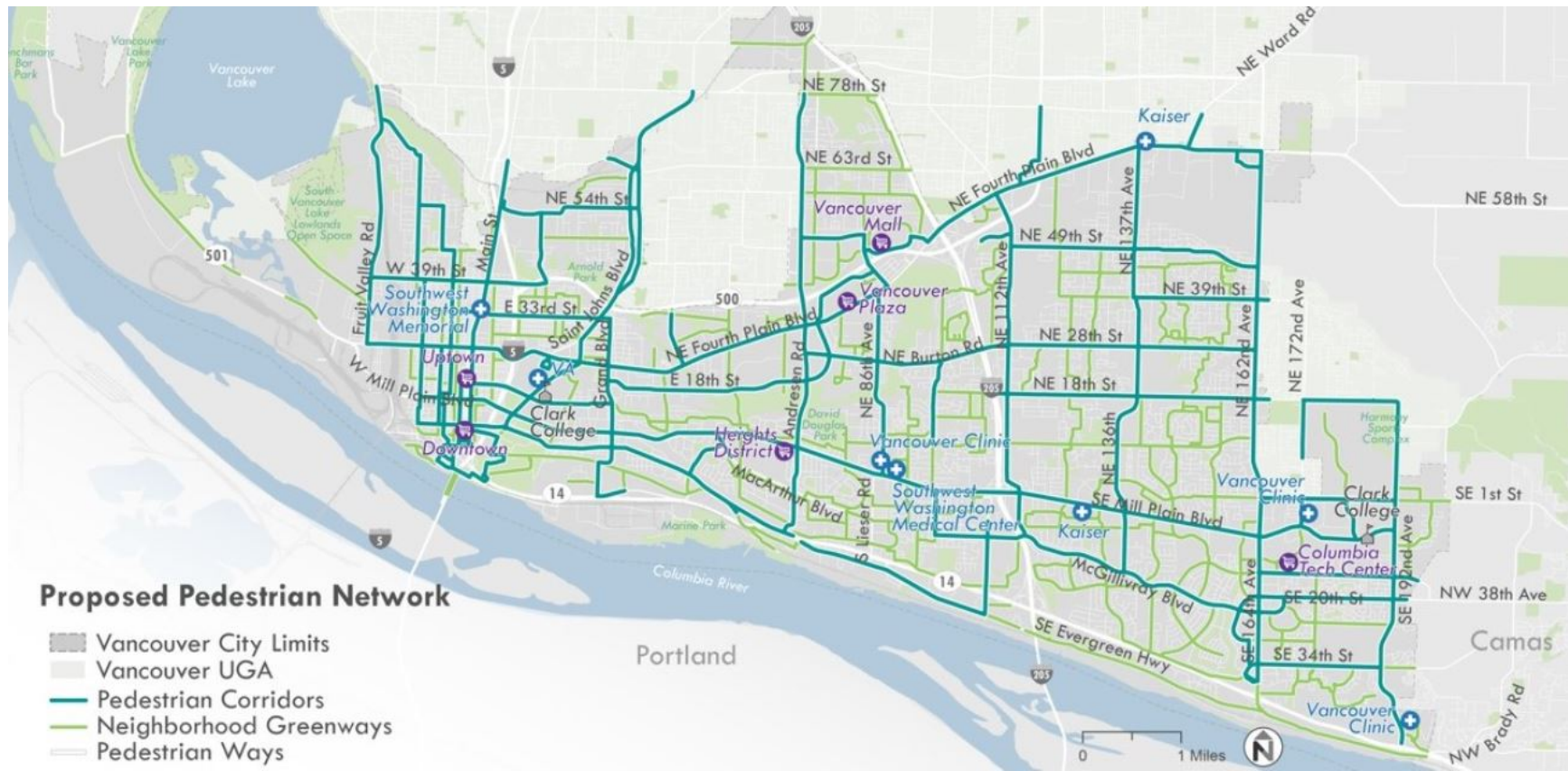


Figure 2-3. Vancouver TSP Proposed Pedestrian Network

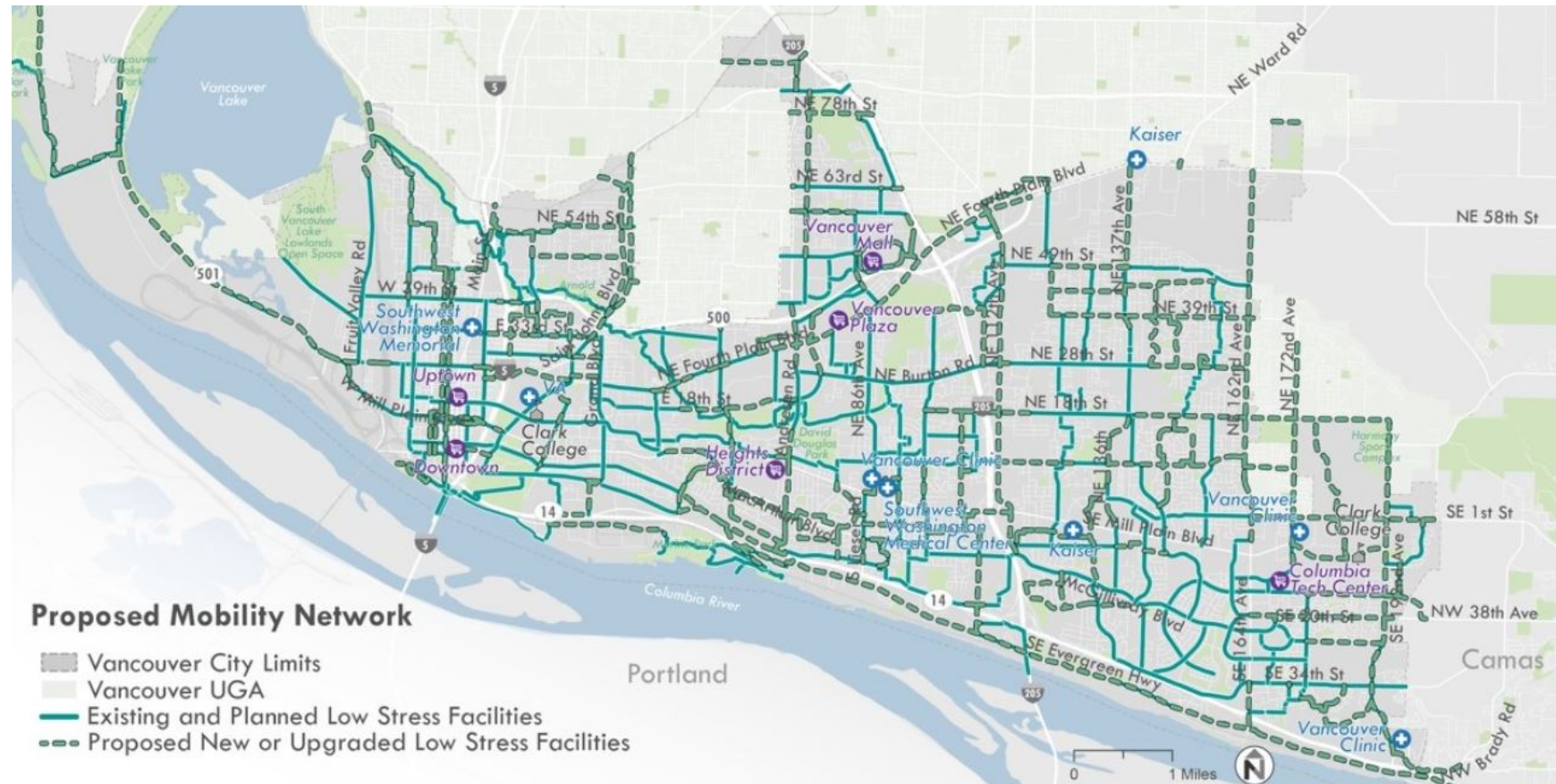


Figure 2-4. Vancouver TSP Proposed Mobility Network

2.3 General Study Area Conditions

Figure 2-5 shows the study area boundaries and segments. All segments within the study area consist of four travel lanes—two northbound, two southbound—and a center turn lane. The travel lanes are approximately 10 to 13 feet wide.

Major Destinations

Key destinations within or adjacent to the corridor are listed below and shown in Figure 2-5.

- Mannahouse Christian Academy
- Endeavour Elementary School
- Evergreen Memorial Gardens
- Endeavor Neighborhood Park
- Lauren Park
- Safeway shopping plaza
- Salvation Army
- Fred Meyer
- Trader Joe's
- Legacy-GoHealth Urgent Care
- Commercial areas between NE McGillivray Boulevard and NE Mill Plain Boulevard
- Industrial employment corridor

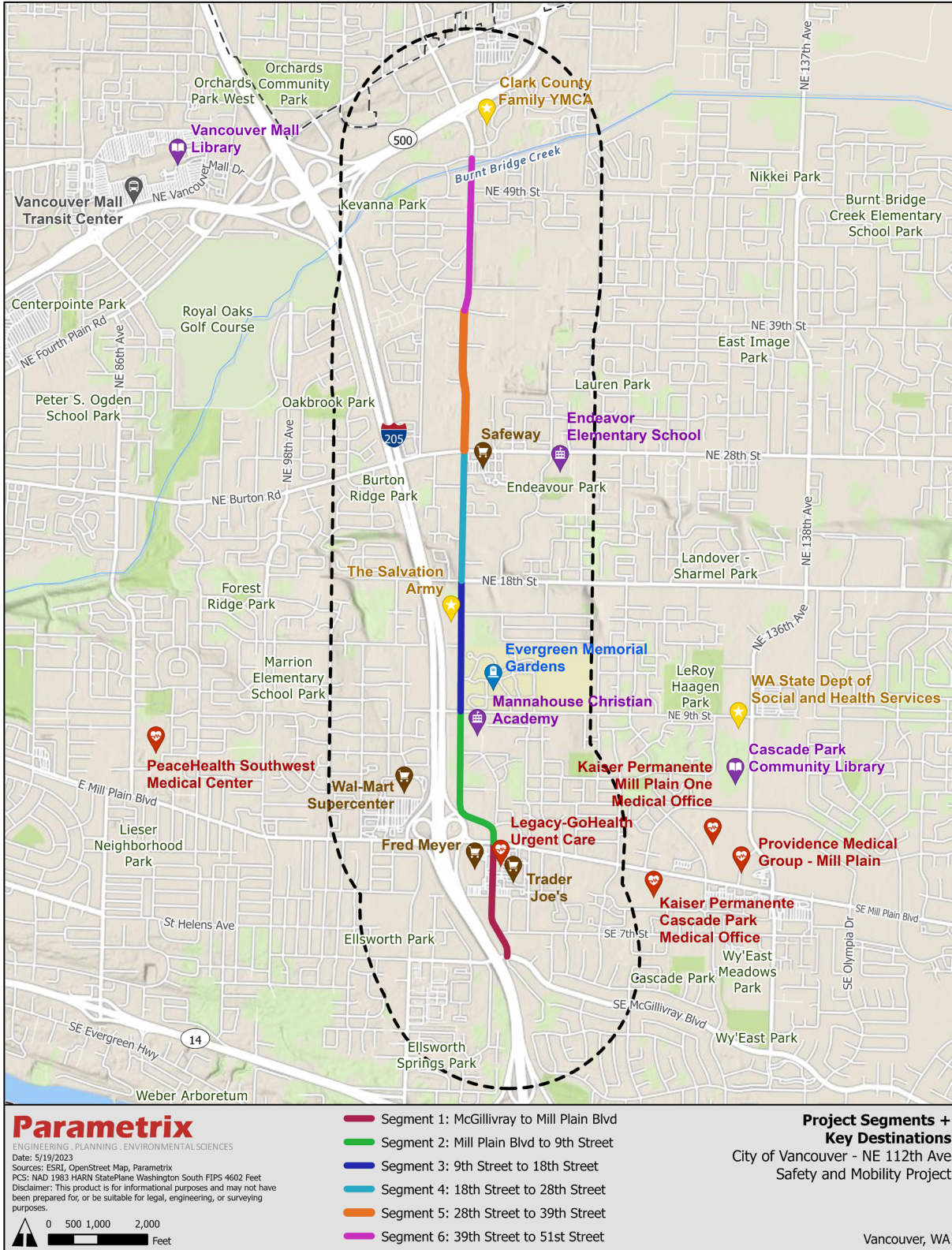


Figure 2-5. Project Segments and Key Destinations

Table 2-3. Corridor Segment Existing Conditions

Segment	Land Use	Major Destinations	Roadway	Sidewalks	Intersections	Bike Lanes	Transit Stops
1: SE McGillivray to Mill Plain Boulevard	Primarily commercial including several grocery stores, restaurants, and businesses (Figure 2-5).	Cascade Inn Assisted Living Community.	Four travel lanes: two northbound two southbound lanes, and a center turn lane. Travel lanes: 10 to 12 feet wide. Approaching the intersection of Mill Plain Boulevard from either direction, there are two left-- and a right-turn- lane.	Both sides of the street, approximately 5 to 8 feet wide.	<i>Signalized</i> - SE McGillivray Boulevard - SE 7th Street - Cascade Park Plaza/Fred Meyer entrance - Mill Plain Boulevard	None.	<i>Existing:</i> None <i>Planned:</i> - SE 7th Street (east side of street) - Fred Meyer entrance (both sides of street)
2: Mill Plain Boulevard to NE 9th Street	Primarily commercial and residential, including several restaurants and a hotel (Figure 2-5).	Mannahouse Christian Academy Vancouver and several residential complexes are at the north end of the segment.	Four travel lanes: two northbound, two southbound lanes, and a center turn lane. Travel lanes: 10 to 12 feet wide. Approaching the intersection of Mill Plain Boulevard from either direction, there are two left turn- lanes and a right turn- lane. An I-205 off-ramp lets off onto NE 112th Avenue near the Mill Plain Boulevard intersection.	Both sides of the street, approximately 5 to 6 feet wide.	<i>Signalized</i> - Mill Plain Boulevard - I-205 off-ramp - NE 9th Street <i>Unsignalized</i> - NE 2nd Street - NE 4th Street - NE 7th Street	None.	<i>Existing:</i> None <i>Planned:</i> - Mill Plain Boulevard (east side of street) - I-205 off-ramp (both sides of street) - South of NE 7th Street (both sides of street) - NE 9th Street (both sides of street)
3: NE 9th Street to NE 18th Street	Primarily residential complexes, a cemetery, small businesses, and clinics, including health service clinics and a veterinary clinic. The largest land use is Evergreen Memorial Gardens.	The Salvation Army. Single-family homes and apartment complexes are located at the north end of this segment, on both sides of the street.	Four travel lanes: two northbound two southbound lanes, and a center turn lane. Travel lanes: 10 to 12 feet wide. Approaching the intersection of NE 18th Street from either direction, there are two left turn- lanes and a right turn- lane.	Present on west side of the street, approximately 4 to 6 feet wide. No sidewalks on east side of the street except for a short section directly south of the 18th Street intersection.	<i>Signalized</i> - NE 9th Street - NE 18th Street <i>Unsignalized</i> - NE 14th Street - NE 16th Street	Present directly north and south of the 18th Street intersection; bicycle facilities end approximately 300 feet south of the intersection (see Photograph 2-9). Bike lanes are not buffered from vehicle traffic.	<i>Existing:</i> None <i>Planned:</i> - NE 16th Street (both sides of street) - NE 18th Street (both sides of street)
4: NE 18th Street to NE 28th Street	Primarily single-family residential, multifamily residential, and commercial. At the north end of this segment, the residential zone transitions into predominantly commercial uses.	Pacific Senior Living. Safeway shopping plaza includes multiple businesses and restaurants. Single-family homes and apartment complexes are located on both sides of the street.	Four travel lanes: two northbound two southbound lanes, and a center turn lane. Travel lanes: 10 to 12 feet wide. The lane configuration varies at intersections and includes two left turn- lanes and a right turn- lane at the NE 18th Street and NE 28th Street intersections.	Both sides of the street, approximately 5 to 6 feet wide.	<i>Signalized</i> - NE 18th Street - NE 28th Street <i>Unsignalized</i> - NE 20th Street - NE 22nd Street - NE 23rd Street - NE 25th/26th Street	Present directly north and south of the 18th Street intersection, but bicycle facilities end approximately 300 feet north of the intersection. Present from 25th/26th Street to 28th Street. Bike lanes in this segment are approximately 5 feet wide and are not buffered from vehicle traffic.	<i>Existing:</i> None <i>Planned:</i> - NE 23rd Street (both sides of street) - NE 28th Street (west side of street)

Segment	Land Use	Major Destinations	Roadway	Sidewalks	Intersections	Bike Lanes	Transit Stops
5: NE 28th Street to NE 39th Street	Commercial and light industrial.	Vancouver Fire Department Station 6. Businesses along the segment are limited to furniture and medical supply stores	Four travel lanes: two northbound two southbound lanes, and a center turn lane. Travel lanes: 11 to 13 feet wide. The lane configuration varies at intersections and includes two left turn lanes and a right turn lane at the 28th Street intersection.	Both sides of the street, approximately 5 to 7 feet wide.	<i>Signalized</i> - NE 28th Street - NE 39th Street <i>Unsignalized</i> - NE 34th Circle - NE 37th Circle	None	<i>Existing:</i> 6 C-TRAN bus stops (Route 80) 28th Street (east side of street) 3300 block near 34th Circle (both sides of street) 39th Street (both sides of street) 42nd Street (west side of street)
6: NE 39th Street to NE 51st Street	Primarily single-family residential, multifamily residential, and commercial. At the south end of this segment near NE 42nd Street, there is a large industrial lot and several industrial sites near NE 39th Street.	Single-family homes and apartment complexes are located on both sides of the street. Shopping plaza with a large Asian supermarket, a restaurant, several small businesses, and two convenience stores. Just beyond the northern extent of the study area, destinations include convenience stores, restaurants, YMCA, and a state patrol police department.	Four travel lanes: two northbound two southbound lanes, and a center turn lane. Travel lanes: 11 to 13 feet wide. The lane configuration includes two left turn- lanes and a right turn- lane approaching the NE 49th Street intersection southbound.	Both sides of the street, approximately 5 to 6 feet wide.	<i>Signalized</i> - NE 49th Street - NE 51st Street <i>Unsignalized</i> - NE 46th Street - NE 51st Circle	None	<i>Existing:</i> Seven C-TRAN bus stops (Route 80) 44th Street (east side of street) 46th Street (both sides of street) 39th Street (west side of street) 49th Street (both sides of street) 51st Street (west side of street) There are three additional C-TRAN bus stops on NE 51st Street that are served by Route 80, including a stop at the C-TRAN corporate office.

Note: Pedestrian crosswalks are only present at signalized intersections throughout the corridor.

2.3.1 Segment 1: McGillivray to Mill Plain Boulevard

The typical cross section in Segment 1 consists of four travel lanes—two northbound lanes and two southbound lanes—and a center turn lane. The travel lanes range in width from 10 to 12 feet. Approaching the intersection of Mill Plain Boulevard from either direction, there are two left-turn lanes and a right-turn lane. Figure 2-6 shows a typical cross section of Segment 1. Figure 2-7 displays Segment 1 roadway elements. Photograph 2-1 and Photograph 2-2 show conditions at the Mill Plain Boulevard Intersection.

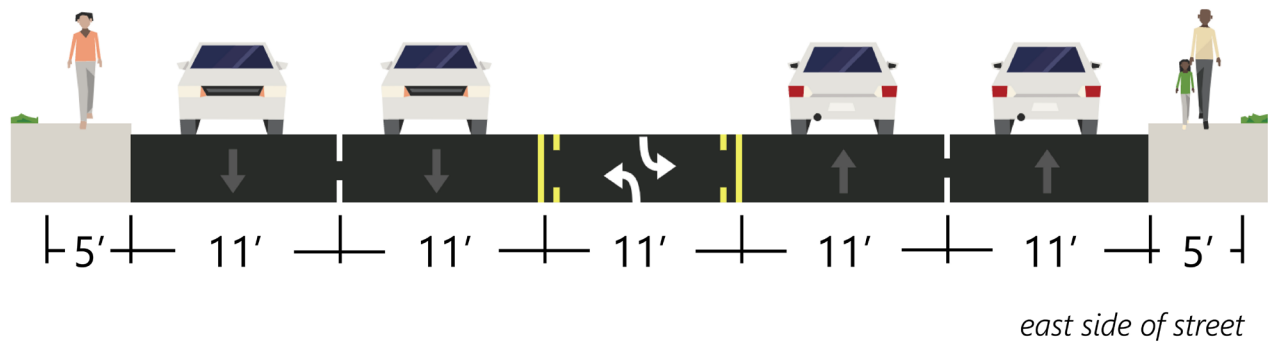


Figure 2-6. Typical Cross Section, Segment 1: SE McGillivray to Mill Plain Boulevard (looking north)

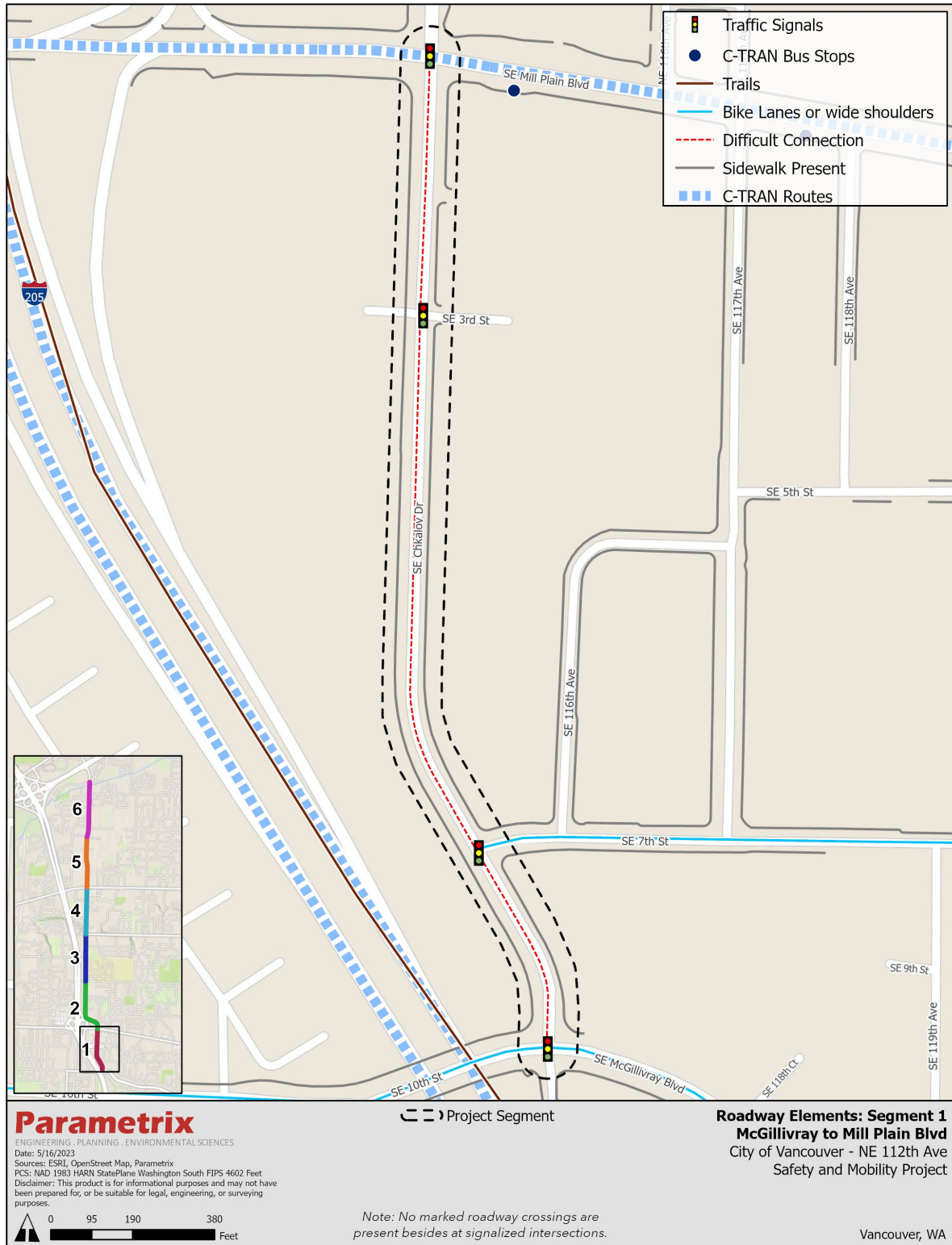


Figure 2-7. Segment 1 Roadway Elements



Photograph 2-1. Segment 1: Mill Plain Boulevard Intersection (looking north)



Photograph 2-2. Segment 1: Mill Plain Boulevard Intersection (looking south)

2.3.2 Segment 2: Mill Plain Boulevard to 9th Street

The typical cross section in Segment 2 consists of four travel lanes—two northbound lanes and two southbound lanes—and a center-turn lane. The travel lanes range in width from 10 to 12 feet. Approaching the intersection of Mill Plain Boulevard from either direction, there are two left turn- lanes and a right turn- lane. An I-205 off-ramp exits onto NE 112th Avenue near the Mill Plain Boulevard intersection.

Figure 2-8 shows the typical cross section for this segment. Figure 2-9 shows the roadway elements of this segment. Photograph 2-3 and Photograph 2-4 show typical conditions along the corridor. In several places, the sidewalk changes direction at a 90-degree angle, creating a C shape, as shown in Photograph 2-5.

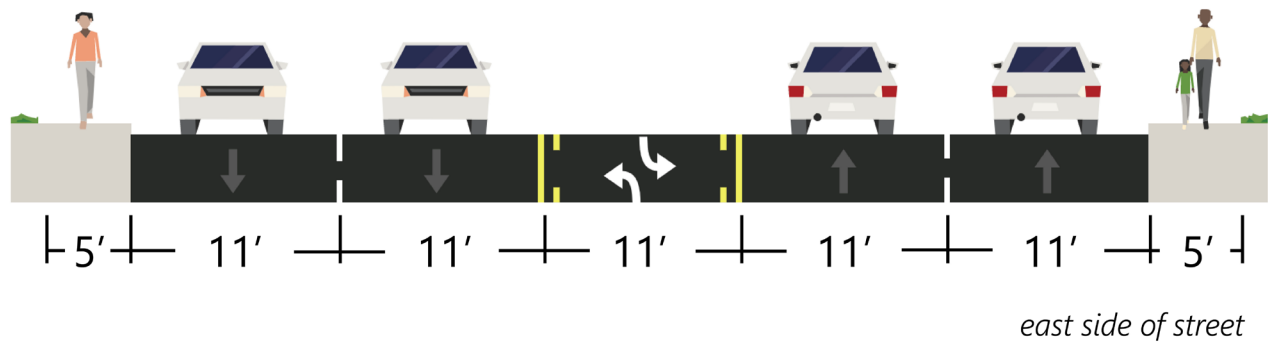


Figure 2-8. Typical Cross Section Segment 2: Mill Plain Boulevard to NE 9th Street (looking north)

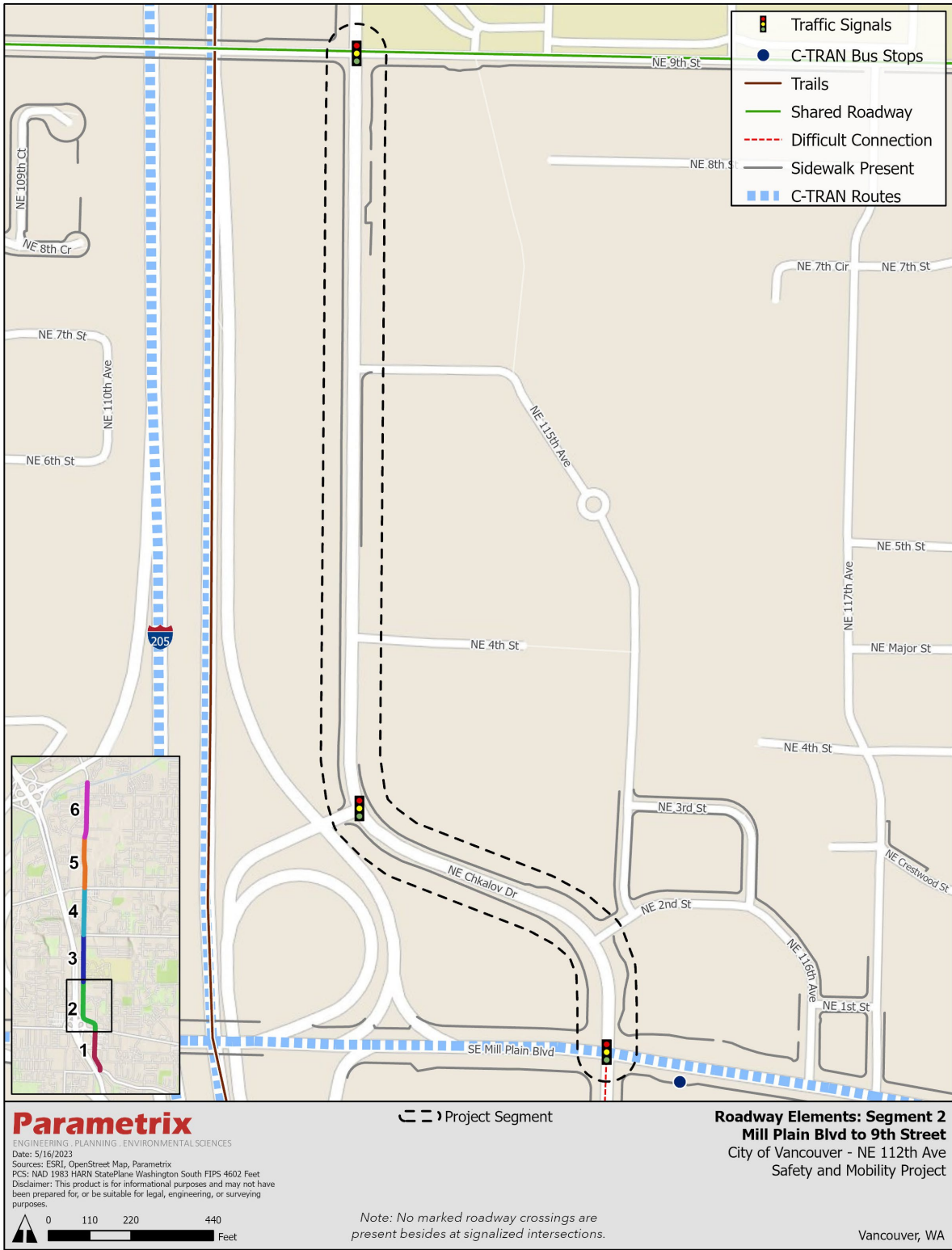


Figure 2-9. Segment 2 Roadway Elements



Photograph 2-3. Segment 2: Between NE 4th Street and NE 7th Street (looking north)



Photograph 2-4. Segment 2: Near I-205 Off-ramp (looking north)



Photograph 2-5. Segment 2: Sharply angled sidewalk configuration (looking north)

2.3.3 Segment 3: 9th Street to 18th Street

The typical cross section in Segment 3 consists of four travel lanes—two northbound lanes and two southbound lanes—and a center turn lane. The travel lanes range in width from 10 to 12 feet. Approaching the intersection of NE 18th Street from either direction, there are two left turn- lanes and a right turn- lane.

Figure 2-10 shows a typical cross section of Segment 3. Figure 2-11 displays Segment 3 roadway elements. Photograph 2-6, Photograph 2-7, and Photograph 2-9 show typical conditions along the

corridor. Photograph 2-8 displays how the sidewalk along the east side of the street abruptly terminates in this segment.

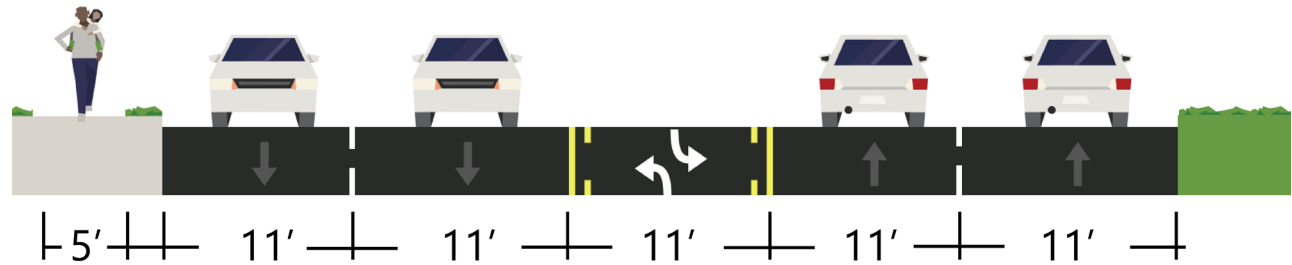


Figure 2-10. Typical Cross Section, Segment 3: 9th Street to 18th Street (looking north)

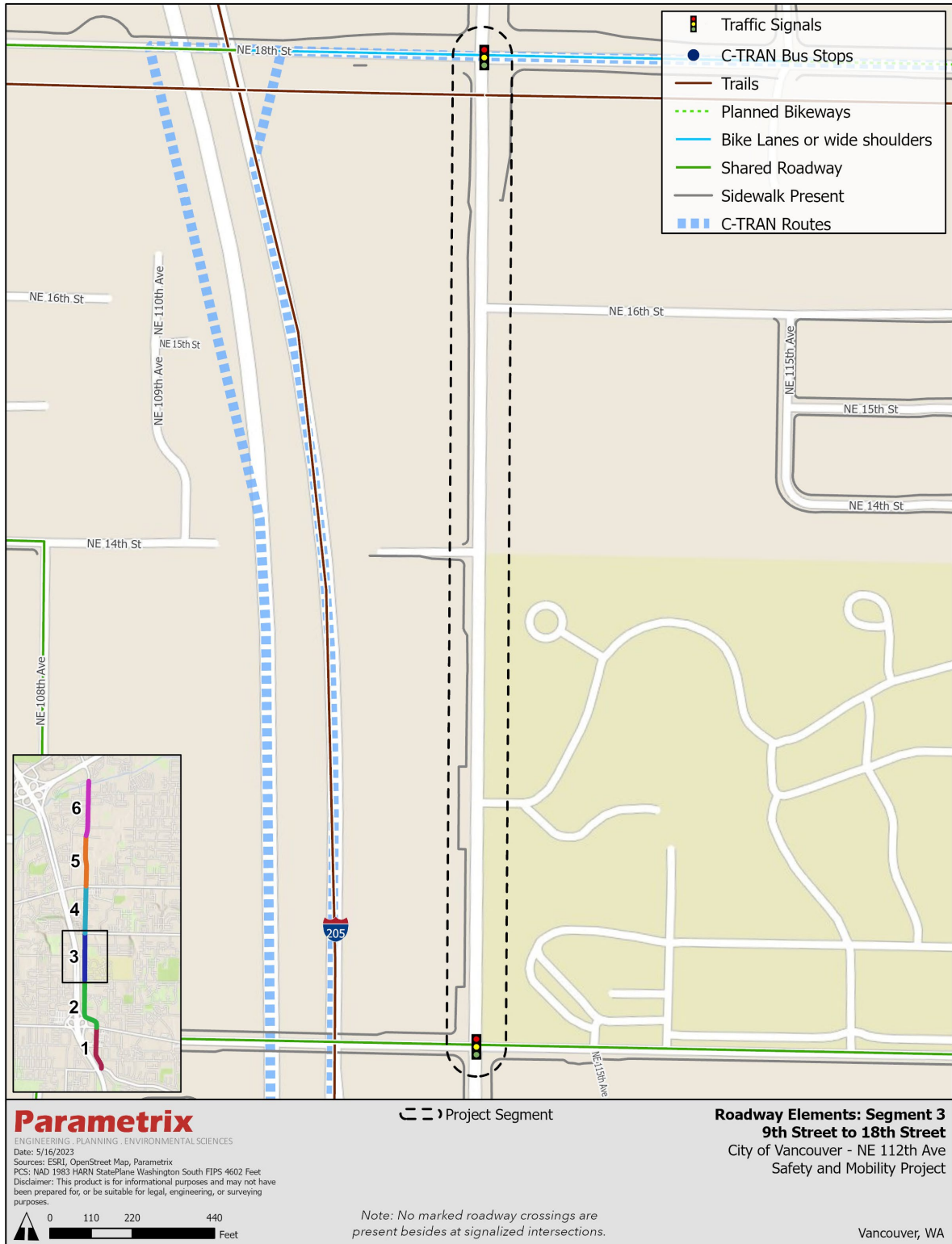


Figure 2-11. Segment 3 Roadway Elements



Photograph 2-6. Segment 3: 112th Avenue near Evergreen Memorial Gardens (looking north)



Photograph 2-7. Segment 3: Approaching 18th Street Intersection (looking north)



Photograph 2-8. Segment 3: Sidewalk Ends on East Side of Street (looking south)



Photograph 2-9. Segment Leaving NE 18th Street Intersection (looking south)

2.3.4 Segment 4: 18th Street to 28th Street

The typical cross section in Segment 4 consists of four travel lanes—two northbound lanes and two southbound lanes—and a center turn lane. The travel lanes range in width from 10 to 12 feet. The lane configuration varies at intersections and includes two left-turn lanes and a right-turn lane at the NE 18th Street and NE 28th Street intersections.

Figure 2-12 shows a typical cross section of Segment 4. Figure 2-13 displays Segment 4 roadway elements. Photograph 2-10 and Photograph 2-11 show typical conditions along the corridor.

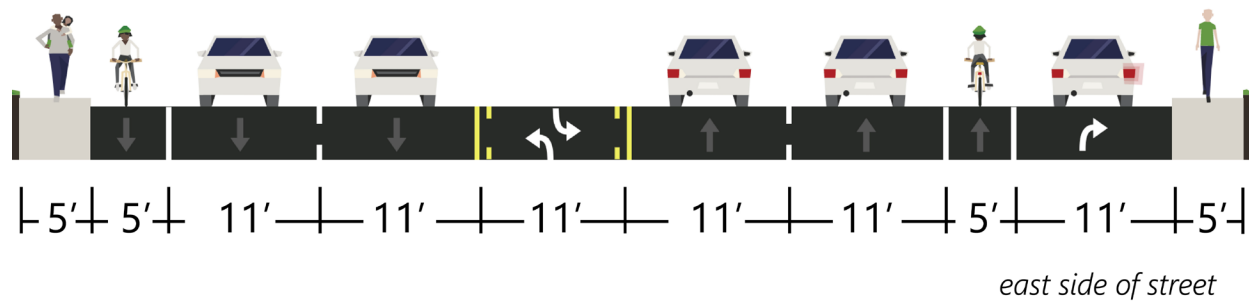


Figure 2-12. Typical Cross Section, Segment 4: 18th Street to 28th Street (looking north)



Figure 2-13. Segment 4 Roadway Elements



Photograph 2-10. Segment 4 (looking north)



Photograph 2-11. Segment 4 Approaching NE 28th Street (looking north)

2.3.5 Segment 5: 28th Street to 39th Street

The typical cross section in Segment 5 consists of four travel lanes—two northbound lanes and two southbound lanes—and a center turn lane. The travel lanes range in width from 11 to 13 feet. The lane configuration varies at intersections and includes two left-turn lanes and a right-turn lane at the NE 28th Street intersection.

Figure 2-14 shows a typical cross section of Segment 5. Figure 2-15 displays Segment 5 roadway elements. Photograph 2-12 and Photograph 2-13 show typical conditions along the corridor. In several places in this segment, vegetation and other debris spill onto the sidewalk, potentially making passage more challenging for people using mobility devices, as shown in Photograph 2-13.

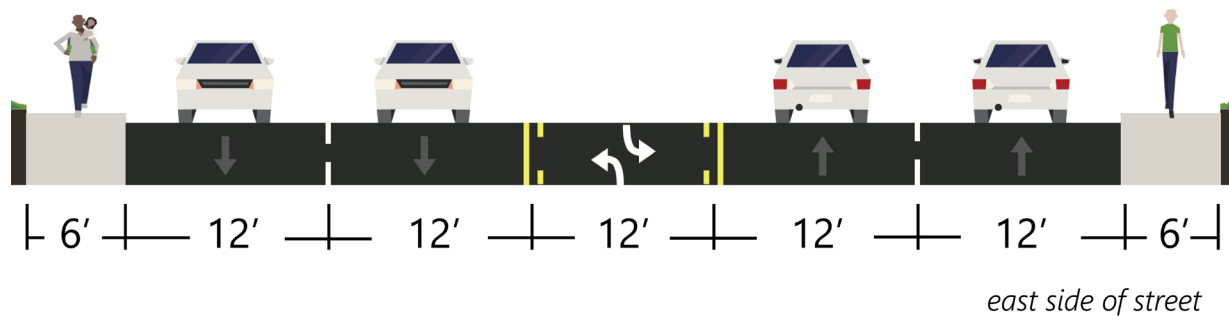


Figure 2-14. Typical Cross Section, Segment 5: 28th Street to 39th Street (looking north)

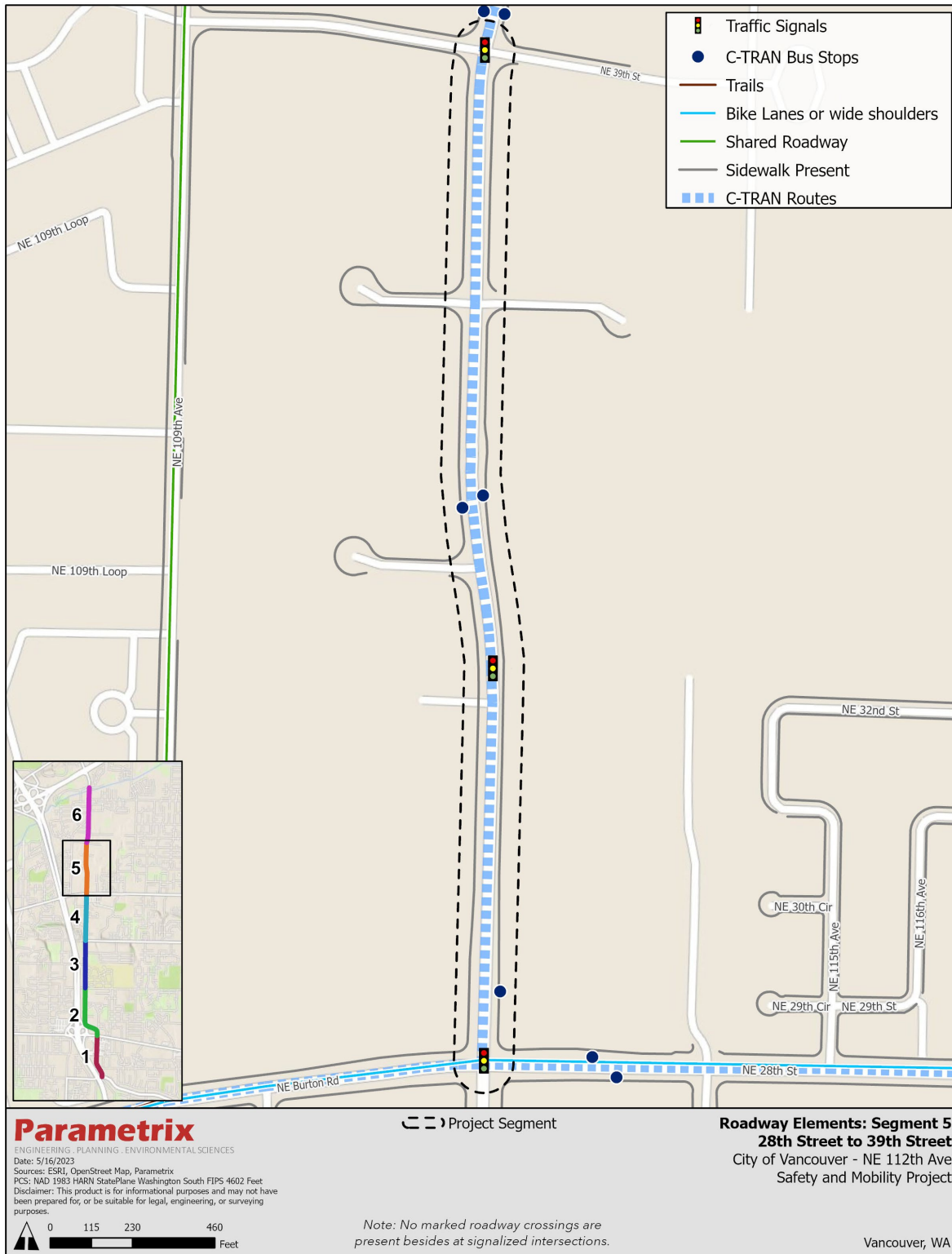


Figure 2-15. Segment 5 Roadway Elements



Photograph 2-12. Segment 5 (looking north)



Photograph 2-13. Segment 5: Bus Stop and Vegetation on Sidewalk (looking north)

2.3.6 Segment 6: 39th Street to 51st Street

The typical cross section in Segment 6 consists of four travel lanes—two northbound lanes and two southbound lanes—and a center turn lane. The travel lanes range in width from 11 to 13 feet. The lane configuration includes two left-turn lanes and a right-turn lane approaching the NE 49th Street intersection southbound.

Figure 2-16 shows a typical cross section of Segment 6. Figure 2-17 displays Segment 6 roadway elements. In several places in this segment, vegetation and other debris spill onto the sidewalk, potentially making passage more challenging for people using mobility devices. Along the sidewalks on the west side of the street, there are significant distances where a fence or wall runs directly parallel to the sidewalk and there is no street lighting, as shown in Photograph 2-14. For approximately 900 feet in this segment, a fence or wall runs directly parallel to the sidewalk and there is a lack of street lighting. This may result in a less comfortable experience for people walking or using a mobility device, due to both the “tunnel-like” experience of walking between a wall and fast-moving traffic, lack of space between people and cars, and for personal safety and security reasons.

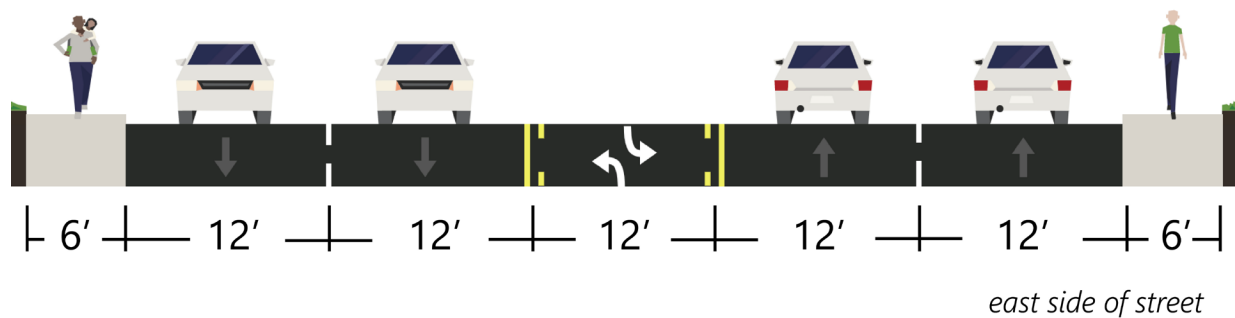


Figure 2-16. Typical Cross Section, Segment 6: 39th Street to 51st Street (looking north)



Figure 2-17. Segment 6 Roadway Elements



Photograph 2-14. Segment 6: Fence Parallel to Sidewalk and Lack of Street Lighting (looking west)



Photograph 2-15. Bus stop near NE 51st Street (looking north)

2.3.7 Parallel Low-Stress Streets

There are opportunities for developing low-stress bicycle and pedestrian routes parallel to NE 112th Avenue. The Vancouver TSP Update (2020–2022) highlights NE 109th Avenue as a potential low-traffic street to route people walking and bicycling off NE 112th Avenue onto proposed “neighborhood greenways” and “low-stress facilities.” The project team also assessed conditions on NE 110th Avenue as a potential parallel bicycle and pedestrian route to avoid NE 112th Avenue. Figure 2-18 displays the proposed low-stress routes included in the TSP update, as well as potential additional bicycle and pedestrian routes parallel to NE 112th Avenue. These parallel routes will be explored in further detail in future reports to determine whether they should be included for roadway improvements as part of the bicycle and pedestrian network.

Roadway widths are as follows:

- NE 109th Avenue – 19 to 20 feet wide
- NE Morrow Road – 24 to 25 feet wide
- NE 110th Avenue – 25 to 35 feet wide

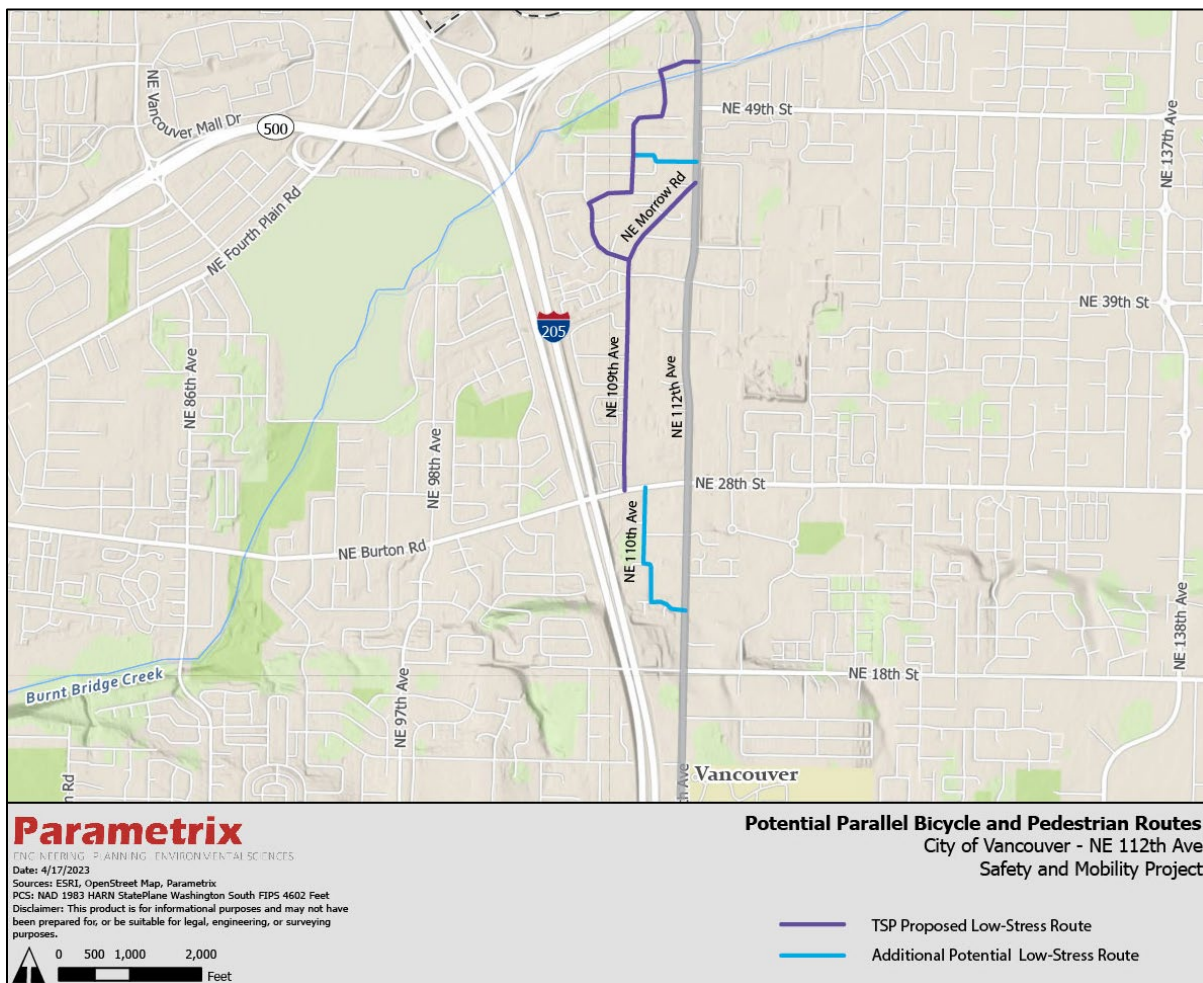


Figure 2-18. Parallel Bicycle and Pedestrian Routes

2.3.8 Transit Stops

2.3.8.1 Existing Route and Stops

NE 112th Avenue is served by C-TRAN Route 80, which turns north onto NE 112th Avenue from 28th Street and continues along NE 112th Avenue until turning west onto Fourth Plain Boulevard. On weekdays, Route 80 begins service at 5:30 a.m. and runs from 6:30 a.m. to 9 p.m. at a 30--minute frequency. On weekends and holidays, Route 80 runs from 7:30 a.m. to 7:30 p.m. at a 30--minute frequency, with a final stop at 8:30 p.m.

Bus stops along NE 112th Avenue are spaced irregularly, with a relatively high density of stops between NE 39th Street and NE 49th Street. Many stops do not have access to safe crosswalks, with basic crossings available only at NE 28th Street, NE 39th Street, NE 49th Street, and NE 51st Street.

This leaves bus stops near NE 34th Circle and NE 44th Street without access to a crosswalk for nearly a quarter mile.

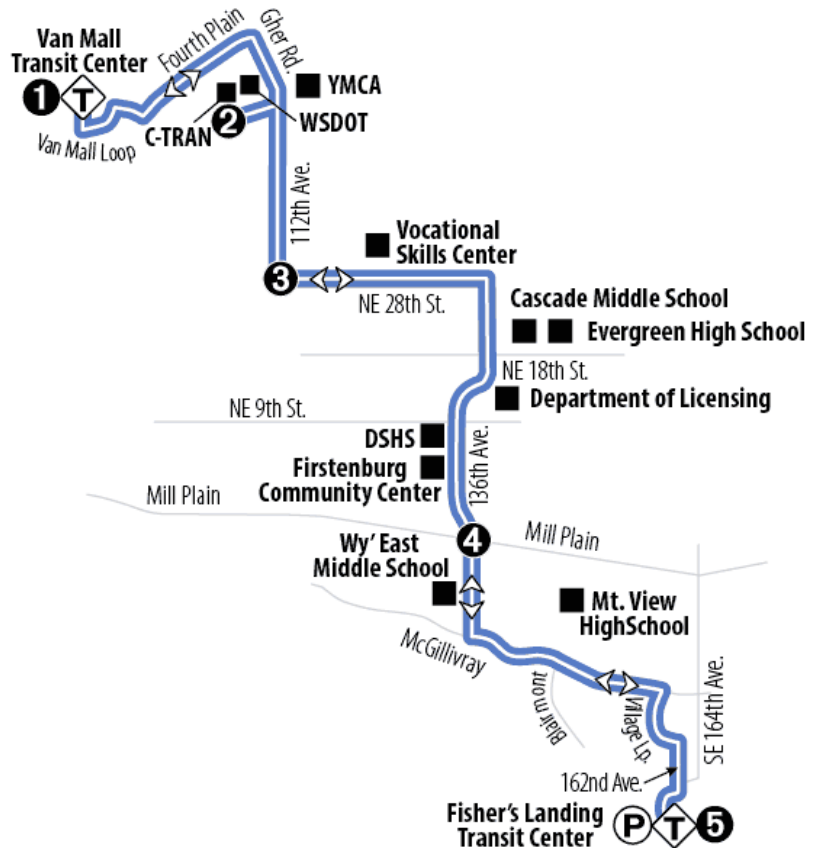


Figure 2-19. C-TRAN Route 80

Several bus stops, as shown in Photograph 2-16 and Photograph 2-17 and mapped in Figure 2-20, consist of a sign with no shelter or seating. Five stops along NE 112th Avenue have a basic covered shelter.



Photograph 2-16. Bus Stop Lacking a Shelter and with Debris on the Sidewalk



Photograph 2-17. Bus Stop Lacking a Shelter



Figure 2-20. Transit Stops and Street Crossings

2.3.8.2 Route 80 – Boardings and Alightings

Route 80 operated by C-TRAN serves the corridor. The stops listed in Table 2-4 have the highest use along the NE 112th Avenue corridor. The table summarizes weekly boardings at individual stops. These stops should be considered in future alternatives analysis for bus stop enhancements and access improvements.

Table 2-4. C-TRAN Route 80 Stops Along NE 112th Avenue

Stop Name	Average Dwell Time (Seconds)	Weekly Boardings/Alightings
NE 28th St & 114th Ave EB	34	40.9
NE 112th Ave & 49th St NB	40	30.9
NE 112th Ave & 39th St NB	18	27.8
NE 112th Ave & 49th St SB	23	26.5
NE 112th Ave & 39th St SB	30	22
NE 28th St & 112th Ave WB	54	20.1

Ave = avenue; EB = eastbound; NB = northbound; SB = southbound; St = street; WB = westbound

2.3.8.3 Planned Route and Stops

C-TRAN is planning to introduce a new transit route on 112th Avenue in September 2024, with changes (including construction of new bus stops) to be implemented in summer 2023.

The new route will include service south of 28th, where no service currently exists. Bus stops will be spaced approximately a quarter mile apart and will be strategically located near intersections and street crossings. This new route will create connections to important destinations such as the Salvation Army at 112th Avenue and 16th Street. This new route will provide service throughout the day at a 30-minute frequency. To make service more reliable and efficient, several stops from 28th Street to SR 500 will be consolidated. See Figure 2-21 for a map of planned transit stops.

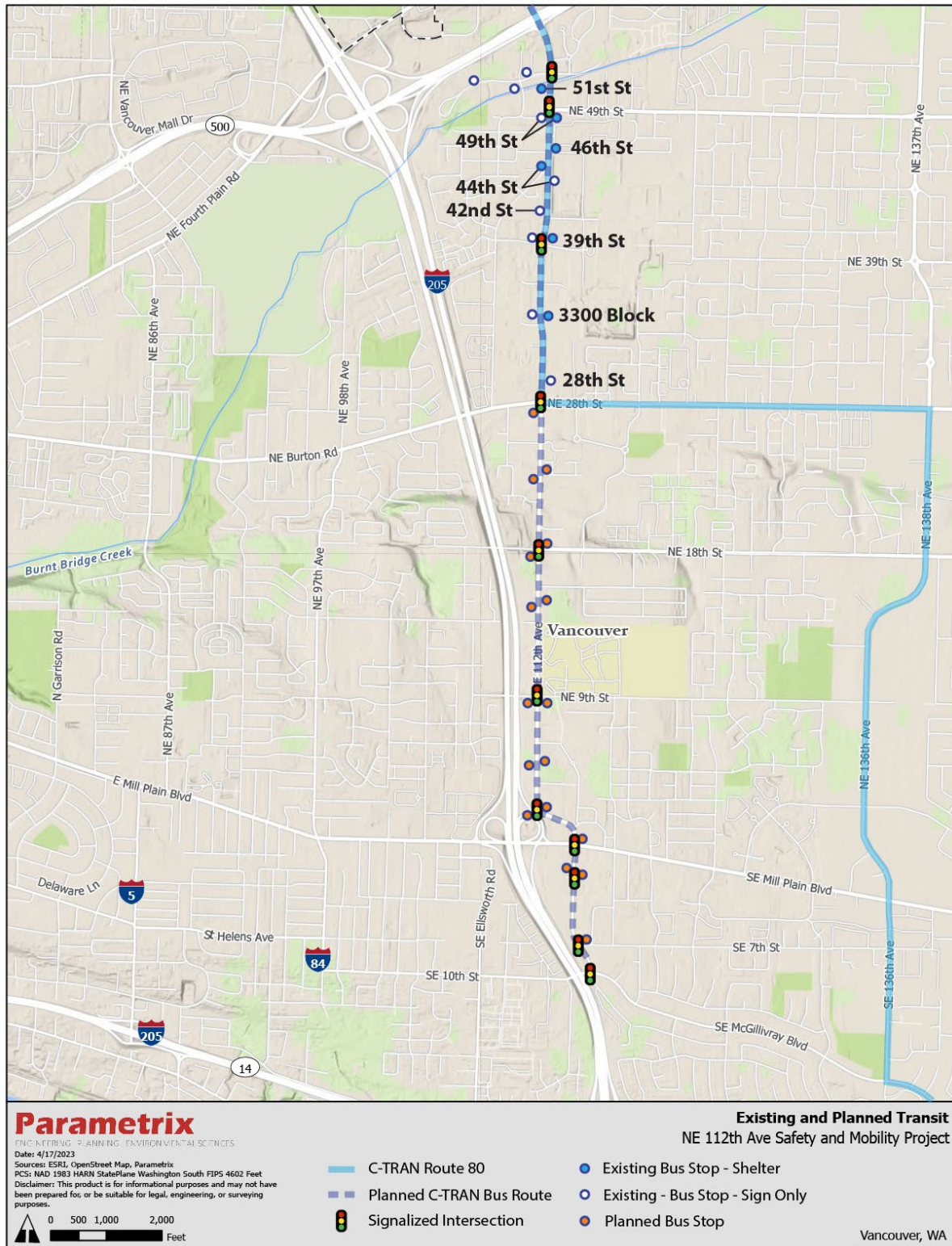


Figure 2-21. Existing and Planned Transit

3. TRAFFIC ANALYSIS

This section summarizes the traffic data sources and traffic analysis. The 3.3-mile section of NE 112th Avenue includes 10 signalized intersections:

- SE McGillivray Boulevard
- SE 7th
- Mill Plain Boulevard
- I-205 off-ramp
- NE 9th Street
- NE 18th Street
- NE 28th Street
- NE 39th Street
- NE 49th Street
- NE 51st Street

The following intersections are unsignalized:

- NE 14th Street
- NE 20th Street
- NE 23rd Street

3.1 Methods Summary

The traffic analysis methodology consisted of five main steps including data collection, calculating system peak hour, turning movement counts and peak hour factor calculation, Synchro model inputs, and report generation. Each step is described in detail below.

Data Collection. Traffic Operation Project data were collected by IDAX. The data were gathered for 15 intersections during the AM and PM peak periods. The AM counts were collected from 7 am to 9 am, while the PM counts were collected from 4 pm to 6 pm on March 7, 2023. The data collection process allowed crucial information on turning movement counts for each intersection during the peak periods to be obtained.

Calculating System Peak Hour. Once the traffic data was obtained, the project team was able to identify the system peak hour. The project team calculated the one-hour peak volume for each intersection, starting at different 15-minute intervals. The project team identified the time frame with the maximum volume by aggregating the peak hour volumes for the entire network. This system's peak hour serves as the basis for the analysis and will be used to evaluate the network's performance.

Turning Movement Counts and Peak Hour Factor Calculation. With the system peak hour established, the project team calculated the turning movement counts and peak hour factors for each intersection.

The project team determined the volume and heavy vehicle percentages by direction at each intersection by utilizing the peak hour time for the entire system. The project team then calculated the peak hour factor for each intersection, taking into consideration variations in traffic flow within the peak hour. It is important to note that all volumes have been rounded to the nearest 5 to maintain consistency in the analysis.

Synchro Model Inputs. Once the turning movement counts, heavy vehicle percentages and peak hour factors had been obtained, the project team input these data into the Synchro traffic simulation model. By inputting the collected data, the current state of the network can be assessed, and potential areas of improvement can be identified.

Report Generation. Upon completion of the Synchro model analysis, the project team will generate comprehensive reports for each intersection. These reports will prioritize the use of the Highway Capacity Manual (HCM) 6th edition methodology, which is the latest and most advanced method for evaluating intersection performance. However, for intersections with U-turns or other unique characteristics that HCM 6 cannot accommodate, the HCM 2000 methodology will be used, which is also a well-established and reliable approach.

Current traffic volumes within the study area are typically highest on weekdays between 7 and 9 a.m. and between 4 and 6 p.m. This trend is expected to continue. The average peak hour for this study is 7:45 to 8:45 a.m. and 4:30 to 5:30 p.m.

Traffic operations during the AM and PM peak hours were analyzed for the 2023 existing year. The operations analysis for the study intersections used the software program Synchro (version 11) for all the signalized intersections on this corridor. Synchro is a software application for optimizing traffic signal timing and performing intersection capacity analysis. The software optimizes traffic signal splits, offsets, and cycle lengths for individual intersections, an arterial, or a complete network. Synchro supports the Highway Capacity Manual's (HCM) 6th Edition for signalized intersections, unsignalized intersections, and roundabouts.

2040 No-build Growth Rates and Traffic Implications: Regional Transportation Council (RTC) conducted a traffic modeling study to predict changes in traffic patterns by the year 2040. The results demonstrate that the extension of NE 18th Street, connecting 112th Street to NE 86th Avenue, will cause a shift in traffic. This shift will result in a drop in peak traffic on some segments of 112th Street. To anticipate these changes and formulate an adequate plan, the project team initiated calculations to determine the growth rates for northbound and southbound directions during both the AM and PM peak hours. However, this calculation excluded the section between I-205 off-ramp and NE 28th Street that caused this shift.

Excluding the aforementioned sections, it was found that the traffic volume along the majority of the corridor is projected to witness an annual growth rate of 0.54% during the AM peak, and a slightly higher rate of 0.64% during the PM peak. Moving forward, these calculated growth rates have been used to calculate the turning movement counts that were collected in 2023, thereby enabling us to project and analyze the traffic volume for the future year 2040.

3.2 Existing Baseline Conditions (2023)

Figure 3-1 summarizes 2023 AM and PM peak hour traffic volumes along Chkalov Drive/112th Avenue intersections. The intersection of Chkalov Drive and Mill Plain Boulevard has the highest peak hour volumes. The detailed turning movement counts are included in Appendix A. The City's mobility standards are based on PM peak hour travel speed, rather than v/c or LOS. Travel speeds will be modeled for future conditions but were not modeled for existing and future no-build conditions.

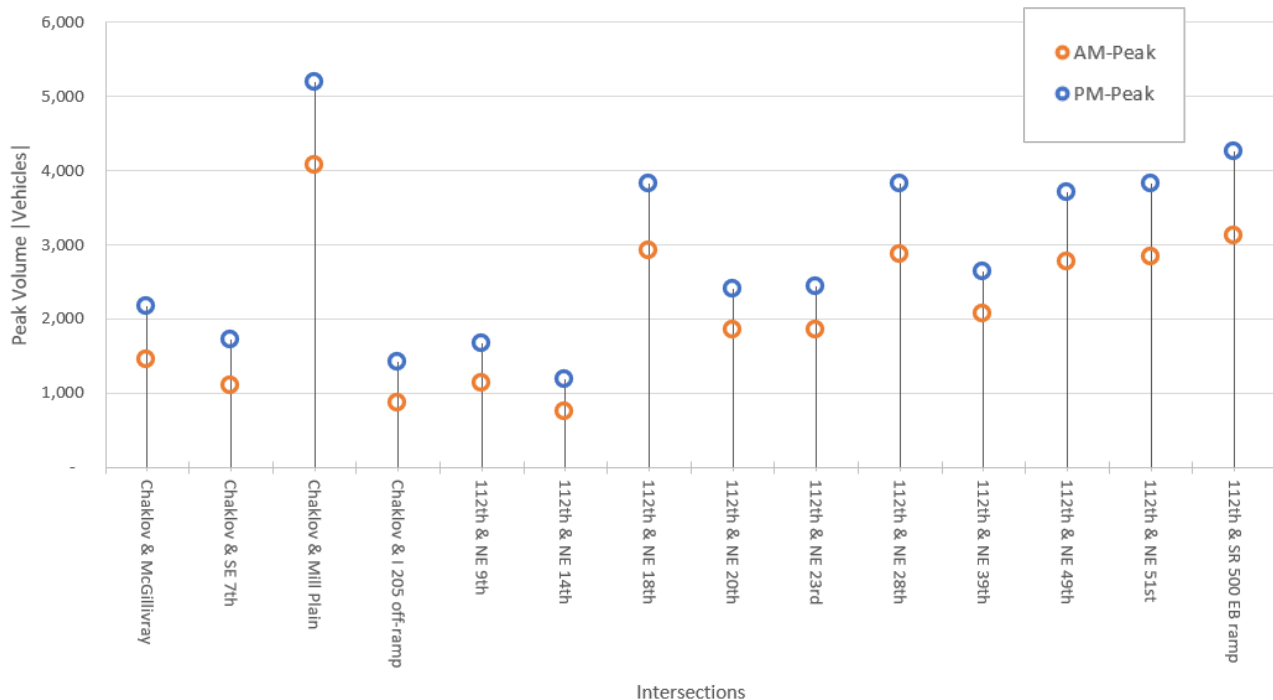


Figure 3-1. 2023 AM/PM Peak Hour Volumes

In addition to the TMC analysis, the Average Daily Traffic (ADT) analysis has been done, contributing to an enhanced comprehension of the traffic dynamics in the corridor study.

The ADT analysis involved data collection from six tube counts over 3 weekdays starting from March 7. These counts were positioned along 112th Street, specifically at the following locations:

- SE Chkalov Drive north of SE McGillivray Boulevard
- NE Chkalov Drive north of Mill Plain Boulevard
- NE 112th Avenue north of NE 9th Street
- NE 112th Avenue north of NE 18th Street
- NE 112th Avenue north of NE 28th Street
- NE 109th Avenue north of NE Burton Road
- SE 112th Avenue south of SR 500 Ramps

This collected data was converted into Average Daily Traffic (ADT) by applying a seasonal factor to address scenarios characterized by higher peaks, thereby ensuring the representation of worst-case conditions.

The total traffic volume on 112th Street in both directions amounted to over 23,500 vehicles. This ADT encompasses all hours that data was collected at the six locations and is the average of the three days when data was collected. Within this volume, 48% of vehicles were travelling in the northbound direction, while 52% proceeded in the southbound direction. Thus, no significant directional preference is revealed by the data. Furthermore, this data collection shows that the ADT increases north of 18th Street and reaches its highest point on 112th Street south of the SR 500 ramps (41,500 vehicles in both directions).

Having gained a comprehensive understanding of the ADT dynamics along 112th Street, the focus now shifts to the results of the modeling process, where the incorporation of turning movement counts brings a new layer of insights to our comprehension of the corridor's traffic dynamics.

The intersection delay column shows the average total delay for the signalized intersection, and it is calculated by taking a weighted average of all total delays. Intersections are graded LOS A through F based on the total intersection delay, shown in Table 3-1.

Table 3-1. Signalized Intersection Level of Service

Level of Service	Control Delay Per Vehicle(s)	
	Signalized	Unsignalized
A	≤ 10	≤ 10
B	10 to 20	10 to 15
C	20 to 35	15 to 25
D	35 to 55	25 to 35
E	55 to 80	35 to 50
F	> 80	> 50

Source: Highway Capacity Manual, Sixth Edition: A Guide for Multimodal Mobility Analysis

As shown in Table 3-2, the Mill Plain Boulevard, NE 23rd Street, and NE 28th Street intersection at 112th Avenue operates at LOS D during AM peak hour, showing the worst condition during this time. These three intersections also show the worst conditions in the PM hours, with Mill Plain Boulevard operating at LOS D, and NE 23rd and NE 28th operating at LOS F. All other intersections within the study area operate at LOS A, B, or C, which is within the acceptable performance range. The Synchro output reports are provided in Appendix B.

Table 3-2. 2023 Existing Condition AM/PM Level of Service and Delay

Intersection with 112th Ave	AM Peak Hour			PM Peak Hour		
	LOS	Delay (sec/veh)*	v/c Ratio	LOS	Delay (sec/veh) *	v/c ratio
McGillivray	B	16	0.49	C	22	0.85
SE 7th	B	11	0.44	B	14	0.55
Mill Plain	D	40	0.64	D	38	0.73
I-205 off-ramp	A	4	0.26	A	7	0.35
NE 9th	B	12	0.49	B	13	0.56
NE 14th	A	10	0.01	B	13	0.03
NE 18th	C	26	0.64	C	31	0.66
NE 20th	B	14	0.08	C	17	0.04
NE 23rd	D	26	0.26	F	54	0.30
NE 28th	D	48	0.69	F	93	0.81
NE 39th	B	20	0.57	C	22	0.63
NE 49th	B	16	0.55	C	33	0.76
NE 51st	B	10	0.67	B	13	0.82

Note: Delay is rounded to the nearest second.

LOS = level of service; *sec/veh = seconds per vehicle

3.3 Future Baseline Conditions (2040)

In the Future Baseline Condition analysis, the annual growth rates were employed to project the traffic volume for the year 2040. The annual growth rate of 0.54% was used during the AM peak, while a rate of 0.64% was applied for the PM peak. By utilizing these growth rates, the turning movement counts were determined based on data from the year 2023. Consequently, the traffic volume for the future year 2040 was projected and analyzed. Based on the data and observations from the existing scenario, a similar trend in the ADT is anticipated to be observed in future projections.

The annual rate of 0.64% was utilized to calculate the future ADT numbers for the corridor. This was based on the assumption that the PM growth rate was recognized as the peak growth rate witnessed during the day. As presented in Table 3-3, the ADT at the study corridor is projected to rise to 26,200. Additionally, traffic volume is expected to surpass 46,000 at 112th Street, located south of the SR 500 ramps. Furthermore, the ADT from the northern side of 18th street to the northern side of 28th street is estimated to go beyond 30,000 vehicles in both directions with the highest of over 46,300 in north of SR 500.

Table 3-3. Average Daily Mid-Week Traffic for Existing and Projected Future Conditions

Location	Existing			Future 2040		
	NB	SB	Total	NB	SB	Total
SE Chkalov Dr N-O SE McGillivray Blvd	7,845	8,821	16,666	8,744	9,832	18,576
NE Chkalov Dr N-O Mill Plain Blvd	6,780	7,075	13,854	7,556	7,885	15,442
NE 112th Ave N-O NE 9th St	6,828	6,470	13,298	7,610	7,211	14,821
NE 112th Ave N-O NE 18th St	13,129	14,993	28,122	14,633	16,710	31,343
NE 112th Ave N-O NE 28th St	13,466	14,122	27,587	15,008	15,739	30,748
SE 112th Ave S-O SR 500 Ramps	20,332	21,249	41,581	22,661	23,683	46,344
Average Total	11,396	12,122	23,518	12,702	13,510	26,212

Ave = avenue; Blvd = boulevard; Dr = drive; NB = northbound; N-O = north of; SB = southbound; St = street; S-O = south of

In the No-Build or Baseline future scenario projected for 2040, the operational conditions on the intersections reveal similar trends, as illustrated in Table 3-4. However, an anomaly surfaces during the AM peak hour on NE 23rd Street. This divergence arises from the adoption of a Peak Hour Factor (PHF) of 1 for the future scenario as opposed to the 0.91 PHF for the existing scenario. The adjustment in PHF influences the flow rate, leading to improved volume particularly for the Eastbound/Westbound movement, which operates under stop sign control. Consequently, there is a slight decrease in delay for the future scenario. This minimal change in delay, however, has the capacity to cause a shift in Level of Service.

Despite this change, the intersections at Mill Plain Boulevard at 112th Avenue and NE 28th Street at 112th Avenue continue to be critical areas of delay, operating at LOS D during AM peak hour, signifying the most strained conditions at this time. During the AM peak hour, the southbound direction on Mill Plain Boulevard and the eastbound direction on NE 28th Street are the main sources of delay at these intersections with 112th Avenue.

The PM peak hours retain these intersections as the worst-performing locations, with Mill Plain Boulevard at LOS D, and NE 23rd and NE 28th at LOS F. During the PM peak hour, the westbound direction on NE 23rd Street is the most problematic for delay, while the northbound direction on NE 28th Street and Mill Plain Boulevard is the main source of delay. All other intersections within the study zone continue to operate at LOS A, B, or C, signifying performance within the acceptable range. For more detailed information, the Synchro output reports can be accessed in Appendix B.

Table 3-4. Future Condition AM/PM Level of Service and Delay

Intersection with 112th Ave	AM Peak Hour			PM Peak Hour		
	LOS	Delay (sec/veh)*	v/c ratio	LOS	Delay (sec/veh)*	v/c ratio
McGillivray	B	15	0.52	C	22	0.91
SE 7th	B	11	0.46	B	13	0.59
Mill Plain	D	41	0.69	D	40	0.79
I 205 off-ramp	A	4	0.28	A	8	0.38
NE 9th	B	12	0.53	B	14	0.59
NE 14th	A	10	0.01	B	13	0.03
NE 18th	C	26	0.68	C	33	0.71
NE 20th	B	14	0.07	C	18	0.08
NE 23rd	C	25	0.25	F	71	0.36
NE 28th	D	47	0.71	F	105	0.86
NE 39th	B	20	0.60	C	23	0.75
NE 49th	B	17	0.59	D	49	0.84
NE 51st	B	10	0.71	B	15	0.89

Note: Delay is rounded to the nearest second.

LOS = level of service; sec/veh = seconds per vehicle

3.5 City Mobility Standards/PM Peak Travel Speed

The City's mobility standards are based on the average PM peak hour travel speed for a given facility, rather than v/c or LOS. According to the City's 2017 Concurrency Corridors Classification,⁵ the concurrency threshold speeds along 112th Avenue are:

- Between Mill Plain Boulevard and 28th Street – 11 mph
- Between 28th Street and 51st Street – 15 mph

Figure 3-2 on the following page displays these segments. Table 3-5 below compares the concurrency standards to existing and future no-build conditions. In general, the corridor is forecast to meet concurrency standards for the Mill Plain Boulevard to NE 28th Street segment out into the future year 2040, while the NE 28th Street to NE 51st Street segment is forecast to fall below the concurrency standard by 2040.

Table 3-5 PM Peak Hour Travel Speeds and Concurrency Standards

Time Period	Segment	Concurrency Threshold (mph)	2023 Existing Speed (mph)			2040 No-Build Speed (mph)		
			NB	SB	Average	NB	SB	Average
AM Peak Hour	Mill Plain Blvd to 28th St	11	25	24	24.4	25	24	24.1
	28th St to 51st St	15	20	17	18.3	20	17	18.2
PM Peak Hour	Mill Plain Blvd to 28th St	11	24	23	23.2	23	22	22.6
	28th St to 51st St	15	19	15	17.0	13	14	13.9

Bldv = Boulevard; mph = miles per hour; NB = northbound; SB = southbound; St = Street

Corridor speed data indicates that speeding may be an issue between NE 9th and approximately NE 28th Street on 112th Avenue; data indicates the 85th percentile speed is between 41.5 MPH and 44.9 MPH in this section, with a speed limit of 35 MPH.

⁵https://www.cityofvancouver.us/sites/default/files/fileattachments/public_works/page/12038/concurrencyadminmanual03-05-2012.pdf

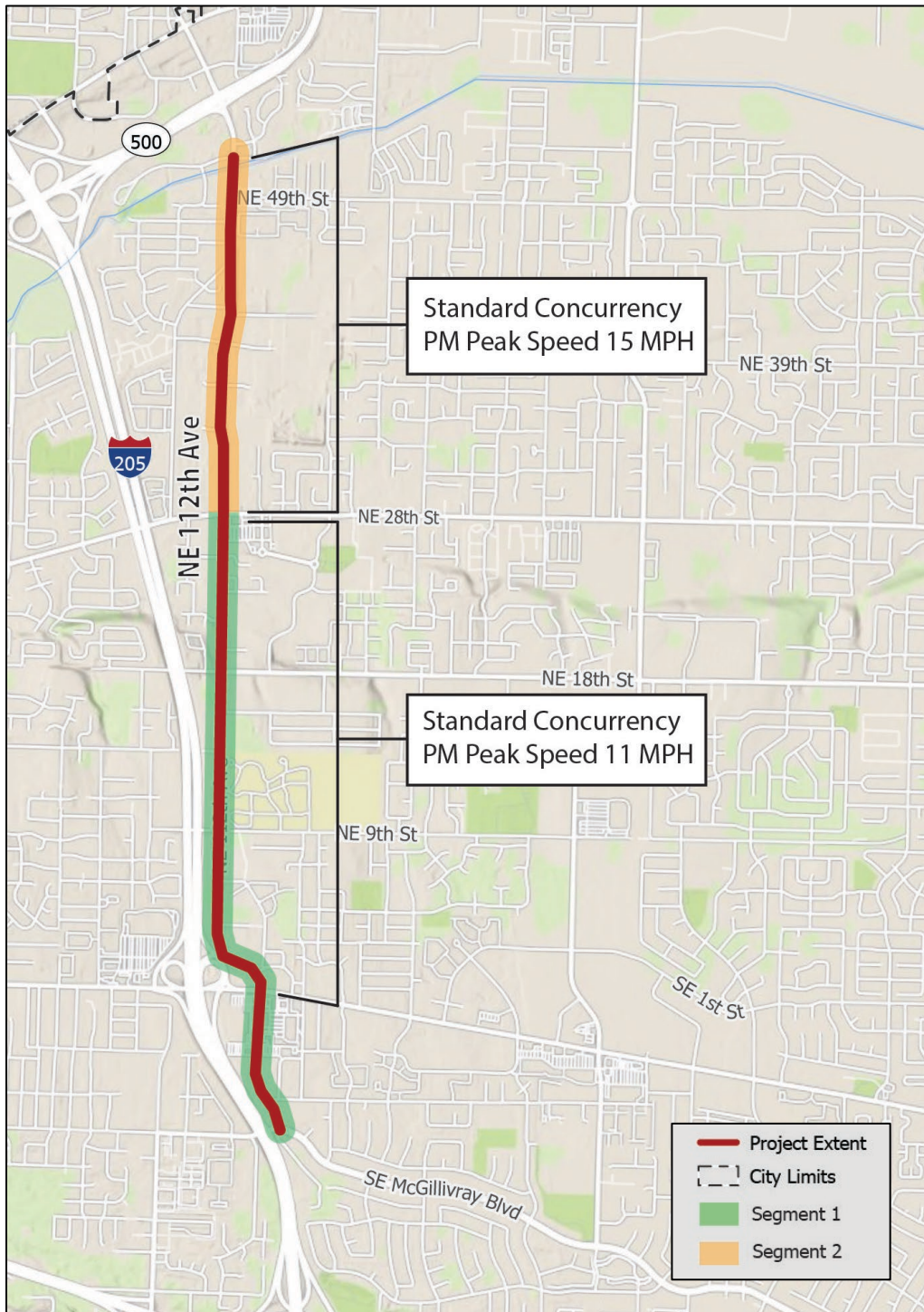


Figure 3-2. City Standard Concurrency Segments

Travel speeds for existing and future no-build conditions were modeled using SimTraffic to assess existing and future no-build PM peak hour travel speeds along the corridor and at each of the study intersections. Existing and future PM peak travel speeds are provided in Table 3-6.

Table 3-6. Existing and Future No-Build PM Peak Average Speeds – SimTraffic Results

Intersection with NE 112th Avenue	Segment Length (miles)	Existing		Future No-Build	
		Northbound (mph)	Southbound (mph)	Northbound (mph)	Southbound (mph)
McGillivray	0.10	7	12	6	12
SE 7th	0.35	11	25	11	25
Mill Plain	0.18	5	10	5	10
I-205 off-ramp	0.38	24	22	23	21
NE 9th	0.24	24	23	24	20
NE 14th	0.25	31	30	31	30
NE 18th	0.10	14	10	15	10
NE 20th	0.14	25	31	25	31
NE 23rd	0.22	33	29	32	28
NE 28th	0.53	14	4	13	4
NE 39th	0.45	28	27	16	26
NE 49th	0.12	3	12	3	11
NE 51st	0.17	14	15	13	11
Average Corridor Speed	3.2	18	19	17	18

Note: SimTraffic and Synchro results provided in Appendix B.
mph = miles per hour

4. SAFETY ANALYSIS

4.1 Existing Safety Studies

Four safety studies relevant to the NE 112th Avenue area have been completed within the last fifteen years. First, the Washington State Corridor Safety Program identified NE 112th Avenue as a corridor safety project in 2009. The *112th Avenue Corridor Subarea Plan* was completed in 2011 and intended to incorporate planned major transportation facilities and private developments to envision the area as a walkable (connected, safe, and comfortable) community. The *Transportation System Safety Analysis* (TSSA) completed in November 2018 prepared a holistic look at crash patterns for the City of Vancouver. Most recently, the *Local Road Safety Plan 2022-2026* was completed in August 2022. For a full list of recommendations from each plan, see Table 2-2.

4.1.1 112th Avenue Corridor Traffic Safety Project (2009)

The Corridor Safety Program worked to reduce collisions on roadways using low-cost, near-term solutions through partnerships with engineering, enforcement, education, and emergency services. The program was locally coordinated, which included an invitation to local leadership to chair steering committee meetings, along with involvement from local government, interested citizens, businesses, schools and any other agencies that have a vested interest in the safety of their roadways. The project came to an end in September 2011.

4.1.2 112th Avenue Corridor Subarea Plan (2011)

The Corridor Subarea Plan encompasses a large portion of the study area for the NE 112th Avenue Safety and Mobility Plan. The Subarea Plan focused on NE 112th Avenue from NE 4th Street on the south to NE 33rd Street on the north and from I-205 on the west to roughly one to five blocks from 112th Avenue to the east. The study provided a series of recommendations to develop NE 112th Avenue corridor as a walkable neighborhood in order to provide connectivity, safety, and comfort. The study made general recommendations for the provision of a route between walking points that avoids the risk of physical harm, separation between the pedestrians/bikes and vehicular traffic, and physical and aesthetic accommodations that make walking an enjoyable experience so that residents of all ages and abilities can walk within their neighborhood to community assets.

4.1.3 City of Vancouver Transportation System Safety Analysis (TSSA) (2018)

The TSSA offered a networkwide analysis of safety conditions in the City of Vancouver using crash data from 2010 to 2016. The TSSA identifies the top 20 intersections with the highest safety performance index ranking in the City of Vancouver, two of which occur in the study area: NE 51st Street and NE 39th Street. The potential countermeasures identified include pedestrian and bicycle treatments such as implementing leading pedestrian intervals (where the pedestrian walk signal is active several seconds before a green light, allowing people walking greater visibility and more time to cross), reviewing sight distance triangles at intersections, and installing rectangular rapid flashing beacons at marked

pedestrian crossings. Additionally, NE 112th Avenue from SE Mill Plain Boulevard to NE 9th Street was identified as a higher-ranking segment for the Principal Arterial classification and was identified as a segment with potential for safety improvements.

Finally, the TSSA has general recommendations citywide to improve safety for people walking and biking. The recommendations include installing leading interval pedestrian phasing, increasing compliance with traffic signals and speed limits, and evaluating opportunities to reduce cross sections.

4.1.4 Local Road Safety Plan for 2022-2026 (August 2022)

The 2022 LRSP looks at crashes that resulted in an injury on the City of Vancouver's locally controlled streets from 2016 through 2020, with a focus on crashes that resulted in a fatality or severe injury.

- **Intersections.** The LRSP identifies the Top Ten Intersections by Crash Weight from 2016-2020 and ranks the Chkalov Drive and Mill Plain Boulevard intersection as #4 out of 10. This intersection had a greater number and severity of injury crashes than any other intersection in the 2016-2020 period.
- **Segments.** For the Top Ten Segments by Crash Weight (2016-2020), the LRSP identified Chkalov Drive from Mill Plain Boulevard to 7th Street as the #1 ranked segment. At the intersection with Mill Plain Boulevard, there was one pedestrian fatality and one severe injury crash involving someone bicycling, which took place at one of the driveways at the intersection. Of the remaining 13 injury crashes, 1 involved a bicyclist and 2 involved a pedestrian. The segment of 112th Avenue from 39th Street to 28th Street was ranked as #7.
- **Crash Types.** Crash types on 112th Avenue/Chkalov Drive corridor included pedestrian or bicyclist-related crashes, disregard of signals, left-turning vehicle crashes, fixed objects, angle crashes, crashes after dark, and driveway-related crashes.
- **Countermeasures.** The LRSP provides potential safety countermeasures to address these crash types, including:
 - Converting intersections to roundabouts.
 - Converting four-lane roadways to three-lane roadways with a center turn lane (road diet).
 - Modifying signal phasing to implement a leading pedestrian interval.
 - Installing lighting.
 - Installing refuge islands and raised crossings.
 - Crosswalk visibility enhancements.
 - Advance stop marking.
 - Investing in bike lanes.
 - Access management.
 - Shortening crossing distances with bicycle friendly curb extensions.

4.2 Updated Corridor Safety Conditions

4.2.1 Corridor Observed Crash History

Crash data was accessed through the City of Vancouver Safety Dashboard. The most recent 5 years (2017 to 2021) of crash data was analyzed for the segments and intersections along the corridor between SE McGillivray Boulevard and NE 51st Street.

A total of 399 crashes occurred in the study area during the 5-year study period. Overall, there were 4 fatal crashes and 11 severe crashes during the study period, 5 of which involved a pedestrian (3 fatal, 2 severe). Four of these fatal and severe crashes involved alcohol and two were attributed to speeding.

The majority of crashes (87%) occurred at intersections or driveways. Table 4-1 and Table 4-2 summarize the segment and intersection crashes, respectively, by severity and location. Driveway crashes and non-study intersections were assigned to the corresponding segment. In March of this year, 2023, a fatal crash occurred at the intersection of the 900 block of NE 112th which involved an automobile and a cyclist.⁶

Table 4-1. 2017–2021 Segment Crashes by Severity and Location

Segment	Fatal Crashes	Severe Injury Crashes	Non-Severe Injury Crashes	No-Injury Crashes	Total Crashes	Total Crashes/mi/yr
SE McGillivray Blvd to SE 7th St	0	0	0	0	0	0.0
SE 7th St to Mill Plain Blvd	0	3	14	22	39	21.7
Mill Plain Blvd to I-205 NB Off	0	0	8	9	17	17.0
I-205 NB Off to NE 9th St	0	0	3	6	9	4.7
NE 9th St to NE 14th St	0	0	0	0	0	0.0
NE 14th St to NE 18th St	0	0	0	1	1	0.8
NE 18th St to NE 20th St	0	0	1	3	4	7.3
NE 20th St to NE 23rd St	1	0	2	6	9	12.9
NE 23rd St to NE 28th St	0	0	1	6	7	5.6
NE 28th St to NE 39th St	0	2	6	8	16	5.9
NE 39th St to NE 49th St	0	2	5	7	14	6.1
NE 49th St to NE 51st St	0	1	2	3	6	10.0
Total	1	8	42	71	122	8.7

The segment with the highest frequency of crashes (39 crashes) is between SE 7th Street and Mill Plain Boulevard. About half of these crashes occurred at the Fred Meyer driveway. This segment also experienced three severe crashes and has the highest number of crashes per mile during the study period with 21.7 crashes/mile/yr.

⁶ <https://www.columbian.com/news/2023/mar/01/bicyclist-killed-in-east-vancouver-crash/>

Table 4-2. 2017-2021 Intersection Crashes by Severity and Location

Intersection	Fatal Crashes	Severe Injury Crashes	Non-Severe Injury Crashes	No- Injury Crashes	Total Crashes
SE Chkalov Dr & SE McGillivray Blvd	1	0	2	1	4
SE Chkalov Dr & SE 7th St	0	0	2	11	13
SE Chkalov Dr & Mill Plain Blvd	1	0	21	44	66
NE 112th Ave & I-205 NB Off	1	2	1	12	16
NE 112th Ave & NE 9th St	0	0	8	4	12
NE 112th Ave & NE 14th St	0	0	0	0	0
NE 112th Ave & NE 18th St	0	0	9	15	24
NE 112th Ave & NE 20th St	0	0	0	0	0
NE 112th Ave & NE 23rd St	0	0	0	0	0
NE 112th Ave & NE 28th St	0	0	17	20	37
NE 112th Ave & NE 39th St	0	0	5	9	14
NE 112th Ave & NE 49th St	0	1	12	26	39
NE 112th Ave & NE 51st St	0	0	19	33	52
Total	3	3	96	175	277

The intersection of SE/NE Chkalov Drive and Mill Plain Boulevard experienced the highest frequency of crashes (66 crashes) followed by the intersection of NE 112th Avenue and NE 51st Street (52 crashes). The highest frequency of fatal and severe crashes (three crashes) occurred at the intersection of NE 112th Avenue and the I-205 northbound Off-ramp.

Overall, in the corridor, there were 18 pedestrian-involved crashes and 4 bicyclist-involved crashes. More detail regarding crash types, contributing factors, and other crash attributes is provided in Appendix C.

4.2.2 Corridor Existing Conditions Predictive Analysis

In addition to a review of the crash history, a predictive analysis, based on the HSM, was also conducted to further assess the safety performance of the overall corridor as well as for specific segments and intersections. This approach includes a calculation and comparison of the predicted and expected crashes of a facility to determine how the analysis site compares to other similar sites in terms of crashes.

Predicted crashes represent the estimated number of crashes at a site based on a safety performance function (i.e., model) that has been adjusted to represent the geometrics and volumes of the study corridor. In other words, predicted crashes are the number of crashes predicted to occur on the study corridor based on the safety performance of other geometrically and volumetrically similar sites.

Expected crashes adjust the calculated predicted crash frequency by incorporating the observed crash history. This is the number of crashes expected to occur on the study corridor based on the model and the actual crash history of the site.

The delta between expected and predicted crashes represents the potential for safety improvement (PSI). If the expected crash frequency is higher than the predicted crash frequency for a location (a positive PSI), then that location is experiencing more crashes per year on average than peer locations that are similar to it. If the expected crash frequency is lower than the predicted crash frequency for a location (a negative PSI), then that location is experiencing fewer crashes per year on average than peer locations and performing better than predicted.

Table 4-3 summarizes the average predicted and expected crashes per year and PSI for all of the segments and intersections along the corridor.

Table 4-3. Existing Corridor Predicted and Expected Average Crash Frequencies

Location	Predicted Average Crash Frequency (crashes/yr)			Expected Average Crash Frequency (crashes/yr)	PSI (crashes/yr) ¹
	Fatal and Injury	PDO	Total		
Segments					
SE McGillivray Blvd to SE 7th St	0.2	0.5	0.6	0.5	-0.1
SE 7th St to Mill Plain Blvd	1.3	3.6	5.0	4.9	0.0
Mill Plain Blvd to I-205 NB Off	0.2	0.4	0.6	1.1	+0.5
I-205 NB Off to NE 9th St	0.6	1.7	2.4	2.0	-0.4
NE 9th St to NE 14th St	0.4	1.1	1.5	1.1	-0.4
NE 14th St to NE 18th St	0.4	1.0	1.4	1.0	-0.4
NE 18th St to NE 20th St	0.3	0.9	1.2	0.9	-0.3
NE 20th St to NE 23rd St	0.4	1.2	1.6	1.4	-0.2
NE 23rd St to NE 28th St	0.8	2.2	3.0	2.0	-1.1
NE 28th St to NE 39th St	2.0	5.6	7.6	4.7	-2.9
NE 39th St to NE 49th St	1.5	4.2	5.7	3.3	-2.4
NE 49th St to NE 51st St	0.2	0.7	1.0	0.8	-0.1
Segments Total	8.3	23.2	31.5	23.8	-7.7
Intersections					
SE Chkalov Dr & SE McGillivray Blvd	0.6	1.4	2.0	1.4	-0.6
SE Chkalov Dr & SE 7th St	0.5	0.9	1.4	1.7	+0.4
SE Chkalov Dr & Mill Plain Blvd	1.7	3.4	5.1	9.8	+4.6
NE 112th Ave & I-205 NB Off	0.4	0.7	1.1	1.1	0.0
NE 112th Ave & NE 9th St	0.6	1.3	1.9	1.9	-0.1
NE 112th Ave & NE 14th St	0.1	0.2	0.3	0.2	0.0
NE 112th Ave & NE 18th St	0.9	1.9	2.8	3.9	+1.1
NE 112th Ave & NE 20th St	0.3	0.4	0.7	0.5	-0.2
NE 112th Ave & NE 23rd St	0.5	0.8	1.2	0.9	-0.3

Location	Predicted Average Crash Frequency (crashes/yr)			Expected Average Crash Frequency (crashes/yr)	PSI (crashes/yr) ¹
	Fatal and Injury	PDO	Total		
NE 112th Ave & NE 28th St	1.2	2.4	3.6	5.4	+1.9
NE 112th Ave & NE 39th St	1.0	1.9	2.9	2.5	-0.3
NE 112th Ave & NE 49th St	1.1	2.1	3.2	5.2	+2.0
NE 112th Ave & NE 51st St	1.6	3.2	4.8	8.4	+3.6
Intersections Total	10.5	20.4	30.9	43.0	+12.0
Corridor Total	18.9	43.6	62.4	66.8	+4.4

PDO = Property Damage Only (i.e., no injury); PSI = potential for safety improvement (expected crashes - predicted crashes)

¹Positive values indicate location is performing worse than similar sites; negative values indicate location is performing better than similar sites.

Overall, with a PSI of just over +4 crashes per year, the corridor is performing slightly worse than predicted based on similar sites. This is primarily due to the intersections along the corridor, which, collectively, are expected to experience 12 more crashes per year on average than similar sites. Looking at segments only, however, the segments are collectively performing better than predicted with almost 8 fewer crashes per year on average. Figure 4-1 summarizes the PSI values from the HSM analysis for each segment and intersection. Specific locations will be discussed further in the next section.

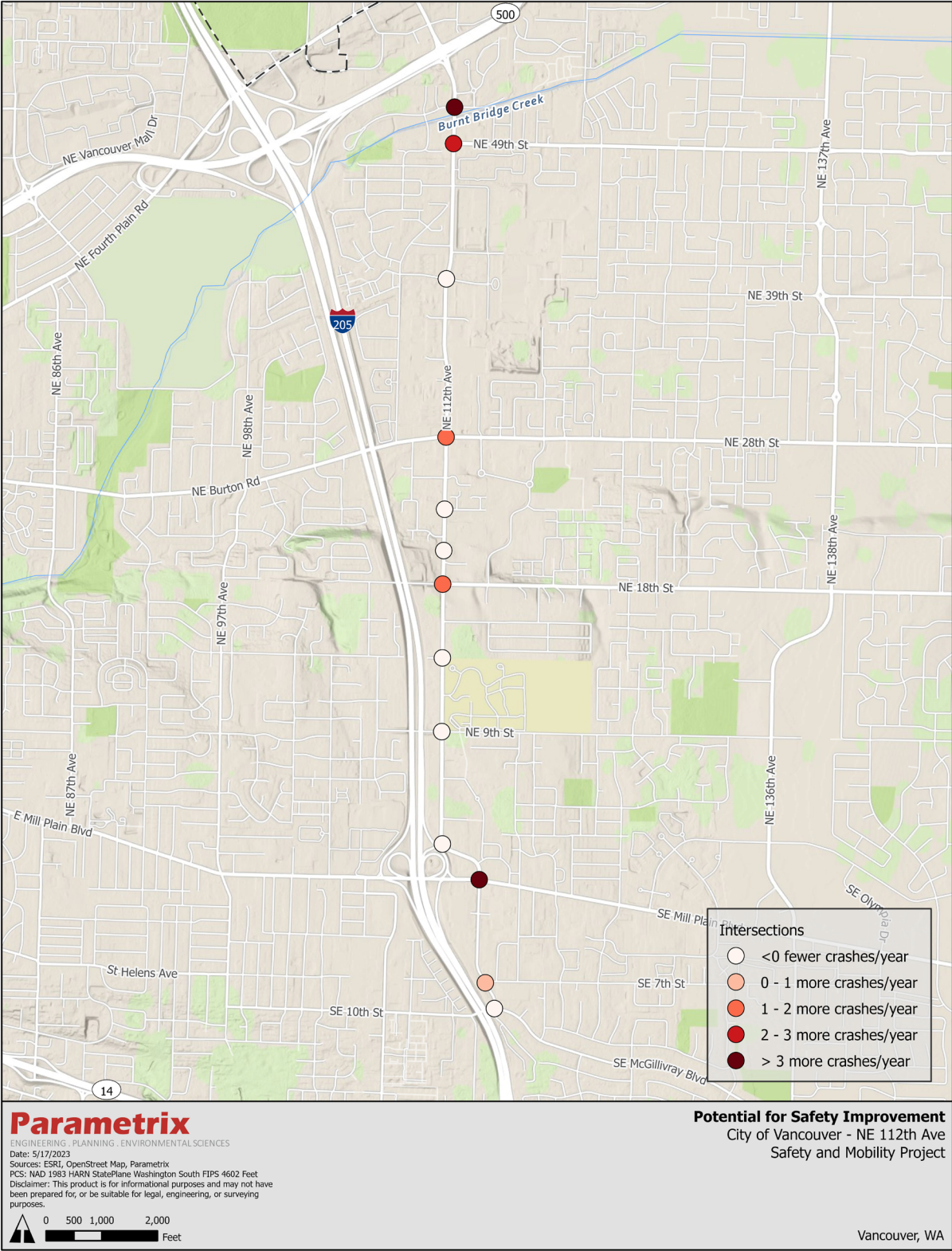


Figure 4-1. Crash Analysis of Intersections – Potential for Safety Improvement

4.2.3 Corridor Details

The following provides additional details for specific locations from the observed crashes review and the predictive analysis by corridor segment. A positive value indicates the location is performing worse than similar sites and has a greater potential to improve safety; while a negative value indicates the location is performing better than similar sites and has a lower potential to improve safety as it is already performing better than predicted.

Predictive analysis shows the following segments and intersections of note.

Intersections

- **SE Chkalov Drive & SE 7th Street.** Experiencing approximately one additional crash every 2.5 years than predicted.
- **SE Chkalov Drive & Mill Plain Boulevard.** Performing worse than predicted, experiencing up to 5 crashes per year more than similar sites ($PSI > 0$). *This intersection is the worst-performing intersection on the corridor compared to similar sites since it had the highest PSI (4.6 crashes/year).* Additionally, as previously discussed, this intersection was included in the top ten intersections identified in the 2022 LRSP (#4) with the greatest number and severity of injury crashes than any other intersection in Vancouver during the LRSP analysis period.
- **NE 112th Avenue & NE 18th Street.** Performing worse than predicted, experiencing up to about 1 crash more per year than similar sites ($PSI > 0$).
- **NE 112th Avenue & NE 28th Street.** Performing worse than predicted, experiencing up to about two crashes more per year than similar sites ($PSI > 0$).
- **NE 112th Avenue & NE 49th Street.** Performing worse than predicted, experiencing up to about two crashes more per year than similar sites ($PSI > 0$).
- **NE 112th Avenue & NE 51st Street.** Performing worse than predicted, experiencing up to about seven crashes more every two years than similar sites ($PSI > 0$). *This was the second worst performing intersection according to the predictive analysis.*

Segments

- **SE 7th Street to Mill Plain Boulevard Segment.** Highest crash frequency per mile (21.7 crashes/mile) of any other segment in the corridor.
- **Mill Plain Boulevard to I-205 NB Off-Ramp Segment.** Performing slightly worse than predicted, experiencing up to one crash more every 2 years than similar sites ($PSI > 0$). This site had the second highest crash frequency per mile on the corridor and a portion of this segment was ranked as the top segment by crash weight in the 2022 LRSP.
- **NE 28th Street to NE 39th Street Segment.** Performing better than predicted ($PSI < 0$), with up to 3 fewer crashes every year than predicted. However, this segment was identified in the 2022 LRSP as number 7 on the top ten list of segments by crash weight.

Refer to Appendix C for more information on segment safety analysis.

5. NEXT STEPS

This baseline traffic and safety report serves as a basis for understanding present day and future “no-build” conditions in the corridor. Both will be used as a point of comparison for developing and evaluating future design options.

Safety analysis revealed that the corridor is performing slightly worse than predicted (compared to similar sites), largely due to the following locations:

- The intersection of Chkalov Drive and Mill Plain Boulevard
- The segment between SE 7th Street and Mill Plain Boulevard
- The segment between NE 28th Street and NE 39th Street

The HSM analysis identified additional intersections that may be priority locations for safety countermeasures:

- NE 112th Avenue & NE 18th Street
- NE 112th Avenue & NE 28th Street
- NE 112th Avenue & NE 49th Street
- NE 112th Avenue & NE 51st Street

While improvements are possible along the entire corridor, these locations represent the areas likely to possess the greatest opportunity to reduce crashes and improve safety performance along the corridor. In addition to the HSM analysis, the high number of crashes and multiple fatalities in the NE 112th Avenue corridor indicate that there is significant opportunity for safety improvements overall.

Following review of this baseline conditions report, the project team will develop alternatives for different segments of the NE 112th Avenue corridor to address safety concerns and multimodal improvements.

Appendix A

Peak-Hour Analysis

AM Peak Hour Analysis

PM Peak Hour Analysis

Table: RTC Modeling Data and AM/PM Growth Rate



Appendix B

Synchro/SimTraffic Reports

AM Existing

AM No-Build

PM Existing

PM No-Build



Appendix C

Safety Analysis - Corridor Detail



TECHNICAL MEMORANDUM

DATE: May 15, 2023
TO: City of Vancouver
FROM: Parametrix
SUBJECT: Appendix D: Safety Analysis (Corridor Details)
CC:
PROJECT NUMBER:
PROJECT NAME: NE 112th Avenue Safety and Mobility Project

Corridor Details

This appendix provides additional details for specific locations from the observed crashes review and the predictive analysis by corridor section. A positive value indicates the location is performing worse than similar sites and has a greater potential to improve safety; while a negative value indicates the location is performing better than similar sites and has a lower potential to improve safety as it is already performing better than predicted.

Segment 1: SE McGillivray Boulevard to Mill Plain Boulevard

This section includes two segments, SE McGillivray Boulevard to SE 7th Street and SE 7th Street to Mill Plain Boulevard, and two intersections, SE Chkalov Drive & SE McGillivray Boulevard and SE Chkalov Drive & SE 7th Street.

SE Chkalov Drive & SE McGillivray Boulevard Intersection

Four crashes occurred at this intersection during the study period, two rear end crashes, one fixed object crash, and one pedestrian-related crash, which was a fatal crash. The pedestrian was crossing in a marked crosswalk at the intersection with the signal and was struck by a right turning vehicle. The driver's primary contributing circumstance was losing control due to the icy roadway conditions and snow. This crash also occurred in the dark (with streetlights). All other crashes involved non-severe or no injuries.

The predictive analysis shows that this intersection is performing slightly better than predicted ($PSI < 0$).

SE McGillivray Boulevard to SE 7th Street Segment

No segment crashes occurred between McGillivray Boulevard and 7th Street during the study period and the predictive analysis shows that this segment is performing better than predicted ($PSI < 0$).

SE Chkalov Drive & SE 7th Street Intersection

Thirteen total crashes occurred at this intersection during the study period, all with non-severe or no injuries. The most common crash type was angle crashes (62%) with the other crashes being rear end, fixed object, sideswipe-same direction, and other. No crashes involved pedestrians or bicyclists. Over half of the crashes occurred under dark conditions with streetlights. The most common contributing factors included inattention and failure to grant right-of-way.

The predictive analysis shows this intersection is experiencing approximately one additional crash every 2.5 years than predicted.

SE 7th Street to Mill Plain Boulevard Segment

Thirty-nine total crashes occurred on this segment during the study period. Three crashes were severe injury crashes, 14 were non-severe injury crashes, and 22 were no injury crashes. Almost 70% of crashes were angle crashes and over 75% of crashes were driveway related, thirteen of which occurred at the Fred Meyer plaza driveway. Ten crashes were also hit and run crashes.

There were four pedestrian-involved crashes and one bicyclist-involved crash. All four pedestrian crashes occurred in August or September of 2021, occurred at driveways, were non-disabling injury crashes, and involved turning vehicles (three right turns, one left turn). Two of these crashes involved motorized wheelchairs while the other two involved pedestrians under the influence of alcohol. The bicycle crash did not result in any injuries but was a hit and run crash. No other information was available for this crash.

The predictive analysis shows that this segment is performing about as predicted ($PSI = 0$). But this segment did have the highest crash frequency per mile (21.7 crashes/mile) of any other segment in the corridor.

Segment 2: Mill Plain Boulevard to SE 9th Street

SE Chkalov Drive & Mill Plain Boulevard Intersection

Sixty-six total crashes occurred at this intersection during the study period, including one fatal crash, 21 non-severe injury crashes, and 44 no injury crashes. About 55% of crashes were rear end crashes, 15% sideswipe-same direction, and 12% angle. About one-third of crashes were hit and run crashes and four involved alcohol.

There were five pedestrian-involved crashes and one bicyclist-involved crash. The one fatal crash involved a pedestrian on a personal conveyance device who was crossing in a marked crosswalk at the intersection but against the signal. The other pedestrian crashes at this intersection involved pedestrians crossing in a marked crosswalk with the signal, with three of them involving turning vehicles (two right turns, one left turn).

The predictive analysis shows that this intersection is performing worse than predicted, experiencing up to 5 crashes per year more than similar sites ($PSI > 0$). This intersection is the worst-performing intersection on the corridor compared to similar sites since it had the highest PSI (4.6 crashes/year). Additionally, as previously discussed, this intersection was included in the top ten intersections identified in the 2022 LRSP (#4) with the greatest number and severity of injury crashes than any other intersection in Vancouver during the LRSP analysis period.

Mill Plain Boulevard to I-205 NB Off-Ramp Segment

Seventeen total crashes occurred on this segment during the study period, including eight non-severe injury crashes and nine no injury crashes. About 65% of crashes (11 crashes) were driveway-related, which were all angle crashes (seven crashes) or rear end crashes (four crashes). No pedestrian- or bicyclist-involved crashes occurred on this segment during the study period.

The predictive analysis shows that this segment is performing slightly worse than predicted, experiencing up to one crash more every two years than similar sites ($PSI > 0$). This site also had the second highest crash frequency per mile on the corridor and a portion of this segment was ranked as the top segment by crash weight in the 2022 LRSP.

NE 112th Avenue & I-205 NB Off-Ramp Intersection

Sixteen total crashes occurred at this intersection during the study period, including one fatal crash, two severe injury crashes, one non-severe injury crash, and 12 no injury crashes. Fixed object crashes were the most common crash type (81%), including all three fatal and severe injury crashes. Six crashes involved alcohol or

drugs, including both severe injury crashes (alcohol). The driver in the fatal crash was noted as ill. No pedestrian- or bicyclist-involved crashes occurred at this intersection during the study period.

The predictive analysis shows that this segment is performing about as predicted (PSI = 0).

I-205 NB Off-Ramp to NE 9th Street Segment

Nine total crashes occurred on this segment during the study period, all with non-severe or no injuries. There was little variation of crash type, but five of the crashes were hit and runs, including one attributed to racing and another attributed to fleeing a lawful pursuit. The other crashes were attributed to inattention.

One bicyclist-involved crash occurred on this segment with no pedestrian-involved crashes. The bicyclist was struck in a driveway, in the dark with no streetlights while raining.

The predictive analysis shows that this segment is performing better than predicted (PSI < 0), with up to 1 fewer crash every two years than predicted.

Segment 3: NE 9th Street to NE 18th Street

NE 112th Avenue & NE 9th Street Intersection

Twelve total crashes occurred at this intersection during the study period, all with non-severe or no injuries. Angle and rear end crashes were the most common crash types, and there were a range of contributing factors.

There were two pedestrian-involved crashes and one bicyclist-involved crash. Both pedestrian crashes occurred while the pedestrian was crossing in a marked crosswalk with the signal and the driver failed to yield. One involved a right-turning vehicle, the other a left-turning vehicle. The bicycle crash involved a distracted driver making a left-turn.

The predictive analysis shows that this segment is performing about as predicted (PSI ≈ 0).

NE 9th Street to NE 14th Street Segment

No segment crashes occurred between 9th Street and 14th Street during the study period and the predictive analysis shows that this segment is performing better than predicted (PSI < 0), with up to 1 fewer crash every two years than predicted.

NE 112th Avenue & NE 14th Street Intersection

No intersection crashes occurred at this intersection during the study period and the predictive analysis shows that this segment is performing about as predicted (PSI = 0).

NE 14th Street to NE 18th Street Segment

One crash occurred on this segment during the study period. It was an angle crash with no injuries due to an improper left turn at a driveway. No pedestrians or bicyclists were involved.

The predictive analysis shows that this segment is performing better than predicted (PSI < 0), with up to 1 fewer crash every two years than predicted.

Segment 4: NE 18th Street to NE 28th Street

NE 112th Avenue & NE 18th Street Intersection

Twenty-four total crashes occurred at this intersection during the study period, all with non-severe or no injuries. The majority of crashes (54%) were angle crashes, three of which involved speeding, four involved inattention or distractions, and three disregarded the signal. No pedestrian- or bicyclist-involved crashes occurred at this intersection during the study period.

The predictive analysis shows that this intersection is performing worse than predicted, experiencing up to about 1 crash more per year than similar sites (PSI > 0).

NE 18th Street to NE 20th Street Segment

Four total crashes occurred on this segment during the study period, all with non-severe or no injuries. Two crashes were sideswipe same-direction crashes, one was a rear end, and one was a fixed object crash. No pedestrian- or bicyclist-involved crashes occurred on this segment during the study period.

The predictive analysis shows that this segment is performing slightly better than predicted (PSI < 0), with up to 1 fewer crash every four years than predicted.

NE 112th Avenue & NE 20th Street Intersection

No intersection crashes occurred at this intersection during the study period and the predictive analysis shows that this intersection is performing slightly better than predicted (PSI < 0), with up to 1 fewer crash every four years than predicted.

NE 20th Street to NE 23rd Street Segment

Nine total crashes occurred on this segment during the study period, including one fatal crash, two non-severe injury crashes, and six no injury crashes. The fatal crash involved a pedestrian crossing at a non-intersection with no crosswalk under dark (with streetlights) conditions. The majority of the other crashes were fixed object crashes and included a variety of contributing factors.

The predictive analysis shows that this segment is performing slightly better than predicted (PSI < 0), with up to 1 fewer crash every five years than predicted.

NE 112th Avenue & NE 23rd Street Intersection

No intersection crashes occurred at this intersection during the study period and the predictive analysis shows that this intersection is performing slightly better than predicted (PSI < 0), with up to 1 fewer crash every three years than predicted.

NE 23rd Street to NE 28th Street Segment

Seven total crashes occurred on this segment during the study period, all included no injuries except for one non-severe crash. The non-severe injury crash was a pedestrian-involved crash where a left-turning distracted driver struck a pedestrian crossing in a marked crosswalk. Two of the other crashes involved alcohol and one involved speeding.

The predictive analysis shows that this segment is performing better than predicted (PSI < 0), with up to 1 fewer crash every year than predicted.

Segment 5: NE 28th Street to NE 39th Street

NE 112th Avenue & NE 28th Street Intersection

Thirty-seven total crashes occurred at this intersection during the study period, all with non-severe or no injuries. The majority of crashes were either rear end (49%) or angle crashes (32%), seven of which were hit and runs and three involved alcohol. No pedestrian- or bicyclist-involved crashes occurred at this intersection during the study period.

The predictive analysis shows that this intersection is performing worse than predicted, experiencing up to about 2 crashes more per year than similar sites (PSI > 0).

NE 28th Street to NE 39th Street Segment

Sixteen total crashes occurred on this segment during the study period, including two severe injury crashes, 6 non-severe injury crashes, and 8 no injury crashes. One severe injury crash was an angle crash and the other was an opposite direction crash that involved alcohol. Six total crashes on this segment involved alcohol. No pedestrian- or bicyclist-involved crashes occurred at this intersection during the study period.

The predictive analysis shows that this segment is performing better than predicted ($PSI < 0$), with up to 3 fewer crashes every year than predicted. However, this segment was identified in the 2022 LRSP as number 7 on the top ten list of segments by crash weight.

Segment 6: NE 39th Street to NE 51st Street

NE 112th Avenue & NE 39th Street Intersection

Fourteen total crashes occurred at this intersection during the study period, including five non-severe injury crashes and 9 no injury crashes. The majority of crashes were angle or rear end crashes (71%), but there was one pedestrian crash that involved a left-turning driver striking a pedestrian crossing in a marked crosswalk with the signal. No bicyclist-involved crashes occurred at this intersection during the study period.

The predictive analysis shows that this intersection is performing slightly better than predicted ($PSI < 0$), with up to 1 fewer crash every three years than predicted.

NE 39th Street to NE 49th Street Segment

Fourteen total crashes occurred on this segment during the study period, including two severe injury crashes, five non-severe injury crashes and seven no injury crashes. The majority of crashes were either rear end (43%) or angle crashes (29%), in addition to one pedestrian-involved crashes. The pedestrian was not crossing at an intersection or in a marked crosswalk with dark (streetlight on) conditions. Two crashes involved alcohol including the other severe injury crash. No bicyclist-involved crashes occurred at this intersection during the study period.

The predictive analysis shows that this segment is performing better than predicted ($PSI < 0$), with up to five fewer crashes every two years than predicted.

NE 112th Avenue & NE 49th Street Intersection

Thirty-nine total crashes occurred at this intersection during the study period, including one severe injury crash, 12 non-severe injury crashes, and 26 no injury crashes. The majority of crashes (46%) were rear end crashes, five crashes (13%) involved alcohol or drugs, and two involved a pedestrian. One of the pedestrian crashes was a severe injury crash that was a hit and run where the pedestrian was struck in a marked crosswalk at an intersection, crossing with the signal, in the dark (with streetlights), and while snowing. The other pedestrian crash occurred at a driveway and did not involve any injuries. No bicyclist-involved crashes occurred at this intersection during the study period.

The predictive analysis shows that this intersection is performing worse than predicted, experiencing up to about two crashes more per year than similar sites ($PSI > 0$).

NE 49th Street to NE 51st Street Segment

Six total crashes occurred on this segment during the study period, including one severe injury crash, two non-severe injury crashes, and three no injury crashes. The majority of crashes (67%) were rear end crashes. The one severe injury crash was a fixed object crash where the driver was exceeding a reasonable safe speed and lost control during rainy and wet conditions, running off the road into a utility pole. No pedestrian- or bicyclist-involved crashes occurred at this intersection during the study period.

The predictive analysis shows that this intersection is performing slightly better than predicted ($PSI < 0$).

NE 112th Avenue & NE 51st Street Intersection

Fifty-two total crashes occurred at this intersection during the study period, all with non-severe or no injuries. The majority of crashes were angle crashes (65%), which were often attributed to a failure to yield and/or disregarding the traffic control. About one-third of crashes were attributed to some form of inattention or distraction and four involved alcohol. No pedestrian- or bicyclist-involved crashes occurred at this intersection during the study period.

The predictive analysis shows that this intersection is performing worse than predicted, experiencing up to about seven crashes more every two years than similar sites ($PSI > 0$). This was the second worst performing intersection according to the predictive analysis.

Main Street Promise Update



Transportation Mobility
Commission Workshop
September 5, 2023



Ryan Lopossa
Transportation Manager, Public Works

Chris Harder
Deputy Director, Economic Prosperity & Housing

Michael Walker
Executive Director, Vancouver Downtown Association

Rebecca Kennedy
Deputy Director, Community Development Department

Marianne Wilson Stein
MSP Project Advisory Group

Agenda

Introduction

Takeaways from August Workshop

TSP Policy Guidance

Design Updates

Next Steps



Project Overview

The case for Main Street:

- The roadway, sidewalks, and adjacent outdoor spaces on Main Street will be reconfigured to improve safety, foster a sense of community, and support economic prosperity.

Funding:

- American Rescue Plan Act (ARPA)
- City Transportation Fund
- Multi-family Tax Exemption Public Benefit
- Utility Fund
- City of Vancouver General Fund



Project Goals and Guiding Principles

Goals

- Increase safety for people and vehicles
- Accessible to all
- Connected infrastructure
- Support Main Street businesses



Guiding Principles



Honor and celebrate the history of downtown Vancouver



Build upon existing, and establish new, partnerships with local businesses and the community



Create a stronger sense of community identity and a welcoming place for Vancouver residents and visitors



Create an environment for renewed businesses and property owners' investment

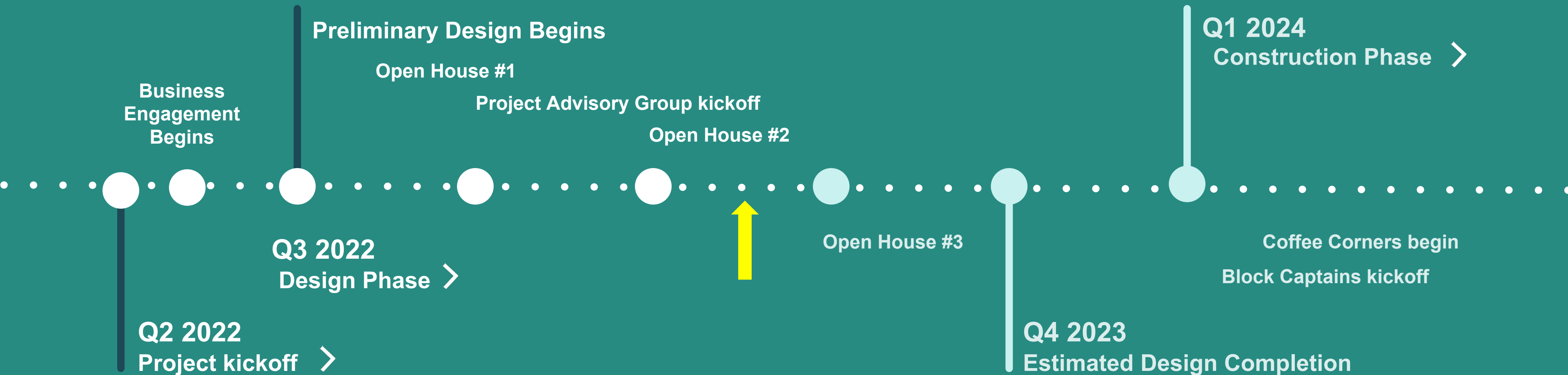


Connect Main Street, Esther Short Neighborhood, the Waterfront and Fort Vancouver National Historic Site



Create an attractive, coordinated and quality downtown environment that can be a model for future improvements

Project Timeline



August TMC Workshop Takeaways

Make it Safer for Bicyclists/Small Mobility Users

- Sharing the lane with autos
- Speed Differential
- Riding Uphill
- Wayfinding

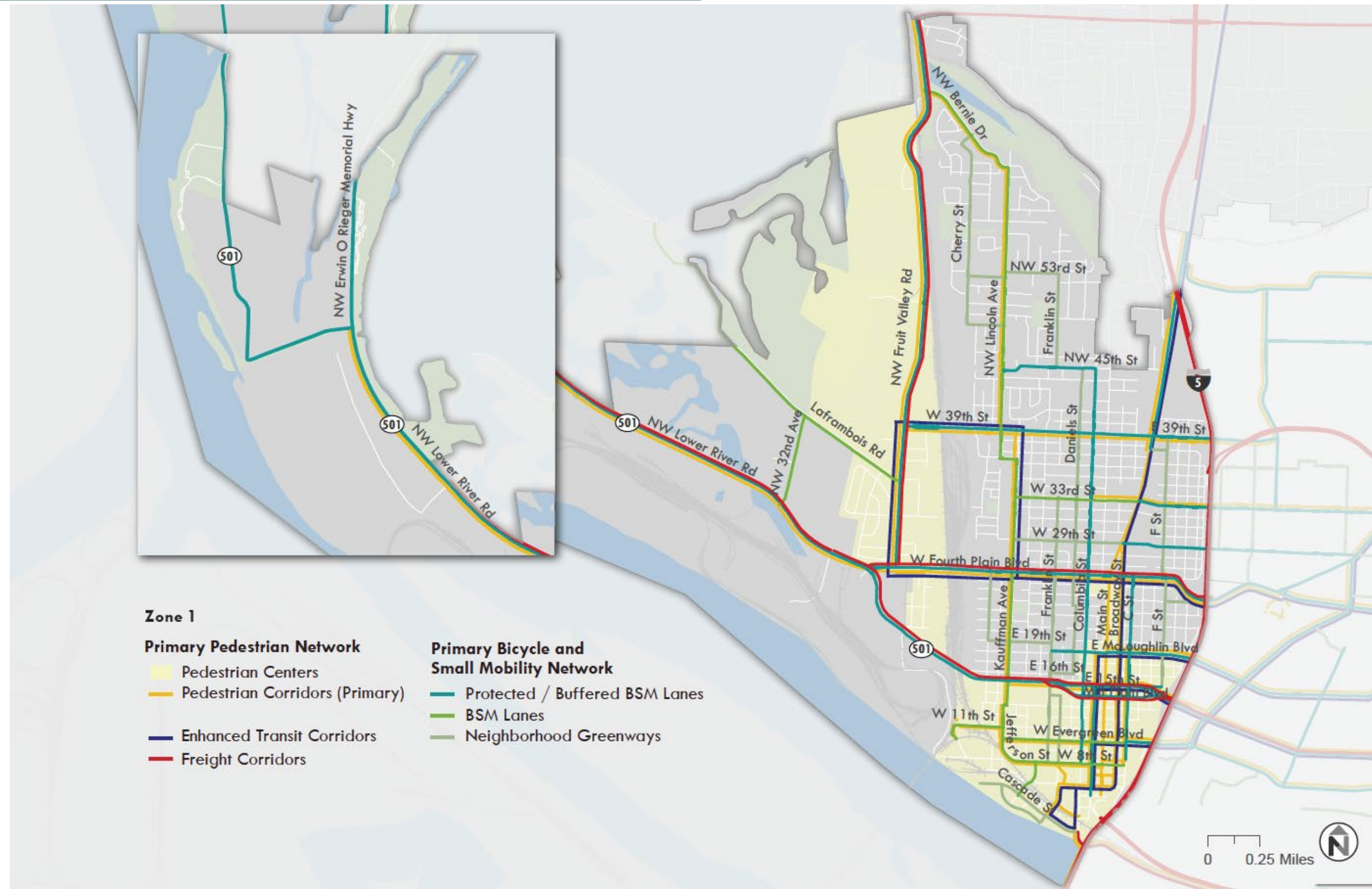
Need More Places to Secure Bikes/Mobility Devices

- Bike Corrals
- Charging Stations for E-bikes

Plan to Close Main Street to Autos – Install the Infrastructure Now

- Bollards
- Wayfinding
- Curbless
- Utility Connections



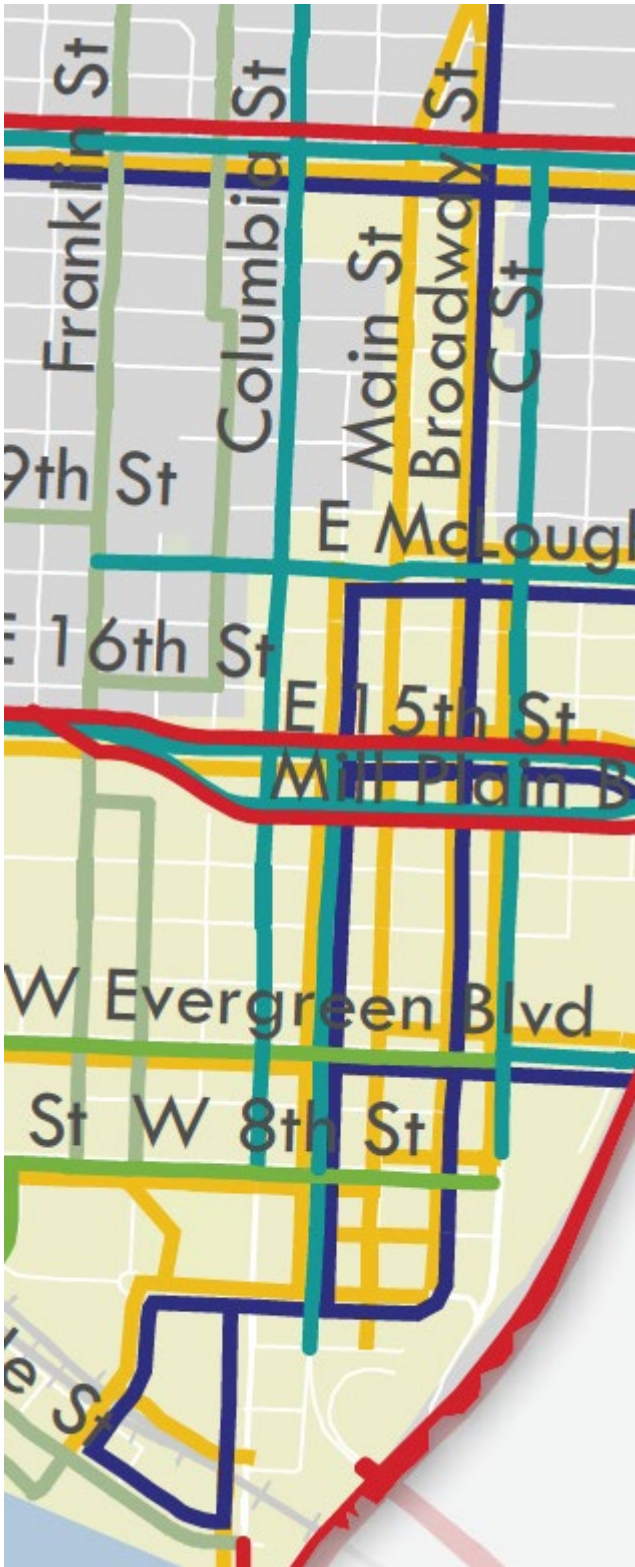


Primary Pedestrian Network

- Pedestrian Centers
- Pedestrian Corridors (Primary)
- Enhanced Transit Corridors
- Freight Corridors

Primary Bicycle and Small Mobility Network

- Protected / Buffered BSM Lanes
- BSM Lanes
- Neighborhood Greenways



As part of the City’s Transportation System Plan update that is currently in its final phases, Council has endorsed a policy for the Low Stress Mobility Network that aims for a low stress facility every half mile.

Low-Stress	LS 1	Key Policy *****	Low-Stress Mobility Network	Adopt a city-wide low-stress long-term mobility network that prioritizes safety and comfort for people of all ages. This network is a subset of the city’s larger mobility network consisting of lower-stress facilities such as neighborhood greenways and shared-use paths. The density target for low-stress facilities is every half-mile.
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BUILD LOW-STRESS NETWORKS

Make the walking, bicycling and small mobility networks inviting for all ages and abilities.

The BSM network today consists of lower-stress neighborhood streets isolated by higher-stress collector and arterial streets. This makes it challenging to bike outside of a neighborhood. Sidewalks are missing on nine miles of arterial streets – the fastest and most daunting places to walk. Adopting a citywide low-stress network for BSM and walking must be complemented by policies and programming (wayfinding, education) that further incentivize use of the networks.



NACTO* Design Guidance

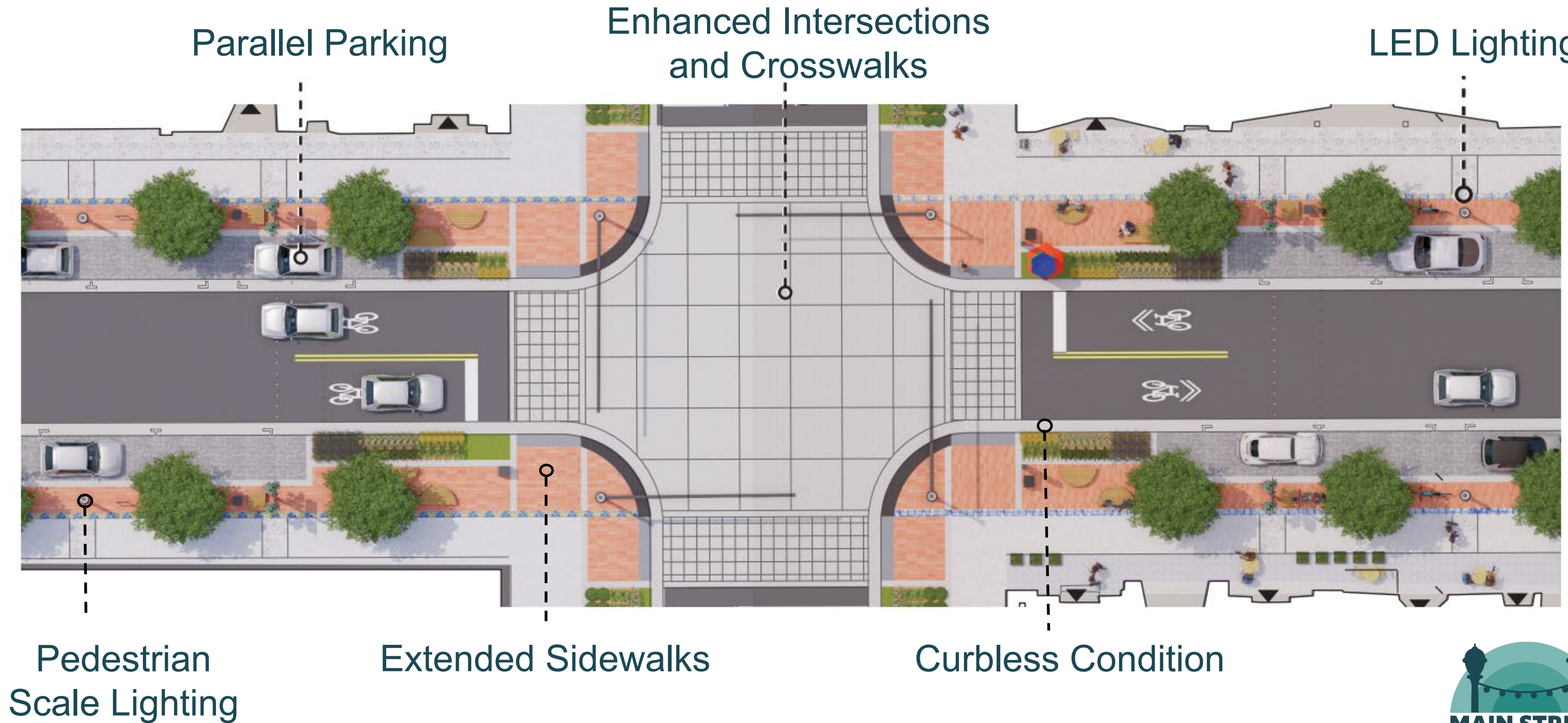
A safe environment for walking, biking, rolling and driving.

*National Association of City Transportation Officials

NACTO Contextual Guidance for Selecting All Ages & Abilities Bikeways				Recommended Facility Type
Roadway Context				
Motor Vehicle Speed	Motor Vehicle Volume (ADT)	Motor Vehicle Lanes	Considerations	
Any		Any	High curbside activity, frequent buses, motor vehicle congestion, or turning conflicts	Protected Bicycle Lane
< 10 mph	Less relevant	No centerline, or single lane one-way	Pedestrians on the roadway	Shared Street
≤ 20 mph	≤ 1,000 – 2,000		< 50 motor vehicles /hr in the peak direction at peak hr	Bicycle Boulevard
≤ 25 mph	≤ 500 – 1,500		Single lane each direction, or single lane one-way	Low curbside activity, or low congestion pressure
	≤ 1,500 – 3,000	Buffered or Protected Bicycle Lane		
	≤ 3,000 – 6,000	Protected Bicycle Lane		
	> 6,000	Protected Bicycle Lane, or Reduce Speed		
	Any		Multiple lanes per direction	
Greater than 26 mph	≤ 6,000	Single lane each direction		Protected Bicycle Lane, or Reduce Speed
		Multiple lanes per direction		Protected Bicycle Lane, or Reduce to Single Lane & Reduce Speed
		Any		Protected Bicycle Lane
	High-speed limited access roadways, natural corridors, or geographic edge conditions with limited conflicts		Any	High pedestrian volume
			Low pedestrian volume	Shared-Use Path or Protected Bicycle Lane

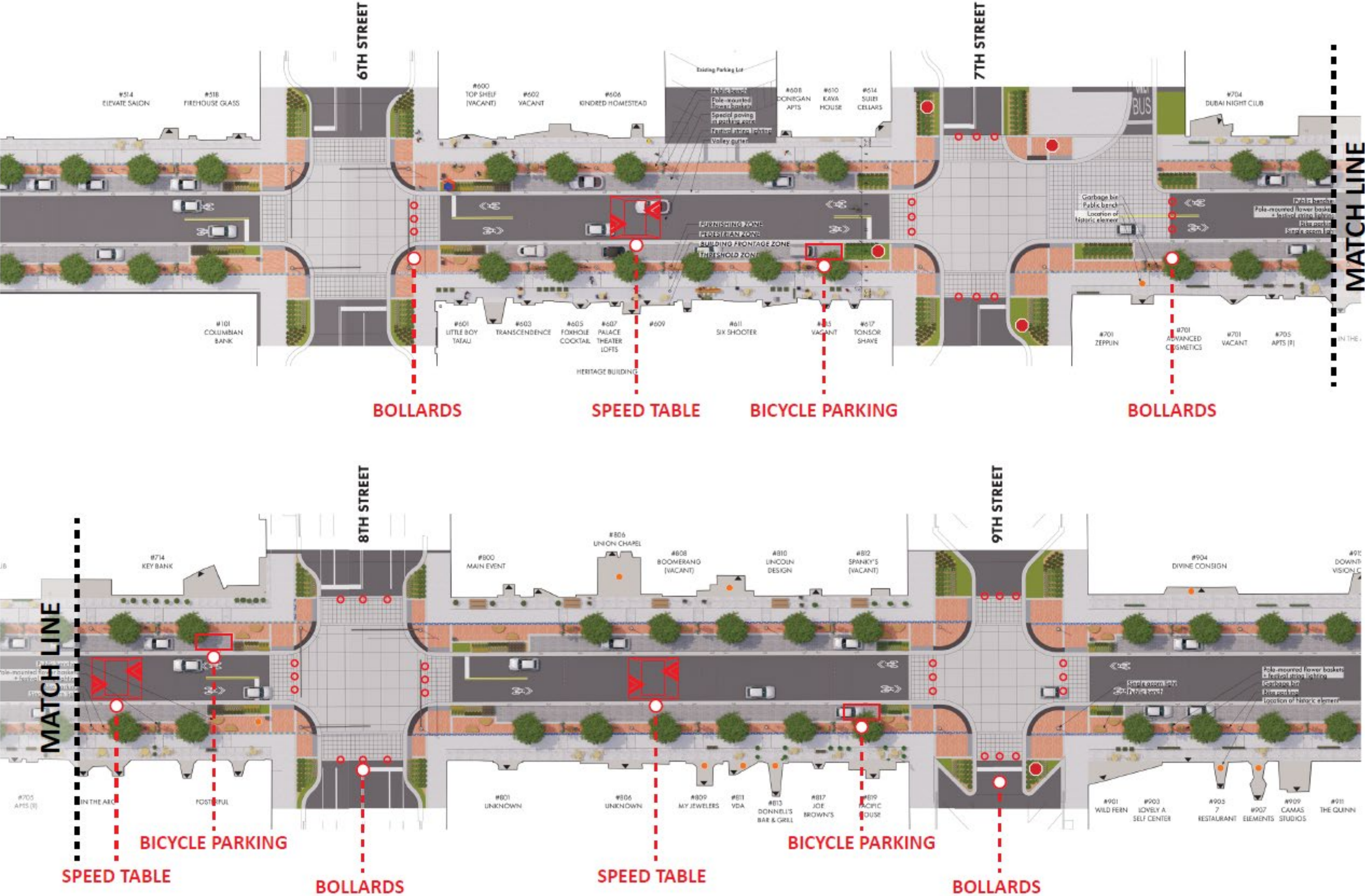
Design Elements & Improvements

Safe: A safe environment for walking, biking, rolling and driving.



Design Elements & Improvements

Safe: A safe environment for walking, biking, rolling and driving.



Design Elements & Improvements

Accessible: An accessible destination to meet, gather, shop and dine.



On-Street
Parallel Parking

Curbless Condition

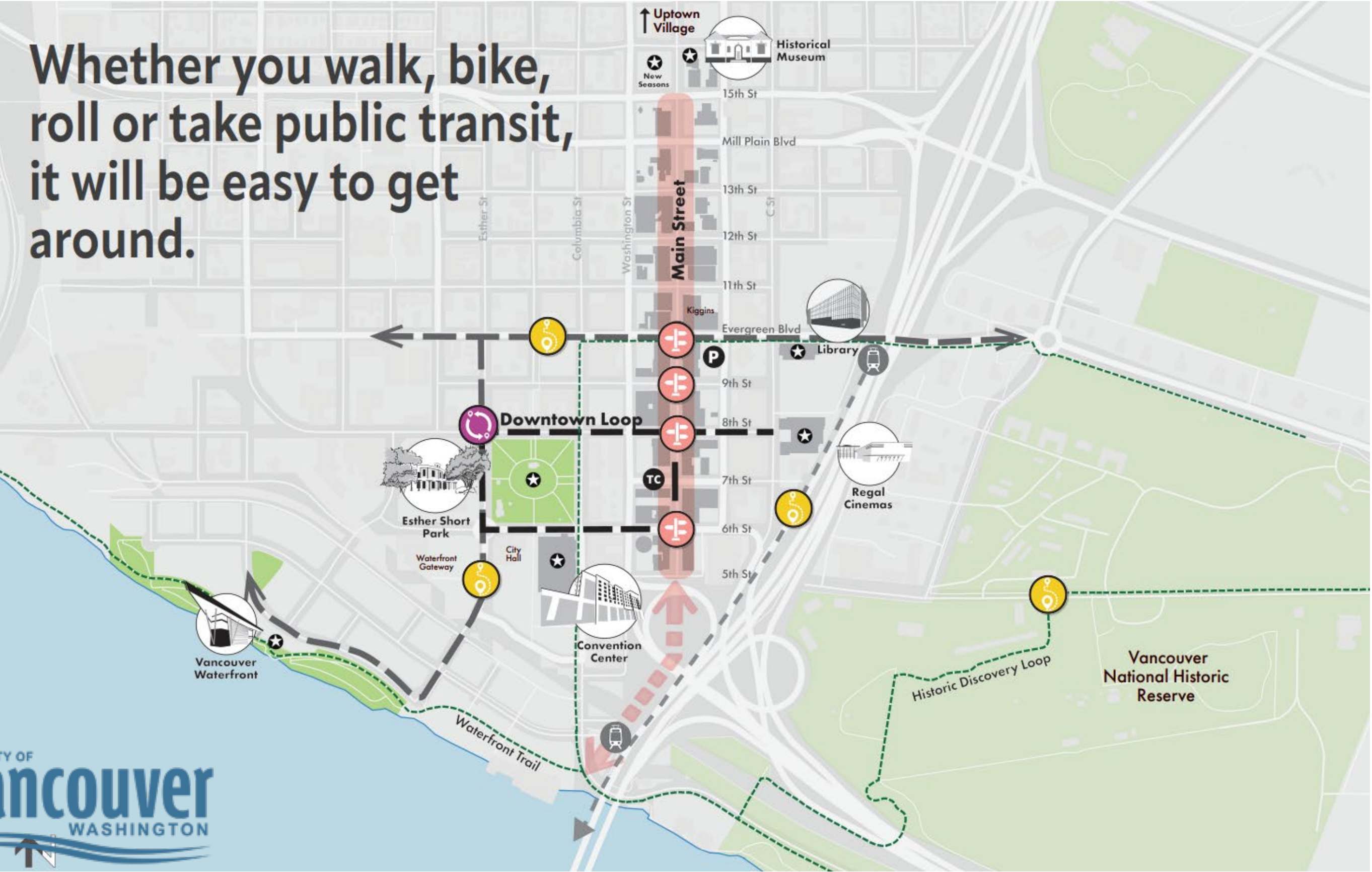
Tactile Guidance

Wider Sidewalks

Design Elements & Improvements

Connected: A connected Main Street with links to downtown destinations.

Whether you walk, bike, roll or take public transit, it will be easy to get around.



Key Routes



Downtown Loop



Gateways



Community Engagement & Feedback

Open House 1 – November 30, 2022:

- Encouraged to ***“THINK BIG”***
- “Welcoming visitors & supporting Main Street businesses” ranked most important project objective
- “Encourage community gathering on Main Street and utilization of outdoor space” highlighted as the best way to welcome visitors
- Asked to ***“prioritize pedestrian experience”*** & accommodate accessible movement for people with mobility or visibility challenges – ***“go curbless”***



Community Engagement & Feedback

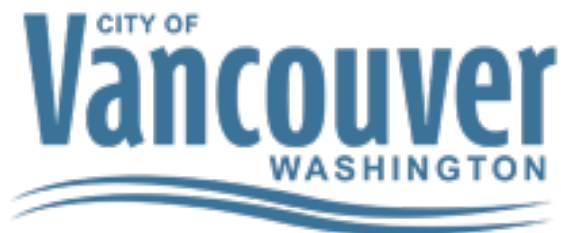
Open House 2 - June 8, 2023

- 70% of commenters *expressed support & excitement* for the project.
- “Curbless design and width of sidewalks and integrating art throughout the city - *great plans!*”
- Excited about the *expanded opportunities for outdoor* seating and other uses in the building zone & furnishing zone.
- Participants welcome revitalization of this corridor and *look forward to the economic and social benefits* to come.



Project Advisory Group members

- **Adam Hendrix**, Union Chapel
- **Cliff Myers**, Visit Vancouver USA
- **Dean Irvin**, Property Owner
- **Diana Kirkpatrick**, Center Stage Clothiers
- **Earl Frederick**, Clark College Culinary Arts
- **Elise Chelak**, Pahlisch Commercial
- **Holly J. Williams**, Parks Commissioner
- **Janet Kenefsky**, Greater Vancouver Chamber
- **Jill D. Stryker**, Property Owner
- **Karen Knauss**, LSW Architects
- **Kimberly Quiroz**, Hispanic Metropolitan Chamber
- **Marianne Wilson Stein**, Dandelion Teahouse & Apothecary
- **Meghan Arntson**, Albina Fuel
- **Michael Lary**, Source Gym
- **Seanette Corkill**, Frontdoor Back



Engagement with Public Boards and Commissions

- Vancouver Accessibility Task Force
- Transportation and Mobility Commission
- Historic Preservation Commission
- Culture, Arts & Heritage Commission
- Urban Forestry Commission
- Parking Advisory Committee
- Vancouver's Downtown Association
- Vancouver's Downtown Association Design Committee
- Uptown Village Business Association
- Arnada Neighborhood
- Esther Short Neighborhood
- NE Hazel Dell Neighborhood Association
- SW Small Business Providers Consortium
- Vancouver Farmer's Market Board
- Downtown Stakeholders forum
- Visit Vancouver Board
- Columbia River Economic Development Council
- Cycle Vancouver Club
- WA State School for the Deaf
- WA State School for the Blind

How to Stay Informed



Stay Informed
Subscribe for Main Street updates

- See the latest project updates at beheardvancouver.org/MainStreetPromise
- Attend the **Stakeholders Forum** the 3rd Tuesday each month, 1:00-2:00 pm
- Check out the **Project Advisory Group meetings** at beheardvancouver.org/MainStreetPAG
- **Email** the Project Team at smallbusiness@cityofvancouver.us
- Stay tuned for details of the **next open house this fall!**

Business Impact & Retention Program

- Created a new program for the City of Vancouver

Program elements – review:

1. Data Collection
 2. Awareness & Expectations
 3. Listen
 4. Personal, Inclusive & Accessible
 5. Business Assistance
- Business engagement program in partnership with VDA and other small business providers
 - Sets the stage for Interstate Bridge Replacement Project



Business Retention Plan: Main Street Promise

Vision

- Corridor businesses remain open & customer counts stable
- Broader business community is aware the project and its long-term benefits
- Project information is easy to access
 - BeHeardvancouver.org/mainstreetpromise
 - Project Liaisons at the City (Julie Arenz) and VDA (Michael Walker)



Goals

- Reach out to 100% of the businesses in the project corridor to offer technical assistance
- Retain Main Street businesses and customers during project (current count: 293)
- Effectively spread the word that Main Street is open for business

Business Assistance

Economic Assistance: grants, technical workshops, business classes, e-commerce, etc.

Targeted Marketing and Promotions

- Produce social media posts, videos, business “shout outs” to help drive traffic to Main Street
- Craft “Contractor Specials” to motivate project workers to dine or shop downtown
- Create customer engagement opportunities: Main Street selfie station, Taco Tuesdays, Wine Day Wednesdays, etc. featuring groups of Main Street businesses in each campaign

Enhanced Business Engagement

- Create Block Captains: act as project experts and communication links back to project team
- Host Coffee Chats: informal, drop-in updates from contractors and project team
- Regular project check-ins (conversations, surveys) and communication (email, newsletter, website) to 500+ stakeholders, businesses and property owners
- Commitment to open sidewalks during construction
- Accessible and inclusive wayfinding and *Open for Business* signage

Where are we at now? Next Steps

Community and Business Engagement

- Open House (Fall 2023)
- Social Media, Website, Online Public Surveys (ongoing)

Business Mitigation and Engagement

- One on One Business Engagement (ongoing)
- Block Captains (Fall 2023)
- Coffee Corner (Q4 2023)



Where are we at now? Next Steps

Design

- 90% Design (Estimated Completion: Q3 2023)
- Final Design (Estimated Completion: Q4 2023)

RFQ Release for Bid

- (TBD)

Construction

- Construction Begin Q1 2024



Where are we at now? Next Steps

TMC

- Public Hearing: October 3, 2023

City Council

- Workshop: October 2023
- Public Hearing: November 2023



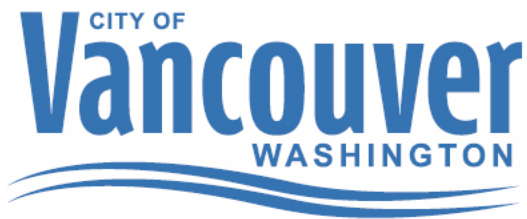
Thank you!

To learn more, visit www.beheardvancouver.org/MainStreetPromise



Transportation System Plan Update

Transportation and Mobility Commission Workshop
September 5, 2023



Kate Drennan, Principal Transportation Planner, Community Development
Department

Stephanie Wright, Principal, Nelson\Nygaard Consulting

Agenda

- Schedule Update
- Draft TSP
- Engagement Plan

Requested

- Feedback on framing
- Help spreading the word for public comment



Alignment with Universal Policy Priorities



Climate

Our transportation system helps to reduce our impact on the climate and our natural environment.



Equity

Transportation in Vancouver supports the needs of all and investment counteracts historic and current inequities.



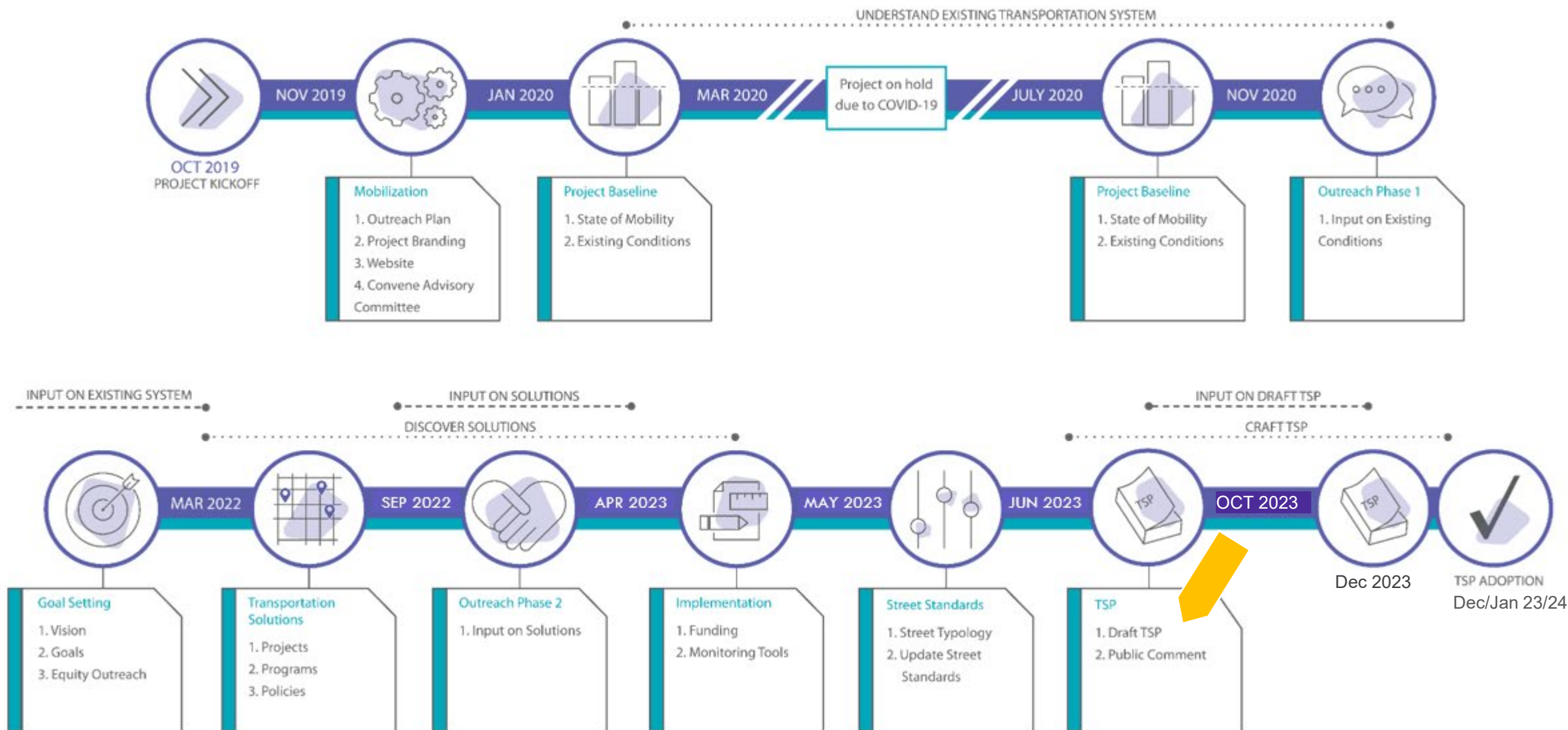
Safety

Our transportation system keeps people safe when they walk, roll, bicycle, take transit, or drive.

TSP Chartering Process

Project Phase	Elements	Council and TMC Action	Completed Dates/Tentative Dates
Project Baseline	- State of mobility - Existing conditions - Vulnerability analysis - Community input	TMC review	Jan 5, 2021; Mar 2, 2021; Jun 1, 2021; Jul 6, 2021
		Council workshop	Jun 14, 2021
Values and Goals	- Enhanced Transit Corridor analysis - Community input on project values and associated project opportunities	TMC review	Sep 7, 2021; Jan 4, 2022
		Council workshop	Apr 25, 2022
Final Goals and Priorities	- TSP Goals - Project prioritization process	TMC review	Mar 1, 2022; Jul 5, 2022; Sep 6, 2022
		Council workshop	Jul 18, 2022; Sep 12, 2022
		Council resolution	September 26, 2022
Solutions	- Policies and programs - Modal networks	TMC review	Jul 5, 2022; Sep 6, 2022; Dec 6, 2022
		Council workshop	Jul 18, 2022; Sep 12, 2022; Jan 9, 2023
		Council resolution	January 2023
Implementation Guidance	- Street typology and standards update - Pedestrian crossing policy - Performance measures - Funding recommendations	TMC review	March 7, 2023; May 2, 2023; June 6, 2023
		Council workshop	May 22, 2023
Plan Adoption	- Review of draft plan - Community input on draft plan - Plan adoption	TMC action item	September 5, 2023; November 7, 2023
		Council workshop	July 10, 2023; October 9, 2023; November 20, 2023;
		Council resolution	December 18, 2023

TSP Schedule



Key Dates

- 9/5: TMC presentation
- 9/16: Planning Commission presentation
- 9/15 – 11/20: Public comment period
- 10/9: Council workshop on draft TSP
- 11/7: TMC action: hearing on TSP
- 11/20: Council workshop on public comment period early feedback
- 12/4: Council workshop on final TSP and how we addressed public comment
- 12/18: Council first reading on consent
- 1/8/24: Council consent agenda





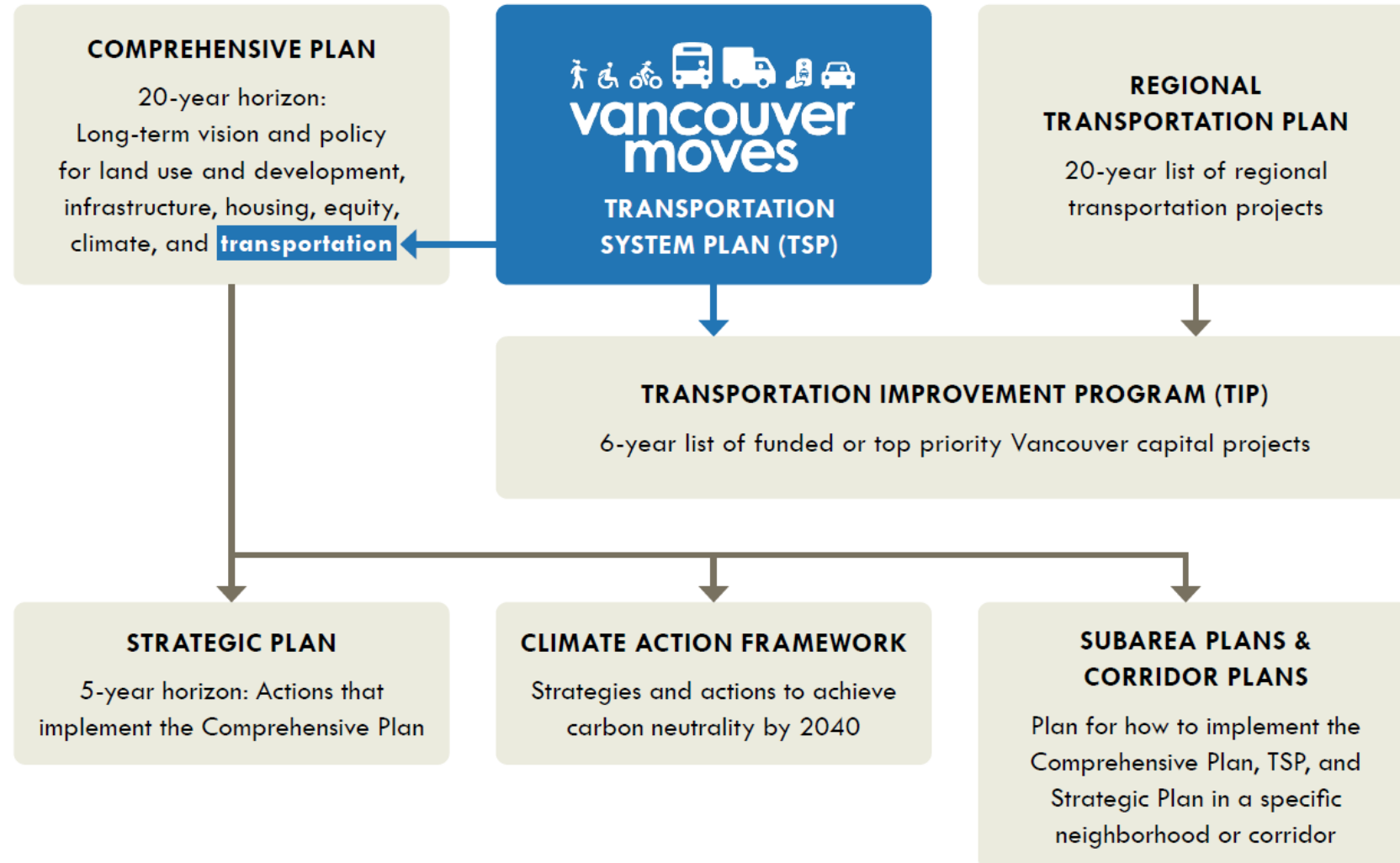
Draft TSP Chapters

1. City on the Move
2. By Vancouver, for Vancouver
3. Vancouver Moves Vision
4. Big Ideas
5. TSP Networks
6. Capital Projects
7. Implementation
8. Moving Forward

1. City on the Move

- Chapter elements
 - TSP purpose
 - Project partners
 - Define City and UGA
 - High-level existing conditions

Does this graphic make sense?



1. City on the Move continued

- Chapter elements
 - Schedule
 - Modal definitions

Does this make sense as a way of defining BSM and Mobility Lanes?

Going beyond the bicycle

Traditionally the space between driving lanes and the sidewalk has been designated as “bike lanes.” But scooters, one-wheels, bikeshare bicycles, e-bikes, cargo bikes—all use the “bike lane.” The TSP includes policies and programs that welcome these services and devices into Vancouver.

Renaming bike lanes as “mobility lanes” provides a more inclusive term for the many different types of devices we need on our streets to meet our climate goals.

Common terms used in the TSP include:

- Bicycle and small mobility (BSM) referring to the networks and devices that use the street
- Mobility lanes, referring to the types of facilities that BSM users travel on. Common facility types include:
 - Protected Mobility Lane (PML)
 - Buffered Mobility Lane (BML)
 - Mobility Lane (ML)



2. By Vancouver, for Vancouver

- Key Message

We conducted outreach broadly and with traditionally underrepresented communities

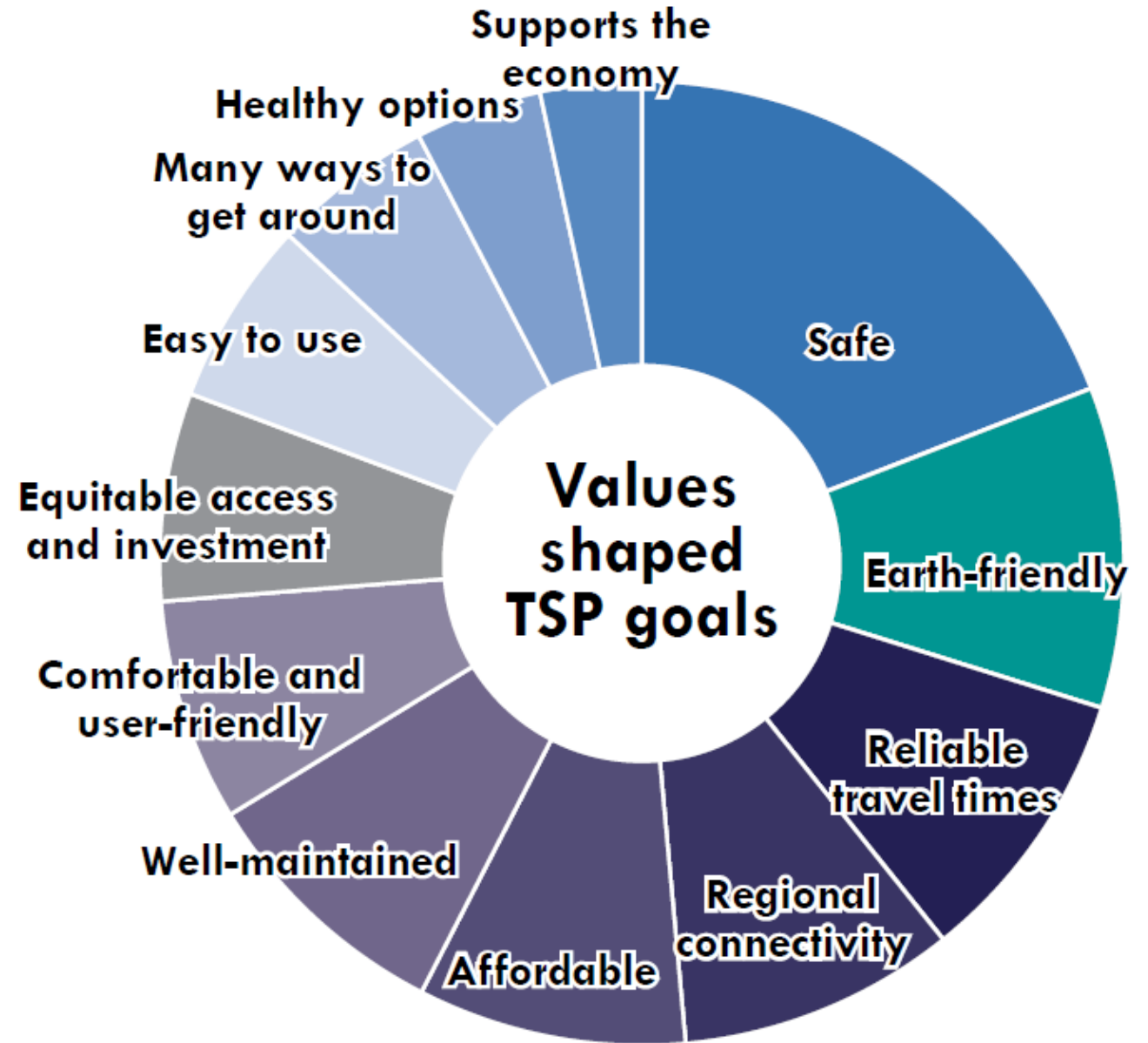


 SOCIAL MEDIA • Facebook • Twitter • NextDoor • Mobility Mondays	 CITY NEWSLETTERS • Vancouver CONNECTS • Vancouver MESSENGER • Office of Neighborhoods	 FLYERS AND MATERIALS • Mobility Snapshot • FAQ Fact Sheet • Vancouver Moves website • Be Heard Vancouver	 VIDEOS • TSP Welcome Video • Transportation stories videos	 DIRECT OUTREACH • Phone • Email • Tabling and events • Community roundtables
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3. Vancouver Moves Vision

- Key Messages

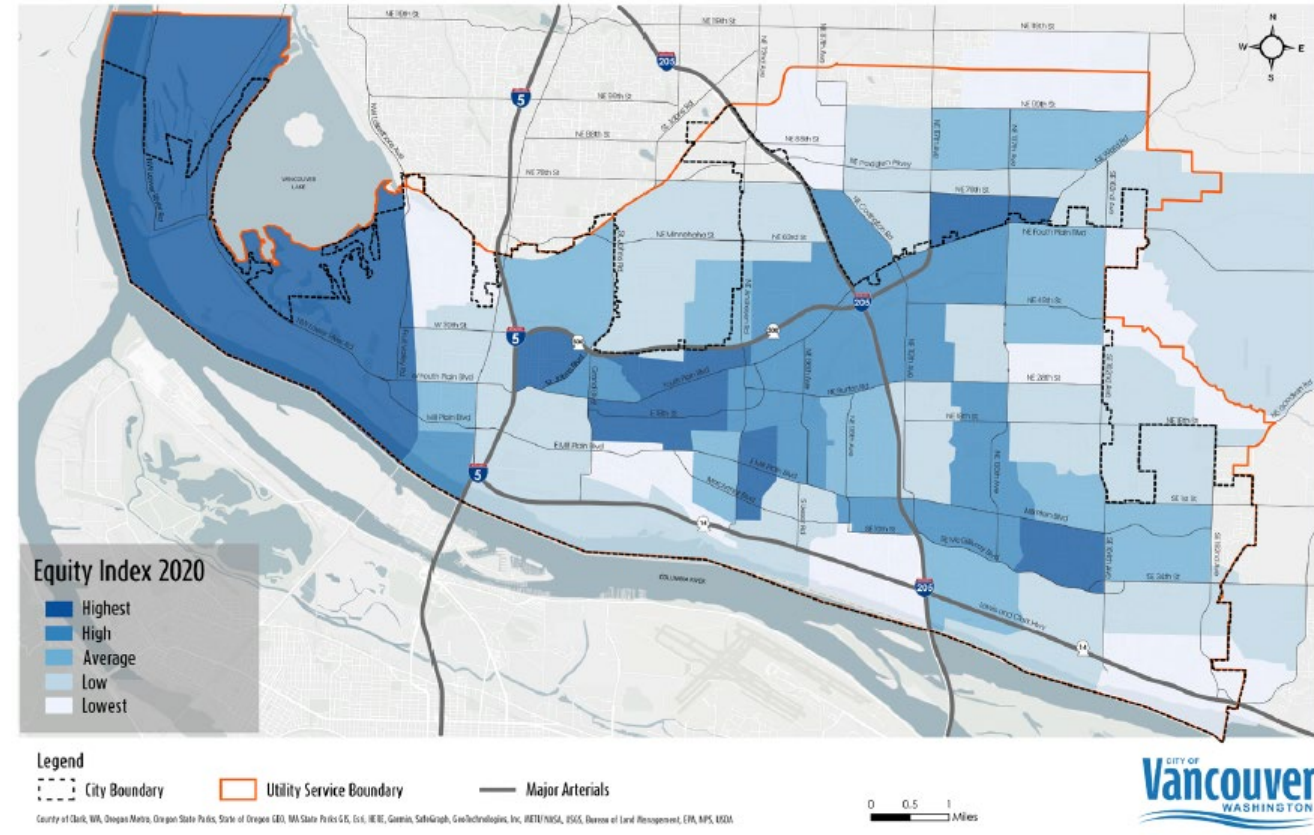
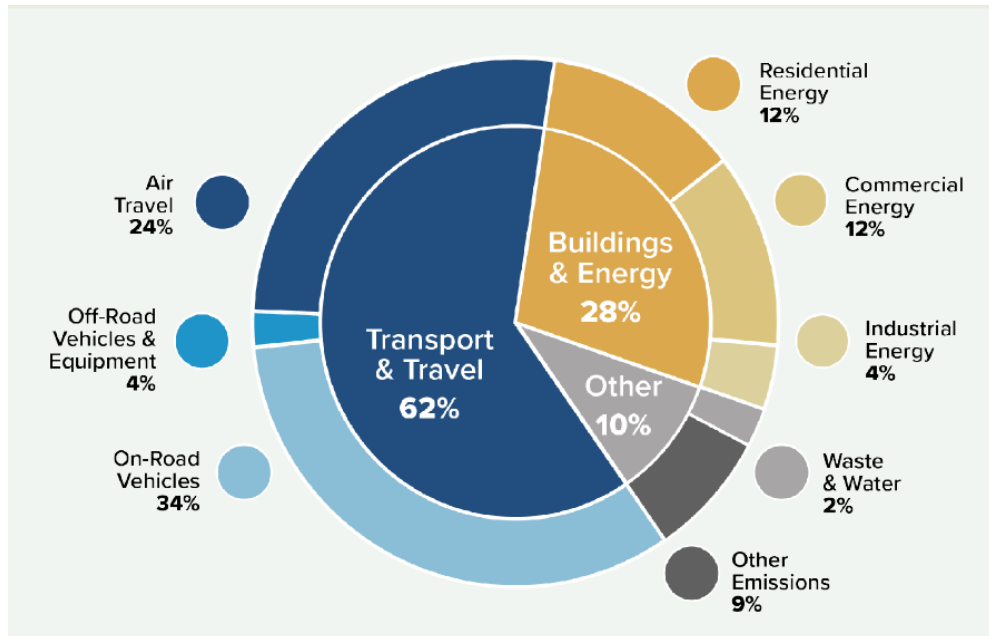
Use the values wheel to show how community input was used to shape the vision



3. Vancouver Moves Vision Continued

- Content approach

For each goal, a mix of existing conditions data and identified opportunities are used to tee up the Big Ideas



Equity Index Map (2020)

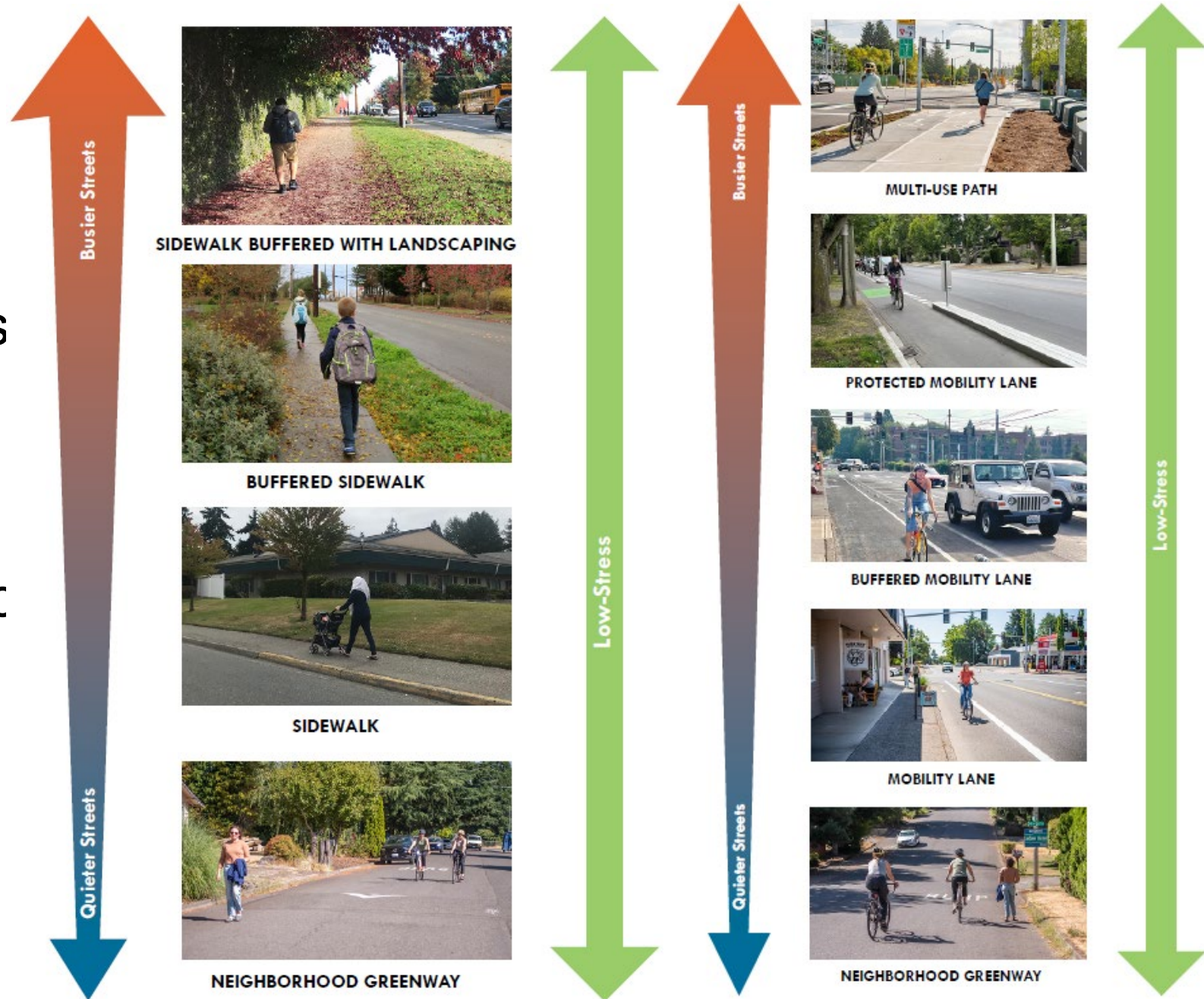
4. Big Ideas

- Content approach
 - TSP to act as a resource for staff; has all the policies and programs
 - Clearly identifies key policies (star) and supporting policies
- Key messages
 - Explains what “low-stress” BSM facilities are – *does this make sense?*



5. TSP Networks

- Key Message
To achieve low-stress environments walking and BSM facilities need to be different based on street context (traffic volumes, speed, road width). *Is that message clear?*

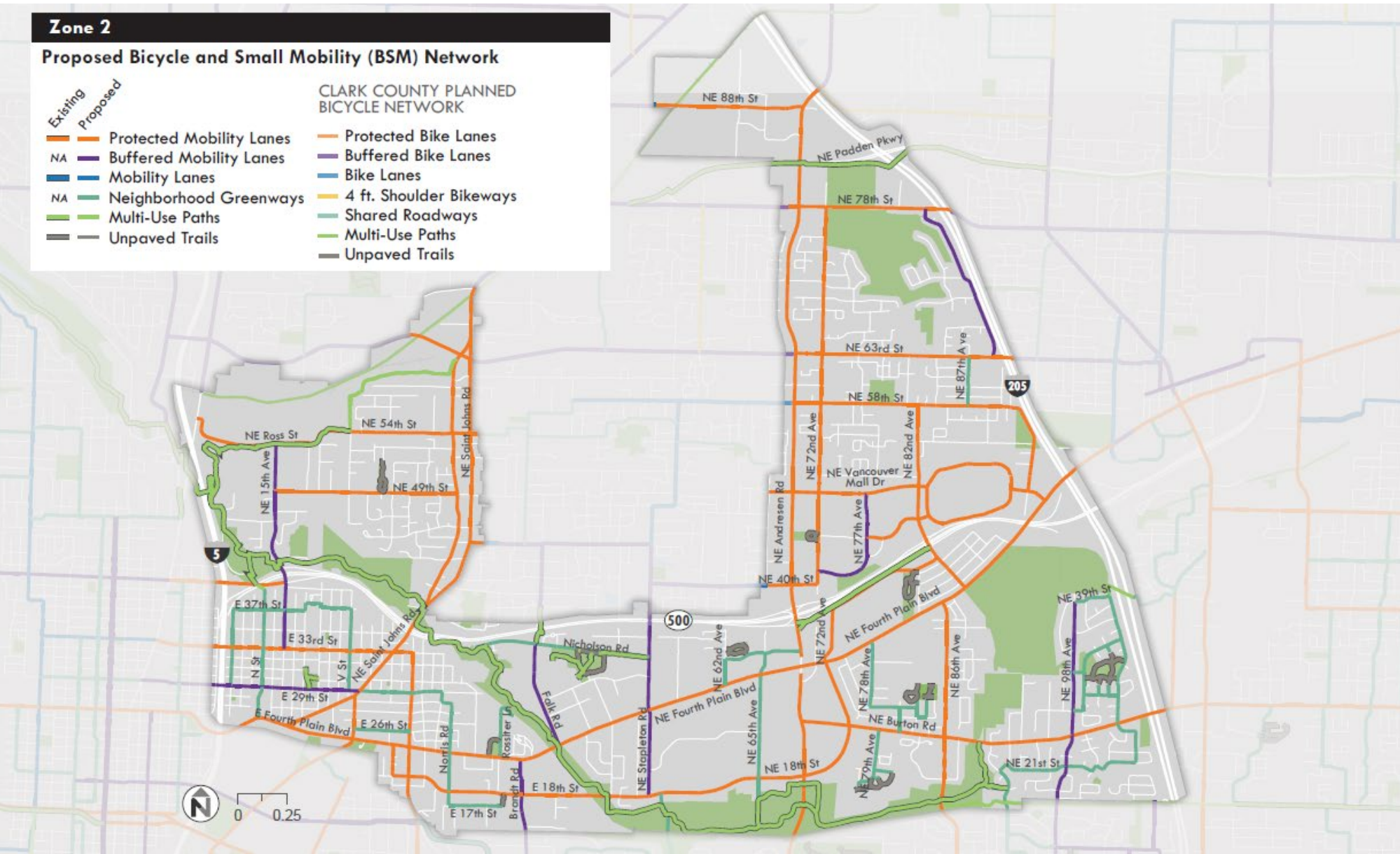


5. TSP Networks

Zone 2

Proposed Bicycle and Small Mobility (BSM) Network

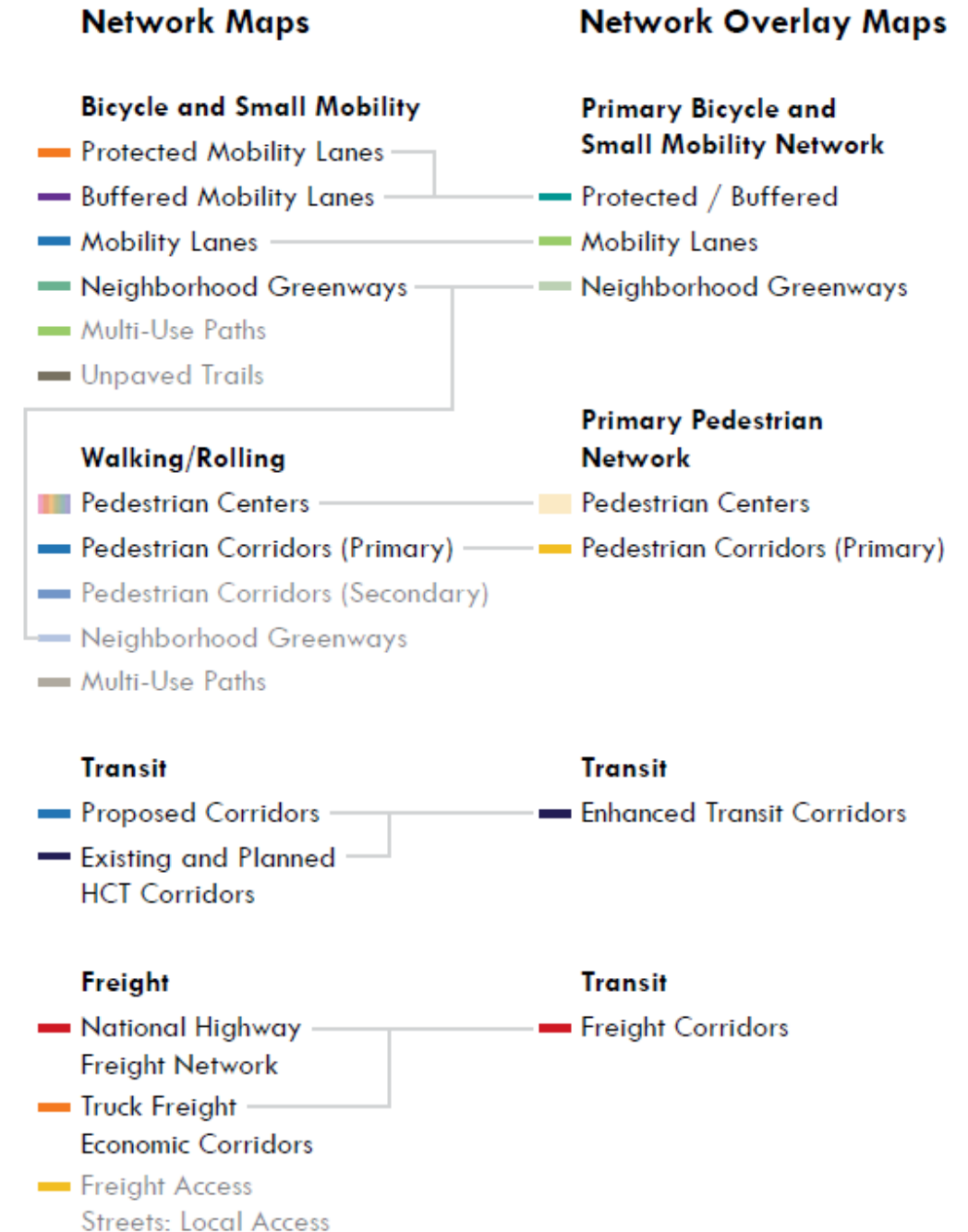
Existing	Proposed	CLARK COUNTY PLANNED BICYCLE NETWORK	
Orange line	Blue line	Protected Mobility Lanes	Protected Bike Lanes
NA	Dark blue line	Buffered Mobility Lanes	Buffered Bike Lanes
Dark blue line	Light blue line	Mobility Lanes	Bike Lanes
NA	Green line	Neighborhood Greenways	4 ft. Shoulder Bikeways
Green line	Light green line	Multi-Use Paths	Shared Roadways
Grey line	Dark grey line	Unpaved Trails	Multi-Use Paths
			Unpaved Trails



*Are the BSM
network maps
easy to
understand?*

5. TSP Networks

- Overlay maps identify where a street is a priority for multiple modes
- Including every facility type made it very hard to read the maps
- Highlight primary types only on overlay because they have the most spatial tradeoffs – *is this approach useful?*



6. Capital Projects – *In Progress*

- Project prioritization needs to be finalized
 - Updated layers based on work completed 2019-2023
 - Updating prioritization
 - Planning-level cost (Low, Medium, High) based on
 - ROW impacts
 - Project length
 - # of level 3 crossings (new signal)
 - Length of new sidewalk
 - Major cost drivers such as earth work, waterway crossings

6. Capital Projects

- Capital Project List
 - Identify projects that are high priority and near term with a star icon
 - Still updating final language in list
 - Added detail to project name

Priority		Timing		Cost	
★	Low	➤➤➤	Near-Term	\$	Low
★★	Medium	➤➤➤	Medium-Term	\$\$	Medium
★★★	High	➤➤➤	Long-Term	\$\$\$	High

Previous version

Project Type	ID	Facility Type	Project Name	Sidewalk infill	Added crossing	Priority	Timing	Cost
●	160	PBL	NE 109th Ave	✓		★★★	➤➤➤	\$

Current version

Project Type	ID	Project Name	Sidewalk infill	Added crossing	Priority	Timing	Cost
●	243	Vancouver Plaza Dr: Add PML on roadway connecting from NE 25th St to NE Thurston Way	✓	✓	★★★		

6. Capital Projects Continued

- 5 spotlights – 1 per zone across the city
- Goal is to connect projects to places people know
- Standard description elements

PROJECT SPOTLIGHT

GRAND BOULEVARD PML (#322)

Grand Boulevard from Columbia House Boulevard to 33rd Avenue provides a direct north-south connection between Interstate 5 and A Street. This critical connection provides access to many essential places, including stores, schools, and employment opportunities.

STREET CHARACTERISTICS

Traffic Volumes:
9,500 ADT at Columbia House Blvd (Source: RTC, 2017)
8,000 ADT at Mill Plain Boulevard (Source: RTC, 2021)

Posted Speed: 25 MPH Bus Service: C-TRAN Route 6 (Fruit Valley/Grand)

PROJECT DESCRIPTION

- Project Length: 1.93 miles
- Bike and Small Mobility: Upgrading existing ML to PML on both sides of street
- Pedestrian: 5 new level 3 crossings, 1,520 ft new sidewalk
- Priority: High
- Phasing: Near



PROJECT SPOTLIGHT

NE 136TH AVENUE (#515, 516)

NE 136th Avenue provides a direct north-south connection from McGillivray Boulevard to the northern city limit at Fourth Plain Boulevard. The TSP identified the entire corridor for a protected mobility lane. Projects 515 and 516 upgrade the existing mobility lane to protected mobility lane from McGillivray Boulevard to NE 18th Street.

STREET CHARACTERISTICS

Traffic Volumes:
15,800 ADT at Mill Plain Boulevard (Source: RTC, 2022)
19,250 ADT at NE 18th Street (Source: RTC, 2022)

Posted Speed: 35 MPH Bus Service: C-TRAN Route 80 (Vancouver Mall/Fisher's)

PROJECT DESCRIPTION

- Project Length: 1.9 miles
- Bike and Small Mobility: Upgrade existing ML to PML
- Pedestrian: 5 new level 3 crossings
- Priority: X
- Phasing: X

MODAL NETWORKS

- Protected Mobility Lane
- Primary Pedestrian Corridor
- Enhanced Transit Corridor

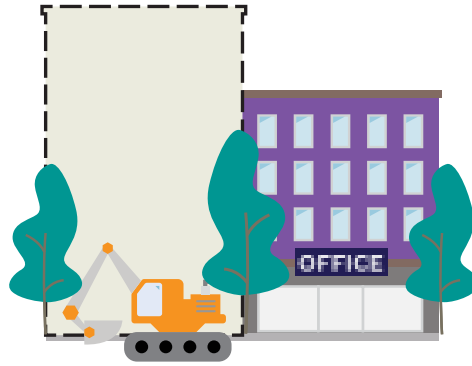


7. Implementation

Near-term priorities:



Complete
Corridors Program



Leveraging
Development



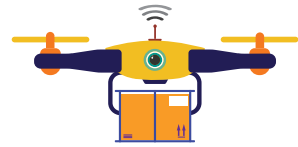
Vision Zero



Safe Routes to
School

Comments/questions on how these are described?

8. Moving Forward



Content approach

- Identify near-term major projects (within 5 years)
- Identify longer-term trends to prepare for

8. Moving Forward

Transportation investments in Vancouver historically prioritized the private vehicle at the expense of growth in other modes. Recent projects have gathered momentum around achieving the multimodal vision of the TSP.

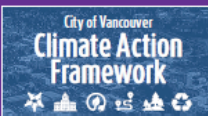
What's Coming Next

The Vancouver TSP is one of several parallel efforts that will come to fruition during the next few years. These initiatives will help advance the policies in the TSP:



VANCOUVER COMPREHENSIVE PLAN UPDATE

The TSP is the transportation element of the Comprehensive Plan, set to be updated by 2025. The Comprehensive Plan guides land use patterns—a major factor in the ability to walk, bike, or take transit.



CARBON NEUTRALITY BY 2040

Meeting the goals of the Climate Action Framework require changes to how we travel. Implementing the framework requires implementing the policies and programs of the TSP.



VINE BRT EXPANSION

C-TRAN is opening its second BRT line on Mill Plain Boulevard, and plans to open its third line on Main Street/Highway 99 in 2027. C-TRAN will extend the Fourth Plain Vine to 162nd Avenue and south to Columbia Tech Center. This will create a connected ring of Vine corridors across the city.



VANCOUVER STRATEGIC PLAN

The recently updated Strategic Plan lays out the City's direction for the next six years and beyond. One of the Plan's focus areas is to ensure Vancouver has a safe, future-ready, and convenient transportation system that offers affordable and climate-friendly options.



INTERSTATE BRIDGE REPLACEMENT (IBR)

IBR will provide a critical connection between Oregon and Washington. While the locally preferred alternative is set, a wealth of details remain on how the project can be designed to support Vancouver's goals. IBR has the potential to transform Vancouver and how people travel between the waterfront and downtown.

Setting Ourselves Up for the Long-Term

The way people move is changing, which is being solidified by the lasting trends of the COVID-19 pandemic. Innovations in transportation services—like app-enabled ridehailing, shared e-bikes and scooters, and trip planning tools—can add travel options and customer convenience. As people seek new ways to move safely, demand for small personal mobility options will continue to grow. And for some, the best mobility option is not traveling at all. Digital apps for home deliveries and permanent flexibility to work from home made lasting changes to how people travel. And further innovations, like autonomous vehicles, are waiting around the corner.

What are the Trends?

- Emerging mobility options such as shared e-bikes, scooters, and ridehailing services offer an effective alternative for people who don't have access to a car or prefer not to own one. Agreements with these providers are needed to ensure services align with the City's goals and standards.
- Mobility-as-a-Service apps enable users to seamlessly plan, book, and pay for trips of any type—be it on transit, ridehailing, micromobility, etc. As multimodal options become more prevalent in Vancouver, seamless integration will be needed between options to plan the most efficient trip.

- Data from mobility service providers is being leveraged by cities to improve day-to-day operations and planning of their transportation systems.
- Electric vehicles will be ever more common in the years ahead, forcing Vancouver to get ahead of charging infrastructure demands.
- Autonomous vehicles are on the horizon and the City's policies must provide a framework for how autonomous vehicles operate in the city in support of the TSP goals.
- Changing travel patterns with more people working at home will require Vancouver to focus on all types of trips, not just commute trips. Education and outreach programs and incentives tied to all types of trips will be a critical focus in the years ahead to shift people to bike, walk, transit, and shared rides.

Our new transportation vision needs to consider changes in transportation technology and leverage the right mix of innovations to deliver a safer, more vibrant, and more prosperous city for all.



Questions or comments?



Engagement Plan



Milestone 3 Proposed Activities

Milestone 3 Proposed Activities

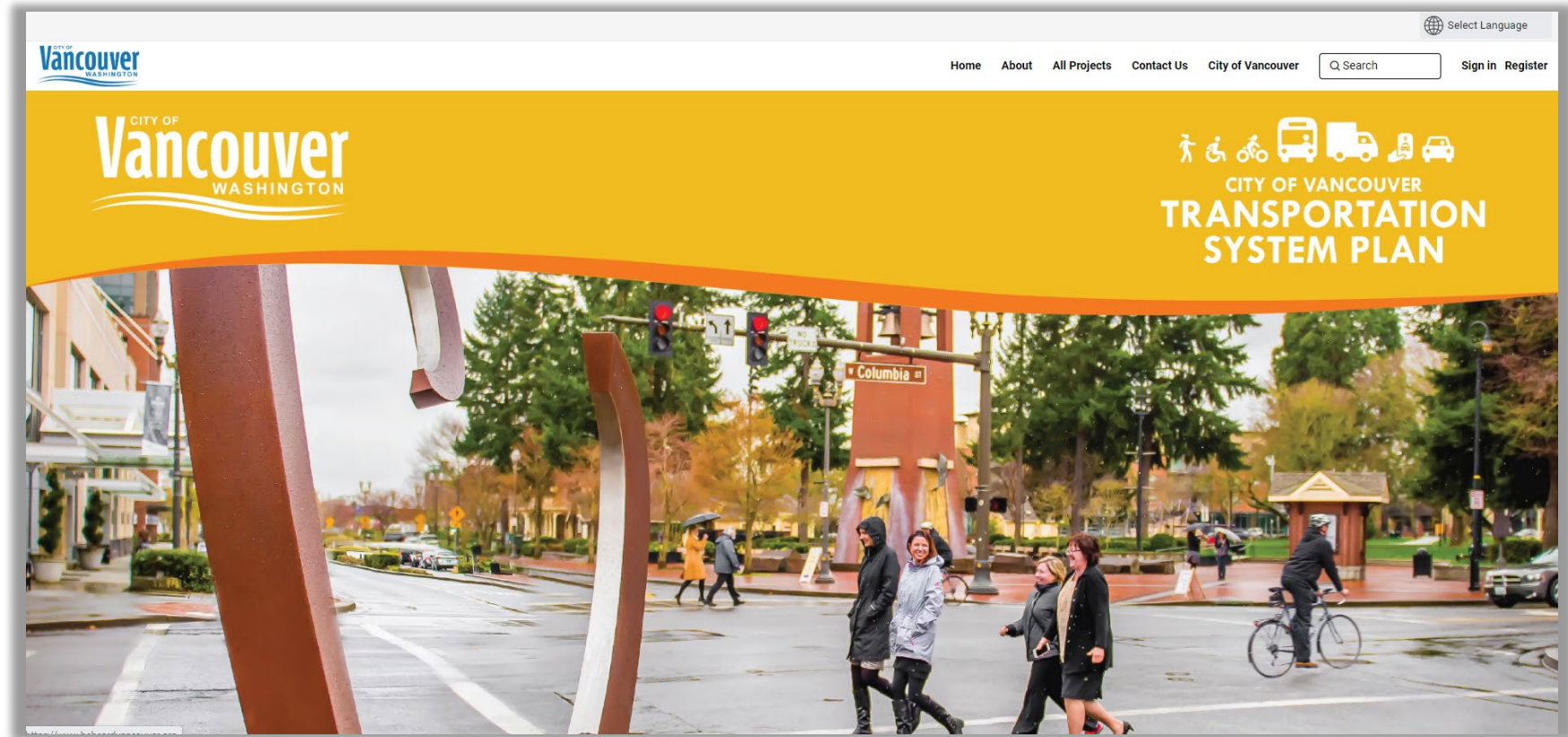
TSP Public comment period: 9/16-11/20/23



Online Engagement

Launch in Early September 2023

- BeHeard site: update landing page, content and timeline
- Feedback survey on TSP projects and programs



Video

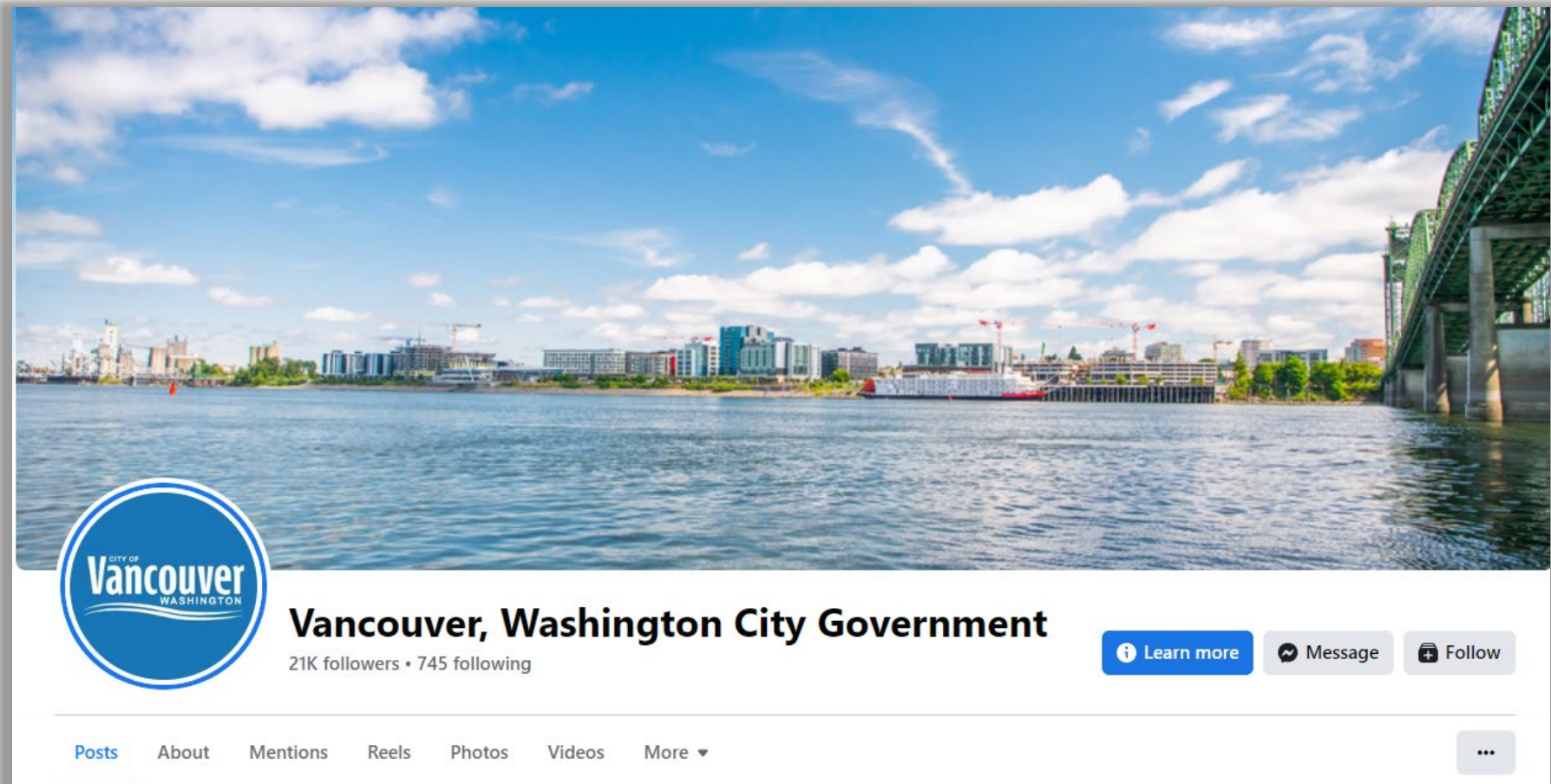
Launch in Mid-September 2023

- Partner with MetroEast Community Media
- 60-90 second video summarizing TSP and asking for public participation in adoption process
- Include video of projects all over the city
- Include City leadership

Social Media

Launch in Mid-September 2023

- Launch social posts along with video launch
- Tailor materials to different promotion channels



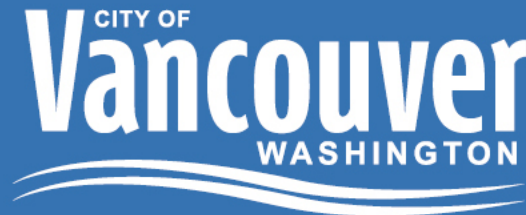
Next Steps

- Finalize language terminology
- Finalize prioritization
- Project costing
- Finalize appendices



Questions or comments?

Thank You



DATE: September 5, 2023

TO: Chair Ramos and Transportation and Mobility Commission members

FROM: Kate Drennan, Principal Planner, Community Development Department

CC: Rebecca Kennedy, Deputy Director, Community Development; Ryan Lopossa, Streets and Transportation Division Manager, Public Works

RE: **Transportation System Plan -- DRAFT Plan**

Introduction

The Vancouver Transportation System Plan (TSP) identifies transportation projects, policies, and programs for the next twenty years. The draft report outlines how the TSP reflects both the City's guiding values of safety, equity and climate – and how the community's values are reflected in the Plan goals and big ideas. Each chapter of the Plan builds upon the previous one, beginning with existing conditions and identified opportunities and incorporating community values and feedback that led to the Plan's goals and big ideas. The big ideas are then used to organize the Plan's policies, programs, and modal networks. To realize the vision of the modal networks, a comprehensive list of projects was identified to transform the existing roadway conditions today to the envisioned long-term modal network across the city. Finally, the Plan looks at near-term priorities, funding and staffing needs, and identifies trends and innovations on the horizon.

Overview/Preview

During the workshop, the Project Team will walk through each chapter to discuss how the content is organized and explained. We are looking for TMC feedback and confirmation that the information is understandable, useful, and conveys the priorities and values of the City. The TSP chapters include:

1. *City on the Move*

This chapter introduces the plan, identifies project partners and lays the foundation by covering some high-level existing conditions. This chapter also defines different mode, e.g. – what is a mobility lane?

2. *By Vancouver, for Vancouver*

This chapter outlines outreach done throughout the Plan development, and highlights key concerns, opportunities, and values shared with the Project Team through different mediums.

3. Vancouver Moves Vision

This chapter ties the community feedback on their values to the Plan's goals. Each goal is put into context of Vancouver's existing conditions today, and the opportunities the TSP presents toward advancing the goal.

4. Big Ideas

The Big Ideas chapter begins by showing how each big idea aligns with the Plan goals. Each big idea has a short definition, and then the policies and programs aligned with the big ideas are outlined below. Key policies may serve as a framework or broader policy umbrella to the supporting programs and policies that nest below.

5. TSP Networks

The TSP network chapters includes both a series of maps showing the future designated network of different modes (e.g., pedestrian or transit), and presents information on network quality or level of stress. This is to demonstrate that facilities take a different form depending on the street that are on.

6. Capital Projects

This chapter presents the list of capital projects necessary to bring our existing roadway system into alignment with the proposed modal networks. The project list is long and comprehensive, and is meant to span even beyond the twenty-year lifespan of this TSP. The chapter outlines the process behind prioritization and timing and cost estimates. This chapter is currently in a draft form and will continue to be refined and finalized over the next two months.

7. Implementation

The implementation chapter focuses on how we go about implementing the plan, including a focus on funding, staffing needs, and near-term priorities for City staff to focus on. This chapter also outlines the performance measures the City will track and report on through future City dashboards.

8. Moving Forward

The final chapter looks ahead to other parallel efforts that will align with and help to advance the goals and policies in the TSP. Lastly, the chapter identifies some emerging trends that continue to impact how people and goods travel. These are trends that the City is monitoring and are reflected in some of the policies and programs that will help the City prepare for, respond to, and advance best practices.

Public Engagement Milestone 3

The final engagement phase of the TSP will widely share out the draft TSP for public review and comment. The primary investment will be in a short promotional video introducing the TSP draft, highlighting projects around the city, and inviting the public to review the plan. The team will gather feedback via survey with the opportunity for open-ended public comment. The Project Team will also

use social media, e-newsletters, and other fall outreach events to spread the word. The public comment period will last 60 days, from approximately mid-September to mid-November. The Project Team will process and summarize comment in advance of the final Plan.

Action, Timeline, Next Steps

The Project Team is looking to the TMC to provide feedback on the presentation of content within the TSP. Is it easy to follow? Are we successful in communicating our vision and priorities? The Project Team is also seeking feedback on ways to share out the TSP draft and encourage participation in the public comment period.

The TMC will have a public hearing on the TSP on November 7th in advance of the final City Council workshop on November 20th. The TSP is scheduled for a first reading on the Council consent agenda for December 18th; the public hearing is still being scheduled but is anticipated for early January.

Kate Drennan, Principal Transportation Planner, Long-Range Planning, CDD
Kate.Drennan@cityofvancouver.us, 360-487-7959

Attachment(s):

TMC Workshop Draft TSP 2023_09_05

DRAFT Transportation System Plan 2023_08_28



TRANSPORTATION SYSTEM PLAN

DRAFT 2023-08-25

HOLD FOR INTRODUCTION FROM
CITY COUNCIL/CITY MANAGER

Project Team

CITY OF VANCOUVER

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Jennifer Campos
Kate Drennan
Ryan Lopossa
Laurel Priest
Emily Benoit

TECHNICAL ADVISORY COMMITTEE

City of Vancouver
Clark County
C-TRAN
Southwest Washington Regional Transportation Council (RTC)
Washington State Department of Transportation
Vancouver Public Schools
Evergreen Public Schools
Vancouver Fire Department
City of Camas
Port of Vancouver
Clark County Public Health

MAYOR AND CITY COUNCIL

Mayor Anne McEnerny-Ogle
Mayor Pro Tem Ty Stober
Councilmember Sarah J. Fox
Councilmember Bart Hansen
Councilmember Kim D. Harless
Councilmember Erik Paulsen
Councilmember Diana H. Perez
City Manager Eric Holmes

TRANSPORTATION AND MOBILITY COMMISSION

Chair: Eduardo Ramos
Vice Chair: Jeananne Edwards
Members: Connor Godsil, Corey Grandstaff, Leah Jackson, Soroush Mohandessi, Michael Paine, Thinh Phan, Mario Raia, Derya Ruggles, Ken Williams

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- 5. TSP Networks..... 42
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- 8. Moving Forward 104

Appendices

- [A. State of Mobility](#)
- [B. Public Engagement Summary - Milestone 1](#)
- [C. Public Engagement Summary - Milestone 2](#)
- [D. Existing Conditions](#)
- [E. Policy Opportunities & COVID Travel Patterns](#)
- [F. Pedestrian Crossing Policy](#)
- [G. Enhanced Transit Policy](#)
- [H. TSP Modal Networks, Policies and Programs](#)
- I. Prioritization and Funding memo
(to be completed)
- [J. Collision Dashboard Tutorial](#)
- [K. Local Road Safety Plan](#)
- L. TIA/TIF/Concurrency memo (to be completed)



Executive Summary

HIGHLIGHTS FROM REPORT

1. A City on the Move

The Vancouver Moves: Transportation System Plan (TSP) is grounded in shared community values. It provides a transportation vision, programs and policies and investment priorities for the next 20 years. The TSP outlines a strategy for moving more people and goods as the city grows.

Vancouver is growing and diversifying, putting increased pressure and fresh demands on the transportation system. A new waterfront district, increased multifamily development, great parks and schools, and significant job and business growth continue to attract people and investment to the city. Vancouver sits at a virtual crossroads shaped by the Columbia River and the West Coast’s major interstate, I-5, and is well-positioned to capture economic benefits from regional trade.

But growth can come with challenges. Vancouverites place a high priority on neighborhood livability as well as access to parks and schools. As more people live and work in Vancouver, concerns grow about congestion, safety, and displacement of people with lower incomes, communities of color, and renters.

Yet these desires—for both progress and preservation—do not need to be in conflict. Vancouverites have consistently shared their values—people want safe streets and comfortable and reliable ways to move within their neighborhood, city, and region. For some, that means better walking and rolling conditions; for others, that means better access to frequent transit or more reliable ways to drive.

Our Core Values

With input from the community, the Vancouver City Council prioritizes safety for its residents, funding and processes that center equity, and action-oriented solutions to the climate emergency. These values were integrated into the TSP goals.



SAFETY



EQUITY



CLIMATE

Vancouver by the Numbers



191,000

people live in Vancouver as of 2023 – the largest city in Clark County



31,000

more people live in Vancouver in 2021 – an increase of 19% since 2010



\$63,600

median household income



20%

speak a language other than English at home



12.7%

live in poverty



9.7%

have a disability



48%

rent their home and 52% own their home



10%

Identify as LGBTQ



6%

are veterans



97%

are employed



29%

hold a Bachelor’s degree



22%

are under age 18

For an overview of mobility patterns, see **Appendix A: State of Mobility.**

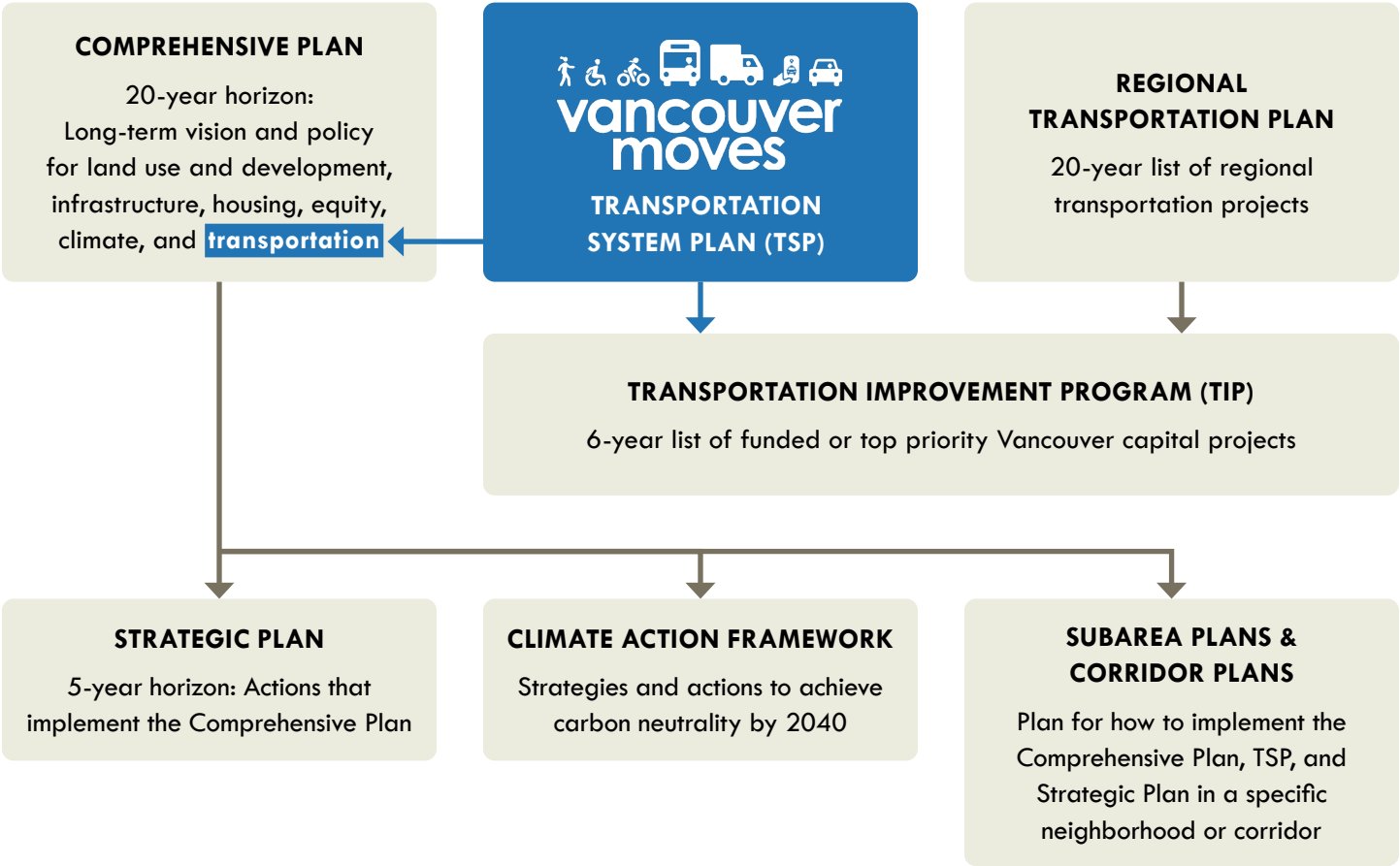


What is the TSP?

The Vancouver Moves: Transportation System Plan Update (TSP) is our 20-year vision for maintaining and growing a transportation system that supports a safe, equitable, and resilient city. Transportation investment during the past 75 years focused primarily on cars. This TSP expands the focus to walking, rolling, bicycling and small mobility, taking transit, and moving freight. The policies, programs, and capital projects in the TSP will be integrated into the city’s adopted roadway projects and programs.

The TSP serves as the transportation element of the Comprehensive Plan. The Washington State Growth Management Act (GMA) requires adoption of a transportation plan consistent with land use, population, and job growth targets. Land uses coordinated with transportation result in mixed-use places where it is easy to walk, bicycle, use small mobility devices or take transit. The TSP process began before the Comprehensive Plan update, but has been crafted to serve forecasted areas of growth. The 2045 Comprehensive Plan update will be complete in 2025, and the TSP may be amended to ensure alignment with the goals and growth needs of the Plan.

The TSP ties into several City plans and policies:



Key outcomes of the TSP

- 1

MAINTAIN QUALITY OF LIFE IN A TIME OF GROWTH

Vancouver’s growth into a more urban city must be balanced with maintaining the community’s quality of life.
- 2

CENTER EQUITY IN TRANSPORTATION

Choices about transportation investment, project development, and community participation must integrate equity in every step.
- 3

DIVERSIFY TRANSPORTATION OPTIONS

Comfortable and convenient walking, bicycling or small mobility, carpooling, or transit options will attract more people and are essential to making our streets safer and more equitable.
- 4

PRIORITIZE SAFETY

Design must maximize safety and be supported by policy and programming to make streets safe for everyone.
- 5

RESPOND TO COMMUNITY PRIORITIES

Vancouver Moves seeks to engage community in a genuine and equitable manner, ensuring TSP policies, programs, and projects are effective and reflective of the needs of our residents, workers and visitors.
- 6

BUILD SUPPORT FOR MULTIMODAL STREETS

Transportation is a major concern for residents, as voiced in the City’s Strategic Plan. The TSP process educates the public and stakeholders about the value of a multimodal system and the common tradeoffs cities face during project implementation

What is Vancouver Moves?

Vancouver Moves serves as the umbrella name for all transportation investments in the City. The TSP sits under this brand along with corridor safety and mobility projects.



Where We Plan

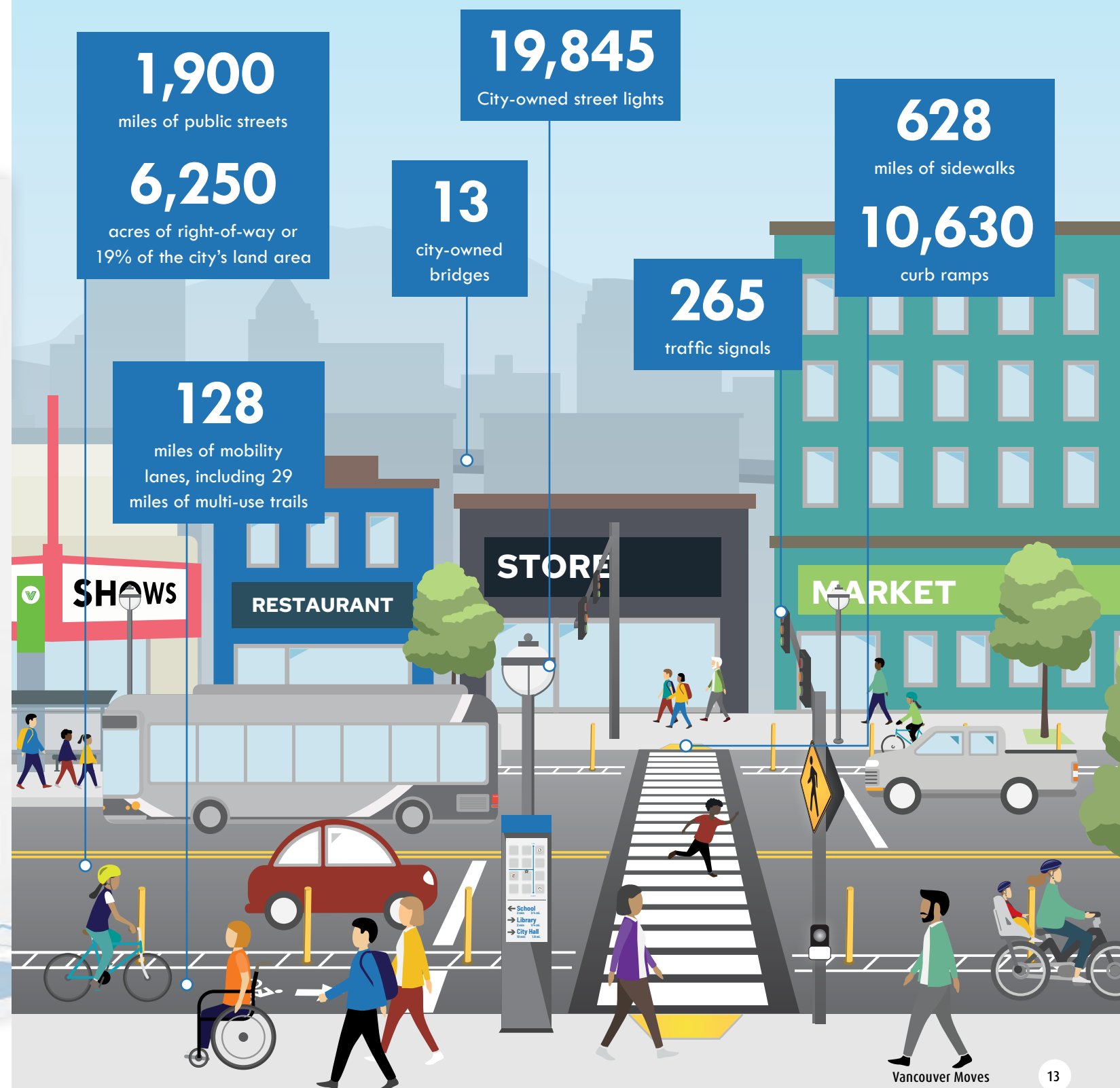
The City of Vancouver measures 46.5 square miles with a population density of 4,000 residents per square mile in 2022. The downtown core sits west of I-5. Considerable growth is occurring between I-5 and I-205 in the Heights neighborhood and along Fourth Plain Boulevard. East of I-205, the Columbia Tech Center area continues to expand (see map below).

Vancouver has an Urban Growth Area (UGA) that is larger than the city boundary. The UGA is an area designated for future growth and annexation to eventually become part of Vancouver. The UGA will add 162,283 people, 30,000 jobs, and 732 miles of streets to the city. TSP policies and programs. Modal networks will apply to areas of the UGA as they are annexed.



Our Transportation System

Vancouver's Community Development Department develops the City's long-term transportation vision and plans, designs and manages transportation planning, while the Public Works Department designs, operates and maintains the transportation network. Our assets include:



How We Travel



82.3%

of workers drove to work in 2021, compared to 86.2% in 2019



24.8

minutes is the average commute time in 2021, which is about the same as 2019 (25.4 minutes) and slightly shorter than the average for Washington State



11,000

daily rides on C-TRAN services in 2021



67%

of Vancouver residents commute to another city for work

For detailed information on the transportation system, see **Appendix B: Existing Conditions.**

For a review of policies that helped form the TSP vision and a discussion on travel patterns, including post COVID data, see **Appendix C: Policy Opportunities & COVID Travel Patterns.**



Our Partners

Input from the public and standing committees guided TSP development at every step in the process.



City Council

City Council adopted actions throughout the project, ensuring the TSP methodologies and vision met community needs. Key methodologies endorsed by Council included the equity index (see chapter 3 for more details) and project prioritization criteria and framework (see chapter 6). Council reviewed the TSP goals, policies and programs, and modal networks multiple times to ensure comprehensiveness, and Council approved the outreach strategy to specifically reach people who may not be engaged in planning processes.



Transportation & Mobility Commission

The Transportation and Mobility Commission (TMC) consists of 11 volunteers from the community who provide advice to City Council and transportation staff on a variety of mobility-related topics. A major responsibility of the TMC consisted of ongoing review of the TSP and a recommendation to Council for adoption. The TMC was engaged more than a dozen times throughout the project.



Technical Advisory Committee

City of Vancouver and agency partner staff participated in a Technical Advisory Committee (TAC) around the TSP's technical work. Participation included:

- City of Vancouver: Public Works, Community and Economic Development, Fire Department, Police, Parks, Commute Trip Reduction program
- Clark County
- Clark County Public Health
- C-TRAN
- Regional Transportation Council (RTC)
- Washington State Department of Transportation (WSDOT)
- Vancouver Public Schools and Evergreen Public Schools
- City of Camas
- Port of Vancouver



Community Members

Vancouver residents participated in numerous activities and events throughout the process. See Chapter 2 for details.



Going beyond the bicycle

Traditionally the space between driving lanes and the sidewalk has been designated as “bike lanes.” But scooters, one-wheels, bikeshare bicycles, e-bikes, cargo bikes—all use the “bike lane.” The TSP includes policies and programs that welcome these services and devices into Vancouver.

Renaming bike lanes as “mobility lanes” provides a more inclusive term for the many different types of devices we need on our streets to meet our climate goals.

Common terms used in the TSP include:

- Bicycle and small mobility (BSM) referring to the networks and devices that use the street
- Mobility lanes, referring to the types of facilities that BSM users travel on. Common facility types include:
 - Protected Mobility Lane (PML)
 - Buffered Mobility Lane (BML)
 - Mobility Lane (ML)



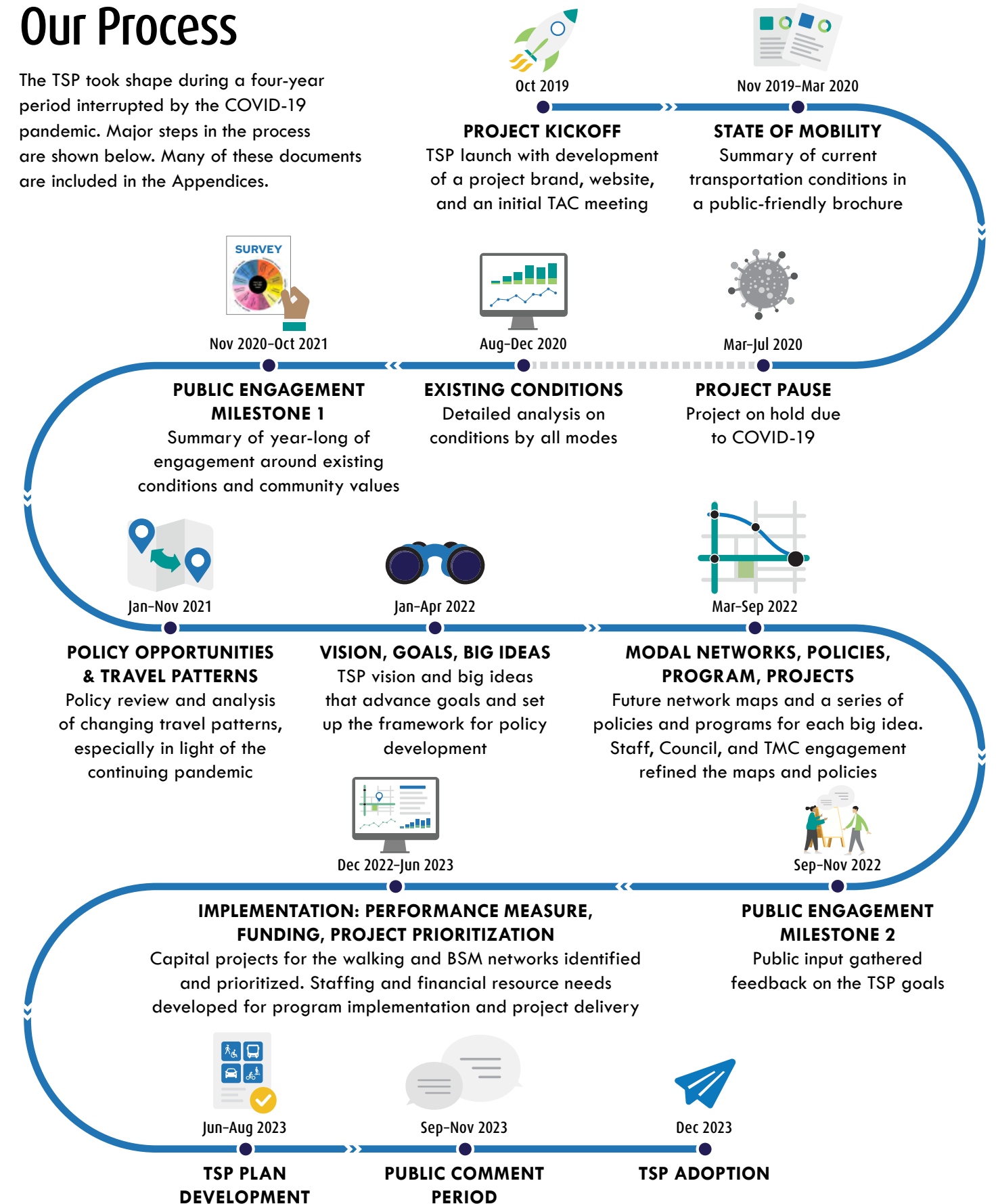
What is “walking”?

Walking, with or without the aid of a mobility device, is the most basic form of transportation. This plan uses a broad definition of the terms “pedestrian” and “walking.” These terms include people who travel on foot, as well as people who roll using mobility devices such as wheelchairs. The TSP generally refers to “walking and rolling” to be inclusive of people who use wheelchairs and other mobility devices to move around the City of Vancouver.



Our Process

The TSP took shape during a four-year period interrupted by the COVID-19 pandemic. Major steps in the process are shown below. Many of these documents are included in the Appendices.



2. By Vancouver, for Vancouver

The TSP was developed through extensive community engagement. A core principle of engagement consisted of reaching those who are not traditionally involved in community planning.

Engagement strategies included:

- **Go where people are already gathering.** Tabling at events such as the Multicultural Resource Fair at Clark College, the East Vancouver and Downtown Farmer’s Markets, and LULAC Grows Mercado on Fourth Plain Boulevard reached hundreds of people.
- **Reduce barriers to participation.** Six community round tables were held at each engagement milestone. Participants were provided with free transportation and a stipend for participation. Attendees included people with low vision, people of color, people with disabilities, low-income individuals, and those living with limited housing options.



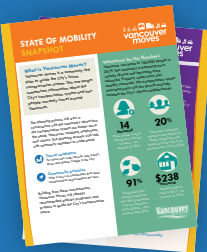
SOCIAL MEDIA

- Facebook
- Twitter
- NextDoor
- Mobility Mondays



CITY NEWSLETTERS

- Vancouver CONNECTS
- Vancouver MESSENGER
- Office of Neighborhoods



FLYERS AND MATERIALS

- Mobility Snapshot
- FAQ Fact Sheet
- Vancouver Moves website
- Be Heard Vancouver



VIDEOS

- TSP Welcome Video
- Transportation stories videos



DIRECT OUTREACH

- Phone
- Email
- Tabling and events
- Community roundtables

Project communication continued throughout the project, but engagement activities intensified during two time periods, referred to as milestone 1 and milestone 2. Milestone 1 stretched nearly a year due to the COVID-19 pandemic. The first half of this engagement period asked people about their experience using the transportation system, and their community values. Milestone 2 asked for feedback on the TSP goals and big ideas, modal networks, and key policies.

Project Kickoff

JUNE 2020

- Launch BeHeard website

Milestone 1

NOVEMBER 2020 – OCTOBER 2021

- Online open house + Survey #1
- Community roundtables
- In-person events
- Values survey
- Virtual town hall

Milestone 2

SEPTEMBER 2022 – NOVEMBER 2022

- Online open house + Survey #2
- Community roundtables
- In-person events

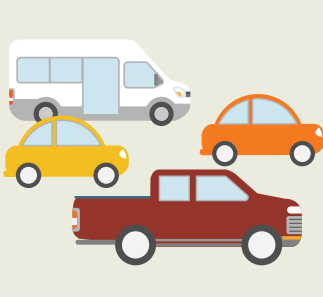


For detail on each engagement milestone and findings, see **Appendix D: Public Engagement Summary – Milestone 1** and **Appendix E: Public Engagement Summary – Milestone 2**



Milestone 1 Themes

Challenges



Growth-related congestion is a concern: Congestion throughout the city is increasing as Vancouver grows.



Addressing traffic safety is the most important improvement to the city's walking, BSM, and rolling network. High traffic speeds, lack of designated facilities, lack of traffic calming, and disobeying posted speed limits were noted as key challenges.



Improving the non-motorized network is a community priority. Approximately 70% of survey participants rated Vancouver's pedestrian (sidewalks, trails, and crossings) and BSM networks as "needing work."

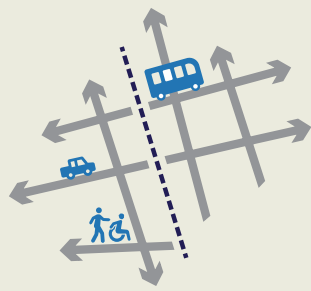


Most respondents (51%) said they feel somewhat unsafe riding a bike in the city. Those who feel safe or very safe accounted for 22% of responses, with the remaining saying they feel very unsafe. The main barriers to cycling comfortably in the city are inadequate existing mobility lanes, aggressive drivers, a lack of mobility lanes in some places, and unsafe crossings.

Opportunities



Make it easier to walk, bike, or ride transit. Most survey respondents ranked this as the top priority for improving Vancouver's street system.



Address network barriers. Addressing network connectivity and transportation barriers throughout the city was one of the most frequently identified transportation needs regardless of transportation mode.



Exercise and walking to neighborhood parks were a top reason why community members said they want to safely walk. Running errands and walking for social excursions/just for fun were also highly rated.



The top priorities for improving the transit system include expanding The Vine BRT, making it easier to walk to the bus, improving bus stops (shelters, seating, lighting), and installing bus lanes/signals to speed up transit travel times.

Milestone 2 Themes

During the second engagement milestone, community members gave input about the TSP modal networks, and related policies and programs. Participants were asked about the multimodal networks in general and were then asked about priorities specific to walking/rolling, BSM, and transit.

The top three priorities for each network are shown on this page.

MULTIMODAL CORRIDORS

- 1. Make it safer and more comfortable to ride a bicycle (26%)
- 2. Improve pedestrian crossings and wayfinding (22%)
- 3. Make buses run more efficiently (15%)

BSM IMPROVEMENTS ON BUSIER STREETS

- 1. Off-street multi-use paths or trails (33%)
- 2. Protected lanes that provide physical protection from traffic (28%)
- 3. Improved crossings at major streets (26%)

BSM IMPROVEMENTS ON QUIET STREETS

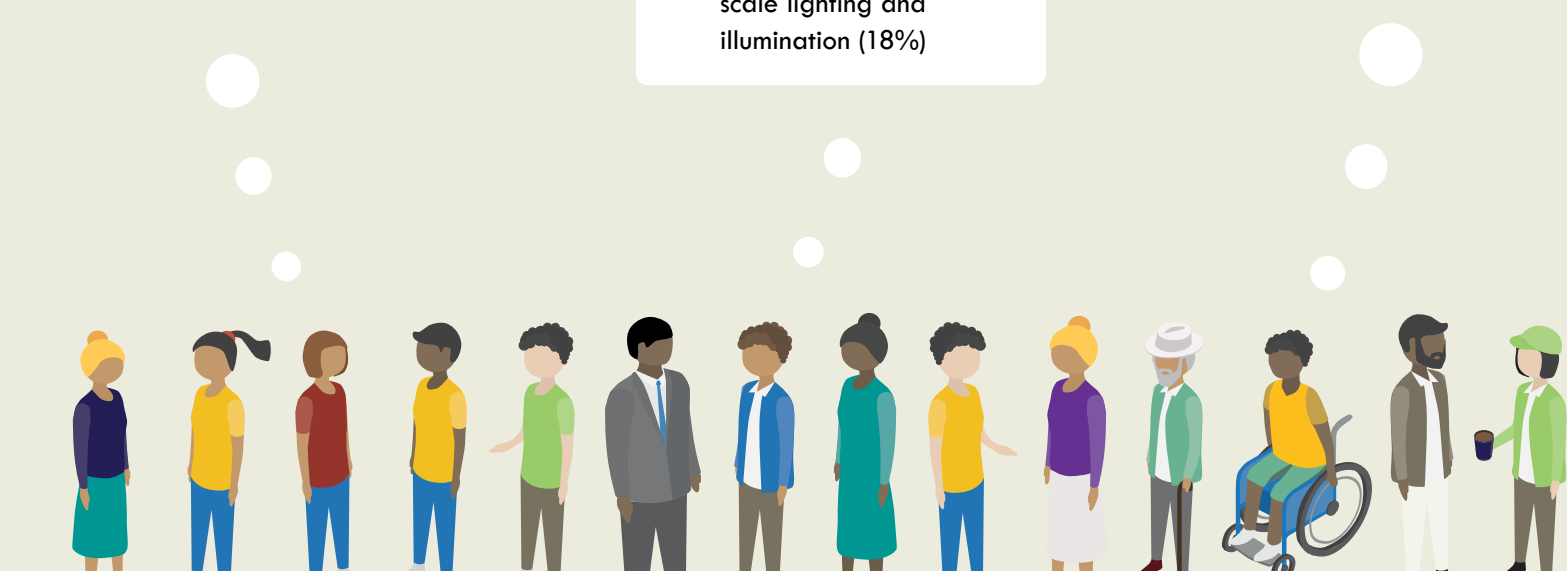
- 1. Improved crossings at major streets (33%)
- 2. Traffic calming such as speed bumps (24%)
- 3. Shared lane markings (24%)

WALKING AND ROLLING NETWORK

- 1. Improve pedestrian crossings (23%)
- 2. Invest in ADA-compliant curb ramps (20%)
- 3. Invest in pedestrian-scale lighting and illumination (18%)

TRANSIT INVESTMENT

- 1. Upgrade to electric fleet (22%)
- 2. Improve waiting areas (22%)
- 3. Make the bus more frequent (13%)



3. Vancouver Moves Vision

The TSP’s vision and goals will guide future transportation investments and align resource allocation to community values.

The goals were created through:

- Community engagement around values
- Prior planning efforts including the Strategic Plan, Climate Action Framework, and Street Funding Strategy
- City Council’s policy priorities of equity, safety and climate action
- TAC and TMC input
- Analysis of data in Vancouver and emerging transportation trends

Summary of Vancouver TSP Goals



SAFETY



EQUITY



CLIMATE



TRANSPORTATION CHOICE



REGIONAL CONNECTIVITY



MAINTAINING OUR ASSETS

Community Values

A series of events were held to understand community values to that serve as the foundation of the TSP vision and goals. Using the inputs listed previously, 12 values were identified and used to create a transportation values wheel.

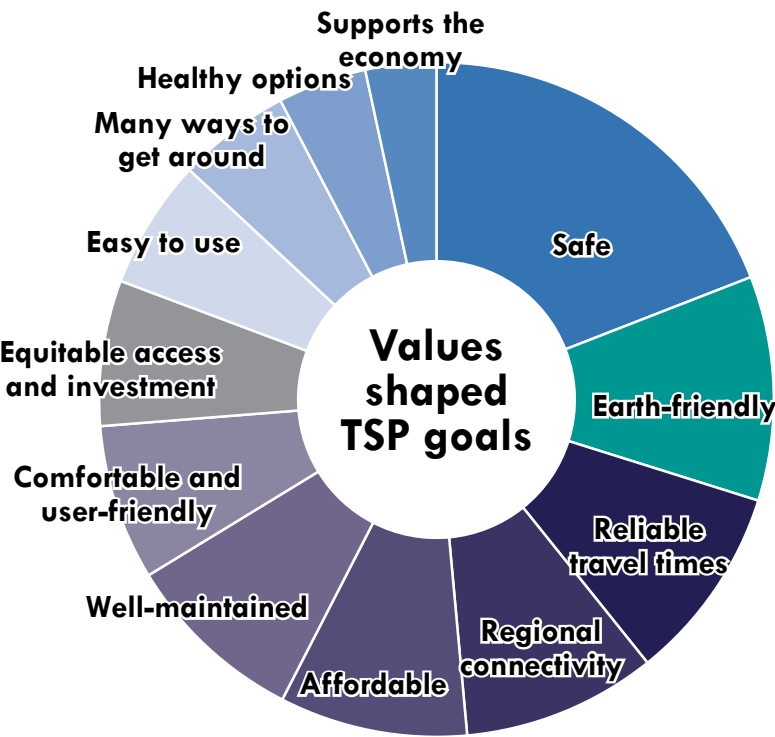
The wheel was used during engagement activities that included:

- **Community roundtables.** Six small group discussions were held including BIPOC community members, people with disabilities, and low-income individuals.
- **In-person events.** Six tabling activities occurred including at the East Vancouver and Downtown Farmer’s Markets and at summer park events.
- **Transportation values survey.** The online survey asked people to select three values and was translated into Spanish, Vietnamese, and Russian.

The results across all engagement events show that the community places a high priority on the value of safety. Top values for the transportation system included:

1. Safe
2. Earth-friendly
3. Reliable travel times
4. Regional connectivity
5. Affordable

These priorities align with City Council values and support the adoption of Safety, Equity, and Climate as TSP goals.



This wheel summarizes which values people felt were the most important.



GOAL: SAFETY

Our transportation system keeps people safe when we walk, roll, bicycle, take transit, or drive.



WHAT WE'VE LEARNED

- Crashes are on the rise. From 2010 to 2019, crashes increased 29% while the population only grew by 13%. During the pandemic, crashes declined 5% from 2019 to 2022, but safety remains a top priority for the community.
- Network gaps expose vulnerable people using the road. Long distances between crossings, lack of sidewalks on nine miles of arterial streets, and BSM facilities that end abruptly contribute to feelings of unsafe conditions.
- Distraction and inattention make up the top two factors contributing to crashes across all crash types.

KEY OPPORTUNITIES

- Eliminate traffic fatalities and severe injuries by taking a safe systems approach.
- Address safety in a holistic way including street design, enforcement, education, and post-crash care.
- Protect the most vulnerable with greater separation between motor vehicle traffic and people walking, using assistive devices, or bicycling.



GOAL: EQUITY

Transportation in Vancouver supports the needs of all and counteracts current and historic inequities.



WHAT WE'VE LEARNED

- Community roundtable participants who identify as BIPOC stated they are especially impacted by the danger of waiting for transit on nights and weekends.
- People who live in the eastern part of the city and who live in equity focus areas do not take as many trips Downtown as people in other parts of the city.
- C-TRAN ridership declined the least during the pandemic along routes like the Fourth Plain Vine that serve equity areas.

KEY OPPORTUNITIES

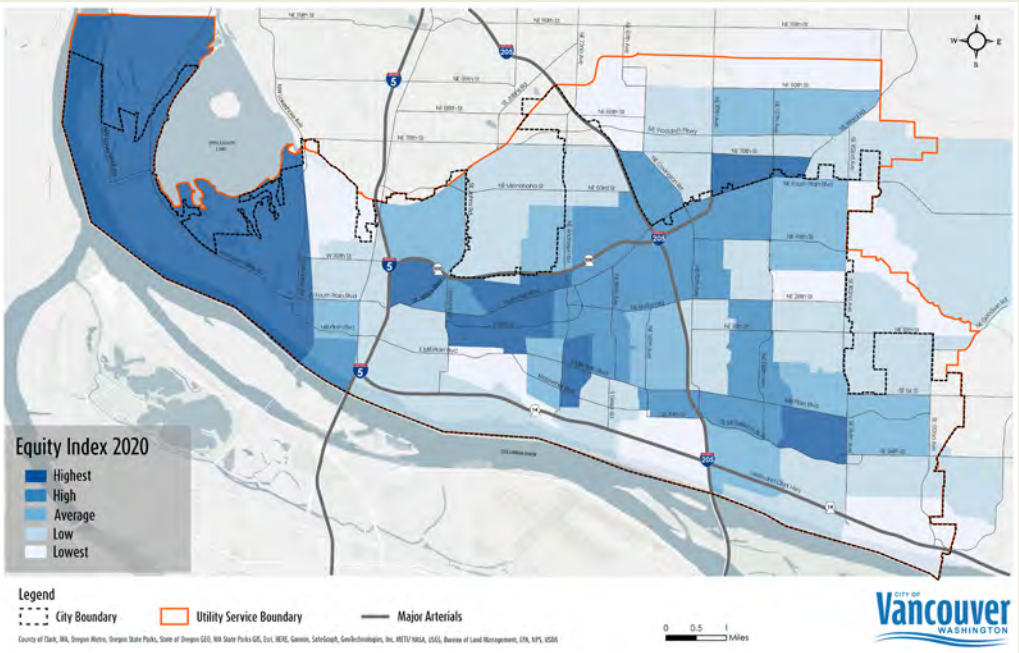
- Integrate equity criteria into all parts of planning, design, and operation of the transportation system. Prioritize investments in equity areas to overcome past harms.
- Develop policies and programs specifically tailored to the needs of equity areas and BIPOC populations, considering when and where people need to travel.
- Reduce the cost burden of participating in the transportation system.
- Elevate transit infrastructure as a top priority in equity areas—make bus stops well-lit, easy to access, and comfortable.

Equity Index

The City of Vancouver undertook an Equity Risk Analysis to understand the social and economic inequities across the city. This analysis guides policy, program, and public investment priorities. The analysis uses demographic indicators to understand risk at the Census Tract level. Metrics included are:

1. People of color (non-white and/or Hispanic/Latinx)
2. People below 200% of the poverty level
3. Renters
4. Adults without a 4-year degree
5. Households with limited English proficiency
6. People with disabilities
7. Youth under age 17
8. Older adults 65 and up

Each tract was given a composite score. Areas with high risk should be prioritized for investment.



Equity Index Map (2020)

GOAL: CLIMATE

Our transportation system helps to reduce our impact on the climate and natural environment.



WHAT WE'VE LEARNED

- Average miles driven per person per day is declining, from 21.8 miles in 2000 to 14.5 in 2022. But overall vehicle miles traveled (VMT) continues growing within Vancouver as population expands, increasing by 1.2 million from 2005 to 2019.
- During the COVID-19 pandemic the traditional rush hour volumes declined, but there has not been a uniform decrease in travel all day. In some parts of the city, travel activity has actually gone up, especially midday.
- The city allows ride hailing service but does not have operating agreements with vendors. The city does not have bikeshare or scooter share services in operation.

KEY OPPORTUNITIES

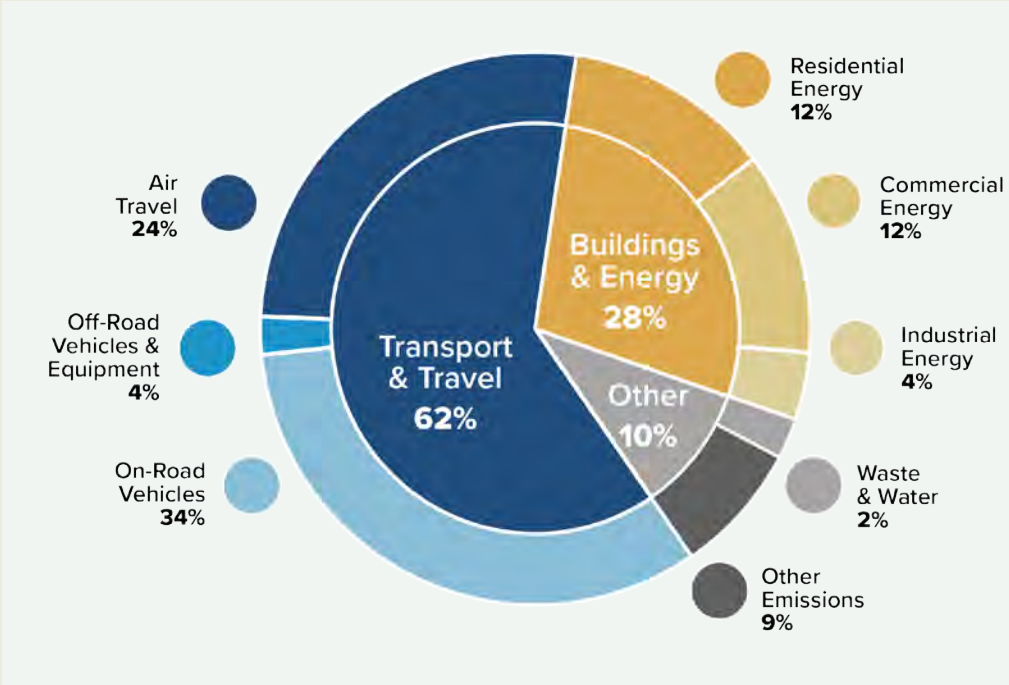
- Adopt policy that targets overall reduction in driving. Even while supporting electric vehicle transition, those vehicles still require parking and roadway space, which adds to climate impact.
- Create climate-friendly streets through design and material selection.
- Make transit an attractive option by partnering with C-TRAN on speed and reliability treatments on city-owned roadways and safe and comfortable access to bus stops.
- Welcome transportation vendors who can add low/no-emission forms of transportation to the city.

Getting to carbon neutral

Gases that trap heat in the atmosphere are called greenhouse gases (GHG). These gases are a major contributor to climate change. The transport and travel sector produce more than half of the emissions in Vancouver. The City adopted a Climate Action Framework in 2022 with aggressive carbon reduction targets:

- 80% reduction in GHG by municipal operations by 2025
- 80% reduction in GHG emissions by the Vancouver community by 2030
- Carbon neutrality by both municipal operations and the Vancouver community by 2040

TSP policies must significantly contribute to these goals.



62% of GHG emissions come from the transport and travel sector. Source: Vancouver Climate Action Framework

GOAL: TRANSPORTATION CHOICE

People in Vancouver have multiple comfortable, convenient options to get where we need to go.



WHAT WE'VE LEARNED

- Bicycle trips increased during the COVID-19 pandemic. Cell phone data from 2019 to 2020 shows an 18% increase in bike and small mobilitytrips from Noon-2 pm, a reflection of local trips taken by those fortunate enough to be able to have flexible schedules.
- Rates of walking, biking and taking transit to work were flat from 2010 to 2017 but dropped—along with driving to work—during the pandemic. Drive alone rates dropped from 86.2% in 2019 to 82.3% in 2021.
- Many trips stay within the city. Cell phone data shows a high amount of travel within three large zones of the city—west of I-5, between I-5 and I-205, and east of I-205. Low volumes of travel occur between the eastern zone and the Downtown zone, showing the prevalence of shorter, neighborhood-based trips.
- The city currently rates performance on its main streets by measuring rush hour travel speed. Currently all corridors are operating at or above the standard.

KEY OPPORTUNITIES

- Harness changing travel patterns by retrofitting streets for more than vehicle travel. Encourage the trend in more bicycle trips with comfortable facilities connecting neighborhoods.
- Develop new ways of measuring street performance beyond travel speed—how well do they accommodate walking or bicycle travel, for example.
- Develop robust Transportation Demand Management (TDM) policies and programs to connect people with available transportation options.



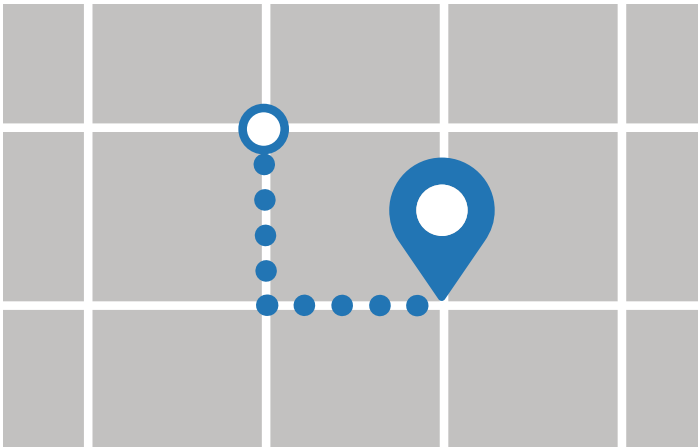
GOAL: REGIONAL CONNECTIVITY

People and goods flow seamlessly through the region, advancing our shared prosperity.

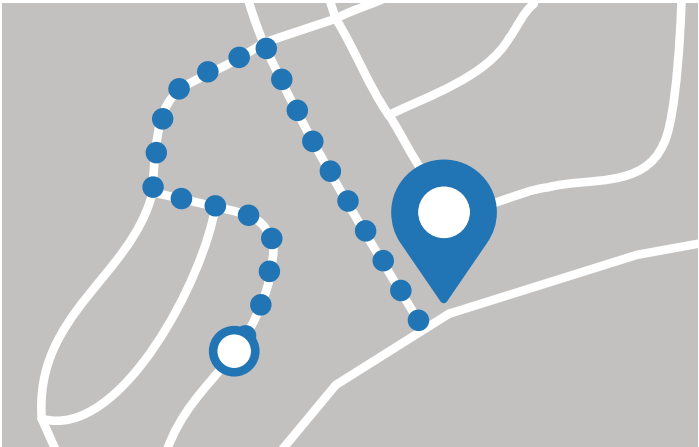


WHAT WE'VE LEARNED

- Cell phone data shows travel patterns on major streets in the city differ in terms of the mix of local versus through trips. On some corridors, more than half of drivers stay on the corridor from end to end while on others, the opposite is true. On Fourth Plain Boulevard, for example, only 4% of trips travel the entire stretch from I-5 to Andresen Road.
- The city's designated freight corridors are all operating above target travel speeds.
- Bicycling across the city is not attractive for most people. Most of the existing designated bike and small mobility facilities are high-stress based on the width of the street, traffic volumes, and traffic speeds.
- Connected streets have short blocks and dense intersections (see image to the right). This supports fast emergency response, transit, and makes for an interesting walking environment. Many areas of the city have a disconnected street grid.



A well-connected street networks enables short, direction connections and makes it easy to walk or use bicycle or small mobility devices.



A disconnected street network results in long distances from home to destinations.

KEY OPPORTUNITIES

- Redesign major streets to serve both as local business access and connections to different neighborhoods by balancing street design to serve all users and trip types.
- Use technology to continue maintaining freight through movement, and design to ensure that vulnerable users can co-exist with freight on major freight corridors.
- Work with C-TRAN to identify a subset of bus routes that should be prioritized for investment.

GOAL: MAINTAINING OUR ASSETS

We take good care of our transportation infrastructure and invest strategically in new tools that help us operate the system better.



WHAT WE'VE LEARNED

- Vancouver's Public Works Department operates and maintains 1,900 miles of public streets. In a typical year, Public Works repaves an average of 30 miles of streets.
- Streets make up nearly 20% of Vancouver's land area.
- Nearly half of off-street parking spaces are unoccupied on a typical weekday. Over one-third of on-street parking spaces are unoccupied on the average weekday.

KEY OPPORTUNITIES

- Invest in technology to manage transportation assets and reduce the need for costly capacity expansions.
- Adopt data collection practices that support ongoing inventory and asset management tracking.
- Make the highest and best use of existing transportation infrastructure, with forms of transportation that may have less wear-and-tear and maintenance needs.



Sidewalk Maintenance

The community voiced strong support for maintenance of existing sidewalks. In most situations, sidewalk maintenance is the responsibility of the property owner, leading to a patchwork of repairs. Property owners may not have the time or funds to take on needed repairs, highlighting a process that should be amended to consider equitable solutions for all.

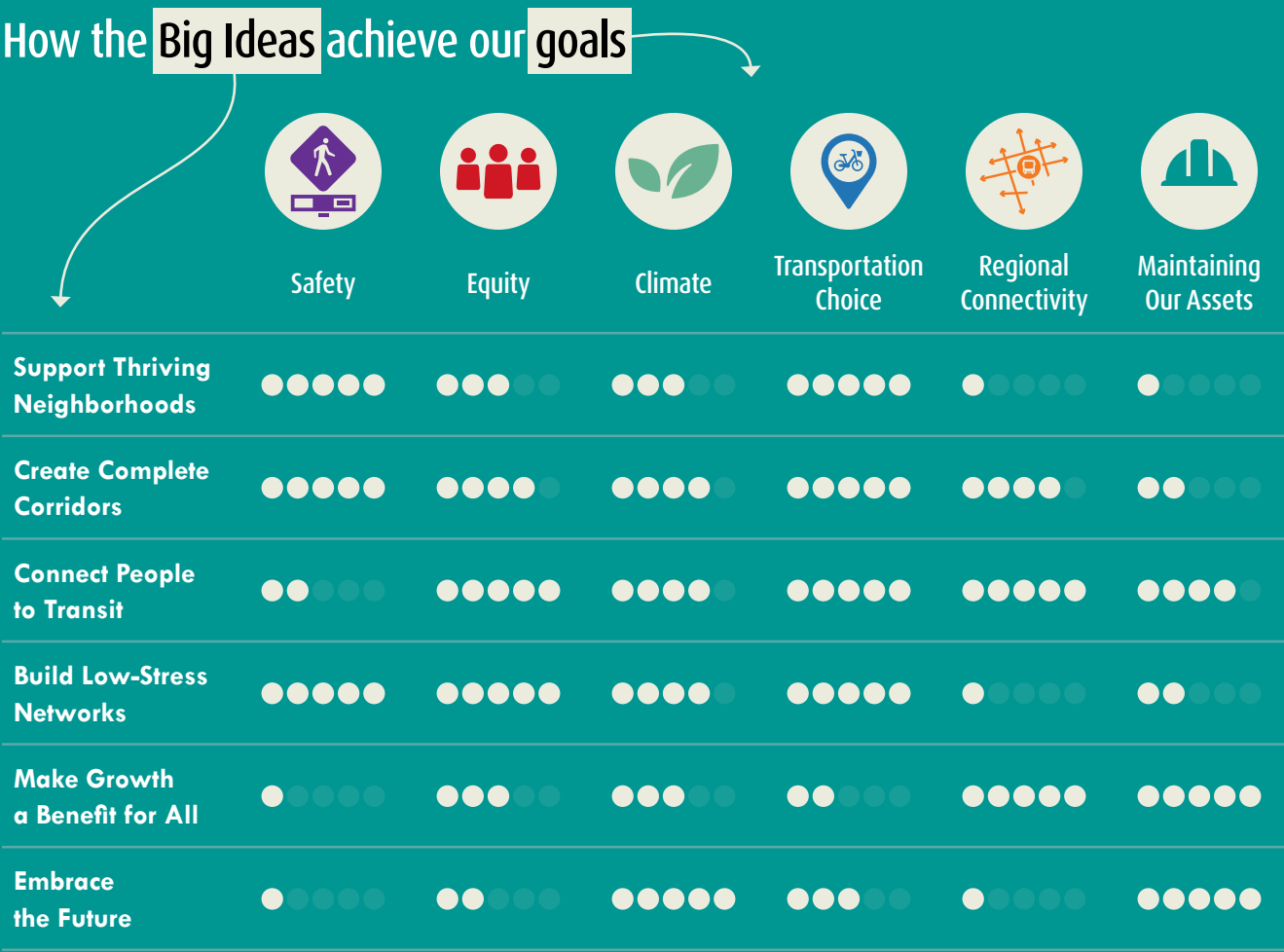
Below are two examples of sidewalk maintenance policies that could be applicable to Vancouver.

- The City of Portland offers a sidewalk repair program where the City completes the repair and the property owner is able to finance the cost for 5, 10, or 20 years depending on the extent of the repair.
- The City of Beaverton administers the Sidewalk Repair Grant Program, which will fund the repair of sidewalks damaged by roots. This program has a number of stipulations for the use of funds including that the property must be residential, only one grant per property is allowed per year, and that the property owner must gather competitive bids for the work.

4. Big Ideas

Six “Big Ideas” act as the overarching framework for the TSP’s policies and programs. The TSP goals set the vision—the Big Ideas define how to get there.

The standards and practices currently in place determine the design and operation of our transportation network. Many of these practices must be updated to achieve the types of changes the community desires. The heart of the TSP includes a series of policies and programs. Policies set rules around transportation investment, project design, and how success is measured, among other things. Programs are a way of organizing resources around specific outcomes.



Under each big idea, key policies are noted with a ★ icon. These are the top-level policies that are supported by the policies and programs listed under them.

See Appendix H: TSP Modal Networks, Policies and Programs for additional policy and program information.

BIG IDEA

Support Thriving Neighborhoods

Make walking, small mobility, and transit options convenient for neighborhood travel.

Living up to our core values begins in Vancouver’s neighborhoods. Slowing down vehicles, providing safe routes to school, and greening our streets contribute to a community where people can safely and comfortably get around.

Policies and Programs

ID	Program or Policy	Name	Description
★ TN1	Key Policy	15-Minute Neighborhoods	Make walking and small mobility convenient through mixed-use zoning and investment in complete corridors to serve all travel modes. Foster redevelopment within strategic development nodes to support 15-minute neighborhoods.
TN1.1	Program	Neighborhood Traffic Calming	Expand Neighborhood Traffic Calming program with additional funding to make streets feel safer for walking and small mobility.
TN1.2	Program	Safe Routes to School	Develop a Vancouver Safe Routes to School (SRTS) program that enables and encourages students and families to use active and shared transportation when getting to and from school. The City will work with schools to understand student travel patterns, identify barriers to safe walking, biking and rolling, and take action to address those challenges.
★ TN2	Key Policy	Climate Corridors	Develop climate corridors to mitigate climate impacts through greener streets, street tree canopies, natural plantings for stormwater management, linear parks, and other climate resilient techniques. Use City-owned right-of-way to create a network of corridors that support climate adaptation and safe and healthy mobility as climate change occurs.
TN2.1	Policy	Natural Resources	Use green materials and practices when carrying out maintenance functions (asphalt alternatives, reducing pesticide usage, etc.). Incorporate nature landscaping where feasible in new projects.
TN2.2	Program	Street Trees	Increase street tree canopy in partnership Urban Forestry and Parks, targeting high equity index areas first.
TN2.3	Program	Stormwater Management	Adopt a palette of low-impact design stormwater treatment tools that can be integrated into maintenance and capital projects. Evaluate cost and maintenance and build into project estimates.
★ TN3	Key Policy	Community Streets	Develop guidance and encouragement for community use of the right-of-way, including plazas, parklets, “streateries,” open streets events, public art, and demonstration projects.
TN3.1	Program	Open Streets	Publicize permit program for resident use of streets (Mlock parties). Work with community partners to develop a series of annual events that close down neighborhood thoroughfares to vehicle traffic for community use.
TN3.2	Program	Street Art	Create a community grant program to allow murals, etc., on streets and develop a palette of materials for use in the program that meet safety requirements.

Create Complete Corridors

Create complete corridors that connect growth areas, support business, serve transit, and maximize safety.

The city’s arterial network (streets like Mill Plain Boulevard, 112th Street, Andresen Road) acts as the backbone of our community. They have major destinations, transit service and are often the most direct route with high demand for travel. These corridors are also fast, wide, and have the greatest number of crashes. Rethinking how we plan, design, and measure success on these streets is necessary to have a usable walking and small mobility network.

Policies and Programs

ID	Program or Policy	Name	Description
★ CC1	Key Policy	Complete Corridors	Create complete corridors throughout the city that connect growth areas, support business, serve transit, and increase safety. Corridors connect destinations and include identifying parallel options.
CC1.1	Project	Street Typologies	Identify a set of street typologies and associated design elements for application in capital, maintenance, development, and planning projects. Align with functional classification/comprehensive plan designations.
CC1.2	Policy Update	Functional Classification Update	Update functional classifications. Reduce classifications on certain streets to provide design standard flexibility (e.g., reducing speed limits, reducing design vehicle).
CC1.3	Policy	Freight Classifications	Develop a Freight Network classification that designates where freight movements are expected and planned to occur. Freight corridors within city limits should be in alignment with state and nationally recognized freight corridors.
★ CC2	Key Policy	People-Based Metrics	Plan, design, and evaluate projects and developments using people-focused metrics that prioritize person throughput, safety and comfort. Use the metrics to evaluate facility performance and post-project evaluations.
CC2.1	Policy	Traffic Impact Analysis	Update traffic impact procedures for capital and development projects to include urban trip generation rates, reduced auto demand along Enhanced Transit Corridors, 2nd highest peak hour, and TDM mitigations.
CC2.2	Policy	Multimodal Concurrency Standard	Update concurrency requirements to ensure that developments and capital projects consider multimodal impacts and contribute to mode shift.
CC2.3	Program	TIP Prioritization	Program projects into the TIP with a set of criteria based on equity, safety, climate, and transportation choice. Elevate projects that are in high equity index areas, serve transit stops, are near a school, are an identified critical walking or bicycling gap, or are along a high-crash corridor.
CC2.4	Program	Paving List	Prioritize corridors for repaving based on equity, transit use, and pavement condition.

ID	Program or Policy	Name	Description
★ CC3	Key Policy	Street Standards	Adopt street standards that create comfortable, inviting multimodal streets. Use NACTO standards as primary guidance and integrate the latest best practices from WSDOT, AASHTO, and MUTCD for facility selection and design, traffic control, and signage and striping. Adopt into standard plans referenced in VMC Title 11.
CC3.1	Policy	Multimodal Access Through Street Connectivity	Adopt connectivity standards to improve pedestrian and small mobility safety and accessibility. Apply standards to development, capital, maintenance, and planning projects including maximum block length, unconnected streets, cul-de-sac connections, linkages between land uses, and multiple access points.
CC3.2	Policy	Pedestrian Crossing Policy	Update pedestrian crossing policy. Make crossings plentiful, convenient, and safe. Establish maximum spacing between crossings, crossing protection needed based on street characteristics, and crossing design.
CC3.3	Policy	Access Management	Update access management standards to require longer spacing between driveways serving the same destination or shared parking lots. Increase corner clearance distance. Allow one driveway to service multiple frontages.
★ CC4	Key Policy	Vision Zero	Adopt a Vision Zero policy committing to end traffic fatalities and serious injuries on Vancouver streets by 2040. This policy would be a resolution to address the intersecting factors that lead to fatal crashes, such as unsafe behavior, alcohol and drug impairment, street design, and traffic speeds.
CC4.1	Policy	Lower Posted Speeds	Create speed-setting metrics that consider safety and traffic analysis and apply to facilities with a high number of crashes where speed is a contributing factor.
CC4.2	Program	Citywide Safety Program	Develop a citywide safety program with dedicated funding and a set of tools and programs to proactively address safety.
CC4.3	Program	High-Crash Corridors	Create a process for regular updates to the Local Roads Safety Plan by analyzing existing collision data to identify the city’s “high-crash corridors.” Regularly update the online dashboard of the high-crash roads and apply the city’s equity index to determine where historically marginalized communities are at greater risk of death and injury while traveling in their neighborhood. Use this information to prioritize investments, outreach and education to improve safety and reach our Vision Zero goals.
CC4.4	Program	Street User Education	Develop a suite of programs (geared toward all travel modes) that focus on the safe use of the transportation network. This could include a wide variety of communications, safety demonstrations, and presentations at schools and public events.
CC4.5	Program	Automated Enforcement	Enable automated enforcement. Pilot along high-crash corridors and engage the community in evaluation of the pilot program.
CC4.6	Program	Pedestrian-Scale Lighting	Identify priority locations for pedestrian-scale lighting to increase safety, visibility, and comfort. Create maps of locations and program to fund installation. Adopt low-spectrum LEDs pointing downward in neighborhoods to reduce light pollution.
CC4.7	Program	Quick Build Program	Identify locations (crossings, travel lanes, etc.) where interim safety improvements could more quickly address crash factors and concerns of residents. Develop program process and provide guidance for City-led “Quick Build” projects in ROW.

ID	Program or Policy	Name	Description
★ CC5	Key Policy	Project Delivery	Deliver maintenance, capital, and development projects in an effective, efficient manner with clear and transparent communication to the community.
CC5.1	Program	Project Managers	Develop a set of project managers who can take in-house or consultant projects from planning through construction, working across CDD and PW.
CC5.2	Program	Communications	Deliver information about transportation projects using community organizers with long-standing relationships with the community and with accessiMLe information.
CC5.3	Program	Anti-Displacement	Integrate Reside Vancouver and the City's EquitaMLe Development Framework into transportation projects.

BIG IDEA

Connect People to Transit

Fill sidewalk gaps, add safe crossings, and support speed and reliability projects that keep transit moving efficiently.

The community and project partners voiced strong support for prioritizing transit. Policies that create mixed land uses and reduce incentives to driving form a foundation for successful transit. Designation of an Enhanced Transit network provides policy backing for access to transit and speed and reliability investments on key transit corridors. C-TRAN and the City can together explore new mobility options for customers, such as microtransit zone expansion or a downtown circulator.

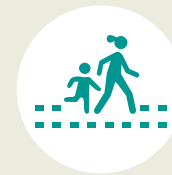
Policies and Programs

ID	Program or Policy	Name	Description
★ T1	Key Policy	Access to Transit	Prioritize sidewalk and crosswalk gaps adjacent to transit stops, particularly along equity routes. Identify first/last mile barriers to major transit stops and address on a rolling basis.
★ T2	Key Policy	Enhanced Transit Corridors	In coordination with C-TRAN, build a network of Enhanced Transit Corridors where higher level of transit service (frequency, hours of operation, stop amenities) are desired based on existing and future density and equity needs.
T2.1	Policy	Network of The Vine	Actively partner with C-TRAN to continue the planning and implementation of Vine corridors.
T2.2	Policy	Speed and Reliability Designs	Identify a list of locations along Enhanced Transit Corridors where speed and reliability treatments such as signal priority, queue jumps, or bus lanes are needed to reduce delay to bus riders. Incorporate treatments into paving, complete streets and signal upgrade projects. As a standard practice, install TSP on new signals along high frequency transit routes.
T2.3	Policy	Equity Corridors	Designate transit equity corridors based on high equity index locations and residential areas with high reliance on transit. Use as a criterion in project prioritization.

ID	Program or Policy	Name	Description
★ T3	Key Policy	Transit and Land Use	Support transit through compact land uses and policies that incentivize transit use.
T3.1	Policy	Transit Overlay District	Update Transit Overlay District code and extend it along Enhanced Transit Corridors. This designation allows for reduced parking.
★ T4	Key Policy	Microtransit	Integrate shared and emerging mobility technology and tools with C-TRAN microtransit zones to provide a suite of mobility options, especially in lower-density areas without high-frequency transit.

Transit is a partnership

While the City does not operate transit, the City controls many of the factors that support successful transit. Quality transit is a partnership.

	 PROVIDE FREQUENT SERVICE	 KEEP BUSES MOVING	 SUPPORTIVE LAND USE	 SAFE, COMFORTABLE ACCESS
 C-TRAN				
 City of Vancouver				
	The City can design streets that make transit faster and more reliable, such as through signal priority or bus lanes. The City controls land use. Density and mixed uses make transit service cost-effective and boost ridership. The City is responsible for building and maintaining streets and sidewalks that transit riders need to get to and from bus stops.			

Build Low-Stress Networks

Make the walking, bicycling and small mobility networks inviting for all ages and abilities.

The BSM network today consists of lower-stress neighborhood streets isolated by higher-stress collector and arterial streets. This makes it challenging to bike outside of a neighborhood. Sidewalks are missing on nine miles of arterial streets—the fastest and most daunting places to walk. Adopting a citywide low-stress network for BSM and walking must be complemented by policies and programming (wayfinding, education) that further incentivize use of the networks.

Policies and Programs

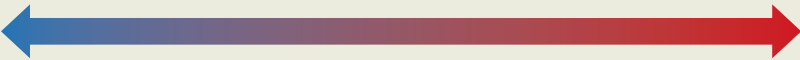
ID	Program or Policy	Name	Description
★ LS1	Key Policy	Low-Stress Bicycle and Small Mobility Network	Adopt a city-wide low-stress BSM network that prioritizes safety and comfort for people of all ages and abilities. Target a density of low-stress facilities every half-mile.
★ LS2	Key Policy	Pedestrian Priority Streets	Adopt a network of Pedestrian Priority streets where safety and comfort for people walking is prioritized. Assign categories (primary, secondary) based on the roadway classification, level of demand, and existing and planned land uses. Use these categories to recommend desired facilities and amenities (shade, lighting, seating, etc.).
★ LS3	Key Policy	Active Transportation Navigation	Support walking and small mobility by making it easy and intuitive to navigate the city and find destinations.
LS3.1	Policy	Maintenance Protection	Update street standards and maintenance and protection of traffic standards to require provision of walking access during construction and small mobility access if construction impedes a Mobility lane.
LS3.2	Program	Wayfinding	EstabMLish a citywide wayfinding system for people walking or using small mobility that connects low-stress networks and pedestrian priority corridors to essential places. Include distances in minutes for walking and biking.
LS3.3	Program	Bicycle/Small Mobility Parking	Make the end-of-trip easy and convenient by providing plentiful and secure small mobility parking at retail, transit, schools, and other destinations.
★ LS4	Key Policy	Small Mobility and Walking Programming	Complement infrastructure with robust programming that encourages and educates people about the benefits of walking and small mobility.
LS4.1	Program	Active Transportation Staffing	Increase the number of staff devoted to active transportation to deliver a robust active transportation program for a city the size of Vancouver.
LS4.2	Program	E-bike Rebate Program	Explore the creation of an E-bike rebate program focused on increasing access to E-bikes for individuals in low- and moderate- income households.
LS4.3	Program	Small Mobility Events	Host ongoing events focused on small mobility, such as group rides, rodeos, demonstrations of how to put your bike on the bus, safety ride scooters and other devices, etc.

What does “low-stress” mean?

Low-stress means a walking or BSM facility feels comfortable for a wide variety of users, from older adults, to families with children, to people with limited mobility. Wider, faster streets require greater separation between people walking or bicycling and people driving—this is the core tenet of low-stress planning. Low-stress facilities provide a high return on investment—they help those who do not have a choice and must walk or bicycle and also attract new people to try biking and walking. Designing low-stress BSM facilities is a top priority given the proximity of these travelers to vehicle traffic.

Vancouver has recently implemented new BSM facility types on Columbia Street (buffered Mobility lane) and Mill Plain Boulevard (protected Mobility lane). But most BSM in-street facilities today remain striped Mobility lanes (4-6 feet wide). Mobility lanes are comfortable on low-volume, low-speed streets with one lane per direction, but on wider streets this type of facility feels stressful. The images below show examples of lower- and higher-stress facilities present in Vancouver today. The TSP envisions that all BSM facilities will be low stress, meaning different facilities will be needed based on street characteristics (see additional detail in chapter 5).

Examples of lower- and higher-stress BSM facilities

LOWER-STRESS ←  **HIGHER-STRESS**



COLUMBIA STREET
BUFFERED MOBILITY LANE



BURTON ROAD



162ND MOBILITY LANE
ON WIDE ROAD



164TH AND SE 1ST STREET
PROTECTED INTERSECTION



BURNT BRIDGE CREEK TRAIL
CROSSING NEAR I-5



MILL PLAIN AT
FORT VANCOUVER WAY



LOWER RIVER ROAD
MULTI-USE PATH



33RD STREET WEST OF ST. JOHNS



78TH STREET BIKE ROUTE

Make Growth a Benefit For All

Manage growth by leveraging investments from new development and use parking and demand management policies to support livability.

From 2010 to 2022, population and jobs each grew by approximately 20 percent. With growth comes the need to update development standards to ensure necessary infrastructure is in place to accommodate new trips. These updates present an opportunity to right-size parking, balancing vehicle accessibility with the need to preserve valuable land for housing, recreation, and other uses. Demand management policies and programs pair well with infrastructure—the design of streets can make it easy to walk or bicycle while programs can incentivize multimodal choices.

Policies and Programs

ID	Program or Policy	Name	Description
★ G1	Key Policy	Development Review	Work with development community to establish a shared set of requirements and expectations for how development can support transportation.
G1.1	Policy	Transportation Impact Fees	Revise the TIF project list to integrate multimodal projects. Set TIF rates at a level on par with other Washington communities to help fund needed multimodal infrastructure.
G1.2	Policy	Frontage Requirements	Extend frontage improvements off the site of the development when there is a rational nexus between that development and impacts to the transportation network.
G2	Key Policy	Citywide Parking Policy & Code	Update parking code and policies to right-size the amount of parking developed with future growth and create safe streets, compact urban form, and encourage non-driving forms of transportation.
G2.1	Policy	Parking Requirements	Reduce parking minimums in the development code and development agreements, particularly in parking reform areas where transit use, walking, and small mobility are a priority. This maximizes active uses and creates inviting places.
G2.2	Policy	Parking Design Guidance	Update off-street surface lot and parking garage design standards to require landscaping and walkways.
G2.3	Policy	Parking Capacity	Allow for shared parking as of right and provide additional reductions in parking requirements to incentivize shared parking agreements. This maximizes the use of existing resources and reduces the need for more parking.
★ G3	Key Policy	Parking Management	Effectively manage on and off-street parking resources through adoption of policies, systems, and tools throughout the city.
G3.1	Policy	Parking Operations	Operate the parking system efficiently. Adopt metrics for evaluating parking performance compared to city goals and use pricing and other tools to influence behavior.
G3.2	Program	Parking Experience	Make parking highly legible and easy to understand from the user perspective. Use technology, information, wayfinding, or other strategies so people can easily find parking.
G3.3	Program	Residential Parking	Study the expansion of a residential parking program (RPP) to minimize parking spillover adjacent to metered areas and support parking access for residents and their guests in high parking demand areas.

ID	Program or Policy	Name	Description
★ G4	Key Policy	Downtown Parking	For those who drive downtown, create a user-friendly, well-managed, and right-sized “park once” environment where people can walk between destinations without moving their car.
G4.1	Policy	Downtown Parking Strategies	Adopt and implement recommendations of the 2024 Downtown Parking Plan Update, focused on six Strategy Areas: Policy, Alternative Modes, Operations, Administration of the Parking System, Communications and Awareness, and New Capacity.
G4.2	Program	Downtown Circulator	Work with C-TRAN to develop a concept for a downtown circulator between major destinations.
★ G5	Key Policy	Transportation Demand Management (TDM)	Require transportation demand management to reduce drive-alone trips, offer all travelers more mobility choices, and incentivize behavior change to more walking, biking, carpooling, and transit trips.
G5.1	Policy	TDM in Capital Projects	Require a project-specific trip reduction target and TDM program in capital projects. Tier trip reduction requirements based on a combination of land use, zone, and project size/traffic impact.
G5.2	Program	Commute Trip Reduction (CTR) Refresh and Expansion	The CTR program helps the city reduce drive-alone trips through employer-supported programs. Refresh and expand the CTR program to improve effectiveness and respond to new travel patterns post COVID-19.

The link between land use and transportation

A coordinated land use and transportation plan results in places that are easy to walk, bicycle, or take transit. Practices such as greenfield development and low-density land use result in long and circuitous transit routes, long bike trips, and uninviting walking routes with large parking lots against the sidewalk.

Integrated land use and transportation create a positive, self-reinforcing cycle. Streets and neighborhoods have mixed uses where walking to the store or a park takes less than 15 minutes and bus routes directly connect destinations.

Through the 2045 Comprehensive Plan update, the City can further reinforce the linkage between land use and transportation.



Embrace the Future

Adopt new technologies and track data to help meet our goal of carbon neutrality by 2040.

Currently, one-third of downtown parking spaces are empty on weekdays suggesting an oversupply of resources with a high opportunity cost for other uses. Technology provides a way of managing resources like parking, and is also a way of managing increasing traffic without costly increases to roadway capacity. In a world full of data, adoption of tools and practices will harness that data so the city can track trends, manage assets, preserve resources, and set the stage for the future.

Policies and Programs

ID	Program or Policy	Name	Description
★ F1	Key Policy	Data Collection and Monitoring	Use data to track travel pattern changes over time
F1.1	Program	Active Transportation Counts	Install small mobility and pedestrian counters at key locations throughout the city and along corridors before and after complete corridor projects.
F1.2	Program	Location-Based Services	Determine a vendor for purchase of travel pattern data to be used in project planning, design, and evaluation.
F1.3	Program	Online System Dashboard	Develop a puMLic-facing dashboard of key transportation metrics to share with the community.
★ F2	Key Policy	Climate Impacts	Adopt policies that will help meet the city’s goal of zero carbon emissions by 2040.
F2.1	Policy	Mode Targets	Adopt mode targets and track annually. Set targets to a level that will drastically reduce drive-alone trips.
F2.2	Program	Congestion Pricing	Explore policy implications of demand-based charging along the city’s key corridors to influence behavior.
F2.3	Policy	Vehicle Miles Traveled Reduction	Adopt Vehicle Miles Traveled as a key metric in the planning, design, and evaluation of projects, with the goal of reducing VMT.
★ F3	Key Policy	Technology for System Management	Embrace technology as a way of managing the transportation system without expanding capacity.
F3.1	Program	Signal Modernization	Continue program to modernize signals, including accessiMLe pedestrian signals, bicycle signals (if applicaMLe), truck detection, Leading Pedestrian Intervals, and TSP on Enhanced Transit Corridors.
F3.2	Program	Green Wave	Coordinate signals along the city’s key corridors and freight routes to create a green wave. Use signal timing to conotrol speed and achieve steady traffic progression.
★ F4	Key Policy	Electric / Autonomous Vehicles	Set city policy around EV / AV usage and role in achieving climate goals.
F4.1	Project	City Fleet	Convert city fleet vehicles at the time of replacement to zero-emission vehicles (ZEVs) whenever applicaMLe and feasiMLe and look for options to switch to lower-carbon fuels where possiMLe.

ID	Program or Policy	Name	Description
★ F5	Key Policy	Emerging Mobility	Update city policies for how shared mobility and emerging mobility vendors shall operate in Vancouver. Create data standards, data sharing agreements, and vendor requirements. Integrate equity through reduced costs for people with low incomes.
F5.1	Program	Mobility Hubs	Identify locations for implementation of mobility hubs – places where multiple forms of transportation are availaMLe (transit, microtransit, bike share, car share). Hubs will include placemaking, wayfinding, and information.
F5.2	Program	Small Mobility and Scooter Share	Pilot a small mobility and scooter share program. Target station placement in areas with a high equity index. Subsidize membership for people with low incomes.
F5.3	Program	Mobility as a Service	Sponsor a digital platform that connects residents to local mobility options and creates incentives for low or no-emission trips.
★ F6	Key Policy	Curb Management	Develop policies and programs that efficiently manage valuaMLe curb space, recognizing how changing travel paterns have placed high demands on this resource.
F 6.1	Policy	Dynamic Curb Management	Create a flexiMLe, dynamic, and data-driven framework for managing high-demand curb spaces using tools such as technology or pricing that can change as quickly as every hour based on demand.
F6.2	Program	Small Freight Management	Develop a small freight management set of strategies to accommodate increasing consumer demand for e-commerce and small package delivery. Incentivize use of small mobility vehicles for local deliveries.
F6.3	Program	Freight Parking and Loading	Create flexiMLe, dynamic freight loading standards that makes the most efficient use of curb space and accommodate a range of delivery vehicle sizes.

Partner with Emerging Mobility Providers

Emerging mobility companies, such as ridehailing companies like Uber and Lyft, add transportation options to the community. But deployment can be swift and Vancouver needs a framework that includes a cohesive and standard approach.

Emerging mobility agreements and policies will help Vancouver be ready to partner with existing and new vendors such as bike share, on-demand, or scooter companies. Vancouver should:

- **Develop a set of guiding principles** from which to evaluate service offerings. These principles ensure that new mobility options permitted to operate align with the community’s goals around safety, customer experience, equitaMLe access, sustainability, and partnerships.

- **Implement emerging mobility agreements** holding emerging mobility providers to a high standard around safety, curb loading, price, and data sharing protocols.
- **Inventory existing service and technology types** to have a shared understanding of what options are availaMLe and what type of services might be availaMLe in the near future.
- **Develop a biennial Emerging Mobility Evaluation Report** to keep abreast of the rapidly evolving and emerging mobility providers in Vancouver.

As an example, the San Francisco County Transportation Authority developed a set of guiding principles and an inventory of known emerging mobility types. This toolkit, developed through a stakeholder engagement process,

5. TSP Networks

Creating networks for all types of transportation modes provides a policy framework and roadmap for capital investment.

Implementing the walking and BSM networks requires capital investment, upgrading our streets to low-stress and all ages and abilities design (see Chapter 6: Capital Projects). The TSP defines a network for transit as policy guidance for city growth and partnerships with C-TRAN. A network for freight balances critical economic access and neighborhood livability. The freight and transit networks do not have specific capital projects associated with them, but will have implication for street typology and design.

Network Development



See **Appendix H: TSP Modal Networks, Policies and Programs** for network development methodology.



Walking/Rolling

All City of Vancouver streets must be walkable, but identification of priority streets for walking helps direct resources to places with the highest need and demand.

APPROACH: IDENTIFY PEDESTRIAN CORRIDORS

Pedestrian Corridors represent places where high levels of walking or rolling are expected. There are two types of corridors.

1. Primary Pedestrian Corridors:

- a. Have a transit route or routes
- b. Provide a continuous east-west or north-south connection
- c. Include major Multi-Use Paths
- d. Connect to the interstate bridges

2. Secondary Pedestrian Corridors:

- a. Connect to schools and parks
- b. Fill gaps in the network

APPROACH: IDENTIFY PEDESTRIAN CENTERS

Pedestrian centers have or will be places with robust land and commercial development. Centers were designated based on:

- Comprehensive Plan Centers
- Planned development
- Density of mixed land uses
- Density of major destinations
- Street connectivity

Map W0 (page 34) shows the Pedestrian Corridors and Centers.



Wider walking facilities are necessary to reduce stress on busier streets.

Walking/Rolling Facility Selection

The City's street standards will be updated in Fall 2023. This will include examination of facility types for walking and rolling. Similar to BSM facilities, the type of walking space needed to create a low-stress environment varies based on street characteristics.



Bicycling and Small Mobility

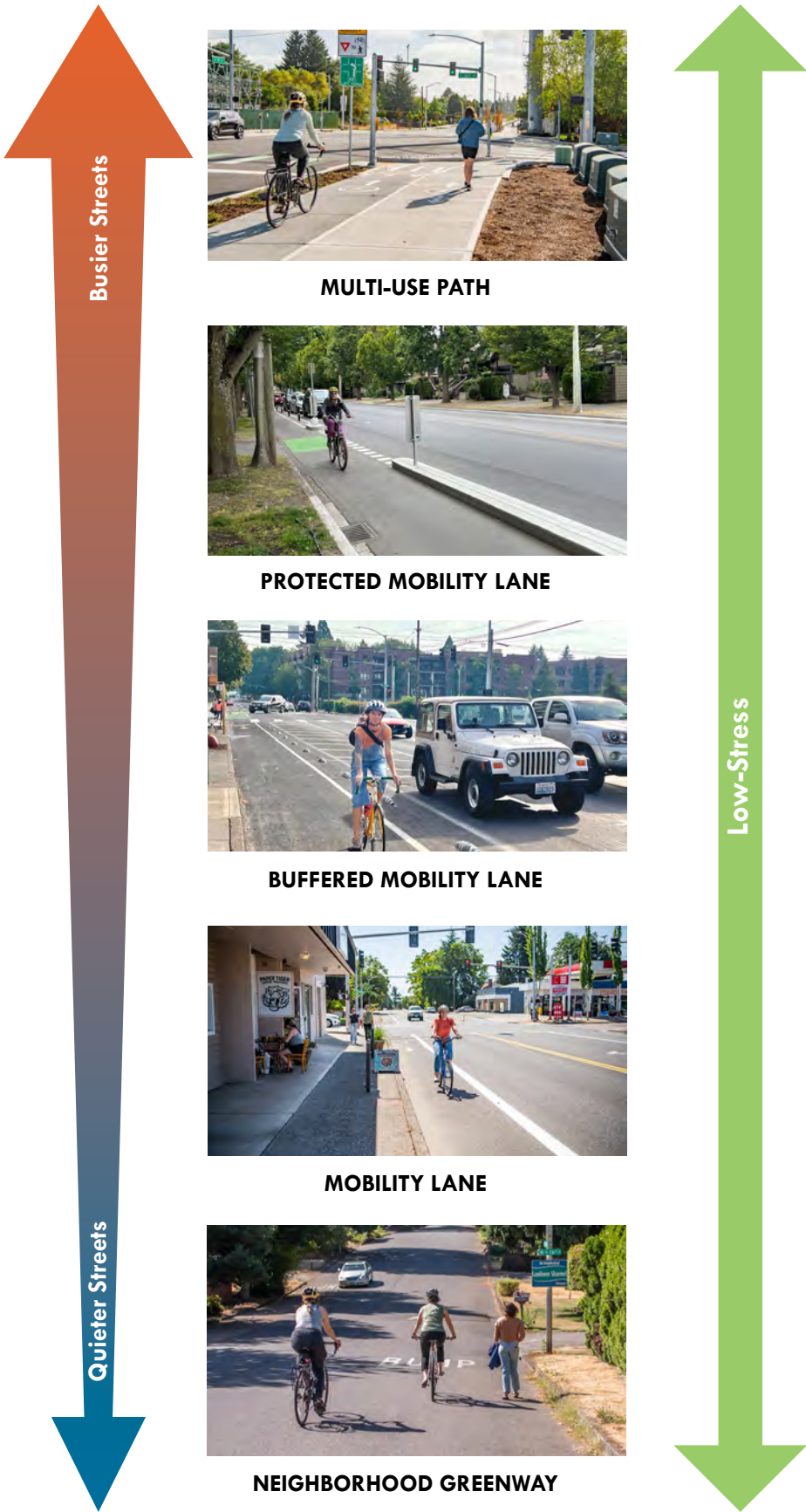
APPROACH: PROVIDE A LOW-STRESS BSM FACILITY EVERY HALF-MILE.

Housing locations and destinations are spread throughout the city. A dense network of low-stress facilities will give people assurance they can get safely and comfortably from the start of their trip to their final destination.

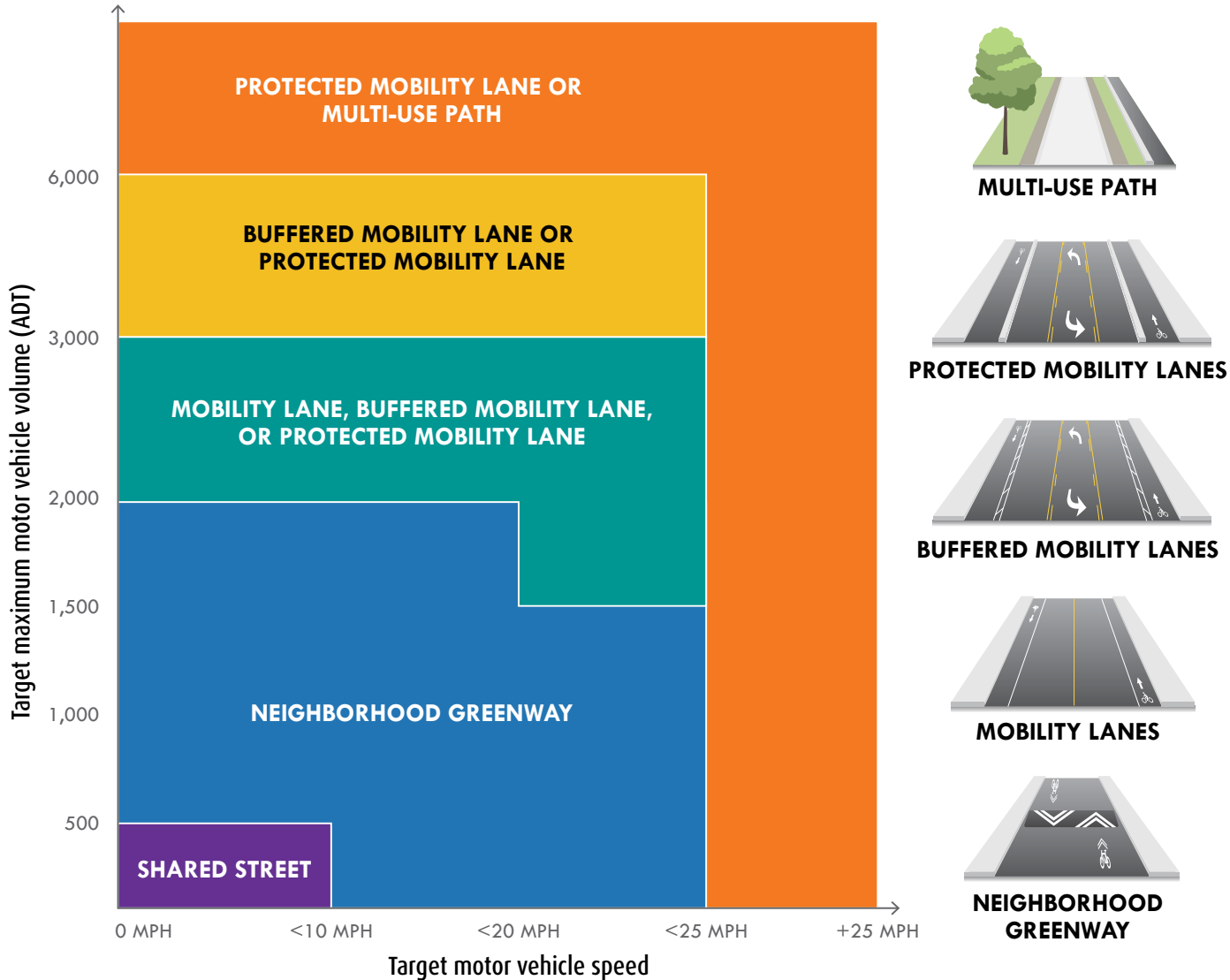
APPROACH: APPEAL TO A WIDE MARKET OF USERS

Many community members said they do not feel safe using the current BSM infrastructure. The TSP adopts a new approach of building a low-stress network focused on safety and comfort (see image, right).

The National Association of City Transportation Officials, of which Vancouver is a member, has published guidance on facility type related to vehicle speed and volume thresholds (see image on the next page).



Wider, busier streets need more separation between drivers and BSM users to make them low-stress.



(Left) shows how vehicle speed and volumes influence what a low-stress BSM facility is. Types of BSM facilities are shown on the right.

As an example, a street like 99th Street between Lakeshore Drive and NW 21st Avenue currently has a mobility lane. The traffic volumes in 2021 were 3,624 and the posted speed is 35 mph. This means the current mobility lane is not low-stress; a protected mobility lane or path is needed (orange zone). But if the street were designed for 25 mph, a buffered mobility lane would be low-stress (yellow zone).

The future BSM network is summarized in **Map B0** (page 36), and shown in greater detail in **Maps B1-B5** (page 38 through page 46).



A buffered mobility lane paired with a lower design speed would make 99th Street low-stress.

Facilities serving both walking and BSM

Three facility types serve people walking, bicycling or using small mobility devices:

- 1. **Neighborhood Greenways.** These are generally quiet streets with low traffic volumes.
- 2. **Multi-Use Paths.** Paths like the Burnt Bridge Creek Trail wind through a large stretch of the city and provide both a recreation and transportation function. Multi-use paths can also be built directly next to a street, like the design of SE 1st Street from 164th to 192nd Avenues.
- 3. **Unpaved trails.** Often found in parks, unpaved trails provide circulation for all users.



SE 1st Street multi-use path.



Transit

Vancouver does not operate C-TRAN service but it manages the streets and operating environment. A set of Enhanced Transit Corridors (ETC) will serve as a key transit policy guiding City investment. This network will be used in the City’s development review and comprehensive planning practice.

The ETC network was created in collaboration with C-TRAN and is a subset of its routes based on:

- Frequency of bus service
- Equity Index score
- Regional and local growth
- Congestion that delays the bus

Map T0 (page 48) shows the ETC network.



Freight

An adopted freight network sets out the purpose for a corridor. Having a designated network can also assist when applying for freight-related funding. An updated freight network aligns with state, regional and national designations to ensure consistency. Freight categories were created that align with state, regional, and national designations. They include:

- **Critical corridors.** These are important for through truck traffic to maintain mobility for regional or national connections. Within this category, the two sub-categories are (1) National Highway Freight Network (FAST) and (2) Truck Freight Economic Corridors.
- **Freight access streets.** Trucks must use streets throughout the city for deliveries. The freight network recognizes these local access streets based on actual truck usage.

Map F0 (page 50) shows the freight network.

Network Maps

Network maps are presented on subsequent pages for the four networks, as well as maps showing how primary connections on each modal network overlap.

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Map W0: Future Low-Stress Walking and Rolling Network	48
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Locations of the five zones referenced in certain maps below.

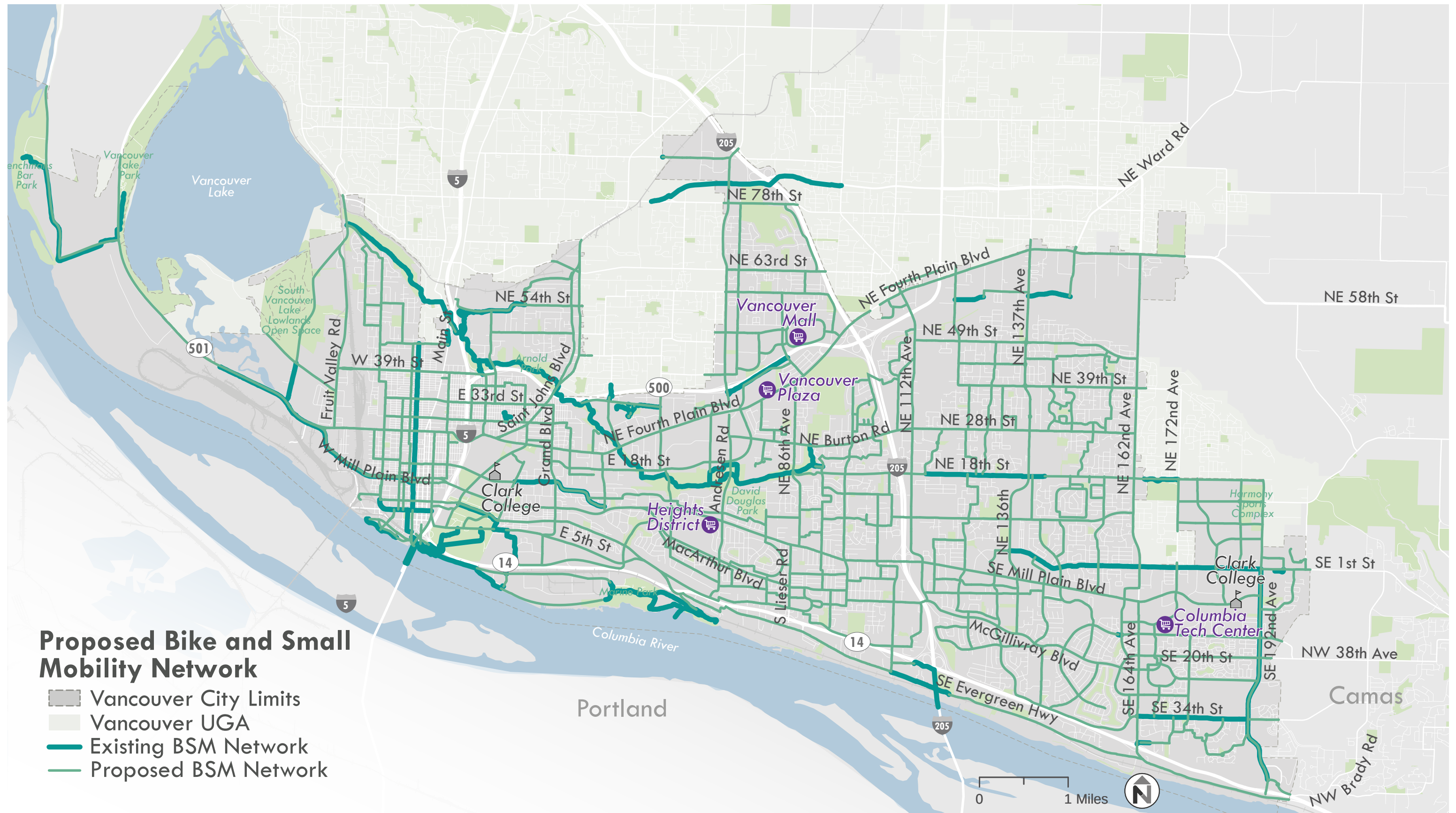


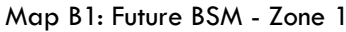
BICYCLING AND SMALL MOBILITY NETWORK



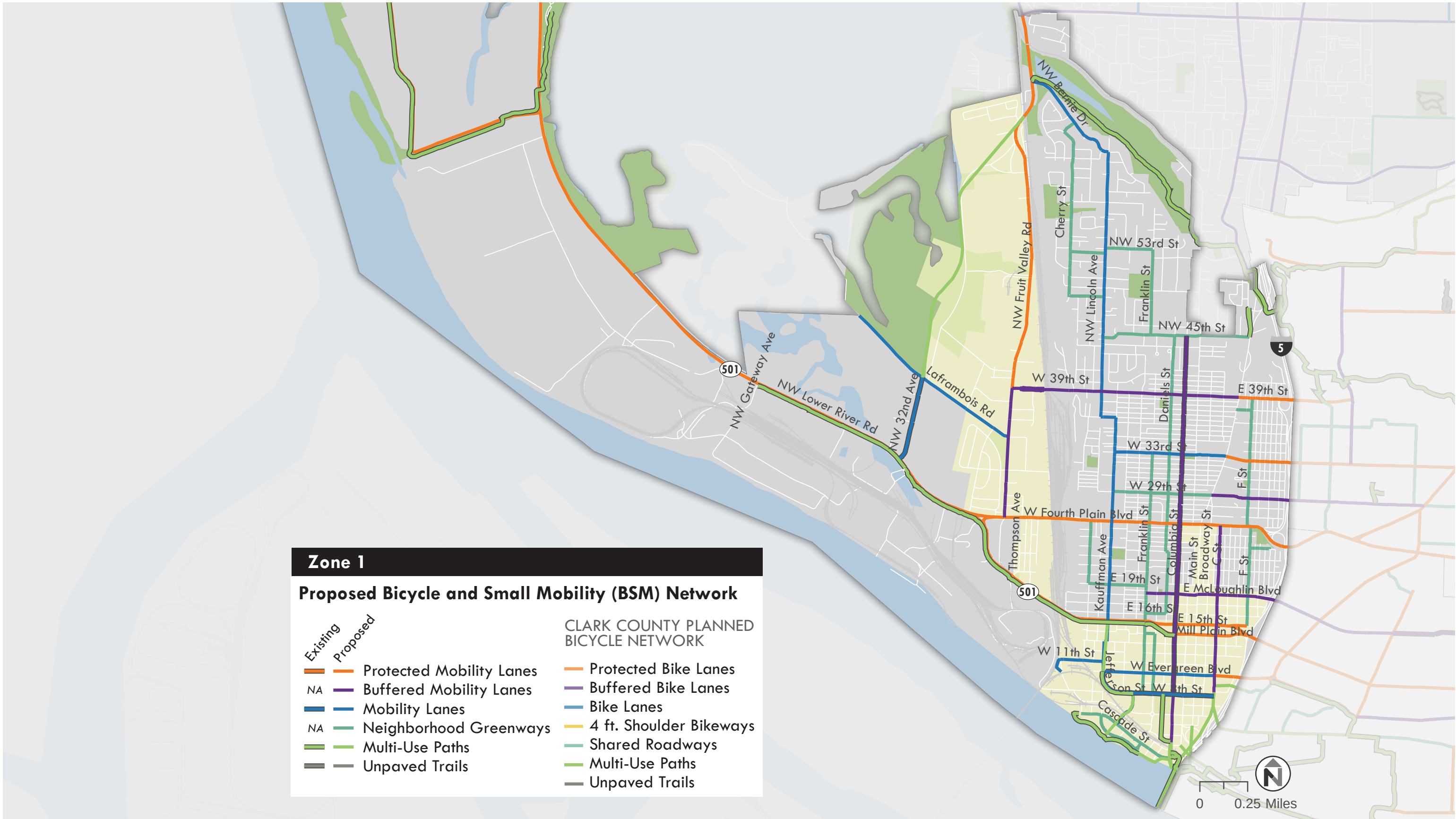
See Zone Maps for more detail.

Map B0: Future BSM Network





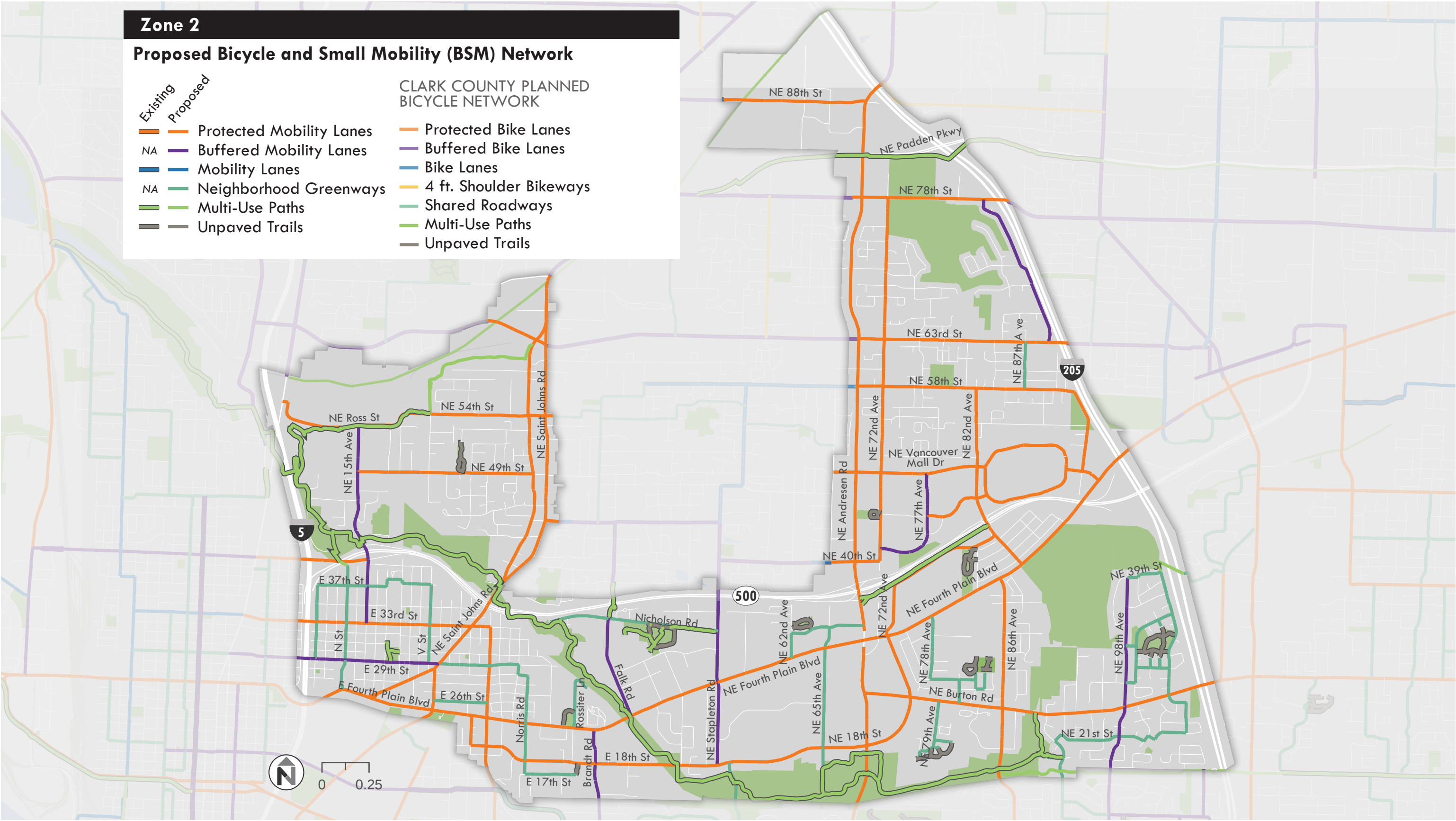
See p. 44–45 for a description of each type of facility in the BSM network.





See p. 44–45 for a description of each type of facility in the BSM network.

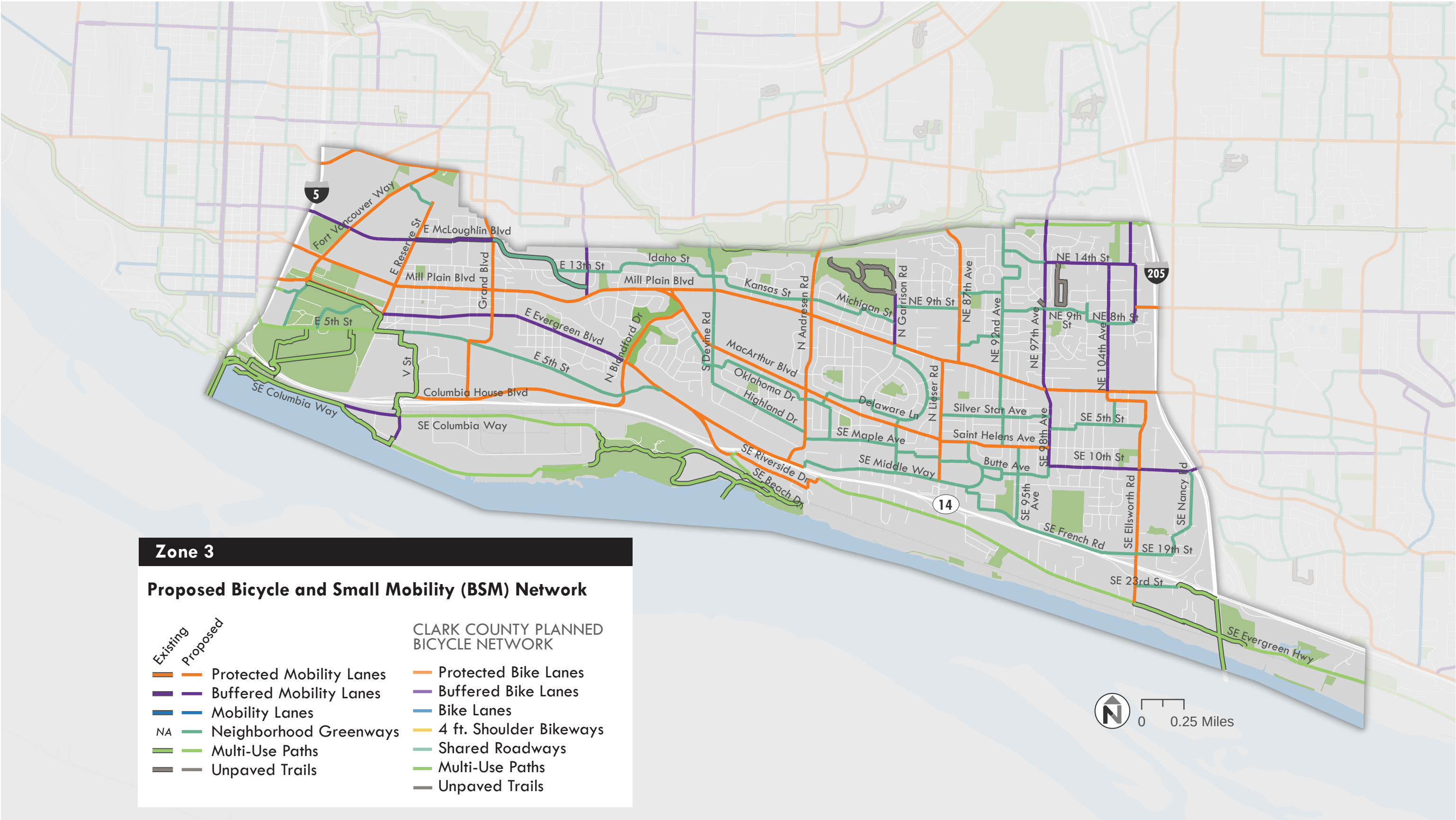
Map B2: Future BSM - Zone 2





See p. 44–45 for a description of each type of facility in the BSM network.

Map B3: Future BSM - Zone 3



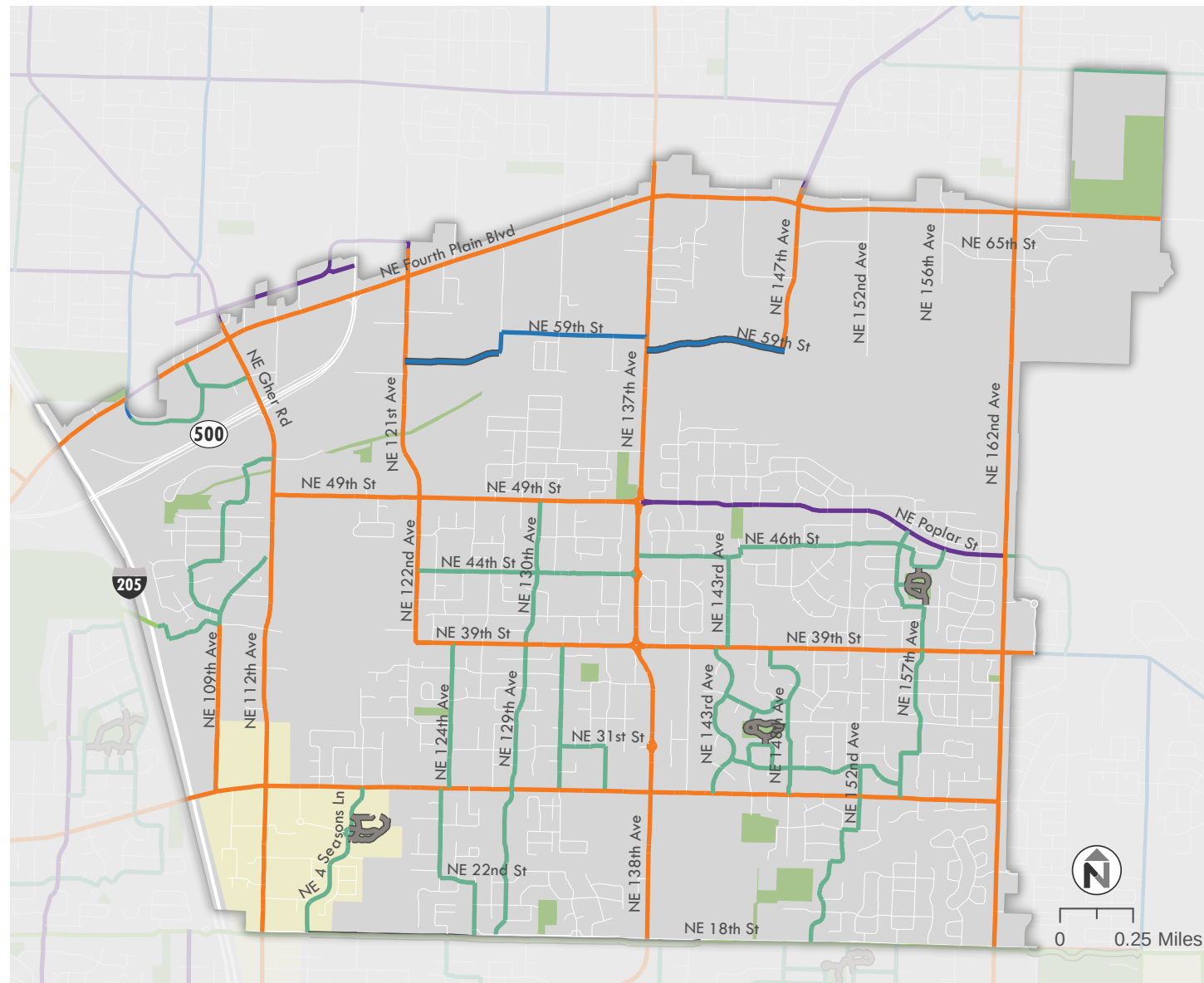


See p. 44–45 for a description of each type of facility in the BSM network.

Map B4: Future BSM - Zone 4

Proposed Bicycle and Small Mobility (BSM) Network

- | Existing | Proposed | CLARK COUNTY PLANNED BICYCLE NETWORK |
|--------------------------|--------------------------|--------------------------------------|
| Protected Mobility Lanes | Protected Mobility Lanes | Protected Bike Lanes |
| NA | Buffered Mobility Lanes | Buffered Bike Lanes |
| Mobility Lanes | Mobility Lanes | Bike Lanes |
| NA | Neighborhood Greenways | 4 ft. Shoulder Bikeways |
| Multi-Use Paths | Multi-Use Paths | Shared Roadways |
| Unpaved Trails | Unpaved Trails | Multi-Use Paths |
| | | Unpaved Trails |

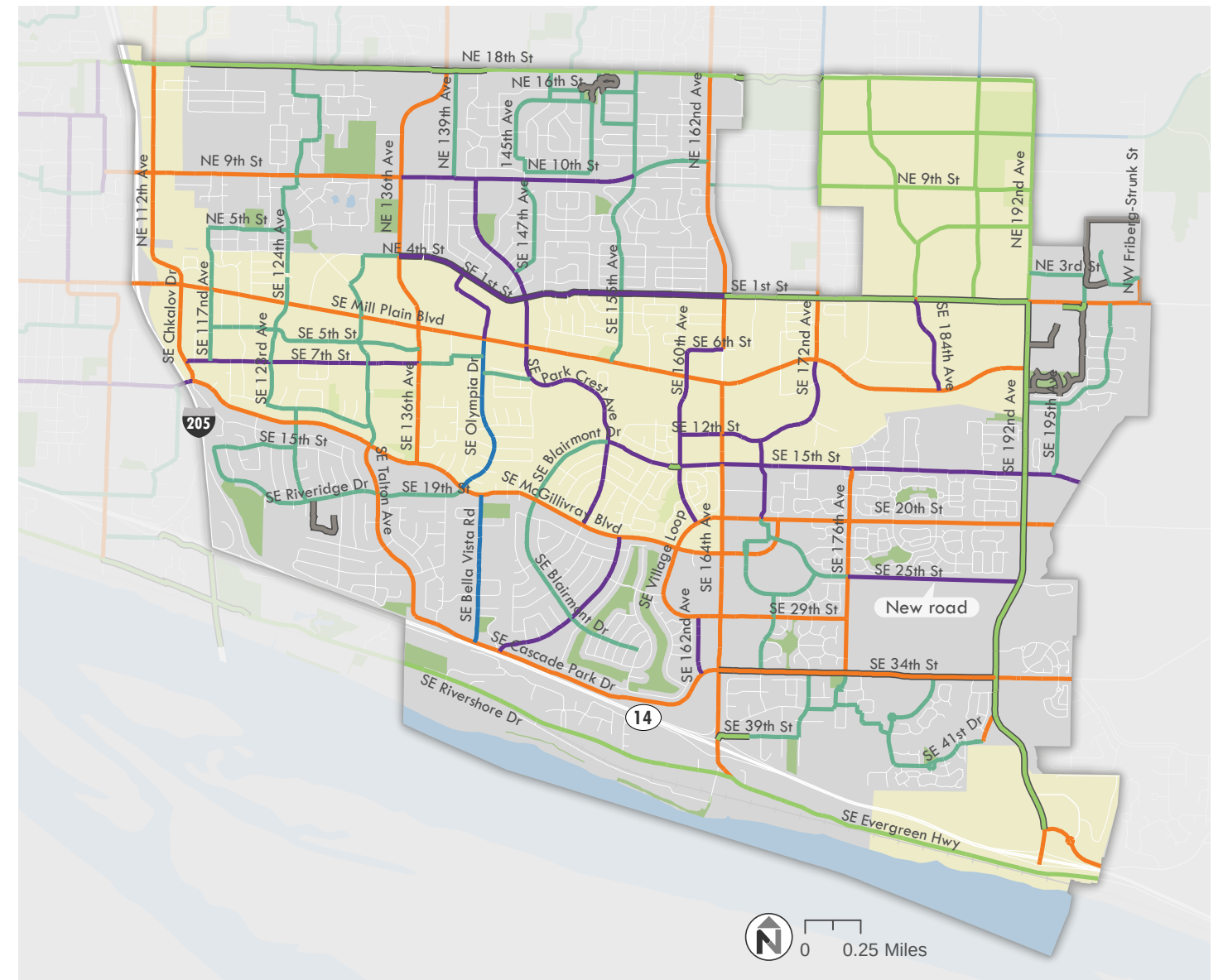


See p. 44–45 for a description of each type of facility in the BSM network.

Map B5: Future BSM - Zone 5

Proposed Bicycle and Small Mobility (BSM) Network

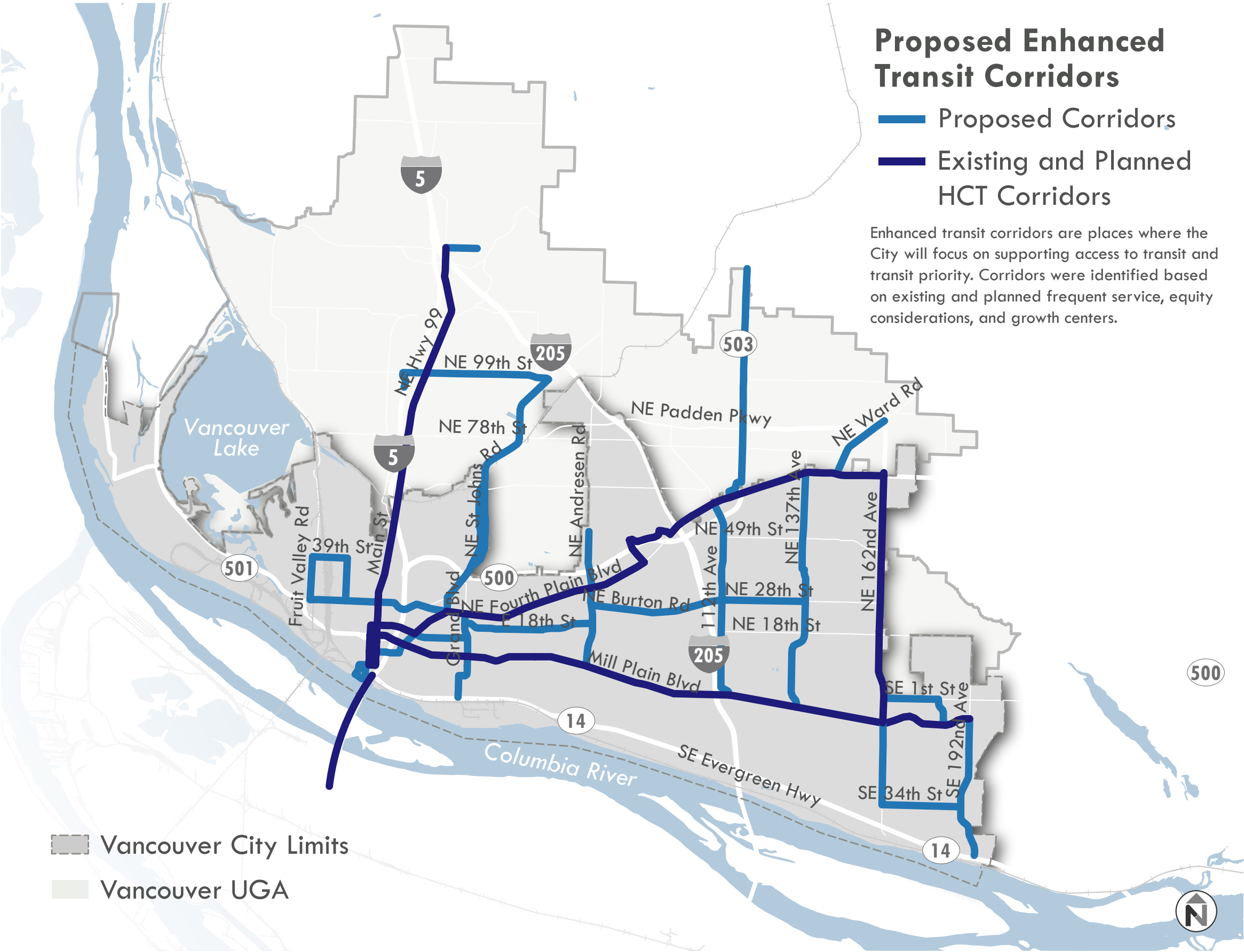
- | Existing | Proposed | CLARK COUNTY PLANNED BICYCLE NETWORK |
|--------------------------|--------------------------|--------------------------------------|
| Protected Mobility Lanes | Protected Mobility Lanes | Protected Bike Lanes |
| NA | Buffered Mobility Lanes | Buffered Bike Lanes |
| Mobility Lanes | Mobility Lanes | Bike Lanes |
| NA | Neighborhood Greenways | 4 ft. Shoulder Bikeways |
| Multi-Use Paths | Multi-Use Paths | Shared Roadways |
| Unpaved Trails | Unpaved Trails | Multi-Use Paths |
| | | Unpaved Trails |



ENHANCED TRANSIT CORRIDORS



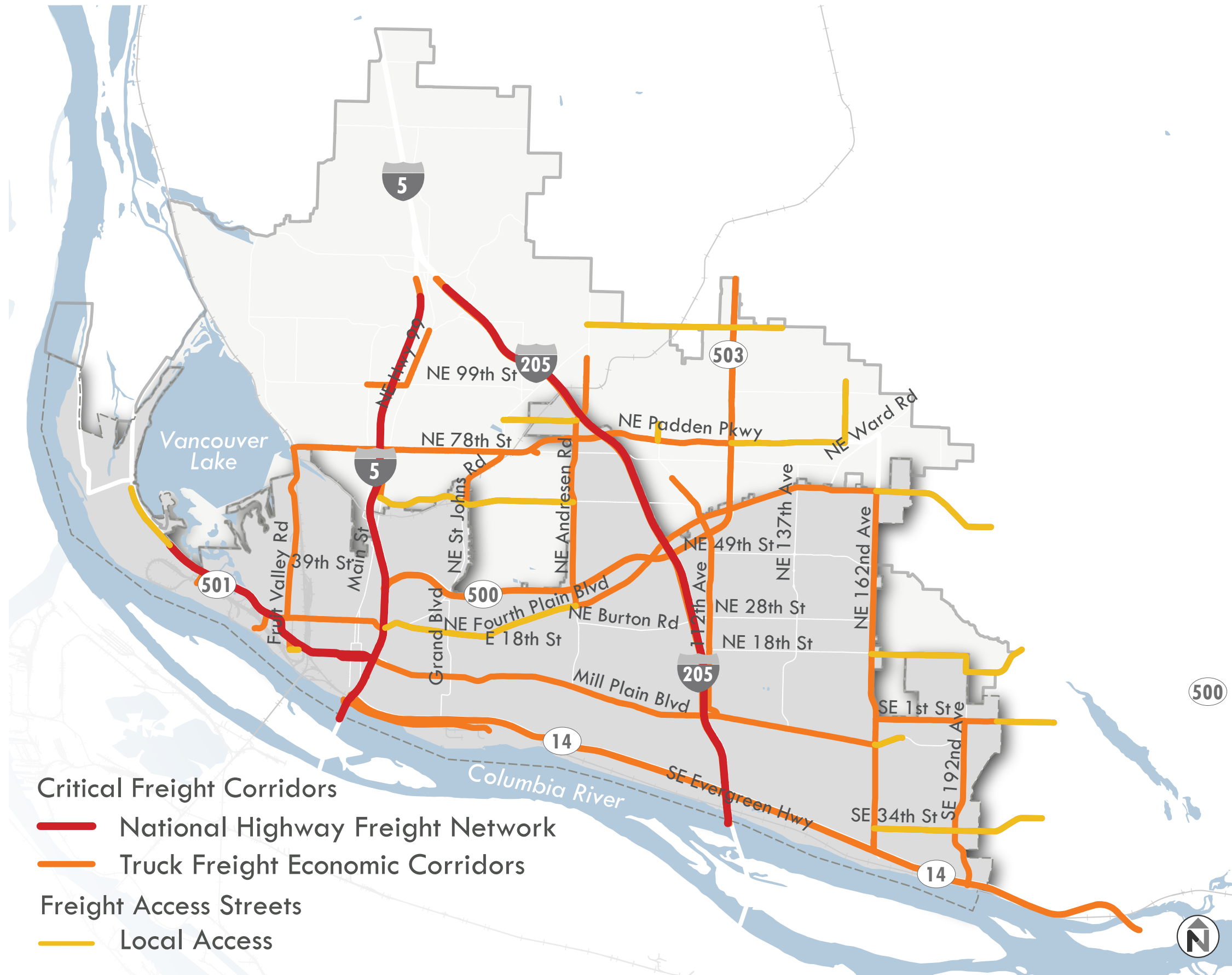
Map T0: Enhanced Transit Corridors



FREIGHT CORRIDORS



Map F0: Future Freight Network Map



Designing for Freight

Freight is delivered on a wide range of vehicle sizes, from interstate semi-trailers to small box trucks. Designing for large vehicle turning and through movements has tradeoffs to the environment for walking or bicycling. For example, a street corner designed for a semi-trailer means a passenger car driver can navigate that same turn at a higher speed.

Freight is critical to our economy. The city can integrate design and policy treatments so freight and vulnerable users can navigate the same streets.

FREIGHT DESIGN TREATMENTS



Recessed stop bars
allow larger vehicles to
make right turns.

Photo: Nelson\Nygaard



During design, assume trucks will swing into adjacent lanes, which they do in practice.

Photo: Nelson\Nygaard



Mountable corners
slow down passenger
vehicles but can be
mounted by trucks.

Photo: Google Street View

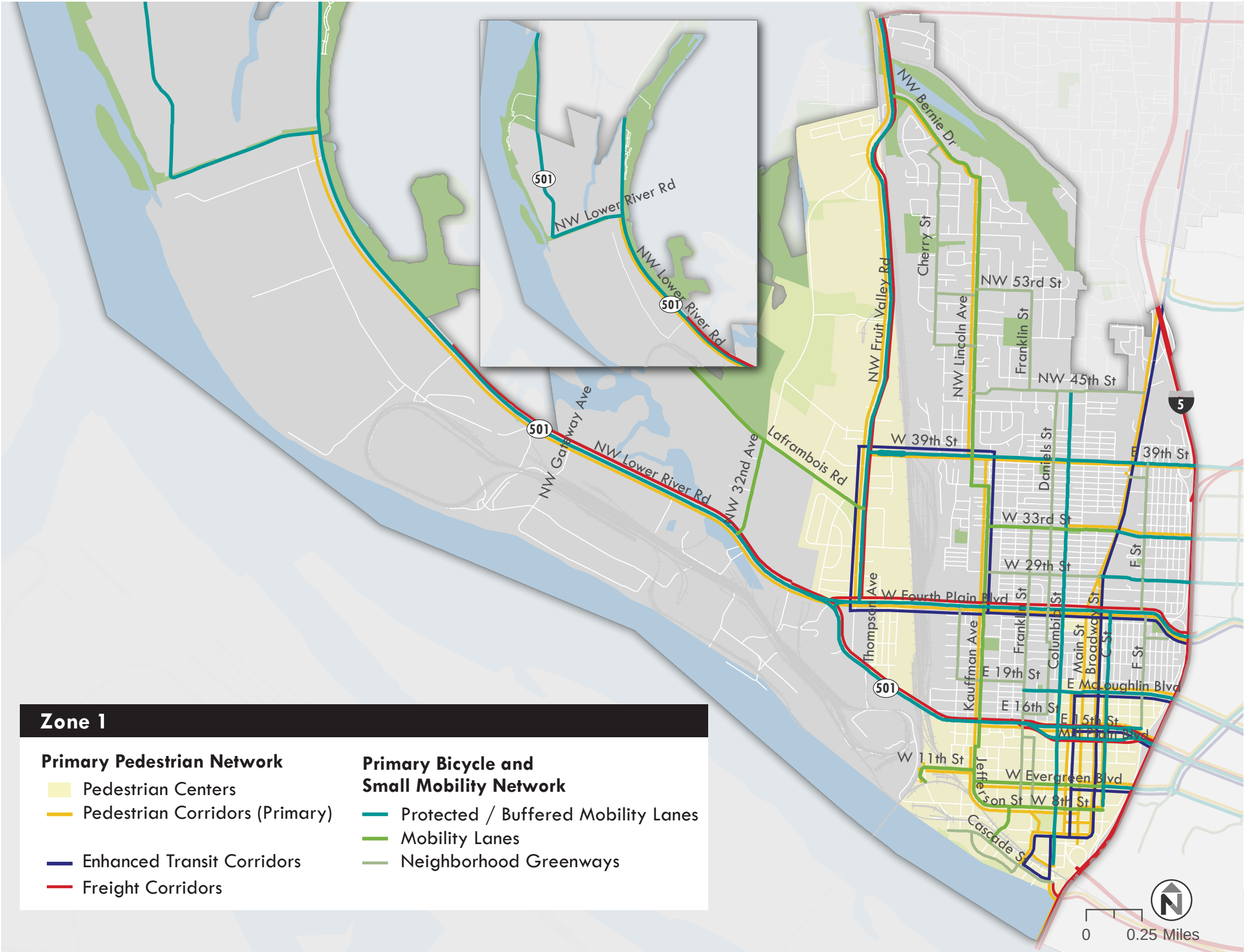


Vertical separation allows trucks and vulnerable users to co-exist more comfortably

Photo: City of Vancouver

MODAL NETWORKS OVERLAP

Map M1: Modal Networks - Zone 1



How the networks overlap

Sometimes one street is part of multiple modal networks. In parts of the city with short blocks and a strong grid, freight, for example, can be accommodated on one street with truck-friendly designs and loading zones, while a parallel street with low traffic volumes will be more suitable for those on bike or small mobility devices. But many of the city's key corridors—like Fourth Plain Boulevard and Fruit Valley Road, for example—do not have parallel routes. In those cases all transportation needs are concentrated on one street.

Maps M1 through M5 show the modal networks overlaid. For legibility, the maps show the primary designated corridors and facilities, and leave off lower-tier designations like unpaved trails.

Designation as part of multiple modal networks means extra care will be needed to rebalance those streets for all.

Network Maps

Bicycle and Small Mobility

- Protected Mobility Lanes
- Buffered Mobility Lanes
- Mobility Lanes
- Neighborhood Greenways
- Multi-Use Paths
- Unpaved Trails

Walking/Rolling

- Pedestrian Centers
- Pedestrian Corridors (Primary)
- Pedestrian Corridors (Secondary)
- Neighborhood Greenways
- Multi-Use Paths

Transit

- Proposed Corridors
- Existing and Planned HCT Corridors

Freight

- National Highway Freight Network
- Truck Freight Economic Corridors
- Freight Access
- Streets: Local Access

Network Overlay Maps

Primary Bicycle and Small Mobility Network

- Protected / Buffered
- Mobility Lanes
- Neighborhood Greenways

Primary Pedestrian Network

- Pedestrian Centers
- Pedestrian Corridors (Primary)

Transit

- Enhanced Transit Corridors

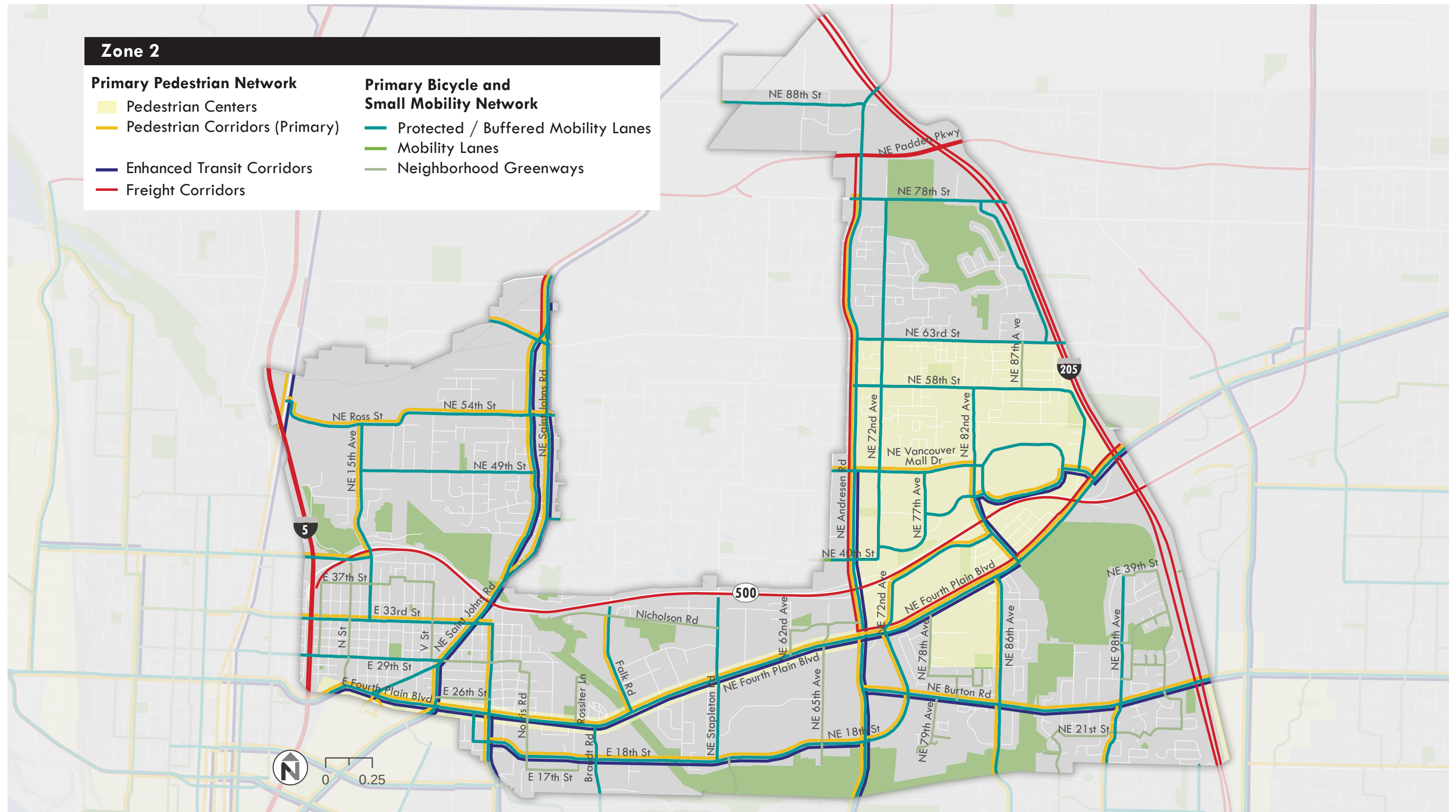
Transit

- Freight Corridors

Guide to reading network maps and overlay maps.



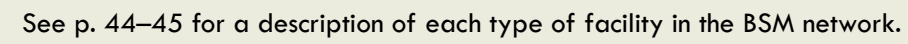
See p. 44–45 for a description of each type of facility in the BSM network.





Map M3: Modal Networks - Zone 3





Primary Pedestrian Network

- ### Primary Bicycle and Small Mobility Network



70



Primary Pedestrian Network

- ### Primary Bicycle and Small Mobility Network



Vancouver Moves

6. Capital Projects

Capital projects include infrastructure investments that are new and outside of typical maintenance activities. Capital projects get funded and built in three ways:

- 1. Capital Facilities Plan (CFP). Long-range plan of unfunded projects needed for all city services (schools, utilities, transportation).
- 2. Transportation Improvement Program (TIP). Six-year capital project list, updated annually. The intent is for the TIP to include funded projects.
- 3. Coordinated with Development. Some capital projects become needed as a result of development but were not predicted so they do not live in the CFP or TIP.

The CFP and TIP already include a range of projects tied to roadway needs. The TSP developed modal networks for walking and BSM that require additional capital investment. After TSP adoption, the City will combine existing CFP and TIP projects with the TSP project list and sort them according to the prioritization framework outlined in the TSP.

Capital Projects Overview

Typical TSP capital projects include:

- Making existing BSM facilities low-stress. For example, upgrading the existing BSM lane on Saint Johns Boulevard to a protected BSM lane with vertical separation.
- Adding new BSM facilities, such as a protected BSM lane on priority corridors, such as 112th Avenue.
- Filling sidewalk gaps on primary pedestrian corridors.
- Adding crossings that meet City’s updated crossing policy spacing and design guidance.

In total, 229 capital projects have been identified to implement the TSP BSM and walking networks:

Project Summary		
229 projects		
Bike/Small Mobility	Pedestrian	Both
33	8	188
324 New Crossings		
Level 1	Level 2	Level 3
8	89	227
Small Mobility Facilities (one-way distance)		
Existing	Proposed	
197 miles	247 miles (226% increase)	

TYPES OF CROSSINGS

Level 1



Level 2



Level 3



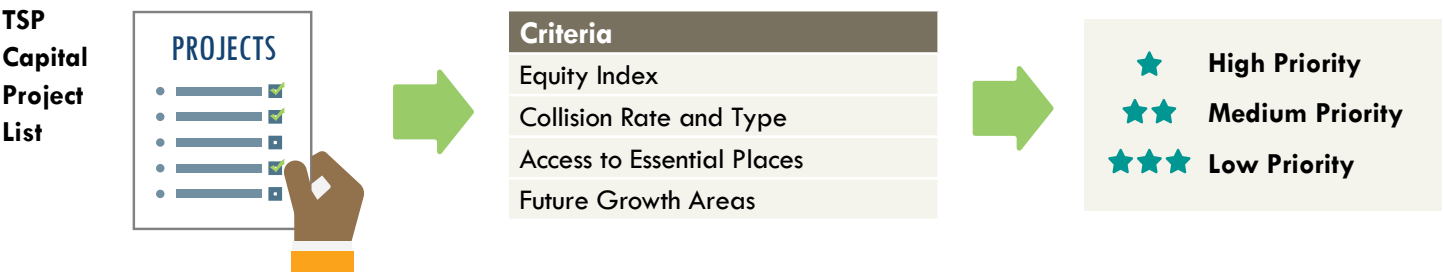
Project Prioritization

Prioritization includes two sets of considerations.

1. Where should we invest? This question asks where the highest need exists based on criteria such as safety history, equity considerations, existing and future growth, etc.
2. When should we invest? In reality, some factors mean investment should happen sooner. These are either opportunistic criteria, such as when a project is already planned in a location, or criteria that could slow a project down, such as the need to purchase right-of-way.

Moving forward, this framework will be used for TIP and TSP project prioritization.

Where should we invest? What should be our top priority?



When should we invest?

Criteria	Later	Sooner
Is there an upcoming pavement project?	No	Yes
Is there an upcoming agency partner project?	No	Yes
Does the project fill a small, critical gap in the walking or BSM networks?	No	Yes
Will the project have to go through environmental review?	Yes	No
Will the project have right-of-way impacts?	Yes	No

➤➤➤ Near-term

➤➤ Medium-term

➤ Long-term

In some cases, medium or high priority projects may end up in the long-term phase if they touch environmentally sensitive areas, for example, that would take a long time to clear through regulatory processes. Or if a street was recently repaved, that project might take a longer time before the City revisits it. In other cases the opposite is true. Low-priority projects may be in the near-term phase due to opportunistic timing with other projects (such as a planned repaving).

Projects that are both high priority and near-term are top candidates for investment. These are marked with a ★.

A planning-level cost estimate was generated to understand the magnitude of resources needed to construct each project.

\$	Low Cost
\$\$	Medium Cost
\$\$\$	High Cost

Capital Projects Areas

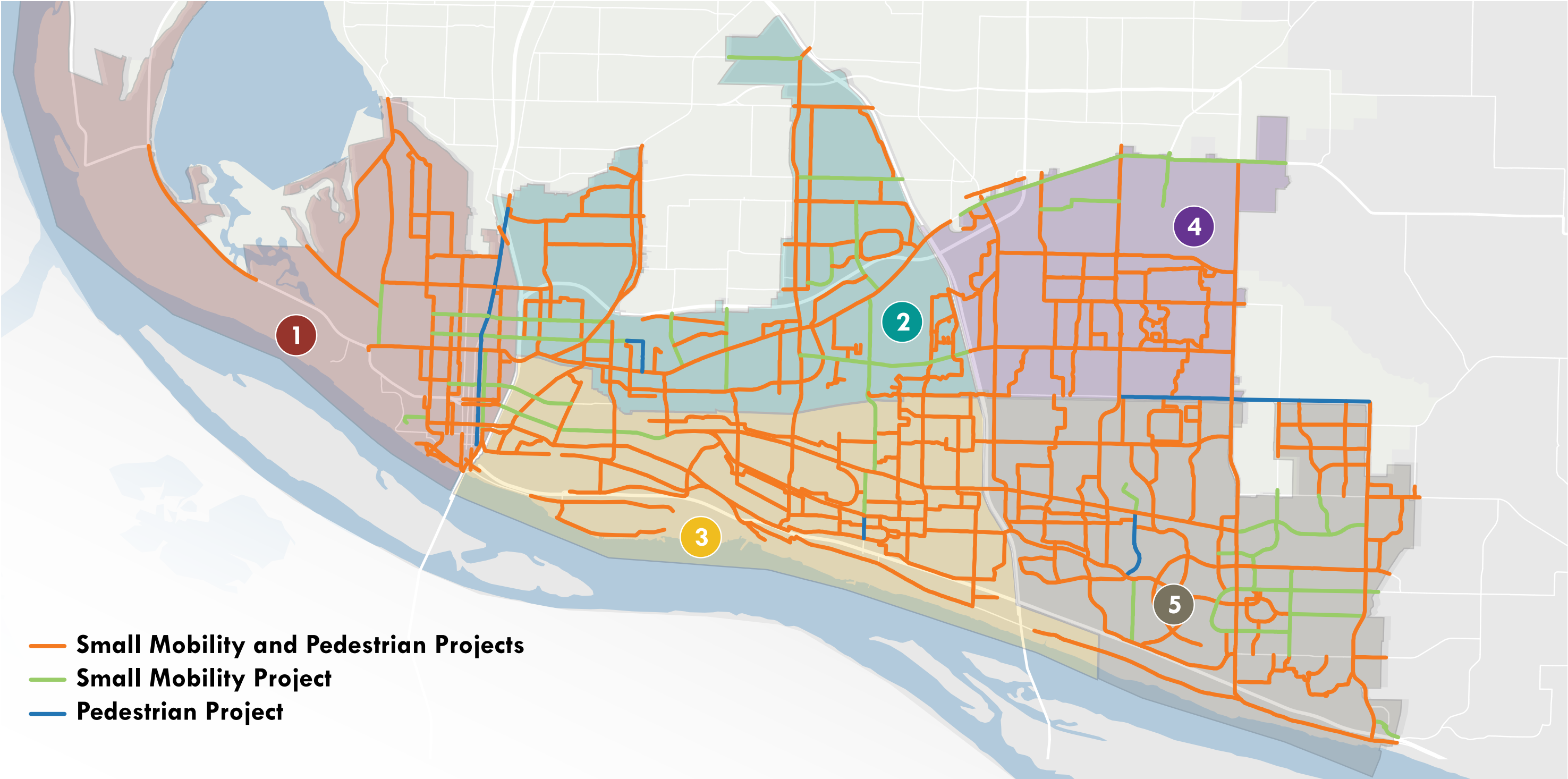
Capital Projects List

The next section shows the capital projects for each zone of the city, including their prioritization, phasing, and construction cost. The zones were created to break the map into smaller pieces for readability and do not signify any other grouping purpose.

FACILITY TYPE

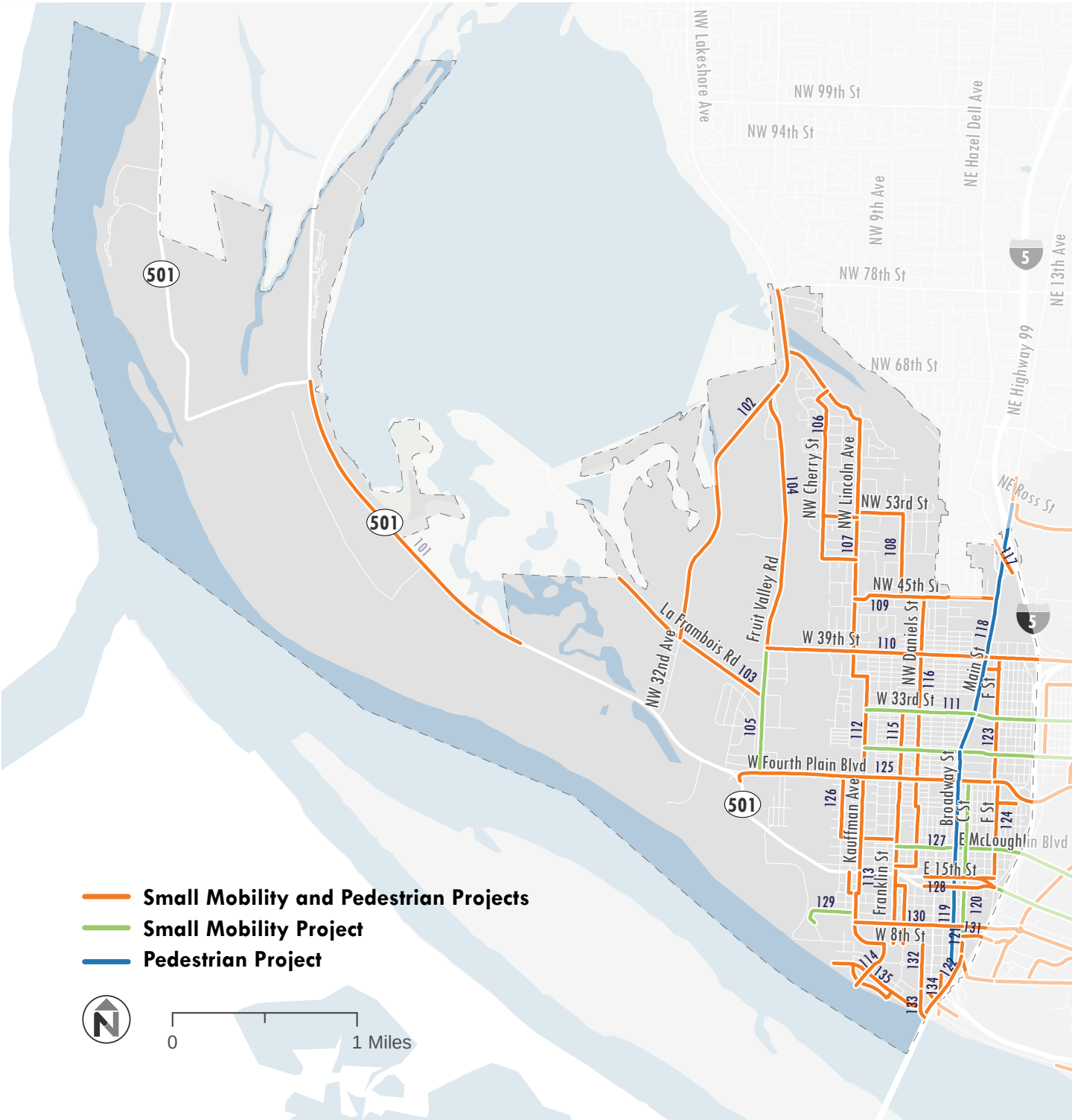
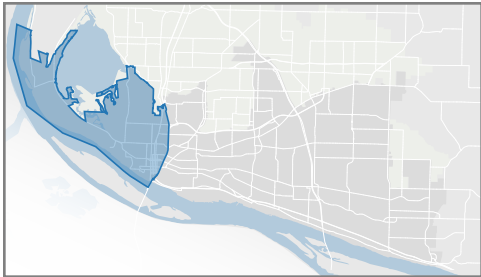
- PML** Protected Mobility Lane
- MUP** Multi-Use Path
- BML** Buffered Mobility Lane
- ML** Mobility Lane
- NG** Neighborhood Greenway
- Ped** Pedestrian Improvement

Priority		Timing		Cost	
★	Low	➤➤➤	Near-Term	💵	Low
★★	Medium	➤➤	Medium-Term	💵💵	Medium
★★★	High	➤➤➤	Long-Term	💵💵💵	High



- Small Mobility and Pedestrian Projects
- Small Mobility Project
- Pedestrian Project

ZONE 1



PROJECT LIST

Project Type	ID	Project Name	Sidewalk infill	Added crossing	Priority	Timing	Cost
●	101	501: Fill in MUP gap from Gateway Drive to Lower River Rd	✓	✓	★		
●	102	New off-street connection: MUP from Laframbois Road to Fruit Valley Road	✓		★★		
●	103	Laframbois Rd: NG from Fruit Valley Road to end of industrial area	✓		★★		
●	104	Fruit Valley Rd: Upgrade discontinuous ML to PML from W 39th St to city limit	✓	✓	★★		
●	105	Fruit Valley Rd: Upgrade existing ML to BML from W 39th St to Fourth Plain Blvd	✓	✓	★★		
●	106	NW Cherry St: NG from Bernie Dr to Lincoln Ave	✓		★		
●	107	Lincoln Ave: Complete continuous ML from Fruit Valley Rd to W 39th St	✓	✓	★		
●	108	Franklin and 53rd Streets: NG from Lincoln Ave to NW 45th St	✓		★		
●	109	NW 45th St: NG from Lincoln Ave to Main St	✓		★★		
●	110	W 39th St: Add new or upgrade existing ML to BML from Fruit Valley Rd to Main St	✓	✓	★★		
●	111	W 33rd: ML from Kauffman to Main St		✓	★★		
●	112	Kaufman Ave: ML from Mill Plain to W 39th St	✓	✓	★★		
●	113	Kauffman Ave: ML from Mill Plain to Evergreen Blvd. See also Project 114.		✓	★★★		
●	114	Kauffman/Jefferson/8th: MUP on west side. See also Project 113. Grant St: MUP continues from 8th St to waterfront.	✓	✓	★★★★		
●	115	Franklin St: NG from W 8th St to W 33rd St		✓	★★★★		
●	116	Daniels St: NG from NW 45th St to 16th St; continue west on 16th St to Franklin St	✓		★★		
●	117	MUP: New path connection from Hazel Dell Ave across Main St and connecting to the Discovery Trail			★		
●	118	Main St: Add crossings and missing sidewalks from E 29th St to NE Ross st	✓	✓	★★★★		
●	119	Broadway: Add crossings from W 29th St to E 6th St		✓	★★★★		
●	120	C St: Upgrade existing ML and create continuous BML from E 8th St to Fourth Plain Blvd		✓	★★★★		
●	121	C St: Add MUP on C Street between 8th and 7th Streets, connecting to Project #26		✓	★★		
●	122	MUP: New path connection from C and 7th Streets along the west side of I-5 to Columbia Way and the waterfront			★★		

	ID	Project Name	Sidewalk infill	Added crossing	Priority	Timing	Cost
●	123	F St: NG from E 39th St to Fourth Plain Blvd	✓		★★		
●	124	F St: NG from Fourth Plain Blvd to E 15th St	✓		★★		
●	125	Fourth Plain Blvd: Upgrade existing ML to PML from 501 to F St	✓	✓	★★★★		
●	126	Lincoln Ave and 19th St: NG from Fourth Plain Blvd to Franklin St	✓		★★		
●	127	McLoughlin Blvd: BML from Franklin to G St			★★★★		
●	128	Mill Plain Blvd/15th St: PML on the Mill Plain/15th St couplet from Columbia St to I-5	✓		★★★★		
●	129	11th St: Add ML from Jefferson Street to the Amtrak Station		✓	★★		
●	130	Evergreen Blvd: New ML from Jefferson St to C St		✓	★★★★		
●	131	MUP: New path connection across I-5 from around C St and E 8th St to Anderson St, which connects to Fort Vancouver Way	✓		★★		
●	132	Columbia St: Continue BML from 8th St to Phil Arnold Way			★★★★		
●	133	Columbia St: MUP (west side) from Phil Arnold Way to I-5	✓	✓	★★★★		
●	134	I-5 crossing: New MUP crossing I-5 from Main and E 5th Streets to the MUP along Columbia Way at the waterfront			★★		
●	135	Columbia Way and Waterfront Way waterfront streets: NG		✓	★★		

IN PROGRESS

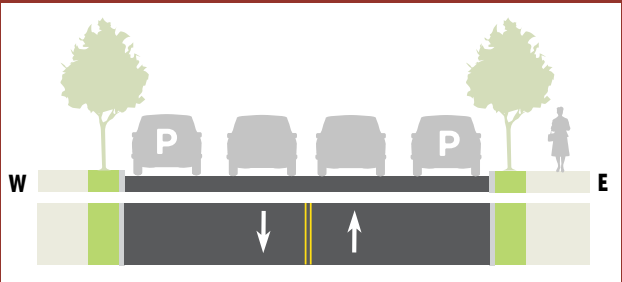
PROJECT SPOTLIGHT

JEFFERSON/KAUFFMAN (#113)

The Jefferson/Kauffman corridor links neighborhoods in the western part of Downtown to the multi-use path on Mill Plain Blvd and the waterfront. The City has secured funding for this project and it is anticipated to go to construction in 2024.

STREET CHARACTERISTICS

Posted Speed: 25 MPH
Traffic Volumes: N/A
Bus Service: C-TRAN Route 25 (St. Johns)



PROJECT DESCRIPTION

Project Length: 1.1 miles
Pedestrian: X new crossings
Priority: High
Phasing: Near

Bike and Small Mobility:

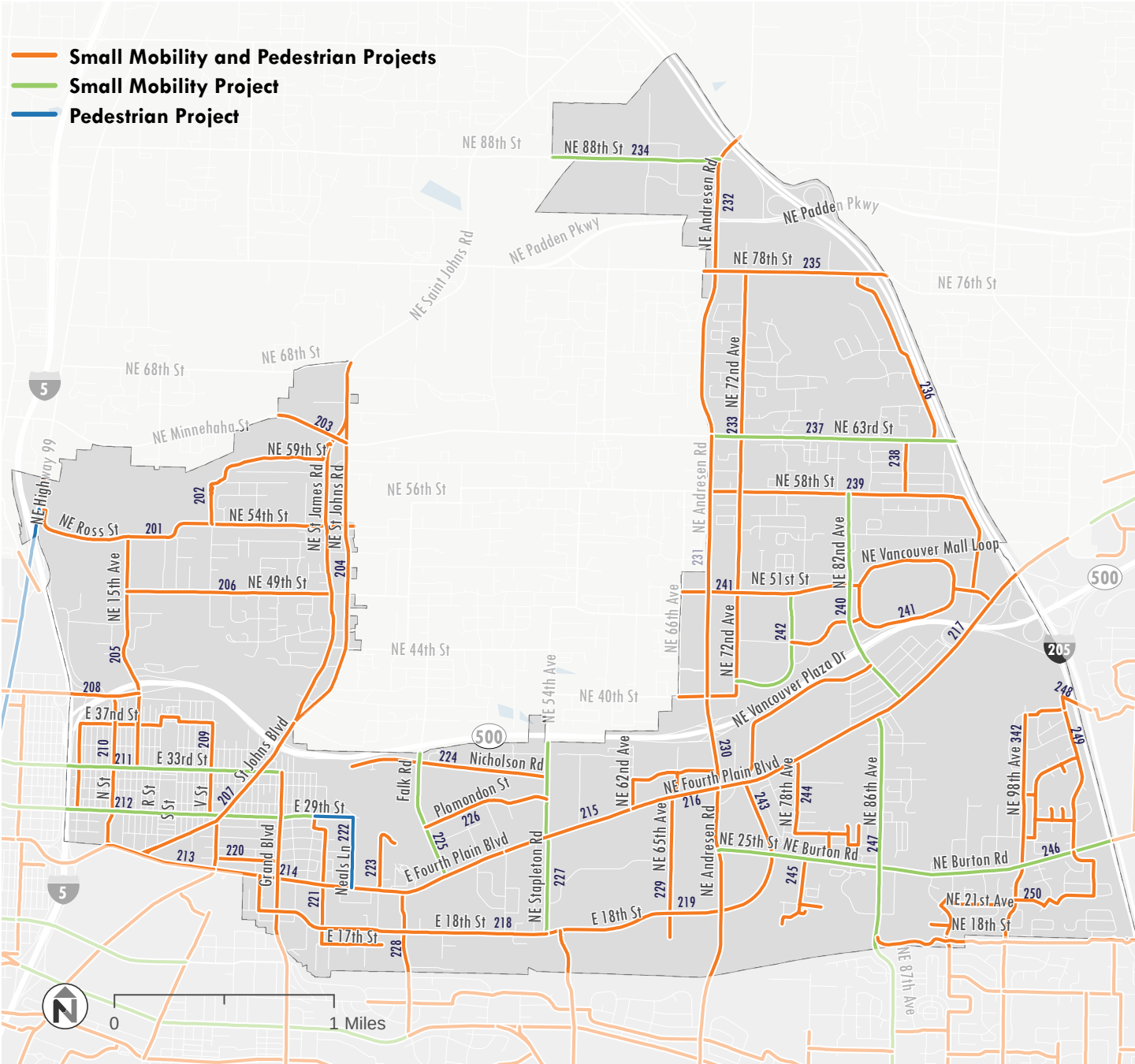
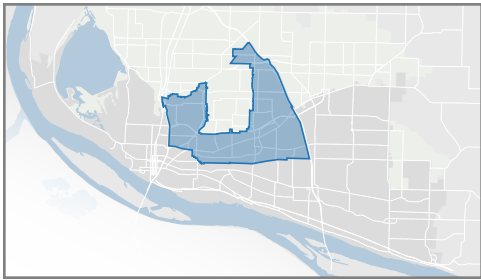
- Multi-use path on Jefferson/Kauffman from Evergreen to Mill Plain, on 13th Street from Kauffman to Markle Avenue, and on Markle Avenue from 13th Street to Mill Plain
- This path investment connects people to the multi-use path on Mill Plain Boulevard and to the future multi-use path continuing south to the waterfront

MODAL NETWORKS

- Multi-Use Path
- Primary Pedestrian Corridor
-
-



ZONE 2



PROJECT LIST

Project Type	ID	Project Name	Sidewalk infill	Added crossing	Priority	Timing	Cost
●	201	NE Ross/NE54th: PML from Highway 5★	✓	✓	★★		
	202	MUP: Formalize Ellen Davis Trail connection as a paved MUP between NE 54th St and Saint James Rd	✓		★		
●	203	NE Minnehaha St: Add PML in the city section of Minnehaha St, connecting to facilities planned by Clark County.	✓		★★		
●	204	Saints James/Saint Johns: Upgrade existing ML to PML from Petticoat Lane to city limits	✓	✓	★★		
●	205	P St/NE 15th Ave: Continuous BML from E 33rd St to NE 54th St	✓	✓	★★		
●	206	NE 49th St: PML between NE 15th Ave and Saint James Rd	✓		★★		
●	207	Saints James/Saint Johns: Upgrade existing discontinuous ML to PML from Fourth Plain Blvd to Petticoat Lane	✓	✓	★★★★		
●	208	E 39th St: Upgrade ML to PML from Main St to NE 15th Ave	✓		★★★★		
●	209	K/V/E 37th Streets: NG with connection points to 29th St	✓		★★		
●	210	N St: NG from Fourth Plain Blvd to just south of SR-500	✓		★★		
●	211	E 33rd St: PML from Main St to Grand Blvd	✓	✓	★★★★		
●	212	E 29th St: BML from Kauffman Ave to Neals Lane	✓		★★		
●	213	Fourth Plain: PML from F St to Falk Rd	✓	✓	★★★★		
●	214	Fourth Plain: BML from Fort Vancouver Way to General Anderson Ave	✓	✓	★★★★		
●	215	Fourth Plain: ML from General Anderson Ave to 62nd Ave		✓	★★★★		
●	216	Fourth Plain: MUP on one side from 62nd Ave to Andresen Rd		✓	★★★★		
●	217	Fourth Plain Blvd: Add new PML from Andresen Rd to city limits (102nd Ave)		✓	★★★★		
●	218	Z St/E 18th/E 20th: Upgrade existing ML to PML from Fourth Plain Blvd to Stapleton Rd	✓	✓	★★★★		
●	219	E 18th: Upgrade existing ML to PML from Stapleton Rd to NE 25th St	✓		★★★★		
●	220	E 25th St: NG between Fort Vancouver Way and Grand Blvd	✓		★★★★		
●	221	Norris Rd/E 17th St: NG from 29th St to south of E 18th St	✓		★★★★		
●	222	E 29th St/Neals Lane: Fill in missing sidewalk from Watson Ave to Fourth Plain Blvd	✓		★★★★		

Project Type	ID	Project Name	Sidewalk infill	Added crossing	Priority	Timing	Cost
●	223	Rossiter Ln: NG from Fourth Plain Blvd to Burnt Bridge Creek Trail	✓		★★★★		
●	224	Nicholson Rd: NG from Burnt Bridge Creek Trail to NE Stapleton Rd	✓		★★		
●	225	Falk Rd: Upgrade existing ML to BML from the city limit to Fourth Plain Blvd		✓	★★★★		
●	226	Plomondon St: Add NG and fill missing sidewalks from Falk Rd to Stapleton Rd	✓		★★★★		
●	227	Stapleton Rd: BML from city limit to E 18th St	✓		★★★★		
●	228	Brandt Rd: Upgrade existing ML to BML from Fourth Plain to Mill Plain Blvds	✓		★★		
●	229	NE 65th/62nd/33rd: NG on NE 65th Ave from Burnt Bridge Creek Trail to NE 33rd St. NG on 33rd St and 62nd Ave connecting to Fourth Plain Blvd. New connection extending NE 33rd St east to Andresen Rd.	✓		★★★★		
●	230	Andresen: Upgrade existing ML to PML from Fourth Plain to NE 40th	✓	✓	★★★★		
●	231	Andresen: Upgrade existing ML to PML from NE 40th to NE 63rd		✓	★★★★		
●	232	Andresen: Upgrade existing ML to PML from NE 63rd to City limits	✓	✓	★★		
●	233	NE 72nd Ave: Upgrade existing ML to PML from NE 78th St to the city limit on NE 40th St	✓		★★★★		
●	234	NE 88th St: Upgrade existing ML to PML from city limits to Andresen Rd			★		
●	235	NE 78th St: Upgrade existing ML to PML in the city section, connecting to planned Clark County facilities	✓		★		
●	236	Meadows Drive: BML from NE 78th to NE 63rd Streets	✓		★		
●	237	NE 63rd St: PML in City section connecting to planned facilities in Clark County			★★		
●	238	NE 87th Ave: NG from NE 63rd to NE 58th Streets	✓		★★		
●	239	NE 58th St: New PML from city limit to Vancouver Mall Dr	✓		★★★★		
●	240	Thurston Way: Upgrade existing ML to PML from NE 58th St to Fourth Plain Blvd		✓	★★★★		
●	241	Vancouver Mall Access: Add a continuous PML network on the Vancouver Mall ring road and key links leading up to the mall	✓	✓	★★★★		
●	242	NE 41st St: Upgrad existing ML to BML from NE 72nd Ave to Vancouver Mall Drive			★★★★		

Project Type	ID	Project Name	Sidewalk infill	Added crossing	Priority	Timing	Cost
●	243	Vancouver Plaza Dr: Add PML on roadway connecting from NE 25th St to NE Thurston Way	✓	✓	★★★★		
●	244	NE 78th/84th Ave: NG from Fourth Plain Blvd to Burton Rd	✓		★★		
●	245	NE 77th/79th Ave: NG from Burton Rd to the end of 77th Ct			★★		
●	246	NE Burton Rd: Upgrade existing ML to PML from Andresen Rd to I-205	✓	✓	★★★★		
●	247	NE 86th/87th Ave: Upgrade existing ML to PML from Fourth Plain to Mill Plain Boulevards	✓	✓	★★★★		
●	248	MUP: New connection crossing I-205 linking NE 102nd Ave to Fairview Ct	✓		★★		
●	249	Oakbrook Park area: NG in the streets connecting to the park including NE 101st, NE 103rd, NE 99th, NE 29th, NE 39th	✓		★		
●	250	NE 21st/25th: NG from Burton Rd to NE 18th St MUP	✓		★		

IN PROGRESS

IN PROGRESS

PROJECT SPOTLIGHT

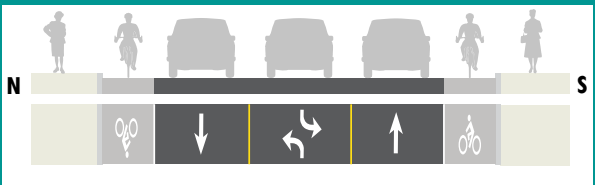
BURTON ROAD (#246)

Burton Road/28th Street provides a direct east-west connection across the city from Andresen Road to the eastern city limit (as 28th Street). The high posted speed makes the existing mobility lanes challenging for all ages and abilities.

STREET CHARACTERISTICS

Traffic Volumes: 9,390 ADT at NE 86th Avenue (Source: RTC, 2022)

Posted Speed: 35 MPH Bus Service: C-TRAN Route 30 (Burton)



PROJECT DESCRIPTION



Project Length:
1.8 miles



Bike and Small Mobility:
Upgrading existing ML to PML



Pedestrian:
5 new level 3 crossings
20 ft new sidewalk



Priority:
High



Phasing:
Near

Crossings on Burton Road:

- Today, crossings are spaced every **1,358 feet** – that’s a **6 ½ minute walk** for the average person
- 6 out of 16 Route 30 bus stops are more than 200’ from a crossing
- Project 246 adds five level 3 crossings (includes a pedestrian signal)
- In the future, crossings will be spaced every **792 feet**, which meets the city’s updated pedestrian crossing policy

MODAL NETWORKS



Protected Mobility Lane



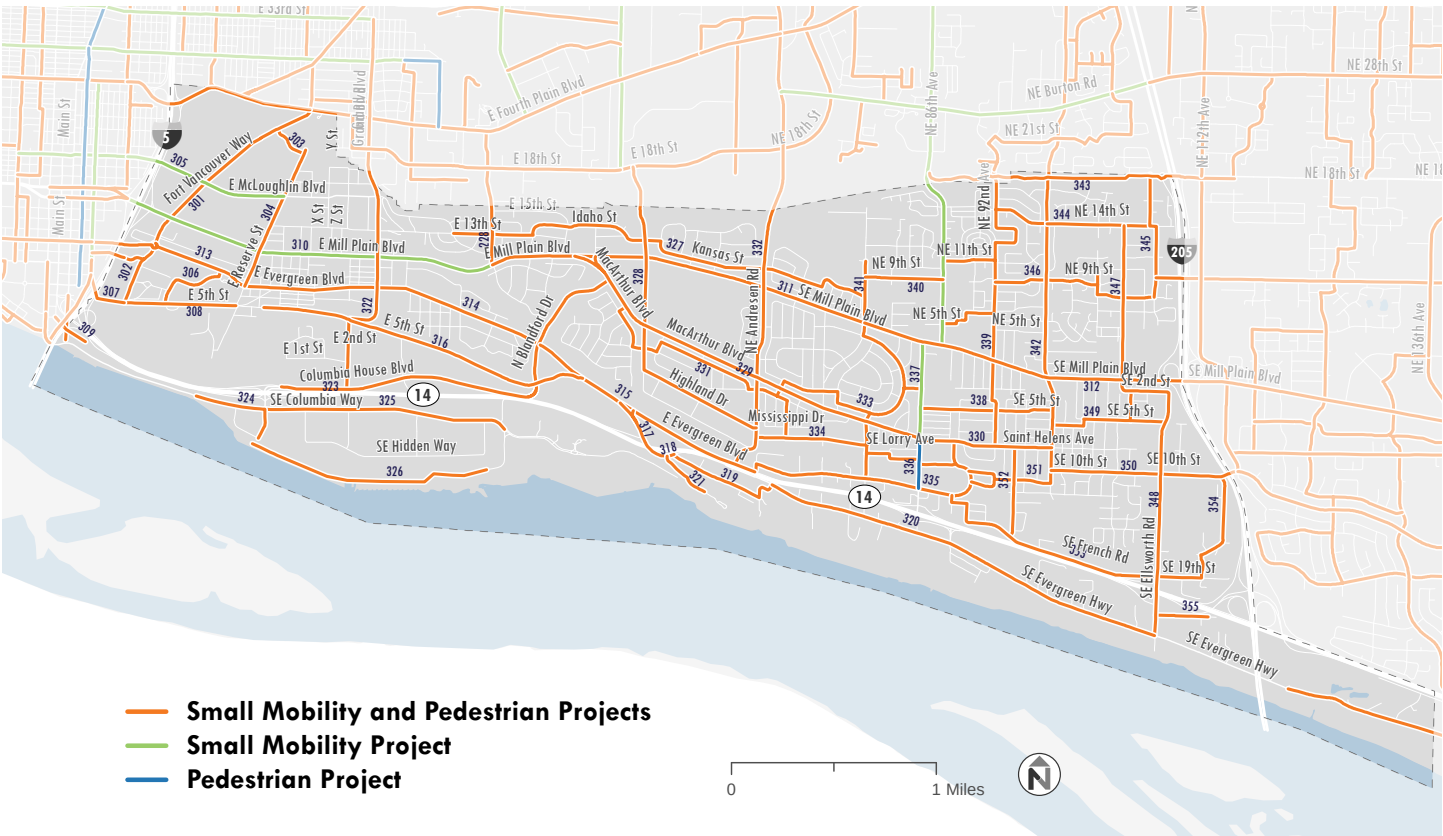
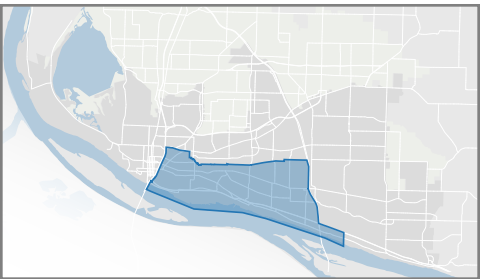
Primary Pedestrian Corridor



Enhanced Transit Corridor



ZONE 3



PROJECT LIST

Project Type	ID	Project Name	Sidewalk infill	Added crossing	Priority	Timing	Cost
●	301	Fort Vancouver Way: Upgrade existing ML to PML from Evergreen MLd to Saint Johns Blvd	✓	✓	★★		
●	302	Fort Vancouver Way: NG from Evergreen Blvd to E 5th St	✓	✓	★★★★		
●	303	NG connecting Fort Vancouver Way and Reserve St			★★		
●	304	Reserve St: Upgrade existing ML to PML from Evergreen Blvd to Waterworks Park	✓		★★		
●	305	McLoughlin Blvd: BML from F St to Reserve St	✓		★★		
●	306	Fort Vancouver: NG from Evergreen Blvd to 5th St			★		
●	307	MUP: New connection crossing I-5 from C St to Jefferson St	✓		★★		
●	308	E 5th St: MUP from Fort Vancouver Way to Reserve St	✓		★★		



Project Type	ID	Project Name	Sidewalk infill	Added crossing	Priority	Timing	Cost
●	309	MUP: New connection crossing I-5 from 3rd St to Fort Vancouver	✓		★★★		
●	310	Mill Plain Blvd: Add PML from I-5 to Brandt Rd	✓	✓	★★★★		
●	311	Mill Plain Blvd: Add PML from Brandt Rd to Garrison Rd	✓	✓	★★		
●	312	Mill Plain Blvd: Add PML from Garrison Rd to I-205	✓	✓	★★★★		
●	313	Evergreen Blvd: PML from C St to Reserve St	✓	✓	★★★★		
●	314	Evergreen Blvd: Upgrade existing ML to BML from Reserve St to MLandford Dr	✓	✓	★★		
●	315	Evergreen Blvd: PML from CMLanford Rd to just east of Andresen Rd	✓	✓	★		
●	316	E 5th St: NG from Fort Vancouver to Evergreen Blvd	✓		★★		
●	317	Shorewood Dr: PML connecting Evergreen Blvd across SR-14 to Beach Dr.	✓	✓	★		
●	318	MUP: MUP on Shorewood Dri from Beach Dr to Riverside Dr	✓	✓	★		
●	319	Riverside Dr: PML from Shorewood Dr to Evergreen Hwy	✓	✓	★		
●	320	Evergreen Highway: MUP from Chelsea Ave to Ellsworth Rd	✓		★		
●	321	SE Beach Dr: MUP from Riverside Dr to Wintler Park	✓	✓	★		
●	322	Grand Blvd: Upgrade existing ML to PML from Columbia House Blvd to 33rd St	✓	✓	★★★★		
●	323	Columbia House Blvd/MLanford St: PML connecting from Columbia Way to MacArthur Blvd	✓	✓	★★		
●	324	Columbia Way: BML from housing area west of Surprise Beach to Columbia Shores Blvd	✓	✓	★		
●	325	Columbia Way: MUP connecting from Columbia Shores Blvd to Marine Park	✓		★		
●	326	MUP: New connection between Marine Park and Columbia House Blvd along the waterfront	✓		★		
●	327	Kansas/Michigan/E 13th St: NG parallel to Mill Plain from McLoughlin Blvd to Garrison Rd	✓		★★		
●	328	Devine Rd/Highland Dr: NG from E 18th St to Andresen Rd	✓		★★		
●	329	MacArthur Blvd: Upgrade existing ML to PML from Mill Plain to Lieser Rd	✓	✓	★★		
●	330	Saint Helens Ave: PML from Lieser Road to SE 98th Ave	✓	✓	★		
●	331	Oklahoma Dr/Memphis Way: NG connecting from MacArthur Blvd to Corrigidor Rd	✓		★		
●	332	Andresen: Upgrade existing ML to PML from Fourth Plain to Evergreen	✓	✓	★★★★		

Project Type	ID	Project Name	Sidewalk infill	Added crossing	Priority	Timing	Cost
●	333	Delaware Lane: NG from Mill Plain to MacArthur Blvds around Lieser Crest Park	✓		★★		
●	334	Maple Ave: NG east-west between Andresen Rd and Lieser Rd; NG north-south connecting MacArthur Blvd to Middle Way	✓		★		
●	335	SE Middle Way/Columbia Ridge Dr: NG from Evergreen Blvd to St Helens Ave	✓		★		
●	336	Lieser Rd: PML from MacArthur Blvd to Middle Way	✓		★★		
●	337	Lieser Rd: Upgrade existing ML to PML from Mill Plain to MacArthur Boulevards	✓		★★★★		
●	338	Silver Star Ave: NB from Lieser Rd to SE 98th Ave	✓		★★		
●	339	NE 92nd Corridor: Network of NG on north/south NE 92nd, between 67th and 97th Avesnues with connections from NE 18th St MUP to Saint Helens Ave	✓		★★		
●	340	NE 9th St: NG from Garrison Rd to 87th Ave	✓		★★★★		
●	341	Garrison Rd: BML from Mill Plain Blvd to Douglas Park	✓		★★★★		
●	342	NE 97th/98th Ave: Upgrade existing ML to BML from Burnt Bridge Creek Trail at NE 97th Ave to SE 10th St	✓	✓	★★		
●	343	MUP: New MUP adjacent to NE 18th St from NE 86th Ave (Burnt Bridge Creek Trail) to Four Seasons Lane	✓		★		
●	344	NE 14th St: BML from NE 97th Ave to NE 104th Ave	✓		★★		
●	345	NE 107th/108th Ave: BML from NE 18th St to NE 8th St	✓		★★		
●	346	NE 9th St: NG from NE 108th Ave to NE 92nd Ave	✓		★★		
●	347	NE 104th: BML from NE 14th to Mill Plain Blvd	✓		★★		
●	348	Ellsworth Rd: PML from Evergreen Hwy to Mill Plain Blvd	✓	✓	★★		
●	349	SE 5th St: NB from SE 98th Ave to Ellsworth Rd	✓		★★		
●	350	SE 10th St: BML from SE 98th Ave across I-205 to Chkalov Dr	✓	✓	★★★★		
●	351	Butte/98th Ave: NG from Columbia Ridge Dr to SE 10th St	✓	✓	★		
●	352	NE 95th Ave: NG from Sain Helens Ave to Mt Hood Ave	✓		★		
●	353	Mt Hood Ave: NG from Middle Way to Ellsworth Rd	✓		★		
●	354	SE 19th St/Nancy Rd: NG from Ellsworth Rd to SE 10th St	✓		★		
●	355	SE 23rd Ave: NG from Ellsworth Rd to I-205 MUP	✓		★		

PROJECT SPOTLIGHT

GRAND BOULEVARD PML (#322)

Grand Boulevard from Columbia House Boulevard to 33rd Street is the only north-south direct connection between Interstate 5 and Andresen Road. This critical connection provides access to many essential places, including grocery stores, schools, and employment opportunities.

STREET CHARACTERISTICS

Traffic Volumes:

9,500 ADT at Columbia House Blvd (Source: RTC, 2017)

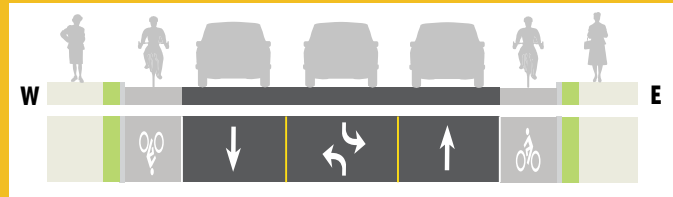
8,000 ADT at Mill Plain Boulevard (Source: RTC, 2021)

Posted Speed:

25 MPH

Bus Service:

C-TRAN Route 6 (Fruit Valley/Grand)



PROJECT DESCRIPTION



Project Length:
1.93 miles



Bike and Small Mobility:
Upgrading existing ML to PML on both sides of street



Pedestrian:
5 new level 3 crossings
1,520 ft new sidewalk



Priority:
High



Phasing:
Near

MODAL NETWORKS



Protected Mobility Lane



Primary Pedestrian Corridor



Enhanced Transit Corridor



PROJECT SPOTLIGHT

NE 136TH AVENUE (#515, 516)

NE 136th Avenue provides a direct north-south connection from McGillivray Boulevard to the northern city limit at Fourth Plain Boulevard. The TSP identified the entire corridor for a protected mobility lane. Projects 515 and 516 upgrade the existing mobility lane to protected mobility lane from McGillivray Boulevard to NE 18th Street.

STREET CHARACTERISTICS

Traffic Volumes:

15,800 ADT at Mill Plain Boulevard (Source: RTC, 2022)

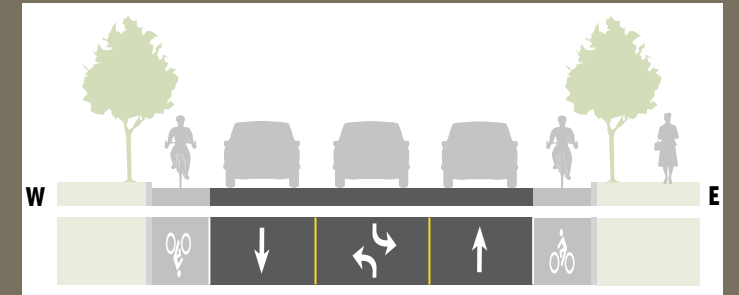
19,250 ADT at NE 18th Street (Source: RTC, 2022)

Posted Speed:

35 MPH

Bus Service:

C-TRAN Route 80
(Vancouver Mall/Fisher's)



PROJECT DESCRIPTION



Project Length:
1.9 miles



Bike and Small Mobility:
Upgrade existing ML to PML



Pedestrian:
5 new level 3 crossings



Priority:
X



Phasing:
X

MODAL NETWORKS



Protected Mobility Lane



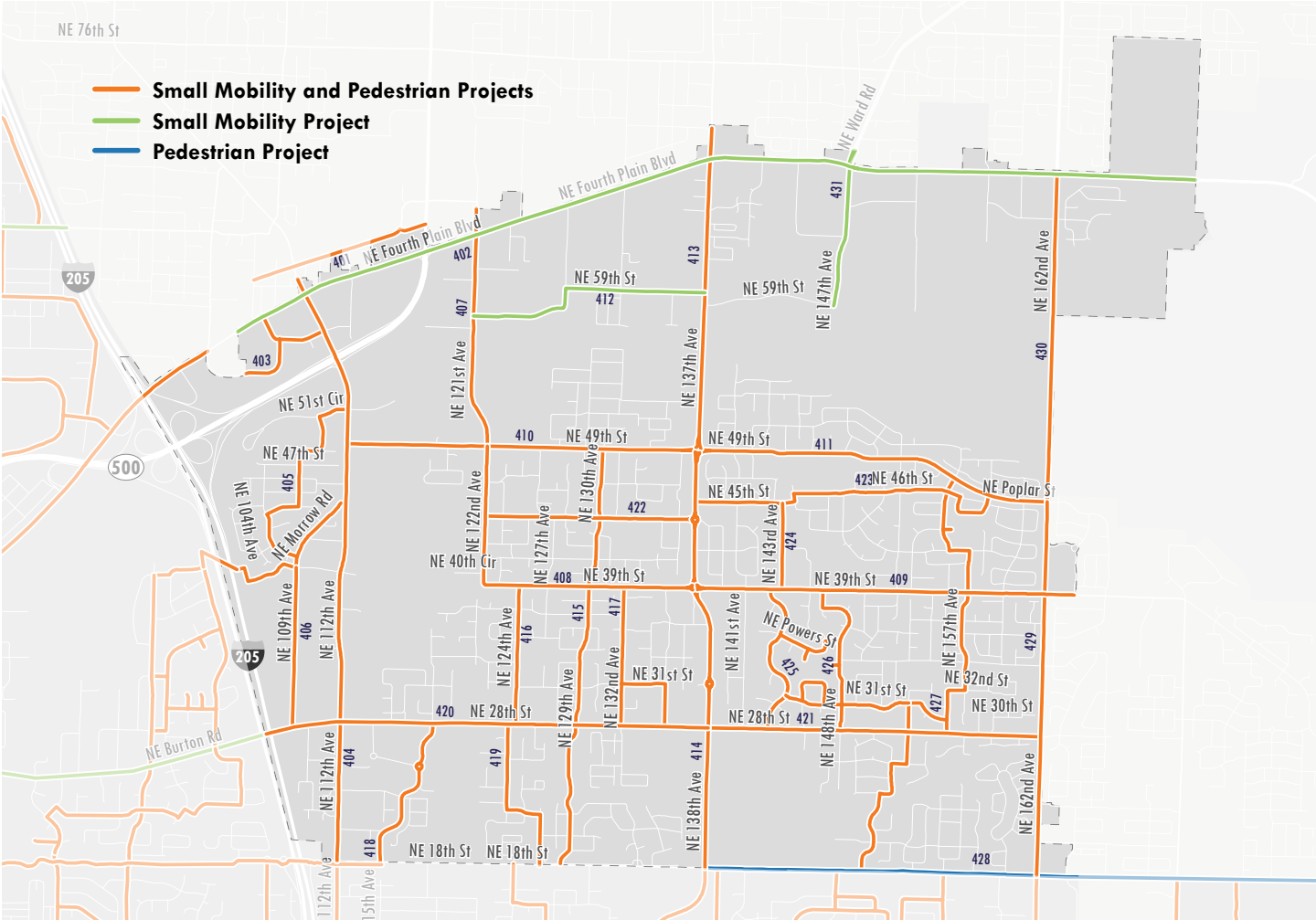
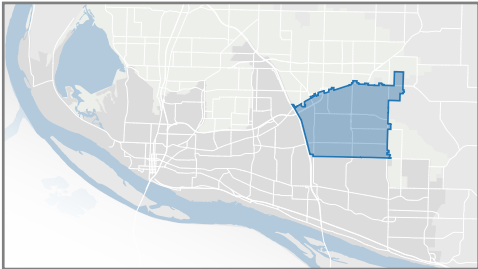
Primary Pedestrian Corridor



Enhanced Transit Corridor



ZONE 4



Project Type	ID	Project Name	Sidewalk infill	Added crossing	Priority	Timing	Cost
	401	NE Rosewood Ave: BML at NE 105th to SR 503					\$
	402	Fourth Plain Blvd: Upgrade existing ML to PML from western to eastern city limit					\$
	403	Coxley Dr/107th Ave: NG in the Orchards neighborhood between Fourth Plain Blvd and Ghera Rd					
	404	NE 112th Ave: PML from City limit (just north of Fourth Plain) to NE 18th St					
	405	NE 106th-110th Ave: Network of NG Connecting from NE 112th Ave and Morrow Road to a new MUP (#248) across I-205					
	406	NE 109th Ave: PML from NE 39th St to NE Burton Rd					

PROJECT LIST

Project Type	ID	Project Name	Sidewalk infill	Added crossing	Priority	Timing	Cost
	407	NE 121st-122nd Ave: PML from City limit to NE 49th St					
	408	NE 39th St/NE 122nd Ave: PML from NE 49th St to NE 137th Ave					
	409	NE 39th St: PML from NE 137th Ave to NE 162nd Ave					
	410	NE 49th St: PML from NE 112th Ave to NE 137th Ave					
	411	NE Poplar St: BML from NE 137th Ave to NE 162nd Ave					
	412	NE 56th/NE 59th Streets: ML from NE 121st Ave to NE 137th Ave					
	413	NE 136th/138th Ave: PML from Citiy Limits to NE 49th St					
	414	NE 136th/138th Ave: PML from NE 49th St to NE 18th St					
	415	NE 129th/130th Ave: NG from NE 49th St to NE 18th St					
	416	NE 124th Ave: NG from NE 39th St to NE 28th St					
	417	NE 31st St: NG from NE 39th St to NE 28th St					
	418	Four Seasons Lane: NG from NE 28th St to NE 18th St					
	419	NE 124th Ave: NG from NE 28th St to NE 18th St					
	420	Burton Rd/NE 28th St: Upgrade existing ML to PML from I-205 to NE 138th Ave					
	421	NE 28th St: Upgrade existing ML to PML from NE 138th Ave to NE 162nd Ave					
	422	NE 44th St: NG from NE 122nd Ave to NE 137th Ave					
	423	NE 45th /46th St: NG from NE 137th Ave to NE Poplar St					
	424	NE 143rd Ave: NG from NE 45th Ave to NE 39th St					
	425	NE 143rd/14th Ave: NG network from NE 39th St to NE 28th St					
	426	NE 31st/3rd St: NG network between NE 39th St and NE 28th St					
	427	NE 145th/157th Ave: NG from NE 31st St to NE 18th St					
	428	NE 18th St: Continue MUP east from Evergreen High School at NE 41st Ave to eastern city limit (192nd Ave).					
	429	NE 162nd Ave: Upgrade ML to PML from NE Poplar St to NE 18th St					
	430	NE 162nd Ave: Upgrade ML to PML from NE Poplar St to City limits					
	431	NE 147th Ave: Upgrade ML to PML from NE 59th St north to cit limit					

PROJECT SPOTLIGHT

NE 129TH/130TH AVENUES (#415)

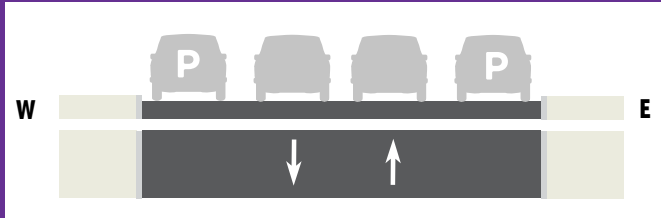
NE 129th/130th Avenues are quiet residential streets between NE 112th Avenue to the west and NE 138th Avenue to the east. Project #415 connects from the multi-use path on NE 18th Street at the south end to NE 49th Street at the north end.

STREET CHARACTERISTICS

Posted Speed: 25 MPH

Traffic Volumes: N/A

Bus Service: None



PROJECT DESCRIPTION



Project Length: 1.5 miles



Bike and Small Mobility: Upgrade existing neighborhood greenway



Pedestrian: 5 new level 3 crossings
1,520 ft new sidewalk



Priority: Medium



Phasing: Long

MODAL NETWORKS



Neighborhood Greenway



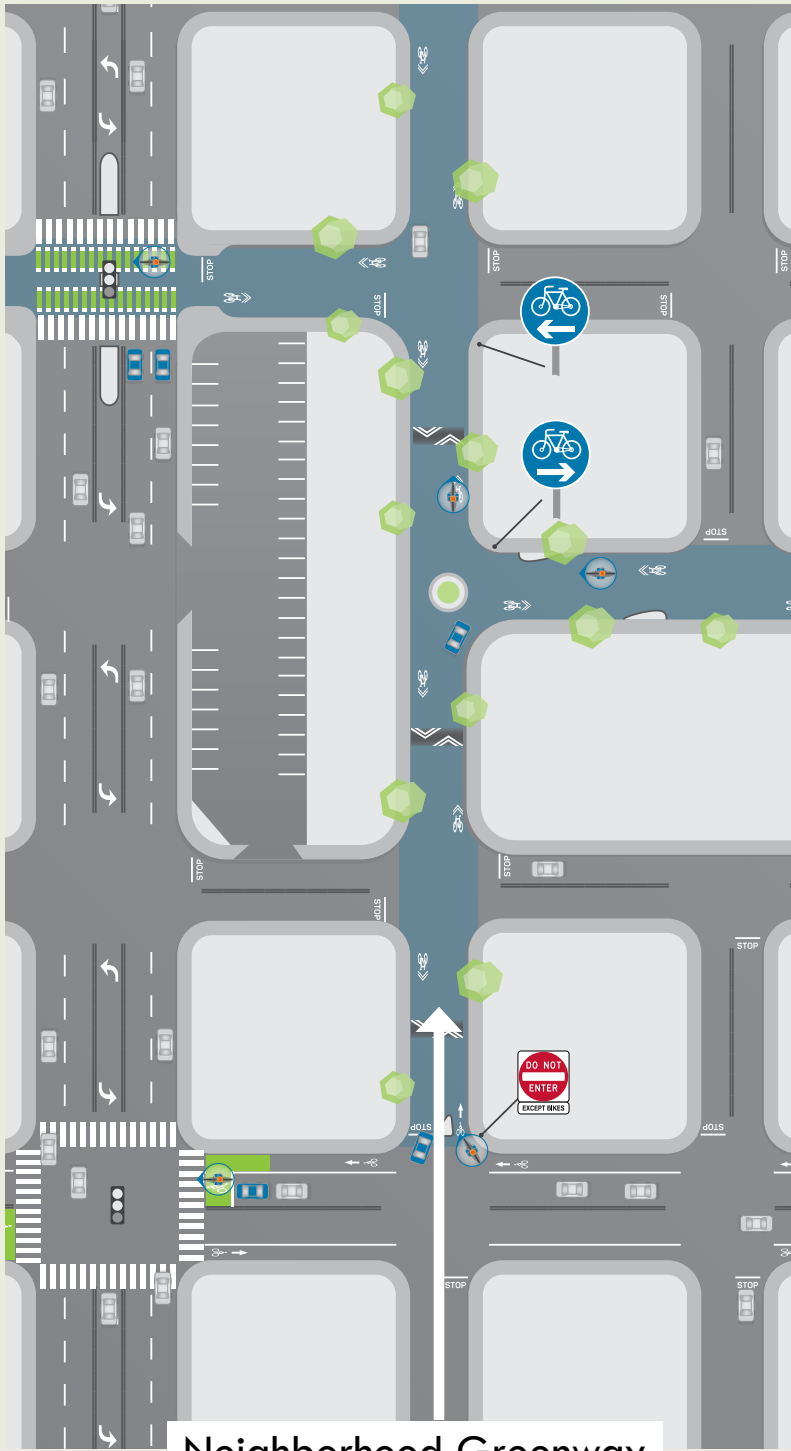
Neighborhood Greenway



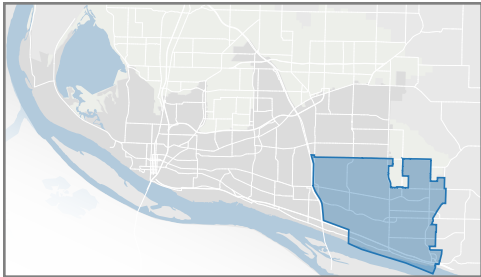
ELEMENTS OF NEIGHBORHOOD GREENWAYS

Neighborhood greenways (NG) are low-volume, low-speed streets comfortable for walking or bicycling. Typical elements include:

- **Branded signs and sharrows.** These give the route a visual identity, guide bicyclists and small mobility users, and signal to drivers that the street is a bicycle route.
- **Traffic calming.** Speed humps, cushions, and tables slow down vehicle traffic.
- **Traffic diversion.** Access and turning movement restrictions reduce vehicle traffic volumes.
- **Crossing treatments.** Traffic circles with 4-way yield signs or stop signs just for cross streets allow bicyclists and small mobility users to pass straight through.
- **Wayfinding.** Wayfinding directs people from neighborhood greenways to major destinations.



ZONE 5



PROJECT LIST

Project Type	ID	Project Name	Sidewalk infill	Added crossing	Priority	Timing	Cost
	501	NE 112th Ave: PML from NE 18th St to McGillivray Blvd					\$
	502	NE 9th St: Upgrade existing ML to PML from NE 108th Ave to NE 136th Ave					\$
	503	NE 9th St: BML from NE 136th Ave NE 155th Ave					
	504	NE 11th St: NG from NE 155th Ave NE 162nd Ave					
	505	Mill Plain Blvd: Add PML from I-205 to Olympia Dr					
	506	Mill Plain Blvd: Add PML from Olympia Dr to 164th St					
	507	Mill Plain Blvd: Add PML from 164th to 192d Ave					
	508	"NE 123rd-127th Ave: NG in the Fircrest and Cascade Park West neighborhood between NE 18th St and SE 11th St"					
	509	NE 117th Ave and NE 5th St: NG from SE 7th St to NE 124th St					
	510	SE 131st-132nd Ave and SE 5th-6th St: NG from SE 117th Ave to NE 136th Ave					
	511	SE 7th St: Upgrade existing ML to BML from SE Chkalov Dr to SE 136th Ave					
	512	SE 6th and 7th St: NG from SE 136th Ave to SE Olympia Dr					
	513	SE McGillivray Blvd: Upgrade existing ML to PML from SE Chkalov Dr to SE Bella Vista Rd					
	514	SE McGillivray Blvd: Upgrade existing ML to PML from SE Chkalov Dr to SE 20th St					
	515	NE 136th Ave: Upgrade existing ML to PML from NE 18th St to NE 4th St					
	516	NE 136th Ave: Upgrade existing ML to PML from NE 4th St to SE McGillivray Blvd					
	517	SE 15th St and SE Riveridge Dr: NG in the Riveridge neighborhood					
	518	SE Olympia Dr: Add ML from SE Mill Plain Blvd to SE McGillivray Blvd					
	519	SE Olympia Dr: Upgrade existing ML to BML from SE 1st St to SE Mill Plain Blvd					
	520	SE 7th St: NG from SE Olympia Dr to SE Parkcrest Ave					
	521	SE Hearthwood St and SE Park Crest Ave: Upgrade existing ML to BML from NE 9th St to SE McGillivray Blvd					

Project Type	ID	Project Name	Sidewalk infill	Added crossing	Priority	Timing	Cost
	522	NE 145th-152nd Ave: NG from NE 18th St to NE Hearthwood Blvd					
	523	NE 139th Ave: NG from NE 18th St to NE 9th St					
	524	NE 14th-17th St, NE 153rd-155th Ave: NG from NE 18th St to SE Mill Plain Blvd					
	525	NE 162nd-164th Ave: Upgrade existing ML to PML from NE 18th St to SE Mill Plain Blvd					
	526	SE 164th Ave: Add PML from SE Mill Plain Blvd to SE Evergreen Hwy					
	527	SE 160th Ave: Upgrade existing ML to BML from SE 164th Ave to SE Village Loop					
	528	SE Tech Center Dr: BML from SE Mill Plain Blvd to SE 160th Ave, SE 20th St					
	529	SE Talton Ave and SE Cascade Park Dr: Upgrade existing ML to PML from SE McGillivray to SE 162nd Ave					
	530	SE Cascade Park Dr: Add PML from SE 162nd Ave to SE 164th Ave					
	531	SE 162nd Ave: Upgrade existing ML to BML from SE Village Loop to SE Cascade Park Dr					
	532	SE Bella Vista Rd: Add ML from SE McGillivray to SE Cascade Park Dr					
	533	SE Briarwood Dr: Add BML from SE McGillivray to SE Cascade Park Dr					
	534	MLairmont Dr: NG from Park Crest Ave to SE 157th Ave					
	535	SE Evergreen Hwy: MUP from Columbia Springs Park to SE 164th Ave					
	536	SE 15th St: BML from Park Crest Ave to the eastern city limit, including short path connection at SE 160th Ave					
	537	SE Evergreen Hwy: MUP from SE 164th Ave to City limits					
	538	SE Brady Rd and SE Columbia Palisades Dr: Add PML from SE 192nd Ave to City limits					
	539	SE 192nd Ave: Upgrade existing ML to PML from SR-14 to SE 1st Ave					
	540	NE 192nd Ave: MUP from NE 18th St to SE 1st St					
	541	SE 39th-42nd St, SE 171st-179th Ave: NG in the Fisher's Creek neighborhood					
	542	SE 34th St: Add PML from SE 192nd Ave to City limit					
	543	SE 25th St: Add BML from SE 176th Ave to SE 192nd Ave					

Project Type	ID	Project Name	Sidewalk infill	Added crossing	Priority	Timing	Cost
	544	SE 22nd-26th St, SE 166th-169th Ave: NG from SE 20th St to SE 34th St					
	545	SE 20th St, SE 29th St, Village Loop: Upgrade existing ML to PML from SE 176th Ave to City limits					
	546	SE 176th Ave: PML from SE 15th St to SE 34th St					
	547	SE Westridge Blvd: NG from SE 1st St to SE 15th St					
	548	SE 1st St: Upgrade existing ML to PML from NE 192nd Ave to City limits					
	549	NE 3rd St and NE 197th Ave: NG from NE 192nd Ave to SE 1st St					
	550	MUP: New path connection between NE 18th St and SE 1st St					
	551	MUP: New path connection from NE 18th St to NE 182nd Ct					
	552	MUP: New path connection between SE 1st St and NE 192nd Ave					
	553	SE 184th Ave: Add BML from SE 1st St to SE Mill Plain Blvd					
	554	MUP: New path connection between NE 172nd Ave and NE 192nd Ave					
	555	MUP: New path connection between NE 172nd Ave and NE 192nd Ave					
	556	NE 172nd Ave: MUP from NE 18th St to City limits					
	557	SE 172nd Ave: Add PML from City limits to SE Mill Plain Blvd					

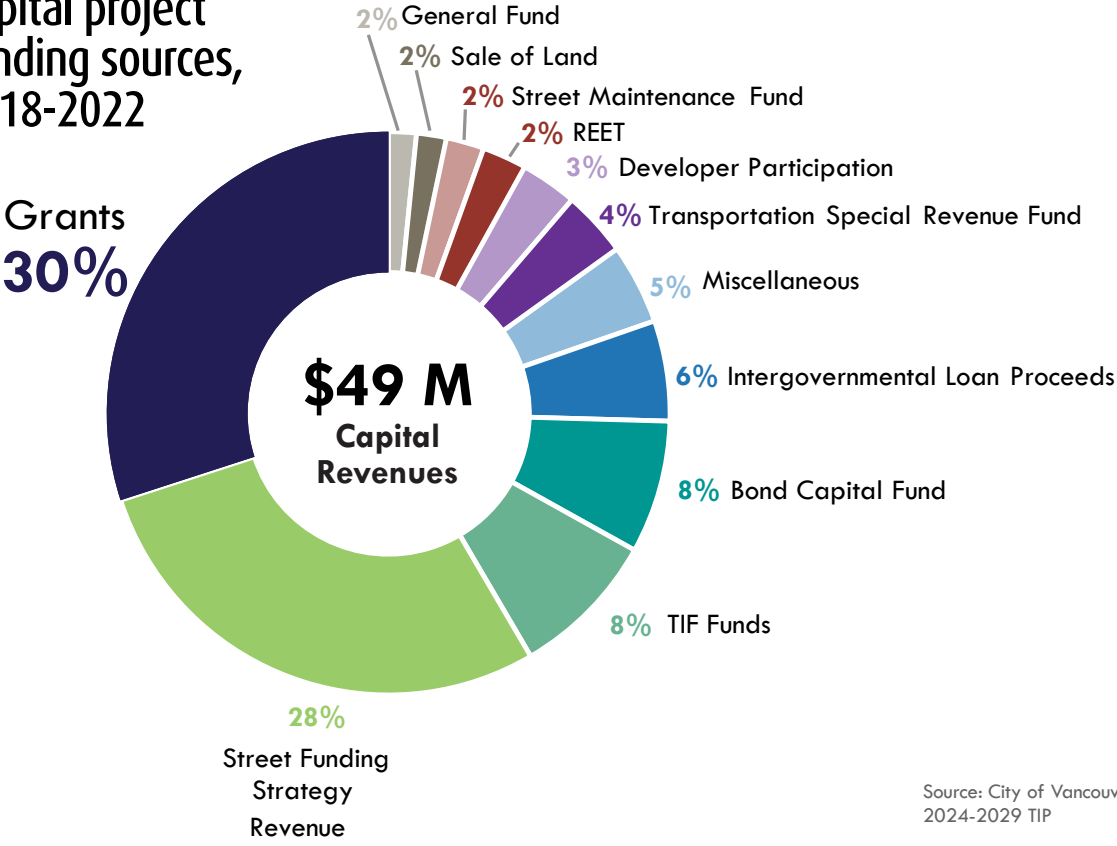
7. Implementation

Implementation of the TSP starts now. More resources are needed to fully realize the policies and programs in this vision, but we can start work today on key community priorities.

Funding: Current Sources

More than half the funding for capital projects comes from grants or the Street Funding Strategy (SFS) (see chart below). The city passed the SFS in 2015 as a package of new funding for transportation. It secured revenues through things like utility taxes and a Business License Surcharge. A main source of SFS funds comes from designating the city as a Transportation Benefit District (TBD) with the ability to collect a \$40 vehicle license fee. SFS makes up more than one-fifth of maintenance revenues and more than one-quarter of capital revenues. This funding source allowed the city to upgrade substandard streets throughout the city.

Capital project funding sources, 2018-2022



Source: City of Vancouver 2024-2029 TIP

Funding: Resource Needs

Implementing the TSP requires funding both for design and construction as well as staff to manage programs.

The capital projects in chapter 6 cost will be costly to construct. This cost, phased during the next 20 years, could be implemented through either expanding the TIP or swapping out projects in the TIP that may no longer be a high priority.

Given the intense development in Vancouver, another method for building TSP projects is through development. Development fees through the Transportation Impact Fee program have not been updated since 2014. See additional detail in the near-term priorities section.

Vancouver already receives a large portion of capital project funding through grants, but more programs exist the City could tap into.

Lastly, more City staff are needed to deliver the TSP. Key programs with staffing needs include:

- Safety Program to deliver on Vision Zero and all associated safety projects
- Complete corridors projects throughout the City
- Active Transportation program creation and community education
- Freight and transit coordination

Altogether, these programs are forecast to need an additional **X full-time staff**.



See **Appendix I: Prioritization and Funding Memo** for additional information around resource needs and prioritization methods.



Tracking our Progress

Performance measures monitor progress toward desired outcomes, inform decision-making, keep staff focused on priorities, and provide greater transparency to the public. The table below shows measures that are readily available and can be consistently collected by the city to track progress. Most of these metrics change very little year to year, and a specific numeric benchmark can dilute progress by locking the City into an arbitrary target. Therefore progress shall be measured by direction or whether the metric is going up or down.

Performance Measures

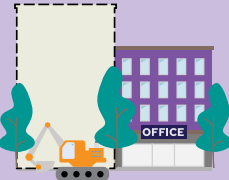
	Goal	Measure	Metric	Target
	Safety	Reduce the number and severity of all crashes	Number of fatal and serious crashes per year	↓
			Percent change in fatal and serious crashes	↓
		Reduce the number and severity of ped/bike crashes	Number of fatal and serious ped/bike crashes per year	↓
			Percent change in fatal and serious ped/bike crashes	↓
	Equity	Complete projects with known safety benefits on high-crash corridors and intersections	Percent of safety projects on high-crash corridors	↑
		Invest transportation dollars in high Equity Index areas	Percent of paving project annual mileage in high Equity Index areas	↑
		Make walking/rolling more accessible	Number of ADA-compliant curb ramps added or retrofitted	↑
			Number of accessible pedestrian signals (APS)	↑
	Climate	Reduce emissions	Per capita single occupant motor vehicle miles traveled	↓
			GHG emissions from motor vehicles	↓
	Transportation Choice	Increase the number of people using active transportation	Percent change in walking trips	↑
			Percent change in biking/small mobility trips	↑
		Provide low-stress small mobility facilities	Miles of new small mobility lanes/facilities	↑
			Miles of improved new small mobility lanes/facilities with buffers/protection	↑
		Increase the coverage of pedestrian facilities	Miles of sidewalk infill	↑
		Increase transit use	Transit ridership	↑
	Regional Connectivity	Expand the walking and rolling network to connect Pedestrian Corridors and Pedestrian Centers	Number of newly marked or enhanced crossings meeting City's pedestrian crossing policy guidelines along Pedestrian Corridors and in Pedestrian Centers	↑
		Ensure efficient freight movement	Freight corridor travel times on designated freight corridors	—
		Make transit faster and more reliable	Miles of bus lanes or queue jumps	↑
			Number of signals with transit priority	↑
	Maintaining Our Assets	Keep pavement in good condition	Miles of rehabbed pavement	↑
		Continue to upgrade existing sidewalks	Percent of lane miles in good condition	↑
			Miles of sidewalk upgraded from deficient to good	↑

Near-Term Priorities

The TSP sets out our long-term vision, but we will make immediate progress in the next two years by focusing on our top four initiatives.



COMPLETE CORRIDORS PROGRAM



LEVERAGING DEVELOPMENT



VISION ZERO



SAFE ROUTES TO SCHOOL

Complete Corridors

Vancouver’s street network consists of a set of arterials with neighborhood streets in between. Few streets directly connect across the city. The City’s complete corridors program will tackle a handful of these important streets each year, to transform them into places where people want to walk or use BSM.

Expanding the corridors program gives the City resources to make changes more quickly. During the past few years, the City implemented three major complete corridor projects:

- Tech Center Drive from SE 172nd to SE 167th Avenues. This project filled a gap in the BSM network with access to a major employment center.
- McLoughlin Boulevard from Reserve Street to Brandt Road. Speed cushions and buffered bike lanes were installed.
- Columbia Street from 8th to 45th Streets, where buffered bike lanes were installed.

Current projects reimagine the following corridors:

- Fourth Plain Boulevard
- Fort Vancouver Way
- SE 34th Street
- McGillivray Boulevard

A Safer McLoughlin Boulevard

McLoughlin Boulevard is a major east-west connector from downtown to the east. In 2019, the City installed 16 speed cushions, two pedestrian crossings, buffered mobility lanes, and sharrows from Reserve Street to Brandt Road. In 2022, an evaluation of the project showed:

- Bike volumes increased on the west end of the corridor near Hudson’s Bay High School, Clark College, and the Washington State School for the Blind
- Bike Level of Traffic Stress decreased
- Vehicle speeds decreased 2-7 mph
- No negative impacts were reported from C-TRAN, waste collection, schools, or Vancouver Fire and Police.



McLoughlin Boulevard post-project

Leveraging Development

With a shift to a more multimodal TSP comes a shift in how Vancouver will measure the impacts of new development on the transportation system. The City has three existing processes that are triggered through the new development process—concurrency, Transportation Impact Analysis (TIA), and the Traffic Impact Fee (TIF) program. Each of these will be updated as a near-term action of the TSP.

- **Concurrency** requires the availability of sufficient transportation system capacity to support development. Historically, Vancouver and many other Washington cities have measured capacity using auto performance metrics – Vancouver relies on afternoon peak vehicle speed. This auto-centric approach hinders broader improvements to the multimodal system. **A revised concurrency policy will measure conditions and performance of all modes.**
- **Traffic Impact Analysis (TIA) Guidelines** lay out how developments measure their impacts and what types of mitigations they must complete. The measurements are autocentric and assume the worst conditions – meaning the mitigations result in overbuilt roadways for most of the day. **A revised TIA approach will be less auto focused, use metrics for a more typical rather than worst-case condition, and include TDM as part of mitigations.**
- **Traffic Impact Fee Program (TIF)** is a package of regional transportation system improvement projects required to support planned growth consistent with the policies of the Comprehensive Plan. This one-time fee is paid at the time of the development application to offset the developments' proportionate system impacts, such as increased traffic. Recent Washington legislation now allow funds collected through the TIF to be used for multimodal project. **The TIF project list will be updated to add walking and BSM projects from the TSP. The TIF rate list will be adjusted to better align with peers.**

Vision Zero

Vision Zero is a policy based in a belief that serious injuries and deaths on our streets are preventable. Developed in Sweden in the 1990's, the movement gained momentum in the United States, where 45 cities have Vision Zero policies.¹

Vision Zero policies are rooted in safe system principles (Figure 44). Many factors contribute to crashes, therefore a safe system builds in redundancy to minimize the chance of a crash occurring (Figure 45). At the national level, a safe systems approach has been adopted and tied to many federal grants such as Safe Streets for All. Cities such as New York, Hoboken, and Jersey City are seeing reductions in deaths through Vision Zero initiatives.²

¹ <https://visionzeronet.org/about/what-is-vision-zero/>
² <https://www.bloomberg.com/news/articles/2022-11-25/the-us-cities-where-vision-zero-traffic-safety-fixes-are-working>

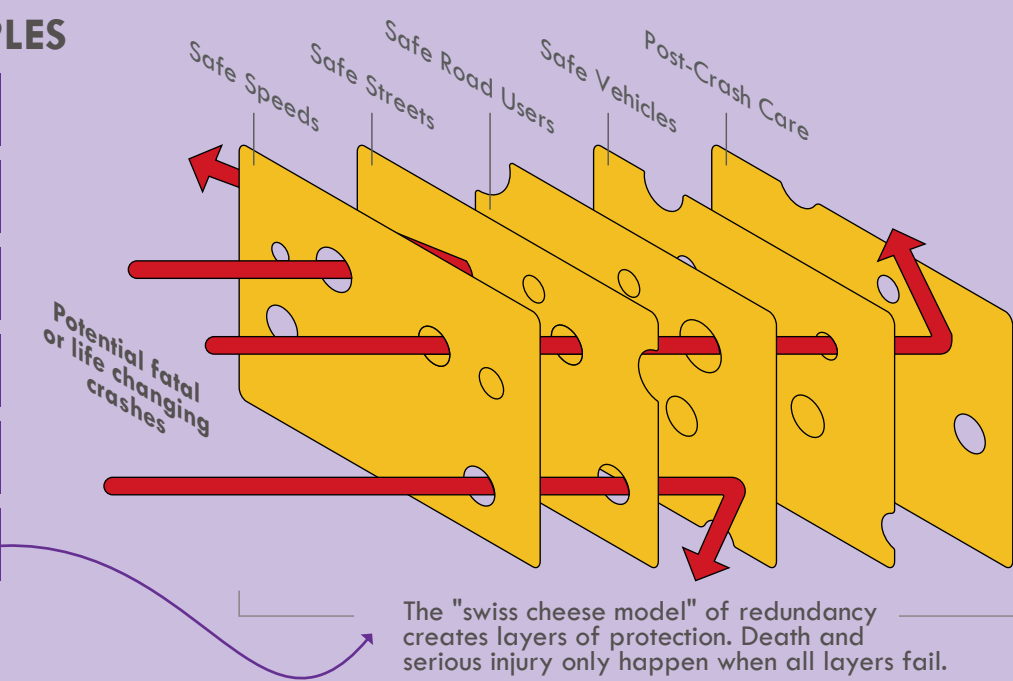
See **Appendix L: Concurrency Memo** for additional detail on leveraging development.

See **Appendix J: Collision Dashboard Tutorial** on how to use the collision tool.

See **Appendix K: Local Road Safety Plan** for an overview of priorities for grant funding that address safety needs.

SAFE SYSTEM PRINCIPLES

- Death and serious injury is unacceptable
- Design for human mistakes
- Humans are vulnerable
- Responsibility is shared
- Safety is proactive
- Redundancy is essential



Safe Routes to School

Vancouver is home to 80 schools that serve 45,461 students between Vancouver and Evergreen School Districts. Safe Routes to School (SRTS) is a nationally funded program to encourage students and caregivers to walk and bike to school along safe pathways.

SRTS programs have increased walking and bicycling to school by 37 percent.¹ SRTS benefits include:

- Reduced congestion at school drop off and pickup times
- Forms healthy physical habits
- Increases attendance as students can get to school if their parent or caregiving is sick or working

In July 2022, Clark County received a SRTS grant for \$389,000 to continue their work in enabling safety and mobility for vulnerable users.² A City-led SRTS program can further this work locally. It can also be the impetus to have a list of capital projects around schools ready for grant applications when opportunities arise.

¹ <https://www.saferoutespartnership.org/safe-routes-school/101/benefits>
² <https://www.columbian.com/news/2022/jul/23/clark-county-receives-safe-routes-to-school-grant/>



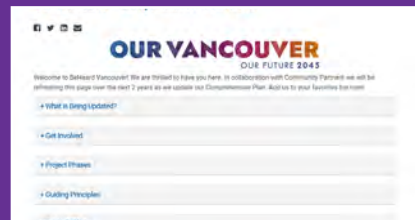
Benefits of Safe Routes to School

8. Moving Forward

Transportation investments in Vancouver historically prioritized the private vehicle at the expense of growth in other modes. Recent projects have gathered momentum around achieving the multimodal vision of the TSP.

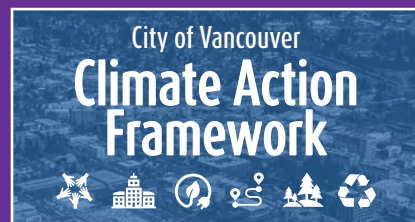
What's Coming Next

The Vancouver TSP is one of several parallel efforts that will come to fruition during the next few years. These initiatives will help advance the policies in the TSP:



VANCOUVER COMPREHENSIVE PLAN UPDATE

The TSP is the transportation element of the Comprehensive Plan, set to be updated by 2025. The Comprehensive Plan guides land use patterns—a major factor in the ability to walk, bike, or take transit.



CARBON NEUTRALITY BY 2040

Meeting the goals of the Climate Action Framework require changes to how we travel. Implementing the framework requires implementing the policies and programs of the TSP.



VINE BRT EXPANSION

C-TRAN is opening its second BRT line on Mill Plain Boulevard, and plans to open its third line on Main Street/Highway 99 in 2027. C-TRAN will extend the Fourth Plain Vine to 162nd Avenue and south to Columbia Tech Center. This will create a connected ring of Vine corridors across the city.



VANCOUVER STRATEGIC PLAN

The recently updated Strategic Plan lays out the City's direction for the next six years and beyond. One of the Plan's focus areas is to ensure Vancouver has a safe, future-ready, and convenient transportation system that offers affordable and climate-friendly options.



INTERSTATE BRIDGE REPLACEMENT (IBR)

IBR will provide a critical connection between Oregon and Washington. While the locally preferred alternative is set, a wealth of details remain on how the project can be designed to support Vancouver's goals. IBR has the potential to transform Vancouver and how people travel between the waterfront and downtown.

Setting Ourselves Up for the Long-Term

The way people move is changing, which is being solidified by the lasting trends of the COVID-19 pandemic. Innovations in transportation services—like app-enabled ridehailing, shared e-bikes and scooters, and trip planning tools—can add travel options and customer convenience. As people seek new ways to move safely, demand for small personal mobility options will continue to grow. And for some, the best mobility option is not traveling at all. Digital apps for home deliveries and permanent flexibility to work from home made lasting changes to how people travel. And further innovations, like autonomous vehicles, are waiting around the corner.

What are the Trends?

- **Emerging mobility options** such as shared e-bikes, scooters, and ridehailing services offer an effective alternative for people who don't have access to a car or prefer not to own one. Agreements with these providers are needed to ensure services align with the City's goals and standards.
- **Mobility-as-a-Service** apps enable users to seamlessly plan, book, and pay for trips of any type—be it on transit, ridehailing, micromobility, etc. As multimodal options become more prevalent in Vancouver, seamless integration will be needed between options to plan the most efficient trip.

- **Data** from mobility service providers is being leveraged by cities to improve day-to-day operations and planning of their transportation systems.
- **Electric vehicles** will be ever more common in the years ahead, forcing Vancouver to get ahead of charging infrastructure demands.
- **Autonomous vehicles** are on the horizon and the City's policies must provide a framework for how autonomous vehicles operate in the city in support of the TSP goals.
- **Changing travel patterns** with more people working at home will require Vancouver to focus on all types of trips, not just commute trips. Education and outreach programs and incentives tied to all types of trips will be a critical focus in the years ahead to shift people to bike, walk, transit, and shared rides.

Our new transportation vision needs to consider changes in transportation technology and leverage the right mix of innovations to deliver a safer, more vibrant, and more prosperous city for all.

