WSDOT

SR 520 Bridge Replacement and HOV Program

SR 520 Portage Bay Bridge and Roanoke Lid Project

Neighborhood Traffic Management Plan

SR 520 Portage Bay Bridge and Roanoke Lid Project

MARCH 2023

WSDOT

Seattle Department of Transportation

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What is the Neighborhood Traffic Management Plan?

Starting as early as 2024, construction crews will begin approximately six years of work on the SR 520 Portage Bay Bridge and Roanoke Lid Project. This project will complete SR 520's east-to-west reconstruction from I-405 to I-5. Like the highway's other 1960s-era bridges, the Portage Bay Bridge was built with hollow concrete columns and could collapse in a severe earthquake. This bridge's replacement will be built to current seismic standards. The project will also build a landscaped lid over SR 520 between 10th Avenue East and Delmar Drive East (Roanoke lid). In addition, it completes improvements to the highway's transit/high-occupancy vehicle (HOV) system between the Eastside and Seattle and extends the regional SR 520 Trail to the new Roanoke lid.

During construction, there will be disruptions for drivers, bicyclists, pedestrians and transit riders traveling through the neighborhood. The Portage Bay Neighborhood Traffic Management Plan (NTMP) cites planned traffic management measures (both temporary and permanent) identified through SR 520 Program design and future city of Seattle projects in the Portage Bay area. The NTMP also outlines some of the best management practices that will be used during construction to help reduce local traffic effects associated with project construction. This report and the list of traffic management measures included in Chapter 4 are a collaborative effort between WSDOT and the city of Seattle, specifically the Seattle Department of Transportation (SDOT).

This NTMP fulfills a commitment by the city and WSDOT to enhance safety, connectivity and livability for all travelers in the neighborhood during construction and beyond. This commitment is outlined in the 2011 Vision and Coordination Memorandum of Understanding (MOU) for the SR 520, I-5 to Medina: Bridge Replacement and HOV Project.

WSDOT and the city collaborated to develop NTMP reports for the SR 520 West Approach Bridge North Project, published in 2014, and the Montlake Project, published in 2017. This Portage Bay NTMP builds on the previous versions by including project information and public feedback specific to the SR 520 Portage Bay Bridge and Roanoke Lid Project.

NTMP objectives

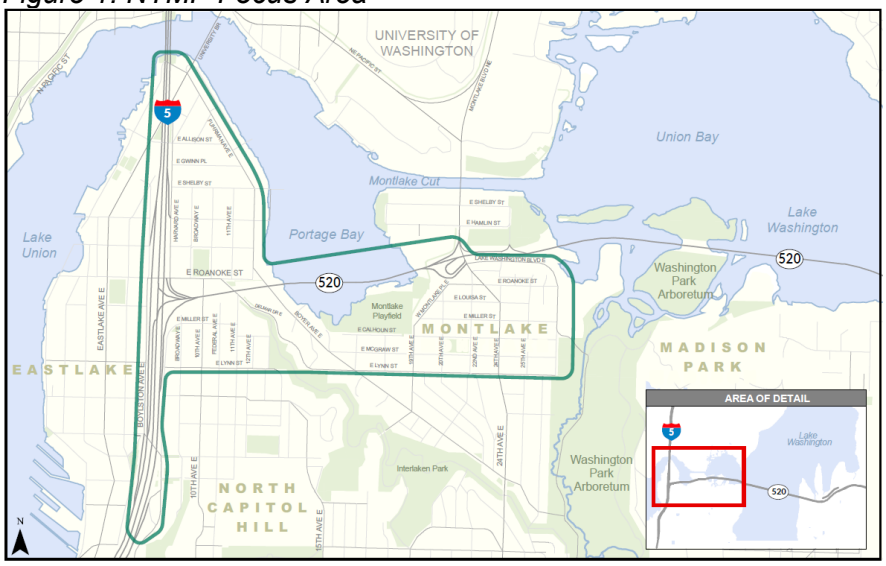
The primary objectives of this NTMP are to:

- Identify traffic and mobility related concerns in the Portage Bay neighborhood based on public feedback;
- Describe how the Portage Bay Bridge and Roanoke Lid Project's design will improve safety and mobility in the neighborhood after the project is complete (Chapter 3);
- Describe traffic management measures that will be implemented before construction to address some of the community's traffic and mobility concerns (Chapter 4);
- Describe long-term city of Seattle plans to improve safety and mobility in the Portage Bay area (Chapter 4); and
- Provide additional information about anticipated traffic impacts in the neighborhood during construction (e.g., haul routes, truck traffic, access to work zones, contract requirements for reducing construction impacts, etc.), as requested during the public comment period (Chapters 1 and 3).

NTMP Focus Area

For the purposes of this NTMP update, the team focused on neighborhood streets surrounding Portage Bay – including parts of Eastlake, Roanoke Park, Montlake, and north Capitol Hill.

Figure 1: NTMP Focus Area



Gathering public feedback

WSDOT and the city of Seattle have used community feedback to inform the Portage Bay NTMP. As described in Chapter 2 of this report, the NTMP team analyzed public comments collected through the SR 520 correspondence database, stakeholder engagement processes, city records, open houses, frontline neighbor meetings and formal public comment periods between 2012 and 2022.

In June 2022, WSDOT and the city hosted a three-week neighborhood traffic survey. The survey asked community members to describe their traffic-related concerns within the NTMP Focus Area and their preferences for different types of traffic management solutions.

Based on this public feedback, WSDOT and the city identified the key traffic-related concerns in the Portage Bay community and developed a list of potential measures to address those concerns where feasible.

In August 2022, WSDOT and the city hosted an online public meeting and a three-week public comment period to gather feedback on the draft NTMP report and the list of proposed traffic management measures (see Appendix B to review the public comment summary).

Using input from the August public comment period, WSDOT and the city finalized the list of NTMP measures, which is included in Chapter 4 of this report. Each measure includes implementation timeline and/or current status.

Traffic management measures

Chapter 4 presents all the traffic management measures that WSDOT and the city evaluated for both operational effectiveness and public support. Based on community feedback received during the August public comment period, WSDOT and the city of Seattle added four more traffic measures to the initial list of improvements included in the draft version of this report.

While this NTMP document is considered final, WSDOT and the city continue to welcome community feedback related to neighborhood traffic operations. Particularly as construction gets underway and conditions change, WSDOT and the city will continue to monitor traffic in the area and address issues as they arise.

Chapter 1: Background

Portage Bay NTMP goals

WSDOT and the city of Seattle recognize that major construction in a densely populated area can be disruptive. In the coming years, WSDOT and the city will be investing in projects in and around the Portage Bay neighborhood, including SR 520 construction, the Route 48 Transit-Plus Multimodal Corridor project, the RapidRide J Line, and other local street enhancements. The NTMP represents the commitment of WSDOT and the city of Seattle to minimize construction effects and develop traffic management strategies that enhance safety and livability in the Portage Bay neighborhood throughout project construction.

City of Seattle and WSDOT Memorandum of Understanding

WSDOT and the city acknowledge that improving existing and future traffic in this densely populated area requires thoughtful collaboration and investment by both the city and WSDOT, and close coordination with other planned regional projects. This commitment was reaffirmed in the 2011 Vision and Coordination Memorandum of Understanding (MOU) for the SR 520 I-5 to Medina: Bridge Replacement and HOV Project. In fall 2011, the city and WSDOT developed and finalized the MOU to direct future coordination regarding the SR 520 Program.

As stated in the MOU, WSDOT and the city are working together, in coordination with other local agencies and stakeholders, to explore potential neighborhood traffic management solutions that could be implemented during design, construction, and operation of the improved SR 520 corridor in Seattle.

This excerpt of section 2.3.3 of the MOU states that WSDOT and the city of Seattle intend to:

> *Collaborate to develop a Neighborhood Traffic Management Plan to catalog and develop solutions for community traffic concerns in the Montlake corridor and surrounding neighborhoods and to identify potential funding sources for projects consistent with recommendations and findings from the ESSB 6392 Final Workgroup Technical Report. The plan will define traffic management measures to proactively reduce Project construction effects and develop long-term traffic management strategies that work in conjunction with the Project's Preferred Alternative and existing City traffic management practices.*

Scope of the Portage Bay NTMP

The Portage Bay Bridge Project has unique geotechnical conditions and spatial constraints. Moreover, unlike the Montlake Project, the Portage Bay Bridge Project's major design elements are not integrated with on- or off-ramps to and from SR 520. As a result, the project has limited access points and must rely on some neighborhood arterials to access the work zones.

There are several other key differences between the Montlake Project and the Portage Bay Bridge Project that affect the scope of their respective NTMPs. The biggest difference between the two projects is that the Montlake Project reconstructed a highway interchange and Montlake Boulevard – a major north/south arterial street – which has caused and will continue to cause significant disruptions to traffic on SR 520 and surrounding neighborhood streets until the project's completion.

The arterials in the Portage Bay project area – 10th Avenue East and Delmar Drive East – have lower traffic volumes than Montlake Boulevard and 24th Avenue East. Consequently, project effects on local traffic from construction (i.e., construction-vehicle traffic, temporary closures of local streets, and full nighttime and weekend closures of SR 520) are expected to be more limited. See pages 9-12 for detailed information about existing neighborhood traffic volumes and anticipated construction traffic, and pages 20-22 for details about haul routes and work zone access.

Another key difference between the two projects is their effect on transit. The Montlake Boulevard construction area includes seven bus routes – routes 43, 48, 167, 255, 271, 542 and 556 – providing north-south service over the Montlake Cut and east-west service across SR 520. Additionally, the University of Washington light rail station provides thousands of nearby residents with reliable and efficient transport to and from downtown Seattle and other locations farther north and south. In contrast, local neighborhood transit effects during Portage Bay construction are expected to be primarily limited to a single transit route – route 49 – on 10th Avenue East and East Roanoke Street.

Given the above reasons, the range of solutions identified in this Portage Bay NTMP reflect the project's anticipated level of traffic impacts during construction – and are scaled proportionately.

SR 520 Program overview

The SR 520 Portage Bay Bridge and Roanoke Lid Project is one construction phase of the SR 520 Bridge Replacement and HOV Program. The SR 520 Program's construction began at I-405 in Bellevue and will extend improvements to I-5 in Seattle.

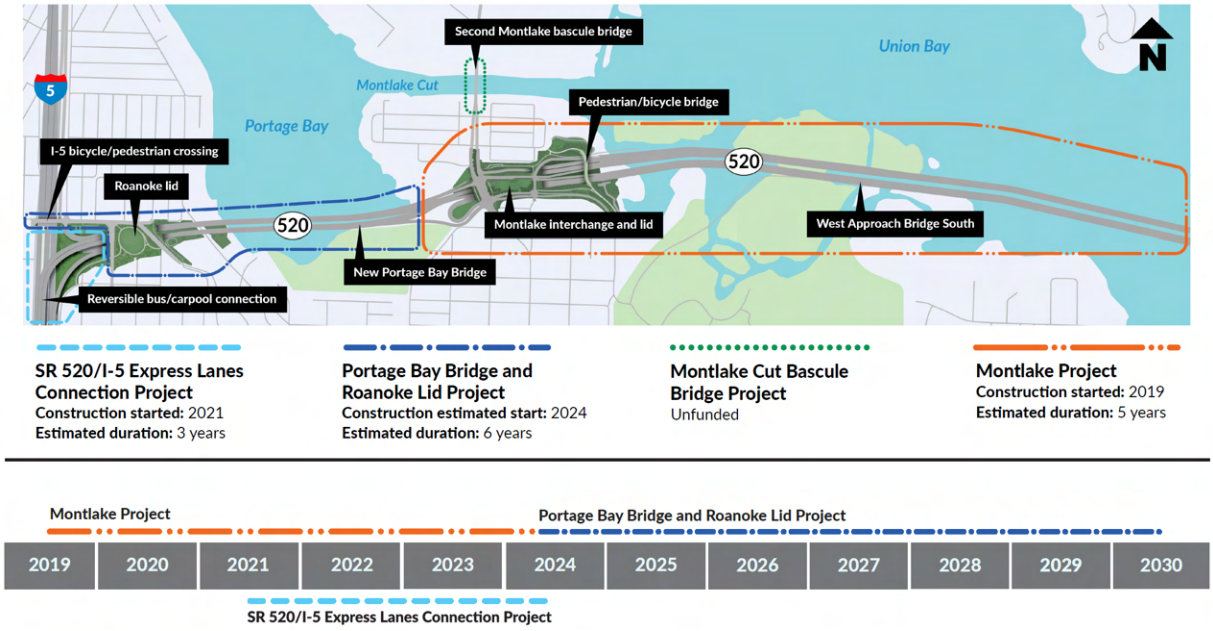
The SR 520 Program includes the following projects:

- ✓ Pontoon Construction Project (completed 2015)
- ✓ Eastside Transit and HOV Project (completed 2015)
- ✓ Floating Bridge and Landings Project (completed 2016)
- ✓ West Approach Bridge North Project (completed 2017)
- Montlake Project (in construction until 2024)
- SR 520/I-5 Express Lanes Connection Project (in construction until 2024)
- Montlake Cut Bascule Bridge Project (currently not funded; WSDOT expects to resume conversations with legislators and stakeholders about the future of this project after the Portage Bay Bridge and Roanoke Lid Project construction contract has been awarded in late 2023.)

SR 520 construction timeline

Construction is currently underway on the Montlake Project and the I-5 Express Lanes Connection Project. Construction of the Portage Bay Bridge and Roanoke Lid Project is set to begin in 2024.

Figure 2: Remaining SR 520 Program phases and approximate schedules



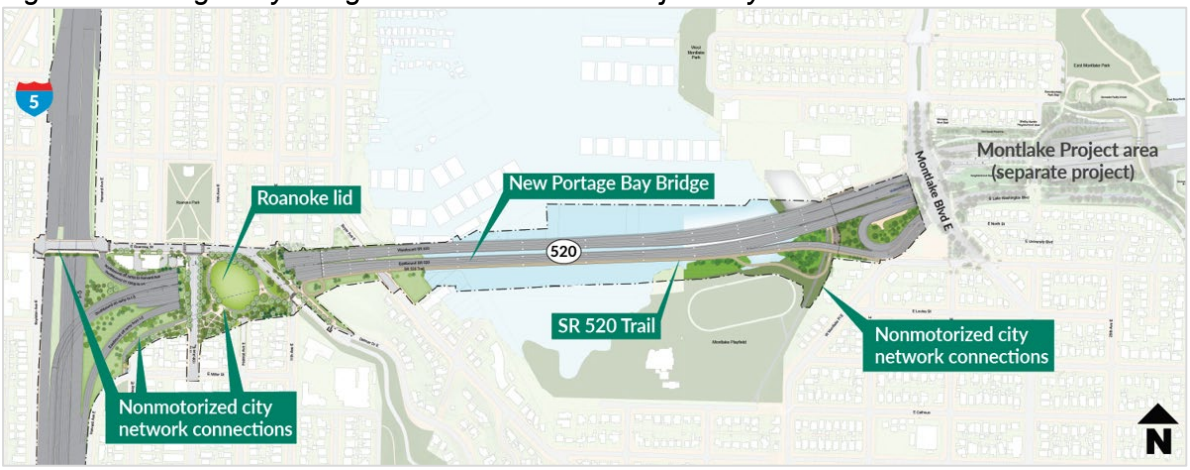
Portage Bay Bridge and Roanoke Lid Project

The Portage Bay Bridge and Roanoke Lid Project will complete SR 520's east-to-west reconstruction from I-405 to I-5. Like the highway's other 1960s-era bridges, the Portage Bay Bridge was built with hollow concrete columns and could collapse in a severe earthquake. This bridge's replacement will be built to current seismic standards. The project also will build a landscaped lid over SR 520 between 10th Avenue East and Delmar Drive East, complete the highway's transit/HOV system between the Eastside and Seattle, and extend the regional SR 520 Trail across Portage Bay to the new Roanoke lid.

Project benefits include:

- Safer travel from replacement of the old, structurally vulnerable Portage Bay Bridge with two parallel, seismically stronger bridges.
- Improved regional mobility with completion of the SR 520 Program's transit & HOV enhancements between Redmond and Seattle.
- Greater transportation options through an extension of the regional SR 520 Trail across Portage Bay, a new bicycle and pedestrian crossing over I-5, and connections to the city of Seattle's nonmotorized trail networks.
- A community-connecting highway lid between 10th Avenue East and Delmar Drive East, with landscaped open space on top.
- Improved water quality from a new system for treating SR 520 stormwater runoff.
- Wider highway shoulders that allow disabled vehicles to pull over without blocking traffic.

Figure 3: Portage Bay Bridge and Roanoke Lid Project key elements



City of Seattle projects

Apart from the SR 520 Program, the city will be undertaking projects in the coming years to improve mobility and safety throughout the Portage Bay neighborhood. In 2015, Seattle voters approved the Move Seattle transportation levy, which included funding for two projects to improve bus travel times and bus reliability and conditions for people walking, biking, rolling, and taking the bus in the Montlake and Roosevelt/University areas. These projects are the RapidRide J Line (formerly RapidRide Roosevelt) and the Route 48 Transit-Plus Multimodal Corridor. See Chapter 4 for more information about city projects and plans in the Portage Bay area.

Existing and predicted traffic volumes

As part of the SR 520 Program's 2011 Final Environmental Impact Statement (FEIS) WSDOT developed a Transportation Discipline Report to study how SR 520 construction might affect transportation in and around project areas. WSDOT conducted a haul study assessing 20 locations along the proposed haul routes (see map below for haul study locations).

Figure 4: Haul study locations

Source: Fig.10-8 in the Final Transportation Discipline Report, included as part of the 2011 FEIS

Figure 5 summarizes the results of the haul study, including the existing average daily traffic volumes (both truck/bus volumes) at given locations, and the anticipated increase in construction truck traffic at those same locations during construction. The predicted traffic data (columns on the right side of the chart below) outlines both the projected **average daily volume** (typical day) and **peak daily volume** (infrequent) of construction trucks on local streets.

The estimates for **"Project Average"** in the table below represent the typical volume of construction trucks that could be expected at each location when the haul route is in use. The actual daily volumes could vary up to 25%, up or down, from the average throughout the project depending on construction activities. **"Project Peak Activities"** refers to construction activities such as concrete placement that require more frequent arrivals of trucks than the average daily estimates. This high-production work is infrequent and requires substantial effort and above-average construction truck activity; therefore, this work is summarized separately from the typical daily results.

Figure 5: Haul study results

Exhibit 10-9. **Daily Construction Trucks on Local Streets**

		Existing Weekday			Project Average (Typical Day)		Project Peak Activities (Infrequent)	
Map Location	Study Street	Total Vehicle Volume	Daily Trucks and Buses	Trucks Percentage of Total Vehicles	Daily Trucks	Trucks Percentage of Total Vehicles	Daily Trucks	Trucks Percentage of Total Vehicles
1	NE 45th Street	36,700	1,430	3.9	15	< 0.1	220	0.6
2	Boylston Avenue East	13,360	250	1.9	25	0.2	240	1.8
3	Boylston Avenue East	10,330	240	2.3	7	0.1	60	0.6
4	Boylston Avenue East	13,700	340	2.5	25	0.2	240	1.8
5	Harvard Avenue East	8,000	310	3.9	6	0.1	110	1.4
6	Harvard Avenue East	17,640	690	3.9	15	0.1	70	0.4
7	East Roanoke Street	7,050	160	2.3	30	0.4	170	2.4
8	Fuhrman Avenue East	7,240	170	2.3	20	0.3	230	3.2
9	Boyer Avenue East	5,940	130	2.2	20	0.4	230	3.9
10	Boyer Avenue East	6,180	140	2.3	15	0.2	210	3.4
11	Delmar Drive East	4,910	100[a]	2.0	20	0.4	160	3.3
12	East Lynn Street	5,270	110[a]	2.1	15	0.3	120	2.3
13	East Roanoke Street	4,630	140	3.0	20	0.4	290	6.3
14	Montlake Boulevard East	57,350	1,410	2.5	10	< 0.1	100	0.2
15	Montlake Boulevard East	33,180	920	2.8	25	0.1	280	0.8
16	Lake Washington Boulevard	7,230	90	1.2	30	0.4	290	4.0
17	NE 24th Street	3,500	70	2.0	20	0.5	100	2.9
18	84th Avenue NE	7,790	220	2.8	2	< 0.1	10	0.1
19	NE 28th Street	4,390	60	1.4	5	0.1	20	0.5
20	92nd Avenue NE	5,000	90	1.8	20	0.4	100	2.0

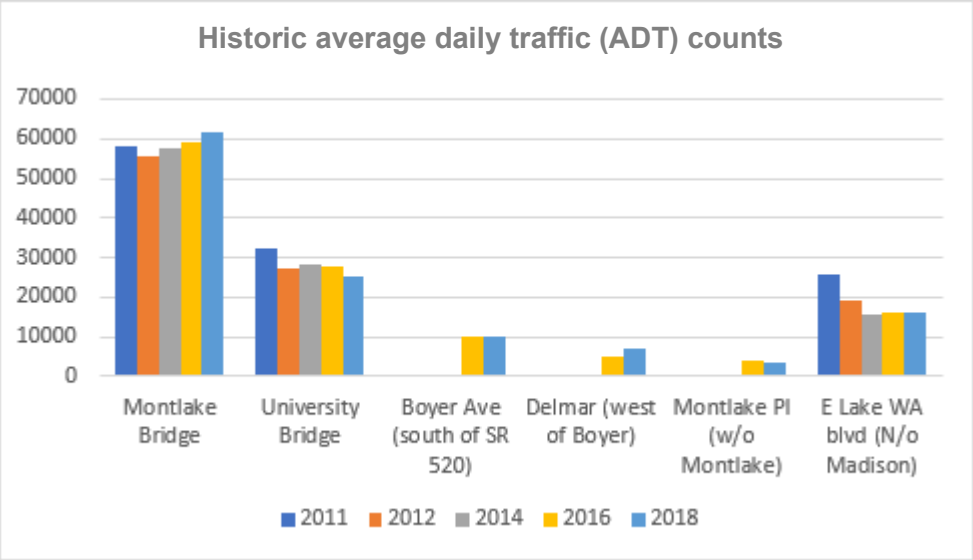
Source: Fig.10-9 in the Final Transportation Discipline Report

This comparison chart shows how the project trucks would add to the overall traffic conditions in the project area. The existing volume of trucks on typical urban arterial streets ranges from 2% to 3% of total vehicles, which is reflected in the data for most locations in the project area. During typical construction days (e.g., delivering materials to the work site, excavating and grading work, building retaining walls), the number of project trucks would amount to less than 1% of total traffic at any location.

On days when peak construction activities occur (e.g., pouring the concrete roadway deck of the new bridge), the volume of project trucks added to local streets would be similar to the existing volumes of trucks and buses at most locations. The additional trucks would range from 2% to 4% of existing vehicle volumes.

Because the original haul study was completed in 2011, the Neighborhood Traffic Management Plan team reviewed the city of Seattle's annual traffic flow maps from 2011 through 2018. The team found that traffic volumes on several of the designated haul routes – Delmar Drive East, Boyer Avenue East, University Bridge, Montlake Boulevard East and East Lake Washington Boulevard – have remained consistent. Major changes in daily traffic volumes are highly correlated with changes in land use, infrastructure and zoning. With the exception of the UW light rail station opening in 2016, there have been no significant land use or traffic changes in the SR 520 project areas, as reflected in Figure 6.

Figure 6: Historic average daily traffic counts on neighborhood streets



Data source: City of Seattle's annual traffic flow maps

Chapter 2: Public involvement

Public outreach informs the NTMP

Public outreach is essential to any transportation project or traffic management program. Outreach has played an integral role in developing the design of the reconstructed SR 520 corridor's design. WSDOT has collected public feedback throughout the life of the project to gain more insight about the daily conditions, concerns, and desired outcomes within the corridor. The public feedback summarized in this section informs the solutions described in Chapter 3 and Chapter 4.

Records search of all SR 520-related public comments

The 2011 MOU stipulates that WSDOT and the city of Seattle "identify community traffic management concerns and issues through a records search and community process." The purpose of this activity was to understand in greater detail public concerns about traffic in and around the Portage Bay Bridge and Roanoke Lid Project's footprint. This would be carried out by analyzing comments from all sources of public feedback. To fulfill this commitment, the NTMP team gathered public comments from several sources:

- **SR 520 correspondence database:** The database includes over 26,000 public comments on all project topics from email correspondence, phone calls to the project office, public events, and letters received between 2003 and 2022.
- **Stakeholder processes:** This includes more than 1,700 public comments on all project topics from the 2007-2008 mediation process, 2009 legislative workgroup process, 2010 ESSB 6392 workgroup and Arboretum processes, the 2011-2012 Seattle Community Design Process and the 2015 Final Concept Design Process.
- **Environmental process:** This includes 415 public comments made through the formal comment period on the 2010 Supplemental Draft EIS.
- **Montlake Phase NTMP public process:** This includes over 500 comments relating to the Montlake NTMP.

The NTMP team evaluated the comments from the above sources and identified those that were relevant for the Portage Bay and Roanoke Lid Project.

Public meetings and comment periods

Public involvement played an important role in the development of previous NTMPs for the West Approach Bridge North and Montlake projects. The NTMP team built on existing resources by conducting additional outreach in support of the Portage Bay NTMP update, including:

- **Summer/Fall 2019:** Between June and November 2019, WSDOT met with community members and stakeholders monthly to refine the Portage Bay Bridge and Roanoke Lid Project's conceptual design. This pre-COVID community design process included two public open houses, three community stakeholder workshops, and an online open house posted from June 20 through Nov. 13, 2019. WSDOT also coordinated with the Seattle Design Commission and the city of Seattle during this time to further advance the design of project elements. This design process helped the NTMP team preliminarily identify many of the community's traffic and mobility concerns in the Portage Bay neighborhood.

- **Spring 2021:** Based on neighborhood feedback during the community design process in 2019 about restoring the Boyer Steps – the stairway on the north side of SR 520 connecting Boyer Avenue East to Delmar Drive East – WSDOT conducted outreach to nearby residents and local agencies in May 2021 to learn more about the community's mobility and accessibility priorities. Through this effort, WSDOT and the city of Seattle decided to make on-street modifications to improve access before construction and rebuild the Boyer stairway towards the end of the project's completion. The planned on-street improvements that will facilitate the use of existing streets are described on page 30 of this report.

- **April 2022:** WSDOT held two public information sessions with frontline neighbors living closest to the project area to share general project information and introduce the upcoming NTMP process. The goal of these meetings was to outline anticipated construction effects on community members near the construction area and describe WSDOT's plans to minimize these effects. The frontline neighbor sessions also provided an opportunity for community members to ask questions and share their concerns.

- **June 2022:** WSDOT hosted an online open house from June 3 to Aug. 5 where stakeholders could learn more about anticipated construction effects. The online open house included a tab specifically addressing the ongoing NTMP process and provided a link to an online neighborhood traffic survey. The survey, which was a collaborative effort between WSDOT and the city, asked participants to describe their traffic and mobility concerns in the Portage Bay Focus Area and weigh in on a list of proposed traffic-management measures. See Appendix A for a summary of the survey results.

- **August 2022:** On Aug. 4, WSDOT and the city cohosted an online public meeting to provide an overview of the Portage Bay Bridge and Roanoke Lid Project, share results from the neighborhood traffic survey, present the draft NTMP report, and highlight the list of proposed traffic management measures identified for the Portage Bay area. The public meeting kicked off a three-week public comment period asking community members to share their thoughts, questions and concerns related to the proposed traffic measures. Approximately 120 community members provided feedback during the public comment period.

- **Fall 2022:** Following the public comment period, the NTMP team prepared a public comment summary providing an overview of what the team heard. Appendix B to this report includes the summary. Many of the comments the team received expressed the desire for more information related to existing and predicted traffic counts, anticipated haul routes and access to work zones, contract requirements for reducing construction impacts, and allowance of barges for construction and material hauling. In response, the team developed a Neighborhood Q&A document to address key themes and concerns related to neighborhood traffic, as well as broader construction-related topics. The Neighborhood Q&A is available on our project website. Relevant content from the Q&A has also been incorporated into this updated report.

  In tandem with development of the Neighborhood Q&A, WSDOT hosted a hybrid (in-person and online) public meeting on Nov. 3, 2022, in partnership with the Portage Bay/Roanoke Park Community Council. The goal of the meeting was to provide detailed information about the project's expected construction effects and to share tools and resources for frontline neighbors. Approximately 45 neighbors attended the meeting in person and 35 attended online.

- **Winter 2022/2023:** During the winter, the NTMP team used the community's feedback to refine and finalize the list of traffic management measures selected for implementation. The final list of measures is outlined in Chapter 4.

Key themes from the neighborhood traffic survey

The neighborhood traffic survey was open from June 3 to 24, 2022. WSDOT and the city received 38 completed surveys. Participants primarily live in (82%), drive through (53%) and/or walk/bike/roll through (45%) the NTMP Focus Area.

Survey respondents listed the following key priorities and concerns during construction:

- Traffic congestion, speeding and cut-through traffic
- Bicycle/pedestrian safety, accessibility and connectivity
- Street closures, sidewalk/path closures and detours during construction

Survey respondents also expressed strong support for pedestrian safety and accessibility improvements, such as crosswalk markings, sidewalk widening, crossing beacons and improved curb ramps. See Appendix A for a summary of the survey results.

Figure 7: June traffic survey results – top concerns

What are your top concerns about potential impacts to neighborhood streets during construction of the Portage Bay Bridge and Roanoke Lid Project?

Construction closures of local streets	59.5%	22
Safety for people walking, biking, and rolling	54.1%	20
Cut-through traffic on local streets	29.7%	11
Speeds of people driving	29.7%	11
Mobility and connectivity for people walking, biking, and rolling	24.3%	9
Other	24.3%	9
Transit reliability	13.5%	5
Wrong-way traffic	5.4%	2
Illegal U-turns	2.7%	1

Figure 8: June traffic survey results – traffic measure preference

During construction, we may be able to implement solutions to help manage traffic impacts to local streets. Please indicate if you have a mostly positive, mostly negative, or neutral reaction to each solution.

	Mostly positive	Neutral	Mostly negative	Responses
Aligning curb ramps with sidewalks/improving curb ramps Count Row %	16 45.7%	16 45.7%	3 8.6%	35
Changing on-street parking Count Row %	5 14.3%	16 45.7%	14 40.0%	35
Crossing beacons Count Row %	17 56.7%	10 33.3%	3 10.0%	30
Curb extensions/bulbs to limit vehicle access Count Row %	14 42.4%	7 21.2%	12 36.4%	33
Sidewalk widening Count Row %	21 63.6%	7 21.2%	5 15.2%	33
Crosswalk markings Count Row %	28 82.4%	5 14.7%	1 2.9%	34
Speed humps; speed cushions; raised intersection Count Row %	17 51.5%	6 18.2%	10 30.3%	33
Radar speed feedback signs Count Row %	15 46.9%	8 25.0%	9 28.1%	32
Hardened center line; raised line separating vehicle lanes before and after intersection Count Row %	12 36.4%	12 36.4%	9 27.3%	33

Key themes from the public comment period

During the public comment period, open from Aug. 4 to Aug. 26, 2022, members of the public could submit comments via email, mail, online survey, or through our online open house feedback form. WSDOT and the city received 119 comments from the following sources:

- 76 emails to the NTMP inbox
- 41 online surveys
- Two submitted through the online open house feedback form

Of the 119 comments submitted, most comments focused on three key areas:

- Concerns about neighborhood traffic impacts, particularly related to existing and anticipated traffic congestion, construction detours, and haul routes;
- Concerns about bicycle and pedestrian safety and ensuring safe access for those who walk, bicycle, and roll through the project area; and
- Requests for more information related to existing and predicted traffic counts, anticipated haul routes, access to work zones, contract requirements for reducing construction impacts, and allowance of barges for construction and material hauling.

Survey respondents mentioned several different intersections and locations as areas of concern. The table below show the top five streets and intersections mentioned and their associated concerns. See Appendix B for a high-level summary of public feedback gathered during the comment period.

Location	Key concerns
Boyer Avenue East/Fuhrman Avenue East (Lynn to Eastlake)	• Bicycle/pedestrian safety • Traffic congestion* • Speeding • Road condition • Retention of existing traffic calming measures
Delmar Drive East (Lynn to Roanoke)	• Bicycle/pedestrian safety • Traffic congestion* • Speeding • Road condition
19th Avenue East (Lynn to Calhoun)	• Bicycle/pedestrian safety • Traffic congestion* • Speeding
10th Avenue East (Boston to Roanoke)	• Bicycle/pedestrian safety • Traffic congestion* • Intersection functionality
Lake Washington Boulevard East (SR 520 to Calhoun)	• Bicycle/pedestrian safety • Traffic congestion* • Speeding

**Concerns related to existing traffic congestion and anticipated traffic congestion during construction from construction vehicles and road closures.*

Chapter 3: Projects completed or underway

Improving mobility and safety for all travel modes in and around the SR 520 corridor has been an important goal of the SR 520 Program. In collaboration with the city, WSDOT has implemented several design elements throughout the SR 520 corridor and surrounding neighborhoods that accomplish that goal. With the upcoming Portage Bay Bridge and Roanoke Lid Project, several of the project's design elements will bring additional improvements to this area. This chapter focuses on traffic and safety improvements associated with the SR 520 Program and outlines best management practices WSDOT will use to manage traffic during project construction.

SR 520 Program: completed mobility and safety improvements

WSDOT has implemented several measures to actively manage traffic safety and flow on the entire SR 520 corridor and has partnered with other agencies to improve both the regional and local transportation system around the SR 520 corridor. WSDOT achieved this, in part, through the following corridor traffic management strategies:

SR 520 corridor traffic management

Improvement	Benefit
✓ Incident response teams	Rapid response to clear incidents more efficiently within the corridor
✓ Intelligent Transportation Systems (ITS)	Manages flow on the SR 520 corridor through variable speed-control signs and variable-message signs for driver information and decision-making
✓ Electronic tolling	Variable tolling redistributes traffic volumes on the corridor to off-peak periods and improves travel times
✓ Transit/HOV lane extension and performance standards	Improves mobility and reliability for high-occupancy vehicles and transit

✓ *Completed*

These improvements provide benefits to the traveling public by balancing traffic flow and minimizing delays on the major highway. They also benefit transit travel by maintaining HOV bypass lanes at on-ramps, clearing incidents quickly and efficiently, and supporting traffic flow in the HOV lanes.

West Approach Bridge North phase (opened to traffic August 2017)

WSDOT incorporated several traffic management measures into the West Approach Bridge North Project. These improvements focused on maintaining traffic flow for vehicles using the Montlake Boulevard/SR 520 interchange and reducing potential construction effects on local streets. See the table below for more information about improvements associated with the West Approach Bridge North Project.

Improvement	Benefit
✓ Montlake Triangle Project (primarily funded by WSDOT)	Improves safety and efficiency for pedestrians, bicyclists and motor vehicles on SR 520 and Montlake Blvd by providing a grade-separated crossing near Husky Stadium for pedestrians and bicyclists
✓ Traffic-calming measures in the Arboretum (funded by WSDOT)	Improves safety and mobility for pedestrians and motorists through the Arboretum

✓ Added westbound lane on Lake Washington Boulevard East between 24th Avenue East and Montlake Boulevard East	Improves capacity and flow on westbound Lake Washington Boulevard East
✓ Redistributed lane widths on northbound Montlake Boulevard East between the westbound off-ramp to Montlake Boulevard East and East Hamlin Street to accommodate transit operations and bicycle mobility	Improves transit capacity and reliability; improves bicycle safety and mobility
✓ SR 520 regional shared-use path extended from the floating bridge to Montlake neighborhood – opened December 2017	Creates new regional pedestrian and bicycle connection to and from the local trails in Seattle and the Eastside
✓ Arboretum Loop Trail improvements – opened November 2017 (funded by WSDOT)	Improves pedestrian and bicycle safety and mobility through the Arboretum and future connections to SR 520 trails

✓ *Completed*

The Montlake Triangle provides a grade-separated crossing over Montlake Boulevard NE for pedestrians and bicyclists.

SR 520 Program: mobility and safety improvements currently underway

Montlake Project (in construction until 2024)

The Montlake Project will improve transportation for both motorized and nonmotorized travel along the corridor with a new eastbound SR 520 bridge over Union Bay. This project also builds a new, three-acre lid covering the highway in Montlake that will include regional transit stops and open green space. East of the lid, a bicycle and pedestrian bridge will be constructed over SR 520.

Improvement	Benefit
✓ Curb extensions on Lake Washington Boulevard East at East Miller Street	Prevents illegal turns, wrong-way traffic and cut-through traffic
✓ Speed humps installed on 25th Avenue East and 26th Avenue East between Boyer Avenue East and East Lynn Street	Prevents speeding and cut-through traffic
✓ Curb ramp widening on the east side of Montlake Boulevard East at East Shelby Street	Improves pedestrian access by aligning the curb ramps
✓ Dual left-turn lane from northbound Montlake Boulevard East to the eastbound SR 520 on-ramp	Accommodates additional traffic following the permanent closure of the eastbound on-ramp from Lake Washington Boulevard
✓ Raised intersection at 24th Avenue East and Lake Washington Boulevard	Improves pedestrian and bicycle safety and mobility
✓ Signalized intersection at 24th Avenue East and Lake Washington Boulevard East	Supports traffic flow and reduces backups on SR 520 mainline, 24th Avenue East off-ramp and Lake Washington Boulevard East
✓ Upgraded traffic signal equipment	Allows forward compatibility with future adaptive signals

✓ Enhanced crossing at Lake Washington Boulevard East and East Roanoke Street	Improves safety and mobility for pedestrians and bicyclists
○ SR 520 transit/HOV direct-access ramps on Montlake lid	Improves transit/HOV access, capacity and reliability on SR 520 mainline and in the Montlake Boulevard corridor
○ Dual left-turn lane from northbound Montlake Boulevard East to westbound SR 520 on-ramp	Improves traffic flow through Montlake Boulevard
○ Sidewalk crossing distances reduced where possible throughout the Montlake interchange	Improves pedestrian and bicycle safety and mobility
○ Complete connection of regional shared-use path to Montlake Boulevard East	Improves nonmotorized mobility and connectivity
○ Bicycle and pedestrian land bridge across SR 520 east of the Montlake lid	Provides a new nonmotorized connection between the Arboretum, neighborhood greenways and points north
○ Roanoke Plaza transit and pedestrian improvements at intersection of East Roanoke Street and East Montlake Place East	Improves transit connectivity, neighborhood greenway connections and pedestrian mobility and safety

✓ *Completed*
○ *Under construction*

I-5 Express Lanes Connection Project (in construction until 2024)

The SR 520/I-5 Express Lanes Connection Project will create a dedicated reversible transit and carpool connection between SR 520 and the I-5 express lanes, along with a reversible transit/carpool ramp at the I-5/Mercer Street interchange. This project is being phased in a way that minimizes contractor overlap in the Montlake area while keeping regional and local traffic moving during construction. In doing so, this project will provide earlier-than-planned Eastside/South Lake Union transit service via the reversible I-5 express lanes connection. The connection is scheduled to open in 2024 for transit instead of the originally expected opening in 2029.

Improvement	Benefit
○ A new, reversible transit/HOV lane that connects SR 520 and the I-5/Mercer Street interchange	Safer, quicker, more reliable bus and carpool travel between the Eastside, the South Lake Union area, and downtown Seattle

○ *Under construction*

Traffic management solutions during SR 520 construction

In addition to existing traffic management solutions, WSDOT and the city are working together to outline specific requirements that will support mobility in the Portage Bay area during construction. These efforts will be outlined in the following documents and/or will be implemented using the following tools:

- Community Construction Management Plan (CCMP)
- Communications tools
- Traffic coordination during construction

WSDOT's Programmatic Agreement, prepared under Section 106 of the National Historic Preservation Act, requires that each phase of SR 520 construction from Seattle to Medina will include a Community Construction Management Plan (CCMP). Previous CCMPs were prepared for the West Approach Bridge North, Floating Bridge and Landings, and Montlake projects.

The current draft plan for the Portage Bay Bridge and Roanoke Lid Project (available on our Construction Corner web page) is written to incorporate the project's permit requirements and assumptions about the design-builder's potential means and methods for construction. The plan also outlines best practices and communications tools to limit the effects of construction on the community. Some of these requirements, practices and tools are listed below.

The Community Construction Management Plan is an evolving document that addresses overall construction effects to the neighborhood (e.g., noise, vibration, dust, lighting, and construction-related traffic). Once the contractor has been selected, WSDOT will require the contractor to update the Portage Bay CCMP based on their intended approach to building the project. It will then be shared with the public in late 2023 or early 2024.

Hauling

The contractor will need to haul construction materials to and from construction sites and work areas. To the maximum extent possible, the contractor will use the **primary** haul routes – I-5, SR 520, and I-90 – for material hauling during construction to reduce impacts on local roads. Construction vehicles also will need to use some secondary haul routes (marked with the yellow dotted line on the map below) to go to and from the construction sites and staging areas, and back onto the primary haul routes. Secondary haul routes include some of the following arterial streets (designated by the city as truck routes) near the Portage Bay, Roanoke Park and Montlake neighborhoods: Delmar Drive East, East Roanoke Street, Boyer Avenue East, Fuhrman Avenue East, Lake Washington Boulevard East, West Montlake Place East, 19th Avenue East and Harvard Avenue East). To reduce daytime traffic disruptions there will be some nighttime hauling. Roadway surfaces will be repaired and maintained before, during, and after construction.

Figure 9: Haul routes for the Portage Bay Bridge and Roanoke Lid Project

Work bridge access

Construction activities for project will occur at several locations along SR 520, from the Montlake Boulevard interchange west across Portage Bay to the SR 520/I-5 Interchange. The construction area also includes the westbound SR 520 on-ramp from Montlake Boulevard and the eastbound off-ramp to Montlake. The project's construction activities also will occur on surface streets near the Montlake interchange and SR 520/I-5 interchange, including East Roanoke Street and the Boyer Avenue East to Boylston Avenue East area. The work will include replacement of the bridges at 10th Avenue East and Delmar Drive East, as well.

The contractor will be able to access the Portage Bay work bridge from five separate locations (see map below):

1. From the western shore of Portage Bay via the WSDOT-owned property on Boyer Avenue East, referred to as the Frolund property.
2. From the eastern shore of Portage Bay via property next to the current National Oceanic and Atmospheric Administration (NOAA) facility.
3. From barges or work platforms in Portage Bay.
4. From the eastbound SR 520 off-ramp to Montlake Boulevard.
5. From SR 520 itself.

Figure 10: Work bridge access

Use of barges for construction

Because this is a design-build project, the prime contractor will propose the specific construction methods. WSDOT will not preclude the use of barges and does expect that contractors will use them to the extent feasible.

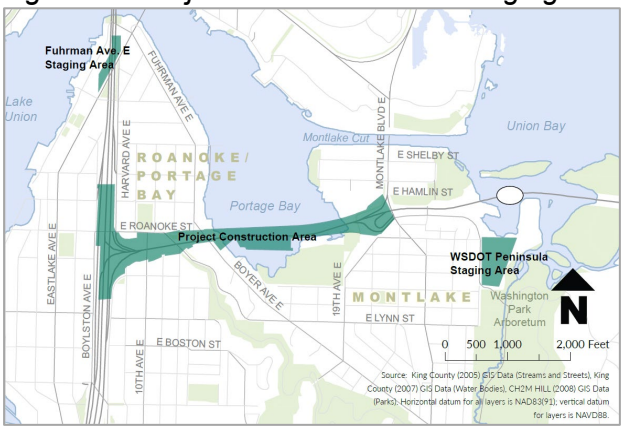
In some cases – like delivering and removing materials or building smaller temporary structures – barges can be very effective. For example, in September 2022, WSDOT installed an in-water test pile in Portage Bay and used barges to deliver, install and remove the temporary pile. However, based on the water depth, proximity of the yacht clubs and other vessel traffic, extensive use of barges could negatively affect the surrounding area. For more information related to barges and marine construction, please refer to pages 4-7 of our Neighborhood Q&A.

Construction staging
WSDOT believes the contractor will stage equipment and materials on land near the SR 520 Program construction areas, including WSDOT right of way along and adjacent to SR 520, the WSDOT Peninsula, and WSDOT right of way under the Ship Canal Bridge (see map below). The former Montlake Market property will not be used for staging.

Staging areas will vary in size and function but will be available for use by the contractor 24 hours per day, seven days per week. WSDOT and the contractor will follow all WSDOT, federal, local and statewide regulatory requirements and/or regulations, as required by the contract. Required best management practices used on the project will include but are not limited to:

- Locating construction sheds, barricades, and material storage away from private properties, and avoid obscuring views of and from private properties;
- Avoiding short-term construction features where they would damage or require removal of mature trees;
- Installing temporary noise-barrier and visual fencing around the Roanoke lid construction area; and
- During nighttime hours, prohibiting the use of pure-tone backup warning devices and limiting equipment idling to five minutes.

Figure 11: Project construction and staging areas



Parking
The contractor and its employees will not be allowed to use on-street parking in the project area for their personal vehicles. The contractor will provide its own parking spaces for employee vehicles. If certain vehicles require special access to the project, temporary exceptions may be made. However, if this happens, neighbors will receive notification in advance. WSDOT encourages neighbors to call the 24/7 construction hotline if they observe employees parking personal vehicles on neighborhood streets.

Street closures and detours
Constructing the Roanoke Lid will require temporary street, crossing, sidewalk and trail closures. 10th Avenue East, Delmar Drive East, Boyer Avenue East and East Roanoke Street will be closed at certain points during construction.

During construction, the contractor will have limitations regarding the frequency and duration of lane and road closures. The contractor will be required to perform work within a limited number of weekend or nighttime closures of SR 520 – in one or both

directions. The contractor will also be required to follow established best management practices for detours and closures. These include:

- Coordinating local street closures with the city of Seattle through city-issued street use permits;
- Coordinating closures/detours in advance with transit providers;
- Providing adequate signing for detours and closures; and
- Having all detours, including all signage, in place before the closure of any road or lanes, and acquiring all detour agreements with the affected local jurisdiction. WSDOT will provide advance notices to neighbors regarding closures and/or detours.

If neighbors have concerns about vehicle, bicycle or pedestrian routes during construction, they're encouraged to call the 24/7 construction hotline.

Bill Dawson Trail closure
For safety reasons, the Bill Dawson Trail – where it crosses under SR 520 – will need to be temporarily closed during construction. It will be improved and reconnected with new features once the project is completed. A well-signed detour route, likely via East Roanoke Street, Montlake Boulevard East and West Montlake Place, will be in place while it is closed.

Completion of the Montlake Project in 2024 will improve pedestrian and bicycle connections through this area and include 14-foot sidewalks on top of the new Montlake lid. These improvements will support nonmotorized movement while the trail is closed.

Boat access in Portage Bay
WSDOT will require the contractor to keep a navigation channel under the Portage Bay Bridge open during construction. For safety reasons, there may be times when the channel will need to be temporarily closed. The channel will provide approximately 10 feet of vertical clearance under the temporary work bridge throughout construction and allow small boat access to south Portage Bay. This clearance will be provided when the lake is at its highest level in the summer and will exceed 10 feet when the lake levels drop in the winter.

Neighborhood services
The contractor will follow established best management practices to reduce impacts to public and emergency services, including:

- Limiting access interruptions to public facilities affected by the project unless there is a public/construction safety risk.
- Cooperating with law enforcement and other emergency response agencies if accidents, fires, spills, or other emergencies happen in an area affected by the project.
- Working with emergency service providers to address their concerns about emergency access to and through the project corridor.
- Ensuring that access to all historic properties is maintained. Except for emergency situations, this includes providing 24-hour advance notice to affected property owners before any unavoidable interruptions of access.
- Consulting with affected property owners to address their needs, which may include the development of an alternate access strategy for short-term interruptions of access and longer-term detours.

Transit routes
Project construction will cause some temporary bus service disruptions or detours. WSDOT coordinates with King County Metro and the city on any potential service changes and will provide advance notification when service changes occur.

Incentives
A unique feature to the project contract is an "incentive fund" for minimizing construction effects. The contract will offer an extra pool of funding for instances where the contractor goes above and beyond what is required in the contract, such as reducing closures and other traffic disruptions in the neighborhood. This incentivizes the contractor to be more creative in phasing work and reducing construction effects in the community. Public feedback – whether complaints about impacts or praise for exceptional responsiveness – helps determine the incentive awards. Community members will have an opportunity to share and shape the contractor's strategies to limit construction impacts through the Community Construction Management Plan both before and during construction.

Communications tools

WSDOT, with support from the city of Seattle, is committed to keeping the community informed of any planned and unexpected traffic effects, access closures and detours. This commitment will be affirmed as a requirement within the project contract. The project team will use the following tools to communicate with neighbors and the traveling public:

SR 520 "Construction Corner" website
WSDOT will post project information about road or access closures on the existing SR 520 Construction Corner website at sr520construction.com. The Construction Corner's construction map provides detailed information on current or upcoming construction activities that could affect nearby residents or travelers. The Construction Corner website is intended to be a dynamic resource for the community to receive the latest project information.

Project notifications
WSDOT will provide advance notice to affected neighbors before the start of any closure or detour. Notification may be delivered by phone, email, door-to-door outreach, SR 520's Twitter account, SR 520's *Rest of the West* e-newsletter subscriber list, or other relevant methods.

24-hour construction hotline
A hotline will be established by the project team before construction begins. The hotline will provide a 24/7 contact for community members with questions or concerns related to construction.

Regular construction update meetings
The contractor will host regular construction update meetings (likely to be held online) for members of the public to learn about upcoming construction activities, anticipated construction effects, and to ask project-related questions. These meetings may also cover topics such as upcoming street or trail closures, design changes, upcoming public involvement opportunities, etc.

Traffic coordination during construction

WSDOT and its contractor will continue to coordinate with the city on typical construction coordination efforts, such as traffic-control plans during construction and planning for street and lane closures as the contractor finalizes the design.

The city plays an important role in coordinating construction activity with contractors and agencies to minimize construction effects for all modes of transportation in Seattle. The city, WSDOT and transit agencies track and coordinate construction and other activities through the Seattle Area Construction Look Ahead*, which provides an overview of construction work and major events that affect Seattle-area travel. This ongoing effort enables the city and agencies to anticipate and adjust high-impact construction activities to avoid or minimize effects on travelers.

*https://www.seattle.gov/transportation/projects-and-programs/current-projects/upcoming-construction-and-events

Portage Bay Bridge and Roanoke Lid Project: WSDOT permanent improvements

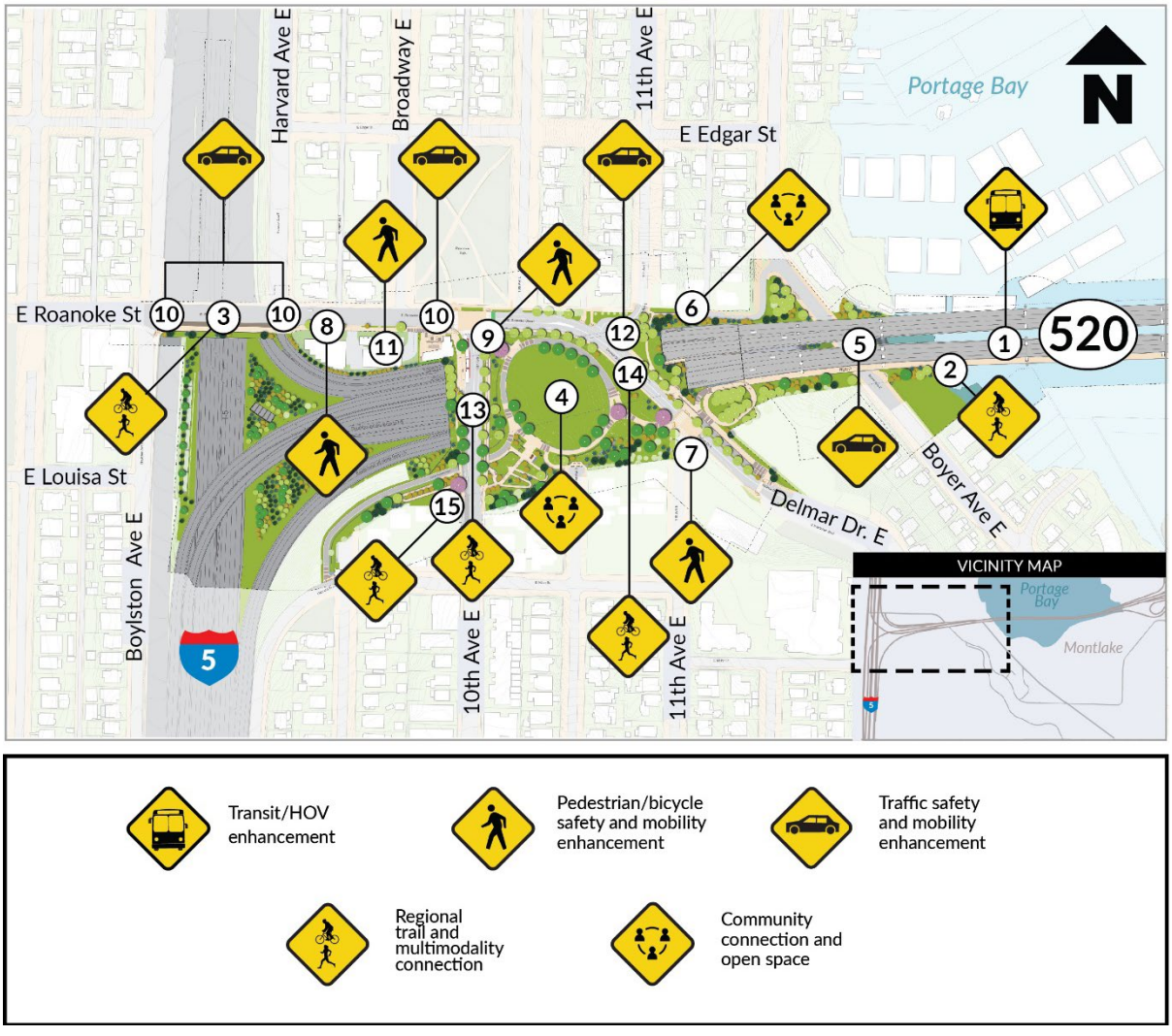
WSDOT and the city have worked closely to integrate traffic management strategies into the Portage Bay Bridge and Roanoke Lid Project's design. Based on public and agency feedback, the project will provide the following safety and mobility improvements:

Improvement	Benefit
1. Completion of the SR 520 Program's transit & HOV enhancements between Redmond and Seattle	Improves transit/HOV connectivity, capacity and reliability on SR 520
2. Extension of the east/west regional SR 520 Trail across Portage Bay	Improves connectivity for nonmotorized travel through the Portage Bay area with new connections to city of Seattle's trail networks
3. A new bicycle and pedestrian crossing over I-5	Improves connectivity for nonmotorized travel through the Portage Bay area and across I-5, with new connections to Seattle's trail networks
4. A community-connecting highway lid between 10th Avenue East and Delmar Drive East, with landscaped open space on top	Creates approximately three acres of new accessible community open space, with improved connectivity for nonmotorized travel through the Portage Bay area via new connections to Seattle's trail networks
5. Wider highway shoulders	Increased space for disabled vehicles to pull over without blocking traffic
6. Boyer Avenue East and Delmar Drive East stair connection replacement	Maintains a vital pedestrian access point in the neighborhood
7. Raised intersection at 11th Avenue East and Delmar Drive East	Improves safety and mobility for pedestrians, bike riders and rollers
8. Improved south sidewalk on East Roanoke Street between Harvard Avenue East and 10th Avenue East	Improves safety and mobility for pedestrians, bike riders and rollers
9. Crosswalk on the southside of the intersection of 10th Avenue East and East Roanoke Street	Improves safety and mobility for pedestrians, bike riders and rollers
10. Upgraded traffic signal equipment on East Roanoke Street at 10th Avenue East, Harvard Avenue East and Boylston Avenue East	Improves traffic flow; allows real-time monitoring and adjustment by SDOT Transportation Operations Center

11. Enhanced warning system for the sidewalk in front of Fire Station 22	Improves safety for pedestrians, bike riders and rollers
12. Reconfigured intersection, north of the lid, at East Roanoke Street, Delmar Drive East and 11th Avenue East	Improves intersection configuration and pedestrian/bicycle safety and mobility
13. Wider sidewalks and separated bike facilities on 10th Avenue East	Improves connectivity for nonmotorized travel through the Portage Bay area; improves safety and mobility for pedestrians, bike riders and rollers
14. Wider sidewalks and separated bike facilities on Delmar Drive East	Improves connectivity for nonmotorized travel through the Portage Bay area; improves safety and mobility for pedestrians, bike riders and rollers
15. Local connections for cyclists and pedestrians including path to Harvard Avenue, 10th Avenue East undercrossing, and pedestrian ramps to 10th Avenue East	Improves connectivity for nonmotorized travel through the Portage Bay area; improves safety and mobility for pedestrians, bike riders and rollers

In addition to the above, Americans with Disabilities Act (ADA) improvements will be made throughout the project limits at various locations, improving ADA-accessibility in the neighborhood.

Figure 12: Portage Bay Bridge and Roanoke Lid Project – WSDOT permanent improvements



Boyer Steps replacement

The Portage Bay Bridge and Roanoke Lid Project will remove the existing stairway on the north side of the SR 520 mainline that connects Boyer Avenue East to Delmar Drive East (Boyer Steps). The removal is needed to accommodate the width of a new Portage Bay Bridge. The city and WSDOT together evaluated the feasibility of providing an ADA-accessible connection between Delmar and Boyer to replace the function of the Boyer Steps. They determined, however, that an ADA-accessible connection located north of SR 520 was not feasible due to limited right of way width, steep terrain, and the required acquisition of at least four single-family homes. Additionally, while the south side of SR 520 has adequate public right of way for an accessible connection, the area is located within a landslide area and was therefore deemed unfeasible.

Through stakeholder and community outreach, it became apparent that the Boyer Steps provide an important connection for the community. WSDOT determined, and the city concurred, that rebuilding the stairway in a similar location and making on-street improvements before project construction begins is the best option for replacing the function of the existing Boyer Steps.

While the replacement stairs will not meet current ADA guidance, they will meet current WSDOT and city of Seattle design standards. For a list of on-street improvements that will be made before the Boyer Steps are closed for reconstruction, see Chapter 4.

Chapter 4: Local traffic improvements

While Chapter 3 describes WSDOT improvements within the SR 520 corridor, Chapter 4 focuses on traffic management measures (both temporary and permanent) on local streets. The list of potential traffic measures, originally proposed in the draft Neighborhood Traffic Management Plan, has been refined in the final NTMP based on community feedback and analysis of each project's effectiveness. Included in the final list of local street projects is an implementation timeframe. This chapter also discusses projects under development by the city, and long-term city projects and plans.

Neighborhood traffic management tools

The NTMP team considered a variety of traffic management tools to address the community's concerns. Two examples of commonly used tools include:

- **Speed humps:** Speed humps can be effective at reducing speeds and diverting traffic to adjacent streets. Like speed humps, **speed cushions** are divided into sections. Speed cushions are more appropriate for arterial streets or nonarterial emergency routes. The city requires community support through a petition process to install speed humps and cushions.

- **Crossing enhancements**: Crossing enhancements, such as crossing beacons, reduce vehicle speeds approaching the crossing point, which helps to improve safety and mobility.

The city has specific requirements of public support or a history of collisions to implement some of the tools above. Additionally, because some of these treatments have the potential to affect emergency response time, installations on fire-response routes require evaluation and approval by the Seattle Fire Department.

Final list of traffic management measures

In the August 2022 draft of this report, WSDOT and city staff shared a preliminary list of traffic management measures that were selected based on public feedback and their ability to improve safety and mobility in the Portage Bay area. Using a set of criteria, such as existing and projected traffic patterns, collision history, and street geometry and constructability issues, as well as funding feasibility, the team determined which measures would be most effective.

The final list, shown in the tables below, is divided into the following three categories:

- **Measures planned for implementation** are measures that the city and WSDOT will implement in the near future.
- **Measures currently on hold and/or requiring future analysis** are measures that require additional data to be gathered and/or coordination before a final decision can be made.
- **Measures removed from consideration** are measures that were closely analyzed but deemed ineffective or unfeasible by WSDOT and city traffic engineers.

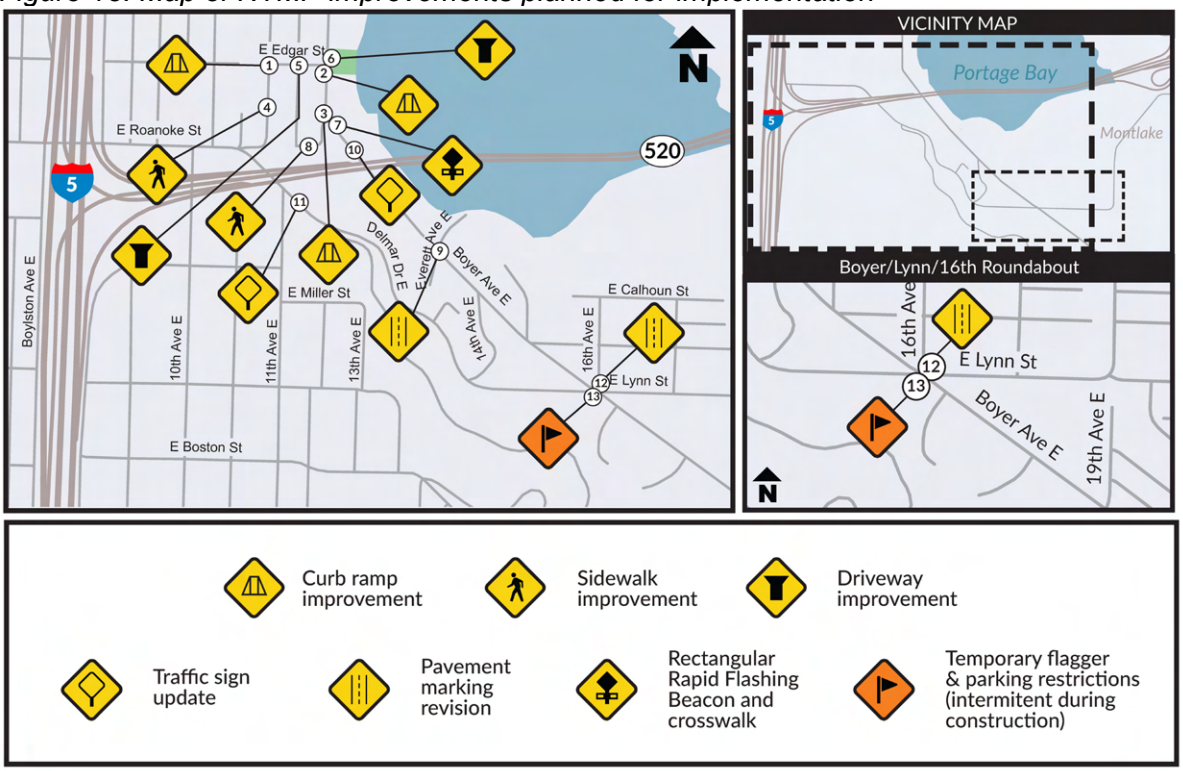
Measures planned for implementation

This table includes treatments determined to be effective by the technical team and supported by the community. Measures 1 through 8 will be constructed to address the community's concerns related to closure of the Boyer Steps during reconstruction. These pedestrian access improvements will provide an alternative route to the Boyer stairway while the steps are being removed and replaced. Measures 9 through 12 were added to the list following the public comment period. WSDOT will provide funds to the city, and the city will construct these permanent improvements in 2023 and 2024. Measure 13 is a temporary measure that will be implemented during construction.

Location	Treatment	Concern Addressed	Implementation Timeframe
1. **East Edgar Street and 11th Avenue East***	Curb ramp improvement	Pedestrian safety and access	Construction planned for 2024
2. **East Edgar Street and Boyer Avenue East***	Curb ramp improvement	Pedestrian safety and access	Construction planned for 2024
3. **Boyer Avenue East near East Roanoke Street***	Curb ramp improvement	Pedestrian safety and access	Construction planned for 2024
4. **11th Avenue East between East Edgar Street and East Roanoke Street*** *(multiple locations)*	Sidewalk spot repair	Pedestrian safety and access; neighborhood connectivity	Construction planned for 2024
5. **East Edgar Street at alley ingress/egress***	Driveway improvement	Pedestrian safety	Construction planned for 2024
6. **Boyer Avenue East at entrance to Astrid's Park***	Driveway improvement	Pedestrian safety	Construction planned for 2024
7. **Boyer Avenue East and East Roanoke Street***	Rectangular Rapid Flashing Beacon and new crosswalk	Pedestrian safety	Construction planned for 2024
8. **East Roanoke Street near Boyer Steps***	Sidewalk spot repair	Pedestrian safety and access	Construction planned for 2024
9. **Boyer Avenue East and Everett Avenue East**	Pavement marking revision	Bicycle and pedestrian safety	Construction planned for 2023/2024
10. **Boyer Avenue East** *(multiple locations)*	Traffic sign update	Bicycle and pedestrian safety	Sign replacement planned for 2023/2024
11. **Delmar Drive East** *(multiple locations)*	Traffic sign update	Bicycle and pedestrian safety	Sign replacement planned for 2023/2024
12. **Five-way intersection at Boyer Avenue East/East Lynn Street/16th Avenue East**	Pavement marking revision and pedestrian refuge construction	Traffic safety	Construction planned for 2023/2024
13. **Five-way intersection at Boyer Avenue East/East Lynn Street/16th Avenue East**	Temporary/ intermittent daytime parking removal and flagger on-site during hauling	Haul route/turn radius issues; traffic safety	Implementation during project construction (2024-2030)

**These improvements came as a result of community concerns related to reconstruction of the Boyer Steps.*

Figure 13: Map of NTMP improvements planned for implementation



Measures on hold and/or requiring future analysis

Measures listed in the table below were suggested by members of the community and analyzed by the NTMP team but are not being pursued at this time. Each measure has been placed on this "watch list" for different reasons (see "Notes" below). During project construction, if there are significant changes in traffic patterns and/or concerns raised by the community, WSDOT and the city will revisit this list, consider additional analysis (e.g., collect speed data, coordinate with Seattle Fire Department, etc.) and implement these measures if they're warranted.

Location	Potential Treatment	Concern Addressed	Notes
14. 11th Avenue East between East Roanoke Street and East Hamlin Street^	Speed humps or speed cushions	Speeding	Determined by Seattle Fire Department to interfere with emergency response times.
15. 11th Avenue East and East Edgar Street^	Prohibiting right-turn movements at E Edgar St for traffic traveling northbound on 11th Ave E	Cut-through traffic	Restricting right turns from 11th Ave E to E Edgar St would force more traffic onto E Hamlin St.
16. 11th Avenue East between East Roanoke Street and East Edgar Street^	Making 11th Ave E one-way for the block between E Roanoke St and E Edgar St	Cut-through traffic	Since 10th Ave E is a southbound street, 11th Ave E would have to be northbound to maintain circulation through the neighborhood. Northbound 11th Ave E would not address the cut-through traffic concern in this area.

17. Boyer Avenue East and 14th Avenue East	Curb ramp improvement; curb extension	Pedestrian safety; cut-through traffic	Will monitor to see if speeding and cut-through traffic become an issue during construction.
18. 19th Avenue East and East Calhoun Street	Marked crosswalk	Pedestrian safety	Pedestrian counts will be collected in spring or summer 2023 to determine if a marked crosswalk is warranted.
19. Fuhrman Avenue East and East Gwinn Place	Speed cushions	Speeding	Traffic data collection and coordination with Seattle Fire Department would be needed due to designation as fire route.
20. Delmar Drive East and 14th Avenue East	Curb bulbs	Speeding and cut-through traffic	Traffic data collection needed; will monitor to see if speeding and cut-through traffic become an issue during construction.
21. Broadway Avenue East, East Edgar Street and 10th Avenue East	Speed hump	Speeding and cut-through traffic	Traffic data collection needed; will monitor to see if speeding and cut-through traffic become an issue during construction.

^With regards to traffic management solutions on 11th Avenue East, north of East Roanoke Street (measures 14-16), the NTMP team is committed to tracking what, if any, traffic effects are being caused by construction. To gauge the level of change or impact, WSDOT and the city have collected baseline preconstruction traffic counts and speeds on 11th Avenue East – between East Roanoke Street and East Hamlin Street. WSDOT and the city will continue to monitor traffic counts and speeds in this location during construction.

Measures removed from consideration

The measures below were determined to be ineffective, unwarranted, or unfeasible by the NTMP team. While these measures will not be further analyzed at this time, WSDOT and the city will continue to monitor these intersections during construction and consider potential effective treatments in the future as needed.

Location	Assessed Treatment	Concern Addressed	Notes
22. Boyer Avenue East/Fuhrman Avenue East (Lynn to Eastlake)+	Radar speed signs	Speeding	This corridor does not warrant radar speed signs (see note below for additional context).
23. Boyer Avenue East/Fuhrman Avenue East (Lynn to Eastlake)	Curb ramps and curb bulbs where none exist	Pedestrian safety and access	Significant investment that is outside the scope of this NTMP.
24. Boyer Avenue East/Fuhrman Avenue East (Lynn to Eastlake)	Replacing existing speed humps w/ slightly higher humps	Speeding	Significant investment with limited positive impact.
25. Boyer Avenue East near East Lynn Street and 16th Avenue East+	Radar speed signs	Speeding	This location does not warrant radar speed signs (see note below for additional context).

26. Delmar Drive East (Lynn to Roanoke)	Curb ramps and curb bulbs where none exist	Pedestrian safety and access	Significant investment that is outside the scope of this NTMP.
27. Delmar Drive East (Lynn to Roanoke)	Radar speed signs	Speeding	Limited effectiveness.
28. 19th Avenue East (Lynn to Calhoun)	Speed humps or speed cushions	Speeding	Existing speed cushions are appropriately distanced and meet the city's current recommendations.
29. 11th Avenue East (Delmar to Miller)**	Reopening 11th to two-way traffic	Residential access	Would likely increase cut-through traffic and decrease pedestrian safety (see note below for additional context).
30. Boyer Avenue East and Shelby Avenue East	Removing existing speed cushion	Traffic noise and vibration	Mixed public feedback; potential for increase in traffic speeds.
31. Boyer Avenue East and East Everett Street	Marked crosswalk	Pedestrian safety	Constructability issues; pedestrian volumes do not warrant marked crossing.
32. East Roanoke Street and Delmar Drive East	Making a one-way out at the intersection of Delmar Dr E and E Roanoke St (but maintaining two-way travel on 11th Ave E) by prohibiting right turns from northbound Delmar Drive E	Cut-through traffic	Determined by Seattle Fire Department to interfere with emergency response times. This may also have negative effects on circulation in the neighborhood because the adjacent street, 10th Ave E, is also a one-way out (one-way southbound).
33. East Roanoke Street at Harvard Avenue East & Boylston Avenue East	Crosswalks and curb ramps on the north side of Roanoke	Pedestrian safety and access	Adding crosswalks at these intersections would require additional signal phases and would create greater traffic delays for both pedestrian and vehicular traffic. Major improvements are being made on the south side of E Roanoke St including a new trail crossing over I-5.
34. Federal Avenue East (Boston to Roanoke)	Repaving for non-arterial cycling route	Bicycle safety	Significant investment that is outside the scope of this NTMP.

[+]Geometric traffic calming measures, such as speed humps and traffic circles, are considered to be some of the most effective speed reduction tools and have already been implemented on this corridor.

***In the context of this NTMP process and community members' requests to reopen 11th Avenue East to two-way traffic during construction, the team determined greater public benefits from preserving this one-way configuration. A one-way 11th helps limit neighborhood cut-through traffic (from drivers attempting to avoid delays at the 10th Avenue East and East Roanoke Street intersection) and better protects pedestrians going to and from Seattle Preparatory School by reducing the number of potential pedestrian/vehicle conflicts.*

Key areas of concern

During the neighborhood traffic survey in June 2022 and the public comment period in August 2022 the NTMP team asked community members to identify locations of strong concern and to share their specific concerns (see Appendix A and Appendix B for summaries of the traffic survey and public comments). The table below outlines the top eight locations and associated concerns that were mentioned, with a brief explanation of what WSDOT and the city are doing to address these concerns under the column labeled "Planned Work."

It is important to note that the neighborhood will see many of its concerns addressed as a result of the NTMP process – either through the design and construction of the Portage Bay Bridge and Roanoke Lid Project or through future city projects outlined in this report. However, given a variety of reasons, including space and geographic limitations, resources, and city requirements, not all of the locations and concerns listed below can or will be addressed through this NTMP effort.

Rank	Location	Concerns	Planned Work	Number of Mentions
1	Boyer Avenue East/ Fuhrman Avenue East (Lynn to Eastlake)	• Bicycle/pedestrian safety • Traffic congestion • Speeding • Roadway pavement condition • Retention of existing traffic calming measures	Improvements to be completed before or during Portage Bay construction: • Update existing signs to current standards • Provide crossing enhancements and ADA improvements • Install a Rectangular Rapid Flashing Beacon and crosswalk at East Roanoke Street • Maintain and repair roadway surfaces along haul routes before, during, and after project construction • Retain and protect existing traffic calming measures to the extent feasible	48
2	Delmar Drive East (Lynn to Roanoke)	• Bicycle/pedestrian safety • Traffic congestion • Speeding • Roadway pavement condition	Improvements to be completed before or during Portage Bay construction: • Update existing signs to current standards • Reconfigure intersection, north of the new lid, at East Roanoke Street, Delmar Drive East and 11th Avenue East • Provide separated bicycle/ pedestrian facilities where Delmar Drive East and East Roanoke Street meet • Improve crossing and curb ramps near East Interlaken Blvd	18
3	19th Avenue East (Lynn to Calhoun)	• Speeding • Pedestrian safety	• Collect pedestrian counts in spring/summer 2023 to establish a baseline understanding of traffic at this location and determine if a marked crosswalk is	16

			warranted at East Calhoun Street.	
4	10th Avenue East (Boston to Miller)	• Limited visibility due to parking • Bicycle safety • Traffic congestion	• Review existing signage to ensure parking restrictions meet current Seattle Municipal Code (SMC) standards; update as needed.	15
5	Intersection of 10th Avenue East and East Roanoke Street	• Traffic congestion and cut-through traffic • Bicycle and pedestrian safety	Intersection improvements to be completed during Portage Bay construction: • Provide crossing enhancements and ADA improvements • Add east/west crosswalk on the south side of the intersection • Provide local connections for cyclists and pedestrians, and separated bicycle facilities on the new Roanoke lid • Upgrade traffic signal equipment • Create landscaped open space on the Roanoke lid	14
6	Lake Washington Blvd (SR 520 to Calhoun)	• Bicycle/pedestrian safety • Traffic congestion • Speeding	Completion of the Montlake Project in 2024 will provide improved pedestrian and bicycle facilities on Lake Washington Boulevard, including the new pedestrian land bridge over SR 520.	10
7	11th Avenue East (Delmar to Miller)	• Neighborhood connectivity • Traffic congestion and cut-through traffic	Improvements to be completed during Portage Bay construction: • Provide raised intersection and new curb ramps at 11th Avenue East and Delmar Drive East	10
8	5-way intersection at Boyer Avenue East/East Lynn Street/16th Avenue East	• Speeding • Sightlines • Driver confusion • Traffic and pedestrian safety	Intersection improvements to be completed before or during Portage Bay construction: • Revise striping and add signage to improve clarity for drivers • Install two pedestrian refuge islands • Upgrade curb ramps to improve ADA accessibility (future city of Seattle project)	9

Future city of Seattle projects in the Portage Bay area

SDOT ADA Program – Customer Service Request (CSR) Curb Ramps

As part of its ADA Program, SDOT installs curb ramps when requested by qualified individuals with disabilities at locations not otherwise scheduled for improvement. SDOT prioritizes requests for curb ramps in the order they are received. It designs and constructs these ramps within a year from the date that the request is received depending on available funding and the number of requests received each year. One of the locations identified through this Customer Service Request process for curb ramp improvements in 2023 is the five-way intersection at Boyer Avenue East/East Lynn Street/16th Avenue East.

Visit the program webpage for more information.

Route 48 Transit-Plus Multimodal Corridor

The 23rd Avenue/24th Avenue corridor is one of the main north-south transit routes (King County Metro Route 48) in the heart of Seattle, serving and connecting the Mount Baker, Beacon Hill, Judkins, the Central District, Montlake, and University District neighborhoods. Route 48 also connects Mount Baker, Husky Stadium, and University District Link light rail stations. Consistent with the goals of SDOT's Transit-Plus Multimodal Corridor (TPMC) program, the objectives of the Route 48 TPMC project are to reduce transit travel times and improve service reliability. To enhance this busy corridor, SDOT plans to make multimodal improvements consistent with the voter-approved Move Seattle levy, which may include:

- Transit travel time and reliability improvements: Bus-only lanes on 23rd Avenue South approaching Rainier Avenue South to separate buses from traffic.
- Safety and accessibility improvements: Targeted crossing enhancements at 24th Avenue East and Boyer Ave East to help people access transit stops.
- Signal upgrades: Support transit signal priority on the corridor to keep buses moving by activating or extending green lights for buses.

The Route 48 TPMC project area includes 23rd Avenue/24th Avenue from Rainier Avenue South to just south of the Montlake Cut. The project is currently in the planning stages, and SDOT completed a conceptual design study of this corridor in 2022. SDOT will build on the recommendations provided in this study to continue public outreach and complete the project design. Construction is anticipated to be largely complete by the time Portage Bay project construction begins.

Visit the project webpage for more information.

RapidRide J Line (formerly RapidRide Roosevelt)

SDOT is partnering with King County Metro to enhance transit connections and upgrade existing bus routes to Metro RapidRide services. The RapidRide J Line project aims to improve transit travel times, reliability and capacity to increase high-frequency, all-day transit service and enhance transit connections between downtown Seattle and the Belltown, South Lake Union, Eastlake and University District neighborhoods. The purpose of the project is to:

- Address current and future mobility needs for residents, workers and students.
- Address capacity constraints in the transportation network along this north-south corridor.
- Provide equitable transportation access to major institutions, employers and neighborhoods.

- Improve pedestrian and bicycle connections and access to RapidRide stations and improve safety along the corridor.

The project schedule is:

- **Planning (2014-2017):** Collected traffic data, reviewed plans, and gathered community input to define options.
- **Design (2017-2023):** Collaborate with the community, secure regulatory approval, and develop a more detailed final design.
- **Construction (as soon as late-2023):** Construct the project and keep the community informed on the latest construction updates, schedule and expected impacts.

WSDOT and SDOT will coordinate closely throughout construction of the RapidRide J Line project and the SR 520 Portage Bay project to manage and limit construction effects.

Visit the project webpage for more information.

Long-term transportation planning in the Portage Bay area

SDOT plans and implements multiple strategies that address community concerns related to traffic management and travel options throughout Seattle, including in the SR 520 project area. These plans focus on enhancing neighborhood environments for all people, including people walking, biking, rolling, riding transit or driving. Plans and programs with initiatives in the Portage Bay area are listed below.

SDOT Plans and Programs	Overview
Pedestrian Master Plan*	Establishes policies, programs and design criteria to enhance pedestrian safety, mobility and access throughout the city.
Bicycle Master Plan*	Identifies projects and programs which, combined with existing facilities, will deliver a robust connected citywide bike network for people of all ages and abilities.
Transit Master Plan*	Anticipates and plans for citywide transit needs through 2030.
Freight Master Plan*	Addresses the unique characteristics, needs and effects of freight mobility.
Seattle Transportation Plan*	Comprehensive transportation plan to build a transportation system that provides everyone with access to safe, efficient and affordable options to reach places and opportunities.
Neighborhood Street Fund	Provides funding for larger-scale community projects between $100,000 and $1 million. Runs on 3-year cycles and enables the community to propose and help prioritize transportation-related projects built by SDOT.
Safe Routes to School – Mini Grants	Provides mini grants (up to $1,000) fund schools, PTAs and community groups to encourage safe walking and biking to school.
Safe Routes to School – School Streets	Keeps streets open for people walking, rolling and biking to school, and closed to pass-through traffic to provide social distancing space, reduce traffic congestion in front of schools, and encourage families to walk or bike to school.
Neighborhood Traffic Operations	Helps to ensure safe traffic operations on Seattle neighborhood streets by responding to resident questions and concerns regarding speeding, traffic safety, signs and related issues.
Paving Program	Paves arterial streets in poor condition to make them safer and smoother, and to extend their life. Future paving work is planned for Eastlake Avenue East.
ADA Program	Responsible for the planning, design and implementation of infrastructure improvements requested by the public to enable

	those living with disabilities equivalent access to Seattle pedestrian facilities.
Trees and Landscaping Program	Responsible for managing street trees along roadways throughout the city of Seattle.

**SDOT began a public process in 2022 to align and update these comprehensive plans and develop the Seattle Transportation Plan (STP). SDOT anticipates completing the STP in 2023. You can learn more by visiting the project webpage.*

Chapter 5: Conclusion

This NTMP addresses the next phase of SR 520 construction – the Portage Bay Bridge and Roanoke Lid Project. WSDOT and the city have worked together for many years to identify potential transportation effects associated with Portage Bay construction. As a result, WSDOT has incorporated several refinements into the project design that help offset potential traffic effects and improve mobility in the neighborhood. The two agencies have also identified a variety of neighborhood street improvements and traffic-calming measures to further address potential effects on travel and community concerns.

WSDOT has agreed to contribute to the funding of the traffic management measures outlined in this NTMP. The city plans to implement these measures in 2023 and 2024. WSDOT and the city will continue to monitor and gather feedback about traffic and transportation issues in the Portage Bay area before and during construction.

For questions about the SR 520 Program and the Portage Bay Bridge and Roanoke Lid Project, please call the SR 520 Program information line at 206-770-3554 (M-F, 8 a.m. to 5 p.m.) or email us at SR520bridge@wsdot.wa.gov. To stay informed about the project, including current and future construction activities, please:

- **Visit** the SR 520 Program website for general information about the project.
  - https://wsdot.wa.gov/construction-planning/major-projects/sr-520-bridge-replacement-and-hov-program
- **Visit** the SR 520 Construction Corner website for the most up-to-date information on road closures and construction impacts.
  - http://sr520construction.com/
- **Sign up** to receive our *Rest of the West* email updates.
  - https://service.govdelivery.com/accounts/WADOT/subscriber/new
- **Follow** us on Twitter @wsdot_520 to get key news and updates.
  - https://twitter.com/wsdot_520

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Americans with Disabilities Act (ADA) Information
This material can be made available in an alternate format by emailing the Office of Equity and Civil Rights at wsdotada@wsdot.wa.gov or by calling toll free, 855-362-4ADA (4232). Persons who are deaf or hard of hearing may make a request by calling the Washington State Relay at 711.

Appendix A

June 2022 Portage Bay neighborhood traffic survey results

From June 3 to June 24, 2022, WSDOT and the city hosted an online survey to collect feedback from the community about traffic and mobility concerns in the Portage Bay area. Specifically, the NTMP team wanted to better understand if there are specific locations or intersections that could benefit from traffic management solutions before, during or after SR 520 construction. The survey's valuable feedback helped inform this draft NTMP report and will continue to be analyzed to inform the final NTMP report.

Thirty-eight people participated in the survey. Results from the survey, including written, open-ended comments, are outlined below. Members of the public also provided comments related to traffic through the Portage Bay Bridge and Roanoke Lid Project online open house, which was open from June 3 to Aug. 5. Comments submitted through the online open house are shared below on pages 48-49.

1. What is your connection to the Portage Bay neighborhood and the NTMP Focus Area? (select all that apply)

Value	Percent	Responses
I live here.	81.6%	31
I drive through here.	52.6%	20
I walk, bike, or roll through here.	44.7%	17
I work here.	10.5%	4
I ride the bus through here.	10.5%	4
Other	7.9%	3

Figure 1

Other (open-ended responses)

- *I live one block outside the green line*
- *I sit on my sundeck here.*
- *walk these streets daily*

2. How do you typically travel in and around the Portage Bay area? (select all that apply)

Value	Percent	Responses
Driving – Solo driver	89.5%	34
Walking	78.9%	30
Driving – Carpooling or Vanpooling	42.1%	16
Bicycling	34.2%	13
Bus	15.8%	6
Other	2.6%	1

Figure 2

Other (open-ended response)

- *Running*

3. What are your top concerns about potential impacts to neighborhood streets during construction of the Portage Bay Bridge and Roanoke Lid Project? (choose up to three)

Value	Percent	Responses
Construction closures of local streets	59.5%	22
Safety for people walking, biking, and rolling	54.1%	20
Cut-through traffic on local streets	29.7%	11
Speeds of people driving	29.7%	11
Mobility and connectivity for people walking, biking, and rolling	24.3%	9
Other	24.3%	9
Transit reliability	13.5%	5
Wrong-way traffic	5.4%	2
Illegal U-turns	2.7%	1

Figure 3

Other (open-ended responses)

- *Amount of traffic back up*
- *Increased traffic congestion*
- *Noise & air pollution*
- *Noise from contractor trucks*
- *Truck damages*
- *Unnecessary backups due to previous poor traffic planning.*
- *Service providers' access*

Please provide explanation/context of your choices above.

- *While my daily bicycle commute no longer takes me on 10th Ave E over 520 (different job!), I still walk and ride my bike through this area on a regular basis, and occasionally use the bus. Safety is my first concern, then general mobility, then transit reliability.*
- *While the bridge is closed, traffic will route to I5, saturating the 45th, 50th and Lake City exits.*
- *The most critical thing will be to redirect arterial traffic away from 10th. 10th Ave E gets very congested already during commute times since a lot of traffic treats 10th as the primary arterial street to get to the interstate. I'm mostly worried about having constant traffic backups on 10th that prevent traffic flow to/from our house.*
- *This is a hilly area and it is sometimes difficult at an intersection to see oncoming traffic up or down a hill. Cars speeding up or down the hill are a concern now and I can imagine it will be worse with people from other neighborhoods cutting through. In addition, I walk from this neighborhood to Interlaken Park and/or Volunteer Park 5-6 times a week and wonder how those routes will be impacted.*
- *The "design" (I use that term VERY LOOSELY) and restriping of the intersection of Montlake and 520 has resulted in countless wrong-way drivers. WA has the WORST drivers who are unable to simply follow the lines on the road. Driving both northbound and southbound at Montlake and 520, I have had many (too many to count) drivers that have crossed the double yellow line and come at me head on. My friend was side-swiped by a driver who didn't follow the traffic pattern. My dog could draw up a better design for the intersection. The entire project team needs to be replaced with competent people. You should be 43embarrassed.*
- *What will replace the Bill Dawson Trail during and after construction?*
- *It's currently a challenge to walk from Interlaken Park, for example, to Roanoke St and across I-5 to Eastlake. Looking forward to the completion, but until then am concerned about unmanaged traffic*
- *Trucks entering and exiting thru entrance gate 1 make too much noise.*
- *Traffic lights in the area should be improved for better traffic movement (especially at Roanoke and Harvard). Partial closure of 11th Ave. between Miller and Delmar should be fully re-opened.*
- *I take the light rail to work and I don't want to be unable to either walk across the Montlake bridge or take the bus across it. And I live here and want to be able to drive to the U Village for grocery shopping and other activities.*
- *The area on Boyer Avenue where the existing bridge crosses over the street is a short distance way to traverse across Boyer Avenue. When construction and the construction of the bridge occurs we will be unable to use that area. I request a painted and possibly push button crosswalk at Everett and Boyer so that we can carefully cross the street avoiding the construction area*
- *As a runner and cyclist and a new mom who frequently walks with my stroller in the neighborhood, I am concerned about safe routes for pedestrians and cyclists as traffic patterns change and construction begins. It is important for Portage Bay residents to have safe routes to Montlake Playfield and the Arboretum, important neighborhood parks that residents frequently visit.*
- *I live on a street that's been identified as in the zone (I live on Federal Ave E between E Miller and E Lynn). I have off-street parking, a driveway on my property. Being kind of mobility challenged (I can't walk far, especially carrying things) I'm most concerned about (a) doing my grocery shopping and (b) my cleaning service being able to get in to park in my driveway every other Monday, as otherwise they'd have to schlep vacuums and mops & etc. from who knows how far away.*
- *I live near corner of 19th Ave E. and Lynne St. After the 3 way stop, vehicles going north often gun it for a couple of blocks until they see the sign saying traffic bumps (better word?) ahead. This is noisy, dangerous, and obnoxious. Put more slow down bumps on 19th and/or Lynne St?*
- *I have a concern both about the temporary AND long term routing of northbound 10th Ave traffic going to Delmar. Currently, during heavy traffic over the Roanoke overpass and getting onto I-5 North and South, cars that are northbound on 10th Ave trying to take a right to get to Delmar sometimes get stuck for multiple light cycles at the light at Roanoke because there's no right-turn lane. I was hoping that the cap would create a new street that connected 10th Ave directly to Delmar on the south side of the freeway, but I understand that there are trade-offs with a larger park area. There is literally no other way to get to Montlake unless you go*

all the way to 19th Ave (11th Ave is one-way). Is there a way to expand 10th as it approaches Roanoke to create a right-turn-only lane to allow people get to Montlake/Interlaken without getting stuck behind the mass of traffic trying to get to the I-5? Both temporarily during construction but also permanently.

- *I take the 49 bus from 10th and Miller to UW campus. How will my commute be impacted? I drive south on 10th from Miller, turn left on Roanoke, then right on Harvard to access northbound I5. How will this arterial traffic pattern be impacted?*
- *I worry most about the additional time it is going to take to get out of the neighborhood given the construction – biggest worry is traffic and commute time*
- *One of my children walks to/from TOPS, another child takes #49 bus to/from U-District to transfer to a bus to Garfield as going downtown is not safe. I have concerns about getting to/from I-5 onramps as well as to 520 onramps.*
- *We already have problems with unsafe speeding on these streets before the construction even begins.*
- *Difficulty of heading north from North Capitol Hill and returning south to North Capitol Hill without 10th Ave. E. and Delmar Dr. bridges.*
- *the north Capitol Hill neighborhood is pretty much exclusively accessed from the Eastside by the Roanoke exit. Limitations to access of this exit will make it difficult to commute across the bridge between the two areas.*
- *Boyer Ave is narrow (parking on both sides), already overburdened (an arterial through a neighborhood) and badly damaged with potholes and irregularities. Large trucks driving by on Boyer make our houses shake. Worse when they speed.*
- *residents in the Roanoke Park neighborhood frequently have difficulty entering/existing the neighborhood because traffic on Roanoke and 10th block street exits. Traffic frequently attempts to exit north on 10th Street (east end of Roanoke Park) to avoid light in violation of one-way street signs. Speeding cars frequently fail to negotiate turn at Roanoke and 10th and crash into park endangering pedestrians and others using the park*
- *We can hear the roar of the 520 bridge traffic at almost all hours. Can you put a lid on it? What mitigations are planned? At corner of 19th Ave East and East Lynne St. at 3-way stop sign, cars turning onto 19th Ave East know there are no traffic slow down bumps for a few blocks so they speed up, making extra noise, exhaust, and safety concerns. Can you install more speed bumps along 19th E.?*
- *We leave in the Roanoke Park neighborhood, have some concerns about fast, cut through traffic. Our children and dogs use the streets and park and I want the crossings to be safe.*
- *I live in the neighborhood affected by the "Rest of the West" bridge construction. Street closures and re-routing of car, pedestrian and transit routes have already caused significant inconvenience and travel delays.*
- *Boyer Avenue apparently will both a major detour and construction access route. WSDOT will not allow neighborhood residents any say about the work sequencing for the 6 year period!*
- *concerned about driver speeds on W Montlake Pl E/19th - concerned about driver and pedestrian safety at unclear Boyer/Lynn roundabout intersection - concerned about closures on W Montlake Pl E*

4. During construction, we may be able to implement solutions to help manage traffic impacts to local streets. Please indicate if you have a mostly positive, mostly negative, or neutral reaction to each solution.

	Mostly positive	Neutral	Mostly negative	Responses
Aligning curb ramps with sidewalks/improving curb ramps Count Row %	16 45.7%	16 45.7%	3 8.6%	35
Changing on-street parking Count Row %	5 14.3%	16 45.7%	14 40.0%	35
Crossing beacons Count Row %	17 56.7%	10 33.3%	3 10.0%	30
Curb extensions/bulbs to limit vehicle access Count Row %	14 42.4%	7 21.2%	12 36.4%	33
Sidewalk widening Count Row %	21 63.6%	7 21.2%	5 15.2%	33
Crosswalk markings Count Row %	28 82.4%	5 14.7%	1 2.9%	34
Speed humps; speed cushions; raised intersection Count Row %	17 51.5%	6 18.2%	10 30.3%	33
Radar speed feedback signs Count Row %	15 46.9%	8 25.0%	9 28.1%	32
Hardened center line; raised line separating vehicle lanes before and after intersection Count Row %	12 36.4%	12 36.4%	9 27.3%	33
Totals Total Responses				35

Figure 4

5. Over the course of construction, bicycles will need to be temporarily rerouted to get them safely through the work area. Please indicate if you have mostly positive, mostly negative, or neutral reactions to each solution. Please indicate if you have mostly positive, mostly negative, or neutral reactions to each solution.

	Mostly positive	Neutral	Mostly Negative	Responses
Rerouting people who bike onto sidewalks (and potentially sharing space with pedestrians) Count Row %	4 11.1%	12 33.3%	20 55.6%	36
Rerouting people who bike through neighborhood streets (and potentially using a more circuitous route) Count Row %	18 50.0%	13 36.1%	5 13.9%	36
Rerouting people who bike to use main arterial streets (and potentially having more interaction with vehicle traffic) Count Row %	5 13.9%	10 27.8%	21 58.3%	36
Totals Total Responses				36

Figure 5

Are there other rerouting suggestions or bike connection concerns we need to understand? Please share specific details, intersections or destinations below.

- *There aren't a lot of great alternatives other than on arterials anyway for cyclists. Because people on Federal (or is it SDOT?) don't want their street repaved, it is a huge horrible mess for cyclists to use, so we all are channeled on to 10th whether we like it or not - and then we have to use the 10th overpass in any case. I don't see how putting us on bicycles onto arterials (which other arterials??) is going to be that much worse. Studies show that bicycles are the biggest hazard for pedestrians on sidewalks (other than pedestrians themselves, who stumble off curbs, slip and fall, etc. on the regular with no collisions with anyone else needed). Not a fan of putting bicycles and pedestrians together. It's ludicrous to think that cyclists are going to dismount, too - unless you also expect motorists to "dismount" and push their cars through certain areas, too. How circuitous of a diverted route are we talking about? How much steeper would it be? It's very hard to answer that 2nd "rerouting" question, without knowing specifics.*
- *Street parking on 10th Ave E currently limits visibility of traffic on 10th from driveways and side streets. This is particularly true for bicycle traffic, where it can be easy to be trying to pull out of your driveway and suddenly have to slam on the brake to avoid a cyclist because too many cars are parked too close to driveways to give visibility onto 10th.*
- *Many cyclists use Fuhrman and Boyer to connect to popular paths (Burke Gilman, Lake Washington Blvd). Putting cyclists on the sidewalk with pedestrians creates potential for conflict between these non-motorized road users and endangers both; it also sends the message that the roadways prioritize car traffic over other modes of transit. Please prioritize safe spaces for ALL road users and provide cyclists with safe connections that do not put them in conflict with pedestrians or vehicles.*

- *10th Ave E is a major arterial and putting bicycles into traffic is already dangerous for both cyclists and motorists, I'd hate to see even more risk put on the cyclists and motorists.*
- *Educate the pedestrians about how to interact with bikes. Make sure sidewalks are wide enough to share.*
- *I have a teenage bike rider, so I'm more concerned about his safety as a newer rider and considering drivers seem more impatient nowadays.*
- *Bikes on the arterials will be less safe for bikers and also significantly slow traffic on those roads, which are already very narrow in that neighborhood.*
- *Ability of North Capitol Hill neighbors to use the SR 520 Roanoke off-ramp and to access the Harvard on-ramp to northbound I-5. Also to cross over I-5 on the Roanoke overpass.*
- *Do NOT encourage bikes to use sidewalks. It ENDANGERS pedestrians and causes serious problems with bike/dog interactions. Bikes are vehicles. Vehicles use ROADS.*
- *How can bicycle use rules be enforced?*
- *If any rerouting could discourage bicyclists from cutting through Roanoke Park on the sidewalks, that would be fantastic. Bikes are vehicles and should stick to streets, as I do when I commute by bike.*

6. Is there a specific intersection or location in the NTMP Focus Area that is of strong interest to you? What is your key concern at this intersection or location?

- *Having safe alternatives for cyclists and pedestrians to 10th Ave E to connect our homes in North Capitol Hill to destinations to the north.*
- *The westbound section of the new Portage Bay bridge should be 4 lanes. The 4th lane (right-most) would only exist between the Montlake on-ramp and the i5 North exit. Vehicles traveling northbound can stay in their lane without merging for their i5 or Roanoke exit. They would only need to merge if they wanted to go i5 south. Has this been considered? Forced merges always seem to slow down traffic but this way you could probably reduce it by enough to keep traffic flowing smoothly.*
- *10th and Lynn is the biggest concern because cars turning on to 10th from Lynn can't easily see traffic on 10th already due to cars parked on the street. Cars trying to make left turns on Lynn or cross 10th completely have a very hard time doing that without creating a dangerous situation with the cross traffic on 10th.*
- *Montlake & 520 is an unmitigated disaster. Fixing it will require you to hire competent people. It's extremely dangerous.*
- *Roanoke St & 10th Ave - looking forward to your solution*
- *10th Ave E & Roanoke. -- This is probably the highest volume intersection in the work area that will be interrupted. My concern is this will cause excessive traffic impacts.*
- *Gate 1 is across the street from us making the noise and heavy truck traffic particularly bothersome.*
- *Please open 11th Ave E to two way traffic between Delmar and Miller.*
- *Roanoke and 10th Ave. E. I drive through this intersection frequently, and it is often backed up, even on weekends. Changing the traffic patterns, so more people going to northbound I-5 would get in both lanes, rather than the right, would be helpful. Allowing two-way traffic again on 11th between Miller and Delmar would also really enable neighborhood traffic to avoid having to go around several blocks and through two lights, just because we can't drive north on that stretch of 11th.*
- *crossing montlake blvd and 23rd near 520 is already quite dangerous with cars driving without concern for pedestrian and bicycle crossing. Planners should be aware of the vulnerability of non car traffic at this busy and wide street.*
- *The corner of Everett Street in Boyer Street is in need of a crosswalk which is painted and preserves the traffic circle at that intersection*
- *Eastlake & Allison - There is already a large construction project planned during a similar time on this corner. Traffic can already be a nightmare on Eastlake with the bridge and commuters from the University and parking will become increasingly difficult with construction workers needing to park, as well as residents. Additional traffic or restrictions could make life here is a resident very undesirable.*
- *Federal Ave E and E Miller -- there are continuing problems with Seattle Prep one block east, people backing up and stopping traffic to double park and/or wait in line to pick up or drop off*

their kids, people bombing up the street from Seattle Prep with apparent disregard for the fact that it's parking on both sides of the street, and people doing u-turns at that intersection for reasons of their own. It is a mess. You would not want to be there with the current traffic, let alone if Seattle Prep gets any worse/more congested. Something's got to be done about those people.

- *19th E. and Lynne St. See above explanation P.S. Lots of strollers in this neighborhood and children from a daycare walking. Let's protect them better.*
- *I have bike safety concerns that I would like you to fix when you redo the roads in the lid area. My concerns are based on a car accident where a car hit me on my bike, which could have been prevented by the bike infrastructure I'm suggesting below. The location is westbound Delmar/Roanoke at the intersection with 10th Ave E. There is no safe way for bikes to traverse this intersection, especially turning left. Cars regularly ignore the bike lane and drive in it. The intersection needs a protected bike lane with a physical barrier from cars and access to a bikes-only area to wait for left turns at the intersection. (For an example of the bike infrastructure I'm envisioning, please see westbound N 34th St, turning on to Fremont Ave N.)*
- *Getting from Lynn street onto the 520 bridge and getting from Lynn street to the montlake bridge*
- *24th Ave E transition to E Montlake Pl E at E Louisa. I live on the corner of 24th and E Louisa, and the number of serious car crashes has diminished already (thank you). I understand there is a plan for a bulb with white plastic bollards. My ask is to explore a bulb with planted trees and bushes, similar to many locations on North Capitol Hill. This would help the overall ambiance and property value of the neighborhood, and I would be interested in anything I could do to support bringing in a planted solution as opposed to plastic (donations, etc). We have had speeding cars collide across our parking strip on 24th and into our driveway (thankfully we were not home). We need a solution that clearly denotes the street curves, and speeding cars should not barrel through the neighborhood streets. I believe trees and larger plantings will help provide more of a visual barrier than shorter white plastic bollards - and be in line with the goal of keeping trees throughout the neighborhood. Thanks so much! Rachael Lewis*
- *10th Ave E & E Roanoke St, 10th Ave E & E Miller St, 10th Ave E & E Boston St*
- *5-way intersection of Boyer, E. Lynn, 16th St. at the bottom of the hill - sight-lines are terrible and no one knows how to treat the traffic "circle" in the middle of the intersection. There are near misses there all the time.*
- *If the 10th Ave. E. Bridge is closed, the section of 11th Ave. E. that is now one-way between E. Miller and Delmar Dr. E. should be made two-way. On the 10-foot section of that block that is only one lane, a sign alerting drivers to that could be posted.*
- *Pacific Ave and Montlake Blvd will be jammed as well as northbound Montlake Blvd and the NE 45th St viaduct*
- *Increased traffic at the roundabout at Boyer and E Lynn street. It's already not a well managed intersection as it is and funneling any additional traffic through there could make it more likely to have accidents.*
- *10th and Roanoke (along park) Broadway and Roanoke (along park). We live on 10th and have young children. Traffic speed is an issue. Do not want construction worker parking or construction vehicles stationed near park. No construction staging in park. Heavily utilized by neighbors and neighborhood children since limited park space in neighborhood. Need to maintain neighborhood access at Harvard and Shelby and Hamlin and Boyer*
- *19th Ave East and E. Lynne just south of E. McGraw St. See comment above. All my neighbors on this block agree with me.*
- *Proposed day and night access to work bridges from Boyer Avenue as well as detour traffic from Roanoke lid area. No information has been provided about this significant impact.*

Traffic-related comments received through the online open house feedback form from June 3 to 24, 2022:

- *As a resident of 10th Ave very close to the proposed construction site, I am most nervous about how bad traffic and parking will be during the Portage Bay / Roanoke portion of the project. 10th Avenue E traffic is already very bad during commute times - I'd love to see*

WSDOT ensure any arterial traffic is redirected to other streets like 12th or 15th to reduce the compounded traffic slowdown on 10th.

- *Boyer Fuhrman is a heavily used street by bicycles, pedestrians and cars. The parking and driving lanes are substandard width creating unsafe conditions for all users. Soft soils cause adjacent structures to shake significantly from heavy vehicles on the street. Please provide safety mitigation for bicyclists, pedestrians and those parking and exiting the driver's side of their vehicles pedestrians. Please provide mitigation for vibration impacts on adjacent structures.*
- *Day and night construction vehicle traffic noise as well as general traffic detours etc.*
- *Boyer Avenue Street Parking. My house is on a hill and does not have a garage.*
- *I am concerned at how traffic will be affected. Portage bay bridge already is backed up during rush hour traffic and we can only imagine what it will be like with constructing a new bridge. This will also increase traffic on 19th and 24th in Montlake. There are speed bumps on 19th but half people driving are not slowed down by them and there are lots of kids who need to cross 19th to get to the montlake playfield. Could you look at adding some crosswalks to 19th to make it safer with the increased traffic that will come with bridge construction?*
- *I am mainly concerned about increased traffic and construction vehicle traffic on Boyer Ave from 23rd to Eastlake. It is already a busy and loud road.*
- *My concern is that the city allowed Seattle Prep School to reduce 11th Ave. E. by their school to one-way (between Miller St. and Delmar Dr.), so they could put a parking-garage exit there. This leaves only one overpass to cross 520 for people in the neighborhood directly south of 520 around 10th Ave. E., which already backs up significantly at rush hours and even on the weekends. It would relieve so much pressure if 11th could return to two-way, with a speed bump, ""slow"" sign, or what have you, especially as the school only has short periods during weekdays when they really use that exit. I wonder if the city would even consider re-opening that necessary access street.*
- *A second suggestion would be to alter the lights at Harvard and Roanoke for vehicles turning from east to north (toward northbound I-5 on-ramp). Traffic builds up in the right-hand lane on 10th going north (to Roanoke), because most people want to be in the right lane on Roanoke to be able to turn right onto Harvard on the red light, which they can't do from the left lane. This causes a backup for cars turning right from 10th onto Roanoke, which also slows down the already-backed-up traffic, especially when they are blocked by people who can't turn left, due to backup. (This problem could also be alleviated by opening that section of 11th.)*
- *Please open 11th Ave E to two way traffic between Delmar and Miller.*
- *There are over a dozen properties which qualify for inclusion on the National Register of Historic Places along Fuhrman Boyer Avenue. Fuhrman/Boyer which will likely be used as a haul route for heavy construction vehicles. Protection of these properties along the haul route is as important as protecting property formally included in an Historic district. Please include protection of historic property along Fhurman/Boyer in your mitigation of construction impacts.*
- *Traffic Management: E. Boston St. is already a heavily used nonmain street, with west bound traffic building up on E. Boston St at the E. Boston St. intersection with 10th Ave E between 3:00 and 5:00 pm on weekdays. Additionally, the intersection of Federal Ave E. and E. Boston St. is extremely dangerous as evidenced by the number of auto accidents annually and the number of small animals hit by automobiles at this intersection. With the new construction E. Boston St. will experience even higher volumes of traffic as will Federal Ave E. What speed control and noise mitigation is planned?*

Appendix B

August 2022 Neighborhood Traffic Management Plan public comment summary

WSDOT

SR 520 Bridge Replacement and HOV Program

SR 520 Portage Bay Bridge and Roanoke Lid Project

Neighborhood Traffic Management Plan

SR 520 Portage Bay Bridge and Roanoke Lid Project

PUBLIC COMMENT SUMMARY

October 2022

WSDOT

Seattle Department of Transportation

NTMP Public Comment Summary

What is the Neighborhood Traffic Management Plan?

Beginning in fall 2021, staff from the city of Seattle and the Washington State Department of Transportation (WSDOT) have coordinated to develop a Neighborhood Traffic Management Plan (NTMP) for the upcoming SR 520 Portage Bay Bridge and Roanoke Lid Project, which is scheduled to begin construction in 2024. The Portage Bay NTMP identifies traffic management measures to be implemented on local streets by the city of Seattle and WSDOT that enhance safety and livability in the Portage Bay neighborhood throughout project construction.

The NTMP also fulfills a commitment by the city and WSDOT to enhance safety, connectivity and livability for all travelers in the neighborhood during construction and beyond. This commitment is outlined in the 2011 Vision and Coordination Memorandum of Understanding (MOU) for the SR 520, I-5 to Medina: Bridge Replacement and HOV Project.

Purpose of this document

This document provides a high-level summary of public feedback gathered during the three-week public comment period on the draft Portage Bay NTMP from Aug. 4 to Aug. 26, 2022. This document also outlines next steps for the NTMP process and finalizing the report.

Public involvement during NTMP development

At the start of the NTMP process, the team reviewed public feedback collected through various SR 520 Program community engagement efforts (emails, comment periods, design processes, working groups, etc.) and identified those that were relevant to the Portage Bay and Roanoke Lid Project. Building on this feedback, WSDOT and the city hosted a neighborhood traffic survey from June 3 to 24, 2022, asking participants to describe their traffic and mobility concerns in the Portage Bay Focus Area. Participants were also asked to share their preferences for different types of traffic management solutions (survey results can be found Appendix A of the draft NTMP report)

Following the survey, WSDOT and the city hosted an online public meeting on Aug. 4, 2022, to share results from the neighborhood traffic survey, present the draft report, and highlight the list of proposed traffic management measures identified for the Portage Bay area. The public meeting kicked off a three-week public comment period asking community members to share their thoughts, questions and concerns related to the proposed traffic measures.

Public comment overview

During the comment period, members of the public could submit comments via email, mail, and online survey, or through our online open house feedback form. WSDOT and the city received 119 comments from the following sources:

- 76 emails to the NTMP inbox
- 41 online surveys
- 2 submitted through the online open house feedback form

Key themes of public feedback

Of the 119 comments submitted, most comments focused on three key areas:

- Concerns about neighborhood traffic impacts, particularly related to existing and anticipated traffic congestion, construction detours, and haul routes;
- Concerns about bicycle and pedestrian safety and ensuring safe access for those who walk, bicycle, and roll through the project area; and

- Requests for more information related to existing and predicted traffic counts, anticipated haul routes, access to work zones, contract requirements for reducing construction impacts, and allowance of barges for construction and material hauling.

Key locations of concern

Survey respondents mentioned several different intersections and locations as areas of concern. The table below show the top five streets and intersections mentioned and their associated concerns.

Location	Key Concerns
Boyer Ave E / Fuhrman Ave E (Lynn to Eastlake)	• Bicycle/pedestrian safety • Traffic congestion* • Speeding • Road condition • Retention of existing traffic calming measures
Delmar Dr E (Lynn to Roanoke)	• Bicycle/pedestrian safety • Traffic congestion* • Speeding • Road condition
19th Ave E (Lynn to Calhoun)	• Bicycle/pedestrian safety • Traffic congestion* • Speeding
10th Ave E (Boston to Roanoke)	• Bicycle/pedestrian safety • Traffic congestion* • Intersection functionality
Lake Washington Blvd (SR 520 to Calhoun)	• Bicycle/pedestrian safety • Traffic congestion* • Speeding

**Concerns related to existing traffic congestion and anticipated traffic congestion during construction from construction vehicles and road closures.*

Quotes from public comments:

"My concern is that there's not enough attention being paid to ensure safe routes for pedestrians and cyclists. It's a high pedestrian and cyclist route with a lot of people using it to transport their kids. We need to make sure it remains a safe place to walk/cycle."

"Boyer is already a busy street that is in poor condition. The 5-way roundabout is also already a mess. Every rush hour there are backups."

"Please consider using barges to bring in construction materials as was done when the original bridge was constructed."

"The NTMP lacks essential quantitative data about what traffic volumes are to be expected."

"The frequent bicycle and pedestrian usage of Fuhrman-Boyer and 19th Avenue East (which WSDOT has stated will replace the Bill Dawson Trail during construction) needs consideration"

"If the arterials are going to be used as haul routes, how will this affect current parking on the same streets?"

Next steps for the Portage Bay NTMP

Fall 2022

- Continue evaluating public feedback and coordinating with the city of Seattle to refine and finalize the list of traffic management measures to be implemented prior to project construction.
- Develop a Q&A document responding to key questions, concerns and requests for data expressed in the NTMP comments. Share the Q&A document with the public.
- Begin updating the NTMP report – incorporating public feedback and relevant traffic information from the Q&A document.
- Co-host an in-person meeting with the Portage Bay/Roanoke Park Community Council to provide project information, including traffic-related impacts, such as haul routes and work bridge access, as well as general construction impacts to frontline neighbors.

Winter 2022/2023

- Publish the final Portage Bay NTMP, including the commitments and timeline for implementation.