

Sustainability & Transportation Committee Agenda

September 16, 2026 at 5:00 PM



MEMBERS

Councilor Regina Phillips, Chair
Councilor Pious Ali, At-Large
Councilor Anna Bullett, District 4

The Sustainability and Transportation Committee will conduct this meeting remotely via Zoom. Allow your computer to install the free Zoom app to get the best meeting experience. If you are not able to attend live either in person or via Zoom, a recording will be available in the [Agenda Center](#) following the meeting.

For public comment via Zoom, you will need to use the "raise your hand" feature. To raise your hand via the telephone, please hit *9. You will be unmuted by the host when it is time for public comment.

<https://portlandmaine-gov.zoom.us/j/81969172864?pwd=8WWSRfG9lyOGubf1B2qe9bXlubl2Ka.1>

1. Review and approve minutes from July 8, 2026
 - a. Minutes from July 8th
2. Sustainability Program Updates
3. Presentation and Discussion
Public comment may be taken
 - a. Annual Report: Rental Golf Carts on Peaks Island
Presenter: Zachary Lenhert
Communication only, no public comment will be taken
 - b. Forest Avenue Redesign Project (Revere to Bedford Street)
Presenter: Kevin Kraft
Public comment will be taken

- c. Vision Zero: Program Update and Committee Discussion and Possible Action on City-wide Speed Limits and Red Light Cameras
Presenter: Greg Jordan
Public comment will be taken
- d. Jewel Box Bus Stop de-accession
Presenter: Kevin Kraft
No public comment will be taken
- e. Amending the parking schedule on Lancaster Street regarding commercial zone
Presenter: Tony Wirkus
Public comment will be taken
- f. Setting Ocean Gateway Parking fees
Presenter: Tony Wirkus
Public comment will be taken
- g. Maine Turnpike Phase 2 Portland Area Mainline Safety Program
Presenter: Maine Turnpike Authority Staff
No public comment will be taken

4. Other Business

CITY OF PORTLAND, MAINE
Sustainability & Transportation Committee
Councilor Regina Phillips (D3), Chair
Councilor Pious Ali (At-Large)
Councilor Anna Bullett (D4)

Draft Minutes: July 8, 2026

Members present:

Councilor Regina Phillips (Chair), Councilor Anna Bullett, Councilor Pious Ali, Mayor Mark Dion, Councilor Ben Grant, Councilor Sarah Michniewicz.

Troy Moon, Karly Masucci Meyer, Bruce Hyman, Kevin Kraft, Nell Donaldson, Jeremiah Bartlett, Mike Murray, Tony Wirkus, Nicole Albert, Greg Jordan.

Call to Order

The meeting was called to order by Chair Phillips.

1. Approval of Minutes: June 6, 2026

The minutes of the June 6, 2026 meeting were approved unanimously.

2. Sustainability Program Updates

Presented by Troy Moon, Director of Sustainability

Staff is currently recruiting a new Sustainability Associate to replace Katie Tims, with the goal of onboarding the candidate later this summer or early in the fall.

Work continues on the Climate Resilience Project to conduct a shoreline inventory along the Portland and South Portland coasts. This initiative will create a tool to help identify and prepare for the impacts of coastal flooding on critical infrastructure. Consulting engineers and surveyors will complete field work over the summer, with further updates expected in the fall or early next year. Director Moon was a guest presenter at a Sustainable Agriculture & Research Conference on July 1 to share insights on Portland's community composting program with a statewide audience. Staff also hosted the first "Landcare Lunchbreak" webinar on June 17 to educate the public on sustainable landcare practices and pesticide reduction; two additional webinars are planned for the summer. Additionally, a "Coffee & Climate" session was held on June 12 focusing on positive climate communication strategies.

Regarding the community composting project, its goal aligns with One Climate Future target to reduce organic waste by 70% by 2030 and divert 90% of the overall waste stream by 2050. A recent study with ecomaine indicated that approximately 45% of Portland's municipal trash is compostable, with over 30% consisting of food scraps. Since launching in 2021, the program diverted roughly 450 tons of organic waste in 2025 (up from 50 tons in 2021). In 2026, plans include adding a new drop-off site, installing kiosks, and updating multilingual signage. Key partners include Garbage to Garden and volunteer teams on Peaks Island.

Comments from Councilors

Councilor Bullett encouraged attendance at the Wayside summer picnics. Karly Masucci Meyer expressed enthusiasm regarding upcoming kiosk installations and community engagement surrounding composting.

Discussion regarding golf carts on Peaks Island has been postponed to the September meeting (no meeting will be held in August).

3. Additional Parking Spaces on Fore Street

Presented by Tony Wirkus, Parking Division Director

Director Wirkus presented a proposal to create six new parking spaces on Fore Street in a currently restricted section where the roadway is sufficiently wide, incorporating a 40-foot setback to preserve sightlines.

The proposal requests amending the Traffic Schedule to convert this section from "No Parking" to 2-Hour Parking, as well as incorporating the area into the Zone 11 Residential Permit scheme. This will allow Island residents holding Zone 11 permits to park beyond the two-hour limit.

Jeremiah Bartlett confirmed that engineering reviews indicate the street width is sufficient to accommodate these spaces safely.

Comments from Councilors

Councilor Phillips sought clarification on permit rules. Director Wirkus clarified that non-permit holders are subject to the two-hour limit, while permit holders (including Peaks Island residents with Zone 11 permits) may park past the limit.

In response to Councilor Bullett, Director Wirkus noted that residential parking permits allow continuous parking for up to 10 consecutive days, subject to street maintenance rules.

Public Comment

A resident inquired about the exact placement of the spots, whether Zone 11 covers Munjoy Hill residents, and suggested increasing the non-permit parking limit to four hours to better accommodate waterfront visitors.

Director Wirkus noted the spots will be on the north side extending from existing parking. While technically within the Munjoy Hill residential zone, residents typically seek spaces closer to their dwellings.

Councilor Phillips stated that the City generally avoids establishing four-hour parking zones to maintain standard enforcement.

Councilor Phillips addressed the four hour parking time extension question and said that typically the city doesn't set a four hour parking limit, so they should stick to two.

Jeremiah Bartlett noted that standard traffic schedules support either short-term turnover parking or residential permit parking rather than four-hour limits.

Action Taken: Motion by Councilor Bullett, seconded by Councilor Ali, to approve adding six 2-hour parking spaces on Fore Street and amending the traffic schedule to send the item to the City Council. Passed unanimously.

4. Motorcycle and Moped Parking Ordinance Review

Presented by Tony Wirkus, Parking Division Director

Current regulations cap motorcycle and moped parking at 10 hours and do not integrate these spaces into residential permit programs.

Following public feedback—specifically regarding underutilized motorcycle spaces on Avon Street near Congress Street—staff is exploring whether to draft an ordinance update. Staff recommends creating a new designation allowing 8-hour motorcycle/moped parking integrated into the residential permit scheme.

Comments from Councilors

Councilor Bullett asked whether residents owning motorcycles/moped without off-street parking currently have to utilize full vehicle spaces for extended parking.

Director Wirkus explained that while they may park in standard zones, dedicated spaces would prevent occupying full vehicular spots.

Councilor Bullett expressed support for freeing up full vehicle spaces through dedicated motorcycle options.

In response to Councilor Phillips regarding next steps, Director Wirkus confirmed staff will work with Jeremiah Bartlett to draft proposed amendments to the Traffic Schedule and Residential Permit Program for Committee review in the fall.

Councilor Phillips asked whether they will hear back from them in the fall and Director Wirkus confirmed it.

5. Reimagining Franklin Street Project Update

Presented by Kevin Kraft, Planning Director, and Bruce Hyman, Senior Transportation Planner

Bruce Hyman reviewed the project history, highlighting the 2024 Village Partnership Initiative agreement with MaineDOT to share costs and technical planning. The current planning effort launched in March 2025 builds upon the 2015 Master Plan while incorporating recent growth, traffic pattern shifts, and Council goals.

The core project goals are: Heal (re-establishing the urban fabric lost during original construction), Move (improving multimodal safety and rightsizing the corridor), and Grow (creating opportunities for housing and economic development). Key design priorities include

simplifying corridor design by re-aligning street grid connections and combining complex intersections at Cumberland Avenue and Congress Street. Placemaking efforts aim to unlock developable parcels for mixed-use housing while establishing active street frontages. The existing character of traffic and land use changes significantly from I-295 to the waterfront. Upgraded bike and pedestrian infrastructure will connect key green spaces and trails, including Back Cove, Bayside Trail, Boyd Street Community Garden, Lincoln Park, Eastern Promenade Trail, and Portland Harbor Common. Extensive public engagement took place during spring and summer 2025 via open houses and workshops. Engineering consultant WSP is translating input into refined concept designs, with a final plan expected in the fall. The public engagement included a wide range of ways to gather input and feedback from the public. They tried to embrace the updating of the 2015 plan throughout the public engagement in the process. Ensuring that they are modernizing Franklyn Street to reflect state of the art advancements in bicycle and pedestrian facility designs, urban design and placemaking as well as making sure that they're staying engaged with stakeholder groups.

Director Kraft outlined upcoming steps: staff and WSP will present refined designs at a public meeting in early fall. Following stakeholder reviews, the final plan will return to the Sustainability & Transportation Committee for endorsement before moving to the City Council and transitioning into the MaineDOT design phase.

Comments from Councilors

Councilor Ali inquired whether community stakeholders involved since the 2015 process remain engaged.

Director Kraft confirmed that longstanding community stakeholders continue to participate in outreach efforts.

Mayor Dion requested a comprehensive financial outline detailing estimated capital costs and potential federal, state, and municipal revenue sources.

Councilor Phillips thanked staff for their work on the project.

6. Vision Zero Updates

Presented by Myles Smith (Bicycle & Pedestrian Advisory Committee Chair), Liz Trice, Winston Lumpkins, and Greg Jordan (Assistant City Manager)

Myles Smith commended the City's Vision Zero progress and urged proactive speed management - specifically lowering speed limits on municipal streets to 20 mph - alongside reactive crash reviews to address road design risk factors.

Liz Trice advocated for citywide 20 mph speed limits, citing data showing a 20% reduction in crashes and injuries in peer jurisdictions. She noted that implementation primarily requires updated signage and public education.

Myles Smith added that lower speeds benefit local commercial corridors and suggested requesting state authorization to reduce limits on state-owned corridors in Portland.

Winston Lumpkins recommended establishing a multidisciplinary Crash Response Team utilizing Strong Towns' "Crash Analysis Studio" methodology to conduct post-crash reviews following severe incidents and recommend short-, medium-, and long-term safety interventions.

Myles Smith added that they would like to see more specific quantifiable performance objectives in the Vision Zero plan.

Comments from Councilors

No questions were asked from the Councilors. They were thanked by Councilor Bullett. Assistant City Manager Greg Jordan noted that staff is examining speed management strategies across municipal corridors and looking into formalizing post-crash review frameworks.

7. Vision Zero Regional Safety Data Update

Presented by Cashel Stewart and Collin Hodges, Greater Portland Council of Governments (GPCOG)

GPCOG representatives presented safety performance data following the adoption of the regional Vision Zero Action Plan. Key crash drivers remain vehicle speeds, lane widths, and multi-lane street configurations. Analysis of seven regional safety projects evaluated data between 2016–2019 and 2022–2025 (excluding pandemic anomalies). Overall regional crashes dropped 7% and fatal crashes fell 8%. Among three Portland locations analyzed: construction of the USM roundabout reduced crashes by 40%; Marginal Way improvements nearly halved total crashes; and Washington Avenue upgrades reduced injury crashes by over 60%. However, there are still some vulnerable road user issues that should still be addressed since those crash types have gone up slightly.

Comments from Councilors

Councilor Phillips thanked them.

Councilor Bullett emphasized evaluating long-term economic and caregiver impacts resulting from disabling crashes. Cashel Stewart noted FHWA lifecycle cost estimation tools can help analyze broader economic consequences.

Cashel Stewart mentioned the lifecycle cost estimation tool for intersection designs, which looks at more than you would typically look at engineering wise. Cashel said that they could look into that data.

Mayor Dion requested an addendum outlining primary causation factors in local fatal crashes to guide engineering decisions. This helps assess road design, speed issues etc.

Cashel Stewart says that it boils down to the crash reports that are made at the scene and those can take a long time to be put together and released to the public. He said he would like to do more digging on that. The vision zero action plan does look at the types of crashes that are happening but they only look so far into pedestrian crashes and what happened but they do dig into the types and percentages and where they're happening.

8. Signal Enhancements & Infrastructure Progress

Presented by Assistant City Manager Greg Jordan and Jeremiah Bartlett

Staff reviewed signal improvement strategies, including Leading Pedestrian Intervals (LPIs) - which grant pedestrians a head start before vehicle signals turn green (currently implemented at around 10% of city intersections). Additional upgrades include exclusive pedestrian phases, flashing yellow arrows, and retroreflective signal borders. Consultants are designing LPI rollouts along Washington Avenue and Congress Street, while a comprehensive citywide signal survey is underway to develop a phased capital plan for fall review.

Assistant City Manager Greg Jordan explained that consultants are currently assessing the feasibility of scaling these signal enhancements citywide. Their findings will inform a proposed CIP project for FY28, with the potential to phase implementation over multiple years if costs are significant.

Comments from Councilors

Mayor Dion requested a two-page summary detailing how speed limits are legally established and determined for roadway segments.

Greg Jordan said that they will provide that information at the next committee meeting and can have an executive summary.

Councilor Bullett suggested inviting MaineDOT representatives to upcoming meetings and requested exploring prohibition of right-turns-on-red citywide. Jeremiah Bartlett noted pedestrian signal timing increases will be considered alongside upcoming sidewalk and crossing overhaul projects at Baxter Woods and RSVP crossings.

9. Issue Brief: Automated Enforcement & Red Light Camera Technology

Presented by Assistant City Manager Greg Jordan and Jeremiah Bartlett

Prompted by police staffing shortages, staff presented an issue brief exploring automated red-light enforcement technology. Studies suggest automated cameras reduce signal violations by 40–50% and injury/fatal crashes by 25% near equipped intersections. Proper implementation would require officer verification of violations and strict data privacy protocols. Assistant City

Manager Greg Jordan highlighted critical implementation trade-offs, including potential increases in rear-end collisions, current legal barriers under Maine state law, and the need for robust data privacy safeguards and careful management of administrative and capital costs. Staff requested committee guidance on whether to proceed with further research, draft policy frameworks, or develop legislative proposals.

Comments from Councilors

Mayor Dion expressed strong support for pursuing state enabling legislation for a pilot program at key intersections, recommending referral to the City Council Legislative Committee.

Councilor Ali endorsed pursuing the initiative.

Mayor Dion suggested drafting proposed legislation and identifying a committee sponsor to present it during the upcoming legislative session in February or March. Councilor Bullett endorsed the pilot program approach, suggesting a partnership with MaineDOT. She emphasized the importance of clear law enforcement verification protocols, public education, and robust communications to ensure community awareness. Additionally, she raised concerns regarding the age of existing data and queried whether the Police Department has the capacity to manage the program effectively.

Assistant City Manager Greg Jordan confirmed that staff will refine the program details for the September meeting to prepare a formal recommendation for the Legislative Committee, in accordance with the Mayor's suggestion.

Adjournment

A motion to adjourn was presented by Councilor Ali and seconded by Councilor Bullett. The motion passed unanimously, and the meeting was adjourned.

Business Name	DBA	License Number	License Type	License Classification	License Status	Issued Date	Expiration Date
MICHAEL SYLVESTER	MIKE'S CARTS LLC	VEH-004237-2022	Vehicles	Golf Cart-Electric	Issued	4/28/2026	4/30/2027
MICHAEL SYLVESTER	MIKE'S CARTS LLC	VEH-004235-2022	Vehicles	Golf Cart-Electric	Issued	4/28/2026	4/30/2027
MICHAEL SYLVESTER	MIKE'S CARTS LLC	VEH-004244-2022	Vehicles	Golf Cart-Electric	Issued	4/28/2026	4/30/2027
MICHAEL SYLVESTER	MIKE'S CARTS LLC	VEH-004238-2022	Vehicles	Golf Cart-Electric	Issued	4/28/2026	4/30/2027
MICHAEL SYLVESTER	MIKE'S CARTS LLC	VEH-004242-2022	Vehicles	Golf Cart-Electric	Issued	4/28/2026	4/30/2027
MICHAEL SYLVESTER	MIKE'S CARTS LLC	VEH-004243-2022	Vehicles	Golf Cart-Electric	Issued	4/28/2026	4/30/2027
MICHAEL SYLVESTER	MIKE'S CARTS LLC	VEH-004240-2022	Vehicles	Golf Cart-Electric	Issued	4/28/2026	4/30/2027
MICHAEL SYLVESTER	MIKE'S CARTS LLC	VEH-004239-2022	Vehicles	Golf Cart-Electric	Issued	4/28/2026	4/30/2027
MICHAEL SYLVESTER	MIKE'S CARTS LLC	VEH-004251-2022	Vehicles	Golf Cart-Electric	Issued	4/28/2026	4/30/2027
MICHAEL SYLVESTER	MIKE'S CARTS LLC	VEH-004252-2022	Vehicles	Golf Cart-Electric	Issued	4/28/2026	4/30/2027
MICHAEL SYLVESTER	MIKE'S CARTS LLC	VEH-004253-2022	Vehicles	Golf Cart-Electric	Issued	4/28/2026	4/30/2027
MICHAEL SYLVESTER	MIKE'S CARTS LLC	VEH-004249-2022	Vehicles	Golf Cart-Electric	Issued	4/28/2026	4/30/2027
MICHAEL SYLVESTER	MIKE'S CARTS LLC	VEH-004236-2022	Vehicles	Golf Cart-Electric	Issued	4/28/2026	4/30/2027
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MICHAEL SYLVESTER	MIKE'S CARTS LLC	VEH-006071-2024	Vehicles	Golf Cart-Electric	Issued	4/28/2026	4/30/2027
MICHAEL SYLVESTER	MIKE'S CARTS LLC	VEH-006072-2024	Vehicles	Golf Cart-Electric	Issued	4/28/2026	4/30/2027
MICHAEL SYLVESTER	MIKE'S CARTS LLC	VEH-006073-2024	Vehicles	Golf Cart-Electric	Issued	4/28/2026	4/30/2027
MICHAEL SYLVESTER	MIKE'S CARTS LLC	VEH-006074-2024	Vehicles	Golf Cart-Electric	Issued	4/28/2026	4/30/2027
NATASHA MARKOV-RISS	PEAKS ISLAND GOLF CARTS	VEH-004212-2022	Vehicles	Golf Cart-Electric	Issued	5/4/2026	4/30/2027
NATASHA MARKOV-RISS	PEAKS ISLAND GOLF CARTS	VEH-004218-2022	Vehicles	Golf Cart-Electric	Issued	5/4/2026	4/30/2027
NATASHA MARKOV-RISS	PEAKS ISLAND GOLF CARTS	VEH-004211-2022	Vehicles	Golf Cart-Electric	Issued	5/4/2026	4/30/2027
NATASHA MARKOV-RISS	PEAKS ISLAND GOLF CARTS	VEH-004219-2022	Vehicles	Golf Cart-Electric	Issued	5/4/2026	4/30/2027
NATASHA MARKOV-RISS	PEAKS ISLAND GOLF CARTS	VEH-004206-2022	Vehicles	Golf Cart-Electric	Issued	4/28/2026	4/30/2027
NATASHA MARKOV-RISS	PEAKS ISLAND GOLF CARTS	VEH-004208-2022	Vehicles	Golf Cart-Electric	Issued	4/28/2026	4/30/2027

NATASHA MARKOV-RISS	PEAKS ISLAND GOLF CARTS	VEH-004209-2022	Vehicles	Golf Cart-Electric	Issued	4/28/2026	4/30/2027
NATASHA MARKOV-RISS	PEAKS ISLAND GOLF CARTS	VEH-004210-2022	Vehicles	Golf Cart-Electric	Issued	4/28/2026	4/30/2027
NATASHA MARKOV-RISS	PEAKS ISLAND GOLF CARTS	VEH-004213-2022	Vehicles	Golf Cart-Electric	Issued	4/28/2026	4/30/2027
NATASHA MARKOV-RISS	PEAKS ISLAND GOLF CARTS	VEH-004207-2022	Vehicles	Golf Cart-Electric	Issued	4/28/2026	4/30/2027
NATASHA MARKOV-RISS	PEAKS ISLAND GOLF CARTS	VEH-006903-2025	Vehicles	Golf Cart-Electric	Issued	4/28/2026	4/30/2027
NATASHA MARKOV-RISS	PEAKS ISLAND GOLF CARTS	VEH-006904-2025	Vehicles	Golf Cart-Electric	Issued	4/28/2026	4/30/2027
NATASHA MARKOV-RISS	PEAKS ISLAND GOLF CARTS	VEH-004214-2022	Vehicles	Golf Cart-Electric	Issued	4/28/2026	4/30/2027
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NATASHA MARKOV-RISS	PEAKS ISLAND GOLF CARTS	VEH-004224-2022	Vehicles	Golf Cart-Electric	Issued	4/28/2026	4/30/2027
NATASHA MARKOV-RISS	PEAKS ISLAND GOLF CARTS	VEH-004215-2022	Vehicles	Golf Cart-Electric	Issued	4/28/2026	4/30/2027
NATASHA MARKOV-RISS	PEAKS ISLAND GOLF CARTS	VEH-004226-2022	Vehicles	Golf Cart-Electric	Issued	4/28/2026	4/30/2027
NATASHA MARKOV-RISS	PEAKS ISLAND GOLF CARTS	VEH-004222-2022	Vehicles	Golf Cart-Electric	Issued	4/28/2026	4/30/2027
NATASHA MARKOV-RISS	PEAKS ISLAND GOLF CARTS	VEH-006905-2025	Vehicles	Golf Cart-Electric	Issued	4/28/2026	4/30/2027



Staff Memo To:
Sustainability & Transportation Committee
Councilor Regina Phillips, Chair

MEETING DATE

September 16, 2026

AGENDA ITEM

Agenda Item 3B – Forest Avenue Redesign Project (Revere to Bedford Street)

PURPOSE

The S&T Committee is being asked to endorse the final plan for the demonstration phase of the Forest Avenue Redesign Project and authorize staff to proceed with implementation.

COMMITTEE WORK PLAN/CITY COUNCIL GOAL ALIGNMENT

The Forest Avenue Redesign Project directly advances several of the [City Council's goals](#) and aligns with the City's adopted plans and policies, including [Portland's Plan 2030](#) (the Comprehensive Plan), [One Climate Future](#) (the City's climate action plan), and the [Complete Streets policy](#). It also advances the City's ongoing commitment to implement the [Vision Zero Action Plan](#). Collectively, these goals and initiatives call for improved multi-modal safety, accessibility, equity, and coordinated land use and transportation planning.

The project directly supports the [Council's 2026 goal](#) of reducing pedestrian and bicyclist fatalities by "*creating safer streets for all users by advancing policy to prevent traffic deaths and injuries while improving accessibility for pedestrians, cyclists, and transit users.*" Forest Avenue is identified in the region's Vision Zero action plan, *Vision Zero Greater Portland*, as part of the high-injury and high-risk network. By redesigning the street, retrofitting key conflict points, and improving multimodal access, the Forest Avenue Redesign Project advances this Council goal and supports the region's Vision Zero objectives.

BACKGROUND/ANALYSIS

Project Purpose & Scope

The Forest Avenue Redesign Project examined street reconfiguration options for inner Forest Avenue between Woodfords Corner and the Bedford Street/Baxter Boulevard intersection (Figure 1) that could be implemented as part of a planned roadway paving project.

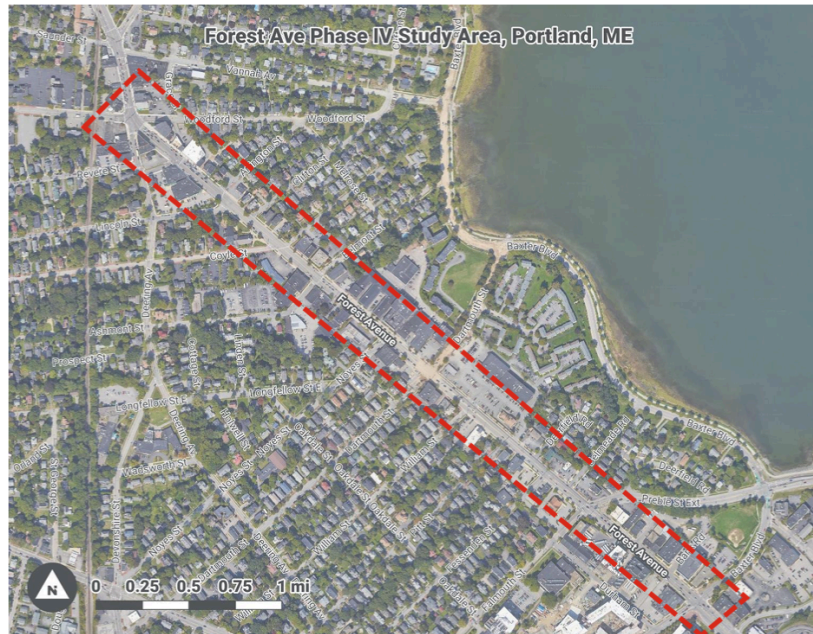


Figure 1: Forest Avenue Redesign Project Study Area

The primary goals of the redesign initiative were to:

- Address the root causes of serious and fatal crashes for all modes through the application of appropriate safety countermeasures
- Enhance multimodal connectivity by improving pedestrian, bicycle and transit infrastructure
- Reduce transit service delays through the addition of transit priority treatments
- Create a street environment that supports economic development, residential development, and future transit service growth.

Past Planning & Design Guidance

This project built on several past planning efforts, including:

- [Transforming Forest Avenue \(2012\)](#)
- [Portland – South Portland Smart Corridor Plan \(2018\)](#)
- GPCOG's *Vision Zero Greater Portland* (2023)
- Recode Portland (adopted 2024)

Project Process

The project kicked off in August 2023. Data collected as part of the project included multimodal traffic counts at signalized intersections and on-street parking utilization. The [Existing Conditions Assessment](#) established a baseline of current traffic and multimodal conditions along Forest Avenue.

Following the existing conditions assessment, an alternatives analysis evaluated five road reconfiguration concepts designed to improve safety and accessibility for all users. These five alternatives considered various combinations of bike lanes, traffic signal timing, on-street parking, pedestrian crossings, and motor vehicle travel lanes. The alternatives analysis was

conducted in compliance with the MaineDOT Road Diet guidelines. In addition, the alternatives were evaluated based on the following criteria:

- Traffic safety
- Traffic operations
- On-street parking
- Driving experience
- Pedestrian safety/experience
- Bicycle facility comfort/level of stress
- Transit efficiency
- Furtherance of city/state goals

The results of the analysis were documented in an [Alternatives Evaluation](#). A summary of the alternatives, evaluation criteria, and ratings were also made available [on the project's website](#) and shared with the public for input.

Recommended Concept

Based on the alternatives evaluation and public input, the final [Executive Summary Report](#), published in February 2025, recommended a three-lane street configuration with either parking-separated or standard buffered bike lanes (Figure 2). MaineDOT concurred with the recommended concept.

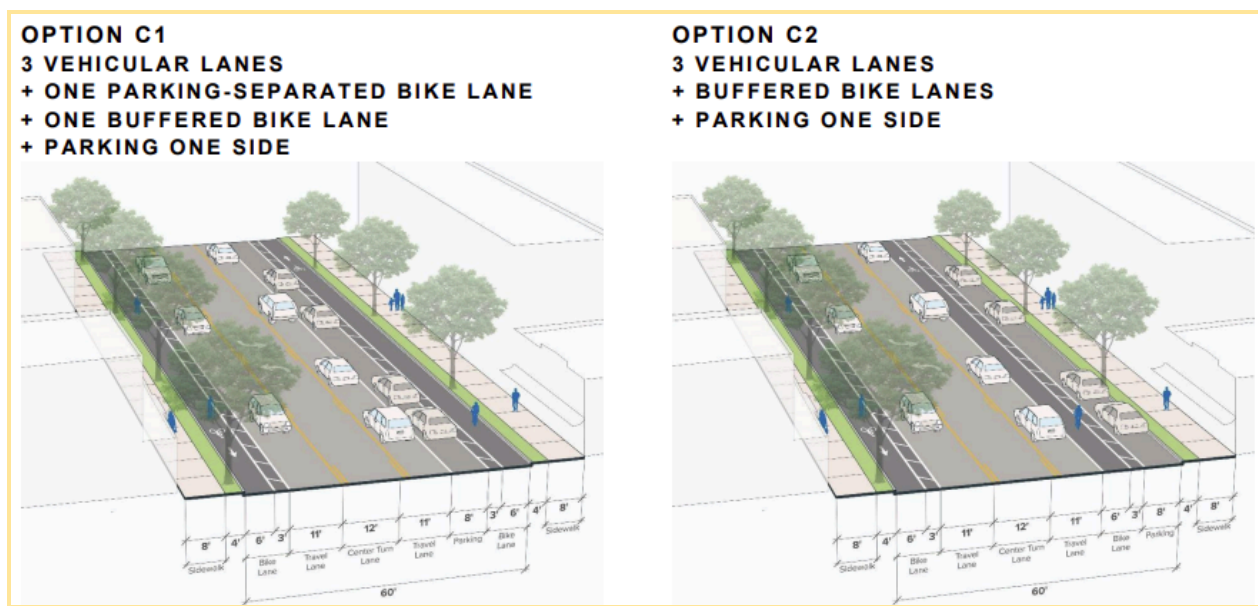


Figure 2: Recommended street configuration: "Option C" with either parking-separated or buffered bike lanes

Demonstration Street Design

Because the recommended street configuration includes a reduction in the number of travel lanes, MaineDOT has requested that the proposed redesign be tested through a demonstration phase before full implementation.

Over the past year, staff from DPW and Planning have worked with MaineDOT to develop a recommended design for the demonstration phase. The design incorporates proven safety countermeasures that advance the City's Complete Streets Policy and Vision Zero objectives while using lower-cost materials, such as pavement markings and bollards, to test the design's effectiveness before considering permanent changes. The demonstration design includes:

- Reduction in travel lanes from four lanes to three with a center turn lane
- Consolidation of on-street parking to one side of the street for most of the project area (alternating its location considering parking supply and observed demand during the study)
- Buffered bicycle lanes
- Two new and two enhanced pedestrian crosswalks with pedestrian refuge islands at unsignalized intersections and adding a fourth crosswalk at the Ashmont-Belmont signalized intersection
- Better defined bus stops

Community Engagement & Public Participation

The Forest Avenue Redesign Project has included multiple opportunities for public input.

The project background, existing conditions, alternatives, and the alternatives evaluation were presented at an open house and public meeting held at the Woodfords Club on November 19, 2024. Approximately 80 members of the public attended. An online survey, open for two weeks following the meeting, collected more detailed input from 288 respondents. At the meeting, a large percentage of the attendees favored the alternative street designs that included a reduction in travel lanes (Road diet) and bicycle infrastructure. Key features of this alternative included:

- Reconfiguration of the roadway from four lanes to three
- Consolidation of on-street parking from both sides of the street to one side of the street
- Two buffered bike lanes or a combination of one buffered bike lane and one parking separated bike lane
- Additional unsignalized pedestrian crossings with pedestrian refuge islands.

While supporting the road diet, attendees discussed the pros and cons of buffered bike lanes versus parking separated bike lanes. Several members of the public expressed a desire for more robust narrowing of the street, including grade-separated bikeways. Additionally, there was some concern expressed about potential on-street parking impacts. In addition to the transportation elements discussed, attendees and respondents noted the fair-to-poor condition of the streetscape along Forest Avenue.

During the development of the demonstration phase design, two stakeholder meetings were held. An in-person meeting was held with business and property owners along the study area at the Proper Cup coffee shop on March 31, 2026. At this meeting, draft plans for the demonstration phase of the project were shared. The meeting was followed by a survey, which closed in April 2026. Feedback from the meeting and the survey showed general support for the traffic safety/road diet aspects of the project, some support for the bike lanes, but also some concern about the loss of any on-street parking.

In addition, City staff met with bicycle and pedestrian advocacy groups, including the Portland Bicycle/Pedestrian Advisory Committee, the Bicycle Coalition of Maine, and Portland Trails to gather feedback on the draft plans. Feedback included support for the overall road diet concept, the addition of buffered bicycle lanes, the ‘day-lighting’ of driveways and intersections, and suggestions for additions to the palette of materials for the demonstration phase, such as temporary planters.

Feedback from these stakeholder meetings was incorporated into the final plan for the demonstration phase.

NEXT STEPS

Following endorsement of the demonstration street design, the City will retain a consultant to plan for necessary signal equipment and timing adjustments. Once that work is complete, the City will advance implementation of the project’s demonstration phase, with implementation anticipated as soon as summer 2027. After the demonstration is completed, the City will evaluate operational and safety data, finalize and refine the design, and pursue implementation of the longer-term project, including more permanent features, such as raised pedestrian refuge islands, curb extensions and limited curblane adjustments in coordination with a future MaineDOT paving project.

FISCAL IMPACT

The Forest Avenue Redesign Project’s demonstration phase is estimated to cost approximately \$850,000–\$1.2 million.

CONCLUSION(S)

Staff recommends S&T Committee endorsement of the demonstration phase street design for the Forest Avenue Redesign Project. Endorsement of the design will authorize staff to proceed with implementation of the demonstration phase, show the City’s support for pursuing funding for related improvements, and fulfill a MaineDOT request for advancing this and the subsequent phase of the project. Additionally, the demonstration project will allow the City to test proven safety countermeasures, collect data, evaluate their effectiveness, and use the findings to inform and refine future projects.

PRIOR COMMITTEE REVIEW

- September 11, 2024 – S&T Committee

PREPARED BY

Kevin Kraft, AICP
Director
Planning & Urban Development

Bruce Hyman
Transportation Program Manager
Planning & Urban Development

ATTACHMENTS

- Attachment A – Recommended Forest Avenue Demonstration Phase Street Design
- Attachment B – Existing Conditions Assessment

- Attachment C – Alternatives Evaluation
- Attachment D – Executive Summary Report

MEMORANDUM

December 8, 2023

To: Bruce Hyman, Transportation Program Manager; Harold Spetla, Senior Planner

Organization: City of Portland; GPCOG

From: Lucy Gibson

Project: Forest Avenue Phase IV Enhanced Project Scoping

Re: Existing Conditions Documentation

Introduction

As part of the Forest Avenue Phase IV Enhanced Project Scoping, aka *Forest Avenue Redesign*, Toole Design is undertaking Enhanced Project Scoping that will explore alternatives for the reconfiguration of Forest Avenue for safety, mobility and multimodal operations between Woodfords Corner and the Bedford Street/Baxter Boulevard intersection in Portland. This project is part of a multi-phase effort to retrofit Forest Avenue. Phase I involved a since-completed reconstruction project of the Woodfords Corner intersection. Phase II involves a redesign of Morrill's Corner, and Phase III involves a redesign of Forest Avenue from Marginal Way/State Street to Park Avenue.

The purpose of this memorandum is to document baseline existing conditions along Forest Avenue in the study area. This understanding of existing conditions will form the basis for the development and evaluation of future alternative concepts, the preferred of which will be advanced to construction. Within the scope of this corridor redesign options include:

- Adjustments to vehicle travel lane and parking lane configurations
- Traffic signal equipment and intersection modifications with signal timing to support multimodal mobility
- Sidewalk and ADA accessibility improvements
- Transit investments like bus stop amenities and transit priority treatments
- Enhancements to pedestrian access along and across Forest Avenue
- Continuous high-comfort bicycle facilities
- Streetscape improvements like pedestrian-scale lighting and green stormwater infrastructure

This document covers the following topics and sections:

- Background on past planning
- Purpose and Need
- Existing Conditions by topic (safety, parking, vehicular traffic, bicycle transportation, pedestrian transportation and public transit)
- Proposed Evaluation Criteria.

The study area is shown below.

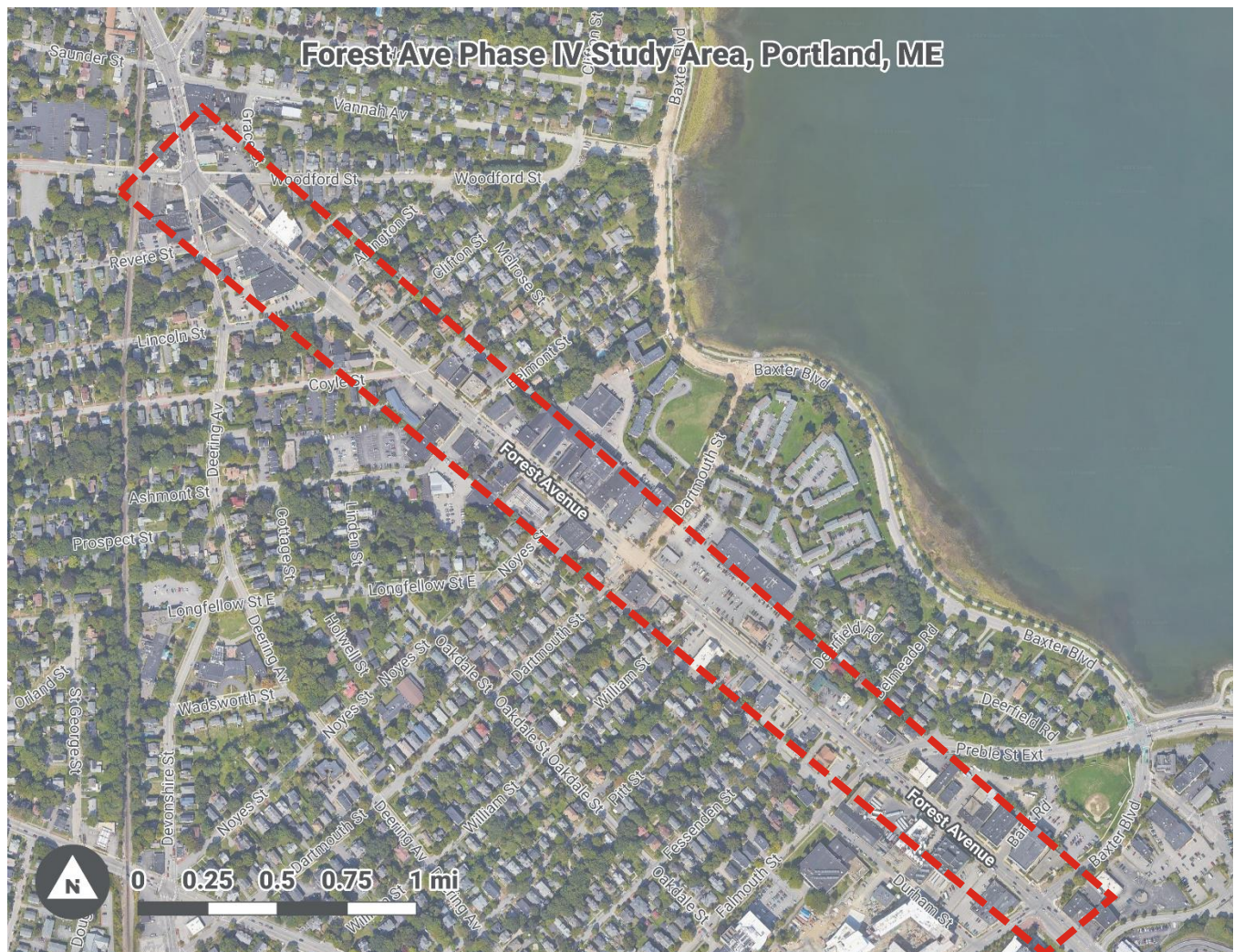


Figure 1: Project Study Area

Background

Several foundational recent studies that inform this current project are summarized below.

Portland – South Portland Smart Corridor Plan (2018)

The Smart Corridor refers to the US 302 corridor through the Portland region. This 7-mile corridor, which includes Forest Avenue, connects Portland and South Portland along with many of their neighborhoods and activity centers. The purpose of the 2018 Smart Corridor Plan, a partnership between PACTS, MaineDOT, and the cities of Portland and South Portland, was to advance the following goals:

- Encourage high-quality development in the Smart Corridor
- Improve safety for all travel modes
- Manage traffic access and congestion in the Corridor
- Improve travel options and multimodal access in the corridor, including public transit, walking, and bicycling.

The Plan analyzes existing conditions and location-specific issues within each significant intersection and sub-area along the Smart Corridor, and proposes preferred alternatives for each part of the corridor that will best advance the study goals. The following recommendations were put forth for the Forest Avenue South segment of the corridor, which approximately aligns with the study area for this project:

- Lane reduction in the southbound direction from Revere Street to Noyes Street, replacing excess roadway capacity with new bike lanes
- Reduced pedestrian crossing distances at major intersections with curb extensions, and more frequent protected crossing opportunities between signals through the installation of new crosswalks and RRFBS
- Retention of most on-street parking while creating new dedicated facilities for buses and bikes at congested intersections

The Smart Corridor Plan also proposes the following corridor-wide transit system enhancements that could be carried forward through this project:

- Bus stop relocation to co-locate bus stops with safer pedestrian crossings and eliminate closely spaced stops that degrade bus service
- Improved bus transfers and connectivity
- Pedestrian access improvements via enhanced pedestrian crossings and better public realm along the sidewalk
- Bus shelters at 12 locations along the Smart corridor
- Bus priority treatments, including queue jump lanes and Transit Signal Priority.

Gorham-Westbrook-Portland Rapid Transit Study (Ongoing)

This study examines the need for and benefits of a rapid transit line connecting Gorham, Westbrook, and Portland. It is based on recommendations from Transit Tomorrow, the region's long range transportation plan, and is led by GPCOG. The study evaluated several rail and bus rapid transit options, documenting the expected benefits and impacts of these options and proposing a preferred alternative.

Forest Avenue is identified in Transit Tomorrow as a part of a future rapid transit network for the region. As a result, lower Forest Avenue was included in two of the four rapid transit alternatives evaluated as part of this process in early 2023. Though the study has yet to be finalized, the alternatives that included Forest Avenue were not the best-performing according to the project's evaluation criteria, and Forest Avenue is not included in the draft recommendations.

Purpose and Need Statement

The goal of the Forest Avenue Phase IV Project is to finalize a conceptual design for Forest Avenue between Woodford's Corner and Bedford Street/Baxter Boulevard. Forest Avenue serves as a regional principal arterial and transit corridor that connects the Portland Peninsula with surrounding towns, passing through multiple Portland neighborhoods in the process. This stretch of the corridor is home to local business districts, residential neighborhoods, the University of Southern Maine campus, and countless other destinations. Today, Forest Avenue is designed to prioritize through travel for motor vehicles over safety and mobility for people walking, biking, and taking transit; connectivity between neighborhoods on either side and its function as a destination in its own right. As a result, prior planning work has identified numerous safety and access challenges on this segment of Forest Avenue, including:

- The four-lane cross section encourages weaving behavior among drivers and creates a "double threat" in pedestrian crossings

- The conditions of accessibility infrastructure like sidewalks, curb ramps, and crosswalks vary widely from poor to fair
- Outside of a one-way lane on the southern end of the study area, there are no dedicated bike lanes present, creating a gap in Portland's bike network
- The traffic signal equipment, wiring, and structures are older and will need to be updated to allow for changes to signal timing and phase separation that might improve safety outcomes
- The streetscape is inconsistent, with some sections having a consistent landscaped buffer and others with frequent curb cuts and few street trees.
- The combination of long crossing distances, long spacing between safe crossing opportunities, and fast-moving vehicle traffic creates a barrier effect between the east and west sides of the street that discourages walking and divides the neighborhoods on either side

Some combination of these challenges has contributed to poor traffic safety outcomes on this section of Forest Avenue in recent years. From 2013 through 2022, Forest Avenue saw 19 collisions involving cyclists, injuring 17. In the same period, there were 25 collisions involving pedestrians, injuring 21 and killing 2. And from 2020 through 2022, 262 motor vehicle crashes occurred on Forest Avenue. There are ten high crash locations (HCL's) within the study area identified by MaineDOT. GPCOG's *Vision Zero Greater Portland*¹ has designated this part of Forest Avenue as a Critical Safety Corridor, and several intersections in the study area are Critical Safety Intersections. Forest Avenue is on the GPCOG High Injury Network, as a higher proportion of crashes result in injuries. It was also identified as a corridor with many safety issues through the public engagement process.

The primary purpose of the Forest Avenue Phase IV Project is to develop a conceptual design for advancement to construction that accomplishes the following objectives:

- Address the root causes of serious and fatal crashes on Forest Avenue for all modes through the application of the appropriate safety countermeasures
- Enhance multimodal connectivity on Forest Avenue through investments in pedestrian, bicycle and transit infrastructure
- Reduce transit service delays along Forest Avenue through the addition of transit priority treatments
- Create a street environment that supports economic development, residential development, and future transit service growth

Existing Conditions

The following sections discuss findings for the corridor's safety, traffic operations, parking inventory and utilization, bicycle conditions, pedestrian conditions, and public transportation.

Safety

The analysis below utilizes data available from MaineDOT for the years 2018 through 2022. It should be noted that several recent projects have implemented countermeasures, so crash patterns may change going forward. These projects include:

- Vehicular left turn lanes were added on Forest Avenue at the Dartmouth Street intersection, which should reduce the incidence of rear end and sideswipe crashes

¹ <https://www.gpcog.org/DocumentCenter/View/2826/Vision-Zero-Greater-Portland>

- Crosswalks were realigned at the intersections of Lincoln and Coyle, which provides accessible curb ramps and shorter crossing distances.
- A fourth crosswalk was added to the Falmouth/Preble intersection with Forest Avenue.
- The westbound approach of Bedford Street was reconfigured to reduce the crossing distance as part of the University of Southern Maine TMP.

Summary of Crash Data

The study team reviewed crash data from 2018 through 2022 to understand general crash patterns and to help with identifying appropriate countermeasures and locations for their implementation. Crash type and location are summarized in the tables below. This data was downloaded from the MaineDOT Crash Query Tool.

Table 1: Summary of Crash Types for Forest Avenue (2018-2022)

Crash Type	Count	Percentage
Bicycle	10	2%
Pedestrians	9	2%
Head-on / Sideswipe	3	1%
Intersection Movement	129	26%
Object in Road	1	0%
Rear End / Sideswipe	330	65%
Went Off Road	22	4%
Total	504	100%

Table 2: Summary of Crash Locations for Forest Avenue (2018-2022)

Crash Location	Count	Percentage
Driveway	53	11%
Intersection	278	55%
Segment	173	34%
Total	504	100%

Approximately two-thirds of vehicle-vehicle crashes along the study corridor were categorized as “rear end / sideswipe” crashes. Following too closely, failure to yield right-of-way, and failure to keep in proper lane were cited as contributing driver actions in 61% of those crashes. Approximately one-quarter of crashes along the corridor were categorized as “intersection movement” crashes. Failure to yield right-of-way was cited as a contributing driver action in two-thirds of those crashes.

Table 3: Summary of Injury Level for Forest Avenue (2018-2022)

Injury Type	Count	Percentage
Serious Injury (A)	4	1%
Minor injury (B)	30	6%
Possible Injury (C)	92	18%
No Apparent Injury (O)	378	75%
Total	504	100%

Crashes in the study area were more likely to result in injuries compared to the regional or statewide average:

Table 4: Percent of all crashes that result in injuries or fatalities (2018-2022)

Location	% Crashes
Forest Avenue Study Area	25%
Cumberland County	14%
Statewide	16%

There are eight street segments within the project area are identified as high crash locations (HCL) for 2020-2022, summarized in the table below:

Table 5: MaineDOT Identified High Crash Locations (2020-2022)

From	To	Total Crashes	Critical Rate Factor	Length (mi)
I-295 SB Ramp	Bedford/Baxter	22	2.63	0.1
Preble/Falmouth	Fessenden	11	2.1	0.06
Deerfield	Pitt	8	1.70	0.04
Pitt	Dartmouth	9	1.19	0.08
Dartmouth	Noyes	10	1.7	0.06
Noyes	Ashmont	22	2.63	0.1
Ashmont	Coyle	12	2.13	0.06
Coyle	Ocean Avenue	48	2.71	0.29

Source: MaineDOT Public Map Viewer

The study area is about 1 mile in length, and the combined length of HCL segments is 0.8 miles. In addition, there are two HCL intersections in the study area with overlap segments above. These are located at the intersections of William Street and Dartmouth Street. Many of the Dartmouth Street crashes may have occurred before or during the construction project which added exclusive left turn lanes. Figure 2 is a map showing the crash locations and HCL segments and intersections.

A review of the HCL diagrams also reflected the general trends described above, with segments exhibiting a prevalence of sideswipe and rear-end crashes caused by following too closely, failure to yield, and failure to keep in proper lane; and intersections exhibiting angle crashes due to a failure to yield.

The types of crashes commonly experienced on Forest Avenue within the study area – namely rear-end, sideswipe, and left-turn crashes – are typical of higher-volume, multilane streets where through-moving vehicles share a lane with left-turning vehicles. This configuration produces speed differentials and encourages weaving and frequent lane changes. Left-turning vehicles must cross multiple lanes, which produces more conflict points and poorer sightlines between conflicting vehicles.

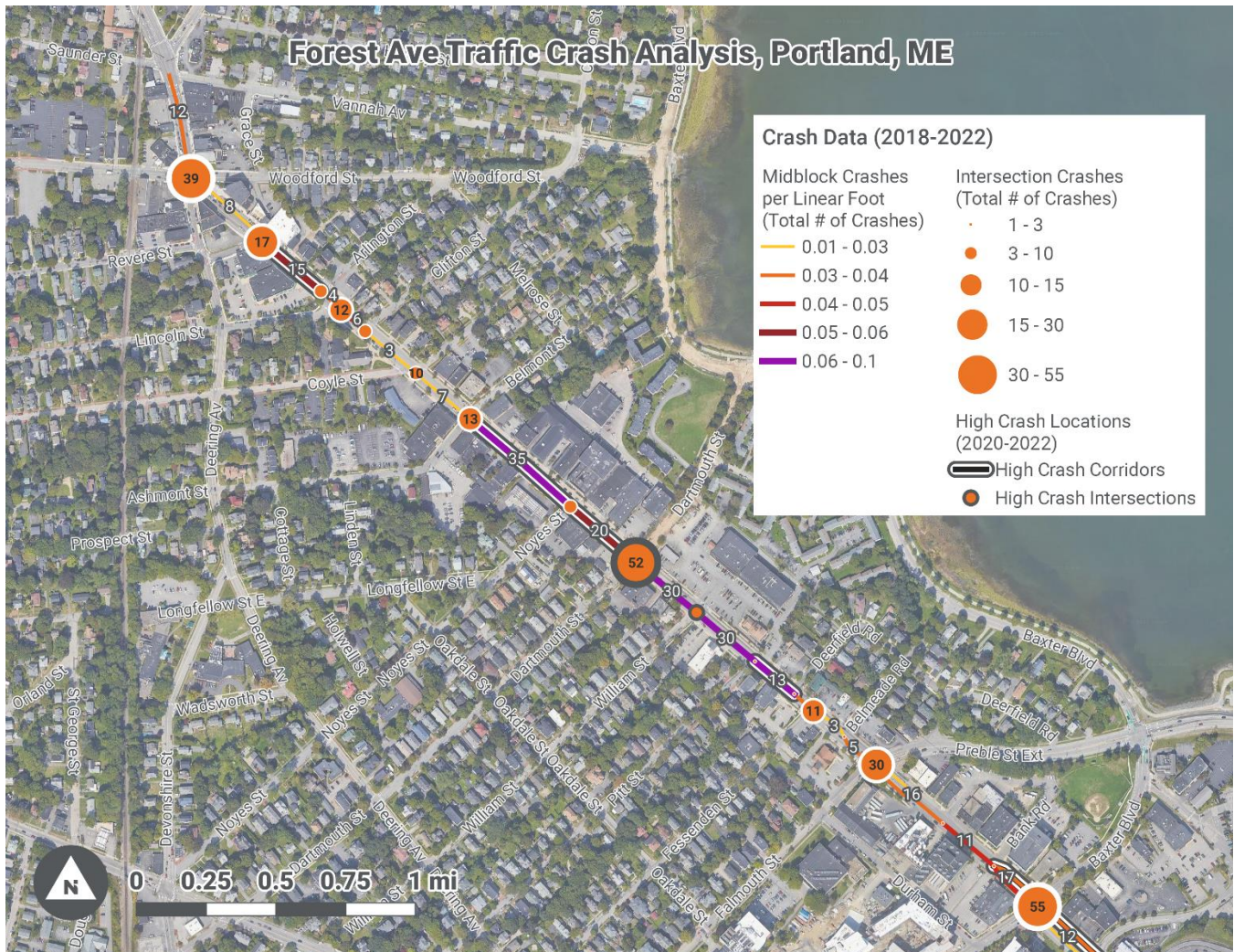


Figure 2: Forest Avenue crash map (Crash data from 2018-2022; HCL data from 2020-2022)

GPCOG Vision Zero Greater Portland Plan

A detailed analysis of regional safety is reported in the GPCOG *Vision Zero Greater Portland* plan². Forest Avenue is identified as a **Critical Safety Corridor**, and several intersections in the study area are identified as **Critical Safety Intersections**. Forest Avenue appears on the **High Injury Network** based on this analysis (Figure 3), and is also on the **High Risk Network** due to the presence of many features that result in increased crash rates. The Vision Zero public engagement process resulted in a concentration of concerns and comments on Forest Avenue within the study area. The map below is from the GPCOG Vision Zero Dashboard.

² <https://www.gpcog.org/DocumentCenter/View/2826/Vision-Zero-Greater-Portland>

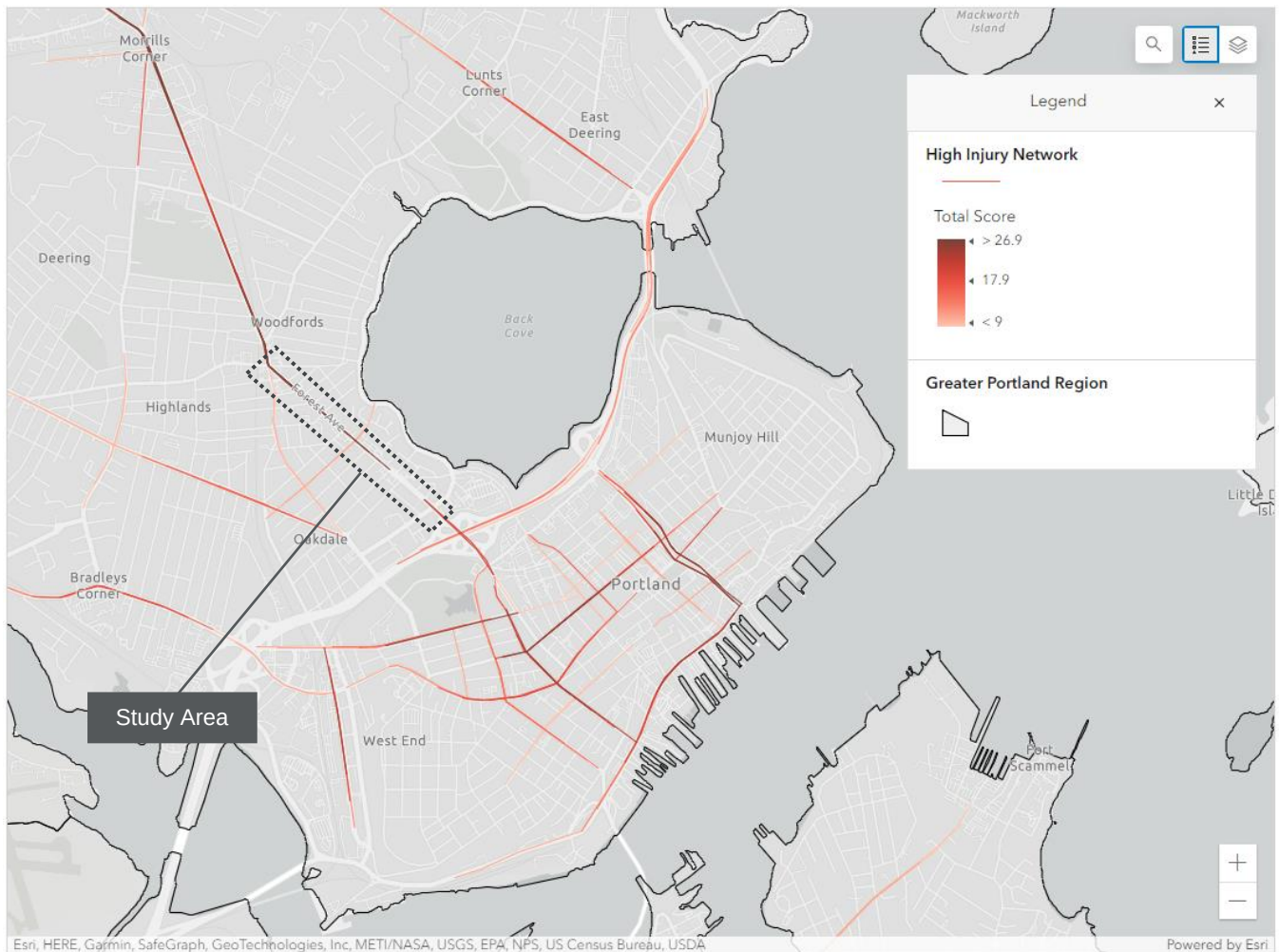


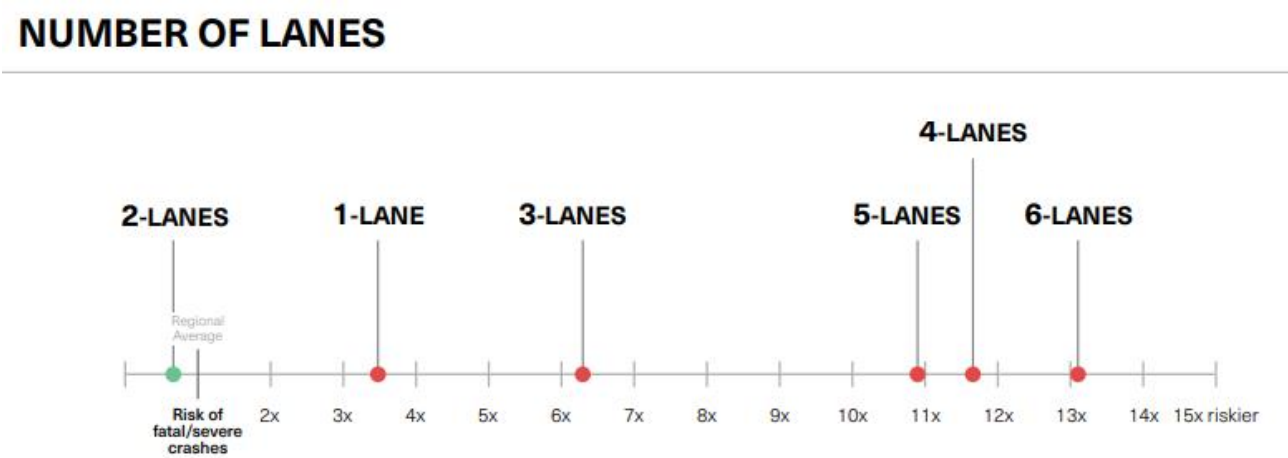
Figure 3: GPCOG Vision Zero Greater Portland High Injury Network

Forest Avenue is also found to be a critical safety corridor and showed a high frequency of public comments

Finally, the number of lanes is the most significant factor in higher crash rates — particularly with vulnerable users. In our region, fatal and serious injury crashes are at least 10-times as likely on roads with four or more lanes. Insufficient signage and inadequate lane markings are some of the factors that can cause driver confusion and lead to mistakes on roads with multiple lanes.

The figure below, extracted from the GPCOG Vision Zero Action Plan, shows that 4 lane streets are among the most hazardous in the region, with crash rates of over ten times that of the average street.

Figure 4: Crash Risk versus Number of Lanes



Source: Vision Zero Greater Portland

Safety for vulnerable users

Crashes involving people biking or walking are much more likely to result in an injury, and are primarily due to the driver failing to yield right-of-way to the person walking or biking. People walking or biking are involved in about 4% of all crashes and represent less than 3% of all intersection movements. However, people walking and biking were involved in 67% of the incapacitating injury crashes, and 23% of the non-incapacitating injury crashes, indicating the need to address safety for people walking and biking along and across Forest Avenue.

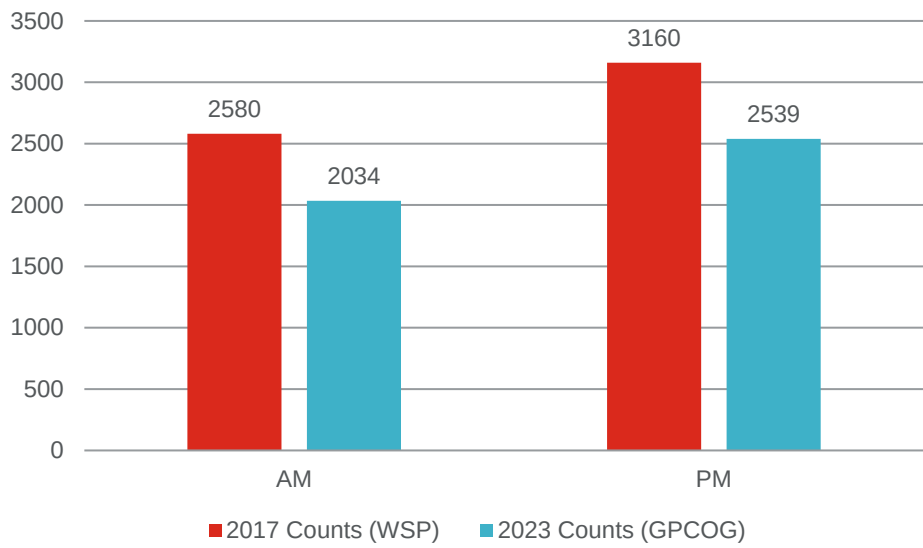
Traffic Operations

Existing vehicular traffic operations are discussed in detail in the attached memorandum, which has been reviewed by the MaineDOT. The following provides a summary of the findings.

Traffic Volumes

The traffic analysis used multimodal traffic counts collected by GPCOG on September 19 and 21, 2023, using Miovision cameras. Counts conducted during this time of year are typically have above average traffic volumes, and are thus suitable for use in traffic analysis without seasonal adjustments by MaineDOT policy. At the time of these counts, Baxter Boulevard was closed for construction, so Forest Avenue was serving as a detour route, and likely to higher volumes than typical. Even so, the September 2023 peak hour volumes are lower than previous counts, all of which were conducted before the COVID pandemic. Most agencies are considering that current 2023 traffic volumes are representative of a post-COVID “new normal” and it is quite common for peak-hour volumes to be lower than pre-pandemic conditions due to more people working from home and more flexibility in trip-making choices. The figure below shows the change in peak hour volumes at the Forest/Bedford/Baxter intersection between counts conducted in 2017 by WSP for the Smart Corridor Plan, and the 2023 GPCOG counts. The 2023 volumes are 21% lower in the morning peak hour, and 20% lower in the PM peak hour.

Figure 5: Comparison of AM and PM Peak Hour Volumes at Forest Avenue/Baxter Boulevard/Bedford Street



The turning movement counts (attached in the traffic analysis memo) show that the traffic volumes at the Forest Avenue/Ashmont Street/Belmont Street intersection do not meet any signal warrants, and therefore could be considered for removal in the development of alternatives.

Traffic Operations Analysis Results

The AM and PM peak hours were evaluated for traffic capacity and operations at the signalized and unsignalized intersections in the study area. Results from this analysis include vehicle level of service (LOS), which is a qualitative measure of traffic operations. LOS ranges from A, which reflects free flow, uncongested traffic operations, through F, which represents severe congestion. One weakness of using vehicular level of service as a primary measure of traffic operations is that the use of a letter grade scale implies that “A” is the best condition. LOS A or B means that there is excess vehicle capacity, which can have negative consequences including speeding, safety risks for vulnerable users, and adverse environmental impacts. Conventional traffic analyses promote planning around the busiest traffic hours of the day, even though most hours of the day will operate with far less delay for vehicles. As a result of these conventional practices, vehicle-centric decisions are often made to the detriment of the safety, comfort, and accessibility of other users who use the street throughout the day.

There are no national standards for LOS, and cities or states have discretion to adopt LOS targets that reflect their unique constraints and their tolerance for traffic congestion. For MaineDOT, peak hour LOS targets are to be D or better for urban corridors such as Forest Avenue. In US Cities, it is typical to accept LOS E or F and to tolerate vehicular congestion for a limited number of hours each day. Many cities are migrating towards using the Volume-to-capacity ratio as an appropriate measure of an urban street's performance, which focuses on providing for the movement of vehicles, and is less concerned with speeds and delay.

Using the 2023 counts, a synchro model was used to determine vehicular operations of the signalized and selected unsignalized intersections. This information is summarized below for signalized intersections, and indicates that all intersections operate at a level of service C or better for AM and PM peak hours, as shown in Table 5.

Table 6: Synchro Vehicle Operations Results: Existing AM and PM Peak Hours

Intersection	AM V/C	AM Average Delay	AM LOS	PM V/C	PM Average Delay	PM LOS
Forest at Ocean	0.52	17.5	B	0.64	28.5	C
Forest at Woodford	0.74	26.2	C	0.63	30.3	C
Forest at Revere	0.57	13.8	B	0.47	13.6	A
Forest at Ashmont/Belmont	0.30	5.5	A	0.36	6.1	A
Forest at Dartmouth	0.35	11.0	B	0.40	12.1	B
Forest at Preble/Falmouth	0.42	17.7	B	0.42	18.3	B
Forest at Bedford/Baxter	0.55	25.5	C	0.75	32.9	C

The results above differ from what has been reported in previous studies, including the Smart Corridor Plan and the University of Southern Maine Traffic Movement Permit studies, which both relied on the above referenced counts conducted in 2017. This discrepancy can be attributed to the lower peak hour traffic volumes observed in 2023. These results may also not be consistent with perceptions of people driving along the corridor during peak hours. An important consideration is that the synchro model is only considering the signalized and a few unsignalized intersections. There are numerous additional unsignalized streets and driveways where vehicles turn left, blocking their lane while they wait for a gap. These blockages create significant additional delay, and lead to weaving and crashes.

Additional detail on the traffic operations analysis is attached to this memorandum. The traffic analysis includes Synchro results for V/C, delay and LOS; and SimTraffic results for delay and queuing. The SimTraffic queuing results show long queues on the side streets of the Woodford Corner and Ocean Avenue intersections, which are effected by the railroad crossings, but may not reflect actual conditions.

On-Street Parking

Forest Avenue's on-street parking serves commercial, residential, and institutional uses. There are approximately 150 on-street parking spaces within the project area along this corridor³. On-street parking can be found throughout the corridor but is more prevalent on the northern sections of the study area.

Within the study area, Forest Avenue has a range of land use characteristics that affect the prevalence of on- and off-street parking. Some blocks, primarily concentrated to the south, are home to auto-oriented commercial land uses with large building setbacks from the street and off-street parking lots fronting Forest Avenue. Others, like the block between Belmont Street and Dartmouth Street and around Woodfords Corner, have a more traditional storefront commercial character with on-street parking along the curb. Scattered along the corridor are individual businesses that mix these patterns with storefronts against the sidewalk and smaller off-street parking lots on the side and/or back of the building.

³ The number of available parking spaces was determined by measuring the length of curb on each block where parking is legal and dividing by 18', which is the standard parking space length as defined by the City of Portland Technical Manual.

To understand parking patterns on Forest Avenue, Toole Design conducted a high-level parking utilization scan. First, we created an inventory of available spaces at the block-level based on Google Street View and aerial imagery. Next, we conducted fieldwork to measure parking utilization rates at the block level during peak times throughout the corridor. We collected data on October 5th and October 6th at the following times:

- Morning (8:00am)
- Mid-day peak (12:00pm)
- Afternoon (4:00pm)
- Evening peak (5:30pm)

Though the primary focus of data collection was Forest Avenue, we also collected utilization data along side streets that we anticipated might provide an alternative to parking on Forest Avenue for people visiting active destinations on the corridor. We found that these residential streets had higher rates of on-street parking occupancy compared to Forest Avenue throughout the day.

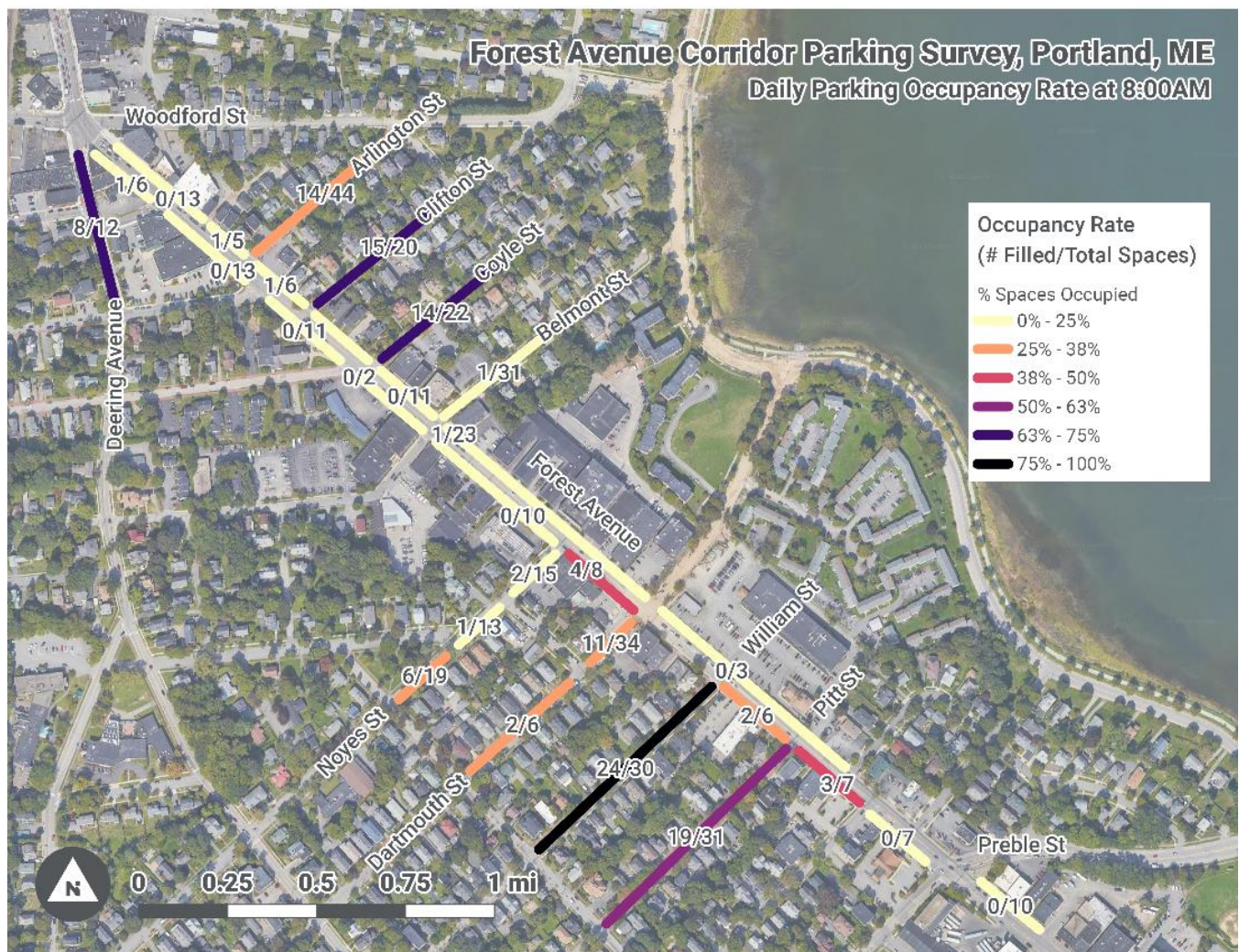


Figure 6: 8AM Utilization

At 8AM, 9% of the corridor-wide on-street parking on Forest Ave was in use, and on-street parking was more heavily utilized on residential side streets and the southernmost blocks of Forest Avenue. As this is the beginning of the workday, it is likely that we observed high utilization on the side streets because many residents had not yet

left for work. The only commercial stretches on Forest Avenue that were active at this time were the blocks between Noyes Street and Fessenden Street. This area is home to popular breakfast and coffee destinations, The Proper Cup and Rose Foods, both on the south side of Forest Avenue.



Figure 7: 12PM Utilization

At 12PM, 28% of the corridor-wide on-street parking in Forest Avenue was in use, and on-street parking along the corridor was beginning to see more activity, particularly in the two dense storefront areas around Woodfords Corner and between Belmont Street and Dartmouth Street.

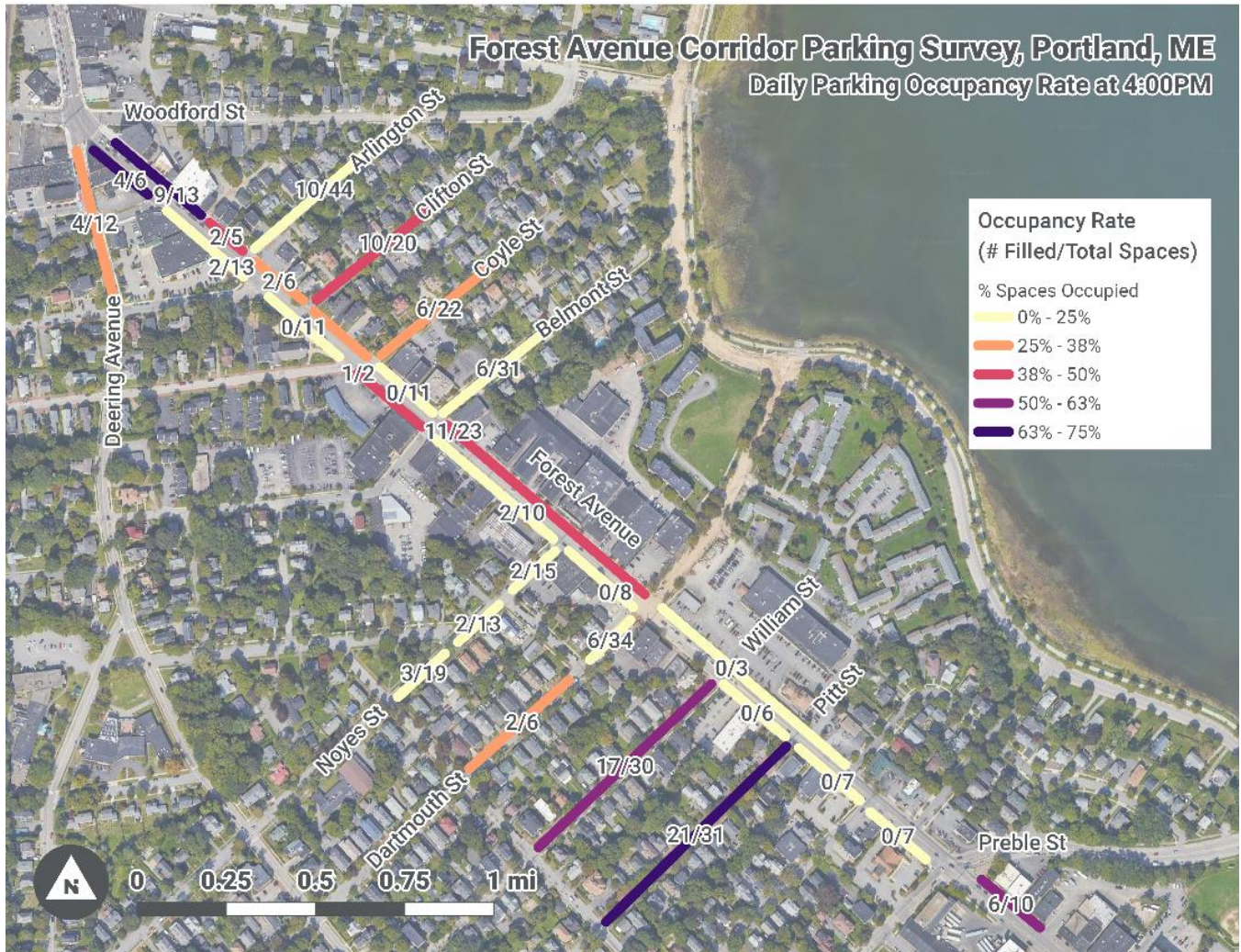


Figure 8: 4PM Utilization

Similarly, at 4PM, 28% of the corridor-wide on-street parking in Forest Avenue was in use, and the corridor was slightly less utilized than at 12PM (particularly between Belmont St and Dartmouth St) but remained heavily utilized at Woodfords Corner.

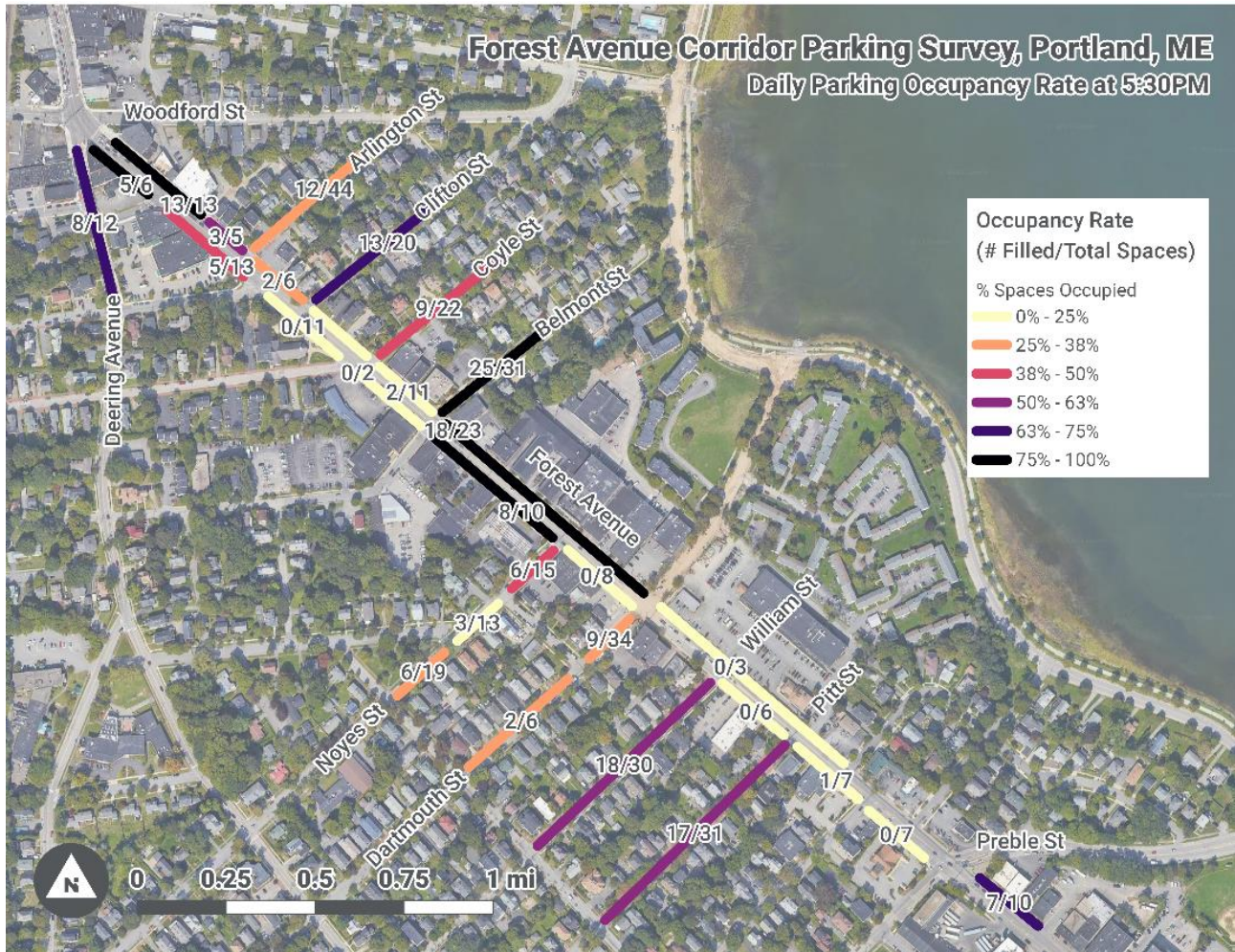


Figure 9: 5:30PM Utilization

At 5:30PM, 43% of the corridor-wide on-street parking in Forest Avenue was in use, and parking on Forest Avenue was at its highest observed utilization, especially at Woodfords Corner, at Preble Street, and between Belmont Street and Dartmouth Street. Side street parking utilization was also significantly higher than at 4PM, though it is unclear if this is because residents were returning home from work or because these streets were absorbing demand for parking from visitors to surrounding businesses.

Parking Utilization Study Findings

The following key findings emerged from the on-street parking utilization study on Forest Avenue:

- Corridor-wide parking utilization on Forest Avenue was never recorded above 43% of capacity. Blocks where parking appeared underutilized throughout the study include:
 - » Northbound between Pitt St and Dartmouth St (potentially due to the existing off-street parking lots)
 - » Northbound between Belmont St and Coyle St
 - » Southbound between Lincoln St and Coyle St
 - » Southbound between Fessenden St and Preble St (potentially due to the existing off-street parking lots)
 - » Southbound between William St and Pitt St (after 8AM)
 - » Southbound between Noyes St and Dartmouth St (after 12PM)

- Outside of the 5:30PM data collection period, on-street parking utilization was almost completely concentrated on one side of the street or the other.
- On most blocks, there were spaces available for additional visitors during every period. This includes blocks within the busiest stretches of the corridor at the peak of corridor-wide utilization at 5:30PM. Only one block was recorded as 100% utilized, between Woodford Street and Arlington Place at 5:30PM, and spots remained available across the street and on adjacent blocks.

Bicycling

Today, most of Forest Avenue within the study area does not have dedicated space for bicyclists. On the southern end of the corridor, painted bike lanes are provided in at least one direction for several blocks. There is a northbound bike lane from Bedford Street/Baxter Boulevard to William Street, and a southbound bike lane on the approach to Bedford Street/Baxter Boulevard. South of Bedford Street/Baxter Boulevard, there are shared use paths on either side of Forest Avenue through the I-295 interchange area.

Even with some painted bike lanes, Forest Avenue is not comfortable for most bicyclists. Level of Traffic Stress (LTS) is a metric used to describe the amount of stress people biking feel in traffic throughout the transportation network, based on vehicle speeds, traffic volumes, lane configuration, and the level of separation between people biking and vehicle traffic. It is a four-tiered metric, with the highest tier (LTS 4) representing the highest level of traffic stress, and the lowest tier (LTS 1) representing the lowest level of traffic stress. Achieving the lowest LTS possible ensures that bike users are in safer street environments when traveling and increases their comfort and likelihood of using this mode.

Forest Avenue has a posted speed limit of 30 mph, an Average Daily Traffic (ADT) between 20,000 and 27,000 vehicles, and 2 vehicle travel lanes per direction. Where a bike lane is not provided, this combination of characteristics means that Forest Avenue is LTS 4, representing the highest level of traffic stress for biking (see Table 6).

And where a bike lane is provided Forest Avenue is LTS 2 (Table 8). (It should be noted that our analysis used posted speeds whereas the LTS criteria matrix uses prevailing speeds. No speed data was collected for this analysis, but from public concerns expressed in the Smart Corridor Plan and the Vision Zero Greater Portland plan, it is likely that a significant portion of drivers exceed the speed limit on Forest Avenue. Thus, it is possible that even the blocks with bike lanes are actually at LTS 3 or LTS 4.

Beyond level of comfort, the safety of people riding bikes on Forest Avenue is a concern. Between 2018 and 2022, 10 bicycle crashes occurred on Forest Avenue within the study area. Though these made up only 2% of crashes during that period, 90% of the bicycle crashes resulted in injuries, compared to only 25% of all crashes on Forest Avenue.

Table 7: Level of Traffic Stress Criteria for Mixed Traffic Environments

Number of lanes	Effective ADT*	Prevailing Speed						
		≤ 20 mph	25 mph	30 mph	35 mph	40 mph	45 mph	50+mph
Unmarked 2-way street (no centerline)	0-750	LTS 1	LTS 1	LTS 2	LTS 2	LTS 3	LTS 3	LTS 3
	751-1500	LTS 1	LTS 1	LTS 2	LTS 3	LTS 3	LTS 4	LTS 4
	1501-3000	LTS 2	LTS 2	LTS 3	LTS 3	LTS 4	LTS 4	LTS 4
	3000+	LTS 3	LTS 3	LTS 4	LTS 4	LTS 4	LTS 4	LTS 4
1 thru lane per direction (1-way, 1-lane street or 2-way street with centerline)	0-750	LTS 1	LTS 1	LTS 2	LTS 2	LTS 3	LTS 3	LTS 3
	751-1500	LTS 2	LTS 2	LTS 2	LTS 3	LTS 3	LTS 4	LTS 4
	1501-3000	LTS 2	LTS 3	LTS 3	LTS 4	LTS 4	LTS 4	LTS 4
	3001-6000	LTS 3	LTS 3	LTS 4	LTS 4	LTS 4	LTS 4	LTS 4
	6001-10000	LTS 3	LTS 4	LTS 4	LTS 4	LTS 4	LTS 4	LTS 4
	10001+	LTS 4	LTS 4	LTS 4	LTS 4	LTS 4	LTS 4	LTS 4
2 thru lanes per direction	0-6000	LTS 3	LTS 3	LTS 3	LTS 3	LTS 4	LTS 4	LTS 4
	6001-12000	LTS 3	LTS 3	LTS 4	LTS 4	LTS 4	LTS 4	LTS 4
	12001+	LTS 4	LTS 4	LTS 4	LTS 4	LTS 4	LTS 4	LTS 4
3+ thru lanes per direction	any ADT	LTS 4	LTS 4	LTS 4	LTS 4	LTS 4	LTS 4	LTS 4

* Effective ADT = ADT for two-way roads; Effective ADT = 1.67*ADT for one-way roads

Table 8: Level of Traffic Stress Criteria for Bike Lanes and Shoulders Not Adjacent to a Parking Lane

Number of lanes	Bike lane width	Prevailing Speed					
		≤ 25 mph	30 mph	35 mph	40 mph	45 mph	50+ mph
1 thru lane per direction, or unlaned	6+ ft	LTS 1	LTS 1	LTS 2	LTS 3	LTS 3	LTS 4
	4 or 5 ft	LTS 2	LTS 2	LTS 3	LTS 3	LTS 3	LTS 4
2 thru lanes per direction	6+ ft	LTS 2	LTS 2	LTS 3	LTS 4	LTS 4	LTS 4
	4 or 5 ft	LTS 2	LTS 2	LTS 3	LTS 4	LTS 4	LTS 4
3+ lanes per direction	any width	LTS 3	LTS 3	LTS 3	LTS 4	LTS 4	LTS 4

- Notes
1. If bike lane / shoulder is frequently blocked, use mixed traffic criteria.
 2. Qualifying bike lane / shoulder should extend at least 4 ft from a curb and at least 3.5 ft from a pavement edge or discontinuous gutter pan seam
 3. Bike lane width includes any marked buffer next to the bike lane.

Although not comfortable in its current form for most people who ride a bike or are interested in doing so, Forest Avenue has the potential to be an integral and well-used part of Portland's bike network (Figure 10). Flanked by several of Portland's densest neighborhoods off-Peninsula, Forest Avenue could provide the most direct connection between neighborhoods and the Peninsula for a large number of residents. It is also home to a wide range of restaurants, grocery stores, retail stores, dance studios, banks, and other destinations which are difficult today to access by bike. As of 2021, Forest Avenue was identified as a planned bikeway for implementation by 2026.



Figure 10 City of Portland Bike Network Map (Source: <https://www.portlandmaine.gov/699/Bicycle-Pedestrian-Planning>)

Walking

Forest Avenue has consistent and sometimes generous sidewalks on both sides of the street, ranging from 6' to over 12' on some blocks with active storefront businesses. In some places, there is a grass buffer between the sidewalk and the street, but the tree canopy is limited. Sidewalks are generally in fair condition, and are in very good condition around Woodford's Corner, where they were reconstructed in recent years. South of Dartmouth Street there are some stretches of brick sidewalk, which can present tripping hazards and other accessibility challenges over time. Curb ramps from the sidewalk to the street are present at all corners, though are of varying levels of quality and ADA-compliance. Many curb ramps are missing tactile warning panels and/or are apex ramps instead of directional ramps that align with the crossing direction.

Forest Avenue poses challenging conditions for pedestrians crossing the street. Signalized crossing locations are spaced about 285' – 1,120' along the corridor, or a 3–5-minute walking distance (Figure 11). These are supplemented by unsignalized crosswalks at Coyle Street, Lincoln Street and William Street. With neighborhoods and destinations on both sides of the street, the infrequency of crossings is a barrier and might contribute to noncompliant crossing behavior along Forest Avenue.

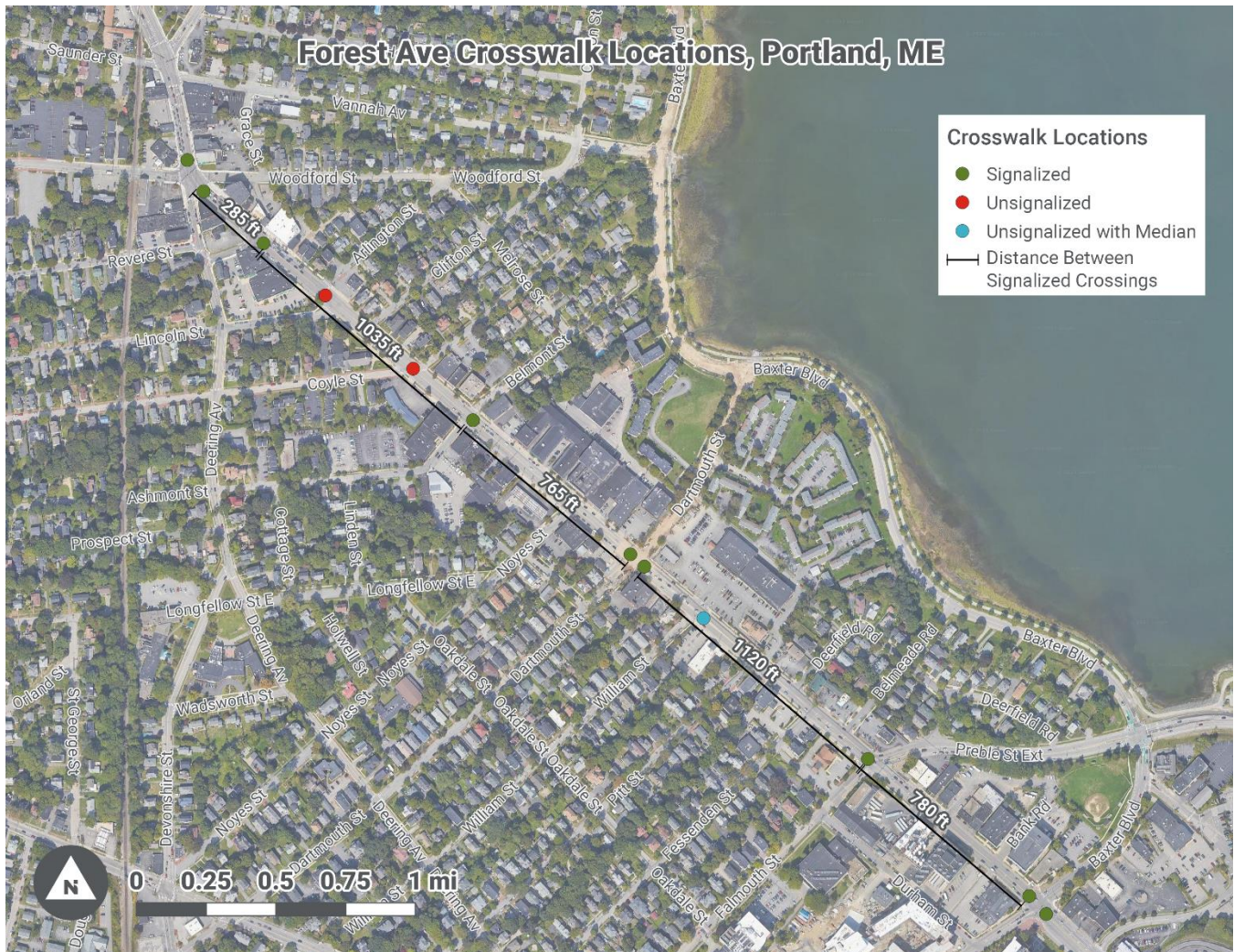


Figure 11: Crosswalks and spacing between signalized crossings in the Forest Avenue study area

With the existing cross section of Forest Avenue, pedestrians must cross four travel lanes and cover at least 60' curb to curb, often more due to skewed crossings. This means that all of the unsignalized crosswalks, shown in Figure 11, are “multiple threat” crossings, in which pedestrians in the crosswalk can be obscured from sight by the first car that stops to let them cross. While there are pedestrian crossing signals at the signalized intersections, there are no added measures for pedestrian safety such as Leading Pedestrian Intervals (LPI) which give pedestrians a head start in the crosswalk before vehicle traffic gets a green light.

Crosswalks are not consistently striped across side streets intersecting with Forest Avenue to reinforce the priority of people walking along the corridor. The auto-oriented land use patterns prevalent in the southern end of the study area also create safety concerns for pedestrians walking along Forest Avenue, with frequent driveways crossing the sidewalk and fast-moving traffic turning in and out. Where on-street parking is present it is generally restricted for 20'-30' approaching the corners, improving the visibility of pedestrians crossing along Forest Avenue.

Beyond level of comfort, the safety of people walking along or across Forest Avenue is a concern. Between 2018 and 2022, 25 crashes involving pedestrians occurred on Forest Avenue within the study area. Though these made up only 2% of crashes during that period, 100% of the pedestrian crashes resulted in injuries, compared to only 25% of all crashes on Forest Avenue.

Transit

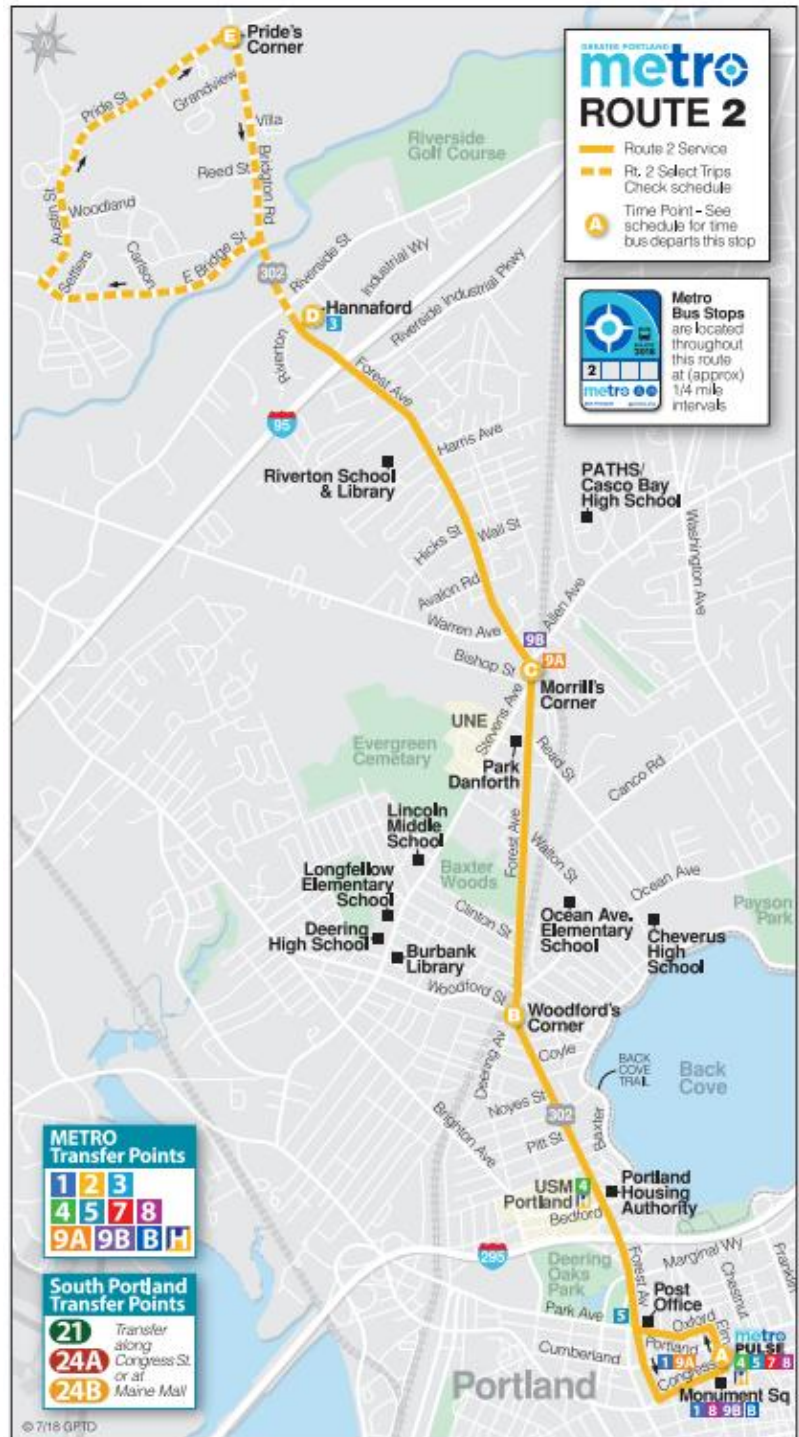
METRO and the Regional Transportation Program (RTP) operate transit service on Forest Avenue.

This part of Forest Avenue is served by METRO Route 2, which operates with 30-minute headways. According to the 2018 SMART Corridor study, the highest ridership stop on Route 2 outside of downtown is at Woodfords Corner. Most Route 2 riders on Forest Avenue are boarding in the inbound direction, with the exception of the stop at USM where some riders board outbound towards Woodfords Corner, Morrill's Corner, and Riverton.

METRO bus stops along Forest Avenue are of mixed quality and ADA-compliance. While some bus stops have an 8' deep level landing for bus ramp deployment and accessible boarding, in many locations this is hampered by the grass buffer, uneven and/or brick sidewalks, or insufficient sidewalk width. Recent streetscape investments in Woodfords Corner have provided a waiting area and seating around the outbound stop, though there is no shade or shelter from the elements.

METRO buses on Forest Avenue travel in general traffic and are delayed by congestion at some times during the day. Traffic LOS analyses conducted as part of the SMART corridor study in 2018 found that most delays along Route 2 occur in the northern section of Woodfords Corner north of the study area and at Falmouth/Preble Streets. Peak congestion at Bedford Street/Baxter Boulevard also delays bus service. Recent discussions with GP Metro indicate that these concerns still hold.

Forest Avenue is also an important connection from Greater Portland and I-295 to Route 302 and the Lakes Region of Western Maine. RTP operates the Lake Region Explorer, a regular bus service between the Elm Street Pulse Station and the Bridgton Community Center, on Forest Avenue. The Lake Region Explorer runs Monday through Friday year-round.



The Husky Line crosses the study area at the Forest/Bedford/Baxter intersection, and has high numbers of boardings on the USM campus. The Forest/Baxter/Bedford intersection sees some transfers between these lines, indicating the need for pedestrian crossings and waiting areas (Figure 12).

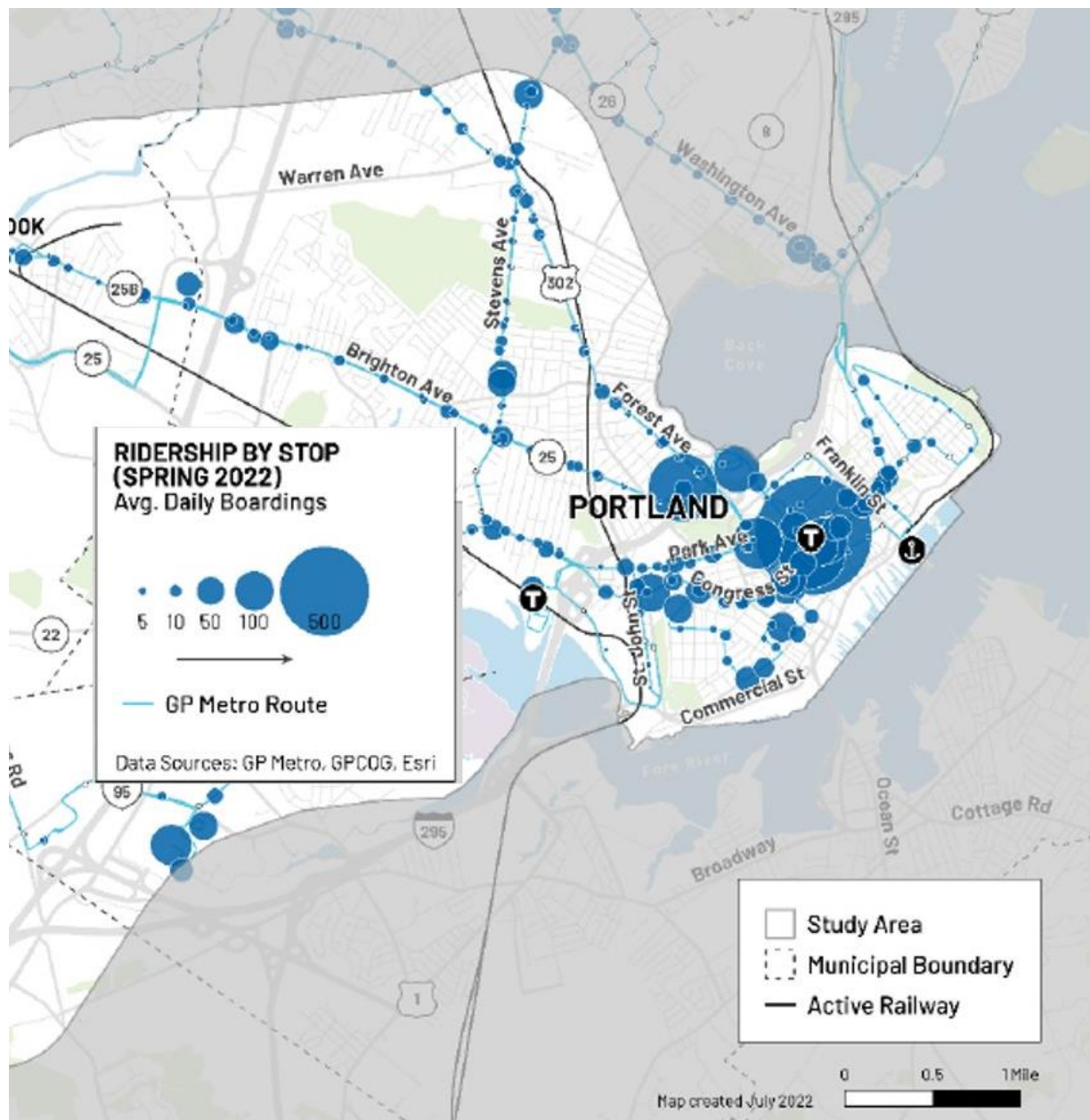


Figure 12: Ridership by stop (GPCOG Rapid Transit Study, 2023)

METRO's Route 2 has been the system's top performing route in terms of ridership per revenue-hour thus far in 2023, and increasing its performance from 2022. This indicates that the route is efficient, has a growing ridership, and provides a good return on the transit investment (Figure 13).

Ridership per Revenue Hour - 2022 Weekdays												
	Route 1	Route 2	Route 3	Route 4	Route 5	Route 7	Route 8	Route 9A	Route 9E	BREEZ	Husky Line	System
January	10.4	12.8	4.4	11.8	13.6	7.4	10.9	15.1	16.5	2.6	2.2	9.6
February	11	14	4.9	12.3	12.8	7.9	11.2	15.1	15.8	3.4	12	11
March	12.4	16.4	5.8	14.2	14.7	9.5	11.5	19	19.7	4.7	11.4	12.7
April	14.4	15.1	5.6	14.2	15.7	8.7	11.4	17.3	17.7	6.6	11.5	12.7
May	12.2	16.1	5	15.6	18.3	9.7	11.4	18.4	20.5	5.3	6.6	12.9
June	12.6	15.4	5.7	15.3	18.9	11.7	11.3	15.1	13.9	5.1	5.1	12
July	11.9	13.7	6	14.2	17.7	9.8	10.3	12.3	11.9	4.6	4.9	10.9
August	13.1	14.9	7	16.1	20.2	10.6	12.3	13.1	12.4	5.7	8.9	12.5
September	15.1	18.9	7.2	18	21.6	11.1	13.2	19.7	20.8	6.1	18.3	16
October	14	18.7	7.5	16.7	20.7	11.1	12.7	18.2	19.9	6.5	15.3	15
November	13.9	16.5	6.6	17.1	20.1	10.6	11.6	19	20.1	5.1	14.8	14.6
December	13.9	15	4.3	14.3	21.2	12.9	10.3	18.2	17.7	5.3	8.4	14.2

Ridership per Revenue Hour - 2023 Weekdays												
	Route 1	Route 2	Route 3	Route 4	Route 5	Route 7	Route 8	Route 9A	Route 9E	BREEZ	Husky Line	System
January	13	16.4	5.8	15.8	18	10.6	12.9	19.5	18.7	4.5	10.6	13.4
February	12.9	14.4	5.7	14.7	17.1	10	12.3	21.7	18	5.5	15.9	13.1
March	16.9	20.6	6.7	18.9	20.7	12.4	13.9	21.1	21.9	5.7	12.6	15.8
April	18.4	24.2	9.2	21.1	22.1	13.2	13.5	19.6	21.4	5.8	13.5	16.9
May	19.2	25.9	8.5	21.7	24.7	13.6	13.8	24.2	26.6	6.9	7.8	17.7
June	19.5	26.2	8.1	22	24.7	11.9	13.3	22.6	25.2	7.3	7.2	17.4
July	20.1	26.7	8.9	22	26.3	12.5	14.4	19.7	21.2	7.2	7.2	17.1
August	18.4	26.4	8.9	22.1	24	14.7	14.7	18.8	19.6	7.1	10.3	17
September	19.1	31.2	9.2	26.1	25.3	14.6	15.7	25.3	26.9	8.4	20.3	20.8
October												
November												
December												

Figure 13: On-time Performance of GP Metro System (Source: GP Metro)

The on-time performance is typically somewhat lower than average for the GP Metro system. It saw more significant decline in the summer of 2023, which may be due to the additional vehicle traffic using Forest Avenue during the closure of Baxter Boulevard.

METRO buses on Forest Avenue travel in general traffic and are delayed by congestion at some times during the day. Traffic LOS analyses conducted as part of the SMART corridor study in 2018 found that most delays along Route 2 occur in the northern section of Woodfords Corner north of the study area and at Falmouth/Preble Streets. Peak congestion at Bedford Street/Baxter Boulevard also delays bus service. Recent discussions with GP Metro indicate that these concerns still hold.

METRO bus stops along Forest Avenue are of mixed quality and ADA-compliance. While some bus stops have an 8' deep level landing for bus ramp deployment and accessible boarding, in many locations this is hampered by the grass buffer, uneven and/or brick sidewalks, or insufficient sidewalk width. Recent streetscape investments in Woodfords Corner have provided a waiting area and seating around the outbound stop, though there is no shade or shelter from the elements.

On-time Performance, 2022 Weekdays												
Route	Route 1	Route 2	Route 3	Route 4	Route 5	Route 7	Route 8	Route 9A	Route 9B	BREEZ	Husky	Overall
January	95.0	89.6	86.5	93.4	93.4	94.4	96.4	94.4	88.6	91.0	94.8	92.5
February	94.5	84.4	86.2	87.7	92.1	93.0	92.7	92.1	87.7	85.4	92.3	89.8
March	94.8	84.3	86.1	89.8	92.0	96.1	92.4	91.4	92.8	88.1	92.7	91.0
April	94.2	86.8	79.6	88.0	85.9	86.8	90.4	87.7	89.6	81.2	92.1	87.5
May	89.9	84.8	79.2	90.9	71.8	89.3	82.7	87.0	83.7	83.1	92.6	85.0
June	87.3	85.7	75.2	84.4	67.0	80.4	75.8	89.3	84.0	83.2	87.1	81.8
July	86.0	87.7	71.8	79.4	78.7	86.4	80.5	90.8	88.6	78.7	83.3	82.9
August	85.9	76.6	76.5	82.6	78.5	78.9	77.6	83.4	85.4	78.8	85.2	80.9
September	80.6	83.2	69.4	77.8	76.2	84.8	83.6	81.6	86.3	75.5	82.9	80.2
October	90.2	77.3	72.6	84.7	75.1	81.2	81.1	82.1	83.1	80.8	88.4	81.5
November	88.4	83.4	81.6	78.5	81.8	88.0	87.0	85.8	85.7	81.0	85.5	84.2
December	90.6	87.5	80.1	78.5	83.8	85.3	88.2	86.5	91.9	82.3	86.4	85.6

On-time Performance, 2023 Weekdays												
Route	Route 1	Route 2	Route 3	Route 4	Route 5	Route 7	Route 8	Route 9A	Route 9B	BREEZ	Husky	Overall
January	92.6	87.0	86.0	82.1	85.8	89.2	91.6	84.6	88.2	77.0	87.3	86.5
February	91.6	83.9	85.6	83.3	87.3	92.0	93.0	86.3	88.0	78.7	90.7	87.3
March	89.6	76.8	82.9	80.2	84.8	88.4	93.2	82.3	85.4	85.7	88.1	85.2
April	88.7	75.5	80.3	81.0	84.1	88.9	93.4	85.0	88.1	84.4	89.9	85.4
May	88.8	68.2	74.7	75.9	76.0	75.2	92.0	84.5	79.6	82.4	86.8	80.4
June	84.01	79.88	75.38	84.72	74.08	74.58	87.05	84	77.9	78.75	90.51	80.99
July	79.88	82.49	74.5	82.64	74	76.24	85.22	84.11	83.83	79.54	91.1	81.23
August	77.2	81.07	72.42	76.43	72.65	68.16	82.57	79.24	81.38	72.31	83.55	77.00
September	85.71	77.61	82.72	76.81	87.19	73.24	83.05	76.72	71.84	74.51	77.01	78.77
October	86.67	80.65	82.69	77.48	86.3	69.8	82.14	80.21	78.67	72.46	81.23	79.85
November												
December												

Figure 14: On-time Performance of GP Metro system (Source: GP Metro)

Summary

Key findings of the existing conditions analysis include:

Vehicular Operations. Vehicular operations are presented in detail in the attached memorandum. Traffic volumes have recovered from the COVID pandemic but declined significantly from counts conducted in prior years throughout the corridor. This has resulted in improved levels of service and reduced delay at signalized intersections and could potentially contribute to higher speeds. The relatively low levels of delay and queueing, and the LOS of all C or higher indicate that Forest Avenue is operating well below capacity, leading to the potential for speeding, especially during off-peak hours. Urban corridors that are significantly under capacity also represent an inefficient use of limited space with many other demands, including travel for other modes of transportation, parking, or streetscape features that create a more pleasant environment.

On-Street Parking. On-street parking is heavily utilized on some blocks during specific time periods and based on lack of available on-site parking, is an important element for business success. The high utilization is focused on selected blocks that serve business patrons, and is most highly utilized in the early evening period. Residential side streets were observed to have high utilization in the morning and evening periods.

Bicycling. Bicycle levels of stress are high, and because of this, bicycle use reflects a small portion of the current users on Forest Avenue. However, despite low numbers, bicycles are substantially over-represented in crashes that result in injuries, indicating a need to address bicycle network deficiencies.

Walking. The corridor's signalized intersections all have pedestrian signals and crossings. In some parts of the corridor, crossings are infrequent, and all of the corridors unsignalized crossings pose a multiple threat with two lanes of oncoming vehicles. People walking are substantially over-represented in crashes that result in injuries, indicating a need to address pedestrian safety issues. Signal operations currently do not provide for a leading pedestrian interval to reduce potential conflicts with turning vehicles.

Safety. There is ample data reviewed in this document that shows the safety concerns on the corridor are amounting to very high crash rates, particularly affecting vulnerable users who make a small portion of the total traffic. Future phases of this study will explore proven countermeasures to address the causes of these crashes.

Transit. The GP Metro service along Forest Avenue is well utilized and efficiently run. Improvements to service and efficiency could be achieved by reducing delays at signalized intersections with transit priority features such as queue jump lanes, and improvements to the bus stop design, which currently require buses to pull out of the travel lane to stop.

DRAFT

MEMORANDUM

October 31, 2024

To: Steve Landry, PE; Kara Aguilar, PE; Stephen Cole; MaineDOT, Bruce Hyman and Jeremiah Bartlett, City of Portland; Harold Spetla, PACTS

From: Lucy Gibson, PE; Erica Guidoboni, PE; John Mahoney, PE; Kristen Braley, EIT

Project: Enhanced Scoping: Forest Avenue Phase IV, Portland, ME

Re: Alternatives Evaluation

Alternatives Overview

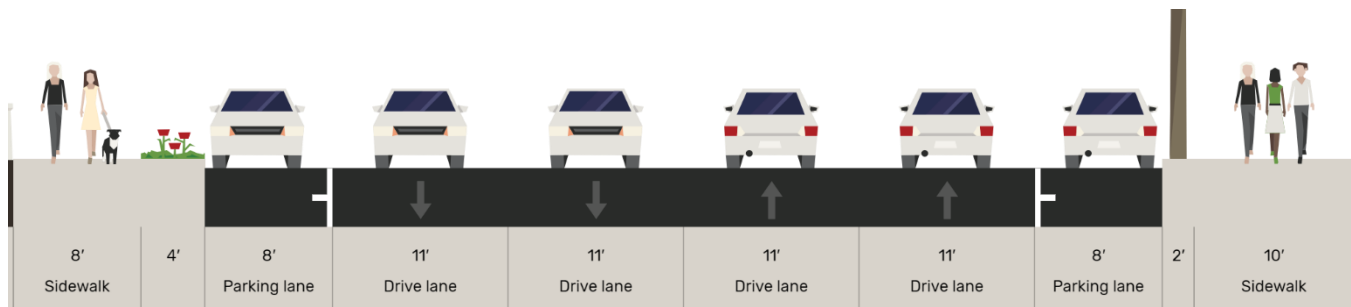
The purpose of this memorandum is to summarize and evaluate multimodal alternatives for a redesigned Forest Avenue. Each option will be evaluated according to a set of criteria that respond to specific challenges on Forest Avenue, reflecting City goals and policy priorities as well as conforming to the MaineDOT Road Diet Guidelines, where applicable. This section provides an overview of the redesign alternatives and the evaluation matrix and summarizes alternatives evaluation outcomes. A key focus of the alternatives is mitigating identified safety issues and improving multimodal access while still maintaining an acceptable Level of Service on this important regional corridor.

This memo builds on the revised Existing Conditions Memorandum, dated August 6, 2024.

Forest Avenue Redesign Alternatives

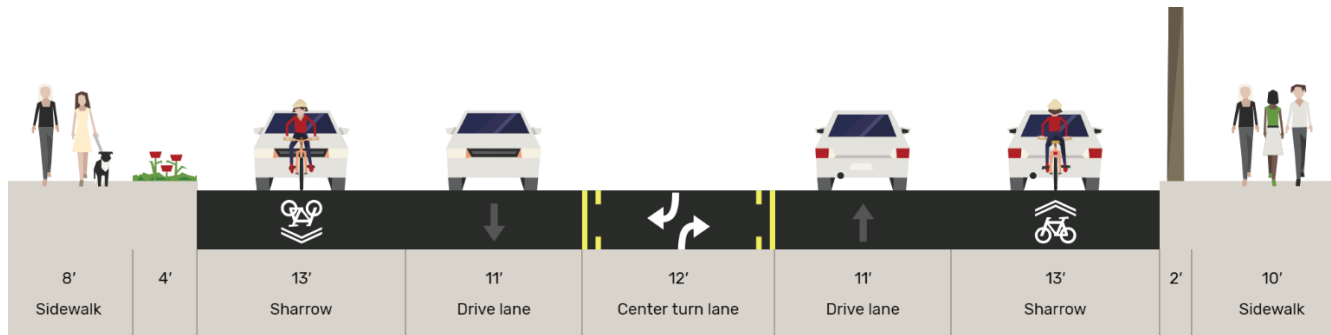
Four alternative typical cross sections were developed, in addition to the existing conditions/No Build. The alternatives are intended for near term (within five years) implementation and generally maintain the existing curb locations and widths. While the existing street width and lane configuration vary along the corridor, the following cross sections reflect conditions along the majority of the corridor's length between signalized intersections, roughly from Pitt Street in the southeast to Revere Street in the northwest, where the width of Forest Avenue is typically 60 feet from curb to curb.

No Build – Four travel lanes, two parking lanes



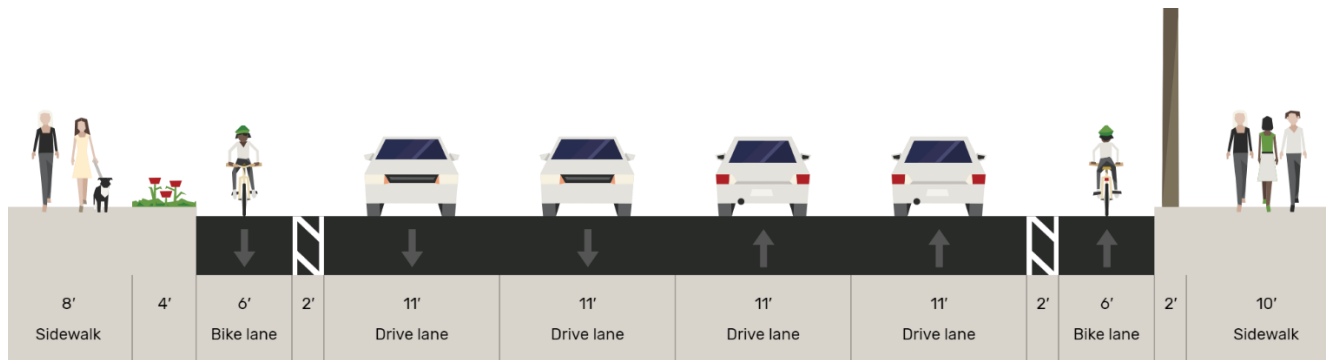
The No Build alternative represents the existing conditions on Forest Avenue, which today has two general-purpose travel lanes in each direction and parking on both sides of the street for most of the corridor.

Alternative A – Four travel lanes, adding a two-way left turn lane



Alternative A would maintain four travel lanes while adding a two-way left turn lane by removing parking on both sides of the street. The outside travel lanes would be wider and be marked for shared travel with cyclists.

Alternative B – Four travel lanes, adding bicycle lanes

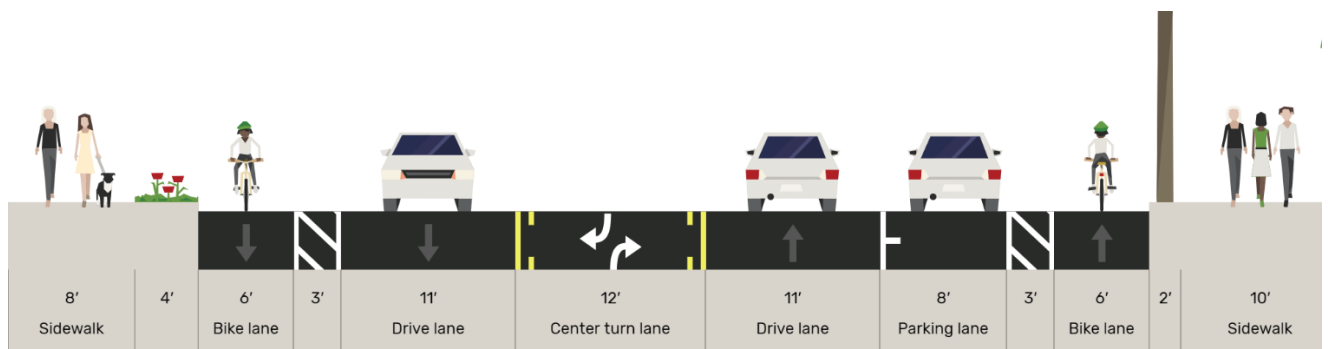


Alternative B would maintain four travel lanes while adding curbside buffered bike lanes by removing parking on both sides of the street. Approaching signalized intersections, the bike lanes could become shared bus/bike queue jump lanes.

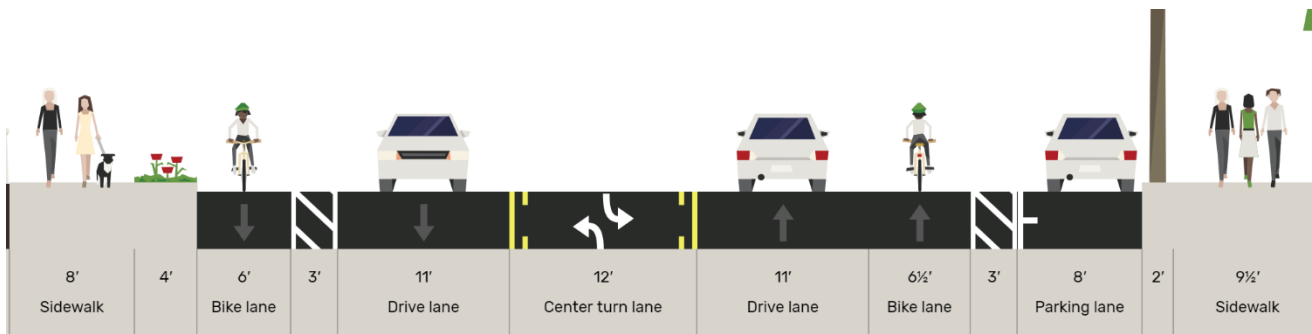
Alternative C – Lane reduction, bicycle lanes, parking on one side

Two variations of Alternative C are presented below.

Alternative C1: One Parking- Separated Bicycle Lane, One Buffered Bicycle Lane

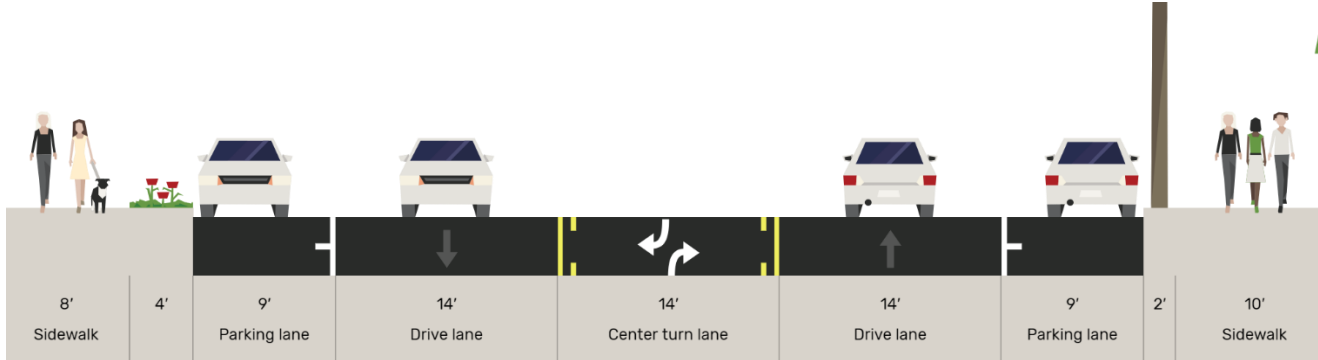


Alternative C2: Curbside Parking One Side and Buffered Bicycle Lanes



Alternative C would reduce the number of vehicle through travel lanes to two and consolidate parking to one side of the street. The remaining space would be reallocated to create a two-way left turn lane and curbside separated bike lanes. The bike lanes would be separated from vehicle travel lanes by the parking lane on one side (C1), or the same space could be reconfigured to place the parking lane curbside C2). Approaching signalized intersections, the shared turn lane could be replaced by left turn lanes and/or bus queue jump lanes.

Alternative D – Lane reduction, parking on both sides



Alternative D would reduce the number of vehicle travel lanes to two while maintaining parking on both sides of the street. The remaining space would be reallocated to create a two-way left turn lane. Approaching signalized intersections, the two-way left turn lane would be replaced by directional left turn lanes and/or bus queue jump lanes and parking.

Evaluation Matrix

The evaluation matrix (Table 1) reflects the Purpose & Need for the Forest Avenue Phase IV Enhanced Project Scoping effort, with criteria that address the specific challenges present on Forest Avenue and documented in the Existing Conditions Memo, and the City of Portland’s goals and policy objectives. It is intended to capture and communicate the benefits and trade-offs of the different redesign alternatives for Forest Avenue across a range of performance metrics and priorities.

Project Purpose

Forest Avenue serves as a regional principal arterial and transit corridor that connects the Portland Peninsula with surrounding towns, passing through multiple Portland neighborhoods in the process. This stretch of the corridor is home to local business districts, residential neighborhoods, the University of Southern Maine campus, and countless other destinations. Today, Forest Avenue is designed to prioritize through travel for motor vehicles over safety and mobility for people walking, biking, and taking transit; connectivity between neighborhoods on either

side and its function as a destination in its own right. Numerous safety and access challenges have been identified on this segment of Forest Avenue, including:

- The four-lane cross section encourages weaving behavior among drivers and creates a “double threat” in pedestrian crossings
- The conditions of accessibility infrastructure like sidewalks, curb ramps, and crosswalks vary widely from poor to fair
- Outside of a one-way lane on the southern end of the study area, there are no dedicated bike lanes present, creating a gap in Portland’s bike network
- The traffic signal equipment, wiring, and structures are older and will need to be updated to allow for changes to signal timing and phase separation that might improve safety outcomes
- The streetscape is inconsistent, with some sections having a consistent landscaped buffer and others with frequent curb cuts and few street trees.
- The combination of long crossing distances, long spacing between safe crossing opportunities, and fast-moving vehicle traffic creates a barrier effect between the east and west sides of the street that discourages walking and divides the neighborhoods on either side

The combination of these challenges has contributed to poor traffic safety outcomes on this section of Forest Avenue in recent years. From 2013 through 2022, Forest Avenue saw 19 collisions involving cyclists, injuring 17. In the same period, there were 25 collisions involving pedestrians, injuring 21 and killing 2. And from 2020 through 2022, 262 motor vehicle crashes occurred on Forest Avenue. There are ten high crash locations (HCL’s) within the study area identified by MaineDOT. GPCOG’s *Vision Zero Greater Portland*¹ has designated this part of Forest Avenue as a Critical Safety Corridor, and several intersections in the study area are Critical Safety Intersections. Forest Avenue is on the GPCOG High Injury Network, as a higher proportion of crashes result in injuries. It was also identified as a corridor with many safety issues through the public engagement process.

The primary purpose of the Forest Avenue Phase IV Project is to develop a conceptual design for advancement to construction that accomplishes the following objectives:

- Address the root causes of serious and fatal crashes on Forest Avenue for all modes through the application of the appropriate safety countermeasures
- Enhance multimodal connectivity on Forest Avenue through investments in pedestrian, bicycle and transit infrastructure
- Reduce transit service delays along Forest Avenue through the addition of transit priority treatments
- Create a street environment that supports economic development, residential development, and future transit service growth

The project needs are described in the Existing Conditions Traffic Memorandum, dated August 6, 2024 (see <https://portland.civilspace.io/en/projects/forest-avenue-redesign-project>).

The evaluation matrix is shown below, where criteria are provided for high, medium, or low scores for each primary project need. In general, a high score indicates significant improvement for that project need, and a low score is typically associated with the continuation of an unacceptable existing condition. A medium score indicates that there is some improvement for that project need.

¹ <https://www.gpcog.org/DocumentCenter/View/2826/Vision-Zero-Greater-Portland>

Table 1 Evaluation Matrix

	High	Medium	Low
Safety	Significant reduction in crashes of greater than 30%	Reduction in crashes of up to 30%	Status Quo or negligible reduction in crashes
Traffic Operations	Volume is within capacity; queued traffic does not block upstream intersections and vehicle LOS is at or below the LOS D target	Queues may occasionally extend to upstream intersections; vehicle LOS is E in some locations/time periods	Volume is greater than capacity, long queues build up and affect upstream intersections
Parking	No reduction of existing on-street parking	Parking supply is reduced to one side of street, but still meets general demand; strategic parking management can be used to reduce inconvenience	Elimination of on-street parking
Driving	Traffic flow is more predictable with less frequent sudden slowing/stopping and weaving behavior is eliminated; driver stress is significantly reduced	Traffic flow is more predictable with less frequent sudden slowing/stopping, reducing stress for drivers	No improvement from existing conditions (unpredictable stopping in left lane, frequent need to weave or merge, high speeds and passing)
Walking	Significant pedestrian comfort & safety improvement with proven countermeasures throughout corridor; Reasonable distances between crossings	Some improvement in pedestrian comfort & safety with implementation of pedestrian safety countermeasures	No improvement from existing conditions (multiple threat crossings, long crossing distances, limited median refuges)
Biking	Low stress bike infrastructure (LTS 1) throughout corridor	Bike infrastructure achieves LTS 2 throughout corridor	LTS 3-4, no improvement from existing conditions (lack of dedicated bicycle infrastructure in most of corridor, high vehicular traffic speeds)
Transit	Queue jump lanes and other signal priority treatments at selected locations provide improvement in on-time performance	N/A	No further transit priority measures are implemented to reduce transit delay

Alternatives Evaluation Summary Results

Table 2 below summarizes the evaluation of each alternative based on the criteria described in Table 1. The background of each criterion and the evaluation methods are described in greater detail in the Alternatives Evaluation section.

Table 2 Alternatives Evaluation Summary

	No Build – 4 lanes & parking	A – 4 lanes & left turn lanes where needed	B – 4 lanes & bike lanes	C – Lane Reduction, bike lanes, & 1 parking lane	D – Lane Reduction & 2 parking lanes
Safety	Low	Medium	Low	High	High
Traffic Operations	High	High	High	High	High
Parking	High	Low	Low	Medium	High
Driving	Low	Medium	Low	High	High
Walking	Low	Medium	Low	High	High
Biking	Low	Low	Medium	C1 -High	Low
				C2 Medium	
Transit	Low	Low	Low	High	High

Alternatives Evaluation

The following sections discuss each criterion in more detail.

Safety

Much of this section of Forest Avenue, 0.8 miles out of the 1-mile study area, is classified as a series of High Crash Locations (HCL) by MaineDOT (Figure 1) and the remainder has a high incidence of crashes. Addressing the root causes of these crashes, which also result in injuries at a higher rate and higher degree of severity than the regional and statewide averages, is a key objective of the proposed redesign.

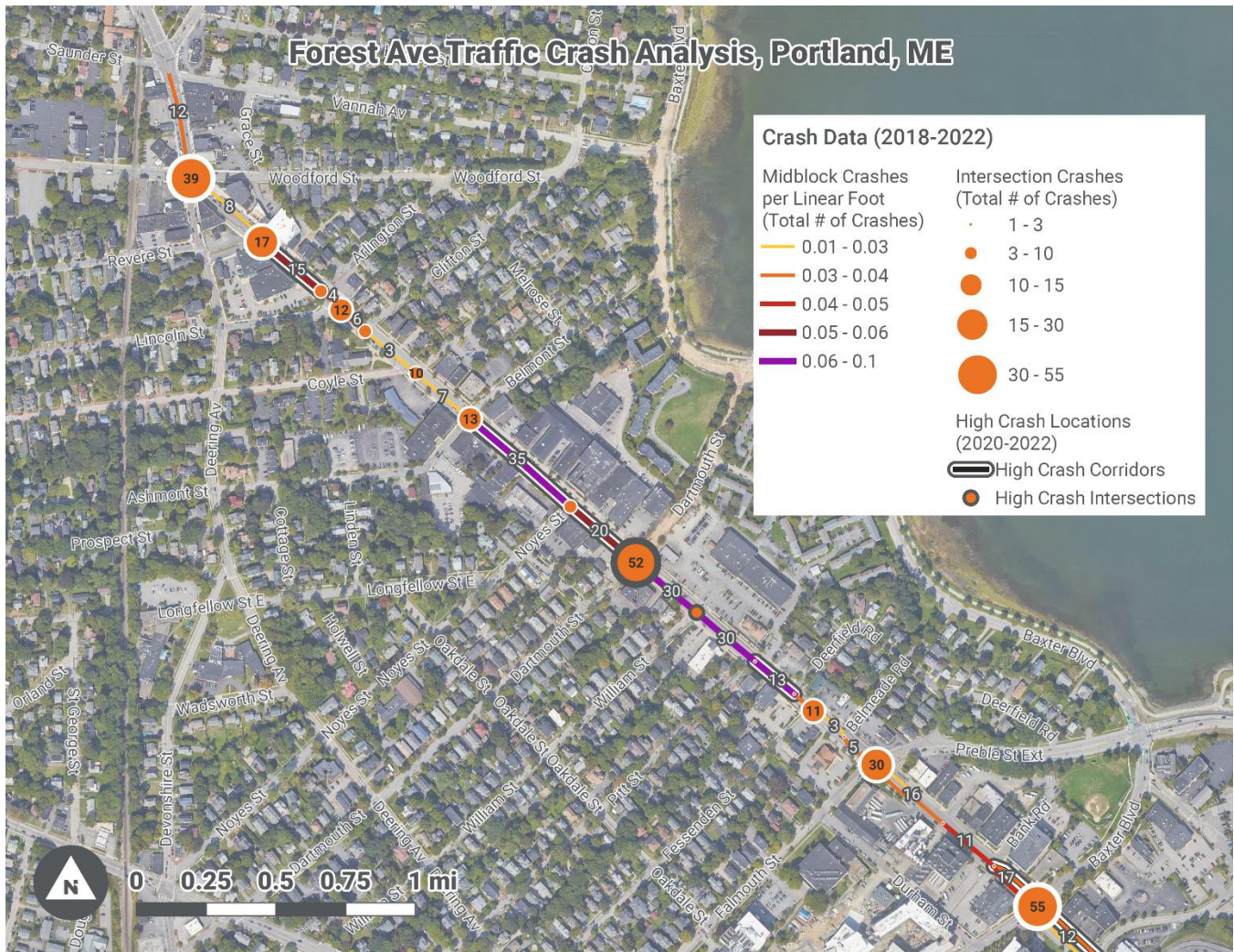


Figure 1 Forest Avenue crash map (crash data from 2018-2022, HCL data from 2020-2022)

The types of crashes commonly experienced on Forest Avenue within the study area – namely rear-end, sideswipe, and left-turn crashes – are typical of higher-volume, multilane streets where through-moving vehicles share a lane with left-turning vehicles. This configuration results in speed differentials and encourages weaving as well as frequent lane changes. Left-turning vehicles must cross multiple lanes, which produces more conflict points and poorer sightlines between conflicting vehicles. A four-lane street design introduces distinct safety issues for pedestrians and bicyclists as well. Overall speeds are higher, which results in much greater potential for a severe injury or fatality if a crash occurs. Visibility is poor for people biking or walking across a four-lane street, as a stopped vehicle blocks the sightline to the person crossing from oncoming traffic.

The proposed alternatives have the potential to mitigate these challenges to differing degrees for each mode. While additional Crash Reduction Factors (CRFs) may apply, this evaluation focuses on the CRFs that can be applied directly to lane configuration changes shown in the cross sections. Table 3 shows the Crash Reduction Factors (CRFs) used to evaluate each alternative for safety benefits. More information on each countermeasure and CRF is available from the Crash Modification Factor (CMF) Clearinghouse pages, linked in the table below. The most applicable CRF applies to all crashes, including those involving vehicles, bicyclists or pedestrians.

Table 3 Proposed safety countermeasures and estimated crash reduction by alternative

Proposed Safety Countermeasures		Forest Avenue Alternatives				
Countermeasure	CRF	No Build	A	B	C	D
Install 2-Way Left Turn Lane on 4-Lane Road	24%	No	Yes	No	No	No
Convert 4-Lane Roadway to 3-Lane Roadway with Center Turn Lane	47%	No	No	No	Yes	Yes
Score		Low	Med	Low	High	High

In accordance with the evaluation matrix (Table 1), alternatives that achieve a significant estimated crash reduction of over 30% received a score of “High,” alternatives that achieve a modest estimated crash reduction of 5% - 30% received a score of “Medium,” and alternatives with a status quo or minor estimated crash reduction of less than 5% received a score of “Low.”

Traffic Operations

Vehicle operations have been evaluated using Synchro/Simtraffic software, with the methodology described in the Existing Conditions Memorandum. The alternatives were analyzed using similar methodology and reported in the attached traffic operations memorandum. In all cases, the signalized intersections along the corridor have a level of service D or higher for the major approaches (Forest Avenue), as well as the overall intersection, which meets the MaineDOT guidelines. Queueing was modeled using SimTraffic, and found to be slightly longer in the alternatives with a travel lane reduction than in alternatives A or B (without a lane reduction), but do not show ‘spill back’ into adjacent intersections. Additional changes that were included in the traffic operations modeling for all alternatives were to prohibit right turn on reds, as such turns can have a detrimental effect on safety.

Parking

On-street parking supply on Forest Avenue today is generally more than sufficient to meet demand. Observed utilization peaked at 43% of corridor-wide capacity, with parking activity heavily concentrated in two parts of the corridor in the vicinity of Ashmont to Noyes and Belmont to Dartmouth Streets (Figure 2). Outside of this 5:30pm data collection period, on-street parking utilization was almost completely concentrated on one side of the street or the other. And on most blocks, there were spaces for additional visitors during every period.

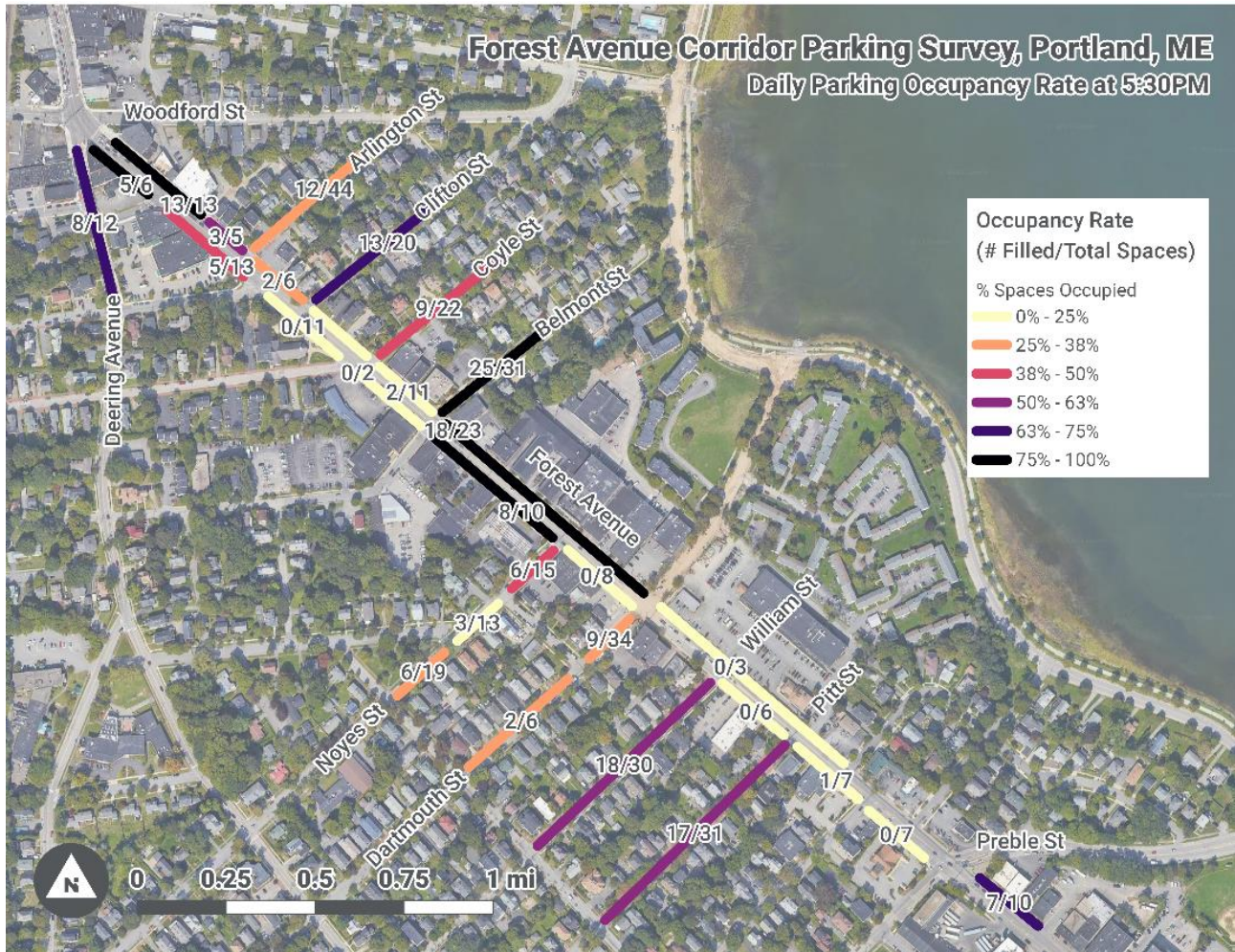


Figure 2 Parking utilization on Forest Avenue and surrounding streets at 5:30 PM on a weekday, the peak observed period

Alternatives were evaluated for this criterion based on their proposed impacts to on-street parking supply. Alternatives that would maintain the existing cross section, with parking on both sides of the street for most of the corridor, were scored “High” as they retain nearly all of the existing parking supply on each block. Alternatives that would consolidate parking to one side of the street [and eliminate it on the other] were scored “Medium” as they would meet corridor-wide demand but not necessarily peak demand within each block, a change which would require people parking to cross the street or walk an additional block or two and could be offset by strategic parking management such as dedicated short term pick-up/drop-off zones. Alternatives that would eliminate on-street parking on Forest Avenue entirely were scored as “Low” from a parking perspective. It should be noted that on a number of blocks on Forest Avenue as well as on side streets, there are opportunities to increase the amount of on-street parking. These will be identified in next steps as the preferred alternative is selected.

Driving Experience

The design and lane configuration of Forest Avenue today creates a stressful driving environment. With four travel lanes, no turn lanes, and side streets and driveways on both sides of the street, drivers must stop in travel lanes to wait to make left turns. This means that traffic can slow and stop in this lane unexpectedly, creating a rush to change lanes among waiting drivers and putting pressure on turning drivers to complete their turn to clear the

travel lane. Additionally, the multiple travel lanes facilitate weaving behavior by speeding drivers that can cause sideswipe crashes and contribute to elevated stress for all drivers.

This metric is intended to capture how each alternative would affect the driving experience on Forest Avenue, going beyond a traffic congestion or delay metric to describe changes to anticipated predictability and driver stress. The alternatives that scored the highest would both provide a dedicated left turn lane (directional or two-way) and reduce the number of lanes in each direction to one, creating more predictable traffic flow and mitigating weaving behavior. The alternatives that scored in the middle would provide a dedicated left turn lane but would provide no other changes to the lane configuration. The alternatives that scored the lowest would neither provide a dedicated left turn lane nor reduce the total number of travel lanes. Alternatives that eliminate some or all of the parking also reduce 'side friction' from parked cars which can influence driver behavior as well.

Walking

Forest Avenue poses challenging conditions for pedestrians crossing the street. Spacing between signalized crossing locations ranges from about 300' to over 1,000' within the study area, or up to a five-minute walk. These are supplemented by unsignalized crosswalks at Coyle Street, Lincoln Street and William Street. With neighborhoods and destinations on both sides of the street, the infrequency of crossings is a barrier and might contribute to noncompliant crossing behavior along Forest Avenue.

With the existing cross section of Forest Avenue (except at William Street), pedestrians must cross four travel lanes and cover at least 60' curb to curb, or sometimes longer due to skewed crossings. This means that all of the unsignalized crosswalks are "multiple threat" crossings, in which pedestrians in the crosswalk can be obscured from sight by the first car that stops to let them cross.

Alternatives were evaluated for the Walking criterion based on their potential to mitigate these pedestrian street crossing issues. The lane reduction alternatives will eliminate the multiple threat crossing and allow for median refuges to be installed in locations where a left turn lane is not needed, possibly including Ashmont, Noyes, and Pitt Streets. More crossings will reduce the distance needed to walk to a crossing. Providing a median refuge will reduce crossing distances and exposure to moving traffic. Other topics such as ADA accessibility, sidewalk condition and lighting are also important to the pedestrian environment and pedestrian comfort and safety and are assumed to be addressed in the design phase. Alternatives with on-street parking also provide the opportunity for curb extensions to be constructed at crosswalks to increase pedestrian visibility to drivers and reduce crossing distances.

No Build

As the No Build alternative represents no change from the existing condition, it received a score of "Low."

Alternative A – Four travel lanes, adding a two-way left turn lane

Alternative A, which has two vehicle travel lanes in each direction and a two-way left turn lane, would be compatible with some improvements to the existing condition for walking. At unsignalized crossings, pedestrian crossing islands could be implemented within the two-way left turn lane to reduce crossing distances and allow pedestrians to cross in two stages. However, these would remain multiple threat crossings. Given the limited potential for improvement, Alternative A received a score of "Medium" for walking.

Alternative B – Four travel lanes, adding bicycle lanes

Alternative B, which has two vehicle travel lanes in each direction and bike lanes, would not be compatible with any high impact crossing improvements to pedestrian safety or comfort. The overall crossing distance would not be reduced, the crossings would remain multiple threat crossings, and there would be no space in the cross

section for median refuge islands. Because this would represent no change from the existing condition for walking, Alternative B received a score of “Low” for walking.

Alternative C – Lane reduction, bicycle lanes, parking on one side

Alternative C, which has one vehicle travel lane in each direction, a two-way left turn lane, bike lanes, and parking on one side, would be compatible with potential significant improvements to the existing condition for walking. The distance that a pedestrian is exposed to moving traffic while crossing would be greatly reduced, and pedestrian crossing/refuge islands could be implemented within the two-way left turn lane to further reduce crossing distances and allow pedestrians to cross in two stages. And with only one travel lane in each direction, the crossings would no longer be multiple threat crossings. Alternative C holds the potential for significant improvements to walking on Forest Avenue and received a score of “High.”

Alternative D – Lane reduction, parking on both sides

Alternative D, which has one vehicle travel lane in each direction, a two-way left turn lane, and parking on both sides, would be compatible with significant improvements to the existing condition for walking. The crossing distance would be greatly reduced, and pedestrian crossing islands could be implemented within the two-way left turn lane to further reduce crossing distances and allow pedestrians to cross in two stages. And with only one travel lane in each direction, the crossings would no longer be multiple threat crossings. Alternative D holds the potential for significant improvements to walking on Forest Avenue and received a score of “High.”

Biking

The biking analysis looked both at bike route network options for the corridor, and also at the biking level of traffic stress, described in the following sections.

Bikeway Routing Options for Alternatives Without Bike Lanes on Forest Avenue

Part of the balancing required for choosing a preferred alternative is related to safety/comfort level and accessibility for bicycling within the project area and its vicinity. This includes assessing the level of connectivity provided, directness of routing and quality of viable parallel and connecting bikeways. Similar to motorists, bicyclists prefer directness of routing where quality facilities are provided to reach destinations.

The current bikeway status on Forest Avenue includes:

- Bike lanes from Park Avenue to Falmouth Street/Preble Street Extension but with a short gap outbound from the Hannaford driveway to Baxter Boulevard
- No bike lanes from Falmouth Street through Woodfords Corner
- Bike lanes north of Woodfords Corner to south of Morrill’s Corner
- No bike lanes within Morrill’s Corner
- Bike lanes north of Morrill’s Corner to Riverside Street
- Shared use pathways on both sides of Forest Avenue within the Exit 6 ramp area: on the east side of Forest Avenue, the pathway ends at the Hannaford driveway; on the west side it extends to Bedford Street.

Bike lanes connecting directly to Forest Avenue within the project area include:

- Bedford Street, Baxter Boulevard and Preble Street Extension at the south end
- Deering Avenue and Ocean Avenue at the north end.

The bike lanes and shared use pathway on Baxter Boulevard have few options for connections to destinations on Forest Avenue but include Dartmouth Street, Baxter Boulevard itself and Vannah Avenue. A denser network of local streets connect Deering Avenue to Forest Avenue and also includes Dartmouth Street and Falmouth Street.

Most are too narrow to provide bike lanes with the exceptions being Noyes Street (a one-way street) and Dartmouth Street.

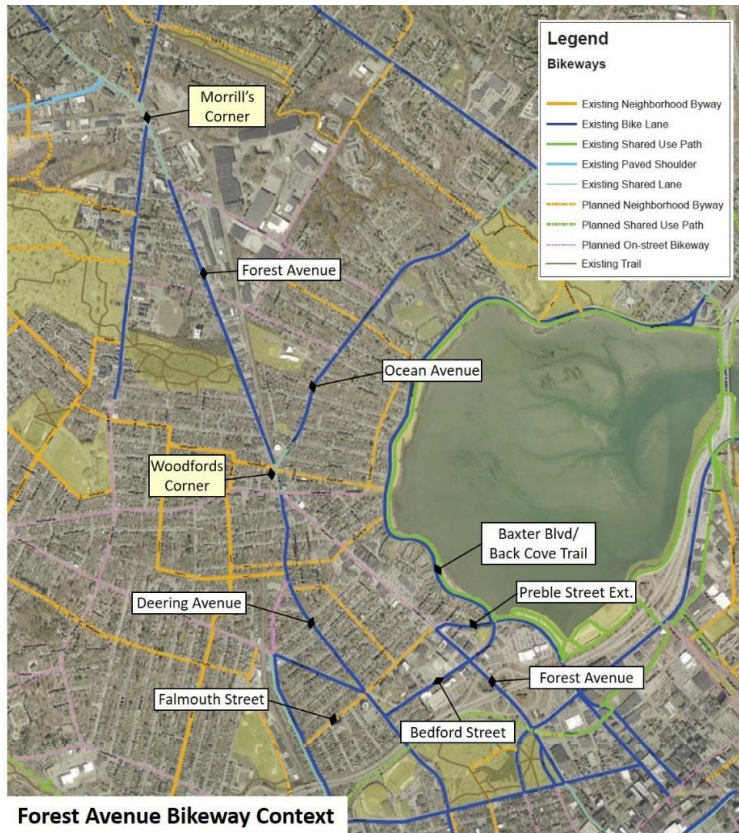


Figure 3: Forest Avenue Bikeway Context

The bike lanes and shared use pathway on Baxter Boulevard have few options for connections to destinations on Forest Avenue but include Dartmouth Street, Baxter Boulevard itself and Vannah Avenue. A denser network of local streets connect Deering Avenue to Forest Avenue and also includes Dartmouth Street and Falmouth Street. Most are too narrow to provide bike lanes with the exceptions being Noyes Street (a one-way street) and Dartmouth Street.

Biking Evaluation

The biking evaluation is based on bicycle Level of Traffic Stress (LTS), a metric used to describe the amount of stress people biking feel in traffic based on vehicle speeds, traffic volumes, lane configuration, and the presence or lack of separation between people biking and vehicle traffic. It is a four-tiered metric, with the highest tier (LTS 4) representing the highest level of traffic stress, and the lowest tier (LTS 1) representing the lowest level of traffic stress. Achieving the lowest LTS possible ensures that bike users are in safer street environments when traveling and increases their comfort and likelihood of using this mode.

The two tables below were used to evaluate each alternative. **Error! Not a valid bookmark self-reference.** was used to evaluate alternatives that do not include bike lanes, and Table 5 was used for alternatives with bike lanes. The LTS was determined based on lane configurations as shown in the cross section for each alternative, assuming no change to the posted speed limit of 30 mph (assumed to be the prevailing speed) and no significant change to the ADT of 20,000 to 27,000 vehicles.

Table 4 Bicycle Level of Traffic Stress criteria for mixed-traffic environments

Number of lanes	Effective ADT*	Prevailing Speed						
		≤ 20 mph	25 mph	30 mph	35 mph	40 mph	45 mph	50+mph
Unmarked 2-way street (no centerline)	0-750	LTS 1	LTS 1	LTS 2	LTS 2	LTS 3	LTS 3	LTS 3
	751-1500	LTS 1	LTS 1	LTS 2	LTS 3	LTS 3	LTS 4	LTS 4
	1501-3000	LTS 2	LTS 2	LTS 3	LTS 3	LTS 4	LTS 4	LTS 4
	3000+	LTS 3	LTS 3	LTS 4	LTS 4	LTS 4	LTS 4	LTS 4
1 thru lane per direction (1-way, 1-lane street or 2-way street with centerline)	0-750	LTS 1	LTS 1	LTS 2	LTS 2	LTS 3	LTS 3	LTS 3
	751-1500	LTS 2	LTS 2	LTS 2	LTS 3	LTS 3	LTS 4	LTS 4
	1501-3000	LTS 2	LTS 3	LTS 3	LTS 4	LTS 4	LTS 4	LTS 4
	3001-6000	LTS 3	LTS 3	LTS 4	LTS 4	LTS 4	LTS 4	LTS 4
	6001-10000	LTS 3	LTS 4	LTS 4	LTS 4	LTS 4	LTS 4	LTS 4
	10001+	LTS 4	LTS 4	LTS 4	LTS 4	LTS 4	LTS 4	LTS 4
2 thru lanes per direction	0-6000	LTS 3	LTS 3	LTS 3	LTS 3	LTS 4	LTS 4	LTS 4
	6001-12000	LTS 3	LTS 3	LTS 4	LTS 4	LTS 4	LTS 4	LTS 4
	12001+	LTS 4	LTS 4	LTS 4	LTS 4	LTS 4	LTS 4	LTS 4
3+ thru lanes per direction	any ADT	LTS 4	LTS 4	LTS 4	LTS 4	LTS 4	LTS 4	LTS 4

* Effective ADT = ADT for two-way roads; Effective ADT = 1.67*ADT for one-way roads

Table 5 Bicycle Level of Traffic Stress Criteria for bike lanes buffered from or not adjacent to parking

Number of lanes	Bike lane width	Prevailing Speed						All Ages & Abilities Treatments
		≤ 25 mph	30 mph	35 mph	40 mph	45 mph	50+ mph	Separated Bike Lane
1 thru lane per direction, or unlaned	6+ ft	LTS 1	LTS 1	LTS 2	LTS 3	LTS 3	LTS 4	LTS 1
	4 or 5 ft	LTS 2	LTS 2	LTS 3	LTS 3	LTS 3	LTS 4	n/a
2 thru lanes per direction	6+ ft	LTS 2	LTS 2	LTS 3	LTS 4	LTS 4	LTS 4	LTS 1
	4 or 5 ft	LTS 2	LTS 2	LTS 3	LTS 4	LTS 4	LTS 4	n/a
3+ lanes per direction	any width	LTS 3	LTS 3	LTS 3	LTS 4	LTS 4	LTS 4	LTS 1

- Notes
1. If bike lane / shoulder is frequently blocked, use mixed traffic criteria.
 2. Qualifying bike lane / shoulder should extend at least 4 ft from a curb and at least 3.5 ft from a pavement edge or discontinuous gutter pan seam
 3. Bike lane width includes any marked buffer next to the bike lane.

No Build

Forest Avenue today for most of its length in the study area does not include bike lanes and has two vehicle travel lanes in each direction. Based on the LTS criteria in The biking evaluation is based on bicycle Level of Traffic Stress (LTS), a metric used to describe the amount of stress people biking feel in traffic based on vehicle speeds, traffic volumes, lane configuration, and the presence or lack of separation between people biking and vehicle traffic. It is a four-tiered metric, with the highest tier (LTS 4) representing the highest level of traffic stress, and the lowest tier (LTS 1) representing the lowest level of traffic stress. Achieving the lowest LTS possible ensures that bike users are in safer street environments when traveling and increases their comfort and likelihood of using this mode.

The two tables below were used to evaluate each alternative. **Error! Not a valid bookmark self-reference.** was used to evaluate alternatives that do not include bike lanes, and Table 5 was used for alternatives with bike lanes.

The LTS was determined based on lane configurations as shown in the cross section for each alternative, assuming no change to the posted speed limit of 30 mph (assumed to be the prevailing speed) and no significant change to the ADT of 20,000 to 27,000 vehicles.

Table 4 the No Build alternative would be a LTS 4 (poor) environment for biking, scoring as “Low” for biking in the alternative evaluation.

Alternative A – Four travel lanes, adding a two-way left turn lane

Alternative A would have two vehicle travel lanes in each direction and no dedicated bike lanes. Based on the LTS criteria in The biking evaluation is based on bicycle Level of Traffic Stress (LTS), a metric used to describe the amount of stress people biking feel in traffic based on vehicle speeds, traffic volumes, lane configuration, and the presence or lack of separation between people biking and vehicle traffic. It is a four-tiered metric, with the highest tier (LTS 4) representing the highest level of traffic stress, and the lowest tier (LTS 1) representing the lowest level of traffic stress. Achieving the lowest LTS possible ensures that bike users are in safer street environments when traveling and increases their comfort and likelihood of using this mode.

The two tables below were used to evaluate each alternative. **Error! Not a valid bookmark self-reference.** was used to evaluate alternatives that do not include bike lanes, and Table 5 was used for alternatives with bike lanes. The LTS was determined based on lane configurations as shown in the cross section for each alternative, assuming no change to the posted speed limit of 30 mph (assumed to be the prevailing speed) and no significant change to the ADT of 20,000 to 27,000 vehicles.

Table 4, Alternative A would be a LTS 4 (poor) environment for biking, scoring as “Low” for biking in the alternative evaluation.

Alternative B – Four travel lanes, adding bicycle lanes

Alternative B would have two vehicle travel lanes in each direction and buffered bike lanes with a combined 8’ of bike lane and buffer width. Based on the LTS criteria in Table 5, Alternative B would be a LTS 2 (good) environment for biking, scoring as “Medium” for biking in the alternative evaluation.

Alternative C – Lane reduction, bicycle lanes, parking on one side

Alternative C would have one travel lane in each direction and separated or buffered bike lanes with a combined 9’ of bike lane and buffer width. The proposed bike lanes in alternative C1 can be considered a treatment that is welcoming to people of all ages and abilities because of the physical separation between people using the bike lanes and parked cars and vehicle traffic. Based on the LTS criteria in Table 5, Alternative C1 would be a LTS 1 (very good) environment for biking, scoring as “High” for biking in the alternative evaluation. Alternative C2 does not provide separated or buffered bike lanes for the northbound direction of Forest Avenue, leading to a rating of “Medium” for this option. This rating assumes a prevailing speed of 30mph or less, the existing speed limit.

Alternative D – Lane reduction, parking on both sides

Alternative D would have one travel lane in each direction and no dedicated bike lanes. Based on the LTS criteria in The biking evaluation is based on bicycle Level of Traffic Stress (LTS), a metric used to describe the amount of stress people biking feel in traffic based on vehicle speeds, traffic volumes, lane configuration, and the presence or lack of separation between people biking and vehicle traffic. It is a four-tiered metric, with the highest tier (LTS 4) representing the highest level of traffic stress, and the lowest tier (LTS 1) representing the lowest level of traffic stress. Achieving the lowest LTS possible ensures that bike users are in safer street environments when traveling and increases their comfort and likelihood of using this mode.

The two tables below were used to evaluate each alternative. **Error! Not a valid bookmark self-reference.** was used to evaluate alternatives that do not include bike lanes, and Table 5 was used for alternatives with bike lanes.

The LTS was determined based on lane configurations as shown in the cross section for each alternative, assuming no change to the posted speed limit of 30 mph (assumed to be the prevailing speed) and no significant change to the ADT of 20,000 to 27,000 vehicles.

Table 4, Alternative D would be a LTS 4 (poor) environment for biking, scoring as “Low” for biking in the alternative evaluation.

Transit

The City of Portland has implemented adaptive signal control along Forest Avenue and is in the process of adding transit signal priority. As this system remains in the testing phase, there is not yet data to determine if the GPMetro on-time performance has improved on Forest Avenue. However, it is assumed in all scenarios that transit signal priority continues. It is likely that further improvements can be realized with bus queue jump lanes in selected intersections where transit operations are delayed.

Alternatives A and B do not provide an opportunity for queue jump lanes as they maintain four or five vehicle travel lanes. Therefore, these options received a score of “Low.” Alternatives C and D provide an opportunity to include queue jump lanes at approaches to signalized intersections due to the lane reduction providing additional space, and thus scored “High.”

Addressing the Project Purpose and Need

In addition to the above criteria that reflect how each alternative performs for individual modes of transportation, we have evaluated the alternatives against the fourth element of the Purpose and Need Statement:

“Create a street environment that supports business vitality, residential development, and future transit service growth.”

This element of the purpose and need statement is intended to consider how well each alternative addresses the city’s goals for sustainable growth and development. Two evaluation approaches are presented below, with significant overlap between them.

Supporting sustainable growth and the local business vitality

Portland’s growth and development can be most successfully realized with development that minimizes the demand for parking by promoting other means of transportation. Alternatives that score well for active travel modes (walking, biking and transit) will create better conditions for reduced parking demand. For creating a better environment to support local business vitality, active transportation will also contribute to improving access without creating parking demand. Additionally, the driver experience for business patrons is important. Alternatives that score highly in the driving quality will be more supportive for accessing corridor businesses by car due to several factors:

- lower speeds provide greater opportunity for passers-by to see a business and stop
- the elimination of passing and weaving means that a driver does not need to make a sudden lane change to stop at a business.

A third factor is parking. Options that maintain an adequate parking supply will better support business activities along the corridor. The following table combines the relevant evaluation measures to develop an overall score for how well the alternative supports desired development patterns and business vitality.

High	Medium	Low
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**Growth
and
Vitality**

High or medium scores for the relevant measures (active transportation, driving and parking)

Low scores for no more than two of the relevant measures

Low scores for three or more of the relevant measures

This scoring matrix is applied to the corridor growth and vitality measures below.

Table 6: Corridor Growth and Vitality Measures

	No Build – 4 lanes & parking	A – 4 lanes & left turn lanes where needed	B – 4 lanes & bike lanes	C – Lane Reduction, bike lanes, & 1 parking lane	D – Lane Reduction & 2 parking lanes
Parking	High	Low	Low	Medium	High
Driving	Low	Medium	Low	High	High
Walking	Low	Medium	Low	High	High
Biking	Low	Low	Medium	C1-High C-2 Medium	Low
Transit	Low	Low	Low	High	High
Score	Low	Low	Low	High	Medium

Alternative C is the only alternative with a high score. *C2, with buffered bike lanes, has a Medium score for Biking.

Climate Plan Goals

The City of Portland, in its 2020 joint climate action plan with South Portland *One Climate Future*, set a goal of having 26% of trips in the cities taken by transit, by bike, or on foot by 2035. Redesigning Forest Avenue to accommodate a wider range of mode choices safely and comfortably will bring the corridor into alignment with this goal and create a street environment that supports economic development, residential development, and future transit growth.

Mode Shift

High	Medium	Low
Supports strategic transportation and land use goals by providing the “High” scoring option for people using all active modes - walking, biking, and taking transit	Supports strategic transportation and land use goals by providing the “High” scoring option for at least two active modes	Provides the “High” scoring option for one active mode or less

This evaluation criterion is based on the Walking, Biking, and Transit criteria, and is intended to capture the diversity of active mode choices that the proposed alternatives support. Alternatives that scored “High” for people using all active modes received the highest score, those that scored “High” for two active modes received the middle score, and those that scored “High” for one active mode or less received the lowest score (Table 7).

Table 7 Mode shift evaluation table

Evaluation Criteria	No Build – 4 lanes & parking	A – 4 lanes & left turn lanes where needed	B – 4 lanes & bike lanes	C – Lane Reduction, bike lanes, & 1 parking lane	D – Lane Reduction & 2 parking lanes
Walking	Low	Medium	Low	High	High
Biking	Low	Low	Medium	C-1 High	Low
				C-2 Medium	
Transit	Low	Low	Low	High	High
Score	Low	Low	Low	High*	Medium

Alternative C1 is the only alternative with all high scores. *C2, with buffered bike lanes, has a Medium score for Biking.

Conclusions

The foregoing evaluation process considered a range of measures that reflect the project purpose and need, which has in turn been informed by the priorities of the City of Portland and governing MaineDOT policies. The alternative that preliminarily best meets the Purpose and Need in this evaluation is Alternative C: Lane Reduction with bicycle lanes and one parking lane. The evaluation will be shared with the public at an upcoming public meeting to gather additional insights on this analysis and its validity and may result in additional refinements. Once the preferred alternative is confirmed following the public meeting, a final report with design recommendations will be prepared.

Attachment A: Alternatives Traffic Analysis Documentation

The following sections document the traffic analysis of the Forest Avenue Redesign Lane Reduction concept (Alternatives C and D), and compare it to the existing conditions scenario using Synchro software. Alternatives A and B were found to not meet the project purpose and need, and therefore do not warrant additional traffic analysis. The assumptions and methodology for the analysis are documented in the Existing Conditions Documentation memorandum dated July 26, 2024.

Future Traffic Assumptions

The future year for the traffic analyses will be 2028, which is consistent with MaineDOT guidance of considering the roadway resurfacing schedule. The traffic analysis is based on counts that were conducted September 19-21, 2023, at which time Baxter Boulevard was closed for construction. Forest Avenue was a detour route during construction, so volumes are likely to be higher than typical conditions. When compared to 2017 counts conducted by WSP for the Smart Corridor Plan, the AM and PM peak hour volumes at the intersection of Forest Avenue/Bedford Street/Baxter Boulevard are about 20% lower now than in 2017. This reduction in post pandemic peak hour traffic is consistent with observations at other locations in Portland.

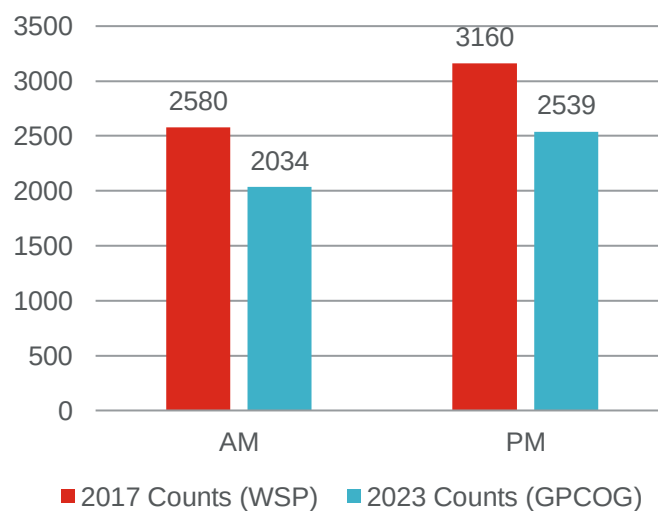


Figure 1: Peak Hour Volume Comparison at Forest Avenue/Bedford Street/Baxter Boulevard

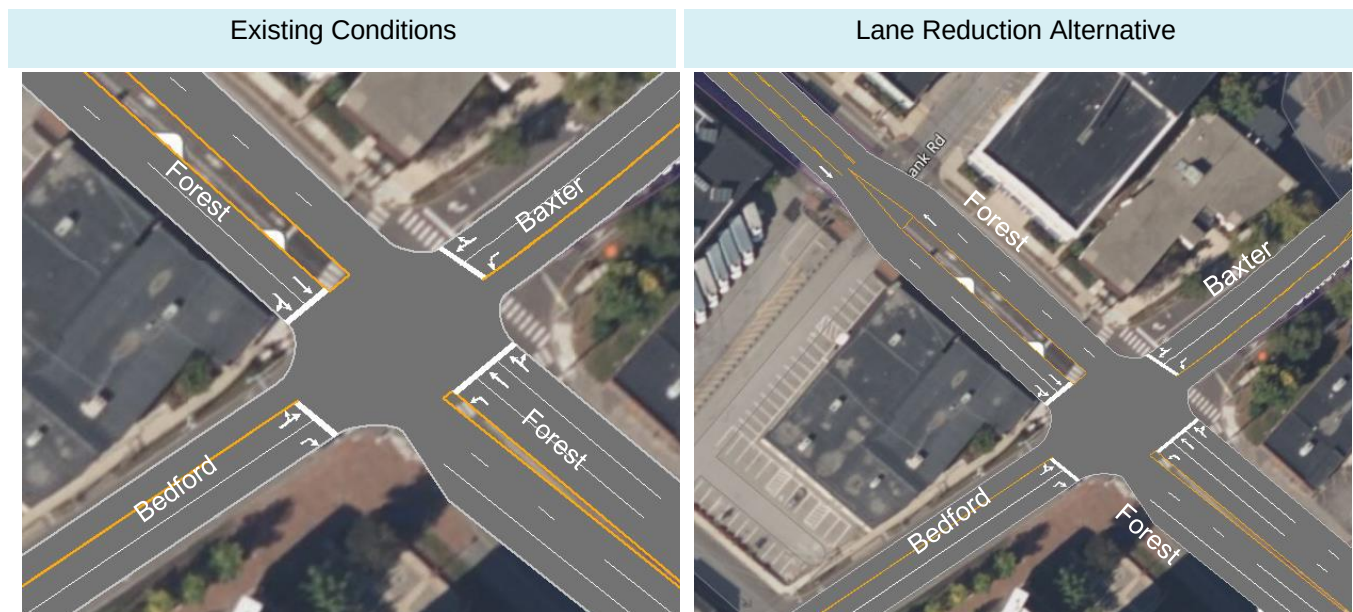
In order to consider potential growth in traffic along the corridor, a growth rate of 0.5% per year for 5 years has been applied to the 2023 traffic counts for the Lane Reduction traffic analysis. The analysis and design year of 2028 is the year of the next anticipated resurfacing, and is consistent with MaineDOT's road diet guidelines.

Lane Reduction Alternative

The following sections summarize the changes assumed with the Lane Reduction alternative and analyzed with Synchro and SimTraffic. The road diet is proposed to begin south of Forest Avenue between the Bedford/Baxter and Falmouth/Preble intersections, and extend to Revere Street. Between these locations, it will generally maintain one northbound and southbound travel lane through intersections except where some turn lanes are proposed. Between intersections, a two-way center left turn lane is provided. Buffered bike lanes are provided in both directions with a parking separated bike lane provided in Alternative C1 on the side that retains on-street parking. Queue jump lanes can be provided at locations where transit operations show delays, including the Falmouth/Preble intersection and Revere Street for the northbound approach. At all signalized intersections within the study area, signal timings and offsets were optimized with the proposed lane configurations.

Forest Avenue/Bedford Street/Baxter Boulevard

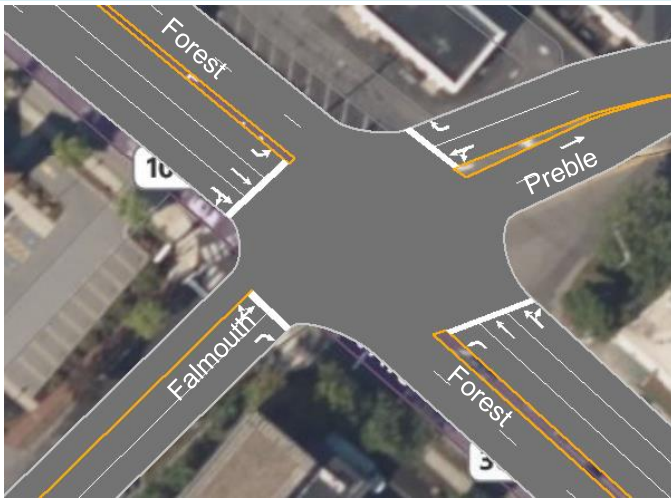
The lane reduction alternative is shown on the following page to the right, compared to the existing configuration on the left. At this intersection, the lane geometry remains the same in the lane reduction alternative. North of the intersection, Forest Avenue tapers to one lane in each direction. The exact location of the taper will be determined in the design process, but for traffic analysis purposes, the taper was placed 225 feet to the north of the intersection. From this point north, Forest Avenue can accommodate queue jump lanes for bus service, or bicycle lanes with on-street parking.



Forest Avenue/Preble Street/Falmouth Street

The lane reduction alternative is shown below on the right, compared to the existing configuration on the left. At this intersection, there would be one left-turn lane and shared through-right lane on Forest Avenue in both directions. This will allow the addition of queue jump lanes in either the northbound or southbound direction. The side street approaches are not changed from existing conditions.

Existing Conditions



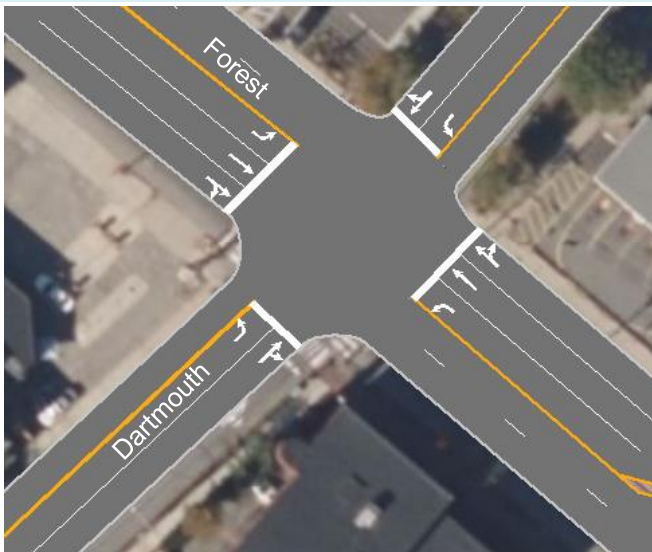
Lane Reduction Alternative



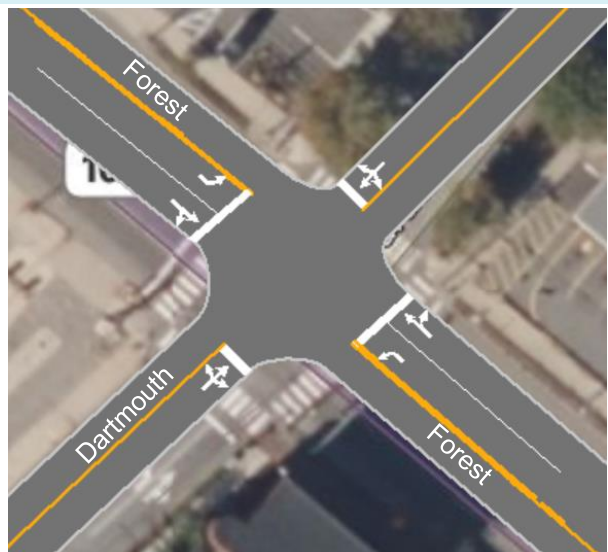
Forest Avenue/Dartmouth Street

The lane reduction alternative is shown below on the right, compared to the existing configuration on the left. At this intersection, there would be one left-turn lane and shared through-right lane on Forest Avenue in both directions. This provides space for a queue jump lane or bicycle lanes. The Dartmouth Street approaches would be reduced to one travel lane in each direction, removing the left-turn lanes, in order to provide room for a stronger bicycle connection to and across Forest Avenue.

Existing Conditions



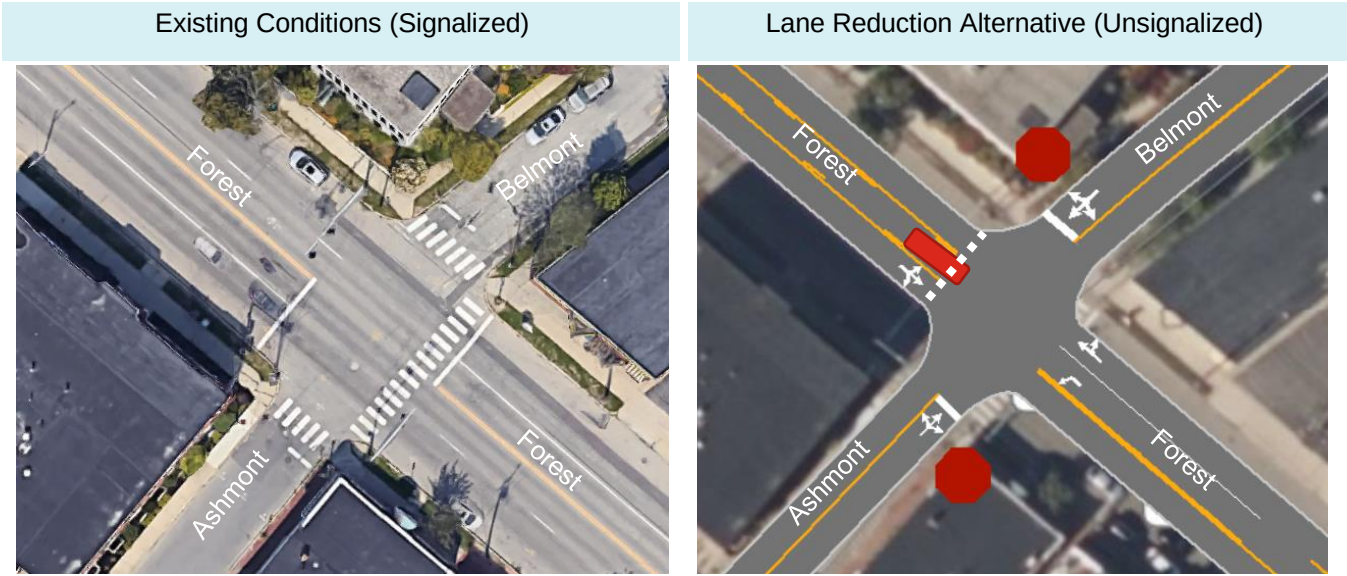
Lane Reduction Alternative



Forest Avenue/Ashmont Street/Belmont Street

This intersection is currently signalized, but the volumes are below the traffic signal warrants. Therefore, the signal is proposed to be removed. The lane reduction alternative is shown below, compared to the existing configuration. The Forest Avenue northbound approach maintains a left-turn lane and the southbound approach has a shared left-through-right lane, providing room for bicycle lanes or bus lanes. The northbound left-turn lane

can be offset by a median refuge island for pedestrians in the crosswalk on the northern leg of the intersection, which currently lacks a crosswalk (shown schematically below). The peak hour left turn volume is only 2 vehicles per hour during both AM and PM peak hours. The side street approaches each have one shared lane.



Forest Avenue/Revere Street

The lane reduction alternative changes the northbound approach for Forest Avenue from two lanes to one lane, allowing for a queue jump lane or bicycle lanes to extend up to the intersection.



Forest Avenue/ Woodford Street

No geometric changes are proposed at this intersection. Signal timings are adjusted to optimize performance.

Synchro and SimTraffic Results

The project alternatives were evaluated in Synchro and SimTraffic using the same methodology as described in the August 6, 2024 memorandum for existing conditions. The results are shown in the tables on the following pages.

MORNING PEAK HOUR

Intersection	EXISTING CONDITIONS							ROAD DIET CONDITIONS						
	Approach	SimTraffic Delay (total delay/veh in sec)	LOS	Movement	SimTraffic Average Queue (ft)	SimTraffic 95 th %ile Queues (ft)	Storage Length (ft)	Approach	SimTraffic Delay (total delay/veh in sec)	LOS	Movement	SimTraffic Average Queue (ft)	SimTraffic 95 th %ile Queues (ft)	Storage Length (ft)
1 Forest Ave @ Ocean Ave	Saunders St EB	47.2	D	LTR	24	44	640	Saunders St EB	42.1	D	LTR	24	44	640
	Vannah Ave WB	61.8	E	LTR	69	156	>1000	Vannah Ave WB	54.4	D	LTR	73	140	>1000
	Forest Ave NB	17.1	B	LT TR	100 116	228 246	260 260	Forest Ave NB	12.4	B	LT TR	94 112	212 244	260 260
	Forest Ave SB	19.0	B	L T	33 147	74 306	280 280	Forest Ave SB	17.2	B	L T	39 143	80 303	280 280
				TR	59	139	280				TR	64	135	280
	Ocean Ave SWB	49.1	D	L R	126 69	240 137	>1000 100	Ocean Ave SWB	45.1	D	L R	115 63	200 125	>1000 100
	Overall	25.6	C	-	-	-	-	Overall	21.8	C	-	-	-	-
2 Forest Ave @ Deering St/Woodford St	Woodford St EB	43.4	D	L TR	161 114	193 137	70 850	Woodford St EB	39.8	D	L TR	152 111	191 139	70 850
				L TR	5 6	21 28	70 780				L TR	4 9	18 33	70 780
	Forest Ave NB	21.8	C	L T	49 100	98 165	110 200	Forest Ave NB	18.6	B	L T	50 89	105 153	110 200
				TR	122	195	200				TR	111	183	200
	Forest Ave SB	22.1	C	LT R	216 121	363 241	260 260	Forest Ave SB	22.6	C	LT R	219 141	378 268	260 260
	Overall	27.6	C	-	-	-	-	Overall	25.7	C	-	-	-	-
3 Forest Ave @ Revere St	Revere St EB	40.3	D	L LR	20 82	64 142	140 140	Revere St EB	36.7	D	L LR	12 82	39 147	140 140
				T T	23 127	81 261	960 960				T T	207 97	342 165	960 200
	Forest Ave NB	11.1	B	T	127	261	960	Forest Ave NB	14.7	B	T	207	342	960
	Forest Ave SB	4.5	A	T	91	158	200	Forest Ave SB	4.8	A	T	97	165	200
	Overall	11.7	B	-	-	-	-	Overall	12.8	B	-	-	-	-
4 Forest Ave @ Clifton St (unsignalized)	Clifton St WB	8.1	A	LR	8	26	>500	Clifton St WB	10.5	B	LR	10	31	>500
	Forest Ave NB	1.5	A	T TR	1 2	22 31	- -	Forest Ave NB	1.1	A	T TR	0 0	0 0	- -
				LT T	5 0	28 8	- -				LT T	8	51	-
	Forest Ave SB	0.9	A	T	0	8	-	Forest Ave SB	2.0	A	T	8	51	-
	Overall	1.3	A	-	-	-	-	Overall	1.7	A	-	-	-	-
5 Forest Ave @ Ashmont St/Belmont St	Ashmont St EB	18.8	B	LTR	25	63	320	Ashmont St EB	14.9	B	LTR	26	59	320
	Belmont St WB	23.6	C	LTR	14	42	350	Belmont St WB	18.6	B	LTR	16	42	350
	Forest Ave NB	3.8	A	LT TR	36 52	103 136	770 770	Forest Ave NB	1.3	A	L TR	12 2	41 20	75 770
				LT TR	53 58	132 148	980 980				LTR	9	59	980
	Forest Ave SB	4.0	A	T	58	148	980	Forest Ave SB	1.7	A	T	62	204	-
	Overall	4.6	A	-	-	-	-	Overall	2.1	A	-	-	-	-
6 Forest Ave @ Noyes St (unsignalized)	Noyes St EB	8.4	A	LR	29	54	340	Noyes St EB	26.1	D	LR	40	81	340
	Forest Ave NB	0.7	A	LT T	1 1	12 14	- -	Forest Ave NB	1.2	A	L T	0 1	6 13	75 -
				T TR	1 1	10 15	- -				TR	62	204	-
	Forest Ave SB	1.2	A	T	1	10	-	Forest Ave SB	4.8	A	T	62	204	-
	Overall	1.4	A	-	-	-	-	Overall	4.3	A	-	-	-	-

MORNING PEAK HOUR

Intersection	EXISTING CONDITIONS							ROAD DIET CONDITIONS						
	Approach	SimTraffic Delay (total delay/veh in sec)	LOS	Movement	SimTraffic Average Queue (ft)	SimTraffic 95 th %ile Queues (ft)	Storage Length (ft)	Approach	SimTraffic Delay (total delay/veh in sec)	LOS	Movement	SimTraffic Average Queue (ft)	SimTraffic 95 th %ile Queues (ft)	Storage Length (ft)
7 Forest Ave @ Dartmouth St	Dartmouth St	30.2	C	L	8	30	200	Dartmouth St EB	38.0	D	LTR	49	103	750
	Dartmouth St	33.9	C	TR	36	76	750	Dartmouth St WB	37.2	D	LTR	54	107	800
	Forest Ave NB	32.0	C	L	12	38	200	Forest Ave NB	6.1	A	L	19	59	200
				T	26	83	>1000				TR	86	212	>1000
	Forest Ave SB	7.7	A	TR	41	112	>1000	Forest Ave SB	14.0	B	L	15	56	200
				T	84	187	800				TR	200	317	800
	Overall	8.3	A	-	-	-	-	Overall	13.1	B	-	-	-	-
8 Forest Ave @ William St/Plaza Exit (unsignalized)	William St EB	6.3	A	LTR	12	35	700	William St EB	18.6	C	LTR	11	33	700
	Plaza Exit WB	12.2	B	LTR	36	72	120	Plaza Exit WB	28.6	D	LTR	49	99	120
	Forest Ave NB	0.8	A	LT	4	27	-	Forest Ave NB	1.7	A	L	3	20	-
				TR	3	22	-				TR	14	76	-
	Forest Ave SB	1.7	A	L	16	48	-	Forest Ave SB	2.8	A	L	11	38	-
				T	3	21	-				TR	11	67	-
	Overall	1.8	A	-	-	-	-	Overall	3.7	A	-	-	-	-
9 Forest Ave @ Pitt St (unsignalized)	Pitt St EB	6.2	A	LR	21	47	700	Pitt St EB	20.6	C	LR	25	59	700
	Forest Ave NB	2.0	A	LT	11	44	-	Forest Ave NB	2.5	A	L	11	37	-
				T	2	20	-				T	3	28	-
	Forest Ave SB	0.6	A	T	2	16	-	Forest Ave SB	1.9	A	TR	16	99	-
				TR	4	28	-							
	Overall	1.3	A	-	-	-	-	Overall	2.6	A	-	-	-	-
10 Forest Ave @ Falmouth St/Preble St	Falmouth St EB	34.8	C	LT	100	173	800	Falmouth St EB	37.5	D	LT	100	181	800
				R	31	88	130				R	34	92	130
	Preble St WB	21.3	C	LT	39	85	940	Preble St WB	27.2	C	LT	46	97	940
				R	9	32	250				R	22	56	250
	Forest Ave NB	14.5	B	L	32	71	220	Forest Ave NB	12.9	B	L	42	96	220
				T	59	125	680				TR	119	235	680
	Forest Ave SB	17.8	B	TR	74	148	680	Forest Ave SB	26.2	C	L	119	225	70
				T	73	128	70				TR	273	525	>1000
	Overall	18.9	B	-	-	-	-	Overall	22.9	C	-	-	-	-

MORNING PEAK HOUR

Intersection		EXISTING CONDITIONS						ROAD DIET CONDITIONS							
		Approach	SimTraffic Delay (total delay/veh in sec)	LOS	Movement	SimTraffic Average Queue (ft)	SimTraffic 95 th ile Queues (ft)	Storage Length (ft)	Approach	SimTraffic Delay (total delay/veh in sec)	LOS	Movement	SimTraffic Average Queue (ft)	SimTraffic 95 th ile Queues (ft)	Storage Length (ft)
11	Forest Ave @ Bedford St/Baxter St	Bedford St EB	22.0	C	LT	61	115	540	Bedford St EB	21.9	C	LT	59	114	540
			R		66	121	370	R				65	122	370	
		Baxter Blvd WB	42.5	D	L	71	126	130	Baxter Blvd WB	48.1	D	L	79	143	130
					TR	22	63	700				TR	21	64	700
		Forest Ave NB	18.2	B	L	152	225	200	Forest Ave NB	18.1	B	L	146	221	200
					T	87	160	420				T	152	242	420
TR	102	174	420	TR	42	126	420								
Forest Ave SB	24.1	C	T	133	281	680	Forest Ave SB	18.1	B	T	118	218	680		
TR	200	380	680	TR	152	257	680								
Overall		22.3	C	-	-	-	-	Overall	20.7	C	-	-	-	-	
13	Forest Ave @ I-295 Southbound Off Ramp (unsignalized)	I-295 SB Off Ramp WB	6.1	A	R	64	127	550	I-295 SB Off Ramp WB	6.5	A	R	69	135	550
		I-295 SB On/Off Ramp WB	5.5	A	R	38	71	>1000	I-295 SB On/Off Ramp WB	5.1	A	R	33	72	>1000
		Forest Ave NB	0.3	A	T	-	-	500	Forest Ave NB	0.3	A	T	0	7	500
					T	-	-	500				T	0	3	500
		Forest Ave SB	0.3	A	T	0	7	220	Forest Ave SB	0.3	A	T	0	3	220
					T	2	12	220				T	3	20	220
Overall		2.2	A	-	-	-	-	Overall	2.3	A	-	-	-	-	

EVENING PEAK HOUR

Intersection	EXISTING CONDITIONS							ROAD DIET CONDITIONS						
	Approach	SimTraffic Delay (total delay/veh in sec)	LOS	Movement	SimTraffic Average Queue (ft)	SimTraffic 95 th %ile Queues (ft)	Storage Length (ft)	Approach	SimTraffic Delay (total delay/veh in sec)	LOS	Movement	SimTraffic Average Queue (ft)	SimTraffic 95 th %ile Queues (ft)	Storage Length (ft)
1 Forest Ave @ Ocean Ave	Saunders St EB	35.1	D	LTR	15	35	640	Saunders St EB	37.7	D	LTR	15	37	640
	Vannah Ave WB	189.8	F	LTR	310	703	>1000	Vannah Ave WB	86.4	F	LTR	182	376	>1000
	Forest Ave NB	33.9	C	LT TR	222 237	349 367	260 260	Forest Ave NB	30.4	C	LT TR	199 214	386 403	260 260
	Forest Ave SB	36.5	D	L	47	87	280	Forest Ave SB	24.0	C	L	46	82	280
				T	220	413	280				T	164	307	280
	Ocean Ave SWB	42.3	D	TR	93	203	280	Ocean Ave SWB	41.3	D	TR	82	172	280
				L R	124 57	211 111	>1000 100				L R	130 54	210 100	>1000 100
	Overall	49.7	D	-	-	-	-	Overall	34.8	C	-	-	-	-
2 Forest Ave @ Deering St/Woodford St	Woodford St EB	42.7	D	L	130	182	70	Woodford St EB	43.4	D	L	132	186	70
				TR	100	146	850				TR	102	140	850
	Woodford St WB	58.7	E	L	19	96	70	Woodford St WB	50.3	D	L	18	108	70
				TR	52	119	780				TR	45	113	780
	Forest Ave NB	24.4	C	L	72	136	110	Forest Ave NB	20.6	C	L	63	123	110
				T	142	215	200				T	121	194	200
	Forest Ave SB	39.3	D	TR	159	233	200	Forest Ave SB	19.6	B	TR	138	208	200
				LT R	278 225	354 337	260 260				LT R	161 113	313 234	260 260
	Overall	34.7	C	-	-	-	-	Overall	25.8	C	-	-	-	-
3 Forest Ave @ Revere St	Revere St EB	43.7	D	L	34	83	140	Revere St EB	44.3	D	L	27	66	140
				LR	127	184	140				LR	123	187	140
	Forest Ave NB	12.1	B	T	41	98	960	Forest Ave NB	10.1	B	T	154	290	960
				T	181	326	960				T	70	130	200
	Forest Ave SB	5.2	A	T	72	133	200	Forest Ave SB	4.3	A	T	70	130	200
	Overall	15.0	B	-	-	-	-	Overall	13.7	B	-	-	-	-
4 Forest Ave @ Clifton St (unsignalized)	Clifton St WB	7.6	A	LR	9	30	>500	Clifton St WB	8.7	A	LR	6	23	>500
	Forest Ave NB	1.8	A	T	0	5	-	Forest Ave NB	1.4	A	T	2	19	-
				TR	3	27	-				TR	2	19	-
	Forest Ave SB	1.0	A	LT T	7 2	36 18	- -	Forest Ave SB	3.3	A	LT	33	169	-
	Overall	1.5	A	-	-	-	-	Overall	2.2	A	-	-	-	-
5 Forest Ave @ Ashmont St/Belmont St	Ashmont St EB	19.0	B	LTR	29	66	320	Ashmont St EB	28.2	C	LTR	35	80	320
	Belmont St WB	26.4	C	LTR	23	55	350	Belmont St WB	41.7	D	LTR	30	83	350
	Forest Ave NB	6.1	A	LT	69	149	770	Forest Ave NB	1.6	A	L	13	38	75
				TR	93	198	770				TR	2	26	770
	Forest Ave SB	5.1	A	LT	57	142	980	Forest Ave SB	3.1	A	LTR	20	126	980
				TR	65	159	980				TR	20	126	980
	Overall	6.4	A	-	-	-	-	Overall	3.9	A	-	-	-	-
6 Forest Ave @ Noyes St (unsignalized)	Noyes St EB	12.3	B	LR	33	71	340	Noyes St EB	156.8	F	LR	100	279	340
	Forest Ave NB	0.8	A	LT	1	9	-	Forest Ave NB	1.8	A	L	2	13	75
				T	1	11	-				T	0	7	-
	Forest Ave SB	1.3	A	T TR	- 1	- 9	- -	Forest Ave SB	19.6	C	TR	211	413	-
	Overall	1.6	A	-	-	-	-	Overall	15.9	C	-	-	-	-

EVENING PEAK HOUR

Intersection	EXISTING CONDITIONS							ROAD DIET CONDITIONS						
	Approach	SimTraffic Delay (total delay/veh in sec)	LOS	Movement	SimTraffic Average Queue (ft)	SimTraffic 95 th %ile Queues (ft)	Storage Length (ft)	Approach	SimTraffic Delay (total delay/veh in sec)	LOS	Movement	SimTraffic Average Queue (ft)	SimTraffic 95 th %ile Queues (ft)	Storage Length (ft)
7 Forest Ave @ Dartmouth St	Dartmouth St	40.6	D	L	15	43	200	Dartmouth St EB	40.7	D	LTR	62	118	750
	Dartmouth St	43.8	D	TR	48	103	750	Dartmouth St WB	52.3	D	LTR	134	231	800
	Forest Ave NB	4.3	A	L	15	45	200	Forest Ave NB	11.5	B	L	23	68	200
				T	47	126	>1000				TR	189	309	>1000
	Forest Ave SB	14.0	B	L	23	65	200	Forest Ave SB	29.0	C	L	29	85	200
				TR	114	211	800				TR	250	290	800
	Overall	13.9	B	-	-	-	-	Overall	23.9	C	-	-	-	-
8 Forest Ave @ William St/Plaza Exit (unsignalized)	William St EB	11.7	B	LTR	9	38	700	William St EB	15.5	C	LTR	8	35	700
	Plaza Exit WB	14.8	B	LTR	42	79	120	Plaza Exit WB	88.6	F	LTR	89	201	120
	Forest Ave NB	0.9	A	LT	16	62	-	Forest Ave NB	3.9	A	L	8	32	-
				TR	9	54	-				TR	77	219	-
	Forest Ave SB	2.0	A	L	16	45	-	Forest Ave SB	3.3	A	L	22	54	-
				T	1	13	-				TR	10	63	-
	Overall	2.2	A	-	-	-	-	Overall	8.3	A	-	-	-	-
9 Forest Ave @ Pitt St (unsignalized)	Pitt St EB	6.3	A	LR	18	43	700	Pitt St EB	17.4	C	LR	17	44	700
	Forest Ave NB	2.0	A	LT	12	52	-	Forest Ave NB	4.0	A	L	8	34	-
				T	1	12	-				T	28	136	-
	Forest Ave SB	0.5	A	T	-	-	-	Forest Ave SB	1.5	A	TR	8	68	-
				TR	0	7	-							
	Overall	1.5	A	-	-	-	-	Overall	3.1	A	-	-	-	-
10 Forest Ave @ Falmouth St/Preble St	Falmouth St EB	30.5	C	LT	73	137	800	Falmouth St EB	40.7	D	LT	86	160	800
				R	33	70	130				R	41	97	130
	Preble St WB	22.6	C	LT	84	137	940	Preble St WB	34.1	C	LT	113	208	940
				R	36	79	250				R	79	168	250
	Forest Ave NB	11.9	B	L	20	58	220	Forest Ave NB	20.1	C	L	44	144	220
				T	72	153	680				TR	250	515	680
	Forest Ave SB	19.2	B	TR	90	185	680	Forest Ave SB	25.3	C	L	82	181	70
				T	50	117	70				TR	238	483	>1000
	Overall	17.7	B	-	-	-	-	Overall	26.0	C	-	-	-	-

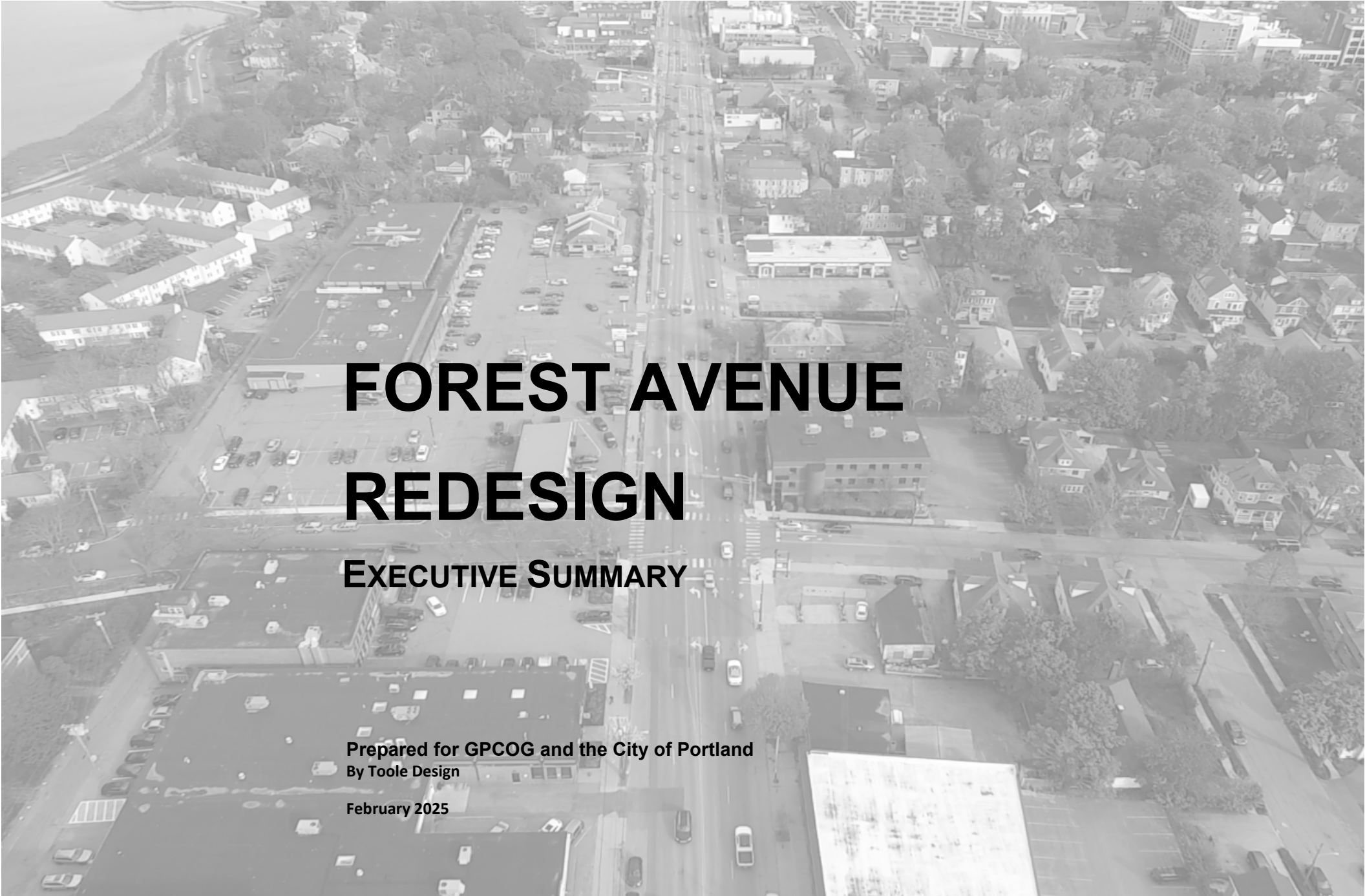
EVENING PEAK HOUR

Intersection		EXISTING CONDITIONS						ROAD DIET CONDITIONS							
		Approach	SimTraffic Delay (total delay/veh in sec)	LOS	Movement	SimTraffic Average Queue (ft)	SimTraffic 95 th %ile Queues (ft)	Storage Length (ft)	Approach	SimTraffic Delay (total delay/veh in sec)	LOS	Movement	SimTraffic Average Queue (ft)	SimTraffic 95 th %ile Queues (ft)	Storage Length (ft)
11	Forest Ave @ Bedford St/Baxter St	Bedford St EB	27.2	C	LT	104	180	540	Bedford St EB	27.2	C	LT	99	174	540
			R	95	186	370	R	98				178	370		
		Baxter Blvd WB	42.2	D	L	119	190	130	Baxter Blvd WB	43.6	D	L	122	194	130
					TR	54	140	700				TR	61	164	700
		Forest Ave NB	22.2	C	L	151	224	200	Forest Ave NB	23.5	C	L	154	226	200
					T	148	224	420				T	205	244	420
TR	169	234	420	TR	108	238	420								
Forest Ave SB	32.5	C	T	187	315	680	Forest Ave SB	27.8	C	T	156	247	680		
TR	236	381	680	TR	169	254	680								
Overall		28.1	C	-	-	-	-	Overall	27.5	C	-	-	-	-	
13	Forest Ave @ I-295 Southbound Off Ramp (unsignalized)	I-295 SB Off Ramp WB	6.6	A	R	79	156	550	I-295 SB Off Ramp WB	6.8	A	R	79	157	550
		I-295 SB On/Off Ramp WB	6.6	A	R	37	72	>1000	I-295 SB On/Off Ramp WB	8.2	A	R	37	85	>1000
		Forest Ave NB	0.2	A	T	0	3	500	Forest Ave NB	0.8	A	T	13	65	500
					T	0	8	500				T	2	23	500
		Forest Ave SB	0.2	A	T	-	-	220	Forest Ave SB	0.2	A	T	0	3	220
					T	-	-	220				T			220
Overall		1.9	A	-	-	-	-	Overall	2.3	A	-	-	-	-	

Conclusions

The Lane Reduction scenario achieves the MaineDOT target of an overall intersection minimum level of service D during both AM and PM peak hours at all intersections. The SimTraffic model shows that average queue lengths are all within the available storage length with the exception of the Woodford Street eastbound left turn lane in both the existing and lane reduction scenarios, and only occasionally do the 95th percentile queues exceed the available storage length.

The above analysis demonstrates that the lane reduction option meets the MaineDOT traffic operations guidelines outlined in the “MaineDOT Guidelines to Implement a Road Diet or Other Features Involving Traffic Calming” dated May 12, 2016, and will accrue significant safety and multimodal access benefits.



FOREST AVENUE REDESIGN

EXECUTIVE SUMMARY

**Prepared for GPCOG and the City of Portland
By Toole Design**

February 2025

Acknowledgements

This project was guided by the following individuals and organizations:

Bruce Hyman, Nell Donaldson, Jeremiah Bartlett and Keith Gray, City of Portland

Harold Spetla and Christopher Chop, GPCOG

Claire Winter, Stephen Cole, Dale Doughty, Steve Landry, Kara Aguilar and Parker O'Brien, MaineDOT

Lucy Gibson, Kristen Braley, Tom Nosal and John Mahoney, Toole Design



1 INTRODUCTION

The *Forest Avenue Redesign* is a project of the City of Portland and GPCOG, developed with the support of the MaineDOT. The project studied reconfiguration options for Forest Avenue between Woodfords Corner and the Bedford Street/Baxter Boulevard intersection to address significant safety and multi-modal accessibility issues.

This study is part of a multi-phase effort to retrofit major portions of Forest Avenue. Phase I, completed in 2017, involved the reconstruction of the Woodfords Corner intersection. Phase II involves the ongoing redesign of the Morrill's Corner intersections, and Phase III involves the redesign of Forest Avenue from Marginal Way/State Street to Park Avenue. This study represents an initial step in Phase IV.

STUDY INTENT + SCOPE

The intent of this study was to identify street redesign options that can be implemented within five years as part of a planned roadway paving project. (This portion of Forest Avenue was last paved in 2009.) For this reason, the project focused on achieving goals to the maximum extent possible with minimal changes to the roadway curb and drainage systems.

Within the scope of this study, redesign options included:

- Adjustments to vehicle travel lane and parking lane configurations
- Modifications to traffic signal equipment, signal timing, and intersections
- Improvements to sidewalks and ADA accessibility
- Transit investments, like bus stop amenities and transit priority treatments
- Enhancements to pedestrian access along and across Forest Avenue
- Investments in continuous, high-quality, low stress bicycle facilities.

Future efforts will identify a longer-term, more transformational vision for this segment of Forest Avenue that would be implemented through a more capital-intensive street reconstruction, including sidewalks and bikeways.

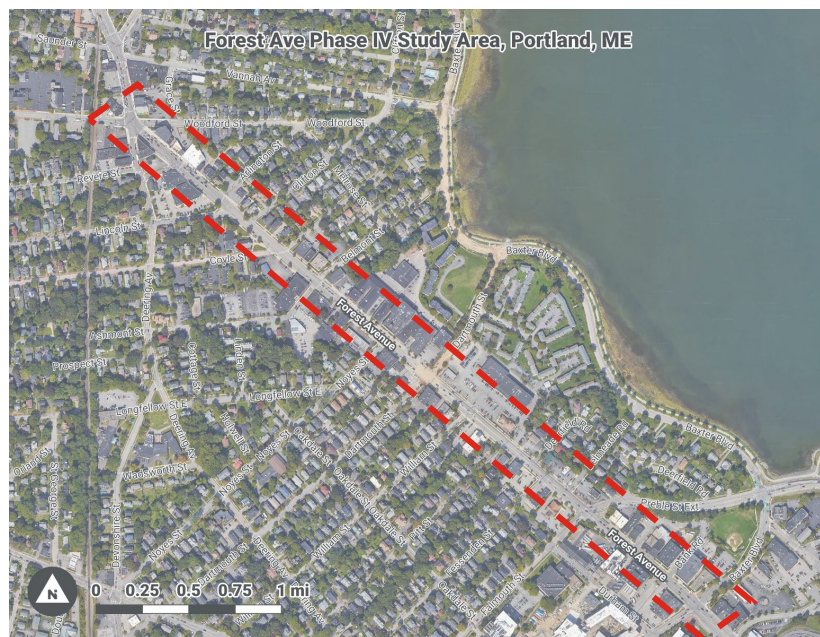


Figure 1: Forest Avenue Redesign Project Study Area

PAST PLANNING + DESIGN GUIDANCE

This study builds on several past and ongoing efforts, including:

- *Portland – South Portland Smart Corridor Plan* (2018)
- *GPCOG Vision Zero Greater Portland* (2023)
- *Recode Portland* (adopted 2024)

In addition, this study has been conducted in compliance with the MaineDOT Road Diet guidelines, included as Attachment 5.

STUDY TEAM + PROCESS

This study has been guided by a team of City, GPCOG and MaineDOT officials. In addition, the study incorporated the input of many local stakeholders with an interest in the design of inner Forest Avenue. These stakeholders were kept apprised of the study through a project website, and provided feedback on the future of the corridor through an open house, public meeting, and a questionnaire.

The study process began with in-depth documentation of existing conditions within the study area, including an assessment of existing needs. The study team then developed a set of criteria that reflected these needs and a set of alternatives to address them. Alternatives were evaluated against the criteria, shared with the public for feedback, and ultimately a recommended alternative was selected.

PROJECT PURPOSE AND NEED

The primary purpose of *Forest Avenue Redesign* is to develop a short-term conceptual design for inner Forest Avenue that:

- Addresses the root causes of serious and fatal crashes for all modes through the application of the appropriate safety countermeasures
- Enhances multimodal connectivity through investments in pedestrian, bicycle and transit infrastructure
- Reduces transit service delays through the addition of transit priority treatments
- Creates a street environment that supports economic development, residential development, and future transit service growth.

2 FOREST AVENUE TODAY

Forest Avenue serves as a regional principal arterial (part of the National Highway System) and transit corridor that connects downtown Portland with surrounding towns, passing through multiple Portland neighborhoods in the process. The stretch of the corridor from Woodford's Corner to Bedford Street/Baxter Boulevard is home to residential neighborhoods, the University of Southern Maine campus, places of worship, popular restaurants, art galleries, dance studios, medical offices and pharmacies, small markets, and a nearby major grocery store.

Despite its numerous destinations, today Forest Avenue is designed to prioritize regional through travel for motor vehicles; this overarching priority currently takes precedence over safety and mobility for people walking, biking, and taking transit trips between neighborhoods on either side. The emphasis on moving motor vehicles compromises Forest Avenue's function as a place in its own right and results in the potential for conflict between travel modes.

Recognizing these existing conditions, prior planning work has identified numerous safety and access challenges on this stretch of inner Forest Avenue, including:

- The four-lane street design encourages lane-shifting or weaving behavior among drivers and creates a “double threat” for pedestrian crossings, a condition shown to contribute to pedestrian crashes resulting in injuries and fatalities.
- The condition of pedestrian accessibility infrastructure like sidewalks, curb ramps, and crosswalks varies from poor to fair.

- Except for a short stretch of bike lanes on the southern end of the study area, there are no dedicated bike lanes, creating a gap in Portland's bike network.
- The majority of traffic signal equipment, wiring, and structures are old and cannot accommodate changes to signal timing and phase separation that might improve safety outcomes.
- The streetscape is inconsistent, with some sections having a landscaped buffer and others with frequent commercial driveways and few street trees, with many trees in fair to poor condition.
- The combination of long pedestrian crossing distances, long spacing between safe crossing opportunities, and fast-moving vehicle traffic creates a barrier effect between the east and west sides of the street that discourages walking and divides the neighborhoods on either side.

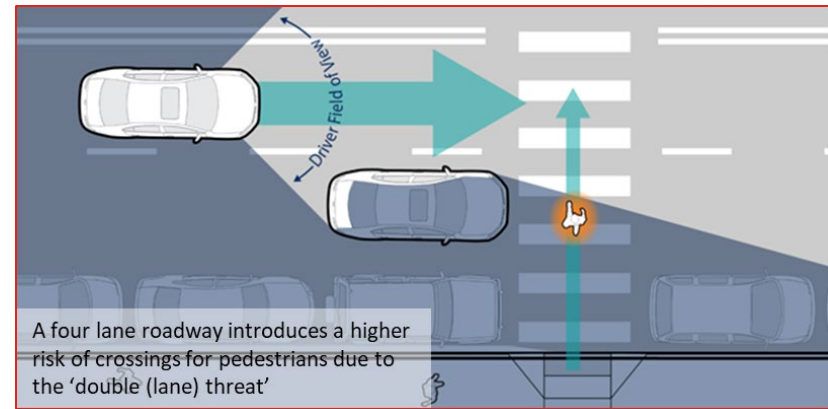


Figure 2: Illustration of ‘Double Threat’ Pedestrian Safety Issue



Figure 3: Crash Data on Forest Avenue (2018 - 2022 Data; source: MainedOT)

These conditions have contributed to poor traffic safety outcomes on this section of Forest Avenue in recent years. From 2013 through 2022, the segment of Forest Avenue from Woodford's Corner to Bedford Street/Baxter Boulevard saw 19 collisions involving cyclists, injuring 17. In the same period, there were 25 collisions involving pedestrians, including 21 injuries and two deaths. And from 2020 through 2022, 262 motor vehicle crashes occurred on this segment of Forest Avenue.

There are ten MainedOT high crash locations (HCLs) within the study area. GPCOG's *Vision Zero Greater Portland* has designated this part of Forest Avenue as a Critical Safety Corridor with several Critical Safety Intersections. Forest Avenue is on the GPCOG High Injury Network, as a high proportion of crashes on the street result in injuries. It was also identified as a corridor with many safety issues through the public engagement process for this study.

An analysis of vehicular traffic volumes and operations indicates that the portion of Forest Avenue between Woodford's Corner and Bedford Street/Baxter Boulevard has excess vehicular capacity in its existing four-

lane configuration. 2023 post-pandemic peak hour traffic volumes at signalized intersections within the project area were found to be approximately 20 percent lower than those collected in 2017. This condition of excess vehicular capacity is associated with higher speeds, high crash rates, and high injury rates. Furthermore, it allows for greater flexibility in street design options while maintaining acceptable traffic operations.

The multi-modal existing conditions are fully documented in Attachment 1.

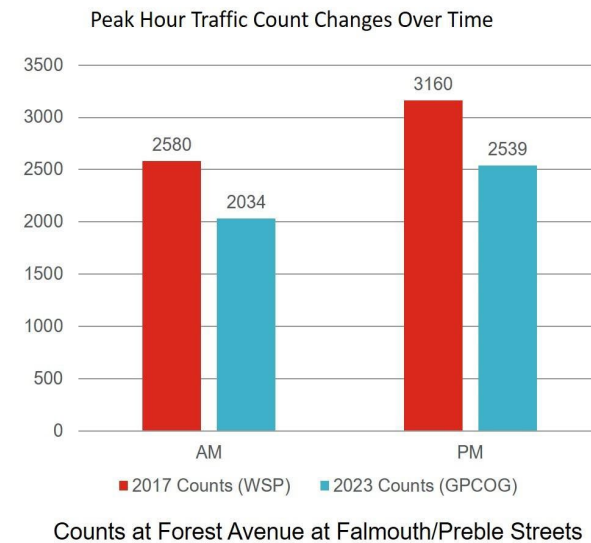


Figure 4: Peak Hour Traffic Count Changes, 2017 & 2023; GPCOG

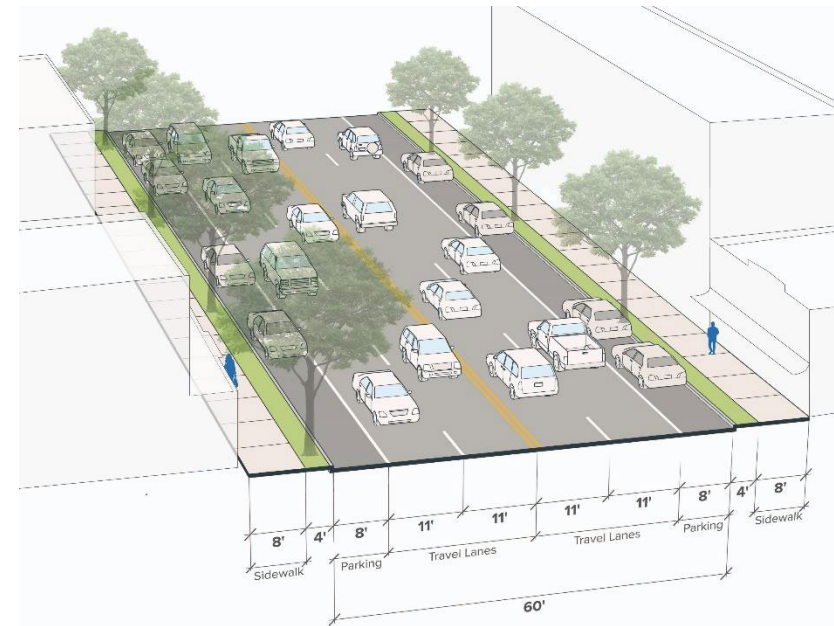
3 FOREST AVENUE TOMORROW

This study focused on alternatives that could generally be achieved within the existing curb lines as part of a future paving project, reducing construction complexity and cost. The goal with this interim-style approach is to achieve safety and multi-modal accessibility benefits through rapid implementation in the short-term. It also allows for a test period where the effectiveness of the interim project can be assessed prior to committing significant funding to a more capital-intensive project.

ALTERNATIVES

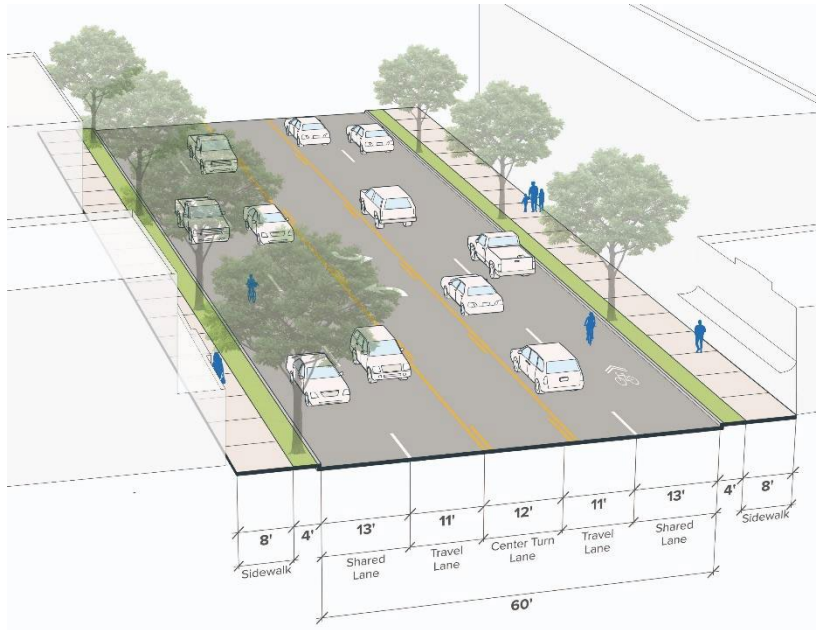
This study considered five alternatives - the No Build option plus four Build options - which reflect a range of benefits and tradeoffs between different modes of travel. Option C provides two variations on bike lane configurations. Each alternative acknowledges the place of Forest Avenue within both the regional and local transportation contexts.

NO BUILD OPTION/EXISTING CONDITION 4 VEHICULAR LANES + PARKING BOTH SIDES



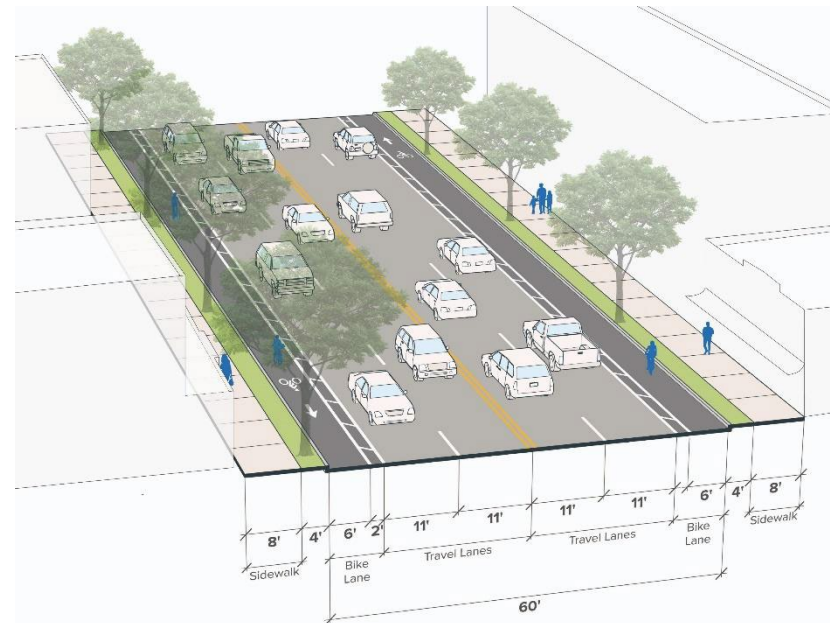
- Four travel lanes
- Two parking lanes
- No bike lanes
- No transit priority
- No pedestrian refuge islands

OPTION A
5 VEHICULAR LANES
+ NO PARKING



- Four travel lanes
- Center left turn lane
- No parking lanes
- No bike lanes
- No transit priority
- Pedestrian refuge islands possible

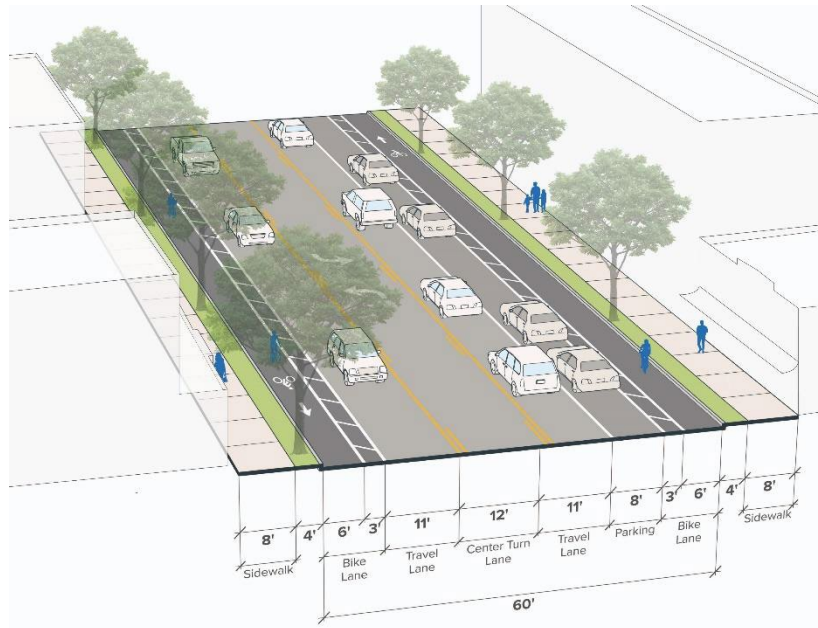
OPTION B
4 VEHICULAR LANES
+ BUFFERED BIKE LANES
+ NO PARKING



- Four travel lanes
- No parking lanes
- Bike lanes on each side
- No transit priority
- No pedestrian refuge islands

OPTION C1

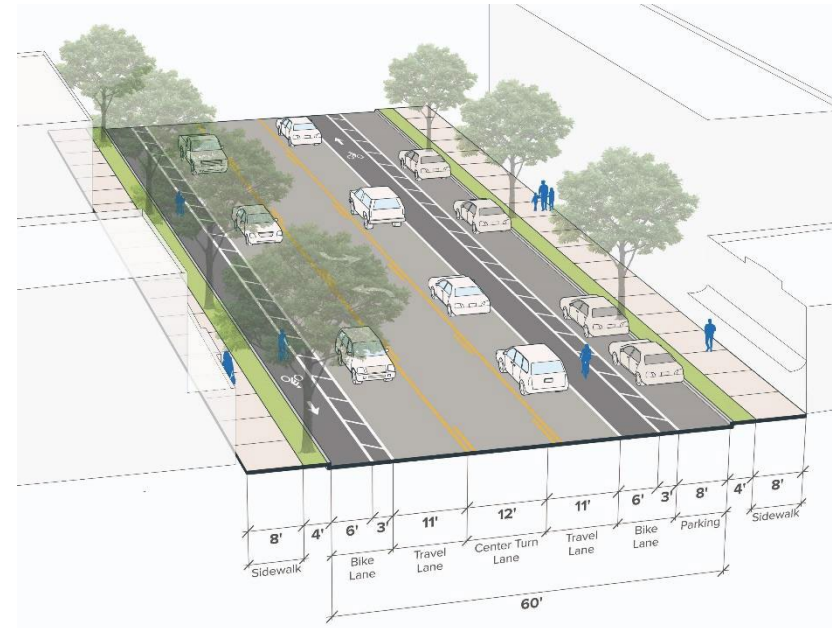
- 3 VEHICULAR LANES**
- + ONE PARKING-SEPARATED BIKE LANE**
- + ONE BUFFERED BIKE LANE**
- + PARKING ONE SIDE**



- Two travel lanes
- Center left turn lane
- One parking lane
- One parking separated bike lane; one buffered bike lane
- Transit priority possible by converting parking lane to queue jump lane
- Pedestrian refuge islands possible

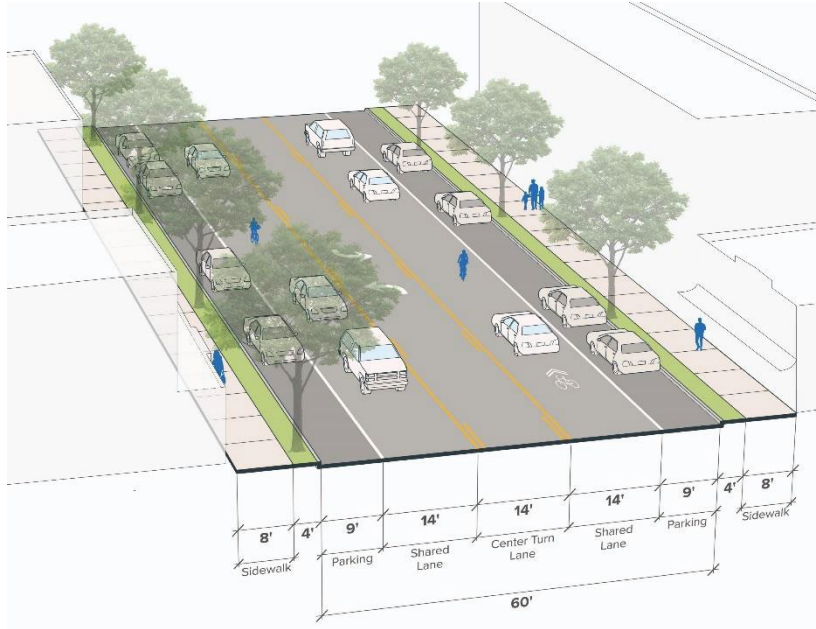
OPTION C2

- 3 VEHICULAR LANES**
- + BUFFERED BIKE LANES**
- + PARKING ONE SIDE**



- Two travel lanes
- Center left turn lane
- One parking lane
- Two buffered bike lanes
- Transit priority possible by converting parking lane to queue jump lane
- Pedestrian median refuges possible

OPTION D 3 VEHICULAR LANES + PARKING BOTH SIDES



- Two travel lanes
- Center left turn lane
- Two parking lanes
- No bike lanes
- Transit priority possible by converting parking lane to queue jump lane
- Pedestrian refuge islands possible

EVALUATION

The alternatives were evaluated against eight criteria ranging from safety benefits to alignment with city and state goals. Each criterion reflects key elements of the project purpose and need. Alternatives were scored using the ratings of High, Medium or Low against each criterion.

	High	Medium	Low
Safety	Significant reduction in crashes	Moderate reduction in crashes	Little to no reduction in crashes
Vehicle Operations	Maintains high quality traffic flow	Maintains medium quality traffic flow	Does not maintain minimum traffic flow guidelines
Parking	No reduction of existing on-street parking	Parking reduced to one side of street, but still meets overall demand	Elimination of on-street parking
Driving Experience	Traffic flow is more predictable; driver stress is significantly reduced	Traffic flow is more predictable; driver stress moderately reduced	No improvement from existing conditions
Walking	Significant improvement in pedestrian comfort and safety; Reduced distances between crossings	Some improvement in pedestrian comfort and safety	No improvement from existing conditions
Biking	Low stress bike infrastructure	Moderate stress Bike infrastructure	No improvement from existing conditions
Transit	Transit priority treatments at selected locations	N/A	No transit priority
City and State Goals	Strongly supports City and State goals in land use and climate action plans by promoting mode shift	Moderately supports City and State goals in land use and climate action plans by promoting mode shift	Limited support of City and State goals in land use and climate action plans by promoting mode shift

Table 1: Forest Avenue Redesign Evaluation Criteria

	No Build	A	B	C	D
Safety	Low	Medium	Low	High	High
Traffic	High	High	High	High	High
Parking	High	Low	Low	Medium	High
Driving	Low	Medium	Low	High	High
Biking	Low	Low	Medium	High	Low
Walking	Low	Medium	Low	High	High
Transit	Low	Low	Low	High	High
Mode Shift	Low	Low	Low	High	Medium

Table 2: Alternatives Evaluation Results

The alternative that scored the highest across the greatest number of evaluation criteria is Option C1, which includes a lane reduction to three vehicular travel lanes, on-street parking on one side of the street, and a combination of parking-separated and buffered bike lanes. Option C2, which includes two buffered bike lanes, on-street parking, and three vehicular travel lanes, scored only slightly lower in the biking criteria, as both of its bike lanes are adjacent to the vehicular travel lanes and are thus more exposed to vehicle traffic.

As an additional point of evaluation, the study team analyzed potential impacts to travel time on the project corridor under the three-lane alternatives. This analysis showed very minor increases in travel times of less than five percent during the morning and afternoon peak traffic periods. These slightly higher travel times are a product of minor reductions in vehicle speeds, which are expected to result in an overall safety benefit for the public.

The alternatives analysis is discussed in more detail in Attachment 2.

PUBLIC INPUT

The project background, existing conditions, alternatives, and evaluation were presented at an open house and public meeting held at the Woodfords Club in Portland on November 19, 2024. Approximately 80 members of the public attended.

At the meeting, attendees identified safety, with an emphasis on safety for pedestrians and bicyclists, as the most important criteria for consideration in the street redesign. There was strong support for the three lane street configurations, which would enable the most beneficial safety measures to be implemented. Among the three lane alternatives, the two Option C variations with bike lanes were the most favored, with most attendees supporting option C1, with the parking-separated bike lane adjacent to the on-street parking. Some attendees expressed concerns with parking-separated bike lanes, suggesting the potential for bicyclist crashes at driveways, lower bicyclist visibility, and additional maintenance requirements.

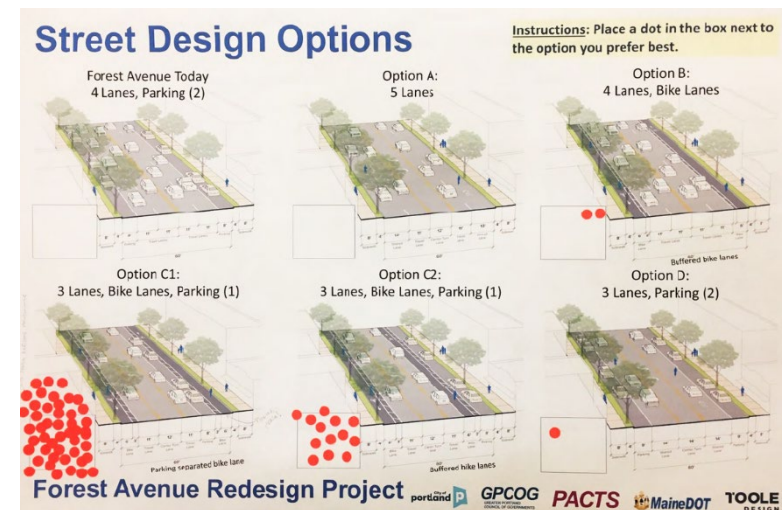


Figure 5: Public Input on Alternative Preference from November Public Meeting

An online survey, available for two weeks after the open house, collected more detailed information from 288 respondents. The results generally mirror those from the public meeting. In addition to the transportation elements discussed, the fair to poor quality of the streetscape along Forest Avenue was mentioned at the public meeting and in the survey responses.

Full results from the public meeting and survey can be found on the project website at: <https://www.portlandmaine.gov/ForestAveRedesign>.

4 RECOMMENDATIONS

Based on the results of the technical evaluation and strong support from the public, a three-lane street configuration that includes bike lanes is recommended for Forest Avenue from Woodfords Corner to Bedford Street/Baxter Boulevard, as shown in Option C. Two variations of Option C were presented to the public with two bike lane design options, and further consideration and evaluation of these two variations will be necessary during the development of a short-term layout plan.

As part of that design development, additional bike lane design features such as flex posts and green paint at intersections to highlight conflict/mixing zones between cyclists and motor vehicles should be examined. Bikeway configuration considerations include the ability of the City of Portland to adequately maintain bicycle lanes, and the effect of frequent driveways on bike lane and on-street parking supply and design.

In the long-term, a more holistic roadway redesign effort for this segment of Forest Avenue that integrates the recommendations of this study will be needed. This more transformational project might include curb relocation/realignment, raised pedestrian refuge islands, curb separated bike lanes/cycle tracks, bus rapid transit infrastructure, streetscape and sidewalk rehabilitation, and lighting.

IMPLEMENTATION

MaineDOT has confirmed support for the three-lane street design recommendation of this study, with the goal of piloting the short-term design concept at the next resurfacing of Forest Avenue. During the pilot phase, safety data, traffic counts (including bicycle and pedestrian counts) and information on travel delay should be collected. In addition, a public survey should be implemented to gather feedback on the pilot. Pending the outcome of the pilot, the project team should proceed with a more

capital-intensive and transformational project design process for this portion of Forest Avenue.

As of January 2025, the schedule for the paving project has not yet been determined.

NEXT STEPS

- Winter 2025: Conduct additional outreach to businesses and bicycling communities. This work will focus on refining the understanding of tradeoffs with the parking and bike lane design.
- Spring 2025: Develop a short-term, pilot phase street layout plan, including:
 - On-street parking, noting that decisions about parking locations will need to consider the tradeoffs between a consistent cross-section and a more demand-responsive design that may vary which side has parking to best meet locations with higher parking demand.
 - Additional pedestrian crossings and enhancements that provide safer, single lane crossing in each direction, median refuge islands, raised crosswalks, lighting and pedestrian signals where needed.
 - Bike lanes, considering configuration, pavement markings, and supplementary features including flex posts/bollards
 - Two travel lanes and a center turn lane, with a primary design consideration being lane widths.
- Spring - Fall 2025: Work with MaineDOT and GPCOG to identify timelines for the implementation of pilot phase as part of a short-term Forest Avenue paving project

ATTACHMENTS

- 1) Existing Conditions Memorandum
- 2) Existing Conditions Traffic Memorandum
- 3) Alternatives Evaluation Memorandum
- 4) Arterial Traffic Analysis Summary
- 5) Public Meeting Summary (November 19, 2024)
- 6) Maine DOT Road Diet Guidelines

Forest Avenue Redesign Project (Revere to Bedford Street)

2 messages

Jeffrey Robert Levine <jrlevine@mit.edu>

Sun, Sep 13, 2026 at 12:38 PM

To: "sustainabilityoffice@portlandmaine.gov" <sustainabilityoffice@portlandmaine.gov>

Cc: "rphillips@portlandmaine.gov" <rphillips@portlandmaine.gov>, Anna Bullett <abullett@portlandmaine.gov>, "pali@portlandmaine.gov" <pali@portlandmaine.gov>, Jeffrey Robert Levine <jrlevine@mit.edu>

To the Sustainability & Transportation Committee and City Staff-

I am thrilled to see the city move forward in partnership with MDOT on implementing a more efficient street cross-section for Forest Avenue. The work done to date is both thoughtful and potentially transformative, as envisioned in the Transforming Forest Avenue plan!

As part of the one-year pilot, however, I would strongly encourage the city to retain at least some of the parking on the west side of Forest Avenue. Several small businesses on that side, including The Great Lost Bear, Proper Cup, and Roses Foods, rely on short term turnover parking for short visits. Our valued small businesses rely on very small profit margins and require a few spaces near their businesses for quick transactions. I am concerned that the preferred alternative, while bringing welcome bicycle improvements, will have significant impacts on the viability of those businesses. I worry that the result may be the determination that the pilot is a failure and reversion to the current cross-section, and in a worst-case scenario, some of those businesses failing in these challenging economic times.

Of the alternatives analyzed, I would encourage the S & T Committee to recommend **Alternative D**. That alternative retains parking on both sides while piloting the three-lane cross-section. That alternative scored best in all areas except for bicycle benefits. During that pilot period, parking utilization can be studied, and perhaps more parking that is not being utilized can be removed after the end of the pilot. There is likely a scenario where the whole middle turn lane is not needed, and parking can be retained with a full cycle track by adding turning bays where needed and eliminating the rest of the center turn lane. This would be similar to the approach used when the city improved the Forest Avenue cross-section from Woodfords Corner to Morrill's Corner ten years ago.

Thanks again for your work on this, and many other issues! Please feel free to reach out if you need any clarifications.

Jeff

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Associate Professor of the Practice

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Personal Zoom Room: <https://mit.zoom.us/j/jeff.levine> (Passcode: 9-511)

Levine, J. (2021). Leadership in Planning: How to Communicate Ideas and Effect Positive Change (1st ed.).

Routledge. <https://doi.org/10.4324/9780429279287>



Pious Ali <pali@portlandmaine.gov>

Sun, Sep 13, 2026 at 12:54 PM

To: Jeffrey Robert Levine <jrlevine@mit.edu>

Cc: "sustainabilityoffice@portlandmaine.gov" <sustainabilityoffice@portlandmaine.gov>, "rphillips@portlandmaine.gov" <rphillips@portlandmaine.gov>, Anna Bullett <abullett@portlandmaine.gov>

Thanks Jeff

Respectfully

Pious Ali

City Councilor At-Large

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To: Sustainability & Transportation Committee
Councilor Regina Phillips, Chair

MEETING DATE

September 16, 2026

AGENDA ITEM

Agenda Item 3C – Vision Zero: Program Update and Committee Discussion and Possible Action on City-wide Speed Limits and Red Light Cameras.

PURPOSE

Provide updates on various Vision Zero Action Plan initiatives and consider action related to City-wide speed limits and pursuing introduction of Red Light Cameras.

COMMITTEE WORK PLAN/CITY COUNCIL GOAL ALIGNMENT

Vision Zero has been adopted by the City Council and is a priority for the Committee.

BACKGROUND/ANALYSIS

The September 16, 2026 meeting of the Sustainability and Transportation Committee will include the following topics:

- Review Vision Zero 2026 Quarter 2 Crash Trends Report.
- Review progress reporting on Vision Zero Action Plan.
- Review Issue Brief and consider action pertaining to possible introduction of Red Light Cameras as a traffic enforcement tool.
- Review Issue Brief and consider action pertaining to governance of speed limits within the City of Portland.

FISCAL IMPACT

N/A

CONCLUSION(S)

This item is for information, discussion and possible action.

PRIOR COUNCIL/COMMITTEE REVIEW

This is a recurring item.

PREPARED BY

Greg Jordan
Assistant City Manager
Executive Department

ATTACHMENTS

Attachment A - Vision Zero 20216 Quarter 2 Report
Attachment B - Vision Zero Action Plan Progress Report
Attachment C - Issue Brief: Red Light Cameras
Attachment D - Issue Brief: City-wide Speed Limits

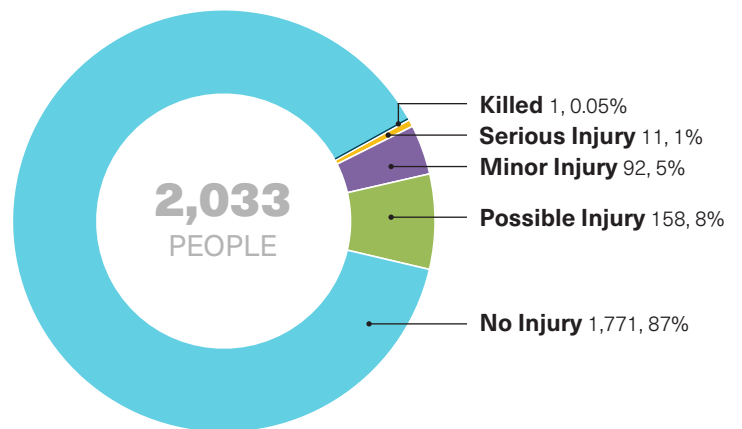
2026 Midyear Crash Report

Quarters 1 & 2 [JANUARY-JUNE]



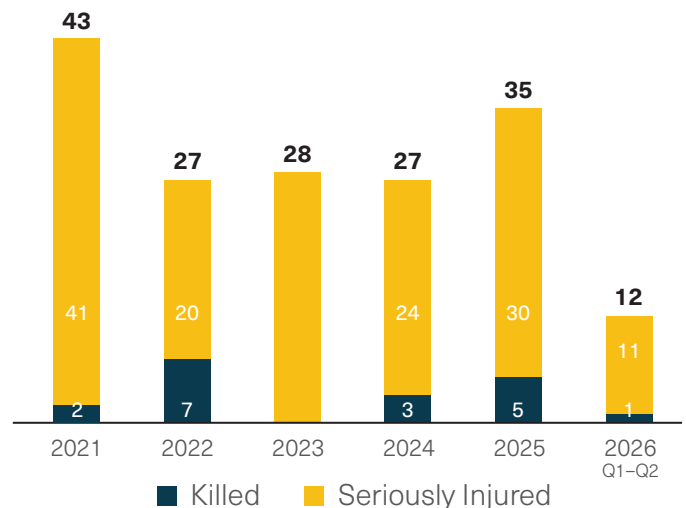
PEOPLE INVOLVED IN CRASHES BY INJURY [2026 Q1-Q2]

This chart shows the number of people involved in crashes in Portland by injury level. **Between January and June 2026, there were 1,077 crashes involving 2,033 people** (most crashes involve more than one person). Of those, one person (0.05%) was killed, 11 (1%) were seriously injured, 92 (5%) had minor injuries, and 158 (8%) had possible injuries. The remaining 1,771 people (87%) were not injured. For reference, in 2025 there were 2,318 crashes involving 4,674 people.



PEOPLE SERIOUSLY INJURED OR KILLED BY YEAR

While serious injury and fatal crashes make up a small share of total crashes, they result in the most severe outcomes and are the focus of the Vision Zero approach. The graph to the right shows the number of people seriously injured or killed in crashes in Portland by year. The 2026 data reflects crashes reported from January through June. During this period, 11 people were seriously injured and one person was killed.



Source: MaineDOT

2026 Q1–Q2 Crashes

By Injury Level

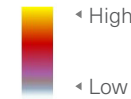
- Fatal
- Serious Injury

By Mode

- Cyclist
- Pedestrian
- Vehicle

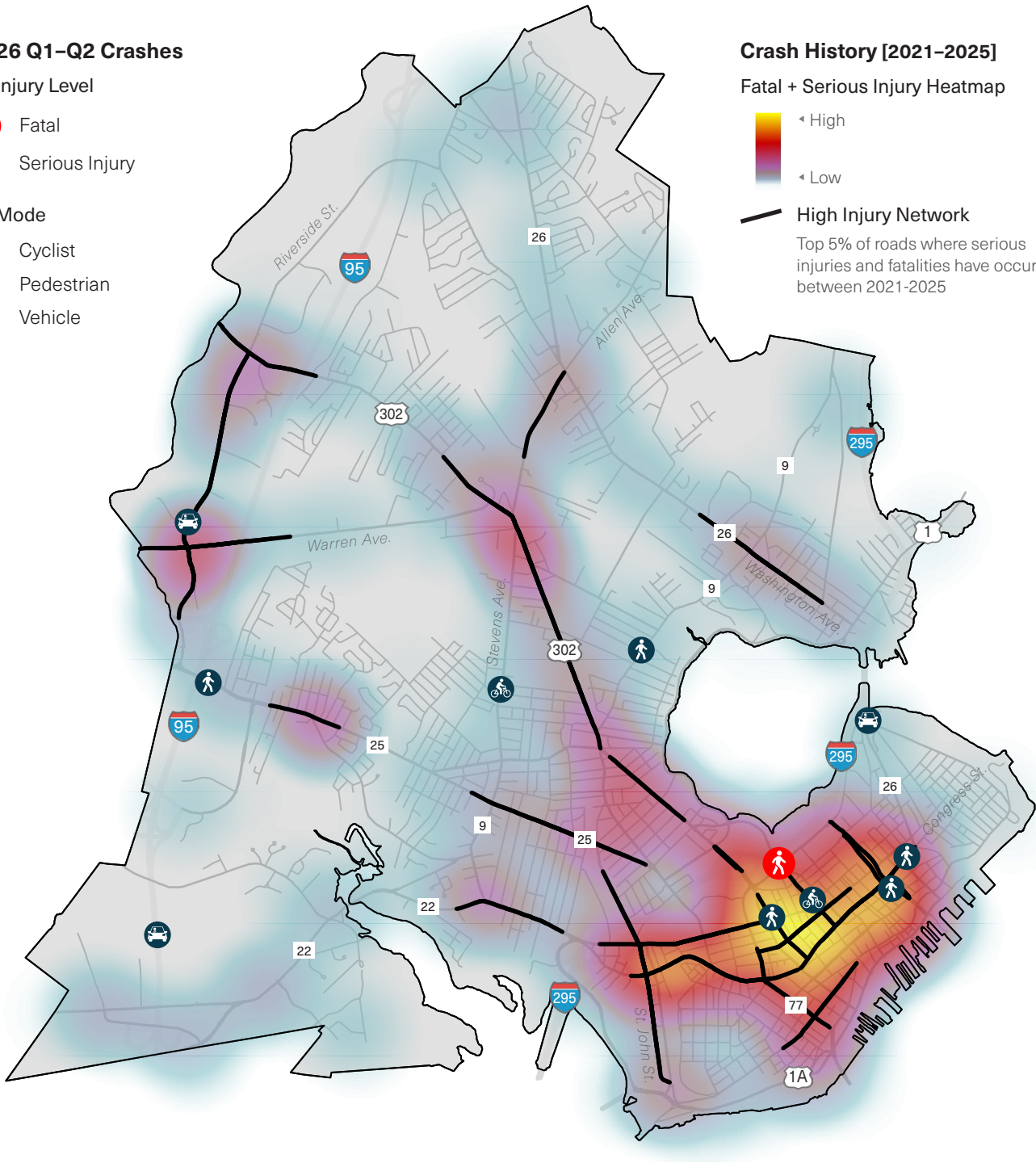
Crash History [2021–2025]

Fatal + Serious Injury Heatmap



High Injury Network

Top 5% of roads where serious injuries and fatalities have occurred between 2021-2025



CRASHES BY LOCATION

The map above shows the locations of the 10 serious injury crashes (dark blue) and one fatal crash (red) that occurred in the first half of 2026, overlaid on a 2021-2025 heatmap of crash frequency. It also highlights Portland’s High Injury Network (black), prepared by the Greater Portland Council of Governments using the [Safer Streets Priority Finder](#). This network represents the top 5% of roads where serious injuries and fatalities occurred between 2021-2025.

CRASH DETAILS [2026 Q1–Q2]

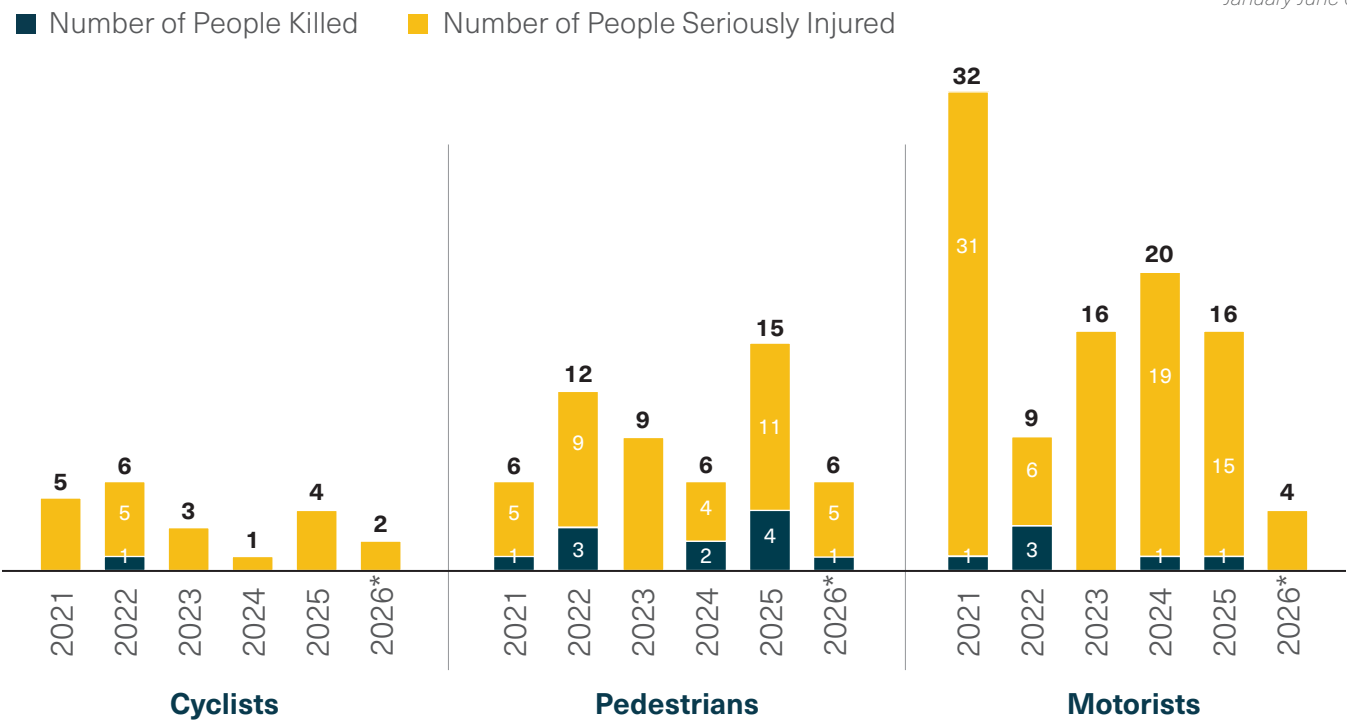
The table below provides additional details for the 11 crashes that resulted in 11 serious injuries and one fatality in Portland between January and June 2026.

Road / Route	Jurisdiction*	Date	Time of Day	Mode	Location	Speed Limit	Serious Injury	Killed
Forest Ave.	State Aid	2/14/26	10:00 PM	Pedestrian	4-leg int.	30 mph	1	0
Stevens Ave.	State Hwy	2/18/26	2:15 PM	Cyclist	Driveway	25 mph	1	0
Congress St.	State Hwy	2/27/26	5:50 PM	Pedestrian	Straight rd.	25 mph	1	0
Washington Ave. (Rt. 26)	State Hwy	3/4/26	3:40 PM	Vehicle	Straight rd.	25 mph	2	0
I-95	Toll Hwy	3/24/26	6:20 PM	Vehicle	Straight rd.	55 mph	1	0
Riverside St.	State Hwy	5/11/26	4:10 AM	Vehicle	Straight rd.	35 mph	1	0
Ocean Ave. (Rt. 9)	State Aid	5/20/26	7:40 AM	Pedestrian	3-leg int.	30 mph	1	0
Franklin St. (Rt. 1A)	State Hwy	5/21/26	7:20 PM	Pedestrian	Curved rd.	35 mph	1	0
Preble St.	State Hwy	6/8/26	5:05 PM	Cyclist	4-leg int.	25 mph	1	0
Preble St. Ext.	State Hwy	6/16/26	11:25 AM	Pedestrian	Straight rd.	35 mph	0	1
Brighton Ave. (Rt. 25)	State Hwy	6/23/26	12:05 AM	Pedestrian	Straight rd.	35 mph	1	0
							11	1

2026 Q1 & Q2 serious injury and fatal crashes in Portland sorted by date / Source: MaineDOT
*State Highways are maintained by the City, but MaineDOT controls major projects, design, and speed limits;
Toll Highways fall under the Maine Turnpike Authority.

CRASHES BY TRAVEL MODE

Source: MaineDOT
*January-June only



The graph above shows the number of people killed or seriously injured in crashes from 2021-2026, broken down by cyclists, pedestrians, and motorists (2026 data reflects January through June only).

City of Portland
Vision Zero Action Plan
ISSUE BRIEF



Objective 3 – Safer Speeds

SS-3: Conduct a Policy Analysis on Red Light Cameras (Revised)

September 2026

The Portland Police Department (PD) began increasing traffic enforcement operations in 2025 and is continuing to prioritize enforcement in relation to limited staff capacity and other public safety priorities. Specifically, PD conducted 3,636 motor vehicle stops in 2025, a 17% increase from 2024, and issued 1,180 citations, representing a 103% increase over 2024. Even with this surge, enforcement actions are well below the pre-2020 five year annual average of 8,630 stops and 3,639 citations issued.

The reduction in traffic enforcement is the direct result of the challenges facing police departments nationwide with staff recruiting and retention and the need to prioritize other public safety concerns. Despite an overall 13-15% vacancy rate in early 2026, PD is working on measures to continue increasing traffic enforcement as permitted by staffing levels and call volume.

Technology may be an option to supplement limited staff capacity. Red Light Cameras (RLCs) are automated, event-driven enforcement systems that utilize sensors and high-definition imagery to capture vehicles illegally entering an intersection during a red phase.

Based, in part, on information included in the Federal Highway Administration's *Red Light Camera Systems Operational Guidelines* (2005), the following points generally describe most RLCs function:

- Red-light camera systems are event-driven automated enforcement tools that combine camera equipment, vehicle-detection technology, communications infrastructure, and the intersection's traffic signal operation to document vehicles that enter an intersection against a red signal indication.
- Depending on the system design, vehicle detection may rely on inductive loops, video-based detection, radar, piezoelements, or similar technologies.
- The equipment is configured to capture photographic and/or video evidence showing the vehicle before it enters the intersection on red and after it proceeds through the intersection, including a view of the license plate where possible.
- For digital systems, violation data may be transmitted to a processing location, where secure procedures, written protocols, quality-control reviews, and chain-of-custody safeguards are used to preserve the integrity of the evidence.

- Before a citation (or warning) is issued, recorded violation data should be reviewed to confirm that the evidence supports a properly documented violation.
- Final citation authorization should be made by a qualified law enforcement officer under applicable state and local law.

It is important to distinguish “event-driven traffic enforcement” from “passive surveillance” or continuous Automated License-Plate-Recognition surveillance. ALPR systems, such as Flock Safety, are designed to capture and organize searchable vehicle data from vehicles passing within the camera’s field of view, including license-plate information and vehicle characteristics such as make, model, color, timestamp, and distinguishing features. As a result, these systems can create a rolling, searchable database of vehicle-location information, including records associated with vehicles whose drivers have not committed any traffic violation.

Red-light cameras operate differently. They are designed as targeted, event-driven enforcement tools connected to a specific signalized intersection, with vehicle-detection equipment configured to document vehicles that enter the intersection after the signal has turned red. While the system necessarily monitors signal status and vehicle movement near the stop line, it is not intended to create a general-purpose, searchable record of all passing vehicles. Instead, photographic or video evidence is captured and retained for review only when the system detects a potential red-light violation, with non-violations screened out through established review procedures before any citation is issued. This makes RLCs a narrower, single-purpose public safety tool in contrast to general ALPR networks, although implementation details, retention rules, audit controls, and local & state legal requirements remain important privacy safeguards.

National data indicate the following effects associated with RLC use.

- **40% to 50% Reduction in Violations:** Implementation typically results in a near-halving of red-light running violations, establishing an immediate behavioral shift at the intersection (*Retting, Ferguson, & Hakkert, 2003*).
- **24% Reduction in Fatalities:** RLC programs yield a 24% reduction in fatal red-light running crashes citywide. Conversely, when cities eliminate these camera programs, fatal crash rates surge by 30% (*Hu, McCartt, & Teoh, 2011; Hu, n.d.*).
- **25% to 30% Reduction in Injury Crashes:** Automated enforcement significantly reduces overall intersection injury crashes, protecting drivers from severe medical outcomes (*McCartt, n.d.*).
- **29% Reduction in T-Bone Collisions:** Within the injury crash data, RLCs specifically reduce highly dangerous right-angle (T-bone) injury crashes by approximately 29%, trading high-impact lateral collisions for minor property damage (*Retting, Ferguson, & Hakkert, 2003*).
- **The Spillover Benefit:** Improved driver compliance and behavioral modification are not isolated to the cameras themselves; spatial analysis shows a positive safety ripple effect and improved compliance at nearby, non-camera-equipped intersections along the same corridors (*Ahmed & Abdel-Aty, 2015*).

Trade-offs & Open Issues

The following points identify some of the trade-offs and open issues associated with pursuing this technology.

- **Potential Increase in Rear-end Collisions:** The high-severity gains noted above must be balanced against a correlated 15% to 30% increase in minor rear-end collisions, which can be mitigated by adjusting signal clearance intervals (Federal Highway Administration [FHWA], 2005).
- **State of Maine Law:** Maine state law (Title 29-A, Section 2117) currently **prohibits** municipalities from using automated camera systems to enforce traffic violations except for at Maine Turnpike Authority toll booths, and cameras mounted on school buses to document vehicles passing a stopped bus with red lights flashing. Should the Sustainability and Transportation Committee and City Council concur this technology should be pursued, then the City would need to work with municipal partners (including the Maine Municipal Association) to advocate for state-level enabling legislation or a localized and narrowly tailored municipal RLC pilot program.
- **City of Portland Context:** The research examined by staff reflects studies conducted at the national level and across larger cities. Should staff receive direction to continue investigating this technology, staff will gather information on which intersections, if any, may be most appropriate for this technology.
- **Surveillance Concerns:** There are legitimate public concerns and ongoing debate on the use of any automated camera technology for law enforcement purposes. As a result, any consideration on the use of this technology should be accompanied by transparent public review, development of policies and procedures that prevent misuse, protect civil liberties, and ensure public accountability. It is highly likely that, if any legislation permitting the use of red light cameras were to be approved, it would contain strong limitations on how and for what purposes the cameras, and the data they collect, may be used. If such statutory guardrails are not set in place, the City Council would also have the option of drafting an ordinance limiting such use by City staff.
- **Administrative Implementation:** A red-light camera program would require City staff capacity for citation review and authorization, contested violations, vendor oversight, financial administration, data protection, and safety evaluation. Vendors may provide equipment maintenance and substantial processing support, but City responsibilities would depend on the program's size and the requirements of any enabling legislation. Should a legislative path prove successful, staff would develop a detailed assessment of administrative responsibilities and staffing needs before seeking approval to implement a program.
- **Capital and Operating Costs:** Preliminary research in other municipalities indicates that a small deployment could involve annual costs in the hundreds of thousands of dollars, depending on the number of monitored intersection approaches, vendor services, and staffing requirements. Upfront costs would depend on whether the City purchases equipment or contracts for a vendor-installed and maintained system. These figures describe a preliminary order of magnitude, not a Portland specific budget estimate. Should a legislative path prove successful, staff would develop startup and operating cost estimates, evaluate potential fine revenue and funding needs, and return for a separate implementation and funding decision.

Conclusions and Next Steps

RLCs are a tool that can reduce the number and severity of crashes at intersections. However, there are several issues to consider including legal constraints, resolving privacy and civil liberties concerns, cost

and budget capacity, and staff capacity and administrative requirements. **If the Committee wants staff to continue pursuing this particular traffic and pedestrian safety enforcement tool, then the appropriate next step is to recommend the Legislative-Nominating Committee include this in its workplan for the purpose of pursuing enabling legislation.**

Source Citations

- Ahmed, M. M., & Abdel-Aty, M. (2015). Evaluation and spatial analysis of automated red-light running enforcement cameras. *Transportation Research Part C: Emerging Technologies*, 50, 130–140. <https://doi.org/10.1016/j.trc.2014.07.012>
- Bhalla, K., Nguyen, J., Wen, Y., De Bernardis, F., Carr, B., & Polley, E. (2025). Using telematics data to evaluate safety policies: A case study of Chicago’s red-light camera programme. *Injury Prevention*. Advance online publication. <https://doi.org/10.1136/ip-2025-045713>
- Federal Highway Administration & National Highway Traffic Safety Administration. (2005). *Red Light Camera Systems Operational Guidelines*. U.S. Department of Transportation. Washington, DC.
- Federal Highway Administration. (2005, April). *Safety evaluation of red-light cameras—Executive summary* (Publication No. FHWA-HRT-05-049). U.S. Department of Transportation. <https://www.fhwa.dot.gov/publications/research/safety/05049/>
- Hu, W., & Cicchino, J. B. (2017). Effects of turning on and off red light cameras on fatal crashes in large U.S. cities. *Journal of Safety Research*, 61, 141–148. <https://doi.org/10.1016/j.jsr.2017.02.019>
- Hu, W., McCartt, A. T., & Teoh, E. R. (2011). Effects of red light camera enforcement on fatal crashes in large U.S. cities. *Journal of Safety Research*, 42(4), 277–282. <https://doi.org/10.1016/j.jsr.2011.06.002>
- Langland-Orban, B., Large, J. T., & Pracht, E. E. (2011). An update on red light camera research: The need for federal standards in the interest of public safety. *Florida Public Health Review*, 8, Article 1. <https://digitalcommons.unf.edu/fphr/vol8/iss1/1>
- McCartt, A. T. (2015, February 25). *Automated traffic enforcement research: Statement before the Colorado House Transportation and Energy Committee*. Insurance Institute for Highway Safety. https://www.iihs.org/media/a2e26dd0-076b-43f3-bd05-29c80587ddfa/i6jvFQ/Testimony/testimony_2015-02-25.pdf
- Retting, R. A., Ferguson, S. A., & Hakkert, A. S. (2003). Effects of red light cameras on violations and crashes: A review of the international literature. *Traffic Injury Prevention*, 4(1), 17–23. <https://doi.org/10.1080/15389580309858>

City of Portland
Vision Zero Action Plan
ISSUE BRIEF



Objective 3 – Safer Speeds

SS-4: Clarify City's authority and process for setting speeds on state and local roads.

September 2026

SUMMARY

This Issue Brief explains how speed limits are currently established on Portland streets, what legal pathway exists for the City to assume speed-setting authority over qualifying local roads, and what is known about proposals to reduce local street speeds from 25 mph to 20 mph. At this stage, staff are not recommending a specific speed limit for any street or class of streets. The immediate issue is process and general direction.

Under current practice, Portland works through MaineDOT to request speed-limit reviews on all streets within the city. By state law, MaineDOT is the controlling authority for state-owned, state-aid, arterial, collector, and other non-qualifying roads. Portland may request a review and provide supporting safety and roadway-context information, but the City cannot unilaterally post or enforce a lower speed limit on those roads.

For qualifying local roads, Maine law does provide a separate pathway. A qualifying municipality may assume responsibility for setting speed limits on qualifying roads. Portland meets the statutory threshold which is based on having a population greater than 2,500 and employing a traffic engineer.

If Portland chose to assume this authority, the City would need to provide notice to MaineDOT, accept responsibility for setting speed limits on all qualifying local roads, conduct required traffic investigations, set speed limits through the municipal traffic ordinance process, install MUTCD-compliant signs, and provide notice of the adopted speed-limit zones to MaineDOT.

There are several open questions on this approach including:

1. **It is not yet confirmed whether separate speed studies and traffic investigations are required for every street, or if a fully (or partially) aggregated citywide engineering study would satisfy state law and MaineDOT administrative expectations?** City staff is working with MaineDOT to clarify statutory and regulatory requirements. If separate speed studies are required for every street, this would be a very large task with significant costs.
2. **Under this authority, is a city required only to notify MaineDOT of completed investigations and speed limit setting on a local street(s) or seek its approval?** The underlying statute clearly requires notification, but staff continue to investigate whether approval is required.

3. **What level of staffing, consultant support, signage, and long-term maintenance funding would be required to implement this authority?** Answers to the questions of staffing and costs depend heavily on the answer to question 1.

City staff's assessment (below) is that lowering posted speeds may be a useful component of Portland's broader speed-management and Vision Zero strategy, particularly where the roadway context supports lower operating speeds. Peer research indicates that positive impacts to crash severity related to speed reductions are more likely on higher risk collector and arterial roads.

However, the cost and administrative effort associated with Portland assuming speed limit setting authority for eligible local streets may be high. Also, crash data trends indicate that severe crashes on Portland's local streets are rare and speed limits on higher risk corridors – where interventions are most needed – are state controlled collector and arterial roads. Given these facts, a key question is judging whether taking control of speed limits on local streets, with the intention of reducing speeds from 25 to 20 MPH, represents the most impactful use of city resources.

Pending further evaluation of the foregoing questions, the City has several policy directions available:

- Continue the current MaineDOT request-based process for all roads and direct staff to identify and prioritize state and local road speed review requests;
- Assume local-road speed authority subject to sufficient budget appropriations and staff capacity including the required legal, engineering, and GIS work;
- Pursue state legislative reform if the City Council wants broader authority to establish default neighborhood speed limits with less administrative burden.

BACKGROUND

Current Speed-Setting Process for State and Local Roads

Speed-limit authority in Maine is governed primarily by state law, specifically 29-A M.R.S. §§2073, 2074, and 2075. MaineDOT, with approval of the Chief of the State Police where required, is generally the legal entity responsible for creating or changing speed limits on public ways. MaineDOT's public guidance describes this authority as applying to state highways, state-aid highways, and town ways unless a qualifying municipality elects to assume authority over qualifying local roads.

In practice, Portland currently follows a MaineDOT-based process. When the City seeks a speed-limit review, a municipal official submits a written request to the MaineDOT Regional Traffic Engineer. That request is generally for a specific road or road segment and should explain why the existing speed limit appears unsafe or inappropriate.

MaineDOT then determines whether to conduct an engineering and traffic investigation. Historically, speed studies often focused heavily on observed vehicle speeds, including the 85th-percentile speed. However, MaineDOT's current process is more context-sensitive. It considers roadway context, functional classification, crash history, traffic volume, roadway geometry, pedestrian and bicycle activity, driveways, transit activity, parking, and other factors.

MaineDOT has adopted a roadway context classification system with five categories: Rural, Rural Town, Village, Suburban, and Urban. These context classifications are combined with federal functional classification to determine which speed-setting process applies. MaineDOT's current processes include "Mobility," "Balanced," and "All Users." The "All Users" process applies in urban and village settings and is intended to give greater weight to pedestrian and bicycle safety. MaineDOT states that the 85th-percentile speed is not considered in the "All Users" process.

After completing its review, MaineDOT may recommend lowering the speed limit, making no change, or, in limited cases, raising the speed limit based on the data.

This process applies clearly to state-owned, state-aid, arterial, collector, and other roads that are not qualifying local roads. It also appears to be the process Portland has historically used for local roads, because Portland has not been operating a separate locally administered speed-setting program under the qualifying-municipality provision.

For state and non-qualifying roads, staff should prioritize requests using objective criteria, including whether the current posted speed exceeds the upper range suggested by MaineDOT's context-based guidance and whether the corridor appears on the High Injury Network or otherwise presents significant pedestrian, bicycle, transit, or neighborhood safety concerns.

How Portland Could Set Speed Limits on Local Roads

Maine law provides an alternative pathway for qualifying municipalities. Under 29-A M.R.S. §2075(3)(E), a qualifying municipality may set speed limits on qualifying roads.

Portland appears to qualify because it exceeds the statutory population threshold. The more important question is which roads qualify. A qualifying road is a town way classified as local by MaineDOT under the federal functional classification system. This means the City's authority would not extend to all roads in Portland and may not extend to all roads that residents commonly think of as "local streets." If Portland wanted to assume this authority, the process would include the following steps.

Step 1: Confirm legal authority and road eligibility – Staff and Corporation Counsel would need to confirm Portland's eligibility, identify the legal effect of providing notice to MaineDOT, and prepare a complete inventory of eligible roads. This inventory should distinguish state-owned roads, state-aid roads, arterials, collectors, local roads, private ways, park roads, island roads, and other special categories. This step is essential because the City's independent authority would apply only to qualifying local roads.

Step 2: Provide written notice to MaineDOT – If Portland elects to assume authority, the City must provide written notice to the Commissioner of Transportation. The statute also states that the municipality must set speed limits for all qualifying roads in the municipality.

This appears to mean that Portland could not selectively assume authority for a few local streets while leaving the rest of the qualifying local-road system under MaineDOT. Staff must also confirm with MaineDOT and Corporation Counsel whether any full withdrawal or return-to-state process exists.

Step 3: Conduct the required traffic investigation – Before establishing a speed limit, the City must perform a traffic investigation that reviews the applicable MUTCD factors. The investigation should be based on current professional practice, including MaineDOT's

context-sensitive methodology, the MUTCD, Safe System principles, and other accepted professional guidance such as NACTO's City Limits framework where appropriate.

The investigation should consider:

- roadway context;
- federal functional classification;
- observed speed data;
- crash history;
- segment length;
- traffic volumes;
- number of lanes;
- median presence;
- driveway and access-point density;
- pedestrian activity;
- pedestrian destinations;
- lane, shoulder, and pavement width;
- roadside conditions;
- curves, grades, and sight distance;
- traffic signals, all-way stops, and roundabouts;
- pedestrian and bicycle facilities;
- bicycle activity;
- crosswalks;
- on-street parking;
- transit activity and stops;
- schools, parks, senior housing, commercial districts, and neighborhood destinations.

The investigation should not rely solely on current driver behavior. Modern best practice allows observed speeds to be considered without allowing the 85th-percentile speed to dictate the outcome, especially in urban contexts with pedestrian and bicycle activity.

Step 4: Resolve the scope of required studies – This is the most important unresolved implementation question. There remains an open question as to whether Portland must conduct individual engineering studies for each street or street segment or if collections of similar streets can be aggregated under broader studies.

The statute itself requires “a traffic investigation” before establishing speed limits, but does not clearly state that each street must have a separate stand-alone narrative report. The interpretation that MaineDOT will accept nothing less than individual studies for each street may reflect MaineDOT administrative expectations or the most conservative interpretation.

The most legally and professionally defensible approach may be a hybrid:

- prepare one comprehensive citywide engineering study;
- evaluate every qualifying road or speed zone;
- use standardized worksheets or criteria;
- group similar streets by context and function;
- prepare street- or segment-specific documentation;
- identify exceptions;
- adopt an official speed-limit map by ordinance.

This would avoid a purely blanket approach while also avoiding unnecessary duplication. Before proceeding, staff should confirm whether this approach satisfies MaineDOT administrative requirements and Corporation Counsel's reading of the statute.

Step 5: Adopt speed limits through ordinance - Municipal officers must validate locally established speed limits through the municipal traffic ordinance process under Title 30-A, section 3009. A general policy resolution would not be enough to establish enforceable speed limits.

The ordinance should adopt an official speed-limit map or schedule, reference the traffic investigation, identify the qualifying roads or speed zones, authorize signage, and direct staff to provide required notice to MaineDOT.

Step 6: Install MUTCD-compliant signs and provide notice to MaineDOT - New limits should not be treated as implemented until appropriate signs are installed in compliance with the MUTCD. The City would also need to provide written notice of the speed-limit zones to MaineDOT on approved forms.

An open question remains whether MaineDOT's role at this stage is limited to receiving notice and maintaining records, or whether MaineDOT expects some form of review or approval before locally established speed limits are considered official. The statute appears to emphasize municipal ordinance validation, signage, and notice; staff materials reference a "commission record" process. That sequence should be confirmed before any implementation.

Trade-Offs of Assuming Local Authority

Assuming local speed-setting authority would give Portland greater control over qualifying local roads and could allow speed policies to better reflect neighborhood context, pedestrian safety, bicycle safety, school access, transit access, and Vision Zero goals.

The trade-off is that Portland would also assume a substantial administrative and financial obligation. If separate speed studies are required for each, the City would need to maintain the inventory, conduct or update traffic investigations, manage ordinances and records, install and maintain signs, respond to future requests, and preserve a defensible engineering record.

Staff estimates reviewed to date suggest the effort could involve hundreds of local road segments and thousands of staff hours. Those estimates should be refined before Council action. Cost assumptions, including sign quantities, sign-unit costs, staff time, consultant support, and long-term maintenance obligations, should be verified.

If Council's objective is a broad default 20 mph neighborhood speed-limit framework, state legislative reform may be the cleaner and less administratively burdensome path. Current law appears to allow local authority, but only through a road-by-road or speed-zone engineering process for all qualifying local roads, not through a simple citywide default change by resolution.

Staff Assessment of "20 Is Plenty" Policy Proposal

The safety rationale for lower urban speeds is strong. Vehicle speed affects stopping distance, crash likelihood, and crash severity. Lower speeds are especially important for pedestrians, bicyclists,

children, older adults, people with disabilities, and transit users. The evidence from other cities is generally favorable but should be interpreted carefully.

Seattle, Boston, Portland, Oregon, and Toronto all provide evidence that reducing posted speeds can reduce high-end speeding, shift speed profiles downward, and, in some cases, reduce crashes or injury outcomes. The strongest evidence appears to be on higher-speed, higher-risk corridors, especially arterials and collectors.

Evidence specific to low-speed residential local streets is more difficult to isolate because speed-limit changes are often implemented as part of broader Vision Zero programs that include traffic calming, redesign, enforcement, education, signal changes, and other safety measures. Portland City staff's investigation into these trends notes that peer cities' steps to reduce local residential speed limits have often experienced reductions in crashes, crash severity, or speeding. However, staff also notes that these results are usually part of comprehensive Vision Zero strategies and that causation is harder to prove for local residential streets alone.

City staff's general conclusion is that lowering posted speeds may be a useful component of Portland's broader speed-management and Vision Zero strategy, particularly where the roadway context supports lower operating speeds. However, speed-limit changes should not be treated as a stand-alone solution. They are most defensible and effective when paired with context-sensitive street design, traffic calming, signal timing, enforcement strategy, public communication, and ongoing monitoring.

MaineDOT's own guidance reinforces this point. MaineDOT recognizes that changing a sign alone may not significantly affect vehicle speeds and that speed-management techniques may be needed to help the roadway environment communicate the intended operating speed.

In conclusion, the cost and administrative effort associated with Portland assuming speed limit setting authority for eligible local streets may be high. Crash data trends indicate that severe crashes on Portland's local streets are rare and the higher risk corridors – where interventions are most needed – are state controlled collector and arterial roads. Given these facts, and in light of financial and staff capacity constraints, the Committee should weigh the highest and best uses of city resources to make Portland safer?

Policy Directions Available to the City

1. Continue the current MaineDOT request-based process for all roads and direct staff to identify and prioritize state and local road speed limit review requests;
2. Assume local-road speed authority subject to sufficient budget appropriations and staff capacity including the required legal, engineering, and GIS work;
3. Pursue state legislative reform if the City Council wants broader authority to establish default neighborhood speed limits with less administrative burden.

Fwd: comment on Vision Zero 3C

2 messages

Max Wilder <mwilder@portlandmaine.gov>
To: Troy Moon <thm@portlandmaine.gov>

Wed, Sep 16, 2026 at 11:00 AM

Assuming this is for S&T

----- Forwarded message -----

From: **Cadence Atchinson** <cadi08@gmail.com>
Date: Wed, Sep 16, 2026 at 10:43 AM
Subject: comment on Vision Zero 3C
To: <publiccomment@portlandmaine.gov>
Cc: <Council@portlandmaine.gov>

Hello my name is Cadence Atchinson and I live at [22 Nevada Ave](#) in Portland Me 04103. I am writing because I cannot make it to tonight's meeting but want to share my support for the pursuit of Vision Zero and a request to add some teeth to it. Just this past week a student was hit walking home from the East End School. The city needs to do more to ensure that streets are safe for pedestrians including students walking to and from school each day. Lowering the speed limits within the city limits to be no more than 20 miles an hour and enforcing them would be good, as would ticketing distracted drivers, who seem to be the largest part of the problem. Thanks so much for your attention,
Cadence Atchinson

Troy Moon <thm@portlandmaine.gov>
To: Max Wilder <mwilder@portlandmaine.gov>

Wed, Sep 16, 2026 at 11:12 AM

Got it. We need to update the agenda packet so I can add this.

Troy

[Quoted text hidden]

Fwd: Safe Streets

1 message

Max Wilder <mwilder@portlandmaine.gov>
To: Troy Moon <thm@portlandmaine.gov>

Wed, Sep 16, 2026 at 11:13 AM

----- Forwarded message -----

From: **Anna Sommo** <annasommo@gmail.com>

Date: Wed, Sep 16, 2026 at 11:13 AM

Subject: Safe Streets

To: <publiccomment@portlandmaine.gov>, <Council@portlandmaine.gov>

Hello,

My name is Anna Sommo and I live at 174 Woodlawn Ave, I am submitting public comment Vision Zero Action Plan (3C):

I ride my bicycle and walk frequently throughout Portland and nearly every day I witness speeding and dangerous driver behavior. Just today I was riding on Clifton Street and someone was crossing in a crosswalk in front of me on Vannah St and a huge truck nearly ran the pedestrian over as it blew through the stop sign. It was terrifying. Slower speeds and enforcement are essential to safer streets for all of us- especially people who are not in cars. I want my daughter to grow up in a place where moving around without a car is safe. Please take action to reduce speed limits and increase enforcement today.

Sincerely,
Anna Sommo



Staff Memo To:
Sustainability & Transportation Committee
Councilor Regina Phillips, Chair

MEETING DATE
September 16, 2026

AGENDA ITEM
Agenda Item – *Jewel Box* Bus Shelter

PURPOSE
To provide the S&T Committee with an overview of the process for deaccessioning the *Jewel Box* Bus Shelter from the City's public art collection and to explain the artwork's relationship to the City's public transit system. This information is being shared for informational purposes only, no action is requested.

COMMITTEE WORK PLAN/CITY COUNCIL GOAL ALIGNMENT
The deaccessioning of the *Jewel Box* Bus Shelter was not included in the Committee's current work plan. However, initiating the deaccessioning of the *Jewel Box* Bus Shelter from the public art collection was included in the Public Art Committee's FY26 Annual Plan and FY27 Budget Plan, which was unanimously approved by the City Council by a vote of 8-0 on August 24, 2026 (Councilor Fournier absent) ([Order 20-26-27](#)).

BACKGROUND/ANALYSIS
On September 3, 2026, the Portland Public Art Committee held a public hearing and voted unanimously 6-0 (Levesque, Hrenko, Wilson absent), to recommend that the City Council deaccession the *Jewel Box* Bus Shelter from the City's public art collection.

History
In 2003, the Portland Public Art Committee issued a Request for Qualifications (RFQ) seeking to commission a permanent work of public art for the Monument Square area, at the location of a bus shelter and telephone kiosk that were planned for removal after approximately 30 years in place. The RFQ required that any proposed artwork incorporate a bus shelter at the existing bus stop location.



Figure 1: Former Mushroom, phone kiosk



Figure 2: Former bus shelter prior to 2004 Jewel Box installation

Following the RFQ and selection panel process in 2003 the Portland Public Art Committee commissioned artists Laura Haddad and Tom Drugan to design, fabricate, and install a new public artwork entitled *Jewel Box*. The installation was completed in 2004, replacing the existing bus shelter at the site.



Figure 3: Jewel Box Bus Shelter

Current Conditions

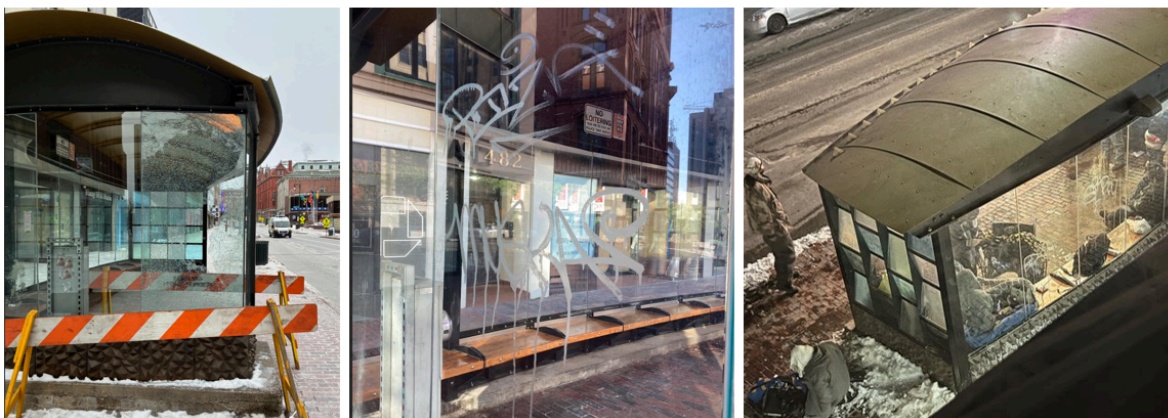


Figure 4: Jewel Box Bus Shelter current conditions

The *Jewel Box* bus shelter has been in place since 2004 and, in recent years, has experienced a number of issues related to vandalism, graffiti, broken glass, and ongoing maintenance needs. These issues have affected the functionality and use of the shelter for transit riders and have required the City and Portland Public Art Committee to repeatedly use public art funds for repairs. Since its installation, approximately \$35,000 has been spent on maintenance, including approximately \$8,700 since 2023 to repair damage caused by vandalism.

At the April 15, 2026 Public Art Committee meeting, City staff presented options for the Committee's consideration regarding the *Jewel Box* bus shelter, including the potential future evaluation of relocation, repair, or deaccessioning, removal, and replacement. The item was introduced for initial discussion in response to ongoing maintenance needs, repeated vandalism, and persistent public health and safety concerns, as well as questions raised by the Committee regarding the frequency of maintenance and associated expenditures.

At its June 17, 2026 meeting, the Public Art Committee recommended including in the FY26 Annual Report and FY27 Proposed Budget to either deaccession or relocate the *Jewel Box* from the City's public art Collection.

On September 3, 2026, the Portland Public Art Committee held a public hearing and voted unanimously, 6-0 (Levesque, Hrenko, Wilson absent), to recommend that the City Council deaccession the *Jewel Box* Bus Shelter from the City's public art collection. As part of its deliberations, the Collection Management Subcommittee prepared a recommendation letter (Attachment A) outlining concerns related to the budgetary impacts of ongoing maintenance and community concerns regarding safety and visibility. While relocation was considered, the Subcommittee and staff expressed concerns that relocating the artwork could continue to create opportunities for vandalism, compromise public safety, and require continued use of public art funds for ongoing maintenance and repairs. The Subcommittee's preferred course of action was to deaccession the artwork and work with the City to remove it.

PROCESS/PROCEDURE

The [Guidelines for the Public Art Ordinance](#), establish procedures for reviewing the removal of artworks from the Public Art Collection. Section IX, *Deaccessioning Policy*, establishes the process for considering the removal of an artwork from the collection.

The deaccessioning guidelines recognize that, over time, circumstances may arise that warrant the removal of artwork from the collection. The process for considering deaccessioning of public art requires the public art committee to forward a recommendation to the City Council, who has the final authority to order the deaccessioning of artwork from the public art collection. The Committee may consider the deaccessioning of an artwork when it determines that the artwork meets one or more of the following criteria:

- *The artwork has been determined to be of inferior quality relative to the quality of other works in the collection.*
- *The artwork has been determined to be incompatible with the intent of the collection*
- *The artwork has been damaged or has deteriorated to the point where restoration is impractical or unfeasible, or the cost of restoration is excessive in relation to the appraised value of the artwork.*
- *The artwork endangers public safety.*
- *Significant changes in the use, character or actual design of the site require a re-evaluation of the relationship of the artwork to the site.*
- *The work is not or is rarely on display.*
- *The artwork requires excessive maintenance or has faults of design or workmanship, and the city cannot properly maintain the artwork.*

FISCAL IMPACT

The final budget for the installation of the *Jewel Box Bus Shelter* was approximately \$84,000. Since its installation, approximately \$35,000 has been spent on maintenance, including approximately \$8,700 since 2023 to repair damage caused by vandalism.

In summer 2026, Tuckerbrook was contracted to complete a conservation assessment of the City's entire public art collection. The assessment identified approximately \$35,000 in future maintenance and conservation needs for the *Jewel Box Bus Shelter*. This estimate does not account for additional damage or repairs that may result from ongoing vandalism.

NEXT STEPS

The Public Art Committee's recommendation will be forwarded to the City Council for consideration and action. The City Council has final authority to deaccession the artwork from the Public Art Collection.

PRIOR COMMITTEE REVIEW

- N/A

PREPARED BY

Kevin Kraft, AICP

Sean King

Director
Planning & Urban Development

Urban Designer
Planning & Urban Development

ATTACHMENTS

- Attachment A - Collection Management Subcommittee letter

The Collection Subcommittee of the Portland Public Art Committee met today, June, 25th, 2026, to discuss issues related to *The Jewel Box*, a public art piece owned by the City of Portland and located at the corner of Congress and Center streets. Issues encompass those that City Management has brought to the Committee's attention — budgetary and safety-related — and those raised by community members, chiefly safety-related. See agenda packet from the Committee's June 17 meeting for details, pp. 31 – 40.

Issue 1: Budgetary impact of ongoing maintenance

Since its installation in 2003, *The Jewel Box* has incurred significantly higher maintenance costs than other works in the collection, exceeding \$35,000. ~\$5,000 of maintenance costs were incurred in FY2025 alone. Ongoing maintenance issues include etching and graffiti, as well as more serious problems, such as smashed glass panels. These costs are borne by the Public Art Committee's budget. Most of these issues required immediate remediation.

Longer-term remediation of the work also has budgetary impacts. Rust, deterioration of the anti-graffiti film, treating cast iron to prevent further deterioration, and refinishing benches have a minimum estimate of \$33,500. These costs are expected to be ongoing and will experience continual increase as *The Jewel Box* ages.

Issue 2: Community concerns

The Portland community has raised concerns about this work, citing its detrimental effect on neighborhood safety due to the design of the piece, which features an element resembling stonescaping that extends from roughly 36 inches high down to grade. The result is that passersby and others do not have adequate sightlines into the goings-on in the shelter.

There are two potential proposals before the Public Art Committee to remedy these issues that the subcommittee examined.

Remedy 1: Relocation of this work

The subcommittee did not feel that relocation would solve issue 1 across its budgetary and vandalism implications. Relocation to an area with less ridership could exacerbate opportunities for vandalism due to its more remote nature.

Safety would also not be improved by relocation, as the piece's design would remain the same. The elements of the work that obscure vision and compromise riders' safety would remain present.

Relocation would also have significant budgetary implications for the disassembly, transportation, reassembly, and long-term maintenance of the aging, deteriorating work. The Subcommittee noted that the Public Art Committee's overall budget has recently increased. However, the Subcommittee wishes to be responsible fiscal stewards of this new budgetary allotment and feels strongly that its charge to do so also mandates that issues currently at hand not be replicated elsewhere.

Remedy 2: Deaccessioning of artwork

For the reasons above, the Collection Subcommittee recommends deaccessioning this work at this time. A deaccession plan will be explored by the City, including outlining the costs of the works' disassembly and short-term storage, as a buyer or other plan for removal are explored. Given the urgent nature of the situation and the safety risks the work poses to significant numbers of Portland citizens, including neighboring businesses, residents, and GPMetro riders, we recommend that the Committee vote in favor of deaccessioning.

Sharon Dennehy, Collection Subcommittee Chair

Kat Zagaria Buckley, Collection Subcommittee Member

Kelly Hrenko, Collection Subcommittee Member



To: Sustainability and Transportation Committee
Councilor Regina Phillips, Chair

MEETING DATE

September 16, 2026

AGENDA ITEM

Agenda Item 3D– Parking changes on Lancaster Street

PURPOSE

Consider parking schedule changes on Lancaster Street between Chestnut St. and Pearl St. that would remove a commercial loading zone and replace it with time zone parking.

COMMITTEE WORK PLAN/CITY COUNCIL GOAL ALIGNMENT

This item is not included in the Committee's 2026 workplan.

BACKGROUND/ANALYSIS

The commercial loading zone on Lancaster St between Pearl St. and Chestnut St. is currently underutilized. This designation of parking has been in place for many years and was originally used to access a business in the area that is no longer in operation. This change would add approximately 6 parking spaces.

FISCAL IMPACT

The fiscal impact of this change is minimal. Signage would be changed to designate the new parking area.

CONCLUSION(S)

Staff recommends changing the designation of the commercial loading zone to time zone parking spaces which would be beneficial to residents in the area.

PRIOR COUNCIL/COMMITTEE REVIEW

N/A

PREPARED BY

Tony Wirkus
Director
Parking Division

ATTACHMENTS
[Lancaster St. Map](#)

LANCASTER ST. COMMERCIAL LOADING ZONE MAP





To: Sustainability and Transportation Committee
Councilor Regina Phillips, Chair

MEETING DATE

September 16, 2026

AGENDA ITEM

Agenda Item 3E – Waterfront Parking at First Light Commons

PURPOSE

The S&T Committee is being asked to review parking fees and space designations in the parking lots adjacent to the First Light Commons park.

COMMITTEE WORK PLAN/CITY COUNCIL GOAL ALIGNMENT

This item is not included in the Committee's 2026 workplan.

SUMMARY & RECOMMENDATION

Construction of the First Light Commons Park resulted in a large portion of the Ocean Gateway Lot being taken offline. The original parking lot contained approximately 245 parking spaces. Users, including island residents, were able to access these spaces for \$25/day.

When the project is complete, there will be approximately 115 parking spaces, resulting in a loss of 130 spaces. There are many competing uses and users that this parking resource must serve including island resident parking, waterfront commercial access, and park access.

To best manage competing needs and user needs, staff recommends changing from a daily rate of \$25 to an hourly rate of \$4 per hour with a daily maximum of \$40. This price is higher than the meter rate, in line with city operated parking garages, and lower than private parking in the area. In addition to implementing a new hourly rate, it is recommended to add a set number of time zone spaces that are included in the residential parking permit program.

This designation of spaces and pricing model aims to create competition with local private lots to help support access to businesses, the park, and the ferry terminal for residents and visitors.

BACKGROUND AND ANALYSIS

City staff, including Parks, Recreation and Facilities, Public Works, Planning and Urban Development, and Parking met to discuss the operations of the parking lot to review the various user groups. Some of the user groups include island residents and visitors, residents and visitors

on the peninsula, visitors of the park, visitors of the Ocean Gateway terminal, and customers shopping and dining at local businesses.

Previously the Ocean Gateway Lot charged a flat rate of \$25 per day and did not offer an hourly rate. The parking lot closed seasonally to become an impound lot during parking bans. The previous rate structure primarily accommodated individuals wishing to park for a full day or more and did not support shorter visits to local businesses or attractions.

Staff regularly receive feedback that there is a lack of parking in this area. Although private parking availability will fluctuate at times, the table below outlines the availability of parking as of late spring.

PRIVATELY OPERATED AND PUBLIC PARKING GARAGES WITH AVAILABILITY

Garage Name	Monthly Spaces Available	Off Season Monthly Spaces Available	Monthly Cost	Distance to Casco Bay Lines Terminal
Casco Bay Garage	No - Waitlist	Yes	\$189*	0 feet
Custom House Garage	Yes	Yes	\$205	850 feet (0.12 miles)
Ocean Gateway Garage	Yes	Yes	\$205	1350 feet (0.25 mile)
Temple St. Garage	Yes	Yes	\$205	0.6 miles
Elm St. Garage	Yes	Yes	\$170	0.7 miles
Spring St. Garage	Yes	Yes	\$170	0.7 miles

*Cost after 10% city subsidy for Island residents

RESIDENTIAL PARKING PERMITS

Data from the 2025 residential permit program was also reviewed. The review of permits specifically focused on the three residential parking zones near the waterfront which includes Zone 0, Zone 3, and Zone 11. These three permit zones are located in an area that is saturated with many competing users for the limited street parking spaces available.

2025 RESIDENTIAL PARKING PERMIT DATA

Residential Zone	Permits Issued	1-2 Hour zone, unrestricted spaces	% allocation
Zone 0 (Old Port)	68	35	194.29%
Zone 3	136	102	133.33%
Zone 11 (Island Residents)*	145	104	139.42%
An additional 60 unrestricted spaces are available on Commercial St near Center St.			

*Spaces picture in the attached Zone 11 map on Marginal Way are not included in the stall count

CONCLUSION AND RATE PROPOSAL

Staff researched peer cities to find best practices for how other communities manage parking for island communities. There were no peer cities found that were similar and had a more robust residential parking program for island communities. The use of private parking options was a common theme. After reviewing the previous operations of the lot, parking in the waterfront area, and peer cities, staff recommend changes to the rate and parking designations in the new parking lots.

Parking adjacent to First Light Commons should be flexible to accommodate all user groups. Adjusting the parking fees to an hourly rate with a daily maximum would allow for a wide range of users who live or visit the islands, patronize local businesses, or visit the park. Since the area is saturated with many competing users, the focus should be on maximizing the number of users who have access to the lot. A set number of metered spaces with a 2 hour maximum should also be maintained to create turnover parking for park users that will prevent longer term parking. An additional residential parking permit program, such as a lottery, is not recommended.

While the Ocean Gateway Lot regularly reaches capacity seasonally during peak times, it is underutilized throughout many other times of the year. Switching to an hourly model would provide residents, downtown patrons, and visitors a more cost effective option than parking in private hourly lots once the street parking spaces reach capacity.

FISCAL IMPACT

The proposed changes would likely have a positive impact on revenue and generate an additional \$250,000 annually.

CONCLUSION(S)

Staff recommends implementing the following parking rates and designation of parking spaces in the First Light Commons lots.

East Lot (50 stalls)		West Lot (65 stalls)	
Metered spaces - no time limit	50*	Metered spaces - 2 hour max	10
		Metered spaces - no time limit	45
Hourly rate	\$4 per hour	1 hour free time zone spaces (included in residential zone 11)	10
Daily maximum	\$40 per day	Hourly rate	\$4 per hour
		Daily maximum	\$40 per day

*10 spaces will be reserved as needed for operational purposes of the Ocean Gateway Terminal. The east lot may be used for special events as needed. Vehicles parked before the event starts will not be required to move.

PRIOR COUNCIL/COMMITTEE REVIEW

N/A

PREPARED BY

Tony Wirkus
Director
Parking Division

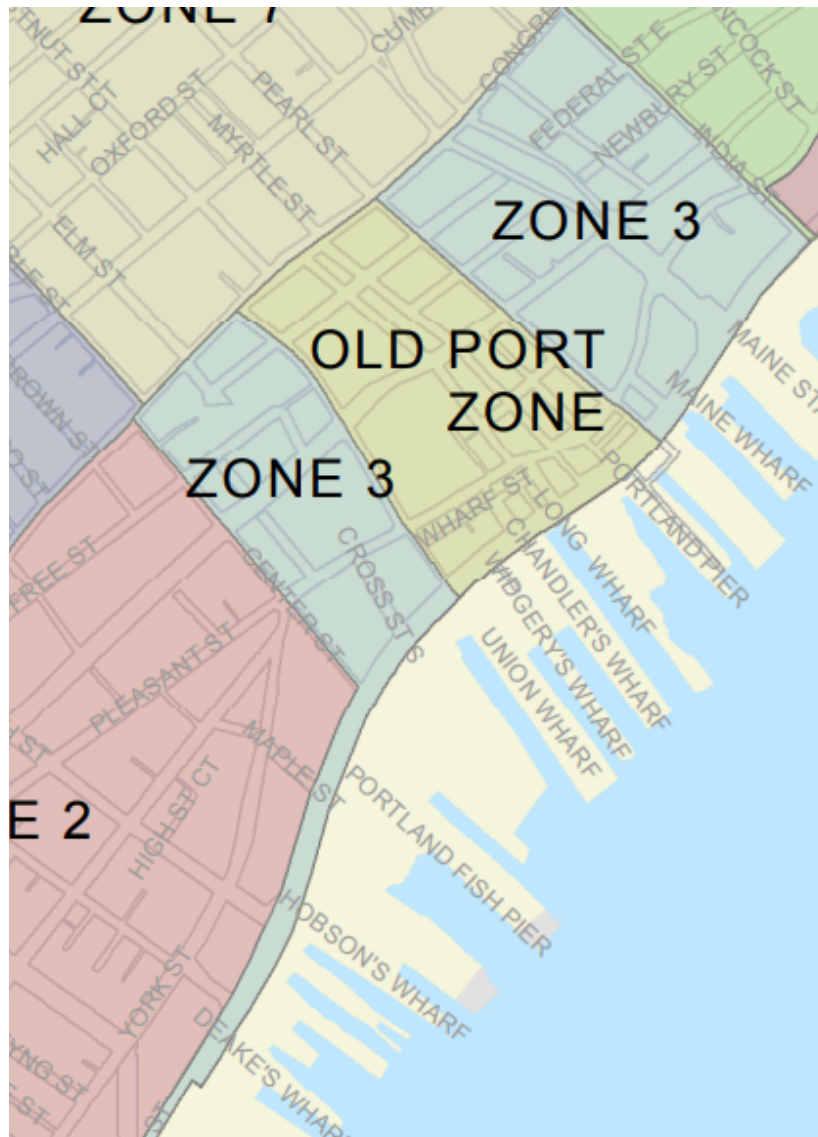
ATTACHMENTS

[Residential Zone Maps](#)
[First Light Commons Rendering](#)

First Light Commons Rendering



RESIDENTIAL ZONE 0 AND ZONE 3 MAP



RESIDENTIAL ZONE 11 (ISLAND RESIDENT) MAP



Michael J. Cianchette, **Falmouth, Chairman**
Jane L. Lincoln, **Farmingdale, Vice-Chair**
Emily N. Becker, **Poland**
Nina A. Fisher, **Farmingdale**
William Benson, **Gorham**
Thomas J. Zuke, **Saco**
Dale F. Doughty, **MaineDOT Ex-Officio**



Andre J. Briere, Colonel, USAF (ret), **Executive Director**
John W. Cannell, P.E., **Chief Operations Officer**
John P. Sirois, **Chief Financial Officer & Treasurer**
Erin T. Sullivan, **Chief Administrative Officer**
Kristi M. Van Ooyen, P.E., **Chief Engineer**
Jonathan A. Arey, **Secretary & General Counsel**

August 21, 2026

Regina Phillips, Chair
and Other Distinguished Members of the Sustainability and Transportation Committee
Portland City Council
City of Portland
389 Congress St
Portland ME, 04101

Re: Phase 2 of MTA's Portland Area Mainline Safety Program - Follow-Up Information

Dear Chair Phillips and Members of the Sustainability and Transportation Committee:

Thank you for your suggestion that we provide more information on Phase 2 of the Portland Area Mainline (PAM) Safety Program to your Committee in response to questions raised during the Portland City Council discussion last month. We were planning to engage with your Committee at your August meeting. With its cancellation, this letter and attachments will provide more information including responses to the questions raised. As you will see below, our public engagement process provides other opportunities to provide comments.

Like the Council, your Committee, and the Portland residents you serve, the MTA cares deeply about safety, sustainability, neighborhood quality of life, environmental stewardship, active transportation, and the future of regional mobility. Moreover, we understand some residents and elected officials desire policies that prioritize less vehicle travel, expanded transit, and improved walking and bicycling conditions.

The MTA does not view these goals as mutually exclusive with a safe and reliable highway system. A safe and reliable Turnpike can support broader community objectives by helping regional traffic remain on the highways designed to carry it, reducing pressure on local streets, improving freight and transit reliability, and supporting the movement of people and goods throughout the region. Within that broader context, MTA has the responsibility to maintain and improve the Turnpike corridor itself. This requires that we evaluate PAM alternatives through the lens of safety, infrastructure needs, operational performance, and long-term stewardship.

Extensive Analysis, Outreach, and Planning

Phase 2 of the PAM Safety Program builds upon a comprehensive corridor study completed in 2018. This year-long study was developed through a collaborative process involving regional planning organizations, municipalities, MaineDOT, advocacy organizations, business representatives, and other transportation and community stakeholders. Extensive data gathering, technical analysis, public outreach, and stakeholder engagement occurred throughout the process. The study examined the nine-mile Portland Area Mainline corridor between Exits 44 and 53 and evaluated 19 transportation alternatives, including roadway, transit, demand management, and land use strategies intended to improve regional mobility while considering environmental, community, and quality-of-life objectives.

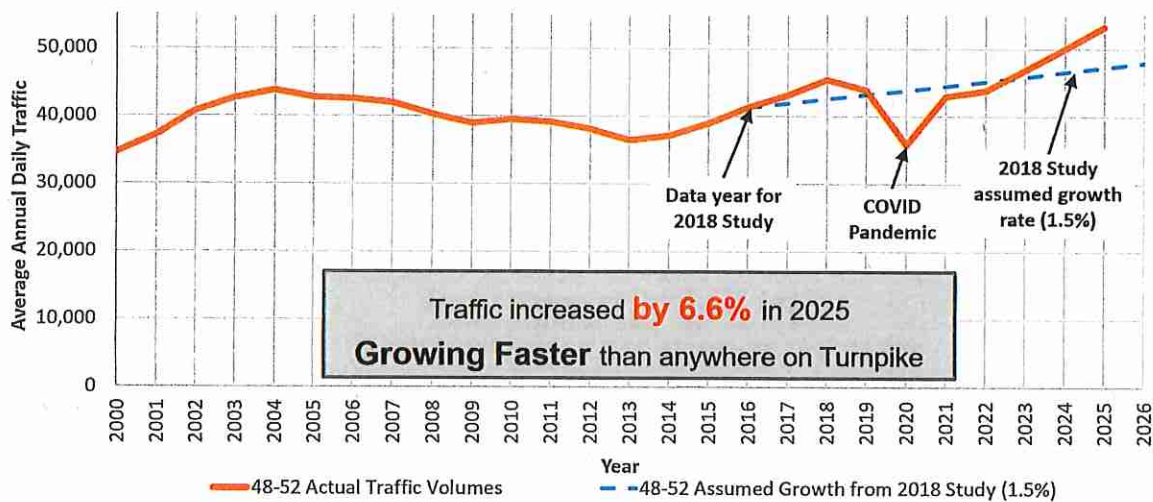
A key study finding was that no single alternative could address the region's long-term transportation safety and mobility needs. Instead, most participants supported a multi-faceted strategy combining mainline highway improvements in two phases, transit investments, transportation demand management, land use planning, and other regional mobility initiatives.

MTA remains committed to the broader transportation strategies identified through that process. Consistent with the study's recommendations, MTA continues to invest in regional mobility initiatives, including Greater Portland Metro's expansion of service to Scarborough, MaineDOT's GoMaine ridesharing program, GPCOG's bus rapid transit study, and partnerships with Portland Trails and the Eastern Trail to enhance active transportation connections across the Turnpike corridor.

Regarding highway improvements, Phase 1 was completed in 2024, modernizing the corridor from Exit 44 to just north of Exit 48. These improvements included new bridges and approaches, wider shoulders, a concrete median barrier, better interchanges, and an additional travel lane in each direction to increase safety and regional mobility.

Since then, MTA has gathered additional data on the Phase 2 segment, between Exits 48 and 53, to determine whether the core findings of the 2018 study remain valid. After a COVID-related dip, traffic levels now exceed what was projected in 2018 (Figure 1).

Figure 1: Daily Traffic Volumes Between Exits 48 and 52 are Exceeding Projections



Further, several poor condition bridges require replacement, and the underlying safety and operational challenges persist. In sum, the data shows that the long-term regional strategy established through the 2018 study is still valid, including the highway improvement in Phase 2.

Safety Remains the Primary Consideration

Transportation agencies have a responsibility not only to respond after serious crashes occur, but also to proactively address safety risks through prudent highway improvements. Attachment A summarizes the MTA's review of crash history, crash severity, and contributing factors including a comparison of two three-year periods: one preceding the start of the improvements completed in 2024 and one representing the most recent three-year period. Safety performance is evaluated using crash rate which measures crashes relative to traffic volume and distance traveled. Because crash rate accounts for both roadway length and traffic volume, it provides a consistent basis for comparing safety performance across different roadway segments and identifying locations with elevated risk.

Systemwide, the Maine Turnpike recorded 8,901 crashes over the last ten years, including 1,980 injury crashes and 40 fatal crashes. The PAM Phase 2 corridor accounted for 416 crashes, including 90 injury crashes and 3 fatal crashes. Although the corridor is relatively short compared to the overall Turnpike system, Table 1 demonstrates that it experiences disproportionately high crash rates, including the highest recent crash rate of any Turnpike segment occurring between Exits 52 and 53. With crash rates continuing to rise and congestion increasing, the data demonstrate the need for improvements in this corridor to address known safety risks and to reduce future crashes, injuries, and fatalities.

Table 1: Crash Rate per Hundred Million Vehicle Miles Traveled, by Turnpike Segment

Segment	2016–2018	2023–2025	Change
Turnpike South of Exit 44 <i>(Modernized early 2000s)</i>	48.6 <i>(Six lanes)</i>	46.7 <i>(Six lanes)</i>	-4%
Turnpike Exit 44 to Exit 48 <i>(Modernized 2019–2022)</i>	80.0 <i>(Four lanes)</i>	67.6 <i>(Six lanes)</i>	-16%
Turnpike Exit 48 to Exit 53	68.7 <i>(Four lanes)</i>	85.5 <i>(Four lanes)</i>	24%
Turnpike North of Exit 53	83.3 <i>(Four lanes)</i>	78.5 <i>(Four lanes)</i>	-6%

Source: MaineDOT crash data downloaded as of 12/18/2025 from the MaineDOT Public Map Viewer, available at <https://www.maine.gov/mdot/mapviewer/>

The analysis reinforces why safety remains central to this project. The Exit 52 to 53 segment has the highest recent crash rate of all Turnpike segments, while the broader Exit 48 to 53 corridor experienced a 24 percent increase in crash rate compared to the earlier study period. In contrast, the adjacent Exit 44 to Exit 48 segment experienced a reduction in crash rate following completion of recent improvements, highlighting the safety benefits that can accompany modernization and congestion relief. The increasing crash rates observed between Exits 48 and 53 are consistent with a corridor experiencing growing congestion and operational constraints. These conditions increase vehicle interactions, traffic-flow instability, and crash risk. If left unaddressed, continued traffic growth will soon further degrade corridor safety and operations, resulting in more crashes, injuries and fatalities. While most crashes are property-damage-only crashes, approximately one in five results in injury or death.

The project is intended to address these challenges through a coordinated set of improvements. Four bridges within the corridor are in poor condition and require replacement regardless of whether other mainline improvements are pursued. The project will also widen existing shoulders and install concrete median barriers. However, those improvements alone do not address the growing congestion and operational constraints contributing to corridor safety concerns. For that reason, consistent with the 2018 study results, Phase 2 builds off Phase 1 and is evaluating an additional travel lane in each direction. Together, these improvements are intended to improve safety, reliability, and long-term corridor performance.

Noise Wall Policy and Consistency Across Maine

Noise mitigation was another significant area of discussion, and MTA understands why nearby residents are interested in noise walls. Roadway noise is a real concern for communities near major highways. The question is not whether those concerns matter, but rather how you address them in a way that is fair, consistent, measurable, equitable and defensible across the Turnpike system, across Maine, and across the nation. To promote those

fundamental values of fairness and equity, MTA follows the same commonly accepted national standards set by Federal Highway Administration and generally followed by state agencies like MaineDOT.

Under that framework, noise walls are not treated as stand-alone improvements that can be approved based solely on neighborhood interest or municipal preference. They are evaluated as part of major roadway projects that change traffic conditions, such as adding travel lanes or permanently moving traffic closer to nearby homes, because those projects may create new or increased noise impacts. When that occurs, the analysis considers whether projected noise levels meet established thresholds, whether a wall would provide meaningful noise reduction, whether it is technically feasible, whether it is financially responsible based on cost per benefited property, and whether most benefited neighbors support it.

Changing MTA's policy to be inconsistent with MaineDOT and this established framework would lead to inconsistent and inequitable results. It would create one standard for communities along the Turnpike and another for communities near other Maine roadways. It would also shift noise wall decisions away from measurable project-related impacts and toward special requests, local pressure, or individual circumstances. That would negatively impact equity, transparency, and consistency that the current policy promotes.

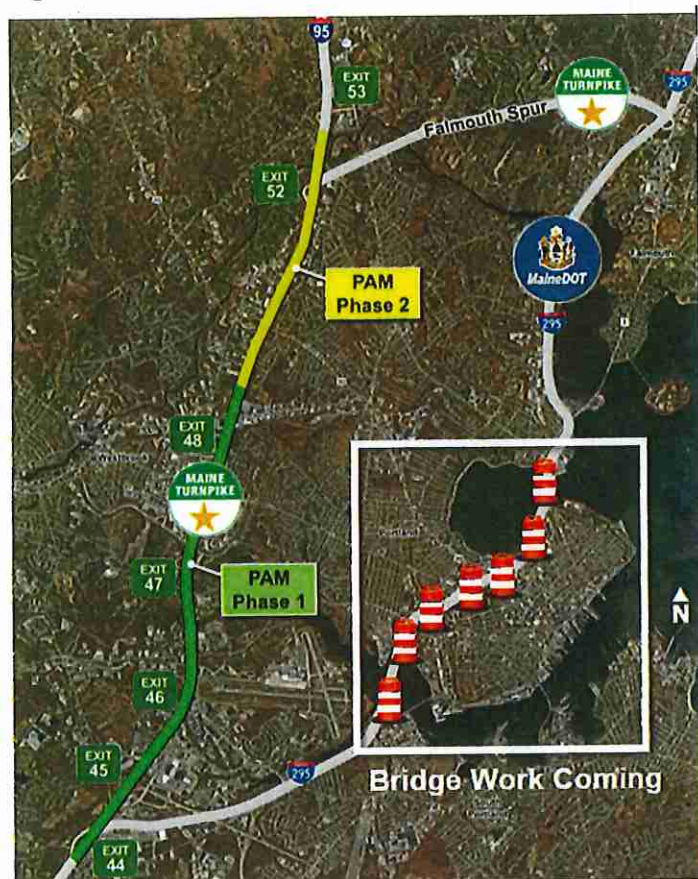
Consistency is particularly important because noise walls are major permanent infrastructure investments that cost millions of dollars to construct. The walls to be constructed in this case if the Full Safety Option proceeds are estimated to cost over \$12 million. That can only be justified when it's part of a major project that is changing noise levels for a significant number of people. Building walls outside a commonly-accepted analysis screening process would lead to ad-hoc, case-by-case determinations including where exceptions should be granted and where they should not. Applying consistent criteria helps ensure that similar locations are treated similarly, and that transportation resources are directed where they provide measurable benefit.

The PAM Phase 2 Project Serves Regional Transportation Needs That Benefit Portland

We also heard concerns that the PAM project may conflict with broader goals related to transit, walking, bicycling, climate, and community livability. As noted above, the MTA respects those objectives as part of a regional transportation network in which different facilities serve different purposes. I-295 primarily serves destinations within Portland and surrounding communities, while the Maine Turnpike (I-95) serves as a regional facility that allows through traffic, freight traffic, and longer-distance trips to bypass local roadways and provides an alternative to I-295 for regional travel.

As congestion increases on the Turnpike, some drivers seek alternate routes, including I-295 and local streets. Travel decisions are heavily influenced by roadway conditions, and a safe and reliable Turnpike encourages regional traffic to remain on the highway system rather than diverting through Portland and surrounding communities. By providing an efficient route for regional through-traffic, the Turnpike helps reduce pressure on I-295 and local roads and limits traffic that might otherwise divert through neighborhoods, business districts, and community streets. As a result, maintaining a safe and reliable Turnpike corridor is an important part of managing traffic throughout the region.

Figure 2: I-295 Future Bridge Work



This regional role of the Turnpike will soon be even more important. MaineDOT is preparing for a long-term program of bridge repairs (Figure 2) and replacements on I-295 through downtown Portland that is expected to begin in the early 2030s. The program is anticipated to involve approximately 25 bridges and may take 15 to 20 years to complete, requiring lane restrictions and extensive traffic management throughout the corridor.

During that period, the region will need a safe and reliable Turnpike capable of accommodating traffic diverting from I-295 due to construction activities. Without sufficient capacity on the Turnpike, more of that traffic would seek alternative routes on Portland city streets. Thus, a well-functioning Turnpike reduces pressure on local streets. For these reasons, MaineDOT supports the MTA delivering the Full Safety Option as soon as practical. See letter from MaineDOT Commissioner Dale Doughty dated June 22, 2026, attached as Appendix B.

In summary, the PAM Phase 2 project is not just an investment in a single highway. It is also an investment in the reliability, resiliency, and long-term performance of the broader regional transportation system.

Continued Public Engagement

The MTA remains committed to an inclusive and collaborative public process. Public input received to date has helped identify topics that warrant additional evaluation, supporting data, and continued discussion.

We encourage residents, neighborhood organizations, City officials, Committee members, and elected representatives to continue participating in upcoming public meetings and outreach opportunities. Additional project information, upcoming public engagement opportunities, and ways to provide feedback are available through the PAM Safety Project Page located on the MTA website at www.MaineTurnpike.com.

We believe respectful dialogue and public engagement lead to better project outcomes. We look forward to continuing input from Portland representatives and interested members of the public as the MTA evaluates the next steps for the PAM Phase 2 project.

Thank you for your engagement and interest in this important project.

Sincerely,


Andre J. Briere, Colonel, USAF (ret).
Executive Director
Maine Turnpike Authority

Attachment A: Responses to Councilor Questions

This attachment summarizes the principal questions raised during the Portland City Council discussion that relate to Maine Turnpike Authority policy and the Portland Area Mainline Safety Project. For brevity, similar and/or related questions have been consolidated where appropriate.

Safety, Crash History, and Project Need

1. How does MTA define and evaluate safety for the PAM project?

The MTA, like DOTs and other highway transportation agencies nationally, evaluates safety using both quantitative and qualitative measures. Factors considered include crash frequency, crash severity, traffic volumes, operating conditions, shoulder constraints, roadway geometry, and incident response needs. To evaluate crash history and relative risk, the MTA evaluates crashes per 100 million vehicle miles traveled. This approach helps compare locations with different traffic volumes and segment lengths while recognizing that crash rates are only one part of a broader safety evaluation.

The MTA also considers how well existing roadway features align with current design practices. The Turnpike was originally designed using roadway standards from the 1950s. Since that time, national design guidance has evolved to reflect decades of research, operational experience, and advancements in roadway safety. When major projects are undertaken, MTA seeks to incorporate modern safety features where practical, including wider shoulders and flatter grassed side slopes that provide additional space for disabled vehicles, emergency response, maintenance activities, and driver recovery. These improvements can enhance safety and system reliability in cases where crash history alone may not fully capture existing operational risks.

2. How does the crash data in this location compare to other locations on the Turnpike?

The evaluation of crash rates per hundred million vehicle miles traveled provided in Table 2 shows a consistent pattern: modernized six-lane sections of the Turnpike have lower recent crash rates than the older four-lane sections that have not been modernized. This pattern occurs despite many of the four-lane segments carrying substantially less traffic, indicating that modern roadway design and operating conditions can play an important role in improving safety.

The table below compares crash data from two three-year periods. The 2016–2018 period represents baseline conditions prior to construction of Phase 1 of the PAM project between Exits 44 and 48, while the 2023–2025 period represents the first three years following completion of those improvements. Crash data from across the MTA system is provided for comparison.

Notably, the segment modernized between Exit 44 and Exit 48 saw its crash rate decline by 16% after improvements were completed. By contrast, the unimproved Exit 48 to Exit 53 segment experienced a 24 percent increase in crash rate over the same time period as congestion continued to grow.

Table 2: Crash Rate per Hundred Million Vehicle Miles Traveled, by Turnpike Segment

Segment	2016–2018	2023–2025	Change
Turnpike South of Exit 44 (Modernized early 2000s)	48.6 (Six lanes)	46.7 (Six lanes)	-4%
Turnpike Exit 44 to Exit 48 (Modernized 2019–2022)	80.0 (Four lanes)	67.6 (Six lanes)	-16%
Turnpike Exit 48 to Exit 53	68.7 (Four lanes)	85.5 (Four lanes)	24%
Turnpike North of Exit 53	83.3 (Four lanes)	78.5 (Four lanes)	-6%

Source: MaineDOT crash data downloaded as of 12/18/2025 from the MaineDOT Public Map Viewer, available at <https://www.maine.gov/mdot/mapviewer/>

3. What is the breakdown of crash severity and what does the data show regarding contributing factors?

Table 3 provides a year-by-year summary of reported crash outcomes for the Turnpike corridor between Exits 48 and 53 from 2016 through 2025. The table shows actual crash counts and severity outcomes by year. While crash rates provide the most appropriate basis for comparing safety performance across roadway segments because they account for traffic volume and distance traveled, the annual crash counts help illustrate how conditions within this specific corridor have changed over time.

The most recent three-year period shows that total crashes have remained elevated, with 48 crashes reported in 2023, 44 in 2024, and 49 in 2025; the highest count for the years examined. Injury crashes also increased during this period, from 8 in 2023 to 12 in 2024 and 13 in 2025. Although most reported crashes continue to be property-damage-only crashes, non-property-damage crashes represented more than one-quarter of all crashes in both 2024 and 2025. Fatal crashes were recorded in earlier years shown in the table, including 2017, 2019, and 2022, reinforcing that the corridor's safety history includes both frequent crashes and severe outcomes.

Table 3: Turnpike Crash Severity Summary, Exit 48 to 53 Segment

Year	Total Crashes	Fatal Crashes	Percent Fatal Crashes	Injury Crashes	Percent Injury Crashes
2016	36	0	0.0%	10	27.8%
2017	39	1	2.6%	5	12.8%
2018	40	0	0.0%	8	20.0%
2019	48	1	2.1%	12	25.0%
2020	39	0	0.0%	8	20.5%
2021	34	0	0.0%	6	17.6%
2022	39	1	2.6%	8	20.5%
2023	48	0	0.0%	8	16.7%
2024	44	0	0.0%	12	27.3%
2025	49	0	0.0%	13	26.5%
Total	416	3	0.7%	90	21.6%

Source: MaineDOT crash data downloaded as of 12/18/2025 from the MaineDOT Public Map Viewer, available at <https://www.maine.gov/mdot/mapviewer/>

Figure 3 summarizes the reported driver contributing actions for crashes in the corridor between Exits 48 to Exit 53 from 2023 through 2025. The largest category shown in the chart is Drove Too Fast for Conditions, which accounts

for 22% of reported contributing actions. Other notable categories include Failed to Keep in Proper Lane at 17%, Ran off Roadway at 15%, Failed to Yield Right of Way at 14%, and Followed too Closely at 11%. These results, shown with a hatched fill, comprise 79% of all crashes and provide additional context for the types of driver actions most commonly identified in recent corridor crashes. Table 4 groups the same reported actions into broader contributing themes and how they relate to congestion, safety and highway design. While the reported contributing factors shown with a hatched pattern occur under a variety of traffic conditions, they are frequently associated with the increased traffic interactions and decision-making demands that accompany highway congestion.

Figure 3: Driver Contributing Actions in Crashes 2023-2025

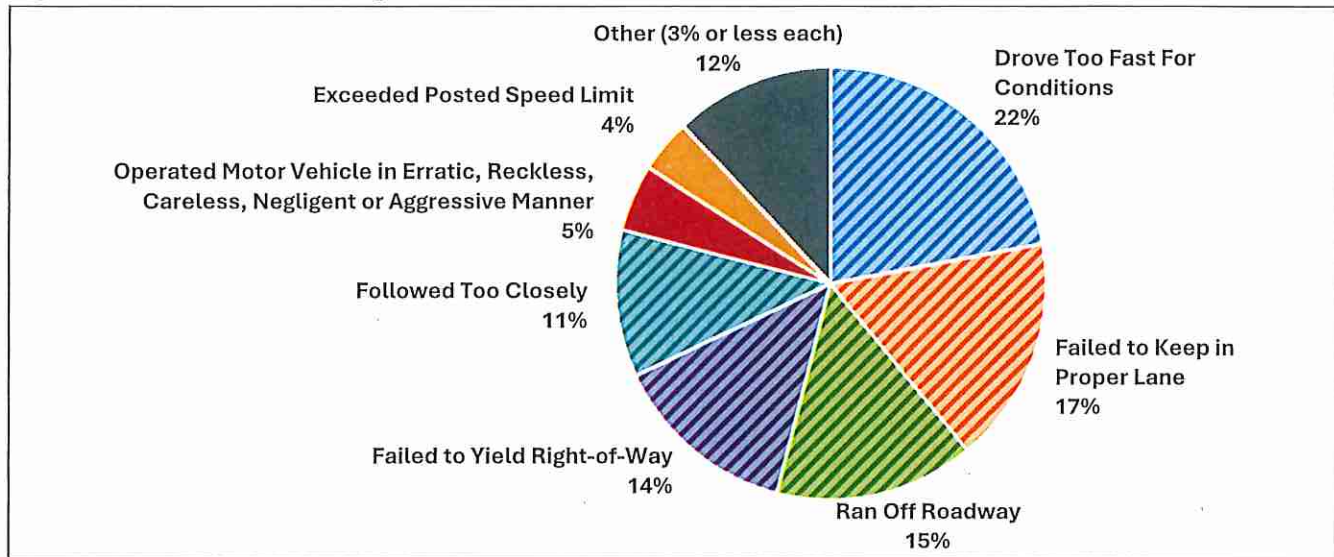


Table 4: Reported Driver Actions Grouped by Contributing Theme

Contributing Theme	Included Driver Actions	Why It Matters
Speed and traffic-flow instability	Drove too fast for conditions; exceeded posted speed limit	Shows that speed is not only a posted-limit issue; drivers may also be traveling too fast for congestion, weather, roadway, or traffic conditions.
Lane position, recovery, and avoidance maneuvers	Failed to keep in proper lane; ran off roadway; swerved or avoided due to wind, slippery surface, motor vehicle, object, or non-motorist; over-correcting/over-steering	Points to limited maneuvering room and recovery space, particularly in constrained sections where routine errors or evasive actions can have greater consequences.
Interaction with other vehicles	Followed too closely; failed to yield right-of-way	Consistent with close spacing, merging, weaving, and stop-and-go conditions where drivers have less time to react.
Erratic, wrong-way, or other coded driver behavior	Operated motor vehicle in erratic, reckless, careless, negligent, or aggressive manner; wrong way; disregarded other traffic sign; other contributing action	Captures other reported driver actions, but these are less frequent than the speed, lane-position, recovery, and vehicle-interaction themes.

Note: Contributing-theme data is from driver-action information obtained from the MaineDOT Public Map Viewer at <https://www.maine.gov/mdot/mapviewer/> as of 7/31/2026. Percentages are based on crashes where a known contributing driver action was noted for Unit 1, excluding crashes coded as "No Contributing Action" or "Unknown."

4. How does a third travel lane improve safety?

A third travel lane improves safety when it addresses documented congestion, bottlenecks, and unstable traffic conditions. Between Exits 48 and 52, traffic volumes have grown to the point where drivers increasingly encounter congestion, reduced spacing between vehicles, and limited opportunities to merge or change lanes. As these conditions worsen, drivers have less time and space to react to changing traffic conditions, contributing to crash types such as rear-end, sideswipe, merging, weaving, and secondary crashes.

An additional travel lane will improve traffic flow and roadway operations by providing greater spacing between vehicles, reducing traffic flow instability, and improving the ability of drivers to merge, enter, and exit the corridor. While no single improvement can eliminate crashes, addressing these operational challenges can help reduce conditions that contribute to crash risk.

Widening can also support safety beyond the Turnpike itself by helping maintain the Turnpike as an attractive route for regional traffic. When congestion increases on the Turnpike, some drivers seek alternate routes on I-295 and local roads, where traffic encounters more intersections, driveways, turning movements, pedestrians, bicyclists, and other conflict points. Maintaining a safe and reliable Turnpike corridor helps keep regional traffic on the highway system and reduces pressure on surrounding roadways.

Noise Wall Policy and Eligibility

5. How does MTA determine whether a location is eligible for a noise wall? Why is an additional lane a requirement?

The MTA follows a Board-adopted noise policy and applies eligibility criteria that are consistent with MaineDOT and commonly-accepted national standards established by FHWA. Under this framework, noise walls are evaluated when a roadway project adds travel lanes – thus moving traffic closer to homes – or otherwise creates new or increased traffic noise impacts. The MTA follows this same approach because it provides a consistent set of standards that can be applied fairly and equitably across the entire state of Maine. It also ensures that noise mitigation decisions are based on measurable impacts, technical analysis, feasibility, cost-effectiveness, and community support rather than subjective preferences or case-by-case exceptions.

6. Why not change your policy to not be contingent on adding a lane?

The current policy reflects the principle that noise mitigation should generally address impacts created by transportation projects themselves, rather than changes in surrounding land uses over time. Many residential neighborhoods located near the Turnpike today were developed after the highway was constructed. Removing the lane-addition requirement would shift the policy from addressing new transportation impacts to addressing existing conditions, raising broader questions about where noise walls should be built and how limited toll revenues should be prioritized.

If the requirement was removed, the MTA would need to establish a new process for determining which communities qualify for noise walls, how requests would be prioritized, and why one location should receive a wall while another location with similar conditions should not. This would lead to inconsistent results across Maine, which would not be equitable. The current policy provides a transparent, objective, and consistent basis for making those decisions while helping ensure that toll revenues are directed to locations where measurable benefits can be demonstrated.

For these reasons, MTA believes its current approach remains prudent, equitable, and consistent with nationally accepted transportation practices. The goal is not to discourage noise mitigation, but to apply clear and defensible standards consistently across all communities. Additional details regarding the policy rationale and

evaluation process can be found in the Meeting Materials section of the PAM Safety Program Phase 2 website linked on the Maine Turnpike's homepage.

Project Alternatives, Footprint, and Design Considerations

7. Is a third travel lane required in order to provide wider shoulders?

No. Wider shoulders and a third travel lane are separate design elements.

Wider shoulders are important from a safety perspective because they provide more space for disabled vehicles, emergency responders, enforcement activity, maintenance operations, and drivers who need room to recover. They also help reduce the likelihood that a single incident will block a travel lane or create additional conflicts in already constrained conditions.

The third travel lane serves a different but related safety purpose. While wider shoulders provide the benefits noted above, they do not address the corridor's growing congestion, closely spaced interchanges, or operational challenges associated with merging and weaving traffic. The 2018 PAM Study concluded that a third travel lane was the only alternative capable of simultaneously providing meaningful congestion relief, improving merging and weaving operations, and reducing congestion-related crash risk. By providing additional capacity, the third lane creates additional space for vehicles to merge, change lanes, and maneuver safely, improving traffic flow, reducing stop-and-go conditions, and reducing unsafe weaving.

Traffic Forecasting and Regional Growth

8. How does MTA account for regional growth in traffic forecasting?

MTA forecasts future traffic using a combination of historical traffic trends, observed traffic growth, regional travel-demand information, and State of Maine economic forecasts, including population, employment, gross domestic product, and other indicators that influence travel demand. Historical traffic growth remains one of the strongest predictors of future traffic volumes and therefore serves as a key input into the forecasting process.

MTA has not developed separate project-specific scenarios for climate migration, future housing production, or economic development. However, these factors are reflected indirectly through observed traffic trends and broader demographic and economic forecasts. To the extent that future population growth, housing construction, economic activity, or travel demand exceed current projections, the need to address safety, congestion, and reliability within the corridor would likely be greater rather than less.

Recent traffic growth underscores that point. Traffic volumes between Exits 48 and 52 have already exceeded previous projections, increasing by 6.6 percent in 2025, and grew faster than anywhere else on the Turnpike. Year-to-date traffic growth remains approximately 3 percent. Even without assuming additional growth from climate migration or future development, projected traffic volumes are expected to significantly degrade corridor operations by the mid-2030s if no action is taken. As a result, the question is not whether future growth will occur, but how the region should respond to the traffic growth that is already occurring.

Attachment B: Letter of Support from MaineDOT



Janet T. Mills
GOVERNOR

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
16 STATE HOUSE STATION
AUGUSTA, MAINE 04333-0016

Dale F. Doughty
COMMISSIONER

June 22, 2026

Andre Briere, Executive Director
Maine Turnpike Authority
2360 Congress Street,
Portland ME 04102

RE: Support for Phase 2 of PAM Safety Program

Dear Andre:

For the reasons set forth below, please accept this confirmation of the support of the Maine Department of Transportation (MaineDOT) for the Full Safety Option of Phase 2 of the Portland Area Mainline (PAM) Safety Program being developed by the Maine Turnpike Authority (MTA).

As you know, MaineDOT and the MTA have a long and continuing history of working together towards the safe and reliable movement of people and goods in Maine, especially with respect to projects of regional significance within the MTA's greater service area. I see that partnership only strengthening in the future. Phase 2 of the PAM Safety Program - which calls for safety improvements to the Turnpike / I-95 between Mile 49.2 in Portland to a point south of Exit 53 in Falmouth - is a textbook example of such an effort. The MTA's mainline (I-95) from Exit 44 to 52 and the Falmouth Spur, and MaineDOT's I-295 from mile 0 to 11 represent a highway system. Each route, among other functions, provides a way for interstate travelers to get to and from points south of Portland to and from points north along the coast and points beyond. Decisions and timing of one will impact work on the other, and coordination at a system level is needed to minimize unnecessary traveler impacts and maximize overall system benefits.

Phase 1 of the PAM program - from Exit 44 through Exit 48 - was completed in 2024. Both Phase 1 and 2 are being done in accordance with the recommendations of the 2018 PAM Needs Assessment and Final Alternative Analysis Report (2018 PAM Study) of which MaineDOT was a primary participant. This comprehensive and inclusive study of well over a dozen alternatives included input from stakeholders of diverse views, municipal partners, and the public. MaineDOT supported the recommendations of the 2018 PAM Study and continues to do so today.

We understand that the MTA is doing further due diligence before finalizing the scope of Phase 2 by updating safety and traffic data and seeking a fresh public input. I support this additional process, as both our organizations are keenly aware that any project that proposes to add capacity

in the Greater Portland area, even if previously vetted and broadly supported, this effort will benefit from updated data and input.

As part of this updating process, MaineDOT confirms that extensive bridge work on I-295 through Portland will take place relatively soon and will last for many years. As you know, MaineDOT has been systematically addressing the aging bridges on I-295 north of Portland. MaineDOT is now developing a plan to improve 25 bridges at 14 crossings over a 3.5-mile segment of I-295 through the heart of Portland from Fore River to Kensington Street. These bridges are of similar age, and they will need major work in the foreseeable future, including new bridge decks, completely new superstructures, or full bridge replacements... Given the size of this effort, the precise individual scopes, sequencing, funding, and scheduling of all this work are still under review. However, there will be significant bridge work ongoing with substantial maintenance of traffic challenges on this segment of I-295 starting in the early 2030's, and lasting for an extended period of 15 to 20 years or more.

MaineDOT, MTA, and other transportation professionals already understand that from a system perspective, it is better for through-highway travelers to use the Turnpike to reduce congested traffic flow on I-295 through Portland. The high traffic volumes already require all repair and maintenance work to be performed during costly limited nightly work windows. In developing maintenance of traffic plans for larger projects, MaineDOT has relied on the diversion of I-295 traffic to the Turnpike to ease impacts. The third travel lane of Full Safety Option of Phase 2 will best support the beneficial diversion of a portion of I-295 traffic during the long-term bridge construction effort we are facing in the years ahead.

In summary, MaineDOT supports delivery of the Full Safety Option as soon as practicable. As noted above, the additional travel lane was already vetted and recommended in 2018; your updated safety and traffic data underscores the need; and our customers will benefit from the third lane while diverting from our upcoming long-term bridge construction effort. Travelers and policymakers will expect our agencies to avoid having both interstate options in the Portland area stressed by significant construction activity at the same time, and we must work together to minimize any duration of that condition.

In closing, MaineDOT looks forward to working together with the MTA on resolving the system implications related to the PAM Safety Program, and on other matters aimed at providing safe and reliable transportation in Maine.

Respectfully,



Dale F. Doughty, Commissioner