BICYCLE AND PEDESTRIAN NETWORK PLAN UPDATE

August 2025

BICYCLE AND PEDESTRIAN MASTER PLAN UPDATE

Portsmouth, NH

Prepared for:
City of Portsmouth

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Acknowledgements

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Executive Summary

EXECUTIVE SUMMARY

The City of Portsmouth is proud to present this update to the Bicycle and Pedestrian Plan. This Plan outlines strategies that will enable the City to fulfill a vision of comfortable walking and biking for all who live, work, and visit Portsmouth. This Plan was developed over the course of a year between April 2024 and April 2025 and was informed by data-driven metrics as well as input from members of the community, including representatives from City departments, public schools, advocacy organizations, state government, local businesses, and regional agencies, among other organizations. It reflects best practices in bicycle and pedestrian facility design, which have evolved since the last Plan was completed in 2014.

The Plan's key components are:

- Public Outreach Summary
- Existing Conditions
- Common Challenges for Walking and Biking
- Facilities Toolkit
- Recommendations
- Implementation Framework
- Funding Opportunities

This document can be used as a resource by City staff, elected officials, businesses, and residents alike. It will serve as a blueprint for the next ten years of bicycle and pedestrian planning in Portsmouth. As with the 2014 Plan, the City may revisit the recommendations and implementation framework over time, as projects are completed or as new opportunities arise. However, the vision will remain the same: that walking and biking will be a part of Portsmouth's culture, making the City a healthy and vibrant place to live.

Section 2
Vision and Goals

VISION AND GOALS

The vision and goals build on the previous goals of the 2014 Bicycle and Pedestrian Plan. Through iterative engagement with the working group and public input, these updated goals reflect Portsmouth's ongoing commitment to improving walking and bicycling while also contributing to the City's priorities for equitable access, affordable housing, and climate action. This update represents a holistic approach to improving walking and bicycling and addresses new needs and priorities from the community that were not part of the previous Plan.

Vision

Portsmouth residents, workers, and visitors will view walking and bicycling as comfortable and convenient ways to get around the City. Walking and bicycling will be a part of Portsmouth's culture, making the City a healthy and vibrant place to live.

Goals

GOAL 1: Improve the safety and awareness of walking and bicycling in Portsmouth for all ages and abilities.

GOAL 2: Increase the number of walking and bicycling trips in Portsmouth.

GOAL 3: Advance Portsmouth's reputation as a City where walking and bicycling are a visible part of everyday and year round life and there are high-quality facilities that are well-maintained.

GOAL 4: Improve connectivity for walking and biking throughout Portsmouth and equitable access to key destinations like employment, schools, and transportation.

GOAL 5: Reduce greenhouse gas emissions and household transportation costs through the implementation of walking and biking improvements, and support complementary City priorities such as the Climate Action Plan's climate targets and supporting affordable housing.

Section 3
Public Outreach

PUBLIC OUTREACH SUMMARY

What We Heard from the Public

Members of the public played an important role in shaping the focus of the Plan and were crucial to the Plan's success. The City engaged area residents, businesses, and property owners through a variety of in-person, on-site, and online events and resources to reach as broad a cross section of the community as possible. Outreach was designed to inform the public, vet existing conditions, solicit input on the community's vision for walking and biking in Portsmouth, and identify issues and opportunities related to active transportation.

ONLINE SURVEY

442 total responses to the online survey

6% of respondents reported being slow and steady walkers who need to rest often.

2% of respondents reported using a mobility device or having a disability.

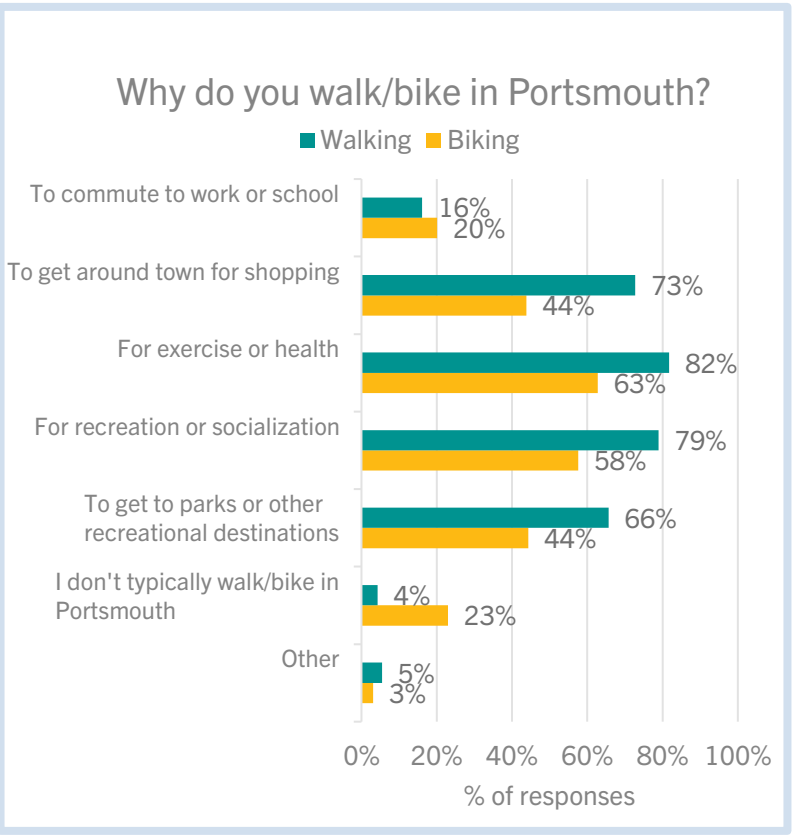
13% of respondents reported walking with a stroller or children often.

WHO WAS SURVEYED?
97% of survey respondents reported being White or Caucasian. **54%** of respondents identified as female. **45%** identified as male. **1%** identified as non-binary or other. **71%** of respondents were over the age of 45.

58% of respondents are willing to bike or interested in biking if there is some formal or high-quality bike infrastructure in place.

9% of respondents currently bike with their children.
11% would like to bike with their children but are concerned.

Ranked as the most important aspects of the walking and biking network:
1. Availability of continuous sidewalks or bike facilities
2. Access to other parks and recreational opportunities
3. Separation from vehicles



ONLINE INTERACTIVE MAP

An online interactive map was open for public comment from July 7, 2024 to October 14, 2024. The map allowed users to indicate current walking and biking routes, locate key destinations often accessed by bike or on foot, and identify challenging routes or destinations to walk or bike to or through. Users could also express support for others' contributions by "liking" or adding an additional comment to an existing entry. Some of the top comments are highlighted below. The interactive map with all comments can be referenced in **Appendix A.**

314 total comments on the interactive map

"Most of the **sidewalks from Elwyn to Lafayette are in very poor shape** and are right beside high-speed traffic. Drivers take high speed turns at the frequent curb cuts."

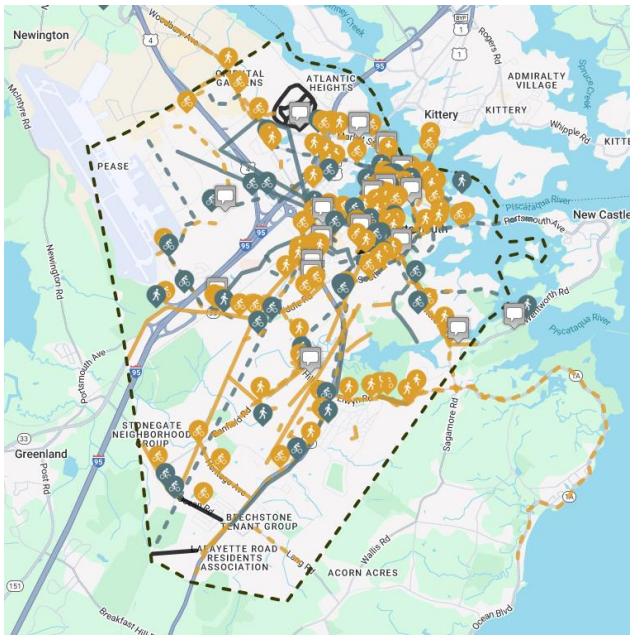
"I walk with a baby stroller now and the sidewalks along [Maplewood Ave] are in awful condition for anyone that uses wheels for transportation."

"Woodbury Ave is an essential corridor to bike to jobs, shopping, and housing, but multiple lanes of fast traffic make it very unsafe. We should prioritize separated bike facilities here."

"If we want to be a walkable city, and a winter city, we need to commit to it year-round."

"[Islington Street is] not safe for bikes: Cars go too fast, too many distractions, complicated traffic patterns, (in some segments: too many lanes)"

"While [Banfield Road] looks like a bikeable alternative to Route 1, you are taking your life into your hands if you take this road: Lack of shoulder, many curves/hills, cars going too fast on this road."



POP-UP EVENTS AND PUBLIC MEETINGS

A pop-up meeting was held at the Portsmouth Farmer's Market on July 13th, 2024. The project team shared information about the project and gathered input from the community.

78 comments gathered calling for:

- More protected bike lanes
- Better signage and wayfinding
- Clearer right-of-way and priority along roads
- More safe network connections
- More short-term or interim improvements
- Continuing Safe Routes to School Activities
- More amenities along the Rail Trail
- More bike parking throughout the City
- Better maintenance of sidewalks
- Better education and awareness of bicyclists for motorists

Members of the public provided suggestions for recommendations at a Farmer's Market pop-up.

WORKING GROUP

The 2025 Bicycle and Pedestrian Plan Update Working Group is composed of members representing the following Portsmouth area organizations:

- Department of Planning and Sustainability*
- Department of Public Works*
- Planning Board*
- Sustainability Committee*
- Seacoast Area Bicycle Riders
- New Franklin School
- New Hampshire State Legislature
- Seacoast Greenways Alliance
- Cooperative Alliance for Seacoast Transportation (COAST)
- Parking and Traffic Safety Committee*
- RadMoto (Local Business Owners)
- Rockingham Planning Commission

**City Department or committee*

The Working Group served as local experts on the experience of walking and biking in Portsmouth. This group met three times throughout the project. The responsibilities for Working Groups members included:

- Promoting engagement opportunities
- Attending and helping to facilitate engagement events
- Vetting existing conditions data and providing nuanced local knowledge
- Guiding the development of vision and goals
- Providing feedback on draft Plan deliverables
- Attending and participating in project meetings

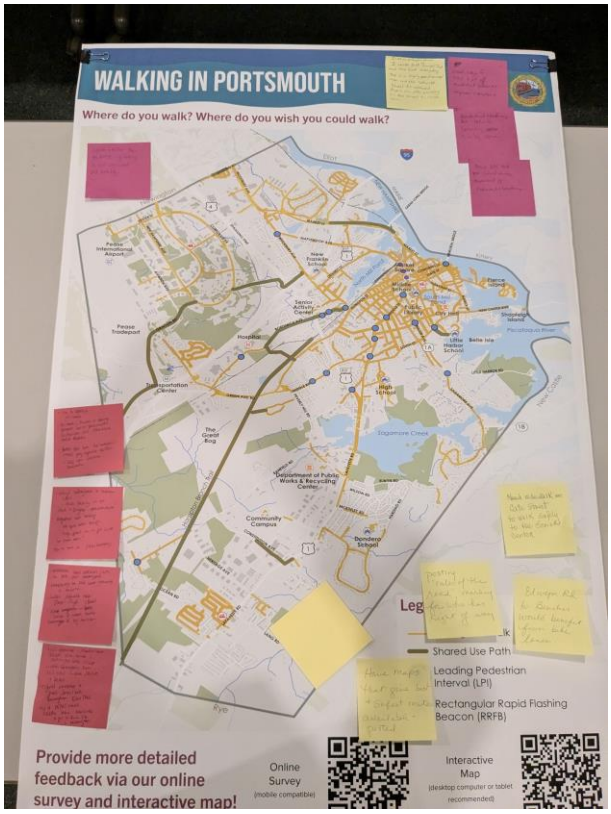
Working Group members conducted a tour of Portsmouth at the first meeting in a COAST bus.

FOCUS GROUPS

The project team worked with the City and Working Group to identify critical stakeholders for small-group meetings. These focus groups supplemented parallel outreach by connecting with specific groups of stakeholders particularly affected by access to walking and biking in Portsmouth. The project team ultimately hosted three focus groups in Winter 2025, targeting youth and access to schools, seniors, and residents of the area around Lafayette Road. These focus groups were hosted at Portsmouth High School, the Portsmouth Senior Activity Center, and virtually, respectively.

PUBLIC MEETINGS

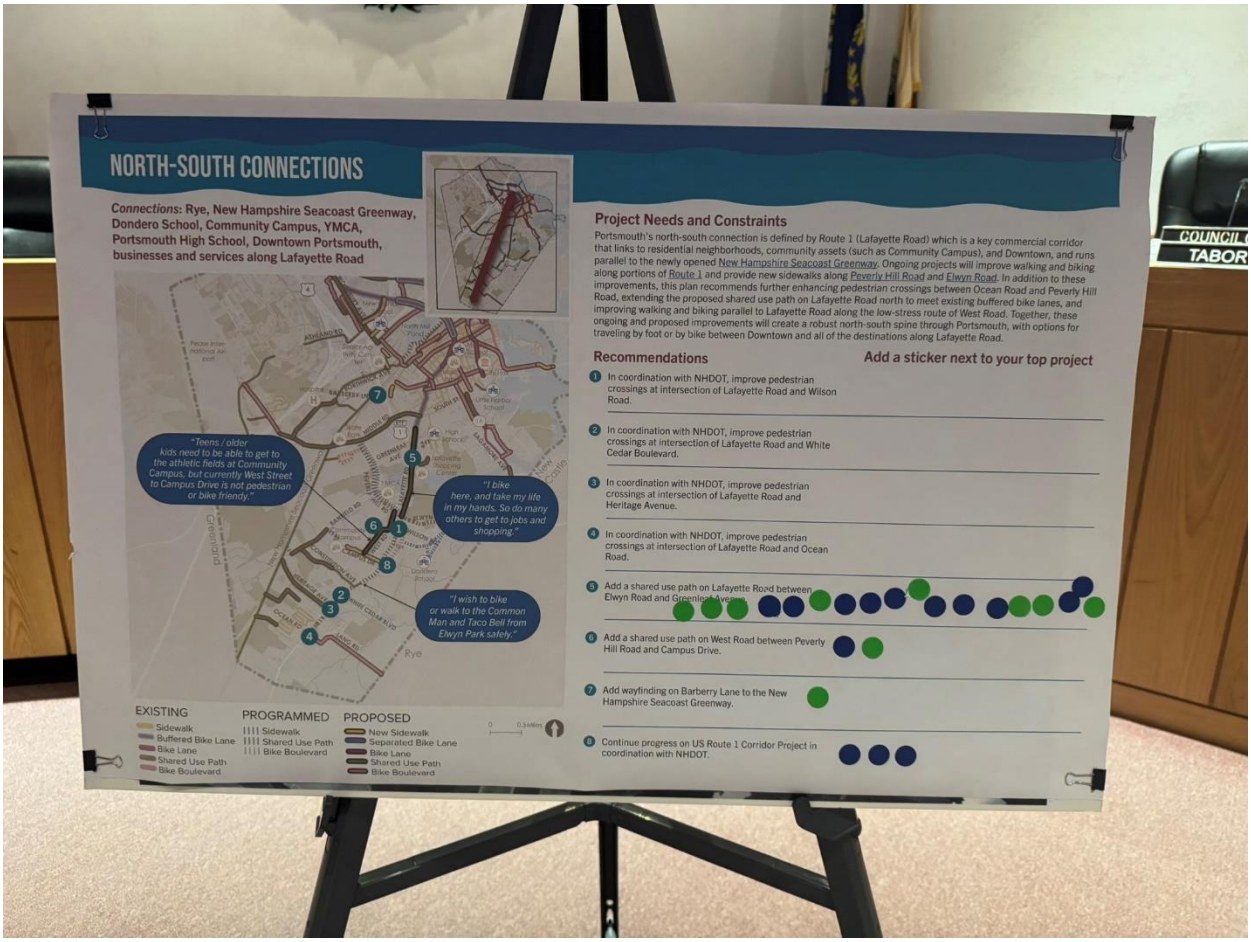
The City hosted two in-person public meetings for this project. The first was held on September 30, 2024 at the Portsmouth Public Library. Attendees learned about the project, initial results from the online survey and mapping, and then interacted with the project team in an open house format. Specifically, attendees were asked to weigh in on the draft Vision and Goals, review existing conditions information, and provide feedback on issues and opportunities for walking and biking in Portsmouth.



Public Meeting 1 was held at the Public Library

A second public meeting was held on March 10, 2025 at Portsmouth City Hall. At this meeting, attendees were given a project update and then asked to provide feedback on the proposed infrastructure and non-infrastructure projects in an open house format. Attendees were asked to vote on their top projects for each priority connection (see **Infrastructure Recommendations**) and for each category of non-infrastructure recommendations (see **Non-Infrastructure Recommendations**). The voting results can be found in **Appendix A**.

Public Meeting 2 was held at City Hall



The most popular recommendation for north-south connections is to construct a shared use path on Lafayette Road between Elwyn Road and Greenleaf Avenue.

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Section 4
Existing Conditions

EXISTING CONDITIONS

Overview

Progress has been made, but the state of practice has evolved.

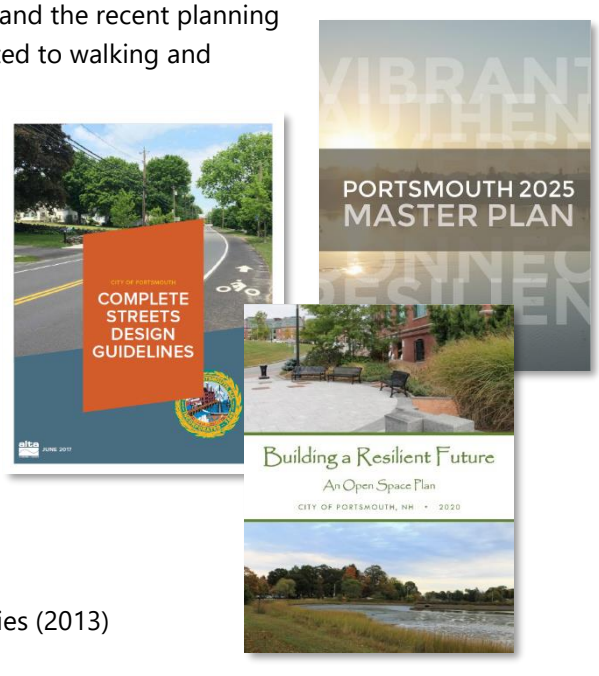
In 2014, the City completed the Portsmouth Bicycle and Pedestrian Plan as a comprehensive strategy to make bicycling and walking safe, comfortable, and convenient for people of all ages and abilities. As the current state of practice has evolved, a comprehensive update to the Plan was conducted to determine the status of implementation and to provide opportunities for the community to offer input into necessary updates for future improvements.

As a crucial first step of this planning update, the City compiled the following existing conditions data and analyses to understand the current issues and opportunities when it comes to biking and walking in Portsmouth and the progress made since the 2014 Plan. As a part of the existing conditions report, the City performed a comprehensive document review of recent policies and plans, analyzed existing land use, socioeconomic, and demographic Census data, and reviewed existing pedestrian and bicycle facilities, roadway network characteristics, transit connections, and crash history. The results of this review are summarized below and the full existing conditions report can be referenced in **Appendix B**.

People are walking and biking more!
From 2021 to 2023, on average, there was a **33% increase** in bicycle volumes and an **8% increase** in pedestrian volumes at key intersections.

POLICIES AND PLANS

The City reviewed relevant policies and plans to understand the recent planning history within Portsmouth and any existing policies related to walking and biking. The following documents were reviewed and the objectives and recommendations of each were incorporated into the updated Plan:



- City of Portsmouth Capital Improvement Plan (CIP) FY 2025-2030 (2024)
- New Hampshire Pedestrian and Bicycle Plan (2023)
- Open Space Plan (2020)
- Complete Streets Design Guide (2017)
- Portsmouth 2025 Master Plan (2017)
- Portsmouth Bicycle and Pedestrian Plan (2014, 2018 update)
- Wayfinding Plan (2014)
- Bicycle Friendly and Walk Friendly Community Policies (2013)
- Safe Routes to School Action Plan (2010)

PORTSMOUTH AT A GLANCE

The City reviewed and summarized Portsmouth's socioeconomics, demographics, land use, transportation network, and crash history to gain a better understanding of the general landscape and help identify high priority locations in need of biking and walking improvements. High-level takeaways are summarized below and a more detailed existing conditions report and maps can be referenced in **Appendix B**.

Socioeconomics and Demographics

Socioeconomic and demographic data were pulled from the ACS 5-year estimates from the 2022 U.S. Census and represent high level analysis across census tracts 0.6% of households in Portsmouth do not own a car.

Up to 20% of households located in neighborhoods along Gosling Road and Woodbury Avenue, within the downtown core, and south of Lang Road along Route 1 do not own a car.

20% of the population is 65 years of age or over.

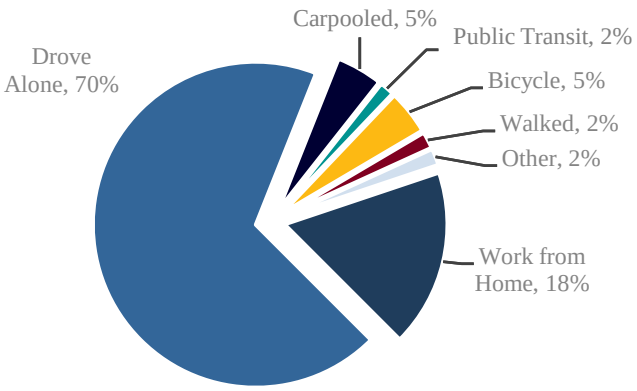
3.7% of households in Portsmouth have income below the poverty level.

Crash History

From 2009-2013, there were 34 reported crashes in Portsmouth involving pedestrians; no information on cyclist crashes was reported. From 2019-2024, there were 43 reported crashes involving non-motorists, 32 pedestrian and 11 cyclist crashes. Crashes occurred more often during the midday and evening rush hour and were concentrated within the downtown core and other commercial areas such as Lafayette Road and Woodbury Avenue.

2009-2013	2019-2024
34 crashes involving a pedestrian	32 crashes involving a pedestrian
Crashes involving cyclists were not reported	11 crashes involving a cyclist
Priority Areas Identified from Crash History: • **Lafayette Road** • **Islington Street** • **Northern Woodbury Avenue** • **Downtown Streets with high pedestrian** • **and bicyclist volumes**	

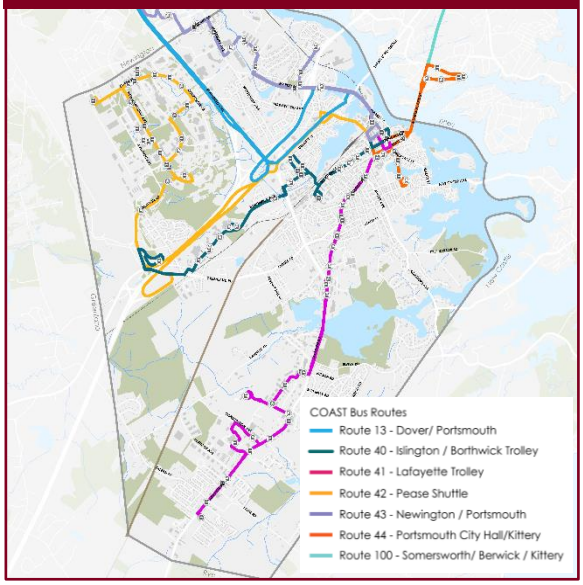
Commuter Modes in Portsmouth



Source: US Census Bureau, ACS 5-Year Estimates 2022,

Transit Network

Public transit in Portsmouth is mainly provided by COAST bus service with seven bus routes that connect Portsmouth to Dover, Pease, Newington, Kittery, Somersworth, and Berwick. Wildcat Transit also has one route through Portsmouth on Route 4, connecting Downtown Portsmouth to University of New Hampshire (UNH).



PROGRESS IN THE LAST TEN YEARS

Since the 2014 Plan, the City has made major strides in its goals of improving walking and biking in Portsmouth. Through dedicated policy and programming, expanding the network connected infrastructure, and other supportive non-infrastructure actions, the City has prioritized walking and biking in Portsmouth in accordance with recommendations from the 2014 Plan. Highlights of the last ten years of progress are summarized below. A more in-depth look at the progress can be found in **Appendix B**.

Policy and Programming Updates

- Created **Complete Streets Design Guidelines in 2017**, building off the Complete Streets Policy adopted in 2013, which has informed the development of all street projects since.
- Achieved **Bronze Level Bicycle Friendly Community** Designation from the League of American Bicyclists in 2019 (renewed in 2024) and **Silver Level Walk Friendly Community** by the Walk Friendly Communities program.
- Provided **dedicated funding** for bicycle and pedestrian projects in the City's annual capital budget.
- Continued to support and promote **Walk and Bike to School Days**.
- Created a policy to guide the installation and use of **vehicle speed feedback signs**.

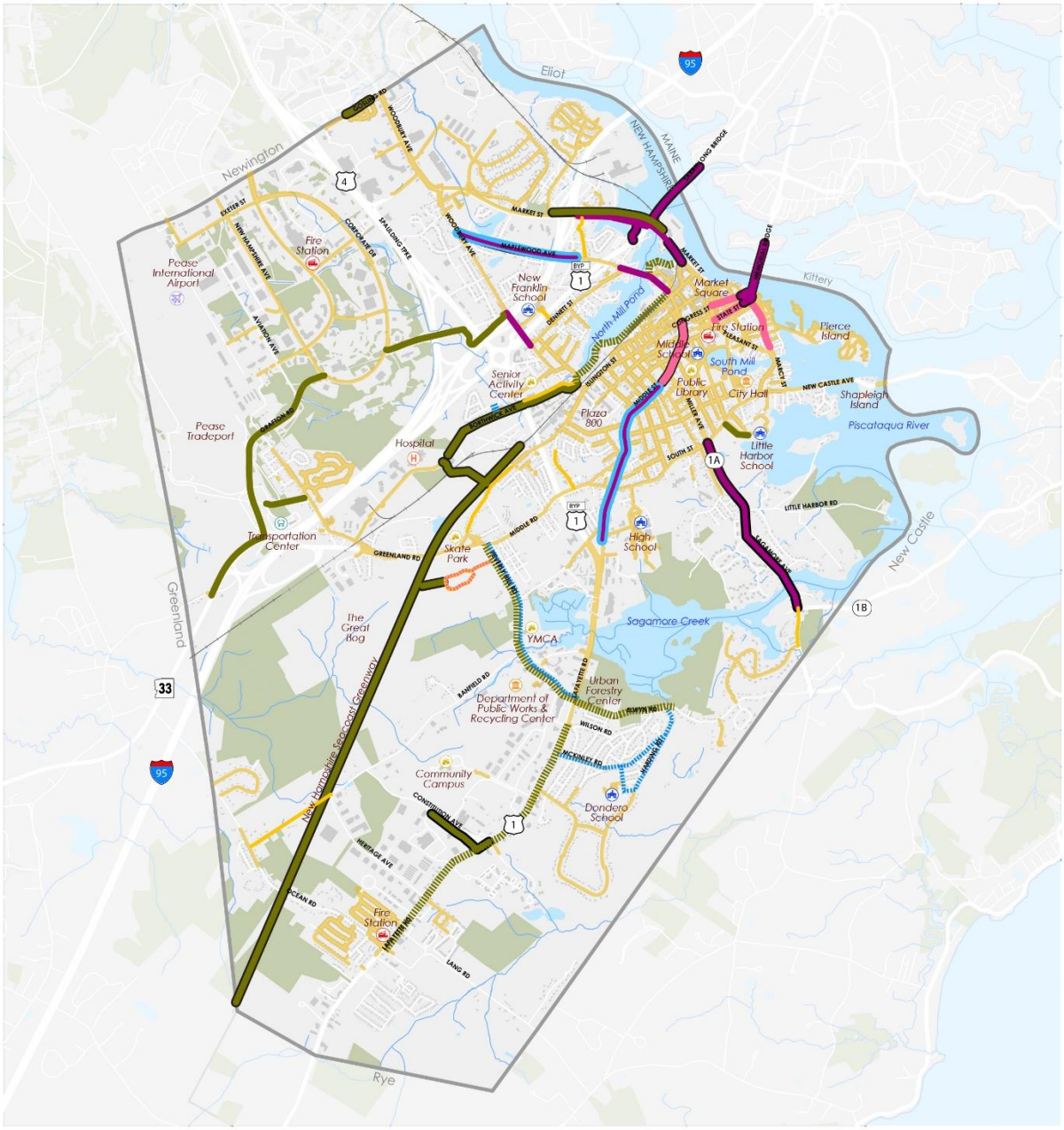
Expanded Network Connectivity

In the past ten years, the City has expanded Portsmouth's bicycle and pedestrian network connectivity through nearly 8 miles of on- and off-street bicycle facilities and over 7,000 feet of new sidewalks. Portsmouth has completed several projects from the 2014 Bicycle and Pedestrian Plan, and there are several others in design, programmed or partially complete. **Figure 1** highlights completed and programmed projects including the following segments:

- New bike lanes/shared use paths on Market Street, Maplewood Avenue, Hodgdon Way, Middle Street, Gosling Road, Borthwick Avenue, and portions of Route 1.
- Bicycle boulevard on Lincoln Avenue.
- Improved pedestrian network along Islington Street, Market Street, Sagamore Avenue, Spinney Road, Pannaway Manor, Greenland Road/Borthwick Avenue, McDonough Street/Hanover Street neighborhood, lower State Street, Pleasant Street, Cutts Street, Woodbury Avenue retail area, and Banfield Road.
- Side path planning and design on Elwyn Road and Peverly Hill Road.
- Construction of Seacoast Greenway Trail and connections.
- Expanded bike parking locations around the City.

These infrastructure investments have addressed major gaps in the network, however, there continues to be opportunities for upgrading facilities to expand the high-comfort network and connecting low speed and low volume local streets.

Figure 1. Existing and Programmed Bicycle and Pedestrian Facilities



Non-Infrastructure Recommendations

In the past ten years, the City has accomplished the following one-time non-infrastructure recommendations detailed in the 2014 Plan:

- Installed **bike racks on all COAST buses**.
- Created a **bike parking ordinance** for new developments to require bicycle parking onsite.
- Installed **speed feedback signs** at various locations in the City, with emphasis on school zones or locations with reported excessive speeds.
- Updated pedestrian and bicycle **design practice at signalized crossings**. All signals now have pedestrian countdown timers or will be upgraded when new signals are installed. Accessible Pedestrian Signals (APS) have been installed at all intersections with the exception of four remaining locations that are in the works. The City has also worked to incorporated Leading Pedestrian Interval (LPI) and Rectangular Rapid Flashing Beacons (RRFB) at multiple locations.
- Updated pedestrian and bicycle **design practice for signing and pavement** markings to align with current Manual on Uniform Traffic Control Devices (MUTCD) requirements.
- Implemented **Portsmouth Click N'Fix**, an online citizen request service that enables anyone to request public works maintenance service.
- Created a **shared parking ordinance** as part of site planning regulations to optimize parking supply.

Many of the non-infrastructure recommendations from the 2014 Plan were on-going policies and procedures. The following were successfully adopted and are now a part of standard City procedures. These recommendations will be carried forward as ongoing priorities for the City to continue:

- Require traffic management plan during construction to provide for pedestrian and bicycle travel.
- Continue periodic inspection of condition of sidewalks, side paths, and pedestrian ramps as part of Pavement Condition review.
- Inspect bicycle and pedestrian facilities annually for restriping and maintenance.
- Include on- and off-road bicycle facilities in maintenance programs, e.g., to clear debris and snow.
- Use the Bicycle and Pedestrian Plan for project and development review.
- Conduct feasibility study for bike share.
- Collect and analyze bicycle count data annually.
- Collect bicycle and pedestrian crash data annually.

Common Challenges for Walking and Biking

Through the existing conditions review, public engagement comments, and in-person field reviews, the City has identified many common challenges for walking and biking present around Portsmouth, as summarized in **Figure 2**. These challenges such as high speeds, lack of frequent crossings, lack of dedicated walking and biking facilities, and more are gaps in the existing network that create uncomfortable conditions and discourage people from walking and biking. Identifying these common challenges can inform the recommended facilities and toolkit resources that are most applicable for creating a safe, connected, and comfortable network for active transportation.

Figure 2. Common Challenges for Walking and Biking

Lack of sidewalk

Narrow sidewalk or obstructions

Lack of frequent crossings

Long crossings, faded markings

High-volume, high-speed traffic

Poor pavement quality

Narrow shoulders

Lack of dedicated bicycle facilities

Poor visibility, turning conflicts

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Section 5
Facilities Toolkit

FACILITIES TOOLKIT

Design Resources

All projects should be designed according to the current best practices. For local projects, Portsmouth draws from a combination of national, state, and local guidelines and standards listed in Table 1.

Table 1. Design Resources

Document	Description
National	
Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD)	A compilation of national standards for all traffic control devices, including road markings, highway signs, and traffic signals.
AASHTO Guide for the Development of Bicycle Facilities, Fifth Edition (2024)	Guidance for the planning, design, and operation of bikeways and off-street paths in urban, suburban, and rural settings.
Public Rights of Way Access Guide (PROWAG) Final Rule (2023)	Guidance for ensuring infrastructure such as sidewalks, crosswalks, curb ramps, pedestrian signals, and on-street parking in the public right-of-way are accessible and usable by people with disabilities.
NACTO Urban Bikeway Design Guide	Guidance for creating bikeable cities for people of all ages and abilities. It covers policy, network planning, program and project evaluation, facility and intersection design, curb management, maintenance, and operations.
NACTO Designing for All Ages & Abilities	Guidance for high-comfort bicycle facilities by establishing criteria for selecting and implementing bike facilities based on contextual factors.
NACTO Don't Give Up at the Intersection	Guidance for improved intersection design treatments and signal strategies to reduce vehicle-bike and vehicle-pedestrian conflicts.

Document	Description
FHWA Small Town and Rural Multimodal Networks (2016)	Guidance for managing pedestrian and bicycle design and trade-offs outside of an urban context, where existing infrastructure can be lacking.
FHWA Bikeway Selection Guide (2019)	Guidance for identifying the most appropriate bike facilities for user and roadway characteristics. It provides detailed information about policy and project identification, feasibility, and selection.
FHWA Field Guide for Selecting Countermeasures at Uncontrolled Pedestrian Crossing Locations	Guidance for selecting pedestrian crash countermeasures based on criteria established in published literature, best practices, and national guidance.
NCHRP 1036: Roadway Cross-Section Reallocation: A Guide	A report that describes how street design decisions impact communities and clarifies how different street elements influence not just transportation outcomes, but liveability, economic and environmental health, equity, and many other concerns.
New Hampshire Department of Transportation (NHDOT)	
NHDOT Highway Design Manual	Guidance and requirements on current highway design methods and policies in New Hampshire. This Manual is intended to be used in conjunction with AASHTO and FHWA guidance.
New Hampshire Pedestrian and Bicycle Plan (2023)	The New Hampshire Pedestrian and Bicycle Plan outlines a 10-year vision to make walking and biking safer and more accessible for communities across the state. It outlines the "Bicycle Level of Traffic Stress Analysis" methodology to assess how comfortable it is to bike on a road based on factors such as number of lanes and traffic volume. This information can be used to inform bicycle facility selection and design.

Document	Description
Local	
Complete Streets Design Guidelines (2017)	A resource for the City of Portsmouth, private developers, and residents for how to accommodate all users on existing and future city streets. It classifies every street in the City into seven distinct groups, each with its own user priorities, specifications, and design options.
Wayfinding Plan (2014)	Guidance for appropriate wayfinding types, messaging, and locations in a uniform and recognizable design menu that is unique to the City of Portsmouth.

Facilities Toolkit

Portsmouth has implemented a variety of measures to enhance safety, connectivity, and experience for people walking and biking. This section of the Plan outlines design treatments and other strategies, some of which are new to Porsmouth, that can be considered for different locations.

Each of these treatments is supported by the best practice guidance or standards listed in Table 1, including the latest edition of the Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD), the Public Rights of Way Access Guide, (PROWAG), and American Disabilities Act (ADA).

Table 2 lists the treatments included in the toolkit and is organized by whether the treatment is most applicable at the corridor level or as spot improvements. Corridor treatments are often applied to a whole street, along multiple blocks, while spot improvements are more limited in scope and may be implemented at limited locations or key intersections or crossings. The Pedestrian and Bicycle columns indicate whether the treatment will primarily benefit people walking, biking, or both.

Table 2. Corridor and Spot Improvements

Treatment	Pedestrian	Bicycle
	Corridor Improvements	
Pedestrian Street	Primary	Secondary
Shared Street	Secondary	Primary
Sidewalk	Primary	No
Shared-Use Path	Primary	Primary
Separated Bike Lane	No	Primary
Buffered Bike Lane	No	Primary
Bike Lane	No	Primary
Bike Boulevard	No	Primary
Traffic Calming	Secondary	Primary
	Spot Improvements	
Intersection Tightening	Primary	Primary
Protected Intersection	Secondary	Primary
Trailhead	Primary	Primary
High-Visibility Crossing	Primary	Primary

Treatment	Pedestrian	Bicycle
Curb Extension (Bump Out)	Primary	Secondary
Curb Ramp	Primary	Secondary
Pedestrian Crossing Island	Primary	Secondary
Raised Crossing or Intersection	Primary	Secondary
Pedestrian-Scale Lighting	Primary	Primary
Restricted Vehicular Access	Primary	Primary
Signalization	Primary	Primary
Pedestrian Beacons	Primary	Primary
Bike Lane Intersection Striping	No	Primary
Bike Box	No	Primary
Bicycle Parking	No	Primary
Bike Maintenance Station	No	Primary
Parklet	Primary	Secondary
Traffic Garden	Secondary	Primary
Bus Stop Enhancements and Accessibility	Primary	Secondary

PEDESTRIAN STREET

Portsmouth Summer in the Streets (Market Square)

Source: Pro Portsmouth Inc.

A pedestrian street, or pedestrian zone, is a street or area closed to vehicle traffic and used primarily by pedestrians. These areas are often in corridors with commercial activity, drawing pedestrians to enjoy local businesses and restaurants. Other non-motorized modes are often allowed. Pedestrian streets can be permanent or temporary.

Benefits

- Expands space available to people walking
- Encourages "staying" activities such as relaxing, eating, and socializing
- Provides flexible event space

Constraints

- Limits vehicle circulation
- Potential to restrict emergency vehicle access

Typical Applications

- Streets with high pedestrian volumes
- Streets with alternative routes for vehicles
- Commercial districts

Design Considerations

- Demand and alternatives for commercial loading
- Access for delivery vehicles, programming-related vehicles, and emergency vehicles

Permanent Pedestrian Street Typical Signing	
NO MOTOR VEHICLES	MUTCD R5-3
BIKES YIELD TO PEDESTRIANS	MUTCD R9-6
Portsmouth Branded Wayfinding Signs	

SHARED STREET

A shared street is a low-volume street where pedestrians, cyclists, and motorists share the right of way. Shared streets may function as a public space for recreation, socializing, and leisure. Shared streets are often characterized by a lack of vertical separation between modes (e.g., curbs or sidewalk).

Benefits

- Reduces sidewalk crowding
- Encourages "staying" activities such as relaxing, eating, and socializing
- Mixed use encourages slower driving speeds

Constraints

- Placement of traffic calming treatments and street furniture may require loss of on-street parking

Typical Applications

- Low-speed (target speed of 10 mph or less[1]) or limited access streets with narrow or no sidewalks

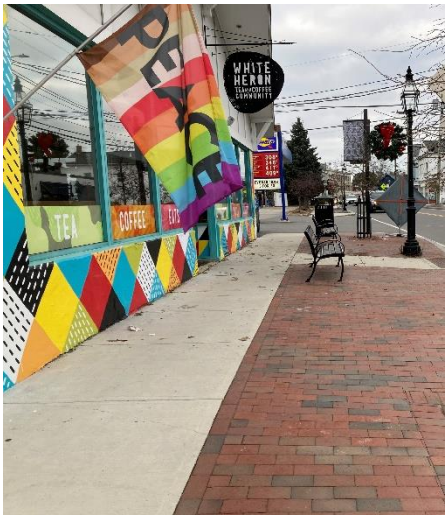
Design Considerations

- A shared street sign or "Yield to Pedestrians" sign (MUTCD 2B-2) may be used at the entrance
- Street furniture, such as bollards, benches, and planters, can help define a shared space by subtly delineating the traveled way from the pedestrian-only space

Shared Street Typical Signing	
YIELD TO PEDESTRIANS	MUTCD R1-9
Portsmouth Branded Wayfinding Signs	

[1] NACTO Urban Bikeway Design Guide Third Edition, 2025

SIDEWALK



A sidewalk is a dedicated pedestrian facility adjacent to the roadway and separated from traffic by a curb. Sidewalks may also have an additional buffer zone between the roadway and the walking area.

Benefits

- Provides separation from vehicle traffic
- Provides means of mobility for people using wheelchairs, strollers, or others who may not be able to travel on an unpaved surface

Constraints

- Retrofitting sidewalks onto facilities that do not currently have them may require additional right-of-way or road-narrowing strategies

Sidewalk Typical Dimensions (ft)	
Constrained (e.g., pinch point)	3′
Min	4′
Preferred	5′+

Typical Applications

- Most streets, except for limited access freeways
- Typically added to areas as redevelopment occurs

Design Considerations

- Must meet minimum dimensions, cross-slope, and smoothness for ADA compliance
- Consider wider widths (10+ feet) in areas with high existing or anticipated pedestrian volumes
- A 2-foot buffer from traffic is preferred
- Landscaped buffer or wider sidewalks may be desirable depending on surrounding land use context
- Maintenance of buffer zone is responsibility of the adjacent landowner
- Bricks require frequent maintenance to maintain a level surface

SHARED-USE PATH

A shared use path, also called a multi-use path, is fully separated from the road and shared between cyclists, pedestrians, and other non-motorized modes. Side paths and rail trails are two specific types of shared use paths.

Shared Use Path Typical Dimensions	
Minimum	8 ft
Preferred	11 – 20 ft
Total preferred envelope	15 – 24 ft

Benefits

- Combined facility for bicyclists and pedestrians
- Provides separation from vehicle traffic
- Designed for all ages and abilities

Constraints

- Requires substantial buffer to separate from roadways
- Unlit paths may not be comfortable for users
- Potential conflicts with vehicle or other crossings

Typical Applications

- Links between communities and for recreation
- Parallel alternative route to roads in areas where sidewalks or on-street facilities are not provided
- Best for areas where crossings can be minimized

Design Considerations

- Apply high-visibility treatments where there are crossings
- Generally, should be designed with a width of 10 feet
- Preferred width varies from 11-20 feet with an additional 2 feet of lateral clearance on either side (1-foot minimum clearance)[2]
- Path width should be informed by the expected volume of users and the mix of cyclists and pedestrians
- Often installed along utility easements, streams, rivers, or other linear features

Side Path

Side paths are two-way paths, adjacent to a roadway, open to pedestrians, cyclists, and most other non-motorized users. They are typically 10-14 feet wide with a wide 5-foot buffer.

Rail Trail

Rail trails are two-way paths installed along active or abandoned rail corridors. Like all Shared-Use Paths, rail trails are open to pedestrians, cyclists, and most other non-motorized users.

[2] NACTO Urban Bikeway Design Guide Third Edition, 2025

EXCLUSIVE BIKE FACILITIES

Exclusive bike facilities vary by directionality, width, and level of separation from vehicle traffic.

Facility Characteristic	Description
Direction	Bike lanes may be one-way, two-way, or contraflow. **Contraflow bike lanes** allow cyclists to ride in the opposite direction of vehicle traffic, converting a low-speed and low-volume one-way traffic street for cars into a two-way street for bikes. **Two-way bike lanes,** also known as two-way cycle tracks, serve bidirectional bicycle travel on one side of the street.
Width	The minimum width for a bike lane is 5 feet when against a curb and 6 feet when against parking. Additional width depends on various factors such as vehicle speeds, traffic volume, and elevation. For example, **climbing bike lanes** provide extra space for cyclists to manoeuvre when riding uphill.
Level of Separation	Bike lanes are often described by the level of separation the facility provides. **Separated bike lanes** have a vertical separation achieved with grade separation, curbing, flex posts, or other vertical elements. **Buffered bike lanes** have a striped buffer to create space between bikes and vehicle traffic. A bike lane is striped for exclusive use by cyclists but is not buffered or physically separated from traffic or parking.

Separated Bike Lane

Sidewalk-level Separated Bike Lane

Source: NACTO, Raised Cycle Tracks

Parking-Protected Bike Lane

Separated bike lanes (SBL), also called protected bike lanes, have vertical separation between bikes and vehicle traffic. Separation could be achieved with grade separation, curbing, flex posts, planters, or even a parking lane (parking-protected bike lanes). Separated bike lanes can be one-way or two-way.

Benefits

- Separates bikes from vehicle traffic
- Less chance of "dooring" – opening a door into a bicyclist, when parked cars are present

Constraints

- Challenging winter maintenance and plowing
- Existing roadway width

Typical Applications

- Links with adequate right-of-way or where a road diet can be implemented
- Critical bike network segments where additional protection is warranted

Design Considerations

- Intersections should be designed for visibility of bicyclists and may warrant separate signal phasing depending on context
- Buffer type varies depending on application, presence of parking, and available right-of-way
- Must be sufficiently wide at all points to allow for a sweeper to pass (approx. 5')
- Parking-protected bike lane must have at least a 3-foot buffer to allow vehicle doors to open

Parking Protected or Parking Separated Bike Lane Typical Dimensions (NACTO)				
	Unidirectional SBL	Buffer	Buffer adjacent to parking	Bidirectional SBL
Constrained				8 ft
Minimum	5 ft	2 ft	3 ft	13 ft
Preferred	6-9 ft	2-5 ft	3-5 ft	13+ ft
Total Facility Width (Unidirectional)	8-12.5 ft			

Buffered Bike Lane

A buffered bike lane is an on-street facility that provides an additional striped buffer of typically 2-3 feet. A buffer may be used between the bike lane and the travel lane, between the bike lane and a parking lane, or both.

Buffered Bike Lane Typical Dimensions[3]	
Minimum	4 ft
Preferred	6 ft
Buffer	2-4 ft
Buffer adjacent to parking	3 ft

Benefits

- Less chance of "dooring", opening a door into a bicyclist, when parked cars are present
- Added separation from vehicles

Constraints

- Does not provide physical protection
- Vehicles may use additional buffer width as parking or standing zone

Typical Applications

- Links with moderate vehicle speeds or volumes
- Streets with adequate right-of-way to provide a buffer
- Important links within and between communities

Design Considerations

- Buffer may consist of diagonal striping or rumble strips to deter vehicles from using the buffer space

[3] NACTO Urban Bikeway Design Guide Third Edition, 2025

Bike Lane

A bike lane is an on-street facility that provides space reserved for bicyclists, delineated with pavement markings.

Benefits

- Provides a designated space for people biking
- Increases visibility for people biking
- Inexpensive treatment when width is available

Constraints

- Greater chance of "dooring," opening a door into a bicyclist
- Does not provide physical protection
- Vehicles may use additional buffer width as parking or standing zone
- Not suitable for all ages and abilities

Bike Lane Typical Dimensions[4]	
Constrained	4 ft
Minimum	6 ft
Preferred	7 ft
Preferred adjacent to parking (bike lane and buffer)	7-9 ft from edge of parking lane

Typical Applications

- Streets without sufficient right-of-way or pavement width to provide buffered or separated bike lanes

Design Considerations

- Should only be used when other forms of exclusive bike facilities are infeasible
- Striping can add visibility and awareness at intersections

[4] NACTO Urban Bikeway Design Guide Third Edition, 2025

BIKE BOULEVARD

A bike boulevard is a bike route on a low speed, low volume, and high comfort local street and is supplemented with traffic calming. The network role is emphasized with wayfinding signs and shared lane markings.

If vehicle speeds and volumes on a corridor are outside of the appropriate range for a bike boulevard, traffic calming and circulation strategies must be used before designating a route as a bicycle boulevard. See the *Bicycle Facility Selection* for more information on whether a corridor is appropriate for a bike boulevard.

Bike Boulevard Typical Signing[6]	
BIKE ROUTE	MUTCD D11-1
BICYCLES ALLOWED USE OF FULL LANE (supplemental)	MUTCD R9-20
Portsmouth Branded Wayfinding Signs	

Bike Boulevard Roadway Characteristics[7]	
Vehicle operating speeds (if dissimilar to posted speeds)	< 20 mph
Vehicle volumes	< 2,000 ADT

Benefits

- Communicate and increase awareness of preferred cycling routes without major infrastructure investment
- Additional benefits to the neighborhood from traffic calming

Constraints

- "Invisible" bicycle routes are less intuitive to new cyclists
- Do not provide designated space or protection for cyclists

Typical Applications

- Bicycle corridors through neighborhoods, often forming the bulk of a low stress cycling network

Design Considerations

- May include sharrows and advisory bike lanes throughout, and bike boxes and lanes at difficult links and intersections
- Centerline stripes should be omitted midblock where possible and are optional as channelization on intersection approaches
- Typically includes cycling-specific wayfinding elements
- Traffic calming should include physical elements such as speed humps, chicanes, and diverters to reduce vehicle speeds to a target speed of 20 mph or less[5]

[5] NACTO Urban Bikeway Design Guide Third Edition, 2025
[6] NACTO Urban Bikeway Design Guide Third Edition, 2025
[7] FHWA Bikeway Selection Guide, 2019

TRAFFIC CALMING

Traffic calming treatments are physical elements like speed humps, chicanes, hardened centerlines, and slow-turn wedges can be added to the street to create friction, which slows vehicle speeds, and enhance visibility. Some elements can be designed to accommodate emergency response vehicles.

Chicanes

Source: City of Seattle Design Standards

Chicanes and pinch points are curb extensions, planters, or other installations intended to narrow or shift the roadway; these counteract the fact that wide, open, and straight roadways encourage high driver speeds.

Speed Cushion

Source: VDOT[8]

Speed cushions are speed humps or speed tables that include wheel cutouts to allow large vehicles, such as emergency vehicles, trucks, and buses, to pass unaffected.

Benefits

- Reduces driver speeds
- Increases attentiveness in critical areas
- Low-cost and simple implementation

Constraints

- Possible effects to drainage
- Consideration of emergency vehicles and heavy vehicles when selecting vertical or horizontal treatments

Typical Applications

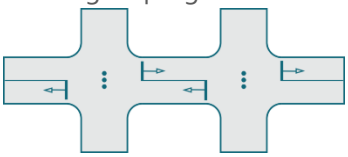
- Vertical deflection typically not considered on roads with speeds greater than 30 mph or volumes greater than 9,000 ADT
- Vertical deflection treatments should be avoided on bus routes, except in the case of speed cushions which are designed to allow large vehicles to pass unaffected
- See also **Portsmouth Complete Streets Guide**

Design Considerations

- Traffic calming measures should be applied consistently along a corridor or throughout a neighborhood to be most effective and legible to community members (for example, a series of curb extensions is more predictable than a variety of one-off treatments)
- Treatments can be combined (for example, a series of speed cushions along with lane narrowing)
- Horizontal deflection should be designed considering taper lengths for the corridor's speed
- See **Table 3** for different treatments

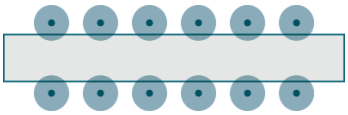
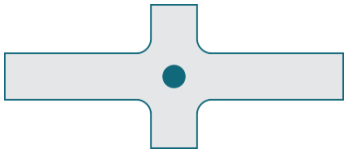
[8] VDOT Traffic Calming Fact Sheet. https://www.vdot.virginia.gov/media/vdotvirginiagov/about/programs/neighborhood-traffic/TrafficCalmingFACTS_acc09132024_RM.pdf

Table 3. Traffic Calming Treatments

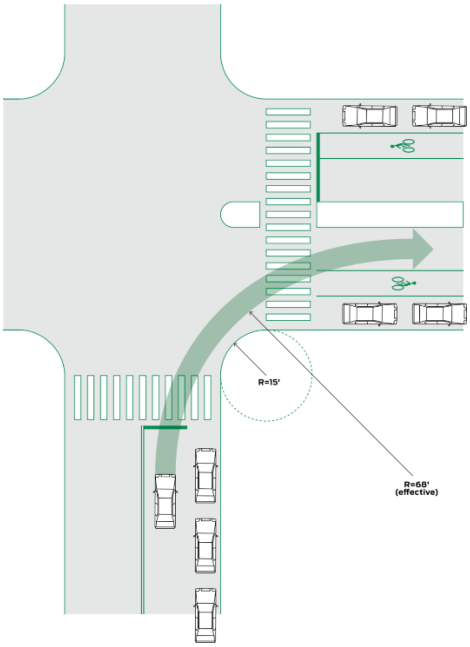
Type	Description	Examples[9]
Horizontal deflection	Slow vehicles by requiring drivers to move with caution through narrow or deflection points and can help reduce pedestrian crossing distances.	Median  ***See also Pedestrian Crossing Island***
		Neckdown 
		Chicane 
		Lane Shift  ***See Curb Extension (Bump Out)***
Vertical deflection	Vertical deflection treatments are only comfortable for drivers to go over at around 20 mph.[10] Elevating pedestrians at crossing locations helps improve visibility.	***See Raised Crossing or Intersection***
		Speed humps, tables, or cushions 
Circulation and operations	Diverters and circulation changes can be used to limit vehicle traffic on a specific corridor or reduce cut through traffic. Coordinated signals can be timed to encourage a set driving speed.	Diverter 
		Signal progression 
Narrowing		Street trees

[9] Images from NACTO Urban Street Design Guide

[10] City of Boston, About Speed Humps. https://www.boston.gov/departments/transportation/making-neighborhood-streets-safer

Type	Description	Examples[9]
	Narrowing travel lanes reduces operating space. Visual cues encourage slower driving speeds.	
		On-street parking 
		Narrow travel lanes
Intersections	Tighter turning radii require drivers to make turns more slowly and improves sightlines with crossing pedestrians and bicyclists.	***See Intersection Tightening***
		See Protected Intersection
		Hardened centerline
		Roundabout 

INTERSECTION TIGHTENING



Source: NACTO Urban Design Guide

Intersection tightening involves reducing corner radii to create an overall smaller intersection footprint.

Benefits

- Slower vehicle speeds when turning
- Improved intersection visibility
- Shorter pedestrian crossing distances
- Can create opportunities to expand and enhance the pedestrian realm

Constraints

- Can result in drivers oversteering or cutting corners into opposing lanes

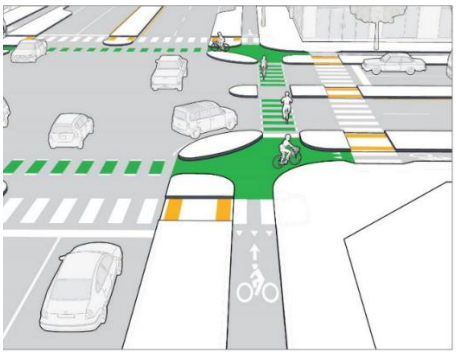
Typical Applications

- Highway Safety Improvement Program (HSIP) cluster intersections
- Roadways with high traffic volumes and/or pedestrian activity

Design Considerations

- Use the smallest radius possible for the design vehicle
- Design so that emergency vehicles can use the full area of the intersection for making turns, thus permitting overall tighter design.
- Consider truck aprons that can be mounted by large vehicles
- Recessed stop bars can mitigate potential oversteering conflicts
- Remove slip lanes where possible

PROTECTED INTERSECTION



Source: County of Arlington, VA

A protected intersection is designed to physically separate cyclists and pedestrians from cars where the potential for conflict is highest. Right-turning vehicles are provided with a yield zone and crossing cyclists and pedestrians are physically separated by a cornerstone, or buffer, from right-turning vehicle traffic.

Benefits

- Clarify the preferred path of travel through the intersection to help avoid potential conflicts
- Allows right-turn-on-red for cyclists

Constraints

- May add to delays for intersections at capacity
- May require additional right-of-way

Typical Applications

- Any intersection with separated bike lanes or shared-use path approaches
- While the geometric elements of a protected intersection can be applied at unsignalized intersections for greater protection, slower vehicle turning speeds, and improved visibility, a fully protected intersection requires signalization to separate cyclists and pedestrians completely from vehicle movements

Design Considerations

- Protected intersections should be combined with high-visibility crosswalk markings and separated bike lanes
- May be combined with other pedestrian crossing counter measures such as crossing islands and leading pedestrian interval (LPI)

TRAILHEAD

Source: City of Framingham, MA

A trail head is a signed location along a shared-use path that provides amenities such as maps, wayfinding, trash cans, seating, shelter, drinking fountains, and restrooms.

Benefits

- Provides wayfinding and directions to users
- Offers a place to relax or meet before or after trail use

Constraints

- Requires maintenance to ensure functionality

Typical Applications

- Streets, paths, or parks where a path or trail is accessed

Design Considerations

- Trailheads should be highly visible and signed

HIGH-VISIBILITY CROSSWALK

Crosswalk Typical Dimensions	
Minimum	6 ft

High visibility crosswalks are reflective roadway markings that may be accompanied by signage at intersections and priority pedestrian crossing locations.

Benefits

- Provides awareness to drivers that people may be crossing
- Requires motorists to stop for people walking in crosswalk
- Relatively low cost

Constraints

- Compliance not as high at uncontrolled locations compared to other treatments
- Most effective with other types of traffic control

Typical Applications

- Intersections of vehicle facilities with moderate to high vehicle volumes and speeds
- Midblock locations, particularly when implemented with other treatments

Design Considerations

- Minimum width is 6 feet, but wider crossings may be preferred in areas with a high number of people walking
- Crosswalks must be paired with reciprocal ADA accessible curb ramps
- High-visibility crosswalk striping may be paired with other visibility enhancements, such as pedestrian warning signs, in-street signage, advance stop bars, and/or parking restrictions near intersections (daylighting)
- Restrict on-street parking for 20 feet in advance of a crosswalk to provide “daylighting” that improves pedestrian and driver sightlines

CURB RAMP

Source: City of Portland, OR

A curb ramp provides a smooth, accessible transition between the sidewalk and the street for people crossing. Many intersections in the study area do not currently have them.

Benefits

- Provides accessible crossings for people with low vision and people using wheelchairs, strollers, and other mobility devices
- Required to comply with the ADA

Constraints

- ADA design requirements can be complex to achieve

Typical Applications

- Any intersection of a street with a sidewalk or multi-use path
- Typically added to areas as redevelopment occurs

Design Considerations

- Design must follow ADA design requirements

CURB EXTENSION (BUMP OUT)

Concrete Curb Extension

Quick-Build Curb Extension

Curb Extension Typical Dimensions	
Typical Width	6 ft

A curb extension, also known as a bump out, is an extension of the sidewalk into the street at a crossing. It narrows the vehicle traveled way and the crossing distance for people walking and increases visibility between people walking, biking, and driving.

Benefits

- Shortens crossing distances
- Reduces vehicular turning speeds
- Increases visibility between people driving and walking

Constraints

- Can only be used on streets with on-street parking
- Greater cost to install than standard crosswalks
- May conflict with bike or transit lanes

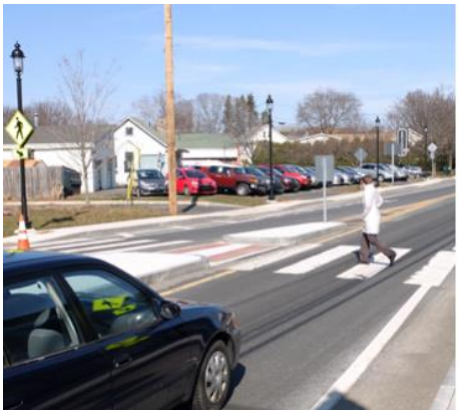
Typical Applications

- Midblock or intersection pedestrian crossings or transit stops
- Streets with on-street parking

Design Considerations

- Design vehicle for the street will determine the curb radius
- Provide accessible curb ramps and detectable warnings
- Impacts or opportunities for landscaping or green infrastructure should be considered
- Can be applied midblock and/or combined with raised crossings
- Curb extensions are typically 6 feet wide, filling most of a travel lane

PEDESTRIAN CROSSING ISLAND



Source: MassDOT Municipal Resources Guide for Walkability

Pedestrian Crossing Island Typical Dimensions	
Minimum	6 ft

A pedestrian crossing island is a protected area in the middle of a crosswalk that provides refuge and narrows the space pedestrians have to cross.

Benefits

- Reduces exposure of people walking
- Requires shorter gaps in traffic to cross street
- Allows people to cross in two stages

Constraints

- Available right-of-way or existing pavement width may not provide adequate space to add a median island
- If included, landscaping requires an agreement on maintenance responsibility

Typical Applications

- Midblock for areas with large distances between crossings
- Intersections with high traffic volumes or with a notable crash history
- Intersections with medians or unused center turn lanes

Design Considerations

- Must have 6 feet of clear width to accommodate people in wheelchairs
- Tactile warning panels are needed within the pedestrian crossing island
- A median with width less than 6 feet can be used as a traffic calming strategy, but is not considered a refuge

RAISED CROSSING OR INTERSECTION

Source: Streetsblog Mass

Crosswalks or intersections may be raised to the elevation of the sidewalk, effectively creating a speed hump to slow approaching drivers, increasing pedestrian visibility, and allowing pedestrians to cross without changing grade.

Benefits

- Adds further conspicuity to crosswalks
- Encourages slow vehicle speeds at pedestrian crossings
- More accessible to a wider range of pedestrians

Constraints

- More expensive than other crosswalk treatments
- Impacts to drainage

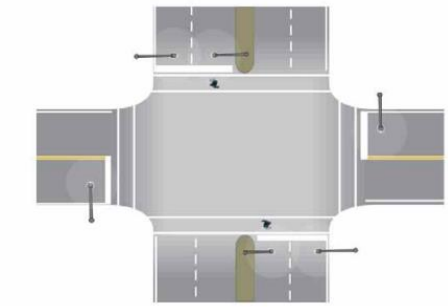
Typical Applications

- Low-speed facilities with a high volume of crossing pedestrians
- Locations where pedestrians with mobility needs are present, such as older adults, people with strollers, and people in mobility devices

Design Considerations

- Replaces the need for curb ramps when a retrofit to install them is warranted
- Entire intersections may be raised as well
- Tactile surfaces should be placed at the entrance to the crosswalk to alert pedestrians with low vision
- Bollards or other vertical elements can be installed to prevent vehicles entering the sidewalk
- Lower-angle approaches required to address bottom-out concerns for buses and damage from snowplows
- A raised crossing must have a level path at least 3 feet wide

PEDESTRIAN-SCALE LIGHTING



Source: FHWA Informational Report on Lighting Design for Midblock Crosswalks

Pedestrian-scale lighting illuminates pedestrian facilities such as sidewalks, paths, and crossings. Pedestrian-scale lighting is typically closer to the ground than roadway lighting. Pedestrian lighting along a facility may also improve pedestrians' level of perceived safety of the facility. Pedestrian lighting at a crossing may make it easier for drivers to see pedestrians during dark or poor weather conditions.

Benefits

- Improves the visibility of people walking and biking in crosswalks
- Enhances drivers' sight distance
- Encourages foot traffic and can make local establishments inviting

Constraints

- Requires space in potentially busy areas, such as sidewalks or intersections

Typical Applications

- Areas of high traffic for people biking and walking, such as bus stations, shopping centers, schools, and shared use paths
- Corridors with commercial activity

Design Considerations

- Lighting fixtures should not be placed where they block entrances or inhibit pedestrian flow
- Size and type of light fixture may vary depending on the surrounding context and available space

RESTRICTED VEHICULAR ACCESS

Splitter Island

Source: Weston & Sampson, Inc.

Splitter islands, gates, or bollards limit vehicle access while allowing pedestrian and cyclist passage, as well as emergency and maintenance vehicle access.

Benefits

- Reduces the likelihood of unauthorized vehicle access on streets and paths with bike- or pedestrian-only right-of-way

Constraints

- Bollards and gates can inconvenience cyclists

Typical Applications

- Entrances to shared-use paths, pedestrian streets, or closed through-streets

Design Considerations

- Splitter islands or landscaped median islands are the preferred treatment
- Bollards must be high visibility to mitigate risk to cyclists
- Bollards and gates must be designed to permit a range of bicycle sizes and turning ability (e.g., bike trailers)
- Use signing to indicate that the path or roadway is open to cyclists and pedestrians and closed to vehicular access

SIGNALIZATION

Source: Youtube.com

Signalization separates vehicle, pedestrian, and bicycle movements in time at high volume or complex intersections. Signal design should establish clear multimodal goals so that the needs of pedestrians, bicyclists, and transit riders are prioritized in addition to vehicle through-put.

Benefits

- Ability to completely separate movements at complex or dangerous intersections
- Coordinated signals can be used to control vehicle speeds along a corridor

Constraints

- May add to delay
- Existing equipment may limit complex signaling and phasing

Typical Applications

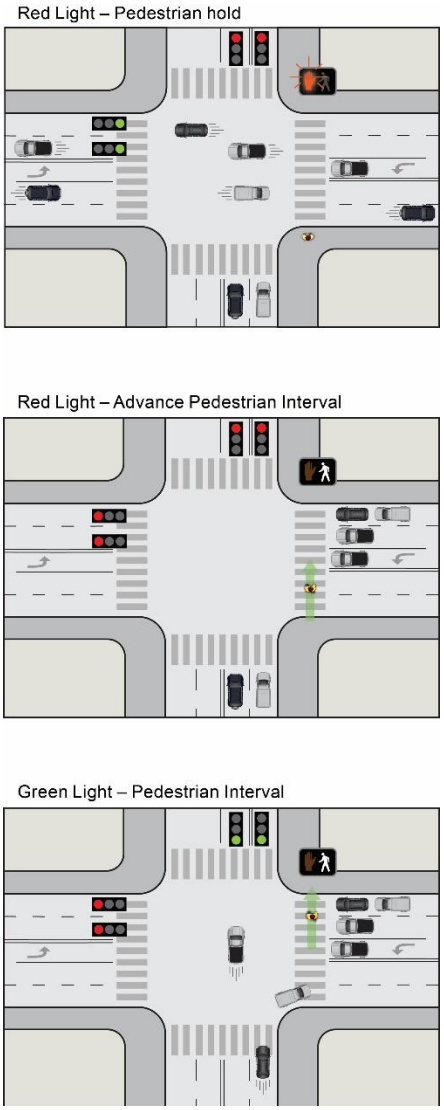
- Intersections with a history of vehicle-pedestrian or cyclist crashes
- Intersections where right-turning vehicles do not yield to pedestrians or cyclists
- Intersections that meet signal warrants

Design Considerations[11]

- Include pedestrian countdown signal head and APS
- Should be applied in combination with other treatments
- Shorten signal cycles to increase turnover, thus minimizing delay
- Prioritize walking, bicycling, and transit (for example, transit signal priority on priority bus routes)
- Keep the number of signal phases to a minimum

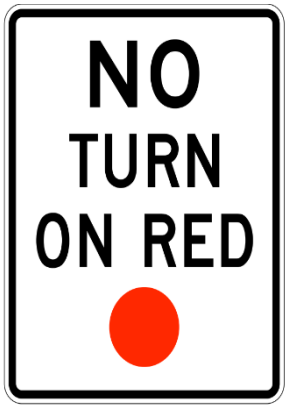
[11] See also NACTO Urban Street Design Guide

Leading Pedestrian Interval



A leading pedestrian interval is a signal modification that allows pedestrians to begin crossing before concurrent green phases with same-direction traffic. It is intended to reduce potential conflicts between vehicles and pedestrians at the start of the signal cycle.

No Right Turn on Red



Source: Manual on Uniform Traffic Control Devices (MUTCD)

No right turn on red is signage placed at a signalized intersection to restrict drivers from turning right during a red light.

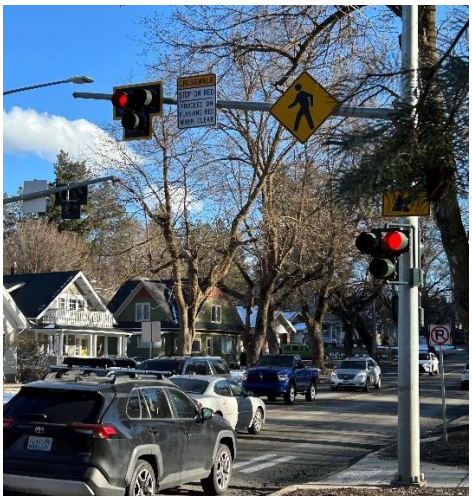
Bike Signal

Source: City of Cambridge, MA

A bike signal is intended for the exclusive use of bicycle traffic. It is used to provide phasing for bicycle traffic at complex or high-volume intersections. It may also be applied at intersections with travel patterns unique to bicyclists (e.g., contraflow or protected bicycle facilities).

PEDESTRIAN BEACONS

Pedestrian Hybrid Beacon



A pedestrian hybrid beacon (PHB, also called a HAWK signal) is a pedestrian-activated signal. It begins with a yellow light alerting drivers to slow, then displays a solid red light to allow people walking to cross the street. Flashing red indications signal to drivers that they may proceed with caution after people have finished crossing.

Benefits

- High rate of driver yielding behavior
- Improves safety for people walking and reduces pedestrian crashes

Constraints

- Must be activated by people walking
- Can be more costly than other crossing treatments

Typical Applications

- Midblock crossings with high pedestrian or bicycle demand and high traffic volumes or speeds
- Shared use path crossings of larger roadways

Design Considerations

- Push button placement should be easily accessible to people walking, in wheelchairs, and bicycling

Rapid Rectangular Flashing Beacon (RRFB)

Source: MassDOT Municipal Resources Guide for Walkability

A Rapid Rectangular Flashing Beacon (RRFB) includes signs that have a pedestrian-activated flashing light to attract driver attention and provide awareness of people walking or biking crossing the roadway.

Benefits

- Provides a visible warning to drivers at eye level
- Increases driver yielding behavior at crossings
- Allows drivers to proceed after yielding

Constraints

- Must be activated by people walking
- Driver compliance may be lower than when compared with a traffic signal or HAWK signal

Typical Applications

- Midblock crossings with high pedestrian or bicycle demand and high traffic volumes
- Crossing treatment for shared use paths

Design Considerations

- Push button placement should be easily accessible to people walking, in wheelchairs, and bicycling
- Can be added in median island for multi-stage crossings

BIKE LANE INTERSECTION STRIPING

Pavement markings are used to continue a bike lane through an intersection or "conflict zones", such as passing a s or driveway entrance.

Benefits

- Increases driver awareness of people biking
- Aids bicyclists in knowing where to cross

Constraints

- May require additional maintenance due to vehicles crossing pavement markings more frequently

Typical Applications

- Intersections and conflict zones

Design Considerations

- White dashed lines should be used at a minimum to extend a bike lane through an intersection or across a conflict zone
- Dashed green pavement can enhance driver awareness and bicyclist visibility

BIKE BOX

Two-Stage Turn Box

Bike boxes use paint to allow cyclists to position ahead of vehicles at signalized intersections.

Benefits

- Increases driver awareness of people biking
- Reduces delay and complexity for cyclists at difficult intersections
- Reduces vehicle encroachment on crosswalk

Constraints

- Requires no-turn-on-red restriction
- Potential reduction in vehicle throughput when there is a high volume of right turns

Typical Applications

- Signalized intersections with high volumes of bicycles and vehicles, especially those with left-turning bicyclists and/or right turning motorist

Design Considerations

- Green paint with bicycle legend is used to stripe the bike box
- Stop bar for vehicles is in advance of the bike box, requiring drivers to stop and wait behind cyclists at the light
- Bike box should span the full width of the approach lanes and have a preferred depth of at least 12 feet
- Two-stage turn boxes may also be used to help facilitate left turns
- Bike boxes that extend across more than one lane must be accompanied by countdown pedestrian signals for the crosswalk or pedestrian crossing movement that crosses the approach

BIKE PARKING

Bike parking provides space for people to store bicycles at or near destinations. Parking facilities include racks, lockers, and covered areas. The type of bike parking depends on the anticipated duration of stay, type of destination, and security needs.

Benefits

- Formalizes and organizes bike parking instead of *ad hoc* parking along street signs and railings
- Prevents bicycle theft
- Sheltered parking protects bikes from the elements

Constraints

- Can be challenging to site on narrow sidewalks
- Periodic maintenance needed to remove abandoned bikes

Typical Applications

- Areas with a high potential for cycling activity such as commercial districts, parks and recreation sites, schools, transit centers, libraries and community destinations
- Covered bike parking is best for locations where patrons will be parked for longer periods

Design Considerations[12]

- **Short-term bike parking**: Bike parking should be highly visible and conveniently located near entrances of the destinations being served
- **Long-term bike parking**: Security and weather protection are more important than visibility and convenience for bikes being stored across multiple hours
- Suitable bike racks allow bikes to be locked via the frame
- Use "inverted U" or "post and loop racks" for secure and space-efficient bike parking
- Typical dimensions are 6x2 feet for a single rack
- Parking siting should ensure that the pedestrian path is not blocked, including space for parked bikes
- Avoid siting parking too close to walls or other obstructions that can limit the direction or type of bicycle that can be locked

[12] See also APBP Essentials of Bike Parking, 2015

BIKE MAINTENANCE STATION

Source: MA-PA Heritage Trail

Bike maintenance stations provide common bicycle maintenance equipment, such as an air hose, a repair stand, wrenches, and screwdrivers, for impromptu bicycle repairs.

Benefits

- Allows cyclists to perform minor repairs or fill tires with air
- Increases the visibility of bicycling

Constraints

- Requires maintenance to ensure functionality

Typical Applications

- Bike parking areas, trailheads, or adjacent to bike shops

Design Considerations

- Station siting should ensure that the pedestrian path is not blocked, including space for a bike
- Bike maintenance stations should be located with adequate lighting to prevent theft or vandalism
- Stations with shelter are beneficial during inclement weather

PARKLET

Source: Street Lab Project

A parklet is a permanent or temporary gathering area installed in the street adjacent to the curb. It provides additional sidewalk space and is often used for outdoor dining.

Benefits

- Extends the pedestrian realm
- Provides placemaking and streetscaping opportunities
- Encourages leisure and street activation
- Increase revenues for local businesses

Constraints

- May require curbside parking removal
- Seasonality

Typical Applications

- Streets with high pedestrian volumes
- Commercial districts
- Streets with high demand for seating or landscaping
- Often constructed with non-permanent features and can be year-round or seasonal

Design Considerations[13]

- Usually the width of a parking lane (7-9 feet) and the length of one or more parking spaces (20+ feet)
- Can also be installed as part of T-ing up or tightening an intersection
- Can be managed publicly or through agreements with businesses and abutters

[13] See also NACTO Urban Street Design Guide

TRAFFIC GARDEN

Source: Knight Creative Communities Institute

A traffic garden, sometimes called a "safety town", is a miniaturized street network complete with scaled traffic elements designed to teach young children the rules of the road and provide a car-free space for walking and biking.

Benefits

- Promotes traffic safety skills
- Creates a comfortable space for children learning to bike
- Repurposes empty parking lots

Constraints

- Rely on coordination with landscape architects, community groups, non-profits, or artists to design and implement

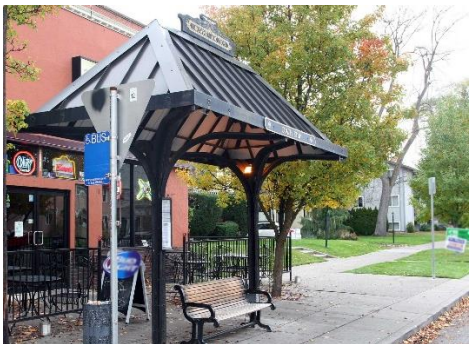
Typical Applications

- Underutilized parking lots, parks, and school playgrounds

Design Considerations

- Should not be in the path of travel for any vehicles

BUS STOP ENHANCEMENTS AND ACCESSIBILITY



Source: City of Spokane, Browne's Addition

Source: Everett Transportation Strategy

Bus stop enhancements such as seating, shade, shelter, bike parking, and trash cans improve the transit customer experience. Elements such as a level landing zone, bus bulbs, and floating bus islands can make it easier for passengers to board and alight.

Benefits

- Provides protection from elements and gives people a place to sit while waiting
- Reduces perceived wait times
- In-lane bus stops can help maintain efficient transit operations

Constraints

- More costly than a standard bus stop
- Requires additional sidewalk space beyond standard 6 feet

Typical Applications

- Stops with higher levels of activity or nearby land uses like senior communities, schools, or major trip generators

Design Considerations

- Shelters and trash cans should be cleaned and maintained regularly
- Opportunity to collaborate with COAST on existing plans for added stop shelters
- Accessible boarding areas are typically 8x5 feet wide
- Consider interactions between cyclists and buses, as well as cyclists and passengers boarding and alighting when bike facilities are adjacent to bus stops

Pedestrian Crossing Treatment Selection

Selecting an appropriate treatment for an uncontrolled pedestrian crossing depends on several factors including the number of lanes, traffic volume (shown as "Vehicle AADT", meaning annual average daily traffic, in the table below), and vehicle speeds. FHWA outlines which countermeasures should be considered based on these roadway characteristics in **Figure 3**. Similarly, **Figure 4** describes FHWA guidance for selecting pedestrian countermeasures based on existing safety issues.

Figure 3. Application of Pedestrian Crash Countermeasures by Roadway Feature

Roadway Configuration	Posted Speed Limit and AADT								
	Vehicle AADT <9,000			Vehicle AADT 9,000–15,000			Vehicle AADT >15,000		
	≤30 mph	35 mph	≥40 mph	≤30 mph	35 mph	≥40 mph	≤30 mph	35 mph	≥40 mph
2 lanes (1 lane in each direction)	● 2 4 5 6	● 5 6 7 9	○ 5 6 ● 9	● 4 5 6	● 5 6 7 9	○ 5 6 ● 9	● 4 5 6 7 9	○ 5 6 7 9	○ 5 6 ● 9
3 lanes with raised median (1 lane in each direction)	● 2 3 4 5 7 9	● ● 5 7 9	○ ● 5 ● 9	○ 3 4 5 7 9	○ ● 5 ● 9	○ ● 5 ● 9	○ ● 4 5 7 9	○ ● 5 ● 9	○ ● 5 ● 9
3 lanes w/o raised median (1 lane in each direction with a two-way left-turn lane)	● 2 3 4 5 6 7 9	● ● 5 6 7 9	○ ● 5 6 ● 9	○ 3 4 5 6 7 9	○ ● 5 6 ● 9	○ ● 5 6 ● 9	○ ● 4 5 6 7 9	○ ● 5 6 ● 9	○ ● 5 6 ● 9
4+ lanes with raised median (2 or more lanes in each direction)	● ● 5 7 8 9	● ● 5 7 8 9	○ ● 5 8 ● 9	○ 5 7 8 9	○ ● 5 ● 8 ● 9	○ ● 5 8 ● 9	○ 5 ● 7 8 ● 9	○ ● 5 8 ● 9	○ ● 5 8 ● 9
4+ lanes w/o raised median (2 or more lanes in each direction)	● ● 5 6 7 8 9	○ ● 5 ◆ 7 8 9	○ ● 5 ◆ 8 ● 9	○ 5 ◆ 7 8 9	○ ● 5 ◆ ● 8 ● 9	○ ● 5 ◆ 8 ● 9	○ 5 ◆ ● 7 8 ● 9	○ ● 5 ◆ 8 ● 9	○ ● 5 ◆ 8 ● 9

Given the set of conditions in a cell,

- # Signifies that the countermeasure is a candidate treatment at a marked uncontrolled crossing location.
- ● Signifies that the countermeasure should always be considered, but not mandated or required, based upon engineering judgment at a marked uncontrolled crossing location.
- ○ Signifies that crosswalk visibility enhancements should always occur in conjunction with other identified countermeasures.*

The absence of a number signifies that the countermeasure is generally not an appropriate treatment, but exceptions may be considered following engineering judgment.

1 High-visibility crosswalk markings, parking restrictions on crosswalk approach, adequate nighttime lighting levels, and crossing warning signs
2 Raised crosswalk
3 Advance Yield Here To (Stop Here For) Pedestrians sign and yield (stop) line
4 In-Street Pedestrian Crossing sign
5 Curb extension
6 Pedestrian refuge island
7 Rectangular Rapid-Flashing Beacon (RRFB)**
8 Road Diet
9 Pedestrian Hybrid Beacon (PHB)**

*Refer to Chapter 4, 'Using Table 1 and Table 2 to Select Countermeasures,' for more information about using multiple countermeasures.

**It should be noted that the PHB and RRFB are not both installed at the same crossing location.

This table was developed using information from: Zegeer, C.V., J.R. Stewart, H.H. Huang, P.A. Lagerwey, J. Feaganes, and B.J. Campbell. (2005). Safety effects of marked versus unmarked crosswalks at uncontrolled locations: Final report and recommended guidelines. FHWA, No. FHWA-HRT-04-100, Washington, D.C.; FHWA. Manual on Uniform Traffic Control Devices, 2009 Edition. (revised 2012). Chapter 4F, Pedestrian Hybrid Beacons. FHWA, Washington, D.C.; FHWA. Crash Modification Factors (CMF) Clearinghouse. http://www.cmfclearinghouse.org/; FHWA. Pedestrian Safety Guide and Countermeasure Selection System (PEDSAFE). http://www.pedbikesafe.org/PEDSAFE/; Zegeer, C., R. Srinivasan, B. Lan, D. Carter, S. Smith, C. Sundstrom, N.J. Thirsk, J. Zegeer, C. Lyon, E. Ferguson, and R. Van Houten. (2017). NCHRP Report 841: Development of Crash Modification Factors for Uncontrolled Pedestrian Crossing Treatments. Transportation Research Board, Washington, D.C.; Thomas, Thirsk, and Zegeer. (2016). NCHRP Synthesis 498: Application of Pedestrian Crossing Treatments for Streets and Highways. Transportation Research Board, Washington, D.C.; and personal interviews with selected pedestrian safety practitioners.

FHWA Field Guide for Selecting Countermeasures at Uncontrolled Pedestrian Crossing Locations

Figure 4. Safety Issues Addressed per Countermeasure

Pedestrian Crash Countermeasure for Uncontrolled Crossings	Safety Issue Addressed				
	Conflicts at crossing locations	Excessive vehicle speed	Inadequate conspicuity/ visibility	Drivers not yielding to pedestrians in crosswalks	Insufficient separation from traffic
Crosswalk visibility enhancement	✓	✓	✓	✓	✓
High-visibility crosswalk markings*	✓		✓	✓	
Parking restriction on crosswalk approach*	✓		✓	✓	
Improved nighttime lighting*	✓		✓		
Advance Yield Here To (Stop Here For) Pedestrians sign and yield (stop) line*	✓		✓	✓	✓
In-Street Pedestrian Crossing sign*	✓	✓	✓	✓	
Curb extension*	✓	✓	✓		✓
Raised crosswalk	✓	✓	✓	✓	
Pedestrian refuge island	✓	✓	✓		✓
Pedestrian Hybrid Beacon	✓	✓	✓	✓	
Road Diet	✓	✓	✓		✓
Rectangular Rapid-Flashing Beacon	✓		✓	✓	✓

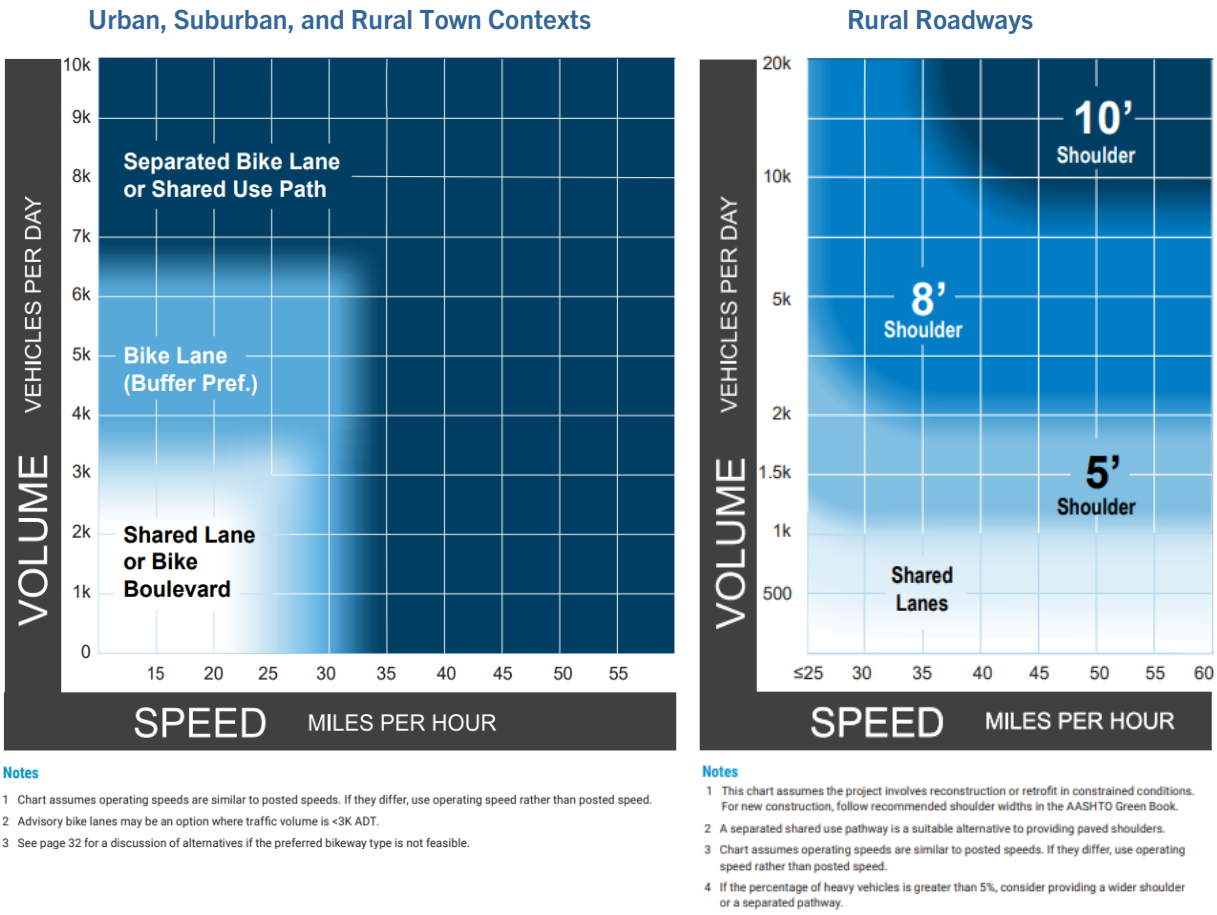
*These countermeasures make up the STEP countermeasure "crosswalk visibility enhancements." Multiple countermeasures may be implemented at a location as part of crosswalk visibility enhancements.

Source: FHWA Field Guide for Selecting Countermeasures at Uncontrolled Pedestrian Crossing Locations

Bicycle Facility Selection

Bicycle facility selection is also based on the roadway characteristics of vehicle speed and volume. FHWA facility selection guidance for urban, suburban, and rural contexts, as shown in **Figure 5**, should be followed. In some cases, it may be possible to use traffic calming or circulation strategies to reduce either vehicle speeds or volumes on a corridor to align with a desired bicycle facility type.

Figure 5. Preferred Bikeway Types



FHWA Bikeway Selection Guide

Wayfinding

Bicycle and pedestrian wayfinding should be clear, simple, consistent, and visible. Wayfinding signs should be interpretable even by people with limited literacy or whose primary language is not English. Wayfinding is primarily communicated with signs but can also be supplemented with paint or pavement markings to provide route confirmation.

The City's Wayfinding Plan identifies design typologies for different types of wayfinding signs (**Figure 6**). The Wayfinding Plan and sign typologies are generally oriented to pedestrian and vehicle routing but can also be applicable to bicycling as well. The Wayfinding Plan also provides examples of bicycle-route signing (**Figure 7**), although these are not specific to Portsmouth.

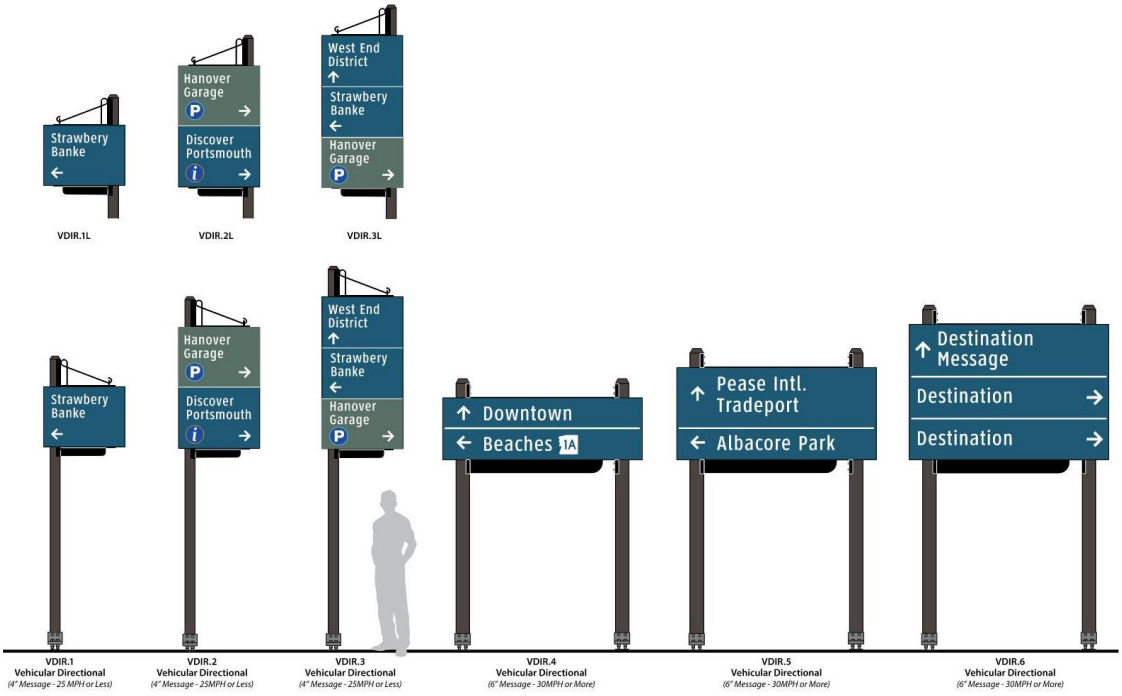
Table 4 describes the typical sign types and applications for pedestrian and bicycle wayfinding.

Wayfinding should be provided at arrival points and transitions. The Wayfinding Plan highlights the following relevant arrival points for people walking and biking:

- Natural pedestrian arrival, e.g., simply walking into Downtown
- Auto to pedestrian transition
- Public transportation to pedestrian transition
- Bicycle to pedestrian transition
- Water to pedestrian transition.

These arrival or transition points should include information for pedestrians and bicyclists at locations such as parking garages and parking lots, COAST and Wildcat Transit stops, bike racks, trailheads, and at bike shops or rental locations, and at appropriate City docks.

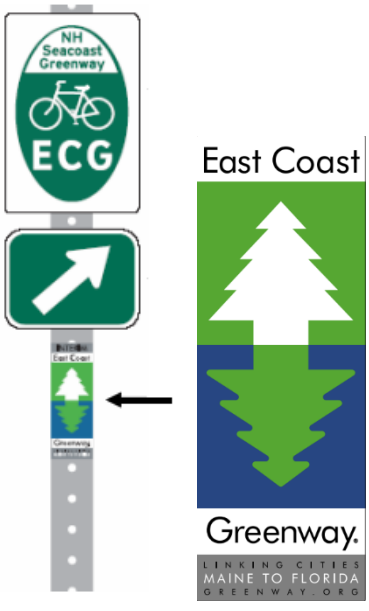
Figure 6. Portsmouth Wayfinding Typology Examples



Source: City of Portsmouth Wayfinding Plan

Figure 7. Bike Route Wayfinding Examples

Gresham, OR
Examples of bicycle/pedestrian sign system components.



SeaCoast Bike Route Signage
Directional signage includes East Coast Greenway identification.

Source: City of Portsmouth Wayfinding Plan

Table 4. Pedestrian and Bicycle Wayfinding Sign Types

Sign Type	Description	Example
	Pedestrian Wayfinding	
Pedestrian Direction	Directs to destinations within pedestrian zones. Located at intersections and/or street corners.	
Information Kiosks	Located at key gathering points. Includes logo, maps, brochures, directions and other information for visitors.	
Interpretive Signage	Provides a graphic and written narrative on historical context, data, and interesting facts regarding a site or destination	
Trail Signage	Identifies trails and directs to destinations within pedestrian zones. Located along trails and at intersections and/or street corners.	

Sign Type	Description	Example
	Bicycle Wayfinding	
Confirmation Signs	Indicate to bicyclists that they are on a designated bikeway and help make motorists aware of the bicycle route. Signs include distance and time but do not include arrows. Placement occurs about every 2 to 3 blocks along bicycle routes.	
Turn Signs	Indicate where a bikeway turns from one street onto another streets. They can also be accompanied by pavement markings. Placement occurs on the near-side of intersections where bike routes turn, i.e., where the street ceases to be a bicycle route or does not go through.	
Decision Signs	Mark the junction of two or more bikeways and inform bicyclists of the designated bike route to access destinations. Signs include destinations and arrows. Including distances and travel times are recommended. Placement occurs on the near-side of intersections in advance of a junction with another bicycle route and along a route to indicate a nearby destination.	

Sources: City of Portsmouth Wayfinding Plan; MassTrails Wayfinding Design Guide

While the Wayfinding Plan does provide some guidance for bicycle route signing, the Plan is primarily focused on pedestrian and driver applications. Additional guidance specific to bicycle wayfinding can be found in documents like the MassTrails Wayfinding Design Guide.

Figure 8, for example, illustrates preferred distances for directional signs and **Figure 9** provides an example signing layout for a shared use path midblock crossing.

Figure 8. Hierarchy of Destinations by Distance

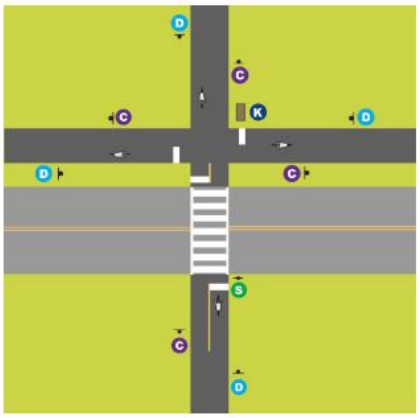
LEVEL 1
Cities, towns, and nationally or regionally significant destinations including landmarks and natural/recreation areas and paths

LEVEL 2
Districts and neighborhoods, downtowns, historic areas, seaports, transit stations

LEVEL 3
Local landmarks and cultural attractions, food/restroom/service areas, local parks, civic buildings, Councils on Aging, recreation areas, and libraries

Source: MassTrails Wayfinding Design Guide

Figure 9. Path Junction & Midblock Crossing



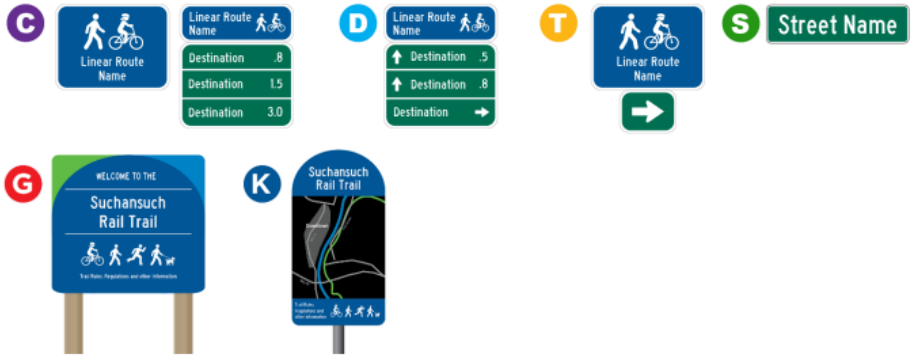


Figure 47. "C" - Confirmation/identification signs; "D" – Decision sign; "T" – Turn sign; "S" – Street sign; "G" – Gateway sign; "K" – Map kiosk

Source: MassTrails Wayfinding Design Guide

Regulatory and Warning Signs for Bicycles

The following MUTCD signs shown in Table 5 are relevant for bicycle network and facility design.

Table 5. Applicable Bikeway Regulatory Signs

Sign Image	Sign Name	Typical Application and Design Guidance
Corridor Regulatory Signs		
	SHARED-USE PATH RESTRICTION SIGN (R9-7)	- Apply in conjunction with pavement markings to delineate pedestrian and bicycle user envelopes. - These signs supplement white striping separating users and should not be applied without clear separated spaces for people walking and biking
	KEEP RIGHT EXCEPT TO PASS (R4-16)	
	SLOWER TRAFFIC KEEP RIGHT (R4-3)	- Apply regularly along the Bikeway, with additional applications at trailheads, access points, and following intersections. - These signs communicate the expectation that users keep right unless passing, which they should do with care. - Since bicyclists are typically traveling at higher speeds than pedestrians, they are expected to yield to the slower users until it is safe to pass them.
	PASS WITH CARE (R4-2)	
	YIEILD TO PEDS (R9-6)	
	DO NOT PASS (R4-1)	- Apply in areas where passing is not encouraged, such as on approaches to intersections or where sight distance is limited.

Sign Image	Sign Name	Typical Application and Design Guidance
Intersection Regulatory Signs - Bikeway		
	STOP (R-1)	- Apply at stop-controlled intersections between the Bikeway and an intersecting roadway. - Should be paired with a stop line.
	YIELD (R1-2)	- Apply at yield-controlled intersections between the Bikeway and an intersecting roadway. - May also apply at access points to direct people entering the Bikeway to yield to existing traffic. - May be paired with yield pavement markings.
	NO MOTOR VEHICLES (R5-3)	- Apply at intersections with roadways to communicate to drivers that motor vehicles are not permitted on the Bikeway (does not apply to electric bicycles)
	PUSH BUTTON FOR GREEN (R10-4)	- Apply at crossings where path users are required to push a button to request green
	TO REQUEST GREEN WAIT ON SYMBOL (R10-22)	- Apply at crossings where bicyclists are required to wait on the bicyclist symbol to request green
	PUSH BUTTON FOR GREN LIGHT (R10-24)	- Apply at crossings where bicyclists are required to push a button to request green
	BICYCLIST USE PED SIGNAL (R9-5)	- Apply at crossings where bicyclists need to use the pedestrian signal

Sign Image	Sign Name	Typical Application and Design Guidance
Intersection Regulatory Signs - Bikeway		
	BICYCLING SIGNAL (R10-10b)	- Apply at crossings where a bicycle signal directs bicyclists
	LEFT/RIGHT TURN MAY USE TURN BOX (D11-20)	- Apply at crossings with two-stage bicycle turn boxes
	YIELD HERE TO BICYCLES AND PEDESTRIANS (R1-5 ALT. B)	- Apply at midblock crossings where yield lines are provided ahead of a crosswalk across two or more traffic lanes traveling in the same direction. The sign and yield line denote the location for vehicles to yield to path users in the crossing. - These signs are not required if the crosswalk extends across a single lane of traffic in each direction and should not be used in locations where sign clutter is an issue.
	STOP HERE FOR BICYCLES AND PEDESTRIANS (R1-5B)	- Apply at midblock crossings where vehicle traffic is stop-controlled or required to stop for activated PHBs.
	TURNING VEHICLES YIELD TO BICYCLE AND PEDESTRIANS SIGN (R10-15 ALT.)	- Apply at side path intersections to notify drivers taking permissive left- or right-turns of the requirement to yield to people biking at the crossing. - For left turns, the sign should be mounted on the far side of the intersection to improve visibility.

Table 6. Applicable Bikeway Warning Signs

Sign Image	Sign Name	Typical Application and Design Guidance
Corridor Warning Signs		
	CURVE (W1-2)	- Apply at locations where the Bikeway curves significantly, necessitating a reduction in speed
	REVERSE CURVE (W1-4)	- Apply in locations where the Bikeway has a reverse curve, requiring a reduction in speed
	NARROW BRIDGE (W5-2)	- Apply at bridge crossings where the effective width of the Bikeway is reduced
	PATH NARROWS (W5-4A)	- Apply at locations where the Bikeway narrows considerably
	BICYCLE SURFACE CONDITION, SLIPPERY WHEN WET (W8-10, W8-10P)	- Apply at locations where the surface conditions are consistently hazardous and where bicyclists should take caution
	STOP AHEAD (W3-1)	- Apply ahead of stop-controlled intersections between the Bikeway and an intersecting roadway - Apply at least 50 feet in advance of the intersection

Sign Image	Sign Name	Typical Application and Design Guidance
Corridor Warning Signs		
	YIELD AHEAD (W3-2)	- Apply ahead of yield-controlled intersections between the Bikeway and an intersecting roadway - Apply at least 50 feet in advance of the intersection
	SIGNAL AHEAD (W3-3)	- Apply ahead of signalized intersections between the Bikeway and an intersecting roadway - Apply at least 50 feet in advance of the intersection
Intersection Warning Signs - Roadway		
	BICYCLE/PEDESTRIAN WARNING SIGN (W11-15)	- Apply at uncontrolled midblock crossings (i.e., where roadway users have priority) to alert drivers of approaching path users. - Can be combined with an RRFB.
	TRAIL CROSSING PLAQUE (W11-15p)	- Apply at uncontrolled midblock crossings as a supplemental plaque to BICYCLE/PEDESTRIAN WARNING (W11015).
	AHEAD PLAQUE (W16-9p)	- Apply as an advanced warning to uncontrolled midblock crossings as a supplemental plaque to BICYCLE/PEDESTRIAN WARNING (W11-15)

Section 6
Recommendations

RECOMMENDATIONS

Prioritization

While each recommendation in this Plan plays an important role in accomplishing the stated goals, the City will need to implement recommendations in phases, and expects to work towards this Plan's vision over the course of a decade. To aid in this long-term planning process, the City applied a prioritization process to each recommendation, leading to an overall ranking of low, medium, or high, which will be used to guide implementation timelines and funding priorities.

In addition to prioritization criteria, the City also separately considered organization criteria, which do not affect the prioritization ranking, but rather provide another reference point for informing project scheduling and cadence. The criteria used by the City to assess non-infrastructure projects are listed in **Table 7** and the criteria used to assess infrastructure projects are listed i**n Table 8**. The overall prioritization level is included in the recommendation tables below (**Table 9** and **Table 10**). See **Appendix C** for a full breakdown of the rankings of each individual prioritization and organizing criteria.

GOAL 1: Improve the safety and awareness of walking and bicycling in Portsmouth for all ages and abilities.

GOAL 2: Increase the number of walking and bicycling trips in Portsmouth.

GOAL 3: Advance Portsmouth's reputation as a City where walking and bicycling are a visible part of everyday and year round life and there are high-quality facilities that are well-maintained.

GOAL 4: Improve connectivity for walking and biking throughout Portsmouth and equitable access to key destinations like employment, schools, and transportation.

GOAL 5: Reduce greenhouse gas emissions and household transportation costs through the implementation of walking and biking improvements, and support complementary City priorities such as the Climate Action Plan's climate targets and supporting affordable housing.

Table 7. Non-Infrastructure Recommendations Criteria

Prioritization Criteria	Related Goals	High	Medium	Low
Safety	1	Direct impact on safety	Indirect impact on safety	Little impact on safety
Promote Walking and Biking	1, 2, 3, 5	Broad impact on awareness of walking and biking	Moderate impact on awareness of walking and biking	Limited impact on awareness of walking and biking
Remove Barriers	1, 2, 3, 4, 5	Direct impact on removing barriers to walking and biking	Indirect impact on removing barriers to walking and biking	Little impact on removing barriers to walking and biking
Organizing Criteria				
Feasibility	N/A	No known organizational or technical barriers	Either an organizational or technical barrier (but not both)	Both organizational and technical barriers
Cost/Level of Effort	N/A	Significant labor or capital costs for implementation and maintenance	Moderate labor or capital costs for implementation and maintenance	Limited labor or capital costs for implementation and maintenance

Table 8. Infrastructure Recommendations Criteria

Prioritization Criteria	Related Goals	High	Medium	Low
Safety	1	Direct safety impact	Indirect safety impact	Little safety impact
Connectivity	1, 2, 3, 4, 5	Fills a network gap or creates a critical connection	Expands or upgrades the existing network	Not a critical connection or requires other projects to be completed to connect to the network
Equity	3, 4, 5	Direct connections to or through areas or destinations with higher expected rates of youths or seniors, or low income or zero vehicle households	Indirect connections to or through areas or destinations with higher expected rates of youths or seniors, or low income or zero vehicle households	Little connection to or through areas or destinations with higher expected rates of youths or seniors, or low income or zero vehicle households
Public Realm Enhancement	1, 3	Direct opportunities to install amenities and enhance the experience for people walking or biking	Moderate opportunity to install amenities and enhance the experience for people walking or biking	Little or no opportunity to install amenities and enhance the experience for people walking or biking
Organizing Criteria	**Related Goals**	**High**	**Medium**	**Low**
Feasibility	N/A	Minimal design barriers	Some design barriers	Significant design challenges (new signals, ROW implications, constrained locations)
Implementation Timeframe	N/A	Potential for implementation in the next three years (little to no constructed elements)	Potential for implementation in the next five years (some constructed elements or minor signal modifications (changes to phasing, installation of beacons)	Potential for implementation beyond five years (significant design and construction)
Lifecycle Cost	N/A	Significant labor or capital costs for implementation and maintenance	Moderate labor or capital costs for implementation and maintenance	Limited labor or capital costs for implementation and maintenance

Non-Infrastructure Recommendations

The following non-infrastructure recommendations, listed in **Table 9**, are organized by the "5 E's", which are as follows:

- Education
- Encouragement
- Enforcement
- Engineering
- Evaluation

These broad categories all play an important role in enabling safer walking and biking and some recommendations include components of more than one E. The recommendations below reflect the category each one mainly falls into, along with the lead jurisdiction, associated City department, and the frequency of each effort.

Table 9. Non-Infrastructure Recommendations

Priority	Recommendation	5 E's	Lead Jurisdiction	Associated City Department	Frequency	Feasibility	Cost/Level of Effort
High	**Provide bicycle safety classes for adults.** Classes should include education on safe riding skills, bicycle safety checks, rules of the road for bicyclists, and bicycle facilities and infrastructure. Provide support and partnership to organizations like SABR who provide these classes.	Education	Community	Planning Department	Ongoing	High	Low
High	**Provide bicycle safety classes for children on a regular cycle.** Courses should instruct children how to ride a bicycle, complete a bicycle safety check, safe riding skills, and the rules of the road. Schools should offer bicycle safety courses as part of the Safe Routes to School program or through other programming. Identify opportunities for key partners beyond schools.	Education	City	School Department	Ongoing	Medium	Low
Medium	**Distribute informational brochure on bicycling rules and responsibilities.** Provide support and partnership to BWANH and	Education	City	Planning Department	Ongoing	High	Low

Priority	Recommendation	5 E's	Lead Jurisdiction	Associated City Department	Frequency	Feasibility	Cost/Level of Effort
	SABR to distribute brochures to realtors, businesses, schools, and City departments with information and education about bicycle facilities, laws, and safe riding. Promote the brochures through a City web page dedicated to bicycle safety in Portsmouth.						
Medium	**Provide bicycle maintenance classes for youths and adults.** Bicycle maintenance classes provide the basic skills needed for casual riders to maintain bicycles for transportation and recreation. Provide support and partnership to organizations like SABR who provide these classes.	Education	Community	Planning Department	Ongoing	Medium	Low
Medium	**Provide education and training to City staff on bicycle and pedestrian planning and engineering.** Education may include online or in-person training from Association of Pedestrian and Bicycle Professionals, Pedestrian and Bicycle Information Center, American Planning Association,	Education	City	Public Works Department	Ongoing	High	Low

Priority	Recommendation	5 E's	Lead Jurisdiction	Associated City Department	Frequency	Feasibility	Cost/Level of Effort
	Institute of Transportation Engineers, or other organizations. Host mandatory training sessions on an annual basis. Identify opportunities to collaborate with outside partners to provide trainings.						
Low	**Provide education and ongoing training to law enforcement personnel on bicycle and pedestrian rights and responsibilities.** Education may include online or in-person training from Association of Pedestrian and Bicycle Professionals, Pedestrian and Bicycle Information Center, American Planning Association, Institute of Transportation Engineers, or other organizations. Provide resources for optional training in addition to ongoing informal roll call settings related to safety for people walking and biking.	Education	City	Police Department	Ongoing	High	Low
High	**Develop biking and walking maps.** Printed and online version	Encouragement	City	Planning Department	5 years	Medium	Medium

Priority	Recommendation	5 E's	Lead Jurisdiction	Associated City Department	Frequency	Feasibility	Cost/Level of Effort
	should be developed and include information such as preferred bike routes, walking paths and trails, distances between major destinations, sites of interest, transit stops, and other amenities such as public restrooms and water fountains. Maps can be distributed at events, civic and social services, schools, and local businesses.						
High	**Promote Safe Routes to School program.** Safe Routes to School participation can take the form of organizing annual walk events (such as International Walk to School Day), data collection, walking school buses, bike trains, walking and biking curricula, and monthly walk to school events. Update City web page to reflect integration of SRTS into the Transportation Alternatives Program (TAP) and current information.	Encouragement	City	School Department	Ongoing	Medium	Medium
Medium	**Leverage the City's wayfinding program to better promote**	Encouragement	City	Planning Department	Ongoing	Medium	Medium

Priority	Recommendation	5 E's	Lead Jurisdiction	Associated City Department	Frequency	Feasibility	Cost/Level of Effort
	walking, biking, and transit directions. The City adopted a Wayfinding Plan in 2014. Wayfinding helps people, especially those not familiar with Portsmouth, know their transportation options and will increase the visibility of walking and biking in Portsmouth. As the bike and shared use path networks in Portsmouth expand, updating maps and signing to incorporate and direct people to these facilities.						
Medium	**Organize and promote regular biking groups and special biking events.** These may include open streets events, midnight bicycle rides, Bike to Work day, or other events that celebrate biking encourage participation, and enhance the visibility of bicycling. Provide support and partnership to bike shops who host regular recreational biking groups and organizations like SABR who organize special biking events.	Encouragement	Community	Recreation Department	Ongoing	High	Medium

Priority	Recommendation	5 E's	Lead Jurisdiction	Associated City Department	Frequency	Feasibility	Cost/Level of Effort
	Publicize and expand these groups and events to reach various groups around the City and introduce new people to bicycling.						
Medium	**Organize and promote regular walking groups and special walking events.** The Senior Services Center holds regular walking groups for seniors. The City and other organizations should expand walking groups around other demographics, geographic location, or interests (e.g. mom & baby, Pease lunchtime walks, Strawbery Banke weekly walks, seniors walk with kids to school). Special walking events may include holiday or seasonal themed walks with businesses, walking challenges (distance over time), Walk to Work Days, International Walk to School Day, or other events that encourage people of all ages and abilities to walk. Identify opportunities to collaborate with the Recreation Department and	Encouragement	Community	Recreation Department	Ongoing	High	Medium

Priority	Recommendation	5 E's	Lead Jurisdiction	Associated City Department	Frequency	Feasibility	Cost/Level of Effort
	schools on regular walking groups or special events.						
Medium	**Promote/Expand Commuter Choice Program.** Encourage businesses to promote commuting options for employees through development agreements or voluntarily. Programs may include incentives for walking and biking, a guaranteed ride home program, flexible hours, or other programs to encourage employees to include walking or biking in their commutes. Businesses can join the commuteSMART Seacoast Transportation management Association (TMA) to take advantage of their emergency ride home program and other tools and resources.	Encouragement	Community	Economic Development	Ongoing	Medium	Low
Medium	**Provide bike valet service at City-hosted events.** Volunteers can valet bicycles to temporary parking for events, helping reduce overflow of bicycle parking and illegal bicycle parking, and helping	Encouragement	Community	Public Works Department	Ongoing	High	Low

Priority	Recommendation	5 E's	Lead Jurisdiction	Associated City Department	Frequency	Feasibility	Cost/Level of Effort
	to increase the visibility of bicycling.						
Medium	**Provide resources in the form of guidance or program for amenities.** In retail districts, amenities such as benches, planters, or bike parking can be provided by businesses individually or coordinated as a street furniture program. Beautification projects can be supported through the Adopt-A-Spot Program.	Encouragement	City	Planning Department	Ongoing	Medium	High
Low	**Maintain Walk- and Bike-Friendly Community designations.** Walk- and Bike-Friendly Community (WFC and BFC) designations can be earned from the League of American Bicyclists and the Pedestrian and Bicyclist Information Center.	Encouragement	City	Planning Department	Ongoing	Medium	Low
Low	**Organize regular Open Street events.** During these events, such as the "Summer in the Street" events, streets are closed to traffic and open to the community for exercise, recreation, shopping, and	Encouragement	City	Planning and Public Works Department	Annual	High	Medium

Priority	Recommendation	5 E's	Lead Jurisdiction	Associated City Department	Frequency	Feasibility	Cost/Level of Effort
	general enjoyment during open street events. These events are an opportunity to promote walking and biking education and build visibility for walking and biking programs.						
Low	**Promote Bike Benefit program for shoppers.** SABR operates a Bike Benefits program that entitles bicycle riders to discounts from local retailers. Bike Benefit programs may also include special hours on bike event days or special events promoting biking to retail.	Encouragement	Community	Planning Department and Economic Development	Ongoing	Medium	Low
Low	**Promote Bike-Friendly Business program.** Bike-friendly business programs recognize businesses that offer programs and amenities to employees to encourage bicycling or walking to work, such as financial incentives, bicycle parking, and office shower facilities. Organizations like CommuteSMART Seacoast could organize their own program or encourage businesses to apply for an existing bike-friendly	Encouragement	Community	Planning Department and Economic Development	Ongoing	High	Low

Priority	Recommendation	5 E's	Lead Jurisdiction	Associated City Department	Frequency	Feasibility	Cost/Level of Effort
	recognition program (such as the League of American Bicyclists Bike Friendly Business program).						
Medium	**Establish policies to guide the use of e-mobility devices and other motorized devices.** As more devices become available on the market, determine acceptable classifications of e-mobility devices for bicycle facilities, shared use paths, and other mixing areas. Electric devices are banned from sidewalks. The City should determine regulations for the use of electronic devices on roadways, bicycle facilities, and shared use path facilities. All regulations and etiquette should be clearly communicated to the public with signing and online resources.	Enforcement	City/State	Planning Department and Public Works Department	Once	Medium	Low
High	**Require traffic management plans during construction to provide for pedestrian and bicycle travel.** The City should review traffic management plans for signs, detours, and temporary accommodations that maintain	Engineering	City/State DOT	Public Works Department	5 years	High	Low

Priority	Recommendation	5 E's	Lead Jurisdiction	Associated City Department	Frequency	Feasibility	Cost/Level of Effort
	ADA-compliant pedestrian and bicyclist access around construction zones. Review should adhere to the most recent MUTCD.						
High	**Use the Bicycle and Pedestrian Plan for project and development review.** Compare all proposed capital projects and development reviews to the infrastructure recommendations in the Bicycle and Pedestrian Plan for opportunities to implement recommendations.	Engineering	City	Public Works Department and Planning Department	Ongoing	High	Low
Medium	**Complete transit access study focused on the siting and conditions of transit stops.** Transit stops should be accessible to disabled persons and connect to sidewalks. Stop locations should be audited for crosswalks and warning signage to improve the visibility and safety of pedestrians using the transit stop. Opportunities for partnership between Rockingham Planning Commission (RPC), COAST, and the City.	Engineering	Rockingham Planning Commission	Planning Department	5 years	High	Low

Priority	Recommendation	5 E's	Lead Jurisdiction	Associated City Department	Frequency	Feasibility	Cost/Level of Effort
Medium	**Continue to coordinate with COAST to conduct spot improvements at transit stops.** Improvements may include upgrading signage, installing shelters or seating, lighting, route maps, and schedules.	Engineering	COAST	Planning Department and Economic Development	Ongoing	Medium	High
Medium	**Create a bicycle parking program.** The City should create a bike parking request system and install new bike racks and bike parking corrals in areas of high demand.	Engineering	City	Public Works Department	Annual	Medium	Medium
Medium	**Improve snow clearance procedures.** Continue to modify snow clearance activities to improve access to pedestrian ramps and crosswalks at intersections and to improve access to pedestrian activation buttons. Encourage voluntary snow clearance by residents and local businesses.	Engineering	City	Public Works Department	Seasonal	Medium	High
Medium	**Include on- and off-road bicycle facilities in maintenance programs.** Bike lanes and off road	Engineering	City	Public Works Department	Once	Medium	High

Priority	Recommendation	5 E's	Lead Jurisdiction	Associated City Department	Frequency	Feasibility	Cost/Level of Effort
	paths should be cleared of debris and snow, year-round. Bicycle facilities should be added to street sweeping and snow clearance programs.						
Medium	**Install bicycle and pedestrian wayfinding.** Bicycle and pedestrian wayfinding should include navigation to popular destinations, time and/or distance to destination. This should be integrated with Citywide Wayfinding Plan for all transportation modes.	Engineering	City	Public Works Department	Ongoing	Medium	Medium
Medium	**Install public bike maintenance stations.** Public maintenance stations allow bicyclists to fill tires with air and complete minor repairs. These stations offer convenience to bicyclists and increase the visibility of bicycling in the community.	Engineering	City	Public Works Department	Ongoing	High	Medium
Medium	**Purchase necessary equipment to plow sidewalks and bike facilities.** Narrow plows are be used on both sidewalks and	Engineering	City	Public Works Department	Once	Medium	Medium

Priority	Recommendation	5 E's	Lead Jurisdiction	Associated City Department	Frequency	Feasibility	Cost/Level of Effort
	separated bike facilities to support clear pathways for year-round use.						
Medium	**Require installation of wheel guards on municipally-owned or contracted heavy vehicles.** Wheel guards prevent bicyclists from being pulled under the wheels of heavy vehicles in a crash. The City should retrofit vehicles operated by the City or under contract with the City, such as waste removal, construction or maintenance vehicles.	Engineering	City	Public Works Department	Ongoing	Medium	Medium
Medium	**Require restoration of all pedestrian and bicycle pavement markings after street utility repairs.** Include pavement markings as part of inspection list for utility repairs. Supply pavement marking plans with street opening permits.	Engineering	City	Public Works Department	Ongoing	Medium	Low
Low	**Organize volunteer path maintenance events.** The City should partner with local organizations such as New Hampshire Seacoast Greenway	Engineering	City/State	Planning Department/Conservation Commission	Seasonal	Medium	Low

Priority	Recommendation	5 E's	Lead Jurisdiction	Associated City Department	Frequency	Feasibility	Cost/Level of Effort
	(NHSG) and SABR to have volunteers conduct seasonal maintenance on off-road paths. Maintenance may include trash pickup, sweeping, cleaning of vandalism, and reporting areas in need of more serious maintenance.						
High	**Adopt a Safe System Approach.** A Safe System Approach is a guiding paradigm adopted by the U.S. DOT's National Roadway Safety Strategy that focuses on both human mistakes and human vulnerability to design a system with many redundancies in place to protect all road users. Safety programs should be focused on infrastructure, human behaviour, responsible oversight of the vehicle and transportation industry, and emergency response. This approach is also complementary to Portsmouth's Complete Streets Policy.	Evaluation	City	Planning Department	Once	Medium	Low
High	**Establish a standing pedestrian and bicycle advisory committee.**	Evaluation	City	Planning Department	Ongoing	Medium	Low

Priority	Recommendation	5 E's	Lead Jurisdiction	Associated City Department	Frequency	Feasibility	Cost/Level of Effort
	A bicycle and pedestrian advisory committee can assist the City in evaluating and sustaining walking and biking policies and programs.						
Medium	**Establish quick build program to review recommended spot improvements and proposed bike boulevards for potential near-term trial improvements.** Some recommendations may be candidates for temporary or low-cost interim improvements. This will allow the City to try out recommendations before construction funding is available.	Evaluation	City	Planning Department	Ongoing	Medium	Medium
Medium	**Collect and analyze bike counts.** The City should complete annual counts of bicyclist volumes at key locations throughout the City to track bicycle use. Counts can be collected through electronic data from built-in detectors at signals and spot counts can be conducted as needed.	Evaluation	City	Public Works Department	Annual	High	Medium
Medium	**Collect bicycle and pedestrian crash data annually.** The City	Evaluation	City	Police Department	Annual	High	Low

Priority	Recommendation	5 E's	Lead Jurisdiction	Associated City Department	Frequency	Feasibility	Cost/Level of Effort
	should collect bicycle and pedestrian crash data and regularly monitor and assess locations and conditions of bicycle and pedestrian crashes to identify crash trends.						
Medium	**Conduct a feasibility study for a privately-operated bike share.** Bike share programs can increase bicycle mode share, provide an amenity to visitors, and complement existing transit.	Evaluation	City	Planning Department	Once	Medium	Medium
Medium	**Create and maintain a database of local, state, and federal funding sources and grant opportunities for tracking.** Tracking regular funding opportunities and deadlines will help the city more effectively identify and secure pathways towards implementation.	Evaluation	City	Planning Department and Public Works Department	Ongoing	High	Medium
Medium	**Establish a vehicle miles travelled (VMT) reduction target.** The City should set a target VMT reduction percentage by a specific date. This will provide a	Evaluation	City	Planning Department	5 years	High	Low

Priority	Recommendation	5 E's	Lead Jurisdiction	Associated City Department	Frequency	Feasibility	Cost/Level of Effort
	benchmark for the Complete Streets policy. VMT may be measured by annual average daily traffic (AADT). Targets should correspond with emission reduction goals of the Climate Action Plan. Targets should correspond with emission reduction goals of the Climate Action Plan.						
Medium	**Establish bicycle and pedestrian mode share target goals.** The City should set target mode shares for walking and biking. Mode share can be tracked through census data or local surveys. Targets should correspond with emission reduction goals of the Climate Action Plan.	Evaluation	City	Planning Department	5 years	High	Low
Medium	**In accordance with the Complete Street policy, provide an annual status report on the impact of same policy.** Audit complete projects and note the frequency and type of exemptions.	Evaluation	City	Planning Department	Annual	High	Medium

Priority	Recommendation	5 E's	Lead Jurisdiction	Associated City Department	Frequency	Feasibility	Cost/Level of Effort
Medium	**Review the Bicycle and Pedestrian Plan and provide a status report every two years.** Regular review of the Plan will help inform ongoing initiatives and long-term project planning. Status reports can include performance metrics to measure the progress of recommendations from the Plan.	Evaluation	City	Planning Department	Every two years	High	Medium

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Infrastructure Recommendations

The following sheets illustrate the locations of the proposed infrastructure projects. Each sheet is organized to support a Key Connection:

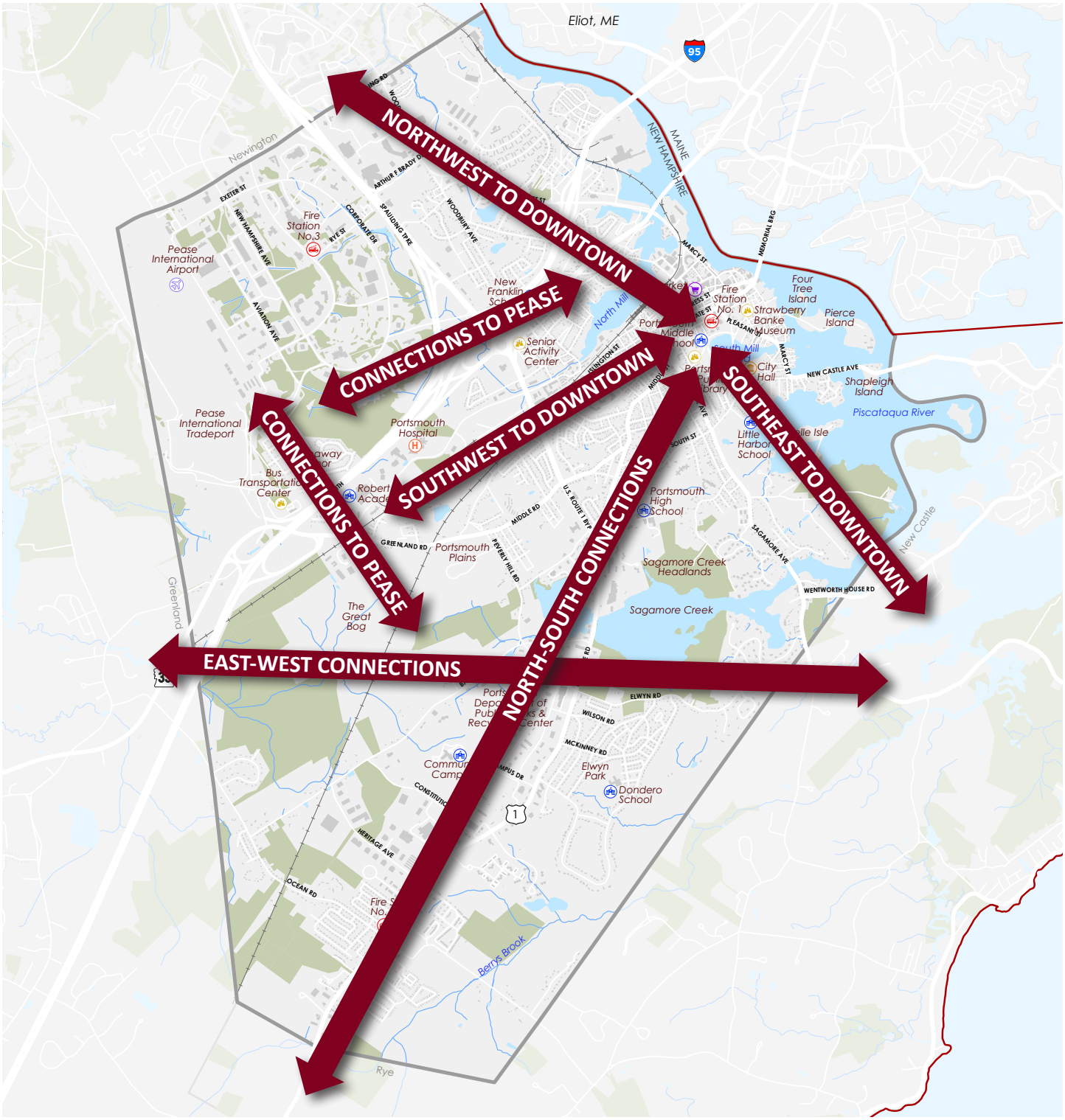
- Southeast to Downtown
- Southwest to Downtown
- Northwest to Downtown
- North-South Connections
- East-West Connections
- Connections to Pease

Each of these key connections represents a general path of travel for different geographic areas within Portsmouth and provides a framework for presenting the recommendations for specific components of the network. **Click on each Key Connection** on the front map to jump to the corresponding project summary sheet.

The infrastructure recommendations are also listed in **Table 10** organized by key connection and summarizing the prioritization criteria, feasibility, and planning level opinion of probable cost.

The top project priorities resulting from Public Meeting 2 are indicated in **Table 10** with a callout box. More information on community project priorities can be found in **Appendix A Public Engagement**:

PORTSMOUTH NETWORK RECOMMENDATIONS



Portsmouth
Railroads
Water Body
Buildings
NH State Boundary

School
Government
Hospital
Airport

Fire Department
Civic Buildings
Shopping
Recycling Facility

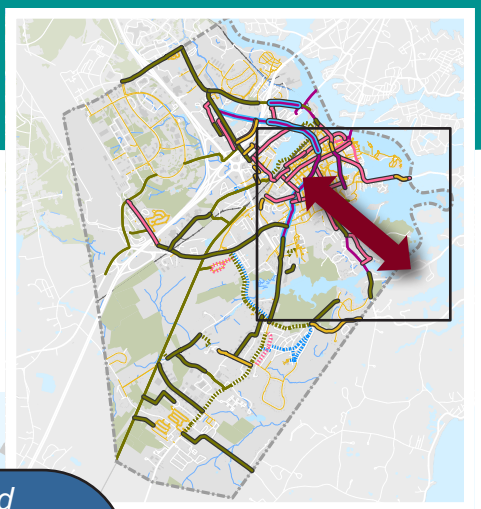
0 0.5 1 Mile

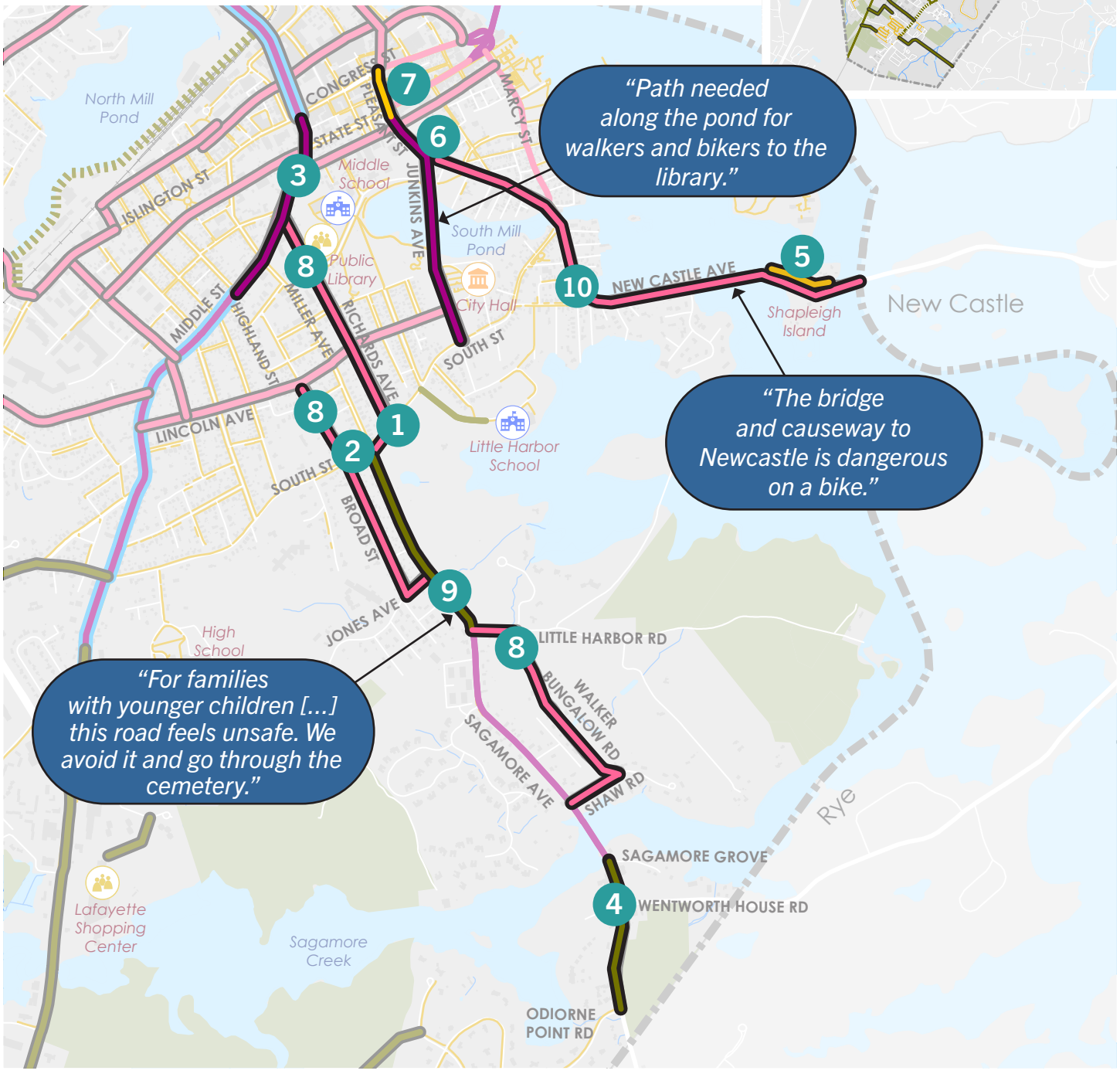
Bicycle & Pedestrian Network Key Connections

Portsmouth NH Bike Pedestrian Plan Update 2024

SOUTHEAST TO DOWNTOWN

Connections: **Rye, New Castle, Downtown Portsmouth, City Hall, Portsmouth Public Library, Little Harbour School, Portsmouth Middle School, and Portsmouth High School**





Bicycle and Pedestrian Network - Southeast to Downtown

0 0.5 Miles

Project Needs and Constraints

The area between southeast Portsmouth and Downtown is characterized by high population density and a concentration of key destinations. However, narrow roadways and limited routes require creative solutions and the identification of alternative, lower-stress streets that can connect people to their common destinations. For example, Sagamore Avenue is the main route between southeastern neighborhoods, the neighboring town of Rye, and Downtown. While a shared use path is recommended in the long term where possible, this plan identifies the parallel, lower-stress routes of Walker Bungalow Road and Broad Street as recommended bike boulevards as an interim condition and as parallel alternatives in constrained conditions. Additional recommendations for this connection include filling sidewalk gaps, extending existing bike lanes, upgrading shared lane markings to dedicated facilities, improving pedestrian crossings, and prioritizing pedestrian access in the Downtown.

Recommendations

1. Add pedestrian crossings across South Street at Richards Avenue and the Cemetery entrance.
2. Upgrade pedestrian curb ramps at the intersection of South Street and Broad Street and add a Rectangular Rapid Flashing Beacon across South Street.
3. **Upgrade existing bike boulevard to bike lanes on Middle Street between Highland Street and Congress Street.***
4. Widen sidewalk to a shared use path on west side of Sagamore Avenue between Odiorne Point Road and Sagamore Grove. Add a pedestrian crossing across Sagamore Avenue at Wentworth House Road.
5. Complete sidewalk across Shapleigh Island.
6. Add bike lanes on Pleasant Street/Junkins Avenue between State Street and South Street.
7. Eliminate one left turn lane from northbound Pleasant Street between Congress Street and State Street. Widen sidewalks and enhance public realm.
8. Designate as a bike boulevard on Walker Bungalow Road, Broad Street, and Richards Avenue as low-stress alternative routes for Sagamore Avenue and Miller Avenue.
9. Upgrade existing bike lanes to shared use path on Sagamore Avenue between South Street and Little Harbor Rd.
10. Designate as a bike boulevard on Pleasant Street/Marcy Street/New Castle Avenue between Junkins Avenue and the Portsmouth border.

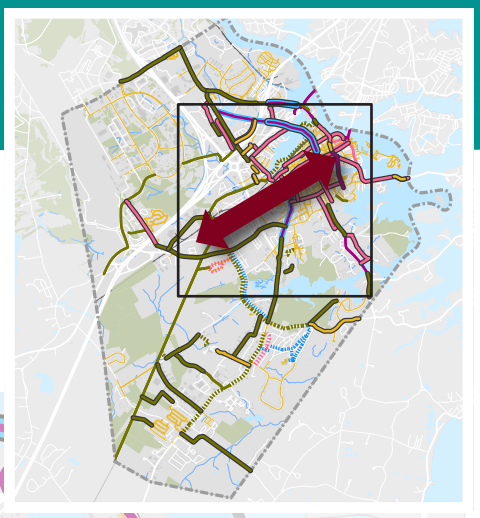
***Top project for the community**

EXISTING
- Sidewalk
- Buffered Bike Lane
- Bike Lane
- Shared Use Path
- Bike Boulevard

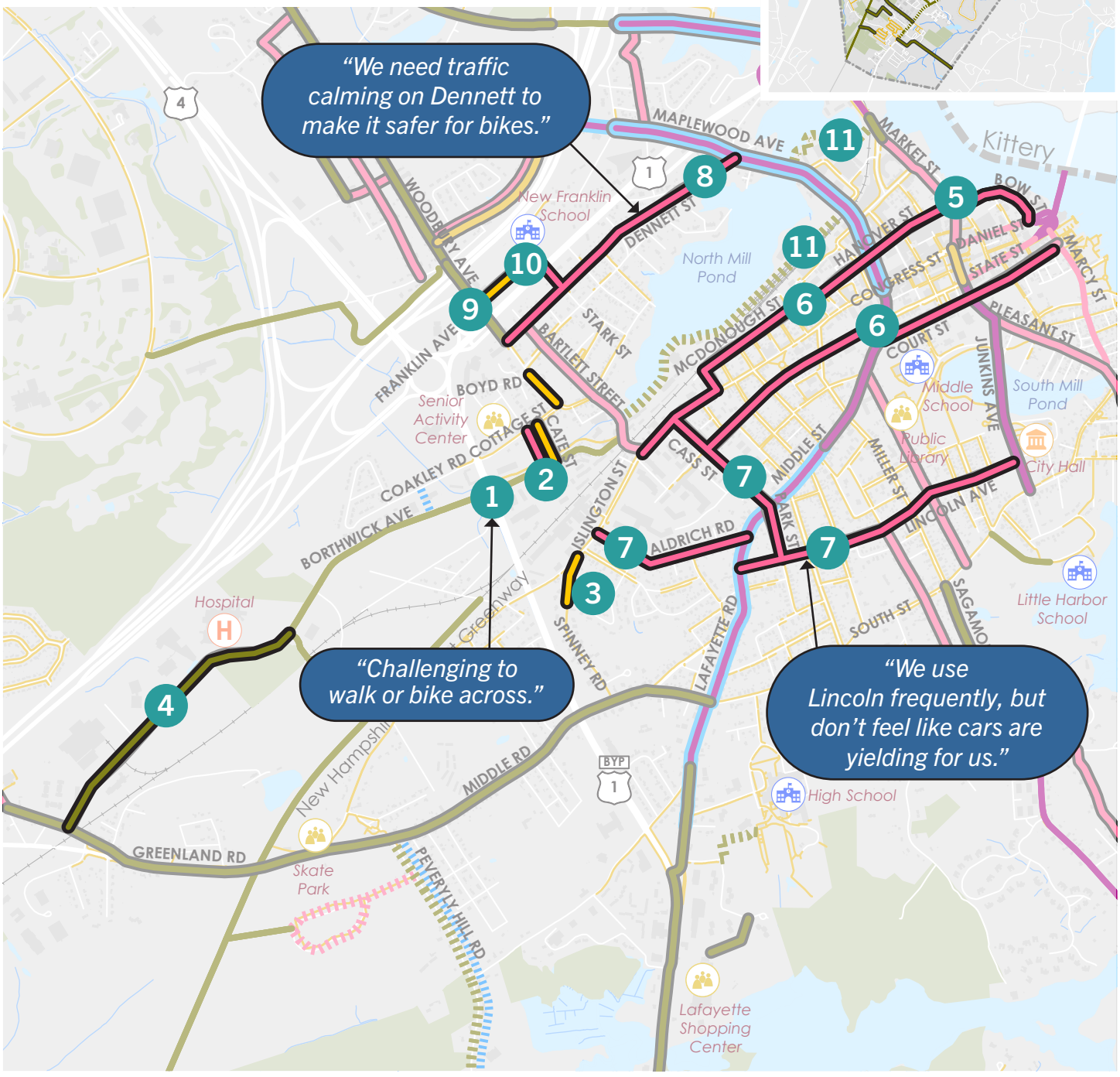
PROGRAMMED
- Sidewalk
- Shared Use Path
- Bike Boulevard

PROPOSED
- New Sidewalk
- Separated Bike Lane
- Bike Lane
- Shared Use Path
- Bike Boulevard

SOUTHWEST TO DOWNTOWN



***Connections*: New Hampshire Seacoast Greenway, Portsmouth Senior Activity Center, Downtown Portsmouth, Kittery, Portsmouth Regional Hospital, Portsmouth Middle School, City Hall**



Bicycle and Pedestrian Network - Southwest to Downtown

Project Needs and Constraints

While the New Hampshire Seacoast Greenway provides the most continuous and direct connection between southwest Portsmouth and Downtown, the path only takes people as far north as Barberry Lane. Since a direct extension north along the rail corridor is not possible, a network of parallel routes, bike boulevards, and shared use paths will enable path users and nearby neighbors to continue their journey on foot or by bike to major destinations Downtown. The upcoming North Mill Pond Path will play a key role in enhancing this connection, and the addition of a Downtown bike boulevard network can help to improve direct access to destinations off the path. Additional recommendations for southwest to Downtown connections include filling sidewalk gaps, improving connections to the New Franklin School, and adding a shared use path on Borthwick Avenue.

Recommendations

1. Enhance pedestrian crossings across Route 1 Bypass at Borthwick Avenue.
2. Complete sidewalk gap on Cate Street between Hodgdon Way and Cottage Street and on the west side of Woodbury Avenue from Boyd Road to Cottage Street. Add a pedestrian crossing across Cottage Street at Cate Street to access the Senior Activity Center. Designate as a bike boulevard on Cate Street to access Senior Activity Center.
3. Complete sidewalk gap on Spinney Road between Islington Street and Sewall Road.
4. Continue shared use path on Borthwick Avenue to Greenland Road. Address pedestrian crossings and visibility, particularly at Hospital entrance.
5. Designate as a bike boulevard on Bow Street between Daniel Street and Market Street.
6. Designate as a bike boulevard on Court Street between Marcy Street and Middle Street, on State Street between Middle Street and Cass Street, and on Hanover Street/McDonough Street/Islington Street between Market Street and Bartlett Street as lower-stress alternative routes through Downtown.
7. Designate as a bike boulevard on Park Street/Cass Street and on Aldrich Road between Islington Street and Lincoln Avenue/Middle Street. Enhance existing bike boulevard on Lincoln Avenue between Junkins Avenue and Middle Street.
8. Designate as a bike boulevard on Dennett Street between Woodbury Avenue and Maplewood Avenue.
9. Complete and upgrade sidewalk on Franklin Drive.
10. Convert Stark Street to a bicycle boulevard to improve access to New Franklin School.
11. **Continue design of North Mill Pond Trail and New Hampshire Seacoast Greenway.***

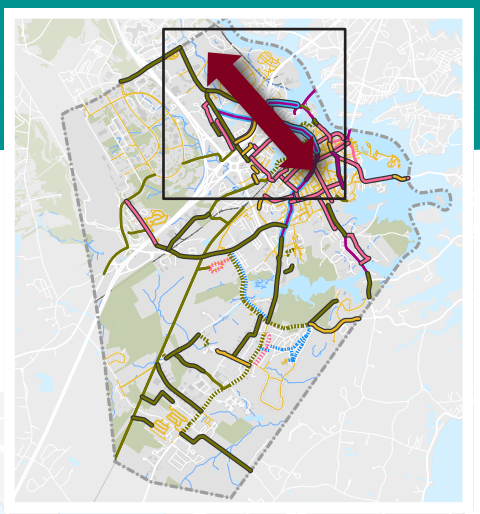
***Top project for the community**

EXISTING
- Sidewalk
- Buffered Bike Lane
- Bike Lane
- Shared Use Path
- Bike Boulevard

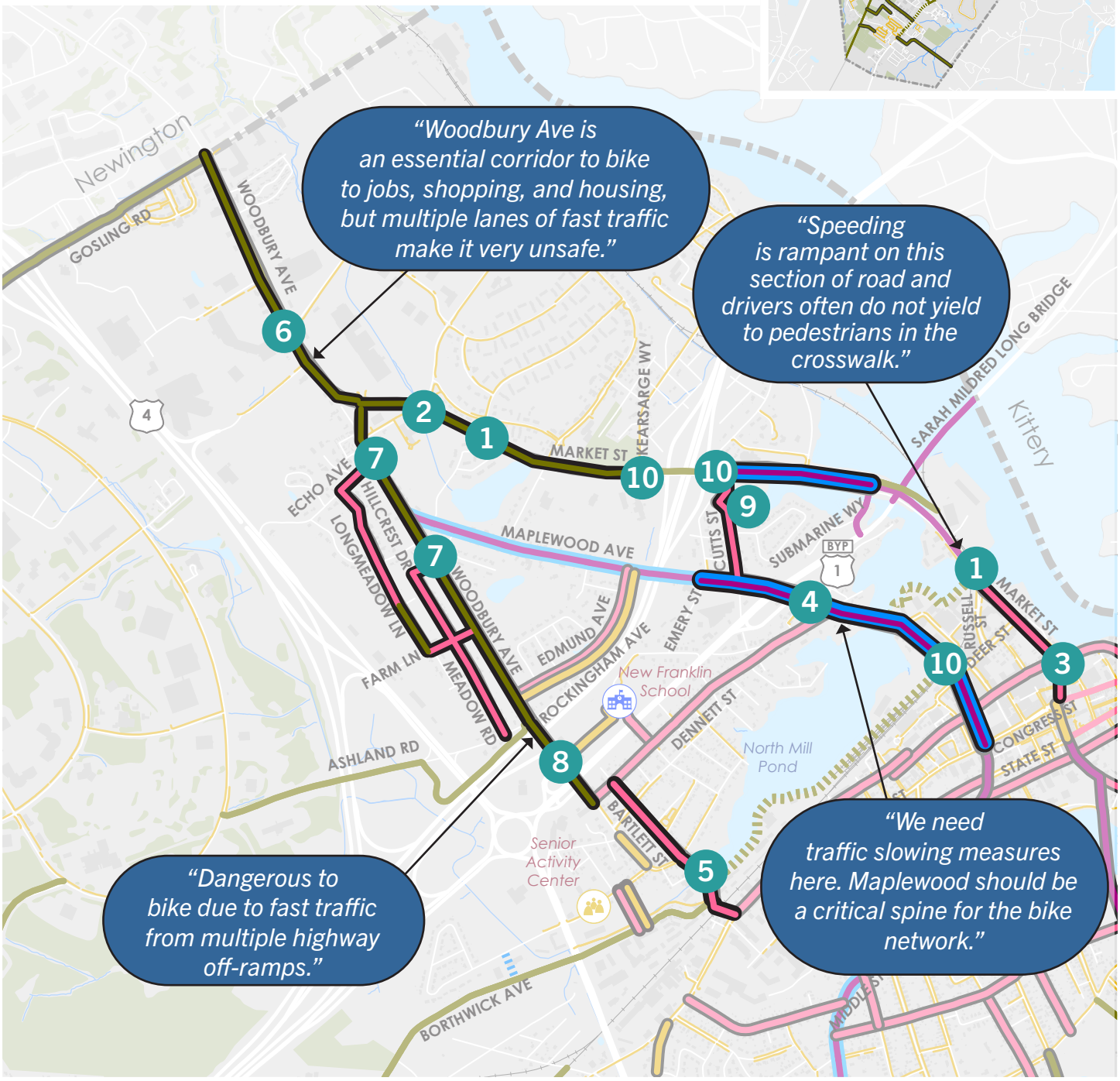
PROGRAMMED
- Sidewalk
- Shared Use Path
- Bike Boulevard

PROPOSED
- New Sidewalk
- Separated Bike Lane
- Bike Lane
- Shared Use Path
- Bike Boulevard

NORTHWEST TO DOWNTOWN



***Connections*: Newington, Downtown Portsmouth, Woodbury Avenue Commercial Area, Bohenko Gateway Park, New Franklin School, Senior Activity Center, Gosling Meadows**



Bicycle and Pedestrian Network - Northwest to Downtown

0 0.5 Miles

Project Needs and Constraints

This area is characterized by three main corridors: Market Street, Maplewood Avenue, and Woodbury Avenue. Each has its own character but together, they provide important connections to residential neighborhoods, commercial destinations, and recreational amenities. Importantly, they also all cross two major barriers: Interstate 95 and the Route 1 Bypass. Recommendations include upgrading existing bicycle facilities with more separation where space allows, formalizing key connections (such as the shared use path from Market Street to Cutts Street), and proposing parallel routes on lower-stress streets. For example, a shared use path is recommended in the long-term on Woodbury Avenue. As an interim treatment, parallel bike boulevards are proposed as low-stress alternatives on neighborhood streets.

Recommendations

1. Continue existing shared use path on Market Street between Woodbury Avenue and Kearsarge Way and between railroad tracks and Russell Street. Upgrade existing bike lanes on Market Street between Cutts Street and Submarine Way to separated bike lanes. Maintain existing shared use path between Kearsarge Way and Cutts Street. Tighten intersection geometry and stripe bicycle markings through Market Street and Russell Street intersection.
2. Rehabilitate pedestrian bridge on Market Street.
3. Designate as a bike boulevard on Market Street between Russell Street and Congress Street.
4. Perform study to explore separated bike lanes on Maplewood Avenue between Emery Street and Dennett Street and between Deer Street and Congress Street/Islington Street. Enhance existing bike lanes between Dennett Street and Deer Street.
5. Designate as a bike boulevard on Bartlett Street/Dennett Street between Woodbury Avenue and Islington Street.
6. **Add shared use path on Woodbury Avenue between Portsmouth border and Market Street.***
7. Add a shared use path on Woodbury Avenue between Market Street and Rockingham Avenue. In the interim, designate bike boulevards on Echo Avenue, Hillcrest Drive/Longmeadow Lane, Maple Street/Meadow Road, and Farm Lane and add a shared use path connection on the unimproved ROW between Longmeadow Lane and Farm Lane as lower-stress alternative routes for Woodbury Avenue.
8. Convert bike lanes to a shared use path on east side of Woodbury Avenue between Rockingham Avenue and Dennett Street.
9. Add wayfinding and bike boulevard on Cutts Street and add curb cuts and ramps between Cutts Street path and Market Street.
10. Add warning signs for cyclists at approaches to rail tracks on Maplewood Avenue and Market Street.

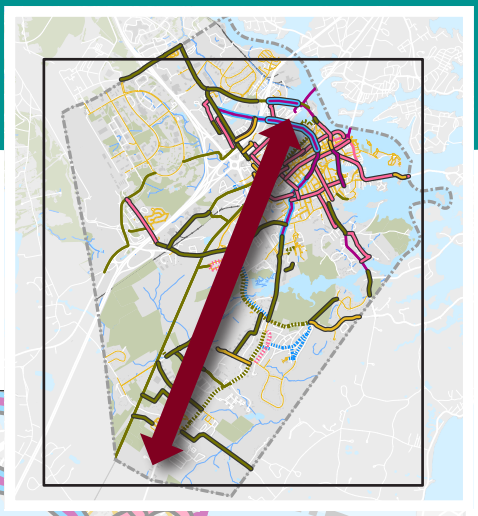
***Top project for the community**

EXISTING
- Sidewalk
- Buffered Bike Lane
- Bike Lane
- Shared Use Path
- Bike Boulevard

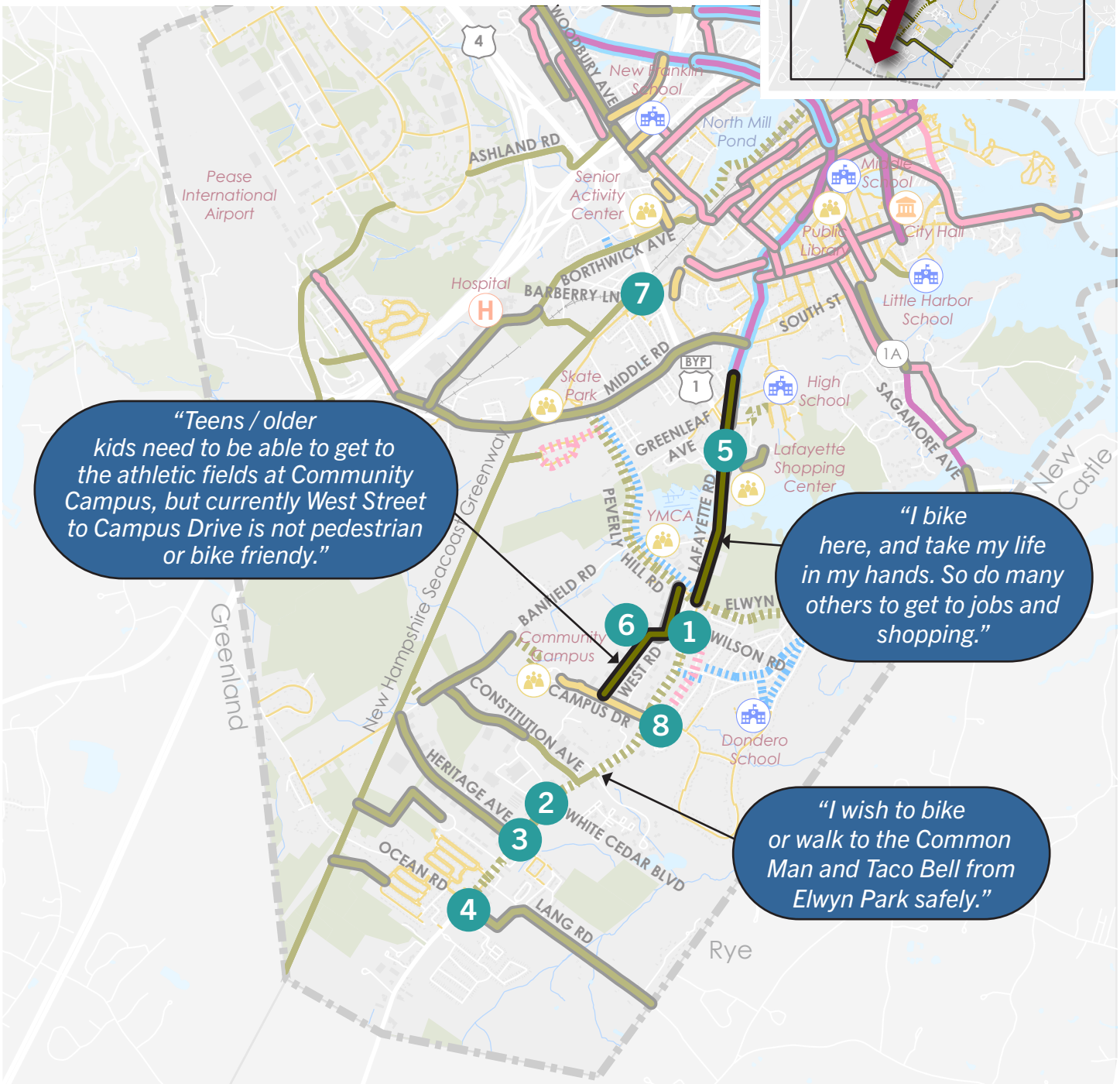
PROGRAMMED
- Sidewalk
- Shared Use Path
- Bike Boulevard

PROPOSED
- New Sidewalk
- Separated Bike Lane
- Bike Lane
- Shared Use Path
- Bike Boulevard

NORTH-SOUTH CONNECTIONS



***Connections*: Rye, New Hampshire Seacoast Greenway, Dondero School, Community Campus, YMCA, Portsmouth High School, Downtown Portsmouth, businesses and services along Lafayette Road**



Bicycle and Pedestrian Network - North-South Connections

0 0.5 Miles

Project Needs and Constraints

Portsmouth's north-south connection is defined by Route 1 (Lafayette Road) which is a key commercial corridor that links to residential neighborhoods, community assets (such as Community Campus), and Downtown, and runs parallel to the newly opened New Hampshire Seacoast Greenway. Ongoing projects will improve walking and biking along portions of Route 1 and provide new sidewalks along Peverly Hill Road and Elwyn Road. In addition to these improvements, this plan recommends further enhancing pedestrian crossings between Ocean Road and Peverly Hill Road, extending the proposed shared use path on Lafayette Road north to meet existing buffered bike lanes, and improving walking and biking parallel to Lafayette Road along the low-stress route of West Road. Together, these ongoing and proposed improvements will create a robust north-south spine through Portsmouth, with options for traveling by foot or by bike between Downtown and all of the destinations along Lafayette Road.

Recommendations

In coordination with NHDOT, improve pedestrian crossings along Lafayette Road at 1 Wilson Road, 2 White Cedar Boulevard, 3 Heritage Avenue, and 4 Ocean Road intersections.

5 **Add a shared use path on Lafayette Road between Elwyn Road and Greenleaf Avenue.***

6 Add a shared use path on West Road between Peverly Hill Road and Campus Drive.

7 Add wayfinding on Barberry Lane to the New Hampshire Seacoast Greenway.

8 Continue progress on US Route 1 Corridor Project in coordination with NHDOT.

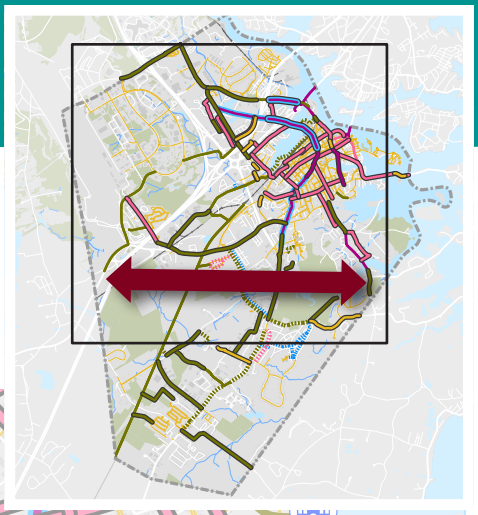
***Top project for the community**

EXISTING
- Sidewalk
- Buffered Bike Lane
- Bike Lane
- Shared Use Path
- Bike Boulevard

PROGRAMMED
- Sidewalk
- Shared Use Path
- Bike Boulevard

PROPOSED
- New Sidewalk
- Separated Bike Lane
- Bike Lane
- Shared Use Path
- Bike Boulevard

EAST-WEST CONNECTIONS



***Connections*: Greenland, Rye, New Hampshire Seacoast Greenway, Dondero School, Portsmouth High School, Community Campus, Skate Park, Downtown Portsmouth**

Bicycle and Pedestrian Network - East-West Connections

0 0.5 Miles

Project Needs and Constraints

Improving Portsmouth's east-west connections will be key to building out a comprehensive walking and biking network that allows travel in all directions and not just to/from Downtown. A network of east-west shared use path connections, as well as new sidewalks on Campus Drive, will mean that people who live and work in Portsmouth will be able to more directly access resources like the New Hampshire Seacoast Greenway and the Community Campus on foot or by bike. Recommendations along and parallel to Elwyn Road will link to other improvements recommended between southeast Portsmouth and Downtown. Where space is more limited Downtown, the addition of bike boulevards will help to slow speeds and communicate the presence of bicyclists to drivers.

Recommendations

1. Improve crossing at Elwyn Road/Peverly Hill Road and Lafayette Road.
2. Add shared use path on Greenland Road between Sherburne Road and Peverly Hill Road and on the north side of Middle Road/South Street between Peverly Hill Road and Lafayette Road.
3. Continue shared use path on Constitution Avenue between Lafayette Road and Banfield Road.
4. Add shared use path to Heritage Avenue between Lafayette Road and Banfield Road.
5. Add off-road connections between Freedom Circle and the New Hampshire Seacoast Greenway and between Nathaniel Drive and the New Hampshire Seacoast Greenway.
6. Add sidewalks on Elwyn Road to Rye border and improve off-road connection between Elwyn Road and Odiorne Point Road. Continue to progress Elwyn Road crossing at Harding Road.
7. Add sidewalk on Campus Drive to fill gaps.
8. Add a shared use path connection on Longmeadow Road/Lang Road between Lafayette Road and the Rye border.
9. Formalize off-street connection between Lafayette Plaza Shopping Center parking lot and Ledgewood Drive.
10. **Add shared use path connection on Banfield Road between New Hampshire Seacoast Greenway and Campus Drive off-road connectors. Add a trailhead connection to the New Hampshire Seacoast Greenway.***
11. Continue progress on Elwyn Road Side Path, Elwyn Park Sidewalks and Traffic Calming, and Peverly HIll Road Complete Street projects.

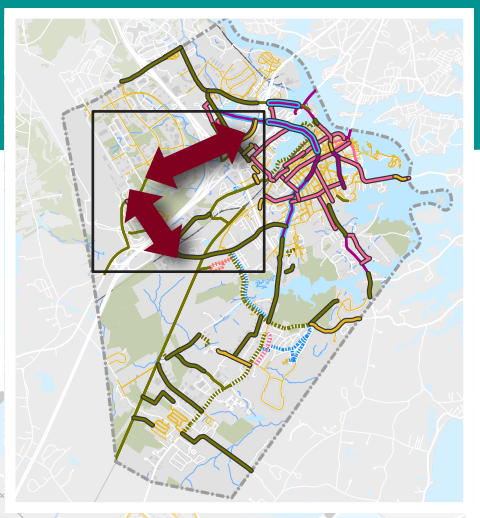
***Top project for the community**

EXISTING
- Sidewalk
- Buffered Bike Lane
- Bike Lane
- Shared Use Path
- Bike Boulevard

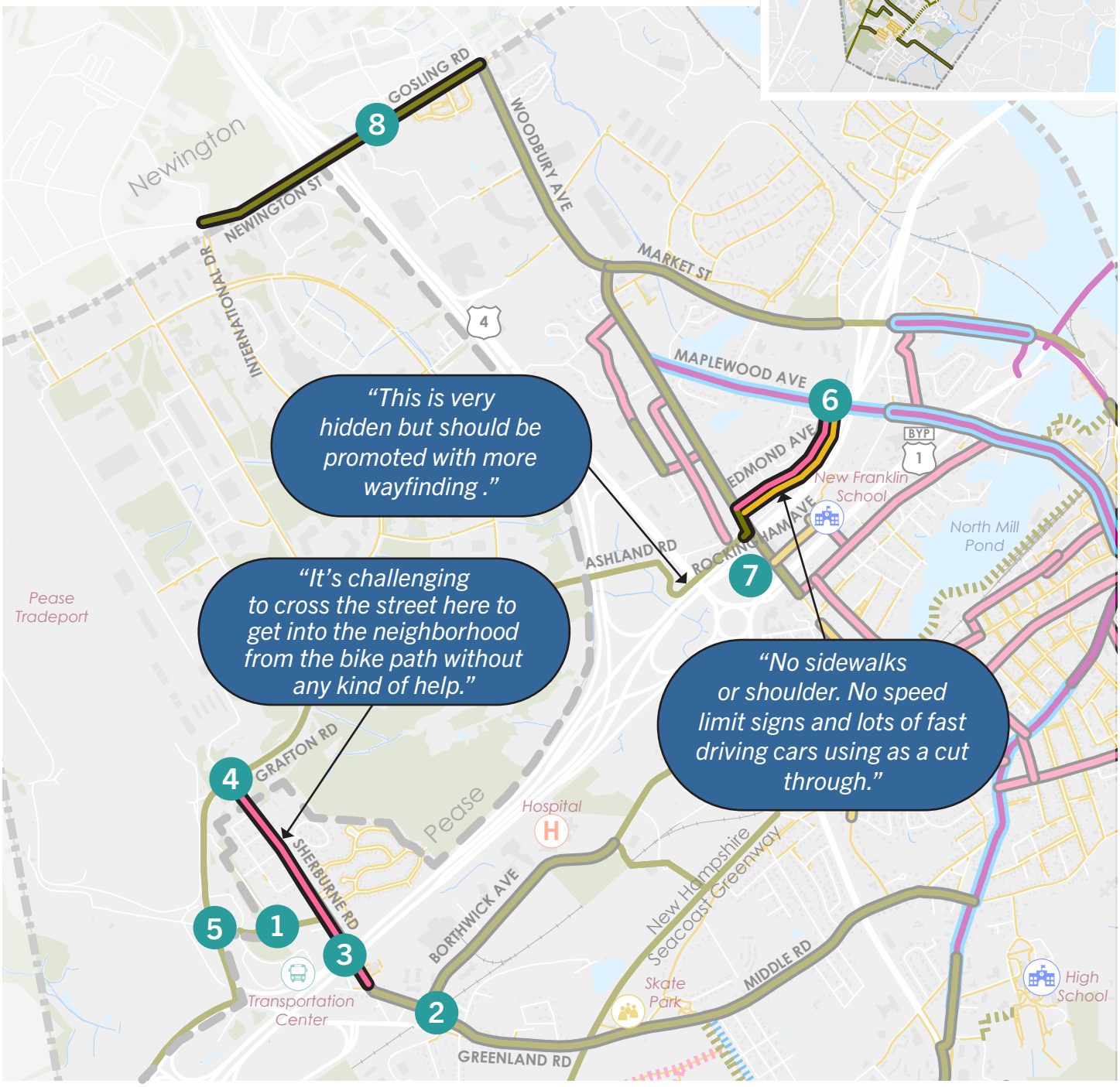
PROGRAMMED
- Sidewalk
- Shared Use Path
- Bike Boulevard

PROPOSED
- New Sidewalk
- Separated Bike Lane
- Bike Lane
- Shared Use Path
- Bike Boulevard

CONNECTIONS TO PEASE



***Connections*: Pease, Newington, Portsmouth Transportation Center, New Hampshire Seacoast Greenway, Skate Park, New Franklin School, Gosling Meadows**



Bicycle and Pedestrian Network - Connections to Pease

0 0.5 Miles

Project Needs and Constraints

While this plan does not include recommendations within Pease Tradeport, connections to and from the area are important for access to the Tradeport as well as to broader links to Newington, the Transportation Center, and across major barriers like Interstate 95. Formalizing a route along Greenland Road to Sherburne Road will allow people traveling to or from Portsmouth by bus to more easily access the City or reach the Transportation Center by bike. This connection also leads directly to the existing shared use path on Grafton Road and will link to other improvements recommended along Greenland Road/Middle Road for east-west connectivity. Similarly, formalizing the connection from Woodbury Avenue to the existing Ashland Road path via Edmond Avenue will increase access to the Transportation Center and popular recreational riding routes from the north.

Recommendations

1. Add bike route wayfinding to and from the Transportation Center.
2. Update pedestrian bridge at Greenland Road to accomodate bicycles.
3. Formalize bike boulevard and path connection on Sherburne Road between Grafton Road and Greenland Road.
4. Coordinate with the Pease Development Authority to add an enhanced pedestrian crossing across Grafton Road at Sherburne Road path.
5. Coordinate with the Pease Development Authority to add a crossing across Grafton Road at the Portsmouth Transportation Center.
6. **Complete sidewalk on Edmond Avenue and convert into a Neighborhood Slow Street by removing the center line and designating as a bike boulevard, enabling a low-stress connection to Ashland Road path.***
7. Add wayfinding on Edmond Avenue and Rockingham Avenue to and from the Ashland Road path. Add a Rectangular Rapid Flashing Beacon to enhance the pedestrian crossing at Rockingham Avenue and Woodbury Avenue for connection to the bike path.
8. Add shared use path on Gosling Road/Newington Street between Woodbury Avenue and International Drive.

***Top project for the community**

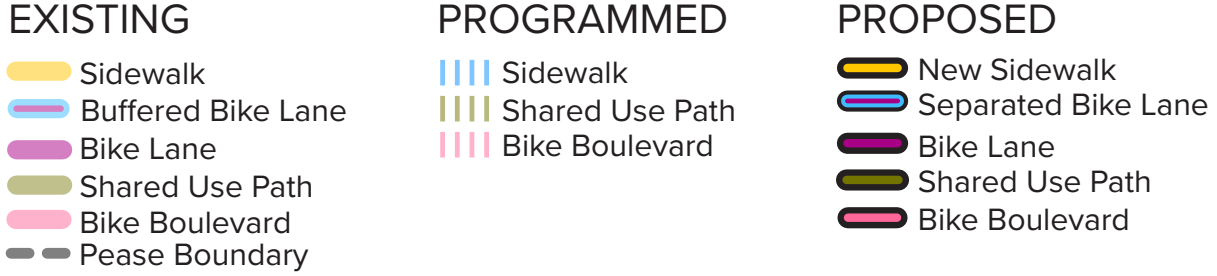


Table 10. Infrastructure Recommendations

Priority	ID	Recommendation	Feasibility	Timeframe	Planning Level Cost	Key Connection
High	4	Widen sidewalk to a shared use path on west side of Sagamore Avenue between Odiorne Point Road and Sagamore Grove. Add a pedestrian crossing across Sagamore Avenue at Wentworth House Road.	Low	Long	$690,000	Southeast to Downtown
High	8	Designate as a bike boulevard on Walker Bungalow Road, Broad Street, and Richards Avenue as low-stress alternative routes for Sagamore Avenue and Miller Avenue.	High	Short	$180,000	
High	9	Upgrade existing bike lanes to shared use path on Sagamore Avenue between South Street and Little Harbor Road.	Low	Long	$2,000,000	
Medium	2	Upgrade pedestrian curb ramps at the intersection of South Street and Broad Street and add a Rectangular Rapid Flashing Beacon across South Street.	Medium	Short	$100,000	
Medium	**3**	**Upgrade existing bike boulevard to bike lanes on Middle Street between Highland Street and Congress Street.**	**Medium**	**Short**	**$100,000**	
Medium	5	Complete sidewalk across Shapleigh Island.	Medium	Medium	$240,000	
Medium	6	Add bike lanes on Pleasant Street/Junkins Avenue between State Street and South Street.	Medium	Low	$60,000	
Medium	10	Designate a bike boulevard along Pleasant Street/Marcy Street/New Castle Avenue between Junkins Avenue and the Portsmouth border.	High	Short	$120,000	

Priority	ID	Recommendation	Feasibility	Timeframe	Planning Level Cost	Key Connection
Low	1	Add pedestrian crossings across South Street at Richards Avenue and the Cemetery entrance.	High	Short	$100,000	Southeast to Downtown
Low	7	Eliminate one left turn lane from northbound Pleasant Street between Congress Street and State Street. Widen sidewalks and enhance public realm.	Medium	Medium	$3,000,000	
High	4	Continue shared use path on Borthwick Avenue to Greenland Road. Address pedestrian crossings and visibility, particularly at Hospital entrance.	Medium	Medium	$1,580,000	Southwest to Downtown
High	**11**	**Continue design of North Mill Pond Trail and New Hampshire Seacoast Greenway.**	**Medium**	**Long**	**See CIP and NHDOT STIP**	
Medium	2	Complete sidewalk gaps on Cate Street between Hodgdon Way and Cottage Street and on the west side of Woodbury Avenue from Boyd Road to Cottage Street. Add a pedestrian crossing across Cottage Street at Cate Street to access the Senior Activity Center. Designate as a bike boulevard on Cate Street to access Senior Activity Center.	Medium	Medium	$390,000	
Medium	3	Complete sidewalk gap on Spinney Road between Islington Street and Sewall Road.	Medium	Medium	$180,000	
Medium	6	Designate as a bike boulevard on Court Street between Marcy Street and Middle Street, on State Street between Middle Street and Cass Street, and on Hanover Street/McDonough Street/Islington Street between Market Street and Bartlett Street as lower-stress alternative routes through Downtown.	High	Short	$210,000	

Priority	ID	Recommendation	Feasibility	Timeframe	Planning Level Cost	Key Connection
Medium	7	Designate as a bike boulevard on Park Street/Cass Street and on Aldrich Road between Islington Street and Lincoln Avenue/Middle Street. Enhance existing bike boulevard on Lincoln Avenue between Junkins Avenue and Middle Street.	High	Short	$90,000	Southwest to Downtown
Medium	9	Complete and upgrade sidewalk on Franklin Drive.	Medium	Medium	$270,000	
Low	1	Enhance pedestrian crossings across Route 1 Bypass at Borthwick Avenue.	Medium	Medium	$90,000	
Low	5	Designate as a bike boulevard on Bow Street between Daniel Street and Market Street.	High	Short	$30,000	
Low	8	Designate as a bike boulevard on Dennett Street between Woodbury Avenue and Maplewood Avenue.	High	Short	$80,000	
Low	10	Convert Stark Street to a bicycle boulevard to improve access to New Franklin School.	High	Short	$10,000	
High	**6**	**Add shared use path on Woodbury Avenue between Portsmouth border and Market Street.**	**Medium**	**Long**	**$2,000,000**	Northwest to Downtown
High	1a	Continue existing shared use path on Market Street between Woodbury Avenue and Kearsarge Way and between railroad tracks and Russell Street. Maintain existing shared use path between Kearsarge Way and Cutts Street. Tighten intersection geometry and stripe bicycle markings through Market Street and Russell Street intersection.	Low	Long	$4,000,000	

Priority	ID	Recommendation	Feasibility	Timeframe	Planning Level Cost	Key Connection
High	1b	Upgrade existing bike lanes on Market Street between Cutts Street and Submarine Way to separated bike lanes.	Medium	Medium	$170,000	Northwest to Downtown
High	7a	Add a shared use path on Woodbury Avenue between Market Street and Rockingham Avenue.	Medium	Long	$4,000,000	
Medium	4	Perform study to explore separated bike lanes on Maplewood Avenue between Emery Street and Dennett Street and between Deer Street and Congress Street/Islington Street. Enhance existing bike lanes between Dennett Street and Deer Street.	Low	Medium	$50,000	
Medium	8	Convert bike lanes to a shared use path on east side of Woodbury Avenue between Rockingham Avenue and Dennett Street.	Low	Long	$2,000,000	
Medium	7b	In the interim, designate bike boulevards on Echo Avenue, Hillcrest Drive/Longmeadow Lane, Maple Street/Meadow Road, and Farm Lane and add a shared use path connection on the unimproved ROW between Longmeadow Lane and Farm Lane as lower-stress alternative routes for Woodbury Avenue.	Medium	Short/ Medium	$500,000	
Medium	2	Rehabilitate pedestrian bridge on Market Street.	Medium	Medium	$3,450,000	
Low	3	Designate as a bike boulevard on Market Street between Russell Street and Congress Street.	High	Short	$40,000	
Low	5	Designate as a bike boulevard on Bartlett Street/Dennett Street between Woodbury Avenue and Islington Street.	High	Short	$50,000	

Priority	ID	Recommendation	Feasibility	Timeframe	Planning Level Cost	Key Connection
Low	9	Add wayfinding and bike boulevard on Cutts Street and add curb cuts and ramps between Cutts Street path and Market Street.	High	Short	$60,000	Northwest to Downtown
Low	10	Add warning signs for cyclists at approaches to rail tracks on Maplewood Avenue and Market Street.	High	Short	$20,000	
High	**5**	**Add a shared use path on Lafayette Road between Elwyn Road and Greenleaf Avenue.**	**Low**	**Long**	**$4,000,000**	North-South Connections
High	6	Add a shared use path on West Road between Peverly Hill Road and Campus Drive.	Medium	Long	$2,500,000	
High	8	Continue progress on US Route 1 Corridor Project in coordination with NHDOT.	Medium	Medium	See CIP and NHDOT STIP	
Medium	1	In coordination with NHDOT, improve pedestrian crossings along Lafayette Road at Wilson Road.	Medium	Short	$90,000	
Medium	2	In coordination with NHDOT, improve pedestrian crossings along Lafayette Road at White Cedar Boulevard.	Medium	Short	$90,000	
Medium	3	In coordination with NHDOT, improve pedestrian crossings along Lafayette Road at Heritage Avenue.	Medium	Short	$90,000	
Medium	4	In coordination with NHDOT, improve pedestrian crossings along Lafayette Road at Ocean Road.	Medium	Short	$90,000	
Low	7	Add wayfinding on Barberry Lane to the New Hampshire Seacoast Greenway.	High	Short	$10,000	

Priority	ID	Recommendation	Feasibility	Timeframe	Planning Level Cost	Key Connection
High	1	Improve crossing at Elwyn Road/Peverly Hill Road and Lafayette Road.	Medium	Medium	$90,000	East-West Connections
High	2	Add shared use path on Greenland Road between Sherburne Road and Peverly Hill Road and on the north side of Middle Road/South Street between Peverly Hill Road and Lafayette Road.	Medium	Long	$3,390,000	
High	3	Continue shared use path on Constitution Avenue between Lafayette Road and Banfield Road.	Medium	Long	$1,000,000	
High	4	Add shared use path to Heritage Avenue between Lafayette Road and Banfield Road.	Medium	Long	$3,000,000	
High	5	Add off-road connections between Freedom Circle and the New Hampshire Seacoast Greenway and between Nathaniel Drive and the New Hampshire Seacoast Greenway.	Medium	Long	$1,930,000	
High	8	Add shared use path connection on Longmeadow Road/Lang Road between Lafayette Road and the Rye border.	Low	Long	$2,070,000	
High	**10**	**Add shared use path connection on Banfield Road between New Hampshire Seacoast Greenway and Campus Drive off-road connectors. Add a trailhead connection to the New Hampshire Seacoast Greenway.**	**Medium**	**Long**	**$1,530,000**	
High	11	Continue progress on Elwyn Road Side Path, Elwyn Park Sidewalks and Traffic Calming, and Peverly Hill Road Complete Street projects.	High	Long	See CIP	

Priority	ID	Recommendation	Feasibility	Timeframe	Planning Level Cost	Key Connection
High	6a	Add sidewalks on Elwyn Road to Rye border.	Medium	Medium	$2,710,000	East-West Connection
High	6b	Improve off-road connection between Elwyn Road and Odiorne Point Road.	High	Medium	$450,000	
Medium	7	Add sidewalk on Campus Drive to fill gaps.	High	Medium	$2,710,000	
Medium	9	Formalize off-street connection between Lafayette Plaza Shopping Center parking lot and Ledgewood Drive.	High	Short	$470,000	
Medium	6c	Continue to progress Elwyn Road crossing at Harding Road.	High	Short	See CIP	
Medium	2	Update pedestrian bridge at Greenland Road to accommodate bicycles.	Medium	Medium	$2,000,000	Connections to Pease
Medium	3	Formalize bike boulevard and path connection on Sherburne Road between Grafton Road and Greenland Road.	High	Short	$80,000	
Medium	5	Coordinate with the Pease Development Authority to add a crossing across Grafton Road at the Portsmouth Transportation Center.	Medium	Short	$100,000	
Medium	**6**	**Complete sidewalk on Edmond Avenue and convert into a Neighborhood Slow Street by removing the center line and designating as a bike boulevard, enabling a low-stress connection to Ashland Road path.**	**Medium**	**Short**	**$660,000**	

Priority	ID	Recommendation	Feasibility	Timeframe	Planning Level Cost	Key Connection
Medium	8	Add shared use path on Gosling Road/Newington Street between Woodbury Avenue and International Drive.	Low	Long	$3,000,000	Connections to Pease
Low	1	Add bike route wayfinding to and from the Transportation Center.	High	Short	$60,000	
Low	4	Coordinate with the Pease Development Authority to add an enhanced pedestrian crossing across Grafton Road at Sherburne Road path.	Medium	Short	$100,000	
Low	7	Add wayfinding on Edmond Avenue and Rockingham Avenue to and from the Ashland Road path. Add a Rectangular Rapid Flashing Beacon to enhance the pedestrian crossing at Rockingham Avenue and Woodbury Avenue for connection to the bike path.	High	Short	$120,000	

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Section 7
Implementation

IMPLEMENTATION FRAMEWORK

Project Development Process

The recommendations within this Plan represent an important step to help the City work toward fulfilling the vision of a bikeable and walkable Portsmouth. However, this Plan only represents two stages of a longer project development process, shown in **Figure 10**. The Plan responds to the questions: what issues need to be addressed; what could address the issues; and what is feasible at a planning level? More specific project engineering, design, and programming will be required before reaching the construction stage. The City is committed to working through these remaining steps in this process over the next several years to help ensure that this Plan's vision comes to fruition.

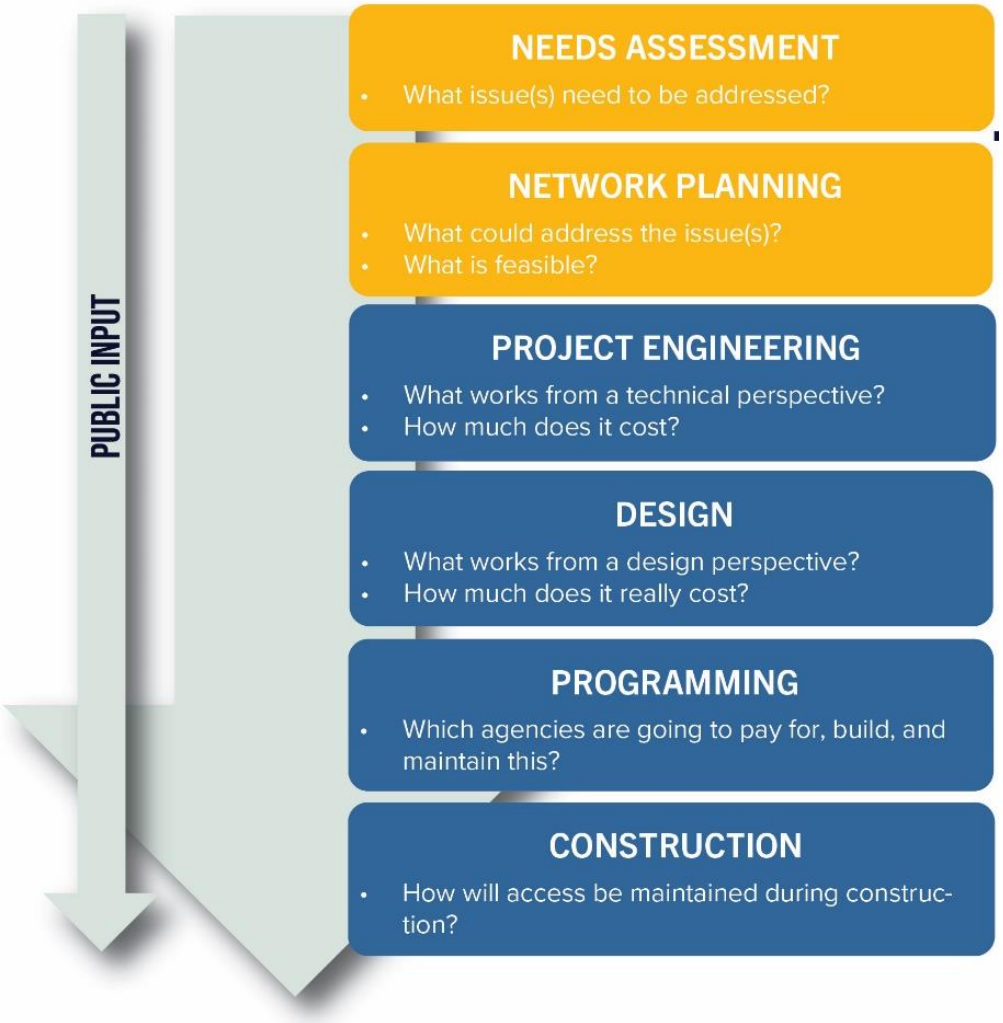


Figure 10. Project Development Process

Implementing the recommendations in this Plan will require working through obstacles, overcoming constraints, and ultimately making trade-offs. Per the City's 2013 Complete Streets Policy, Portsmouth has committed to "approach every transportation improvement and project phase as an opportunity to create

safer, more accessible streets for all users." The following sections include resources to help in this decision-making process and to measure implementation progress along the way.

Performance Metrics

Performance metrics are a way for the City to track progress towards the Plan's goals. The following example metrics listed in Table 11 can be assessed with existing data collection methods, such as crash data, vehicle speeds and volumes, or regular pedestrian and bicycle counts, through tracking of completed infrastructure projects, or by periodically conducting community, household, or business surveys.

Table 11. Performance Metrics

Goal	Suggested Performance Metrics[14]
GOAL 1: Improve the safety and awareness of walking and bicycling in Portsmouth for all ages and abilities.	Reduction in quantity and severity of crashes involving non-motorized users
	Slower vehicle speeds
	Increased public perception of safety and comfort
	Increased participation in Bike Benefits and Commuter Choice programs
	Complete installation of APS technology and increase percent of street crossing, sidewalk miles, and bus stops meeting ADA accessibility standards
GOAL 2: Increase the number of walking and bicycling trips in Portsmouth.	Increased pedestrian and bicyclist volumes and overall mode share
	Increased number of trips to school taken by walking or biking
	Increased participation in walking and biking-related public events

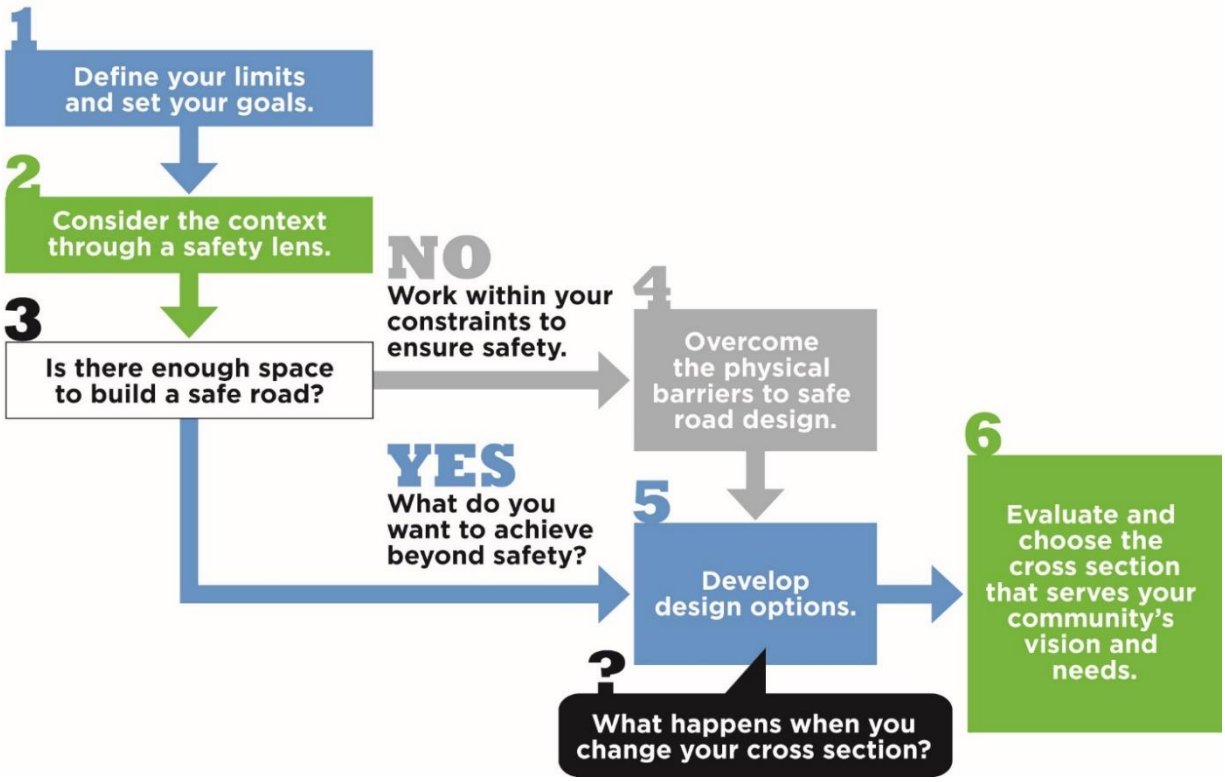
[14] See strategies for 'How to Track" in FHWA Guidebook for Developing Pedestrian & Bicycle Performance Measures, 2016. https://www.pedbikeinfo.org/cms/downloads/pm_guidebook.pdf

Goal	Suggested Performance Metrics
GOAL 3: Advance Portsmouth's reputation as a City where walking and bicycling are a visible part of everyday and year-round life and there are high-quality facilities that are well-maintained.	Consistent public events that emphasize walking, biking, or Open Streets
	Increased participation in Bike Benefits and Commuter Choice programs
	Increased resources for walking and biking available on the City's website
	Enhanced maintenance of walking and biking facilities year-round
GOAL 4: Improve connectivity for walking and biking throughout Portsmouth and equitable access to key destinations like employment, schools, and transportation.	Number of pedestrian crossing improvement projects
	Decreased average distance between pedestrian crossings on arterials and collectors
	Miles of connected low-stress walking and biking facilities
	Increased proportion of population (residences) connected to the low-stress walking and biking network
	Increased access to jobs via low-stress walking, biking, or transit facilities
	Increased proportion of youths and seniors and low-income and zero vehicle households that are connected to the low-stress walking and biking network
GOAL 5: Reduce greenhouse gas emissions and household transportation costs through the implementation of walking and biking improvements, and support complementary City priorities such as the Climate Action Plan's climate targets and supporting affordable housing.	Decreased vehicle miles travelled
	Reduction in household transportation costs
	Safe walking and biking connections to priority locations and affordable

Constrained Conditions

The reality of a historic city like Portsmouth is that existing roadways simply may not have enough space to accommodate high-quality, separated walking, biking, and driving facilities everywhere that they are merited. A recently published federal research guide – Roadway Cross-Section Reallocation: A Guide[15] – provides a useful decision-making framework for designing complete streets in constrained environments that reflect community priorities, mobility needs, and transportation safety (see **Figure 11**). Importantly, this framework puts safety first and requires thinking through how constraints can be overcome to still achieve a roadway design that serves the community's vision and needs. This framework can serve as a tool for the City as it moves to implement the recommendations within this Plan.

Figure 11. Cross Section Decision-Making Framework



[15] NCHRP Research Report 1036 Roadway Cross-Section Reallocation: A Guide, 2023. https://nap.nationalacademies.org/catalog/26788/roadway-cross-section-reallocation-a-guide

Quick Build Projects

Quick build projects make use of lower-cost, easily implementable materials and processes to more quickly advance long-term community goals for safer streets and intersections. In contrast to more permanent capital projects, which can be resource and time intensive, quick build projects let communities test and implement improvements on a faster timeline with less effort and at a lower cost. These projects often focus on filling short gaps in facilities, testing out or building support for longer-term installations, or providing safety improvements at key locations on an accelerated timeline. While quick build installations can have an open-ended timeline, they are often installed on a more limited basis, anywhere from a few months to a year, or can sometimes be used for just week-long or day-long demonstration events.

Figure 12. Quick-Build Separated Bike Lane

Source: Kittelson & Associates, Inc.

One of this Plan's non-infrastructure recommendations proposes that the City establish a quick build program to facilitate near-term trial improvements to improve walking and biking. This program could enable the City to pilot different configurations or materials, to evaluate the impacts of changes, and to seek feedback from the community ahead of more permanent installations.

There are a number of guides on the topic of quick build that the City can draw from to begin building a regular practice of quick build installation. A few examples are listed in **Table 12**.

Table 12. Quick Build Guides

Source	Document	Link
People for Bikes	Quick Build for Better Streets: A New Project Delivery Model for U.S. Cities, 2016	https://nacto.org/wp-content/uploads/2016PeoplefoBikes_Quick-Builds-for-Better-Streets.pdf
Burlington, VT	Quick Build Design + Materials Standards	https://www.burlingtonvt.gov/DocumentCenter/View/1252/Quick-Build-Project-Materials-Guide-PDF
Orlando, FL	Quick Build Guide, 2023	https://www.orlando.gov/files/sharedassets/public/v/1/transportation/quick-build/orlandoquickbuildguide06-28-2023.pdf buildguide06-28-2023.pdf

Funding Opportunities

In addition to City funding, some programs provide dedicated funding to support bicycle and pedestrian infrastructure and non-infrastructure projects, as summarized below in **Table 13.**

Table 13. Funding Sources

Source	Eligibility/Requirements/Purpose
Transportation Improvement Program (TIP)	TIP projects are federally funded or regionally significant projects that are updated biennially by the Rockingham County Metropolitan Planning Organization (MPO) as part of the State Ten Year Plan update process. Every two years, the MPO solicits project proposals from communities and other local & regional organizations to be considered for funding through the regional transportation planning process. The MPO then applies a set of project selection procedures and criteria to assist in setting regional priorities for transportation improvements that will be included in the TIP. The State Transportation Improvement Program (STIP) is compiled from the regional TIPs for a fiscally constrained list of highest priority projects for the first four upcoming years.

Source	Eligibility/Requirements/Purpose
Transportation Alternatives Program (TAP)	Funds may be used for a variety of non-motorized transportation projects including sidewalks, bikeways, side paths, and rail-trails. In NH, the TAP funding allocation is administered by the NHDOT and municipalities are eligible to apply for funding for specific projects during each grant round, which occur approximately every 4 years[16].
Congestion Mitigation/Air Quality Program (CMAQ)	Funding for projects and programs which would result in air quality benefit. Eligible projects include transportation-focused (non-recreational) bicycle transportation and pedestrian improvements that provide a reduction in single-occupant vehicle travel. In NH, the CMAQ funding allocation is administered by the NHDOT and municipalities are eligible to apply for funding for specific projects during each grant round, which occur approximately every 4 years.[17].
Safe Streets and Roads for All (SS4A)	Established by the Bipartisan Infrastructure Law (BIL), SS4A provides funding to either develop, complete, or supplement a comprehensive safety action plan or to implement projects and strategies identified in an existing Action Plan to address a roadway safety problem. Local governments may apply directly[18].
Recreational Trails Program (RTP)	Funding allocated by FHWA and administered by the NH Bureau of Trails for the construction, restoration and maintenance of nonmotorized and motorized recreational trails (paved or unpaved) and trail-related facilities[19].
AARP Community Challenge Grant	AARP launched a grant program in 2017 to fund projects that support nationwide liveability. Relevant opportunities include demonstration projects that enhance pedestrian safety, capacity-building microgrants for training resources related to walk and bike audits and grants up to $25,000 to improve public places and transportation[20].

[16] TAP. https://www.dot.nh.gov/projects-plans-and-programs/programs/transportation-alternatives-program
[17]CMAQ. https://www.dot.nh.gov/projects-plans-and-programs/programs/congestion-mitigation-and-air-quality-cmaq-program
[18] SS4A. https://www.transportation.gov/grants/SS4A
[19] RTP. https://www.nhstateparks.org/find-parks-trails/find-trails-maps-clubs/grants/recreational-trails-program
[20] AARP. https://states.aarp.org/new-hampshire/aarp-nh-announces-grant-opportunity-for-quick-action-community-improvement-projects-for-2025

Source	Eligibility/Requirements/Purpose
Rails to Trails Conservancy (RTC)	The RTC's trail grant programs provide funding to local agencies and nonprofits with funding up to $25,000 for projects that build trail networks through visioning, coalition building, filling gaps (e.g., acquisition strategies), mapping and analytics, identifying and pursuing funding opportunities, and engagement[21].
Smart Growth America	Technical assistance funding including evaluating, refining, developing, and implementing transportation policies to improve connectivity, accessibility, and performance[22].

[21] RTC. https://www.railstotrails.org/grants/eligibility/
[22] Smart Growth America. https://smartgrowthamerica.org/work-with-us/workshop-types/

BICYCLE AND PEDESTRIAN NETWORK PLAN UPDATE

Appendix A Public Engagement

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Appendix A
Public Engagement

ONLINE INTERACTIVE MAP COMMENTS

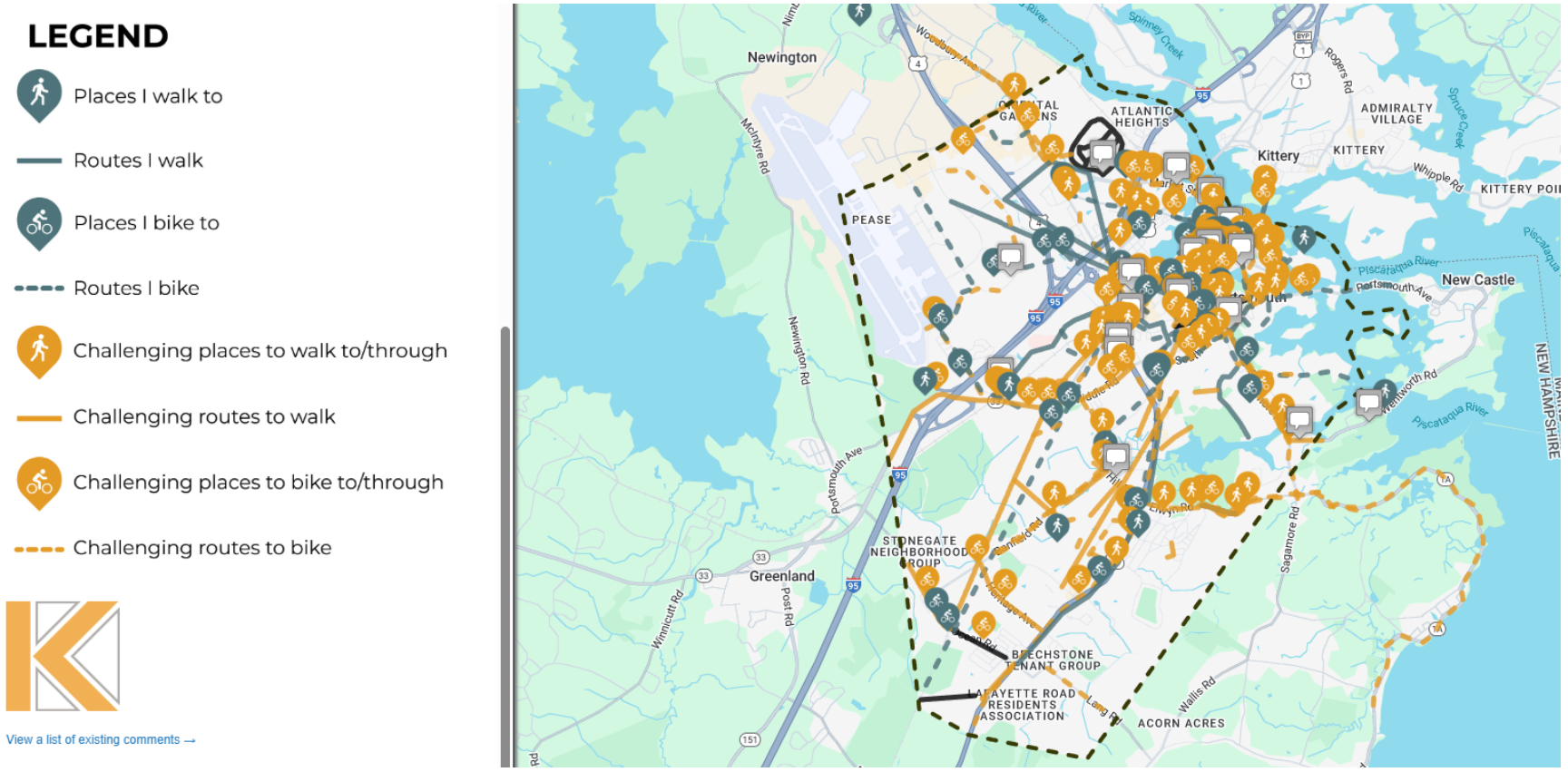


Figure A1. Screenshot of Online Interactive Map (https://maps.kittelson.com/portsmouth-bike-ped)

Table A1. Online Interactive Map Comments

Category	Comment
Challenging places to bike to/through	With a new path being built along Elwyn Rd through Urban Forestry there should be a better connection to Tuckers Cove to allow bikers and walkers to continue toward town on low-stress streets, and residents of Tuckers Cove to access UFC. This could be along the utility or water ROW. The existing path is narrow, muddy, and eroded.
Challenging places to bike to/through	Woodbury Ave is an essential corridor to bike to jobs, shopping, and housing, but multiple lanes of fast traffic make it very unsafe. We should prioritize separated bike facilities here.
Challenging places to bike to/through	I live on Maplewood Ave. We love the bike path until it just ends when you try to get downtown. My kids would try to bike to the middle school but navigating the downtown corridor with cars was dangerous. When they tried to share the road on the way home cars would beep at them and tell them to get off the road. Also, the new rail trail is great but Islington St is so narrow it's challenging to get downtown. The town redid this street to look great but should have made it bike accessible so you can get back to Maplewood.
Challenging places to bike to/through	Better signage about sharing the road
Challenging places to bike to/through	Bikes lanes would be helpful along this whole stretch of Middle St out to Pease
Challenging places to bike to/through	Again, bikes lanes would be nice or signage to help cyclists get through these busy lights
Challenging places to bike to/through	Very challenging to bike or walk.
Challenging places to bike to/through	Seems like a missed opportunity to create some protected, and safe biking infrastructure on Islington. It's been a massive project and it's not safe (IMO) to bike on Islington - unless you bike on the sidewalk. A protected bike lane (fully separated) on Islington would have been a game changer and enabled a great corridor to downtown. I take State to get from the West End to downtown, but State also has 2 way traffic, no protected bike path, and tons of parked cars on both sides of the road.

Challenging places to bike to/through	I'm very confused why there is a 100 foot bike lane here - that doesn't seem to go anywhere - and it's not connected to anything. It's a nice bike lane - and separated from traffic - but it's not connected to anything
Challenging places to bike to/through	Need to create a connector here so cyclists can bypass the worst parts of rt 33 when heading to CJ, Pease trade port or Greenland. Once through here, it's not a bad route via Harvard, Sherburn, Country Club rd, the 33 bike path and Portsmouth Ave.
Challenging places to bike to/through	Traffic speed can make this space unsafe for cyclists.
Challenging places to bike to/through	I use the Richards & Middle blinky light with my kids to get to the fields/library or commute to school on bike. There isn't enough room on the sidewalk near Austin & Middle to press the blinky light, it's very awkward and tight standing with the bike. If that sidewalk could be enlarged or if there were speed bumps like those on Maplewood that would slow traffic more it would be much safer. Cars blow through the blinky light even when flashing.
Challenging places to bike to/through	Obviously, as a 4 lane divided roadway with variable speed limits and a 1.5 mile stretch with no traffic lights, this is a VERY dangerous place to bike or walk.
Challenging places to bike to/through	The stretch of Court Street between Pleasant and Rodgers is very challenging to bike. Cars are very aggressive and try to pass to on the left, annoyed with bikes that have moved to the left to try to turn down Rodgers. I have almost been hit here on at least two occasions. Bike signage on the road would help so cars realize that bikes are permitted to share the lane.
Challenging places to bike to/through	Despite the 20mph speed limit, there is no shoulder and cars are very impatient (even when biking downhill). --- I would never bike this street uphill, its uncomfortably steep and there is no way to avoid cars.
Challenging places to bike to/through	The "sharrows" are ineffective. I get regularly insulted by drivers, sometimes spit at when I try to bike here. I would love to avoid this patch, but there are no reasonable alternatives for biking from the end of Middle St towards Court St / downtown.
Challenging places to bike to/through	Safe bicycling towards Pease tradeport/C&J bus stop from Rte 33.

Challenging places to bike to/through	While it looks like a bikeable alternative to Route 1, you are taking your life into your hands if you take this road: Lack of shoulder, many curves/hills, cars going too fast on this road.
Challenging places to bike to/through	Not bikeable.
Challenging places to bike to/through	Despite the 20mph speed limit, there is no shoulder and cars are very impatient (even when biking downhill). --- I would never bike this street uphill, its uncomfortably steep and there is no way to avoid cars.
Challenging places to bike to/through	Note safe for bikes: Cars go too fast, too many distractions, complicated traffic patterns, (in some segments: too many lanes)
Challenging places to bike to/through	The "sharrows" are ineffective. Cars are confused when cyclists pour onto the road from the bike lane. Complicated traffic patterns around intersections with State and Congress leave drivers distracted and creating hazards for cyclists.
Challenging places to bike to/through	Not safe for bikes. Drivers are confused by multiple lanes and pedestrians.
Challenging places to bike to/through	It would be great if in the future there would be a pedestrian/bicycle railroad crossing here. (The train goes so infrequently, and the bartlett st bridge is really only safe for cars)
Challenging places to bike to/through	South Street between Middle and Sagamore, tough to bike or walk, with limited road shoulders, narrow sidewalks, and sometimes fast moving vehicles.
Challenging places to bike to/through	Teens/ older kids need to be able to get to the athletic fields at Community Campus, but currently West Street to Campus Drive is not pedestrian or bike friendly. While there is a shoulder, there is no designated bike lane, speed is usually 30 - 40 and no sidewalk.
Challenging places to bike to/through	Bike racks would be a welcome addition to Plaza 800!

Challenging places to bike to/through	I've tried biking this way to cross Middle (to avoid Richards which feels unsafe crossing Middle), and it would be helpful if the sidewalks here were also enlarged and the cross button easier to access. Now the button is down from the corner and narrow.
Challenging places to bike to/through	We often ride our bikes on the sidewalk as it feels too dangerous to ride them on the road.
Challenging places to bike to/through	It feels very dangerous to ride your bike on Bow St. Cars coming from all directions and backing up onto the roadway.
Challenging places to bike to/through	This rail trail crossing needs a Rapid Flashing Beacon ASAP like the ones at Ocean Road and Breakfast Hill Road
Challenging places to bike to/through	shoulder here is very tight, and cars drive fast over the blind hill.
Challenging places to bike to/through	Need crosswalk for rail trail access.
Challenging places to bike to/through	Better bike lane along the 1A Ocean Rd is needed
Challenging places to bike to/through	Need a bike lane along Elwyn Rd
Challenging places to bike to/through	Is the new sidewalk on the west side of the road intended to be widened? Will there be a bike/multi-use lane on the east side?
Challenging places to bike to/through	Cars looping under the bridge from southbound memorial bridge create a massive hazard to bikers headed down Daniel St or Bow St. Right of way is incredible unclear.
Challenging places to bike to/through	This left turn leaves bikes exposed to heavy traffic in all directions. Unclear 1-2 lane intersection leaves drivers impatient as well.

Challenging places to bike to/through	An important access point to Odiorne and 1A for bikers but quite dangerous with blind curves and speeding car drivers eager to hit an "open" road.
Challenging places to bike to/through	Woodbury is avoided at all costs; this place is scary.
Challenging places to bike to/through	This road to Newcastle needs bike lanes/sidewalks, not just (useless) signs about sharing the road.
Challenging places to bike to/through	Sunken storm drain is below grade in front of Discover Portsmouth where there is also no bike lane. Safety hazard for cyclists
Challenging places to bike to/through	Dangerous to bike due to fast traffic from multiple highway off-ramps. There is space for buffered bike lanes with flex posts. Also space for a multi-use path from Franklin Dr to Rockingham to connect the school to neighborhoods to the North and the bike bridge, to replace the crumbling sidewalk.
Challenging places to bike to/through	There are between 4 and 8 car lanes through here and no space for bikes. There is also no continuation of the sidewalk from Gosling Meadows to the West to Pease, even if using the crosswalk.
Challenging places to bike to/through	Left onto Middle St is difficult
Challenging places to bike to/through	Left turns onto Middle St and Islington St from Cass St challenging. Cass is a good neighborhood connection to Borthwick and hospital.
Challenging places to bike to/through	Left turns onto Middle St and Islington St from Cass St challenging. Cass is a good neighborhood connection to Borthwick and hospital.
Challenging places to bike to/through	Banfield Rd - narrow and wetlands constrained

Challenging places to bike to/through	Wide shoulder northbound and fewer intersections. Southbound - ramps and minimal shoulder, catchbasins. Also headed downhill with uneven pavement.
Challenging places to bike to/through	Woodbury/Market intersection - too difficult to bike through from Woodbury - seek alternative route around Osprey Landing
Challenging places to bike to/through	Build off road path to Heritage Ave
Challenging places to bike to/through	Rail trail connection to Harvard St via city-owned water property
Challenging places to bike to/through	Progressing through Maplewood with turning lanes is challenging as well as turning off to get to downtown. Dearst and Hanover - wide and hard to take the lane with vehicle speeds. Turning on to Dennis
Challenging places to bike to/through	Feels very unsafe to bike here (and all along Middle/Lafayette). There were bike lanes going in at one point, but then they disappeared? Bring back the protected bike lanes!
Challenging places to bike to/through	Very dangerous to bike along these roads, especially coming from north end and turning left to go into downtown. Feels like cars are going very fast and not looking for bikers

Challenging places to bike to/through	Our family of 4 uses this route often to get to the events at Strawberry Banke. We use the sidewalk because the road feels unsafe for our 4 year old with many cars passing by frequently and at higher speeds. But many walkers use the sidewalk and so we feel like we are in their way. Having a dedicated bikeline with traffic signs asking cars to yield to the bikers would be wonderful. The bike lines should ideally be marked in color that is different than white, because often times there are regular white lines to mark road edges. And so when we follow them we are never sure whether they will turn out to be bike lines or road edges - which depends on whether we eventually run into a small bike icon on the road or not. We are passionate and experienced bikers and have lived in Amsterdam for many years. We love biking but in Portsmouth we don't feel safe. We would love to see the following: - traffic signs across Portsmouth reminding drivers to yield to bikers - different color markings/lines for biking, so we are certain they are bike lanes when we enter them - barriers to separate bikers from cars when in high traffic areas Also this path would be much more pleasant if it had some trees and shade. Thank you
Challenging places to bike to/through	For families with younger children that wish to do a short activity/adventure from little harbour to Creek Farm, Wentworrth Coolidge mansion, or a forest play this road feels unsafe. For this reason we avoid it and go through the cemetery. Same as in the previous comment, visible traffic signs asking cars to yield to the bikes, bike lane markings in different color than white, and occasional physical barrier would help. These paths are also frequently used by runners and active bikers, and so more warning signs asking drivers to slow down and be cautious would be appreciated.
Challenging places to bike to/through	Our young family usually uses Junkins Ave, park path, Hancock street and then the parking lot at Strawberry Banke to get to the city events. None of the routes feel safe including South Street as an alternate route and we so we are not sure what should be our main bike path. Hancock doesn't have a designated bike line and sidewalks get busy with walkers. Knowing what is a dedicated bike path from Little Harbour to get to strawberry banke for family events would be wonderful.
Challenging places to bike to/through	Yield to bikers traffic sign would be helpful

Challenging places to bike to/through	This white line here is a perfect example where the street edge looks like a bike lane and we are not sure if we can use it for biking or not. Which creates confusion and risks if not meant for biking.
Challenging places to bike to/through	We use Lincoln frequently. Great width for biking but again don't feel like cars are yielding to us. Also we are able to bike on some parts and other have parked cars on both sides. Add designated bike lanes on the side, and in areas where there are cars on both sides does bike lanes go through the middle? Not sure, but we would love to be able to bike without interruptions. Especially our 4 year old :)
Challenging places to bike to/through	"Share road" traffic sign doesn't give enough protection to the bikers. When you share, larger and faster becomes priority which means bikers are at risk. "Yield to bikes" would be more appropriate. I would not let my young sons bike on this bike lane at the current state.
Challenging places to bike to/through	It's challenging to cross the street here to get into the neighborhood from the bike path without any kind of help. Cars move very fast on this road but it's a perfect side road to connect to to get onto the rail trail and into downtown
Challenging places to bike to/through	The traffic light sensor doesn't see me waiting on my bike when commuting to downtown on state street at the Maplewood Ave intersection
Challenging places to bike to/through	There is a bike lane and a pedestrian crossing at this point; however, the pedestrian crossing sign in the middle of the road creates a hazard, pushing cars closer to the bike lane as they try to give it space. (That sign is often found out of position, too.) A flashing pedestrian crossing would be safer and would have the benefit of being in operation all year round.
Challenging places to bike to/through	Richards is a beautiful place to walk and bike, especially to get to the library and the middle school, but it feels too narrow for 2-way traffic AND on-street parking. Cars are pretty good at giving way to each other, but not so good at giving way to cyclists coming in the opposite direction.
Challenging places to bike to/through	The intersection is tricky because it is hard to see what's coming along Marcy St from the south as you pull out from Mechanic St.

Challenging places to bike to/through	There is not a safe way for cyclists to get from Dover to Portsmouth. The Newington part is acceptable, but the next step of the path is Woodbury Avenue which has fast unobservant drivers, many lanes, and no separate bicycle infrastructure.
Challenging places to bike to/through	Would be nice if this could be made a two-way street for bicycle traffic (or car-free if State St ever goes back to two-way traffic for all)
Challenging places to bike to/through	Deer and Russell St. are both too wide for the desired speeds. They should be narrowed up. New plans for Deer Street development should use perpendicular parking to narrow the road further and prevent bicycles from getting doored.
Challenging places to bike to/through	Taking a left for Ocean Drive onto Banfield Road feels unsafe by bicycle. You slow down on the uphill and are also looking for a break in oncoming traffic where you can make a turn. This seems to encourage cars behind you to close pass right when you'd be moving over to the turn lane.
Challenging places to bike to/through	Although in Newington, we need to find a way to better connect the LBB/GSB to Portsmouth via Shattuck way. Increasing this regional connection should be a priority at the RPC/SRPC level and Portsmouth/Dover could/should push the needle on this issue. Portsmouth could specifically mention desired connections in their bike ped plan update.
Challenging places to bike to/through	A northern connection to pease would be appreciated.
Challenging places to bike to/through	Harvard Ave/Greenland rd footbridge should also provide easy bike access through to Pease and C&J, but the sidewalk and new curb on Borthwick made it harder to ride through. There should be a curb cut for bikes, and if needed a sign to "walk bikes on bridge" or "yield to pedestrians". It's crazy to expect bike riders to use 33 near hear where there is no shoulder and very fast traffic.
Challenging places to bike to/through	Please return the speed cushions/ traffic calming for the safety of all on this residential road.
Challenging places to bike to/through	Curb cut needed to allow bike riders using path from Cutts to join the Market St lanes, and vice versa.

Challenging places to bike to/through	This bridge is very challenging for bike riders as the narrow shoulder and islands in the middle prevent cars being able to move over to provide the 3-5 ft necessitated by their speeds. Remove the islands and provide a MUP on the North side.
Challenging places to bike to/through	It would be great to see sidewalks on Pease widened to accommodate bikes as there is space for it and many need re-paving.
Challenging places to bike to/through	It should be easier to get onto the MUP from 33 at Grafton-- currently you have to go up Grafton, make a U-turn, cross an island, and cross some grass to join it.
Challenging places to bike to/through	This new connection from the Parson Woods development to the rail trail is indirect, hilly, and loose woodchips. This public connection was a condition of the development, but seems designed to be hostile to bikes.
Challenging places to bike to/through	Missed opportunity when Market St "Gateway" was rebuilt. Instead of a connected multi-use path throughout there is a wide concrete sidewalk where bikes are allowed on just a short stretch (at Bohenko park), and in-road bike lanes next to fast moving multi-late care traffic for the rest. At least some better curb cuts would allow bike riders to leave the lane and join the MUP where it does exist. And in the future please pave all MUPs with asphalt, not as wide concrete sidewalks.
Challenging places to bike to/through	Would love to see an improved path from Ledgewood to the HS to walk and bike (as a way to avoid Jarvis Dr)
Challenging places to bike to/through	This is a dangerous crossing. If you are heading to town on the new trail along Borthwick there is limited visibility to the left and cars coming from 95 will come flying around the corner hugging the curb. Need a bump out to slow turning traffic. Crossing is not properly marked with hatched lines. Pedestrian island would be good as well.
Challenging places to bike to/through	Challenging to walk or bike across. Cars coming off Hodgeson can cut corner when making right turn. Need bump out to slow turning traffic and head start on crossing signal.
Challenging places to bike to/through	Sometimes cars park on Middle Street just south of Aldrich, making the sight line difficult when turning left onto Middle from Aldrich. Can the parking start further south from the corner?

	This is much better now that the cars aren't parking in the middle of the road. That was very dangerous for bicyclists, residents, pedestrians, and motorists. Those sightlines blocked everyone's view.
Challenging places to bike to/through	The angle of the tracks is dangerous to cyclists, especially to those with narrow tires or smaller wheels. This crossing sees a lot of traffic so there is a lot of space between the rails and the asphalt, adding to the risk of a fall. The problem is only on the outbound lane; inbound the angle is less severe.
Challenging places to bike to/through	Bike lane should be continuous along Middle Street into at least Court Street
Challenging places to bike to/through	We need traffic slowing measures here. To come from town and take a left onto Dennett is downright scary with my 7 and 9 year old on bikes. It's 25mph here but not one car goes that slow. We need more visible flashing light here. The one here is very old and probably ignored.
Challenging places to bike to/through	As a biker headed toward Maplewood here, you're not sure which lane is safest. Maybe it's because there are lanes closed ahead with the bridge out? This is the start of the drag-race to Deer Street. This whole section needs to be safer for bikers.
Challenging places to bike to/through	This is an incredibly unsafe intersection coming towards Islington because of traffic coming from Islington that doesn't have to stop. Should have a stop sign for all directions.
Challenging places to bike to/through	A route to downtown from the Rail Trail is better along islington or across to Middle Street, than trying to deal with Borthwick and crossing the bypass. However, it needs some improved crossings and separation along Islington
Challenging places to bike to/through	Young people are a wild and unclaimed group as when it comes to transportation. I see teens walking, biking, e-biking, motor-scooting, power skateboarding, riding mopeds, and riding electric unicycles down streets at high speeds around the Middle School (often ignoring stop signs because their modes are so much like bicycling). This group and personal electrified modes of transportation need to needs to be explicitly acknowledged in planning since electrified personal transportation is growing exponentially and it will overlap the transportation networks of vehicles and bicycles.

Challenging places to bike to/through	market St shoulder lanes don't feel safe with kids
Challenging places to bike to/through	I want to bike with my kids from Maple Haven to/along the rail trail, Ocean road is a not safe for kids
Challenging places to bike to/through	Portsmouth West End should be connected to market square w bike lanes
Challenging places to bike to/through	Can this walking path be a biking path?
Challenging places to bike to/through	middle rd bike path pavement quality is alreadty sadly in bad shape, interactions with drivers get increasingly stressful as one gets nearer to Portsmouth
Challenging places to bike to/through	Elwyn Rd to beaches would benefit from bike lanes
Challenging places to bike to/through	connecting to east coast greenway to Maine
Challenging places to bike to/through	Bike lane or at least a shoulder here. right now there's barely a shoulder so cars have to pass really close. this road gives access to rye roads that are frequently used by riders already.
Challenging places to bike to/through	Sagamore big hill
Challenging places to bike to/through	across the bridge - where Ann wants to ride
Challenging places to bike to/through	Bartlett, Cate, Hodgdon, [illegible] - this is extremely dangerous for pedestrians & cyclists
Challenging places to walk to/through	There are no sidewalks to this bus stop, and no place to wait on the outbound side.

Challenging places to walk to/through	When the new athletic field was proposed the plan included a walking and biking path directly from Peverly Hill Rd, and although the dirt road was built for emergency vehicles it is not open to the public. This access should be granted before the Peverly Hill project is done. A short multi use path along the Pike entrance would be necessary.
Challenging places to walk to/through	St Patricks was to provide a walking easement from Community Campus, but then put up a fence with barbed wire. You can walk past the end of the fence but there should be a path connecting the existing Campus paths to Banfield as intended.
Challenging places to walk to/through	There is a cross walk located here that I find difficult and sometimes unsafe to cross. From the North side of the cross walk (coming from the Music Hall), there are parking spots up to the cross walk, so cars driving are often unable to see pedestrians approaching on the left side (from the driver's perspective) of the crosswalk. Sometimes this is compounded by the fact State Street here is two lanes of traffic going one way, so it has happened where a car in one lane sees me but not the second lane, which creates an unsafe crossing. There is sometimes a Pedestrian Crossing Sign placed in the crosswalk; however, there is none there now (as of July 5th) given the most recent sign was hit by a car and destroyed. Would it be possible to have a crossing here like the one further down State Street near Pickwick's that has flashing lights when a pedestrian presses a button to cross? It feels like sometimes cars are trying to catch the light at State Street & Fleet and may not be paying close attention for the crosswalk. This seems to be a very high traffic cross walk as many people use it coming from parking at Parrott Avenue, the Middle School, Library, and African Burial Ground Memorial.
Challenging places to walk to/through	There needs to be a crosswalk right here. Many residents who live on Morning Street and surrounding neighborhood cross here on their way to downtown regularly and this will become more common with the eventual construction of the North Mill Pond Multi-use Path.
Challenging places to walk to/through	This is a very scary place to cross the street despite the rectangular flashing beacon and crosswalk. Doing so is a leap of faith because you cannot see if vehicles are coming from the direction of Islington Street and drivers cannot see you. On my bike I have almost hit pedestrians crossing there more than once.
Challenging places to walk to/through	The sidewalk here is way too narrow for all of the foot traffic. Pedestrians are squeezed between lamp posts and buildings and there’s not even enough room for two people to walk side by side never mind walking a dog or pushing a stroller. It’s a major injustice that drivers have three travel lanes on Congress Street and yet pedestrians are so crammed together and have to walk into the street to get around each other.

Challenging places to walk to/through	This footpath allows access to Market Street but the sidewalk is on the other side of the street. There should be a safe way for pedestrians to cross the street here and there isn't.
Challenging places to walk to/through	Sidewalk on both sides of the street, busy area
Challenging places to walk to/through	Sidewalk on both sides would be helpful here
Challenging places to walk to/through	Sidewalks on both sides, or speed bumps. People walk on both sides of street and cars drive very fast as a thruway to New Castle
Challenging places to walk to/through	There is a cross walk here, but the lines are very feint and there are no street signs for cars indicating that it is a cross walk. The rest of Islington cross walks have signage for cars indicating a cross walk
Challenging places to walk to/through	The greenery along this section of the sidewalk has grown out so that the entire sidewalk is not walkable. Branches extended out and overhead, making it impossible to safely walk down the sidewalk pushing a stroller. It is also not safe to step off the sidewalk because cars whip around the corner going way too fast and the greenery makes it so that the corner is a blind corner (when taking a right from Middle Rd.). Please cut back the bushes along this short section of sidewalk!
Challenging places to walk to/through	Needs sidewalk.
Challenging places to walk to/through	Needs crosswalk
Challenging places to walk to/through	Needs crosswalk
Challenging places to walk to/through	Needs crosswalk.
Challenging places to walk to/through	Needs crosswalk

Challenging places to walk to/through	Sidewalks on Ocean Road would allow me to walk down to the bike trail. Sidewalks would also allow us to just take our dog for a walk down the street and meet some of our neighbors along the way. Living at the top of Ocean Rd means we are a bit far from the Portsmouth community. Sidewalks would would make us feel more included.
Challenging places to walk to/through	The sidewalk along Spinney to Islington ends at Sewall Rd. Could the sidewalk be extended the rest of the way to Islington? It's a very dangerous section with cars turning into Spinney from Islington and come down around a curve on Spinney
Challenging places to walk to/through	Absolutely need a sidewalk here. In the winter it is very dangerous for pedestrians and serves a neighborhood that needs it.
Challenging places to walk to/through	All Portsmouth needs to do a much better job of clearing the sidewalks in the winter. If we want to be a walkable city, and a winter city, we need to commit to it year-round.
Challenging places to walk to/through	Need crosswalk on same side as sidewalk from Chev Ave onto Cass St.
Challenging places to walk to/through	The city did a lot of work to make this intersection as safe as possible, and I understand that there are a lot of constrains in the area - the railroad bridge probably being the biggest - but this intersection is terrifying. Anyone driver not familiar with it has no idea what's going on, and they blow through the yellow pedestrian lights. Pedestrians CANNOT see cars coming from Islington Street when starting a cross from east to west.
Challenging places to walk to/through	Would love to see more sidewalk OR at least pedestrian friendly walking space on the side of Lafayette Rd. so that we can get safely to Ocean Rd. and take Ocean to the trail. Even better would be a connector through the woods from Juniper Commons to the trail!
Challenging places to walk to/through	This is a major crossing point that does have a yellow light and a blinking light crosswalk, but cars still go too fast and it's challenging particularly when biking up from Richards. This was made the official school route but still isn't great. What can be done with the design of the street to improve it?
Challenging places to walk to/through	Do not bike here. Too many lanes and distracted drivers. (Fixing the color or this earlier comment)

Challenging places to walk to/through	Sidewalks near Dondero
Challenging places to walk to/through	Corner of Jones and Sagamore is difficult to safely navigate or walk... blocked visibility, no sidewalk on Jones and swift moving traffic turning from Sagamore.
Challenging places to walk to/through	1B to Sagamore, no sidewalk, narrow shoulder, very fast traffic. Desperately need a crosswalk at the corner of 1B and 1A.
Challenging places to walk to/through	This has heavy pedetrian usage to cross Islington near the Kitchen and Mobile. They are working on this section now, I really hope the sidewalk will be enlarged. Consider a blinky light here to help crossing pedetrians, or raised speed beds to slow traffic.
Challenging places to walk to/through	This intersection is a pedestrian nightmare. It handles a huge volume of pedestrians, including most all tourists parked at Foundry Place and the Bridge Street lot that are walking to Market Square. The signal operations need to return to the way they were prior to July, 2020 when all lights in all directions turned red at the same time. This allowed pedestrians to safely walk perpendicular or diagonally across the intersection within the painted "X". Current signal operations clearly favor speed and mobility of vehicles rather than the safely and comfort of pedestrians.
Challenging places to walk to/through	Needs a crosswalk with a flashing light for access to rail trail
Challenging places to walk to/through	Needs a crosswalk with flashing light, since cars drive very fast over the hill and this is a school bus stop.
Challenging places to walk to/through	Sidewalk is broken and narrow in spots. Would be nice to have sidewalk or bike path on the other side of the street
Challenging places to walk to/through	A high percentage of vehicles exiting on exit 7 southbound and turning right onto Market St have a complete disregard for the stoplight. Drivers look left to see if car are coming from that direction and then proceed past the red light and "No right turn on red" sign. Often drivers do not even slow down. Waiting for a pedestrian crossing light makes no difference.

Challenging places to walk to/through	Cars headed north on Market St.and turning onto the on ramp often do not yield right of way to pedestrians in the cross walk. This is an uncontrolled intersection and the pedestrian crossing light does not cover theis part of the on ramp.
Challenging places to walk to/through	Speeding is rampant on this section of road and drivers often do not yield to pedestrians in the cross walk
Challenging places to walk to/through	I have noticed that drivers turning left onto Maplewood can have a green light while pedestrians crossing Maplewopod may also have a green light. This doesn't make sense.
Challenging places to walk to/through	This area could use a crosswalk.
Challenging places to walk to/through	The planned elwyn road side walk should be extended to Oakwood and Regina. The houses on oakwood drive are landlocked becuase elwyn road is too dangerous to walk or bike on. A sidewalk on one side of the road should be extended to these neighborhoods to connect them to UFC and the route 1 commercial district.
Challenging places to walk to/through	Cross walk needed if sidewalk extended down elwyn.
Challenging places to walk to/through	Campus Drive needs a sidewalk and bike lanes/path for access to fields and C. Campus. A crosswalk and light is also needed across Lafayette (and hopefully this will come with the DOT project).
Challenging places to walk to/through	This is such a weird road for such a lovely town - it's hideous, completely hostile to pedestrians and bikes (even though there is a bike route at the bridge and on market st.) and full of sex shops and gas stations. It's so close to town it seems crazy we don't make it a more welcoming corridor.
Challenging places to walk to/through	Cate St Connector - make Bike/Ped friendly, dedicated path or improvements
Challenging places to walk to/through	On rail trail, add benches, rest areas, parking, amenities
Challenging places to walk to/through	Add sidewalks on Heritage Ave

Challenging places to walk to/through	Hard / avoid walking and biking on Middle Rd and Greenland Rd
Challenging places to walk to/through	1A - challenge (south of South St) -- traffic calming
Challenging places to walk to/through	Need parking for Rail Trail
Challenging places to walk to/through	Access Market Basket from back via Osprey Landing
Challenging places to walk to/through	St Pat's easement connection to Bansfield
Challenging places to walk to/through	The crosswalk should run from sidewalk to sidewalk, which is diagonally across the road. Currently, cars cannot see pedestrians on the lower gates st corner due to the large (and beautiful) bush
Challenging places to walk to/through	Crosswalk should run diagonally across Mechanic from the opposite side from the graveyard to the start of the iron fence. Currently, itâ€™s difficult for cars to see when a pedestrian is standing on the graveyard side
Challenging places to walk to/through	No sidewalks or shoulder. No speed limit signs and lots of fast driving cars using as a cut through.
Challenging places to walk to/through	This is a dangerous place for pedestrians to cross since State St. is a double lane road, and people are often driving fast. Despite the fact that there's a cross walk, even if one lane of traffic stops the other might not see you or stop. Recently we were crossing here and the car in the lane closest to us stopped, so we began walking. But a car approaching in the second lane didn't stop because they didn't see us, and my daughter was inches from being hit in the crosswalk. It was terrifying. This intersection really needs a flashing light option so both lanes of oncoming traffic can see when there's a pedestrian in the crosswalk.

Challenging places to walk to/through	This is my second comment. Walford lane has 22 homes, 6 with children, a special needs person and several senior citizen homes. The sidewalk on upper Banfield Rd provides safe access to fewer homes than those on Walford Lane. With a bike trail or sidewalk we could walk or bike to the drug store, grocery store, YMCA, playground, ball fields and St Patrick's School. It is impossible to safely bike or walk on Banfield with the same measure of safety afforded to those residents residing on upper Banfield. I ask that our 22 homes be provide with a sidewalk from Heritage to Peverly Rd.
Challenging places to walk to/through	No sidewalk on this portion of Spinney Road
Challenging places to walk to/through	No sidewalk
Challenging places to walk to/through	Residents in the 22 homes on Walford cannot safely walk or bike to anything. Banfield Rd and Peverley Hill Rd are treacherous with traffic including many trucks, especially on Peverley. Protected biking and walking lanes are required on both roads asap.
Challenging places to walk to/through	Not much shoulder and high speeds. We use this route as the safest way to access the UFC trails (off Odiorne Point Road) as going west down Elwyn is more scary.
Challenging places to walk to/through	Small shoulder and high speeds with lots of blind corners. Being able to get to Elwyn Park and access the elementary school, safely would be really great. The new sidewalk is ending before this stretch of Elwyn.
Challenging places to walk to/through	Little to no shoulder and no safe place to walk/run/bike along this stretch. Considering this connects out to the bike path and goes past multiple apartment complexâ€™s and water country
Challenging places to walk to/through	The absence of a full paved sidewalk on Parrott Ave is dangerous for pedestrians trying to get from the Middle School to the South End. Sight lines entering and exiting the Middle School and library could be better. Cars and larger vehicles block the sight lines, especially at the library-side exit of that parking lot.

Challenging places to walk to/through	brick sidewalk is uneven and narrow in many places making it challenging to walk or run along forcing.
Challenging places to walk to/through	I frequently walk along Peverly Hill Rd between Lafayette Rd and Middle St, and walk along Greenleaf Ave. from Peverly Hill Rd to Lafayette Rd.
Challenging places to walk to/through	Portions of South Street between Broad and Pinehurst have no sidewalk. (I think there used to be one.) This route connects the Middle School and Little Harbour, but pedestrians on the south side of the street must walk in the road or cross over. This isn't a safe crossing because when traffic is backed up from the light at Sagamore, the sightlines are poor. Unfortunately, it would be hard to restore the sidewalk without removing some lovely big trees.
Challenging places to walk to/through	Dangerous crossing. Blind from top of hill coming from the south and cars speed on miller consistently. Should be a flashing cross walk or stop sign. Cars regularly speed above limit by 10-20 MPH
Challenging places to walk to/through	Traffic on Miller is regularly 10-20 MLH above the speed limit making it unsafe for crossings at Lincoln and Rockland. There should be other stop signs on the route or a traffic light at Miller and Lincoln. It is highly trafficked by children and families and is unsafe with blind hills near rockland
Challenging places to walk to/through	This intersection could use a level sidewalk (exit construction) to delineate change from arterial to local road.
Challenging places to walk to/through	This slip lane is dangerous and encourages speeding. It should be removed during the upcoming reconstruction project

Challenging places to walk to/through	This is a dangerous intersection for cyclists and pedestrians. Cars coming down Summer St. toward Middle St. are heading down a steep incline around a curve, and tend to go quite fast, leaving themselves little time to react to pedestrian/cyclist crossing. This essentially requires pedestrians and cyclists to "go for it" by crossing when it's clear and hurrying before any approaching cars come around the corner and down the hill. It'd be nice if there was a blinking light put here to provide more visibility, and potentially an earlier indication to approaching vehicles. (It'd be really nice if this was a four-way stop!)
Challenging places to walk to/through	This stretch of Islington St. especially from Summer St to Brewster St is very dangerous. Cars don't have any stop signs or traffic signals between Cabot St. and Maplewood Ave., and are prone to speeding up. Given how popular this area is for pedestrians (it's essentially an extension of the downtown area at this point) it'd be nice to add some traffic calming measures. Ideally, this would be in the form of a three-way stop, either at Brewster St or Summer St. If that's not feasible, speed bumps/humps would be great, and provide a much safer structure to cross on. At the very least, and even in addition to either of those ideas above, can we please install a blinking ped-crossing light here? I'm not sure why most Middle St. crossings have them, but on Islington St (where traffic can move just as fast) there are none.
Challenging places to walk to/through	I don't understand why there's no sidewalk on half of Parrott Ave? There's a path along the park that's been created by pedestrians needing to walk on the grass so they're off the street. If there's snow, the safest option is to walk on the street. This is a core street that connects schools, parks, the library, and downtown. We should make it a safer space!

Challenging places to walk to/through	Crosswalk (with stop light) needed at Hoover or Campus to cross route 1 and access Community Campus fields etc. It is a long distance to crosswalks N and S.
Challenging places to walk to/through	There should be an easy way to walk or bike from Jones Ave to the High School.
Challenging places to walk to/through	It would be great to connect the rail trail to either Walford Lane, the girl scouts property, or the next driveway south. This would allow access to St Pats and everything at Community Campus, and ultimately a route from Elwyn Park to the Greenway. It seems a connection here could avoid wetlands further N and S.
Challenging places to walk to/through	Could we get a crosswalk here?
Challenging places to walk to/through	Is it possible to connect the upcoming residential development at iHeartRadio to the the Jones ave walking trails and High School? What a great route to school, and imagine a future Sagamore Creek walking loop including UFC!
Challenging places to walk to/through	In addition to extreme danger for cyclists and pedestrians due to lack of protected or designated travel lanes to any nearby facilities, traffic is hugely disrupted at St Patrick school on Banfield throughout the school year. Most parents pickup and drop off students over two two-hour periods, morning and afternoon â€" coinciding with rush hours. There can be backups each way for a quarter mile or more with no direction or controls on Banfield. A rise next to the school obscures the entrance and stopped cars for traffic headed north, increasing crash potential.
Challenging places to walk to/through	There is no sidewalk on the south side of the street between Union and Lafayette. This makes it difficult walk or run along the street and a problem to cross with nobody driving at 20mph with only crossings at Union and Summit.
Challenging places to walk to/through	There is an access to the high school at the end of Rand Court and this is used by students, and walkers on a daily basis. It is also access to cross the South from Rand for the six residences on South and Rand. There is no crosswalk and adding this should be a priority for safety.
Challenging places to walk to/through	No sidewalks or good lighting, making this a bit dangerous for kids walking to NFS from Maplewood, and for PMS students walking from Myrtle ave to the bus stop on Maplewood. Particularly in the winter and in the snow.

Challenging places to walk to/through	It would be great if there were a way to cross the bypass at this point - traffic light, crosswalk, remove divider
Challenging places to walk to/through	Is it possible to add sidewalks to make this area walkable? could be great for attracting businesses to such a great location close to downtown
Challenging places to walk to/through	Better bike/walk on Woodbury Ave to Newington Malls
Challenging places to walk to/through	Slower vehicle speeds thorugh the city, esp downtown
Challenging places to walk to/through	Middle street to downtown isn't safe
Challenging places to walk to/through	ped bridge
Challenging places to walk to/through	Need sidewalk on Cafe Street to walk safely to the senior center
Challenging places to walk to/through	I live on Islington St. I walk past Jumpin Jays and the Goat everyday. This is a highly pedestrianized area and the sidewalk should be widened. people are often walking on the street to make room
Challenging places to walk to/through	residential woodbury ave, vehicle speeding is a big issue
Challenging places to walk to/through	need APS and ped signal across maplewood @ maplewood and woodbury
Challenging places to walk to/through	sagamore ave bridge not quire wide enough, high speed how to get kids to school north?
Places I bike to or along	Middle St bike lanes end before connecting to Court, State, or Maplewood, and alternate routes are not at all direct. It should be a top priority to create a high quality buffered bike lane here to create a spine for the bike network along with Maplewood Ave.

Places I bike to or along	Outer Maplewood buffered bike lanes end and do not connect to the door zone lanes further down. Improvements need to be made especially between Dennett and the Bypass where the road narrows. It is difficult for cyclists to take the lane when climbing the hill here. Maplewood should be a critical spine for the bike network.
Places I bike to or along	Door zone bike lanes here are not ideal. There was a detailed complete streets plan in 2018 which was not implemented to make bike and sidewalk improvements here.
Places I bike to or along	This part of Maplewood is far too wide with too many car lanes, some over 15â€™ wide. It needs a bike lane to form a central spine to the bike network. It should be a top priority to connect the outer Maplewood lanes to the outer Middle St lanes, and reducing driving lanes here (and maybe even adding in on-street parking) would turn this into a much more comfortable downtown street for pedestrians as well. Ideally bike lanes should be buffered here. This is a critical route to the Middle and High Schools, etc for several neighborhoods.
Places I bike to or along	I bike here, and take my life in my hands. So do many others to get to jobs and shopping. There is a plan to add a multi use path south of Wilson, but this portion from Wilson to the High School/ Lafayette lanes is in critical need of bike improvements.
Places I bike to or along	Going up Woodbury in the direction of Rite Aid on a bike is fine since there is a fair amount of shoulder. However, going down is horrible since there is virtually no shoulder, there are sewer grates and road debris along the curb, cars go very fast and are impatient to pass because it is a long straight road without obstacles. Maplewood is a better bike alternative even if it takes longer and there is an added hill, at least there is a bike lane, some raised intersections to slow cars down, and less car traffic. The problem is that it is hard to turn left from the right side of Woodbury onto Maplewood. It was much easier to do that when the temporary speed cushions were in place which slowed cars down to a speed that made in comfortable for cyclists to take the lane.
Places I bike to or along	State Street could be an excellent biking corridor to downtown. However, there are parked cars on both sides of the road, 2 way traffic, and I'm always concerned about getting 'doored' and avoiding traffic
Places I bike to or along	I bike on Court when I bike from Prescott Park back to my office on State Street. It's not ideal, but low traffic and seems like to best option to get from the park back to 600 State Street.

Places I bike to or along	A favorite bike ride on the weekend - but it's not separated and State Street is concerning on a bike. Of course, getting to Prescott Park on a bike is excellent - and then it is a beautiful ride to Newcastle - however, the bridge and causeway to Newcastle is dangerous on a bike - feels like this should be a natural biking area - it's beautiful and passes through some great areas.
Places I bike to or along	I ride the rail trail 3-4 time a week to work in Norh Hampton. This is a great addition.
Places I bike to or along	We ride our bikes along this unsanctioned trail because there is no safe bike lane to ride downtown from the West End. Islington is very busy and dangerous, and crossing all the way over top Middle Street is just as bad.
Places I bike to or along	Rock Street Park is popular to access on foot or bike by
Places I bike to or along	This is very hidden but should be promoted with more wayfinding -- this also needs to be repaved as there are big cracks over this bridge. This is a great gem to bike without cars. Where else can this be done, are there more bridges or paved bike paths that can be placed through public properties to make connectors.
Places I bike to or along	Cater Park is popular to access on foot or by bike
Places I bike to or along	This bike lane is some sort of super rough pavement that is very tough to ride on... The size of the shoulder is nice and works well.
Places I bike to or along	When on a bike, I use Lincoln St as much as I can, because its flat and a calmer street. But the stop signs at every intersection make it inefficient for cycling. It would become more valuable to make this a "4-way Stop" for cars, and a "4-way yield for bicycles" road. (Especially since its labeled as a cycle street).
Places I bike to or along	We use the bike path a lot. Its just unfortunate when its full of debris and the uneven manhole covers can unseat a cyclist.

Places I bike to or along	Relatively safe road to bike (especially uphill).
Places I bike to or along	Safe bikeable route, despite the frequent stop signs
Places I bike to or along	bikeable route towards the water. (Despite rough pavement between Brackett / NewCastle Ave)
Places I bike to or along	Safe bike route alternative to avoid the not-safe-for-bike downtown
Places I bike to or along	bikeable.
Places I bike to or along	bike to west end shops & restaurants in a safe environment (while avoiding the hill on Aldrich)
Places I bike to or along	Relatively safe for biking. Wide road allows for safe space for cyclists (especially downhill)
Places I bike to or along	Safe bike route alternative to avoid the not-safe-for-bike downtown (This is the road I meant, not State St!)
Places I bike to or along	Safe bike route alternative to avoid the not-safe-for-bike downtown
Places I bike to or along	Safe bicycling towards Pease tradeport/C&J bus stop from Rte 33
Places I bike to or along	I bike from our place at 445 Ocean Rd to Rye Beach. The Portsmouth roads don't sidewalks for good buffers from cars. (The Rye roads have wider roads for biking.) There's a lot of knotweed and other things growing along Ocean road that make biking challenging. I'm looking forward to riding on the bike path but even just getting there is dangerous.
Places I bike to or along	Austin St is a good alternative to State St for biking although cars park on both sides so it is quite narrow
Places I bike to or along	An incredible asset to Portsmouth Cyclists, however the pavement needs addressing especially on Ashland RD.
Places I bike to or along	Great View when headed towards town!
Places I bike to or along	This is the usual route I take to get to the Kayak launch

Places I bike to or along	this road narrows at the top of the hill so bicycles have to move into the road. impatient drivers frequently pass bikes in both directions within inches of a bike making a very dangerous situation for bikers.
Places I bike to or along	this road narrows at the top of the hill so bicycles have to move into the road. impatient drivers frequently pass bikes in both directions within inches of a bike making a very dangerous situation for bikers.
Places I bike to or along	Summer bike traffic from South Rt 1 to downtown (commuter) for seasonal employees
Places I bike to or along	Use Lincoln Ave to bike to downtown Hannaford
Places I bike to or along	Bike on Islington to get to HBT
Places I bike to or along	Alternate route to Gosling Rd from points south is Durgin Ln (avoids most of Woodbury Ave)
Places I bike to or along	Franklin School parking lot cut through is a good alt route. Option to formalize? Hours of operation?
Places I bike to or along	Challenge riding on South St - narrow
Places I bike to or along	This intersection is not bikable (crossing Rt1). The light doesn't detect bikes and you can only get a signal to cross by walking to the pedestrian beg button off the road.
Places I bike to or along	Signage needed for bike route to C&J transportation center (at both ends)
Places I bike to or along	State st is preferable as a bike route to Islington, but despite recent pavement and sidewalk improvements has not been made a "bike boulevard" as described in the last bike/ped plan. A bike boulevard would have signage and calming/detours to reduce car traffic. At the least there should be sharrows to keep riders out of the door zone. At the Middle St intersection there should be a way for bike riders outbound on Court to safely get to State to continue SW.
Places I bike to or along	Great new path!

Places I bike to or along	Great new trail! Wish it continued across Bartlett.
Places I bike to or along	Great bike lanes on Outer Maplewood, wish they continued into town.
Places I bike to or along	Sidewalk to Lafayette
Places I bike to or along	Sidewalk to Lafayette
Places I bike to or along	The city just proposed removing a lane here at PTS. The project also proposed increasing the lane widths from 10' to 13' to aid turning truck traffic. How is it that 10' and 11' wide lanes work in every other city but not here? 13' lanes are a critical width that encourage bad behavior from drivers to pass bicycles when they don't have enough space to do so safely. If the goal is safety and preventing trucks from jumping the curb, bollards near crosswalks are cheap and effective...
Places I bike to or along	Surprised there aren't any bike lockup /bike parking areas along Islington like we have around the historic district center. Would be really helpful for visiting local business like the dentist, cafe kilim, etc. People just usually lockup to street signs and trees but I don't think that is really the intended method by the city.
Places I bike to or along	Greenleaf is a shaded, low traffic bike route out of town (and far better than Lafayette). When the Peverly Hill side path is built Greenleaf will see more bike traffic between the Lafayette bike lanes and skate park, greenway, Elwyn Park, Y, and Community Campus fields (especially if access is allowed behind DPW).
Places I bike to or along	Quiet roads connecting Maplewood bike lanes to Rockingham bike bridge. Wayfinding signage would help.
Places I bike to or along	bike to town, wish bike lane went all the way down middle street

Places I bike to or along	damage t rail trail is ongoing. between when I started my ride and ended my ride 45 mons later there were 3 new tranches dug into the trail near the entrance at Islingtn St. And there are now so many donuts under 33 (where they do not get erased by rain) that there is a danger of a cyclist crashing from them. how about sign that tells people that the trail is rough ahead. And also that tells them where to report ongoing damage to the trail, especially if they see the people doing the damage. And just now there are three teenaged boys riding ebikes past my house on Islington doing wheelies in the street. What can be done about the problems of ebikes and teenaged boys?
Places I bike to or along	Cyclists are permitted to use the sidewalk according to posted signs from Atlantic Heights to about here. The problem is that at some point inbound cyclists on the sidewalk will have to leave the sidewalk and merge with inbound car traffic on the other side of the road. For much of Market Street there is a meridian dividing road and traffic moves quickly in both directions making it very complicated for cyclists getting into town.
Places I bike to or along	The sign indicates that cyclists can use the sidewalk from here to downtown but it is very dangerous to cross the highway on and off ramps- especially going against the flow of traffic

Places I bike to or along	Richards Ave is one of the most popular neighborhoods in Portsmouth for biking and walking. The streets, and Richards Ave in particular, work as routes to the Middle School, the library, the ball fields, the court, downtown, the pickleball, tennis, and basketball courts, Little Harbor School, City Hall, and the dog park. Right now, a Saturday morning, there are hundreds of young soccer players on the fields adjacent to Rockland Street. Every school day in good weather parents escort their bike-riding children to Little Harbor School, mostly using the sidewalks, while older children walk, bike and use all types of electrified transportation to get to the Middle School. This happens amid the sometimes intense traffic of parents driving their kids of school and motorists intent on getting to work. Despite this, biking especially is barely acknowledged on the streets. There are faded sharrows on Lincoln Ave dating from when a previous City Council killed the protected bike lane on Middle Street. There are one or two signs on Elwyn Avenue indicating that it is a bike route between Little Harbor School and Leary Field and the Middle School. There might be a bike rack somewhere. There are no traffic calming measures like speed humps on the streets or speed tables at intersections where many drivers fail to stop as they cut through. There are crosswalks. That's it. If a safe bicycle (and pedestrian) network is the most important thing for expanding biking and walking, this is a missed opportunity. The city should paint bike indicators on the streets and add signs everywhere in the neighborhood from the Middle School to Leary Field to City Hall to Little Harbor School. Paint and signs are cheap. They may not be effective as protected lanes for promoting biking, but consistently applied they announce the City's support for biking and walking and raise the its profile. Citizen opposition would unlikely. And, again, paint and signs are cheap. It might be said that carpet bombing the Richards Ave neighborhood with bike signs and paint would be a case of the rich getting richer. However, if other areas feel they are being shorted and demand similar treatment that would be a good thing. The bike network could be expanded neighborhood by neighborhood instead of piecemeal as the budget allows, as has happened up until now.
Places I bike to or along	Could Lincoln be better signposted as bike blvd
Places I bike to or along	Traffic calming on Dennett to make it safer for bikes
Places I bike to or along	Downtown: Secure bike racks & shelters for industry workers

Places I bike to or along	Can the rail trail connect to community campus
Places I bike to or along	I want to bike from Osprey Landing to YMCA, all to all the sotres near both Market Baskets/Walmarts
Places I bike to or along	I used to bike to C & J but can't anymore because of the road improvements, I'd like to be able to bike there again
Places I bike to or along	accelerate trail extension south to MA and newburyport
Places I bike to or along	Maintenance of Ashland Rd is crucial for my bike commute from DT Portsmouth to Pease
Places I bike to or along	i wish to bike or walk to the common man and taco bell from Elwyn Park safely
Places I bike to or along	The Sage Rd neighborhood has a nice, safe connection to the rail trail. It allows people on Peverly Hill Rd to avoid the Greenland Rd Middle Rd area which feels less safe on a bike. Is it open to the public? If not, can it be made to be?
Places I bike to or along	This is a great way to access Pease and Greenland, but could benefit from some signage.
Places I walk to or along	Most of the sidewalks from Elwyn to Lafayette are in very poor shape, especially a the Sagamore bridge, and are right beside high speed traffic. Drivers take high speed turns at the frequent curb cuts.
Places I walk to or along	The construction zone from the Foundry Garage to Maplewood is dangerous to pedestrians and bicycles. On street parking should be removed to make way for people walking to their jobs.
Places I walk to or along	The crosswalk on the same side as the sidewalk would be ideal. It's the worst corner! Cars go way too fast around that corner and and down Chevrolet Ave. Should also have speed bumps or at least a speed limit/sign.
Places I walk to or along	Serious consideration should be taken to begin transitioning the heart of Market Square to a pedestrian zone. This would be a long process and begin with small changes such as removing on-street parking in this area to make it harder and less attractive to drive.
Places I walk to or along	The new multi-use path along Borthwick connecting to the existing sidewalk is exremely useful and a greatroute for heading West and creating circuts in the West end.E

Places I walk to or along	I walk with a baby stroller now and the sidewalks along this stretch are in awful condition for anyone that uses wheels for transportation
Places I walk to or along	Jones Ave walk
Places I walk to or along	This is a very popular running and biking route along 1B back from New Castle
Places I walk to or along	Groccery store
Places I walk to or along	There should be a sidewalk on both sides of Woodbury, people are always rushing across the road and cars drive way too fast down this section. With the new homes going on and the elderly residents in the apartment buildings there should really be proper sidewalk in place here to connect to the cottage st. sidewalk.
Places I walk to or along	These trails are lovely and poorly managed and signed. Why not create a handful of downtown walking loops that are away from traffic, offer views of river, and are easily followed on Strava and other apps
Places I walk to or along	I walk but would like to bike. A bike lane or a combination of walk/bike lane would be very useful.
Places I walk to or along	Roads wide, encourage high speeds, add sidewalks and narrow roads for more family friendly walkability
Places I walk to or along	The traffic light never registers me here when I am biking. I end up waiting for the pedestrian cross signal.
Places I walk to or along	Small shoulder and high speeds with lots of blind corners. Being able to get to Elwyn Park and access the elementary school, safely would be really great. The new sidewalk is ending before this stretch of Elwyn.
Places I walk to or along	This route could really use a sidewalk. It is a main corridor. The 55+ community built one in front of their place, but it ends abruptly on some rocks and then grass and then the driveway for the auto parts store. It should be illegal to do this. They should HAVE to connect. If you're trying to get ANYWHERE in a wheelchair, good luck.
Places I walk to or along	Isn't there supposed to be a sidewalk here between Sewall and Islington?
Places I walk to or along	Congress street should be totally pedestrianised. It's a nuisance to drive though, and on weekends (especially in the summer) the sidewalks are overflowing with tourists and people leisurely enjoying their day. Blocking off congress street (at least!) to cars will give pedestrians more space to exist.

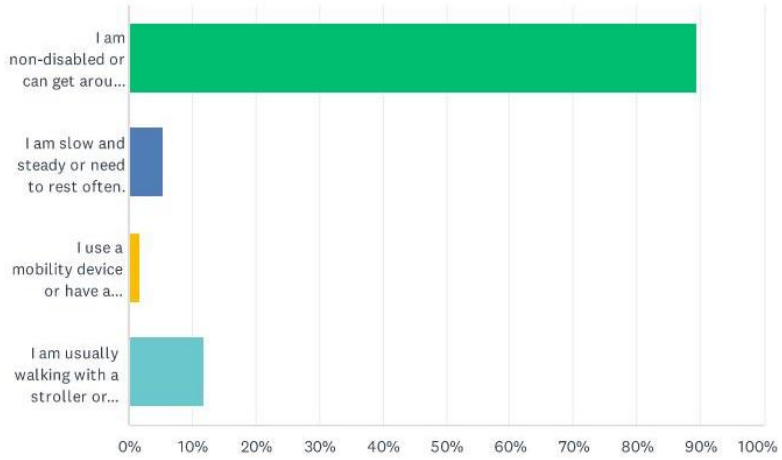
Places I walk to or along	Most walkable street in Portsmouth, replicate this wherever possible
Places I walk to or along	This pedestrian refuge acts more like a slip lane for southbound traffic turning onto State St.
Places I walk to or along	This is the route that many peds (especially kids) use to access library, school, and parks. Need to cross 3 danerous intersectios: - Brewster & Islington Streets - Summer and Austin Streets - Austin, Middle and Richards Streets
Places I walk to or along	Sidewalk up Greenleaf to Lafayette
Places I walk to or along	When a car comes down Union to this intersection it's extremely difficult to see cars coming from the left due to trees, shrubs, a fence and the curve of the road. Cars come fast down South St. When pedestrians come from the right and hope the driver, the driver is leaning forward to see what is coming from the left, so a pedestrian crossing in front of the car is a surprise. It might be better to make Union one way north or to have a pedestrian blinker like at Lincoln and Miller.
Places I walk to or along	I want to get to community campus can we go through St. Paul
Places I walk to or along	Connectivity through Pease to Newington and over Rt 16 bridge
Places I walk to or along	Hampton Branch Trail and trail bordering Pease Tradeport need to be connected
Places I walk to or along	This part of a sidewalk was just removed. It's the safest way in the winter to connect to the sidewalk along 33. Any time there is snow the sidewalk at the corner is not usable pushing you into the street.

SURVEY RESPONSES

Portsmouth Bicycle and Pedestrian Plan Survey

Q1 How do you identify when it comes to walking around Portsmouth? Check all that apply.

Answered: 425 Skipped: 17

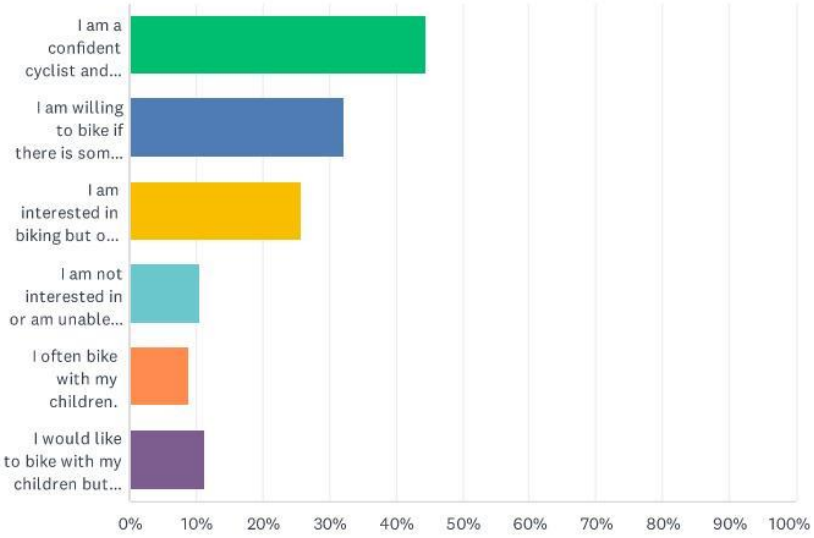


ANSWER CHOICES	RESPONSES	
I am non-disabled or can get around most places quickly and confidently.	89.41%	380
I am slow and steady or need to rest often.	5.41%	23
I use a mobility device or have a disability.	1.65%	7
I am usually walking with a stroller or children.	11.76%	50
Total Respondents: 425		

Portsmouth Bicycle and Pedestrian Plan Survey

Q2 How do you identify when it comes to biking around Portsmouth? Check all that apply.

Answered: 431 Skipped: 11



Portsmouth Bicycle and Pedestrian Plan Survey

ANSWER CHOICES	RESPONSES	
I am a confident cyclist and will bike on most roads.	44.32%	191
I am willing to bike if there is some formal bike infrastructure in place.	32.25%	139
I am interested in biking but only want to bike where there is high-quality bike infrastructure with separation from vehicles.	25.75%	111
I am not interested in or am unable to bike, regardless of bike infrastructure.	10.44%	45
I often bike with my children.	8.82%	38
I would like to bike with my children but am concerned.	11.37%	49
Total Respondents: 431		

Portsmouth Bicycle and Pedestrian Plan Survey

Q3 What is your home zip code?

Answered: 428 Skipped: 14

#	RESPONSES	DATE
1	03801	10/14/2024 12:20 PM
2	03801	10/13/2024 8:54 AM
3	03833	10/11/2024 6:57 PM
4	03801	10/11/2024 3:24 PM
5	03801	10/11/2024 9:40 AM
6	03904	10/11/2024 8:50 AM
7	03801	10/11/2024 8:42 AM
8	03801	10/9/2024 4:39 PM
9	03840	10/9/2024 1:17 PM
10	03801	10/9/2024 1:15 PM
11	03801	10/9/2024 11:32 AM
12	03801	10/9/2024 10:59 AM
13	03801	10/5/2024 1:10 PM
14	03801-1903	10/5/2024 8:41 AM
15	03801	10/2/2024 4:26 PM
16	03801	10/2/2024 2:51 PM
17	03801	10/2/2024 11:39 AM
18	03801	10/1/2024 8:38 AM
19	03801	9/30/2024 9:06 PM
20	03904	9/30/2024 8:59 PM
21	03801	9/30/2024 7:25 PM
22	03857	9/30/2024 5:40 PM

Portsmouth Bicycle and Pedestrian Plan Survey

23	03824	9/30/2024 5:28 PM
24	03801	9/30/2024 5:20 PM
25	03801	9/30/2024 4:14 PM
26	03801	9/30/2024 2:30 PM
27	03801	9/30/2024 1:51 PM
28	03840	9/30/2024 1:51 PM
29	03801	9/30/2024 11:20 AM
30	03801	9/30/2024 9:54 AM
31	03801	9/29/2024 10:38 PM
32	03801	9/29/2024 4:44 PM
33	03801	9/29/2024 2:53 PM
34	03801	9/29/2024 2:47 PM
35	03801	9/29/2024 9:58 AM
36	03801	9/28/2024 10:25 AM
37	03801	9/27/2024 6:51 PM
38	03801	9/27/2024 3:02 PM
39	03801	9/25/2024 9:20 PM
40	03801	9/24/2024 4:57 PM
41	03801	9/24/2024 6:36 AM
42	03801	9/23/2024 6:08 PM
43	03801	9/23/2024 4:54 PM
44	03801	9/23/2024 11:43 AM
45	03801	9/23/2024 9:11 AM
46	03905	9/21/2024 6:34 AM
47	03870	9/19/2024 2:38 PM
48	03905	9/19/2024 11:33 AM
49	03801	9/18/2024 11:48 AM
50	03801	9/16/2024 8:37 AM

Portsmouth Bicycle and Pedestrian Plan Survey

51	03801	9/13/2024 1:46 PM
52	03801	9/13/2024 11:41 AM
53	03833	9/13/2024 9:17 AM
54	03801	9/12/2024 9:52 AM
55	03801	9/10/2024 6:35 PM
56	03801	9/9/2024 6:27 PM
57	03801	9/9/2024 6:23 PM
58	03801	9/9/2024 6:16 PM
59	03801	9/9/2024 10:39 AM
60	03801	9/6/2024 3:58 PM
61	03908	9/5/2024 9:59 AM
62	03801	9/4/2024 4:52 PM
63	03904	9/4/2024 10:30 AM
64	04348	9/2/2024 11:07 PM
65	03854	9/2/2024 6:04 PM
66	03842	9/1/2024 11:16 PM
67	03801	8/29/2024 2:08 PM
68	03801	8/29/2024 1:57 PM
69	03801	8/28/2024 12:58 PM
70	03801	8/28/2024 7:11 AM
71	03801	8/28/2024 6:48 AM
72	03801	8/28/2024 6:44 AM
73	03824	8/27/2024 9:02 PM
74	03842	8/27/2024 1:53 PM
75	03801	8/26/2024 10:03 PM
76	03801	8/26/2024 9:32 PM
77	03801	8/26/2024 9:08 PM
78	03801	8/25/2024 9:54 PM

Portsmouth Bicycle and Pedestrian Plan Survey

79	03801	8/22/2024 11:25 AM
80	03820	8/22/2024 11:12 AM
81	03801	8/22/2024 9:55 AM
82	03905	8/21/2024 4:57 PM
83	03801	8/21/2024 12:46 PM
84	03801	8/20/2024 2:01 PM
85	03801	8/19/2024 12:58 PM
86	03801	8/18/2024 8:41 PM
87	03801	8/17/2024 10:04 AM
88	03903	8/16/2024 9:36 AM
89	03801	8/16/2024 8:18 AM
90	03801	8/15/2024 7:34 PM
91	03801	8/13/2024 3:09 PM
92	03801	8/13/2024 1:25 PM
93	03801	8/13/2024 1:22 PM
94	03801	8/13/2024 1:13 PM
95	03801	8/13/2024 12:57 PM
96	03844	8/13/2024 11:56 AM
97	03801	8/12/2024 9:17 PM
98	03820	8/12/2024 1:54 PM
99	03801	8/12/2024 12:45 PM
100	03801	8/12/2024 7:10 AM
101	03801	8/10/2024 1:00 PM
102	03801	8/9/2024 8:42 AM
103	03801	8/8/2024 11:24 AM
104	03801	8/7/2024 3:20 PM
105	03801	8/7/2024 11:55 AM
106	03801	8/6/2024 9:33 PM

Portsmouth Bicycle and Pedestrian Plan Survey

107	03801	8/6/2024 5:16 PM
108	03801	8/6/2024 9:26 AM
109	03801	8/6/2024 8:47 AM
110	03801	8/6/2024 7:02 AM
111	03801	8/6/2024 6:36 AM
112	03801	8/6/2024 6:01 AM
113	03801	8/6/2024 5:54 AM
114	03801	8/6/2024 5:29 AM
115	03801	8/5/2024 11:35 PM
116	03801	8/5/2024 10:39 PM
117	03801	8/5/2024 9:43 PM
118	03801	8/5/2024 9:23 PM
119	03801	8/5/2024 8:55 PM
120	03801	8/5/2024 8:34 PM
121	03801	8/5/2024 7:50 PM
122	03801	8/5/2024 7:29 PM
123	03801	8/5/2024 7:23 PM
124	03801	8/5/2024 7:01 PM
125	03801	8/5/2024 5:38 PM
126	03801	8/5/2024 5:20 PM
127	03801	8/5/2024 5:13 PM
128	03801	8/5/2024 4:59 PM
129	03903	8/5/2024 4:50 PM
130	03801	8/5/2024 2:16 PM
131	03801	8/3/2024 2:49 PM
132	03801	8/2/2024 2:21 PM
133	03909	7/31/2024 8:11 PM
134	03857	7/31/2024 5:35 PM

Portsmouth Bicycle and Pedestrian Plan Survey

135	03801	7/30/2024 7:24 PM
136	03823	7/30/2024 2:54 PM
137	03801	7/30/2024 1:08 PM
138	03801	7/30/2024 12:29 PM
139	03801	7/30/2024 9:21 AM
140	03801	7/30/2024 9:00 AM
141	03801	7/30/2024 8:48 AM
142	03909	7/30/2024 7:29 AM
143	03842	7/30/2024 6:53 AM
144	03801	7/30/2024 6:50 AM
145	03801	7/29/2024 11:55 PM
146	03801	7/29/2024 9:42 PM
147	03801	7/29/2024 9:30 PM
148	03801	7/29/2024 8:55 PM
149	03801	7/29/2024 8:54 PM
150	03801	7/29/2024 8:22 PM
151	03801	7/29/2024 7:10 PM
152	03820	7/29/2024 6:31 PM
153	03802	7/29/2024 5:56 PM
154	03801	7/29/2024 5:34 PM
155	03801	7/29/2024 5:21 PM
156	03842	7/29/2024 5:08 PM
157	03801	7/29/2024 4:42 PM
158	03801	7/29/2024 4:42 PM
159	03801	7/29/2024 4:41 PM
160	03801	7/29/2024 4:25 PM
161	03801	7/29/2024 4:16 PM
162	03801	7/29/2024 11:48 AM

Portsmouth Bicycle and Pedestrian Plan Survey

163	03801	7/29/2024 9:59 AM
164	03801	7/29/2024 8:58 AM
165	03801	7/29/2024 8:26 AM
166	03801	7/29/2024 5:07 AM
167	03801	7/28/2024 10:08 PM
168	03801	7/28/2024 8:49 PM
169	03801	7/28/2024 6:27 PM
170	03801	7/28/2024 4:56 PM
171	03801	7/28/2024 3:29 PM
172	03801	7/28/2024 1:44 PM
173	03801	7/28/2024 1:27 PM
174	03801	7/28/2024 11:50 AM
175	03801	7/28/2024 10:28 AM
176	03801	7/28/2024 9:56 AM
177	03801	7/28/2024 9:11 AM
178	03904	7/28/2024 8:27 AM
179	03801	7/28/2024 7:48 AM
180	03801	7/27/2024 11:48 PM
181	03801	7/27/2024 11:42 PM
182	03801	7/27/2024 10:59 PM
183	03801	7/27/2024 10:36 PM
184	03801	7/27/2024 10:30 PM
185	03801	7/27/2024 10:25 PM
186	03801	7/27/2024 8:46 PM
187	03801	7/27/2024 6:46 PM
188	03801	7/27/2024 5:26 PM
189	03801	7/27/2024 2:14 PM
190	03801	7/27/2024 12:38 PM

Portsmouth Bicycle and Pedestrian Plan Survey

191	03908	7/27/2024 10:28 AM
192	03825	7/27/2024 10:18 AM
193	03820	7/27/2024 10:13 AM
194	03801	7/27/2024 8:34 AM
195	03801	7/27/2024 8:27 AM
196	03801	7/27/2024 8:12 AM
197	03801	7/27/2024 8:00 AM
198	03801	7/27/2024 7:49 AM
199	03801	7/27/2024 7:46 AM
200	03820	7/27/2024 7:43 AM
201	03801	7/26/2024 6:13 AM
202	03801	7/25/2024 11:58 PM
203	03801	7/25/2024 10:21 PM
204	03862	7/25/2024 10:15 AM
205	03833	7/25/2024 7:33 AM
206	03801	7/25/2024 12:06 AM
207	03801	7/24/2024 11:55 PM
208	03801	7/24/2024 10:14 PM
209	03905	7/24/2024 9:14 PM
210	03885	7/24/2024 8:31 PM
211	03801	7/24/2024 7:43 PM
212	03801	7/24/2024 6:06 PM
213	03801	7/24/2024 5:51 PM
214	03801	7/24/2024 4:19 PM
215	03904	7/24/2024 4:05 PM
216	03903	7/24/2024 3:53 PM
217	03801	7/24/2024 3:05 PM
218	03801	7/24/2024 2:51 PM

Portsmouth Bicycle and Pedestrian Plan Survey

219	03801	7/24/2024 2:43 PM
220	03801	7/24/2024 1:44 PM
221	03801	7/24/2024 12:01 PM
222	03801	7/24/2024 8:37 AM
223	03801	7/23/2024 9:29 PM
224	03801	7/23/2024 9:02 PM
225	03801	7/23/2024 3:56 PM
226	03801	7/23/2024 12:54 PM
227	03885	7/23/2024 11:12 AM
228	03801	7/23/2024 10:49 AM
229	03801	7/23/2024 10:47 AM
230	03801	7/23/2024 10:28 AM
231	03801	7/23/2024 9:56 AM
232	03801	7/23/2024 8:42 AM
233	03801	7/23/2024 7:36 AM
234	03801	7/23/2024 7:24 AM
235	03801	7/23/2024 7:05 AM
236	03801	7/23/2024 6:48 AM
237	03801	7/23/2024 6:47 AM
238	03801	7/23/2024 6:03 AM
239	03801	7/23/2024 5:44 AM
240	03801	7/23/2024 3:48 AM
241	03801	7/23/2024 12:23 AM
242	03801	7/22/2024 9:33 PM
243	03801	7/22/2024 9:24 PM
244	03801	7/22/2024 9:21 PM
245	03801	7/22/2024 8:23 PM
246	03801	7/22/2024 7:35 PM

Portsmouth Bicycle and Pedestrian Plan Survey

247	03801	7/22/2024 7:17 PM
248	03801	7/22/2024 6:15 PM
249	03801	7/22/2024 5:44 PM
250	03801	7/22/2024 5:34 PM
251	03801	7/22/2024 5:33 PM
252	03891	7/22/2024 4:52 PM
253	03801	7/22/2024 4:39 PM
254	03801	7/22/2024 4:33 PM
255	03801	7/22/2024 11:34 AM
256	03801	7/21/2024 11:07 AM
257	03801	7/19/2024 7:15 PM
258	03801	7/18/2024 9:19 AM
259	03801	7/17/2024 9:32 PM
260	03824	7/17/2024 4:05 PM
261	03801	7/17/2024 1:56 PM
262	03801	7/17/2024 1:35 PM
263	03801	7/17/2024 12:42 PM
264	03801	7/17/2024 12:12 PM
265	03801	7/16/2024 10:14 PM
266	03801	7/16/2024 9:04 PM
267	03801	7/16/2024 9:03 PM
268	03801	7/16/2024 6:01 PM
269	03801	7/16/2024 4:28 PM
270	03801	7/16/2024 3:22 PM
271	03801	7/16/2024 2:33 PM
272	03801	7/16/2024 2:30 PM
273	03801	7/16/2024 2:19 PM
274	03801	7/16/2024 12:19 PM

Portsmouth Bicycle and Pedestrian Plan Survey

275	03801	7/16/2024 11:22 AM
276	03801-6642	7/16/2024 10:33 AM
277	03801	7/16/2024 9:34 AM
278	03801	7/16/2024 9:14 AM
279	03840	7/16/2024 8:57 AM
280	03801	7/16/2024 8:02 AM
281	03801	7/16/2024 7:59 AM
282	03801	7/16/2024 5:18 AM
283	03801	7/16/2024 5:07 AM
284	80305	7/15/2024 11:22 PM
285	03801	7/15/2024 10:34 PM
286	03801	7/15/2024 9:06 PM
287	03840	7/15/2024 8:26 PM
288	03801	7/15/2024 8:12 PM
289	03801	7/15/2024 7:22 PM
290	03801	7/15/2024 7:19 PM
291	03801	7/15/2024 6:37 PM
292	03801	7/15/2024 6:09 PM
293	03801	7/15/2024 6:04 PM
294	03801	7/15/2024 5:04 PM
295	03801	7/15/2024 5:00 PM
296	03801	7/15/2024 4:44 PM
297	03801	7/15/2024 4:29 PM
298	03801	7/15/2024 4:26 PM
299	03801	7/15/2024 2:34 PM
300	03801	7/15/2024 1:15 PM
301	03801	7/15/2024 12:06 PM
302	03801	7/15/2024 11:49 AM

Portsmouth Bicycle and Pedestrian Plan Survey

303	03801	7/15/2024 10:36 AM
304	03801	7/14/2024 12:05 PM
305	03801	7/14/2024 9:59 AM
306	03801	7/13/2024 6:06 PM
307	03840	7/13/2024 5:32 PM
308	03801	7/13/2024 5:19 PM
309	03801	7/13/2024 2:51 PM
310	03801	7/13/2024 2:47 PM
311	03801	7/13/2024 1:21 PM
312	03801	7/13/2024 11:53 AM
313	03801	7/13/2024 11:20 AM
314	03801	7/13/2024 10:52 AM
315	03801	7/13/2024 10:41 AM
316	03801	7/13/2024 9:52 AM
317	03801	7/12/2024 7:34 AM
318	03801	7/11/2024 1:36 PM
319	03801	7/11/2024 11:22 AM
320	03801	7/11/2024 9:30 AM
321	03801	7/10/2024 8:34 AM
322	03801	7/10/2024 5:33 AM
323	03801	7/9/2024 11:16 PM
324	03801	7/9/2024 8:04 PM
325	03801	7/9/2024 7:35 PM
326	03801	7/9/2024 6:44 PM
327	03901	7/9/2024 3:23 PM
328	03801	7/9/2024 3:04 PM
329	03801	7/9/2024 2:28 PM
330	03801	7/9/2024 1:06 PM

Portsmouth Bicycle and Pedestrian Plan Survey

331	03801	7/9/2024 12:18 PM
332	03801	7/9/2024 12:13 PM
333	03801	7/9/2024 11:32 AM
334	03870	7/9/2024 11:21 AM
335	03801	7/9/2024 10:40 AM
336	03801	7/9/2024 10:16 AM
337	02114	7/9/2024 10:07 AM
338	03801	7/9/2024 10:00 AM
339	03801	7/9/2024 9:50 AM
340	03801	7/9/2024 9:26 AM
341	03870	7/9/2024 9:19 AM
342	03801	7/9/2024 9:15 AM
343	03801	7/9/2024 9:06 AM
344	03801	7/9/2024 8:46 AM
345	03801	7/9/2024 8:39 AM
346	03801	7/9/2024 8:24 AM
347	03801	7/9/2024 7:31 AM
348	03801	7/9/2024 7:25 AM
349	03801	7/9/2024 6:51 AM
350	03801	7/9/2024 6:50 AM
351	03801	7/9/2024 6:35 AM
352	33139	7/8/2024 11:49 PM
353	03801	7/8/2024 10:31 PM
354	03801	7/8/2024 10:30 PM
355	03801	7/8/2024 10:20 PM
356	03801	7/8/2024 10:14 PM
357	03801	7/8/2024 10:06 PM
358	03801	7/8/2024 10:03 PM

Portsmouth Bicycle and Pedestrian Plan Survey

359	03801	7/8/2024 9:53 PM
360	03801	7/8/2024 8:57 PM
361	03801	7/8/2024 8:43 PM
362	03801	7/8/2024 8:41 PM
363	03801	7/8/2024 8:34 PM
364	03801	7/8/2024 8:24 PM
365	03801	7/8/2024 7:44 PM
366	03801	7/8/2024 7:33 PM
367	03801	7/8/2024 7:07 PM
368	03801	7/8/2024 6:59 PM
369	03801	7/8/2024 6:40 PM
370	03801	7/8/2024 6:38 PM
371	03801	7/8/2024 5:29 PM
372	03801	7/8/2024 5:26 PM
373	03801	7/8/2024 5:14 PM
374	03884	7/8/2024 5:07 PM
375	03801	7/8/2024 5:06 PM
376	03801	7/8/2024 5:02 PM
377	03801	7/8/2024 5:01 PM
378	03801	7/8/2024 5:01 PM
379	03824	7/8/2024 4:55 PM
380	03801	7/8/2024 4:47 PM
381	03801	7/8/2024 4:46 PM
382	03801	7/8/2024 4:44 PM
383	03801	7/7/2024 1:36 PM
384	03801	7/5/2024 11:24 AM
385	03801	7/5/2024 11:07 AM
386	03801	7/5/2024 8:52 AM

Portsmouth Bicycle and Pedestrian Plan Survey

387	03801	7/5/2024 8:50 AM
388	03801	7/4/2024 7:01 PM
389	03801	7/3/2024 9:42 PM
390	03802	7/3/2024 2:46 PM
391	03801	7/3/2024 12:39 PM
392	03801	7/3/2024 7:09 AM
393	03801	7/2/2024 5:42 PM
394	03801	7/2/2024 4:50 PM
395	03801	7/2/2024 2:01 PM
396	03801	7/2/2024 12:34 PM
397	03801	7/2/2024 12:24 PM
398	03801	7/2/2024 11:53 AM
399	03801	7/2/2024 11:53 AM
400	03801	7/2/2024 10:52 AM
401	03801	7/2/2024 9:24 AM
402	03801	7/2/2024 8:47 AM
403	03801	7/2/2024 7:39 AM
404	03801	7/2/2024 7:36 AM
405	03801	7/2/2024 7:30 AM
406	03801	7/2/2024 6:39 AM
407	03801	7/2/2024 6:20 AM
408	03801	7/2/2024 6:15 AM
409	03801	7/2/2024 4:27 AM
410	03801	7/2/2024 1:08 AM
411	03801	7/1/2024 11:33 PM
412	03801	7/1/2024 10:17 PM
413	03801	7/1/2024 9:54 PM
414	03801	7/1/2024 9:26 PM

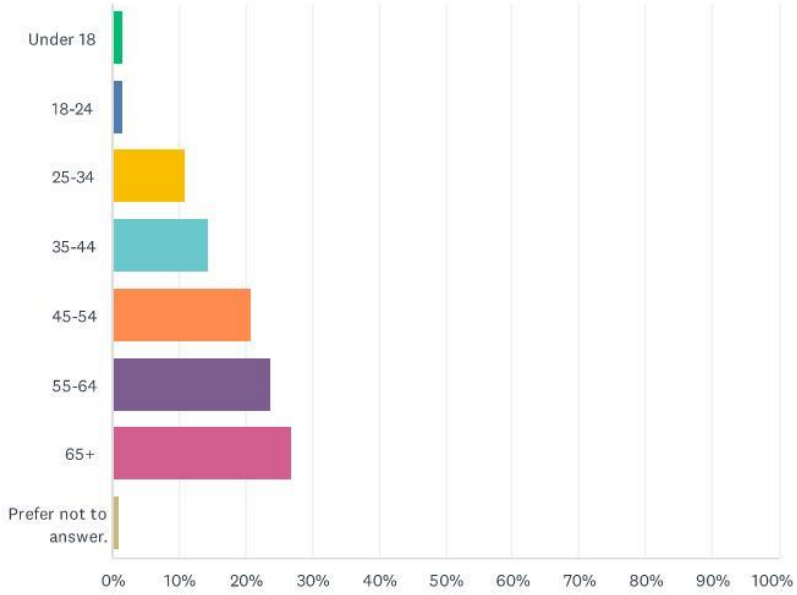
Portsmouth Bicycle and Pedestrian Plan Survey

415	03801	7/1/2024 9:19 PM
416	03801	7/1/2024 8:52 PM
417	03801	7/1/2024 8:31 PM
418	03801	7/1/2024 8:26 PM
419	33139	7/1/2024 8:17 PM
420	03801	7/1/2024 8:13 PM
421	03801	7/1/2024 7:46 PM
422	03801	7/1/2024 7:46 PM
423	03801	7/1/2024 7:41 PM
424	03801	7/1/2024 7:12 PM
425	03801	7/1/2024 6:33 PM
426	03801	7/1/2024 6:20 PM
427	03801	7/1/2024 6:14 PM
428	03801	7/1/2024 5:54 PM

Portsmouth Bicycle and Pedestrian Plan Survey

Q4 What is your age?

Answered: 432 Skipped: 10



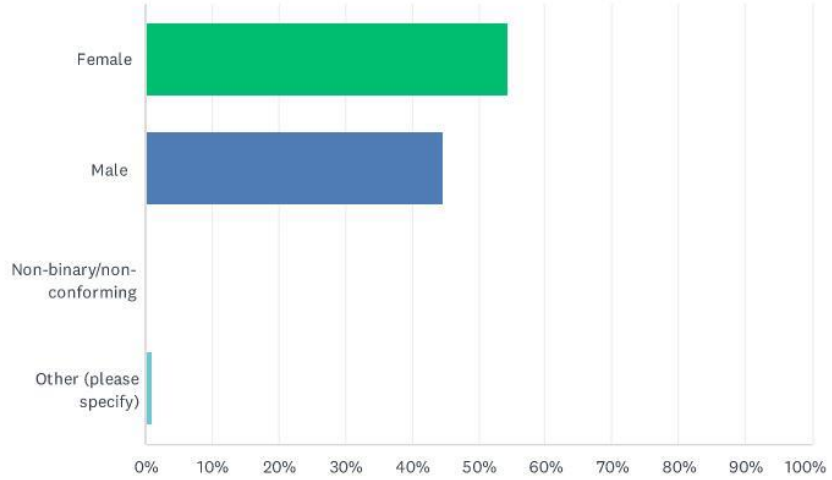
Portsmouth Bicycle and Pedestrian Plan Survey

ANSWER CHOICES	RESPONSES	
Under 18	1.39%	6
18-24	1.39%	6
25-34	10.88%	47
35-44	14.35%	62
45-54	20.60%	89
55-64	23.61%	102
65+	26.85%	116
Prefer not to answer.	0.93%	4
TOTAL		432

Portsmouth Bicycle and Pedestrian Plan Survey

Q5 How would you describe your gender identity?

Answered: 431 Skipped: 11



ANSWER CHOICES	RESPONSES	
Female	54.29%	234
Male	44.55%	192
Non-binary/non-conforming	0.23%	1
Other (please specify)	0.93%	4
TOTAL		431

#	OTHER (PLEASE SPECIFY)	DATE
1	Don't see why this question is necessary.	9/9/2024 10:39 AM

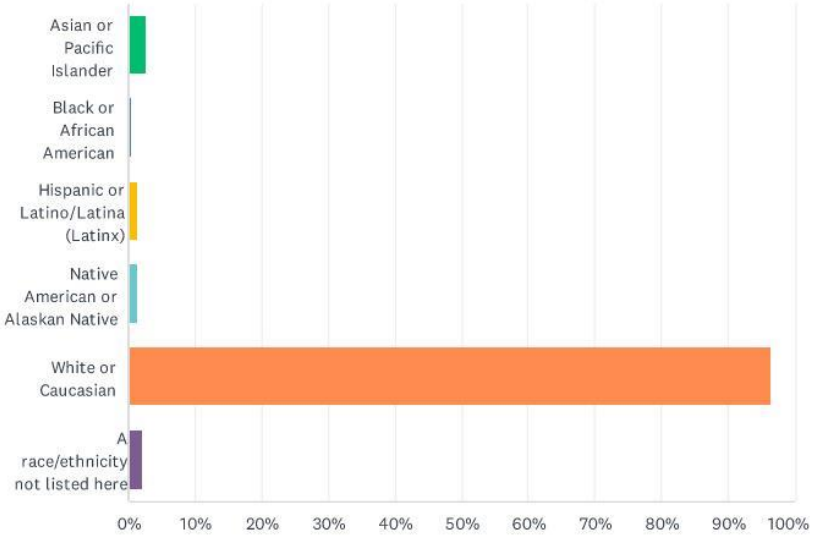
Portsmouth Bicycle and Pedestrian Plan Survey

2	Prefer not to answer	7/22/2024 5:44 PM
3	None of your business	7/13/2024 10:41 AM
4	None of your business	7/8/2024 5:07 PM

Portsmouth Bicycle and Pedestrian Plan Survey

Q6 What is your race or ethnicity? Check all that apply.

Answered: 424 Skipped: 18



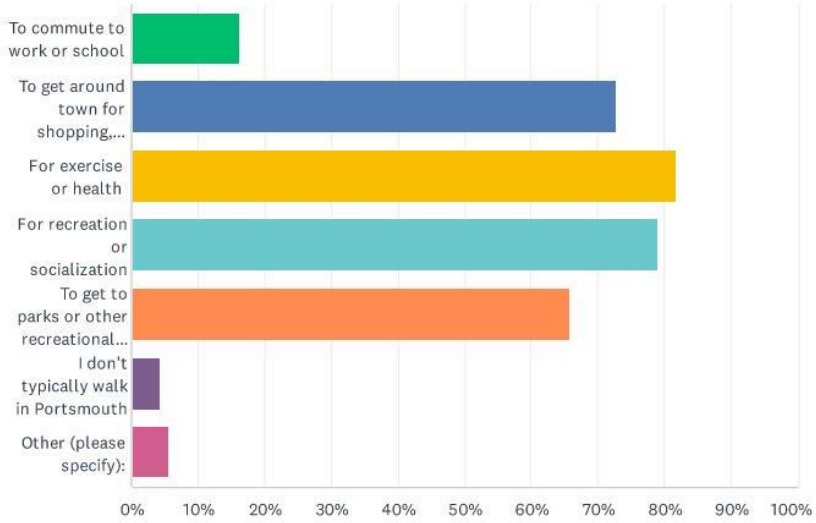
Portsmouth Bicycle and Pedestrian Plan Survey

ANSWER CHOICES	RESPONSES	
Asian or Pacific Islander	2.59%	11
Black or African American	0.47%	2
Hispanic or Latino/Latina (Latinx)	1.18%	5
Native American or Alaskan Native	1.18%	5
White or Caucasian	96.46%	409
A race/ethnicity not listed here	2.12%	9
Total Respondents: 424		

Portsmouth Bicycle and Pedestrian Plan Survey

Q7 For which trips do you currently walk in Portsmouth? Check all that apply.

Answered: 422 Skipped: 20



Portsmouth Bicycle and Pedestrian Plan Survey

ANSWER CHOICES	RESPONSES	
To commute to work or school	16.11%	68
To get around town for shopping, appointments, etc.	72.75%	307
For exercise or health	81.75%	345
For recreation or socialization	78.91%	333
To get to parks or other recreational destinations	65.64%	277
I don't typically walk in Portsmouth	4.27%	18
Other (please specify):	5.45%	23
Total Respondents: 422		

#	OTHER (PLEASE SPECIFY):	DATE
1	When I visit to ride walk around town with family	10/11/2024 7:01 PM
2	fun!	10/9/2024 9:31 AM
3	I use a white cane and between bicyclists riding on the sidewalk and cars failing to stop at intersections, so as a result walking for me has become too dangerous which now limits my walking mobility.	10/2/2024 11:44 AM
4	Farmer's Market, restaurants downtown, Library, Grocery, City Events (Halloween Parade, Fireworks, etc)	9/30/2024 9:25 PM
5	Dog	9/27/2024 6:53 PM
6	Dog walking	8/29/2024 2:00 PM
7	Walk downtown for fun, but need to drive	8/25/2024 9:56 PM
8	I have to ride to work because it is too hot in the inner city to walk	8/22/2024 9:58 AM
9	dog walking (can be tough without sidewalks)	8/5/2024 9:47 PM
10	Walk dog	8/5/2024 2:18 PM
11	Portsmouth is an easily walkable city. Too much construction in the city center is a challenge.	7/25/2024 12:04 AM
12	Walking my dog	7/24/2024 10:16 PM
13	Walk the dog.	7/24/2024 4:21 PM
14	Walk in downtown	7/23/2024 9:30 PM
15	dog walk	7/23/2024 10:51 AM

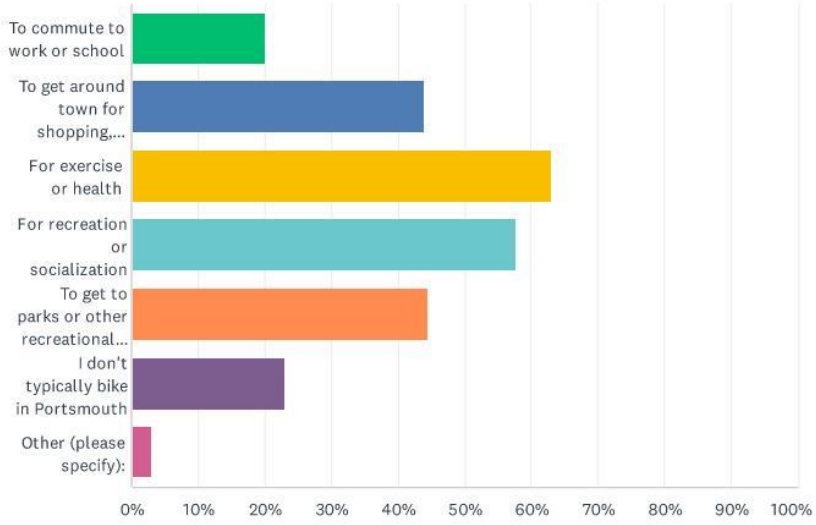
Portsmouth Bicycle and Pedestrian Plan Survey

16	To enjoy the gorgeous downtown and water views, such a pleasure, what an asset for our community	7/22/2024 4:58 PM
17	Only around my block.	7/15/2024 6:12 PM
18	only nearby grocery/brewery	7/9/2024 1:08 PM
19	Walk my dog	7/9/2024 9:08 AM
20	Walk dog	7/8/2024 10:33 PM
21	Work with Newcastle for safe sidewalks, please!	7/8/2024 8:42 PM
22	I live on Ocean Rd, which has no sidewalks so it's not safe to walk down my street. I wish there were sidewalks though.	7/8/2024 5:05 PM
23	To do things downtown instead of paying to park.	7/1/2024 11:38 PM

Portsmouth Bicycle and Pedestrian Plan Survey

Q8 For which trips do you currently bike in Portsmouth? Check all that apply.

Answered: 422 Skipped: 20



Portsmouth Bicycle and Pedestrian Plan Survey

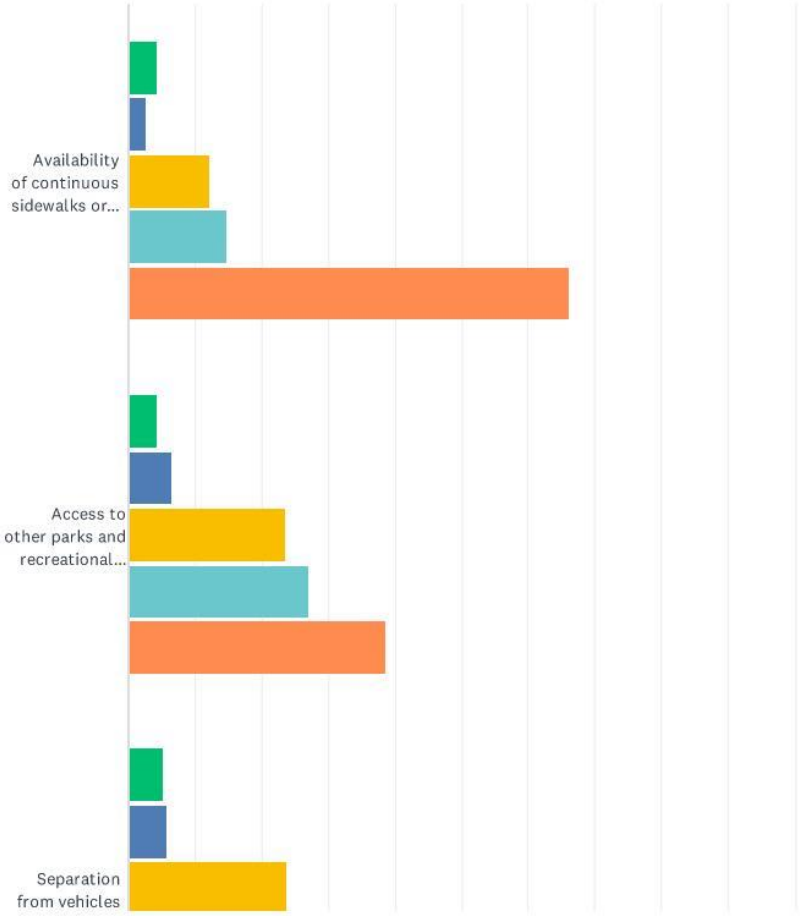
ANSWER CHOICES	RESPONSES	
To commute to work or school	20.14%	85
To get around town for shopping, appointments, etc.	43.84%	185
For exercise or health	62.80%	265
For recreation or socialization	57.58%	243
To get to parks or other recreational destinations	44.31%	187
I don't typically bike in Portsmouth	22.99%	97
Other (please specify):	3.08%	13
Total Respondents: 422		

#	OTHER (PLEASE SPECIFY):	DATE
1	fun!	10/9/2024 9:31 AM
2	Most drivers are fairly courteous but several speed and cut very close to me which is very unnerving & places me at significant risk.	10/5/2024 1:15 PM
3	Beach, Prescott Park Arts Festival and Events	9/30/2024 9:25 PM
4	Never Bike	8/5/2024 2:18 PM
5	I only ride my hike on rail trails. There are so many of these trails available for recreation. I feel spoiled, no need to risk riding in traffic.trails	7/25/2024 12:04 AM
6	To run the dog.	7/24/2024 4:21 PM
7	i don't ever bike in Portsmouth	7/24/2024 1:51 PM
8	Love the new rail trail	7/22/2024 4:58 PM
9	Most errand	7/17/2024 9:34 PM
10	This mostly applies to downtown. Outside of downtown I bike a bit too but it's a nightmare. I'm shocked I've not been hit by a car on Lafeyette despite the fact it's a major artery in Portmouth.	7/16/2024 2:35 PM
11	The Beach	7/15/2024 11:52 AM
12	I only bike on rail trail	7/9/2024 6:56 AM
13	However, I find it extremely dangerous to bike around Portsmouth - I work on State Street and there are no protected bike lanes - lots of parked cars - too dangerous	7/8/2024 4:59 PM

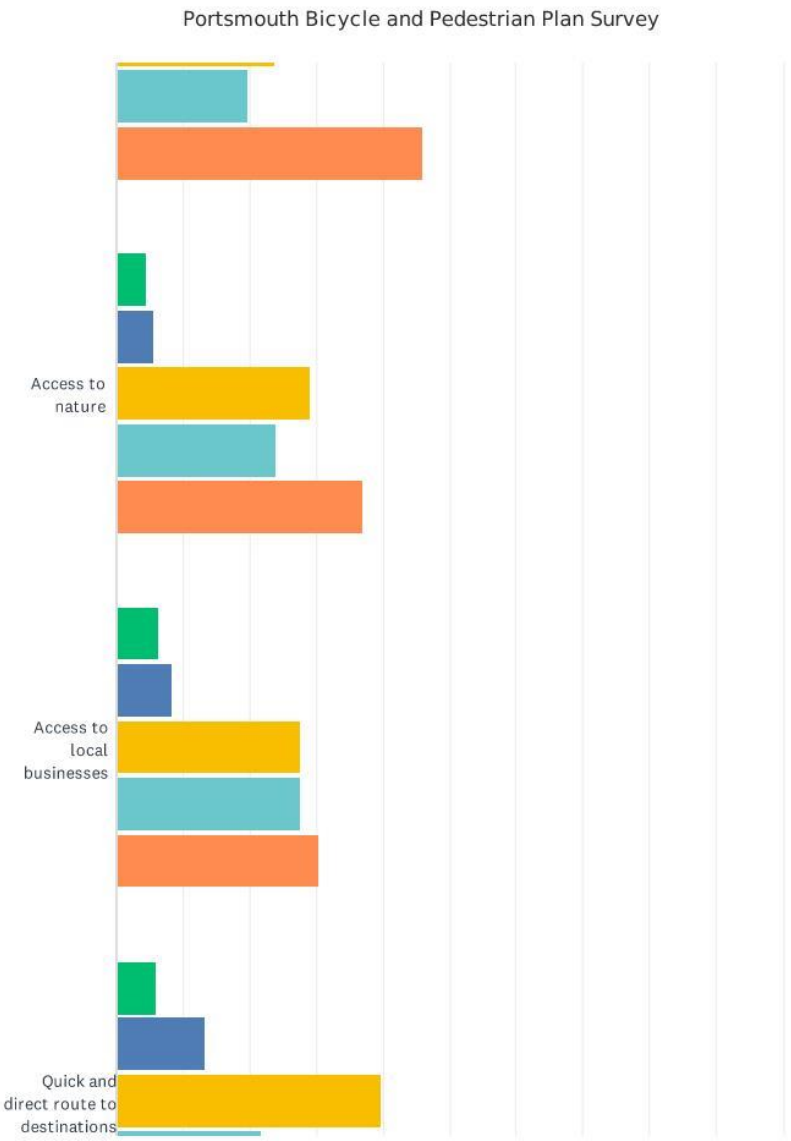
Portsmouth Bicycle and Pedestrian Plan Survey

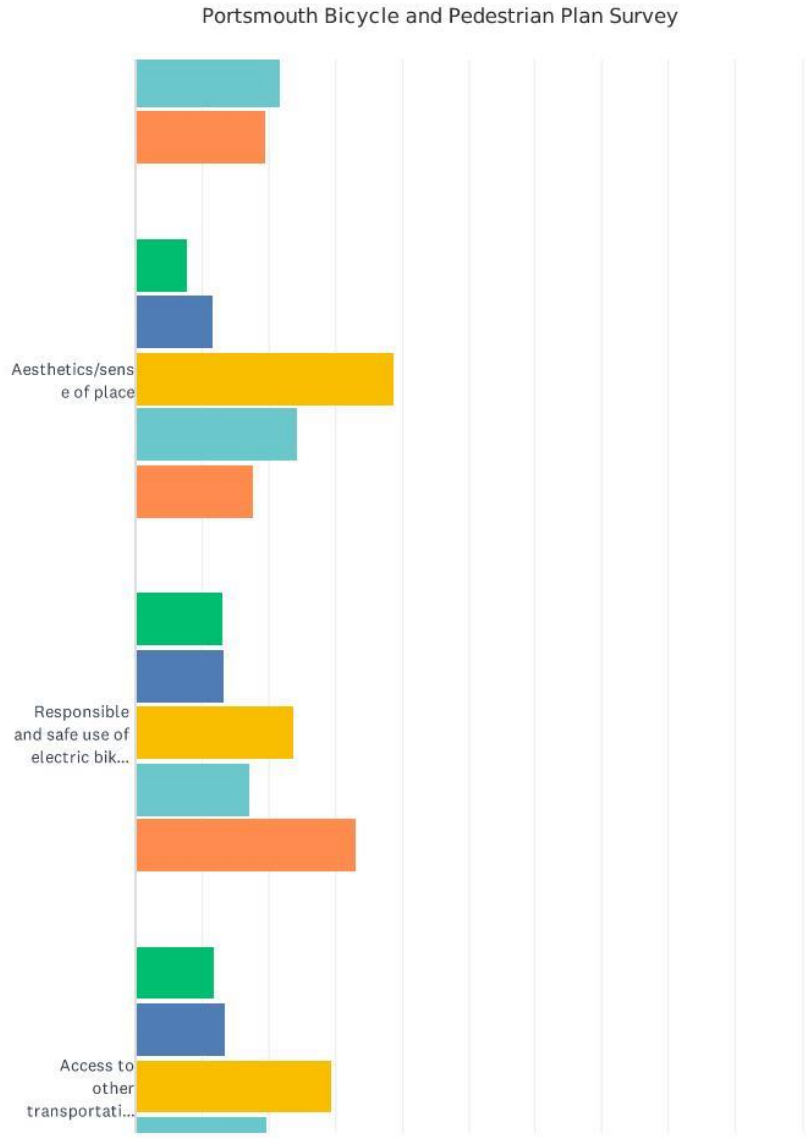
Q9 What aspects of the walking and biking network are most important to you?

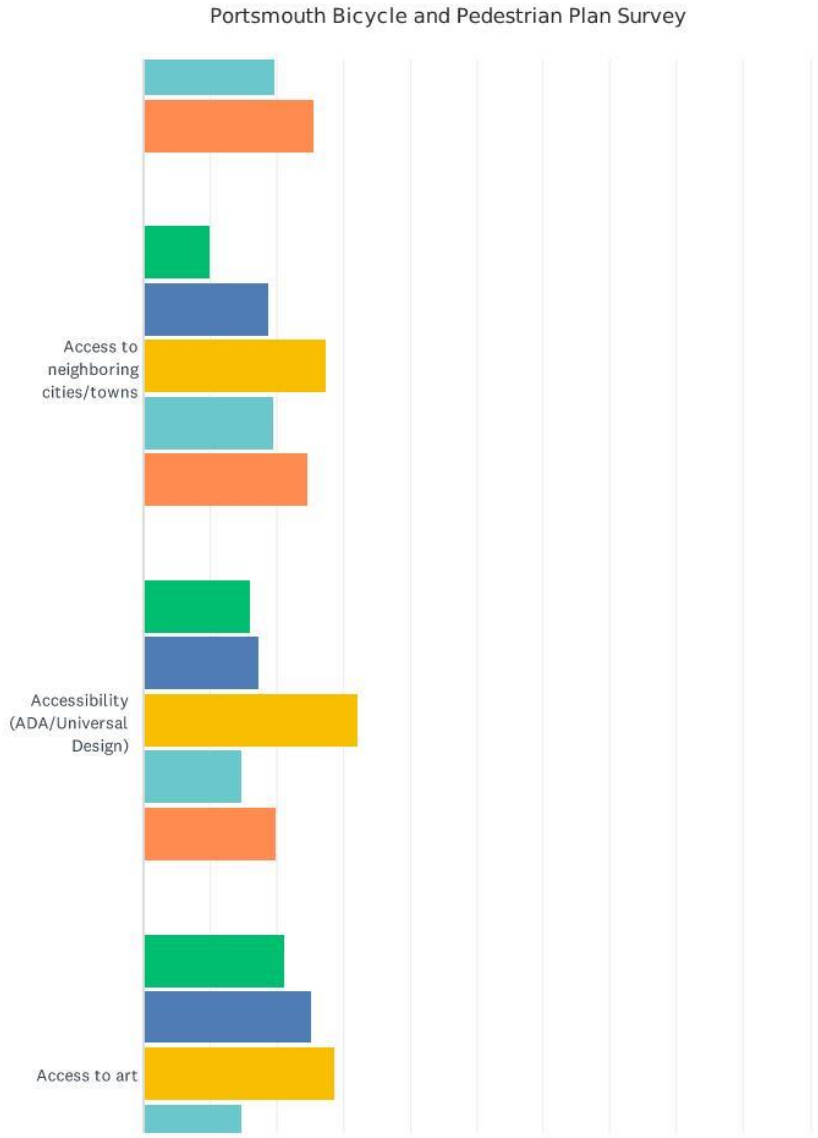
Answered: 417 Skipped: 25

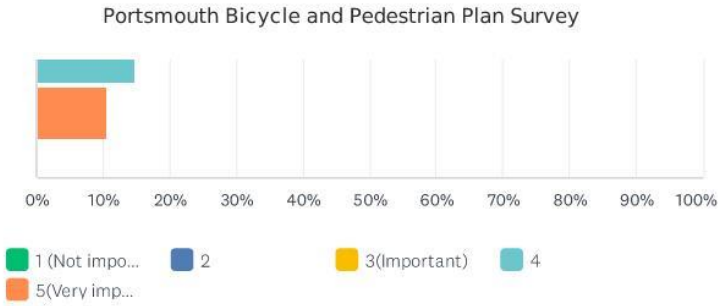


31 / 38


Portsmouth Bicycle and Pedestrian Plan Survey
Access to nature
Access to local businesses
Quick and direct route to destinations
32 / 38


Portsmouth Bicycle and Pedestrian Plan Survey
Aesthetics/sens e of place
Responsible and safe use of electric bik...
Access to other transportati...
33 / 38


Portsmouth Bicycle and Pedestrian Plan Survey
Access to neighboring cities/towns
Accessibility (ADA/Universal Design)
Access to art
34 / 38


Portsmouth Bicycle and Pedestrian Plan Survey
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
1 (Not impo...
2
3(Important)
4
5(Very imp...

Portsmouth Bicycle and Pedestrian Plan Survey

	1 (NOT IMPORTANT)	2	3(IMPORTANT)	4	5(VERY IMPORTANT)	TOTAL	WEIGHTED AVERAGE
Availability of continuous sidewalks or bike facilities	4.32% 18	2.64% 11	12.23% 51	14.63% 61	66.19% 276	417	3.70
Access to other parks and recreational opportunities	4.32% 18	6.47% 27	23.50% 98	27.10% 113	38.61% 161	417	3.51
Separation from vehicles	5.04% 21	5.76% 24	23.74% 99	19.66% 82	45.80% 191	417	3.50
Access to nature	4.56% 19	5.52% 23	29.02% 121	23.98% 100	36.93% 154	417	3.46
Access to local businesses	6.24% 26	8.39% 35	27.58% 115	27.58% 115	30.22% 126	417	3.37
Quick and direct route to destinations	6.00% 25	13.19% 55	39.57% 165	21.82% 91	19.42% 81	417	3.16
Aesthetics/sense of place	7.67% 32	11.51% 48	38.85% 162	24.22% 101	17.75% 74	417	3.15
Responsible and safe use of electric bikes and scooters	12.95% 54	13.19% 55	23.74% 99	17.03% 71	33.09% 138	417	3.11
Access to other transportation facilities (bus, bikeshare stations, trails/paths)	11.75% 49	13.43% 56	29.50% 123	19.66% 82	25.66% 107	417	3.08
Access to neighboring cities/towns	10.07% 42	18.71% 78	27.34% 114	19.42% 81	24.46% 102	417	3.05
Accessibility (ADA/Universal Design)	16.07% 67	17.27% 72	32.13% 134	14.63% 61	19.90% 83	417	2.85
Access to art	21.10% 88	25.18% 105	28.54% 119	14.63% 61	10.55% 44	417	2.58

#	OTHER (PLEASE SPECIFY):	DATE
1	Distance from vehicles is a main one, making sure everyone is safe on the road is a top concern	10/11/2024 7:01 PM
2	Route 1 Portsmouth is very scary to ride and it's really the only way to get from that side of town to downtown without a giant detour. Also the roads that connect Portsmouth to rye (Elwyn and lang specifically) are very dangerous for riding and these roads if fixed would truly make Portsmouth a great town to bike in. thanks!	10/9/2024 1:18 PM
3	Space for pedicab and other non-typical vehicle options	10/2/2024 8:59 AM
4	Safety is most important!	9/30/2024 9:25 PM

Portsmouth Bicycle and Pedestrian Plan Survey

5	driver awareness, normalizing shared roads and a bike friendly city. In portsmouth, where most residential streets have a speed limit of 20-35mph, we still encounter cars with little patience for cyclists and buzz them like it is the autobahn only to get trapped at the same light in 100 yards. it endangers the cyclists, other drivers, and other users of the road.	9/30/2024 1:56 PM
6	The CSX rail crossing at Market Street extension needs to be repaired	9/28/2024 10:32 AM
7	Electric scooters, boards are dangerous, too fast and they go against traffic and ride on sidewalks irresponsibly	9/24/2024 6:40 AM
8	A good morning exercise route, with limited traffic and wide shoulders for biking.	9/16/2024 8:40 AM
9	Safe separation from vehicle traffic and bicycle/pedestrian ways that are continuous and well connected are the TWO most important features of excellent bicycle/pedestrian infrastructure.	9/9/2024 10:41 AM
10	Kids are bike/walk limited for most of their childhood. The community campus is a great resource, but it's a shame kids can't get there themselves. Also, we have such high rates of walking and biking up through middle school, I wish it was easier to bike to the high school; a connection from the neighborhood would be great. Or make South Street one way with a two-way mixed use path! (I can dream!) Speaking of, there should be an RRFB at the high school back access where it intersects with South Street.	8/26/2024 9:12 PM
11	Safe passage for bikes is important on bridges	8/22/2024 9:58 AM
12	I enjoy biking around Portsmouth. I appreciate having shoulders available for biking when it is possible. The bollard posts along bike paths are a hazard to cyclists and cars. I hit one once and had an accident with my bike.	8/13/2024 1:19 PM
13	Currently there is no safe way to bike to the Community Campus. This could be resolved if a bike/ped connection was put in from Banfield Road through St. Pats to the Community Campus. People could easily bike from downtown on the rail/trail and then bike down Banfield and over to the Campus.	8/7/2024 3:23 PM
14	Access to schools, kids want to ride bikes to school and there aren't always safe routes for kids that aren't designated as "Walkers".	8/6/2024 9:28 AM
15	Please complete the rest of the railway path - it's really great!	7/29/2024 4:47 PM
16	Bike lane is needed on Peverly Hill Road	7/27/2024 6:49 PM
17	Since I only ride my bike on rail trails, paths in natural environments are far more important to me than businesses, art, shopping, etc.	7/25/2024 12:04 AM
18	I'd like to safely bike to the beach and connect to Kittery.	7/23/2024 6:50 AM
19	Separation of sidewalks and bikers! Bikes are moving vehicles and do not belong on side 'walks'!	7/22/2024 9:37 PM
20	Shade, treelined walk- and bike-ways are the most enjoyable. Also very important, opportunities to stop along the way so bike able/walkable paths to cafes, breweries, etc. are great for being out andaround	7/22/2024 4:58 PM
21	There are currently ZERO real protected bike paths in portsmouth proper. The new path going south is nice and I guess there's a short path around pease but it doesn't connect anything in the city. I live in the west end and work in Strawbery Banke, Islington st. is nightmarish, thorton is in complete chaos at the moment and no plans to add proper paths to either. Paint in the road is not a bike path. My wife will not ride a bike with me because she doesn't like the roads. We can do so much better, cars should have absolute lowest priority - we are human beings and it's not very pleasant by foot and definitely not by bike in most of this lovely little city.	7/16/2024 10:19 PM

Portsmouth Bicycle and Pedestrian Plan Survey

22	N/A	7/16/2024 4:30 PM
23	It would be great if bicycles, scooters, etc followed traffic rules the same as automobiles, and parked in designated spaces rather than on sidewalks.	7/16/2024 10:38 AM
24	Connecting the rail trail	7/15/2024 10:36 PM
25	Access to permanently-fixed bicycle racks (not enough around City)	7/15/2024 5:02 PM
26	-	7/15/2024 2:37 PM
27	Thank goodness for the rail trail. I dont rarely drive and I can visit my friends via bike now	7/14/2024 10:04 AM
28	4-season access (adequate snow and ice removal)	7/13/2024 2:49 PM
29	Safety!	7/13/2024 11:22 AM
30	sidewalks to Dondero would be helpful	7/9/2024 6:46 PM
31	Separation from cars everywhere isn't necessary, but designing streets that cars understood are to be shared with bikes is.	7/9/2024 12:20 PM
32	please complete a connector from bike trail to CJ/Pease Tradeport south, RT33	7/9/2024 8:41 AM
33	Electric biker are silent and don't alert walkers they're behind them	7/9/2024 6:56 AM
34	I bike from Portsmouth to Rye sometimes but Portsmouth roads have almost no shoulder.	7/8/2024 10:05 PM
35	Safety is most important.	7/8/2024 5:05 PM
36	Portsmouth is pretty dense, so it seems like getting anywhere on bike should only take a few minutes. However, without fully separated bike lanes (and paths) I worried about getting killed by a car	7/8/2024 4:59 PM
37	It would be great if bike lanes were NOT combined with car lanes so we don't have to risk our lives going to the library or work.	7/8/2024 4:53 PM
38	Keep the bike lanes clean, clear, and well-defined.	7/8/2024 7:01 AM
39	There should be dedicated bike paths to the middle/high/elementry schools. It is very difficult to get to PMS from certain parts of town.	7/5/2024 8:55 AM
40	Well planned infrastructure that takes bikes and walking/running into account is important. Bikes do not belong on sidewalks with walkers. Multi-use paths are great.	7/2/2024 11:59 AM
41	Safe pedestrian sidewalks with NO bicycles except toddlers	7/2/2024 7:41 AM
42	We spend far too much time and money on such a small percentage of citizens	7/1/2024 8:54 PM
43	Electric bike education is lacking. Signage to stay off sidewalks would be a good place to start. Yesterday I saw a 50-60 yr old man on the sidewalk, with a protected bike lane to his left.	7/1/2024 8:36 PM
44	Elwyn Road to Foyes Circle to Sagamore Bridge	7/1/2024 6:27 PM

PUBLIC MEETING TWO – PROJECT PREFERENCES

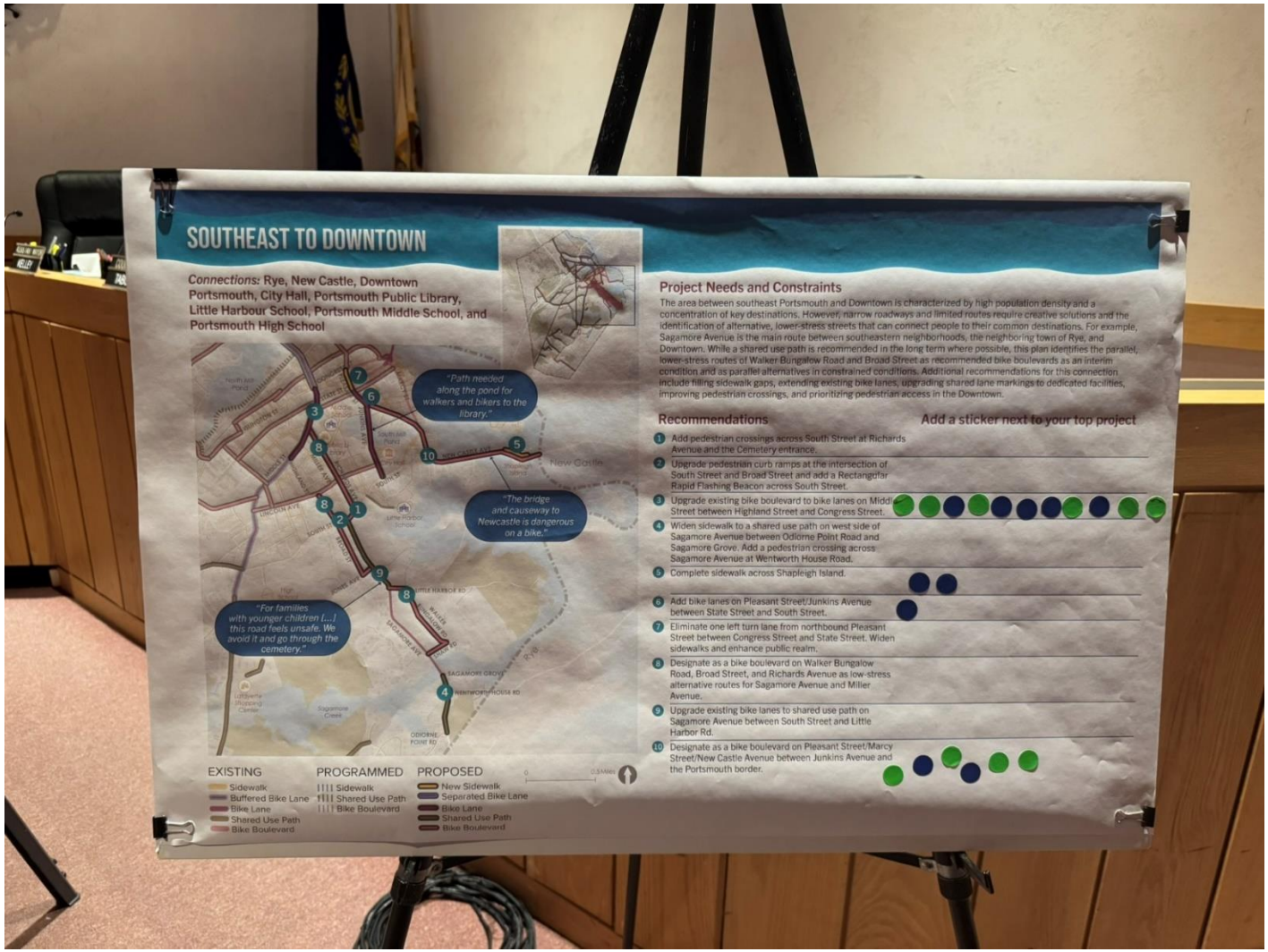


Figure A2. Southeast to Downtown

Top Project: 3. Upgrade existing bike boulevard to bike lanes on Middle Street between Highland Street and Congress Street

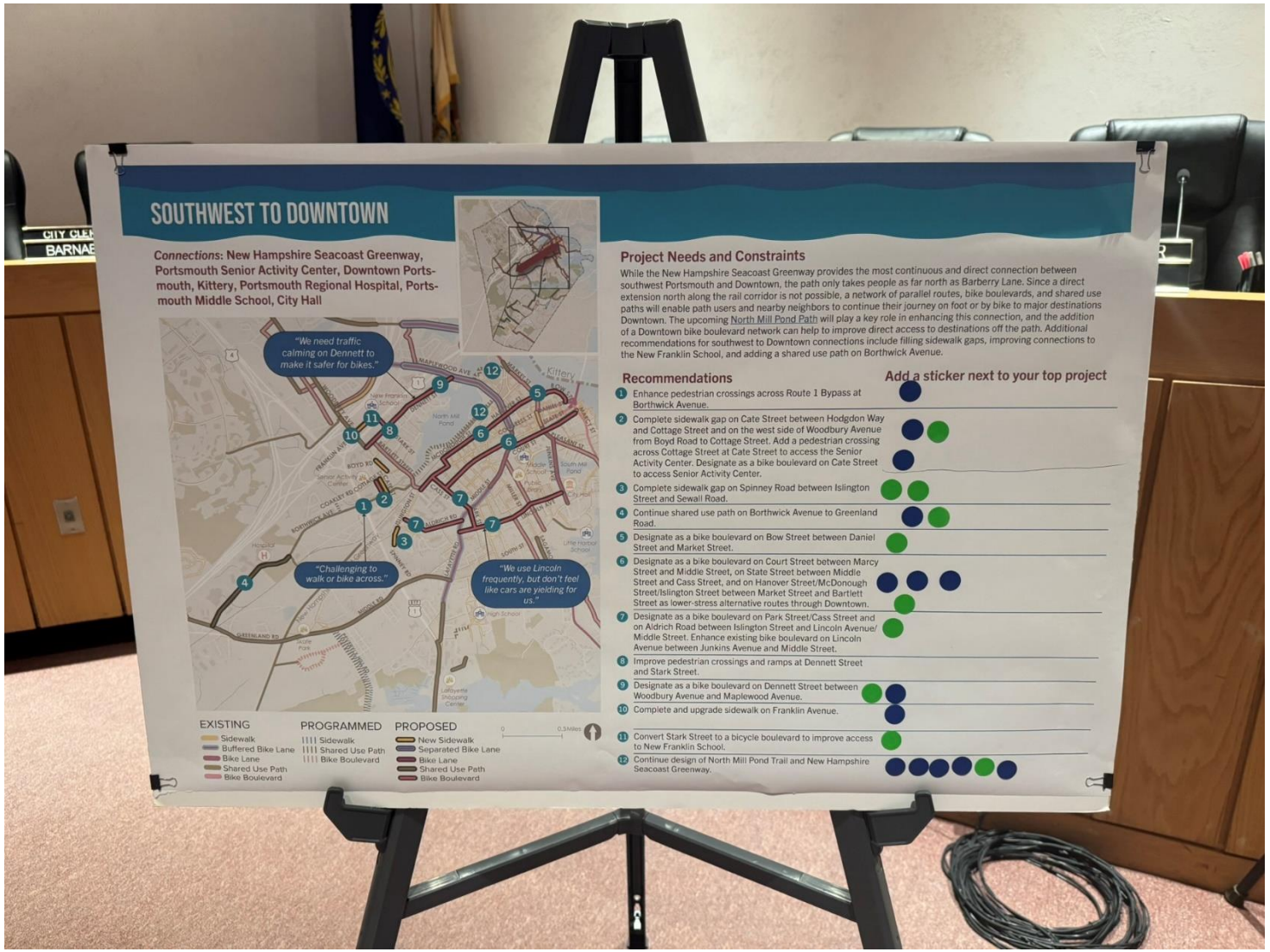


Figure A3. Southwest to Downtown

Top Project: 12. Continue design of North Mill Pond Trail and New Hampshire Seacoast Greenway

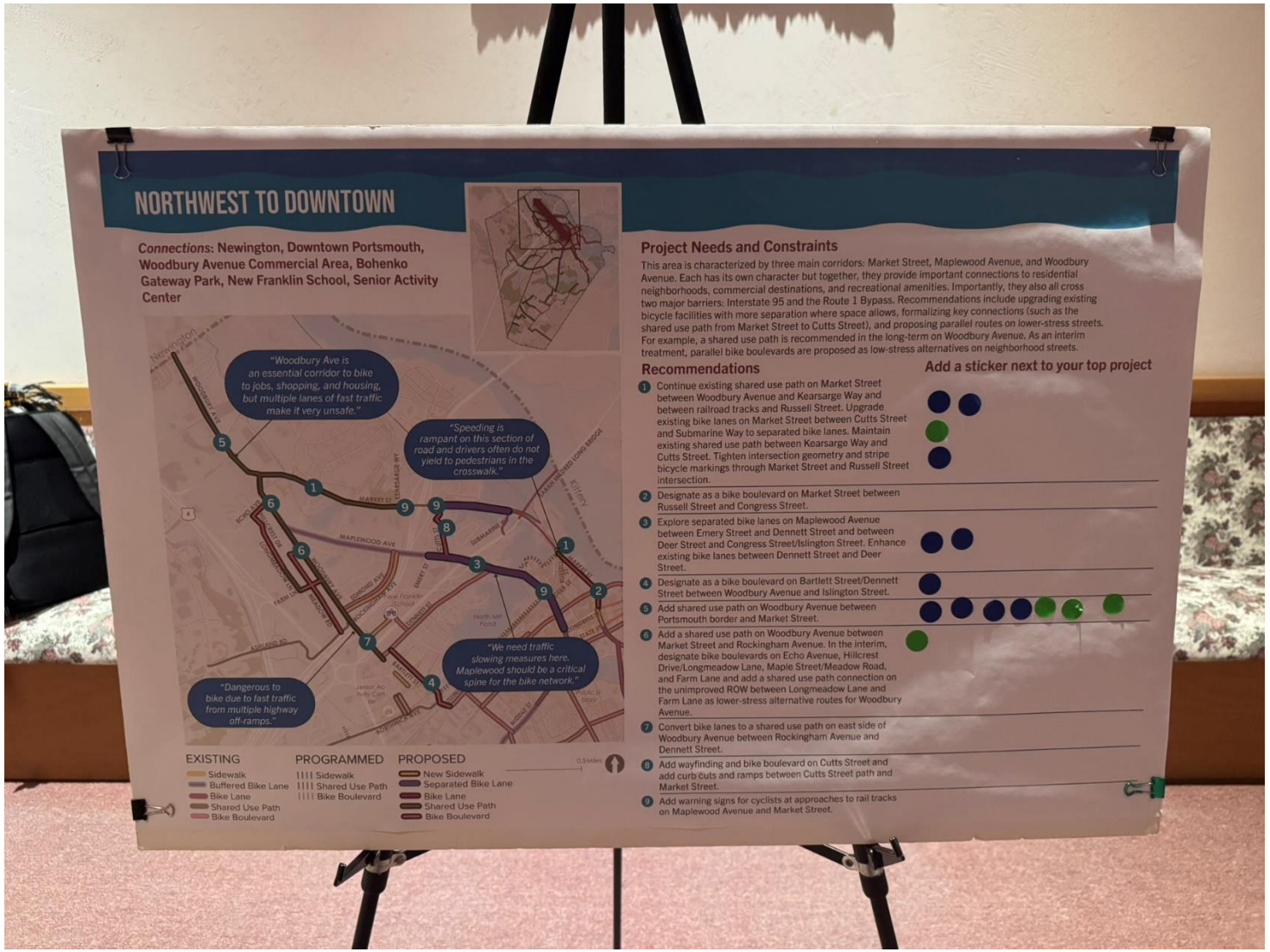


Figure A4. Northwest to Downtown

Top Project: 5. Add shared use path on Woodbury Avenue between Portsmouth border and Market Street

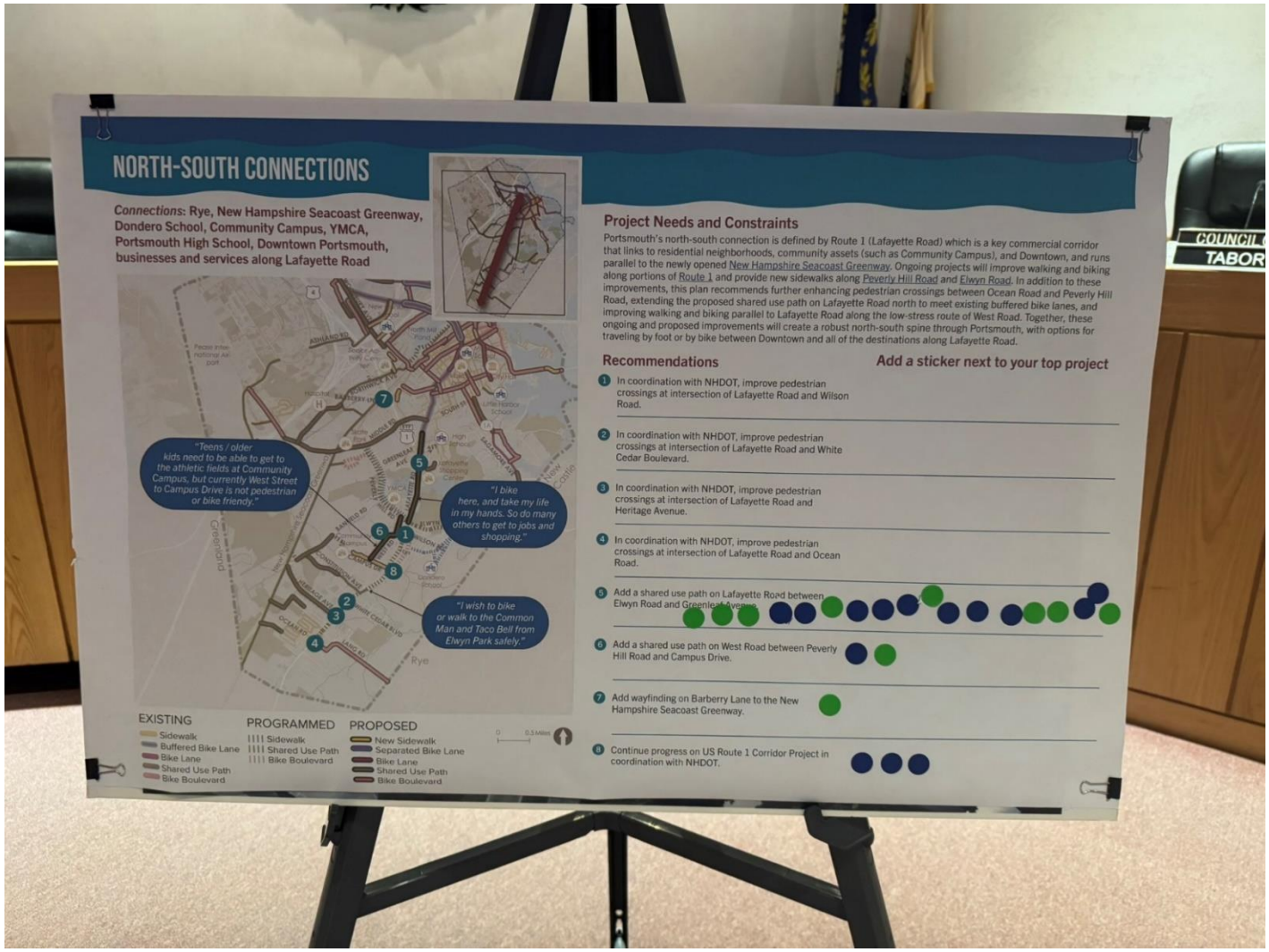


Figure A5. North-South Connections

Top Project: 5. Add a shared use path on Lafayette Road between Elwyn Road and Greenleaf Avenue

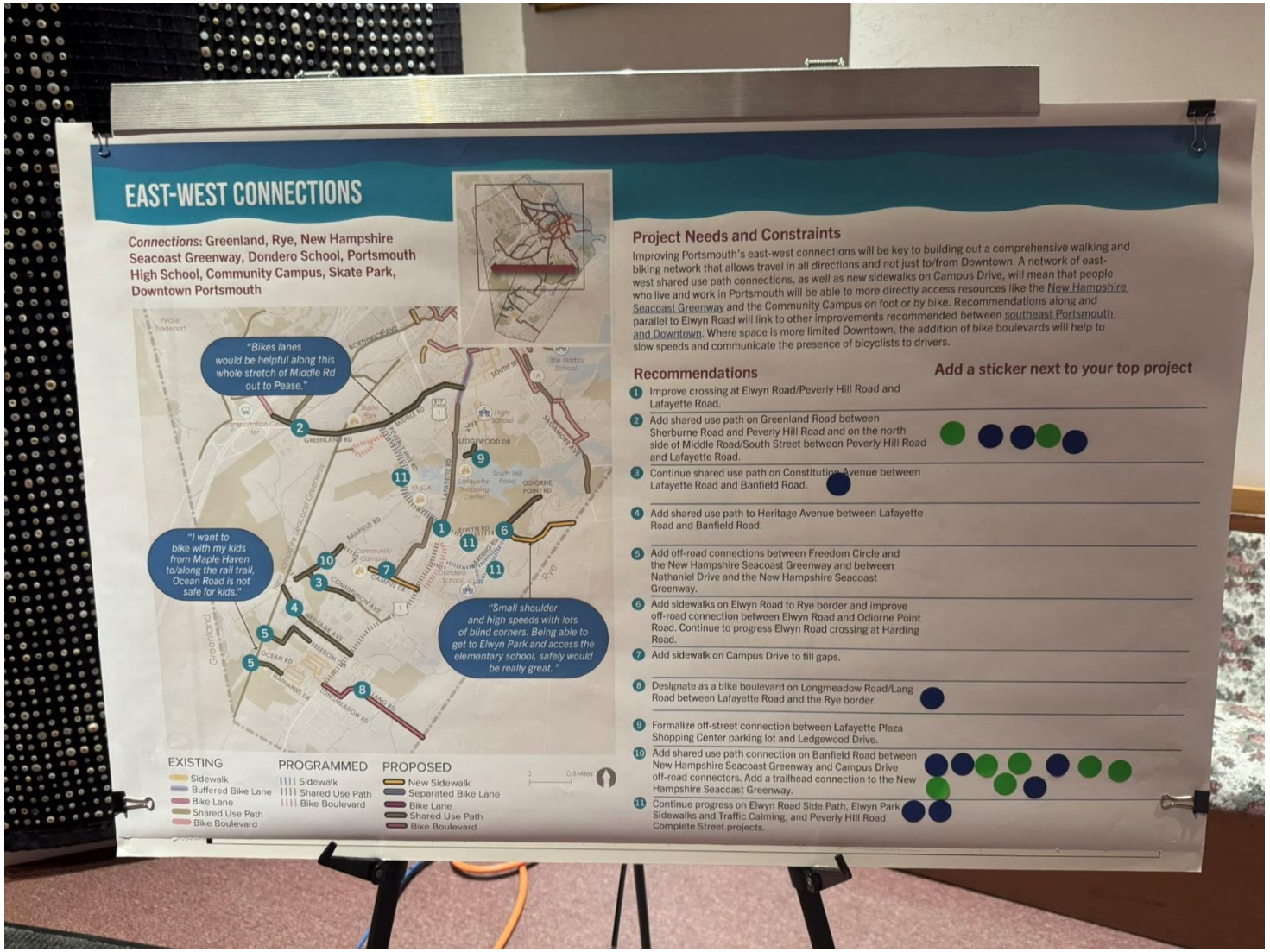


Figure A6. East-West Connections

Top Project: 10. Add shared use path connection on Banfield Road between New Hampshire Seacoast Greenway and Campus Drive off-road connectors. Add a trailhead to the New Hampshire Seacoast Greenway.

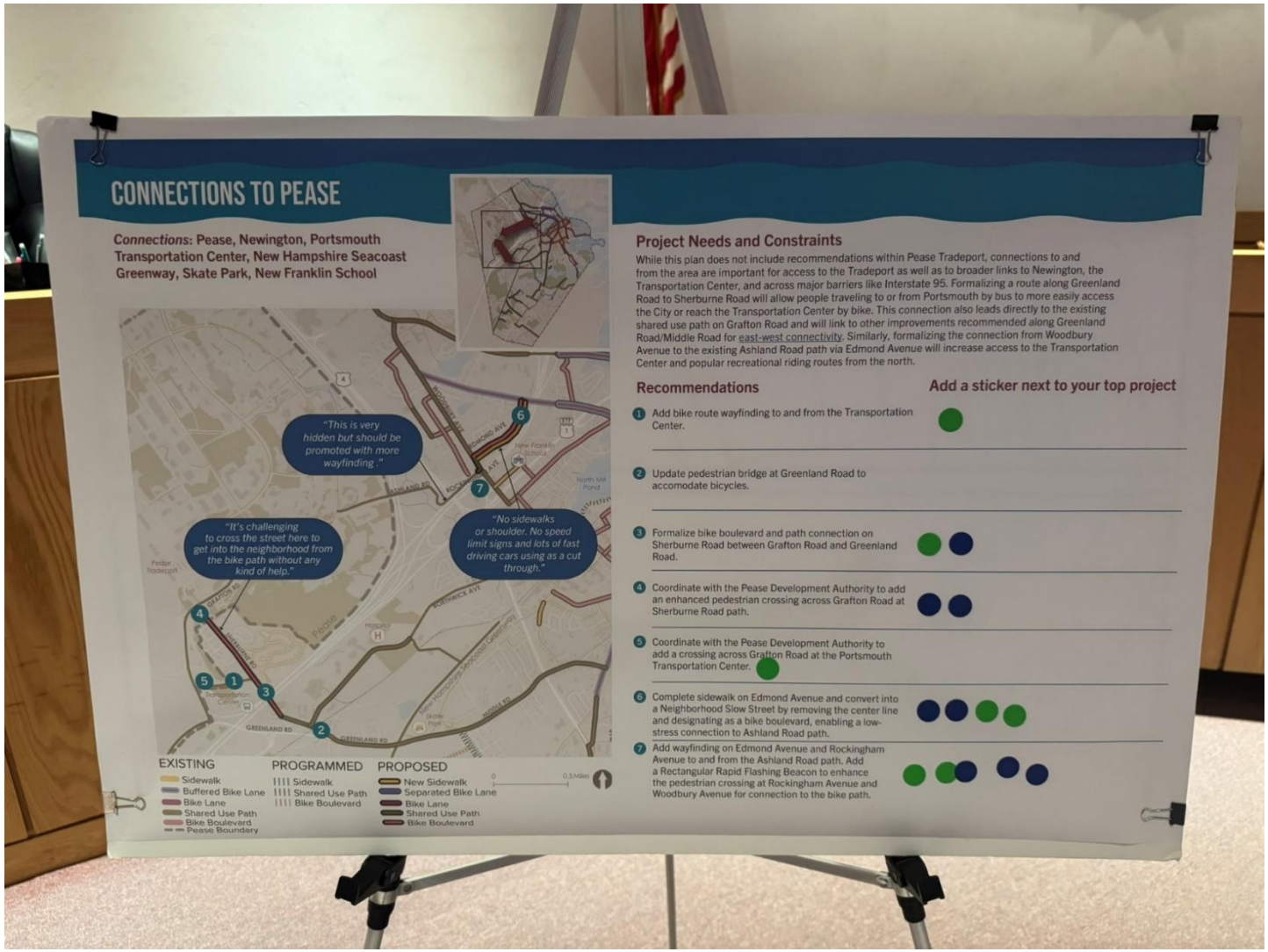


Figure A7. Connections to Pease

Top Project: 6. Complete sidewalk on Edmond Avenue and convert into a Neighborhood Slow Street by removing the center line and designate as a bike boulevard, enabling a low-stress connection to Ashland Road path.

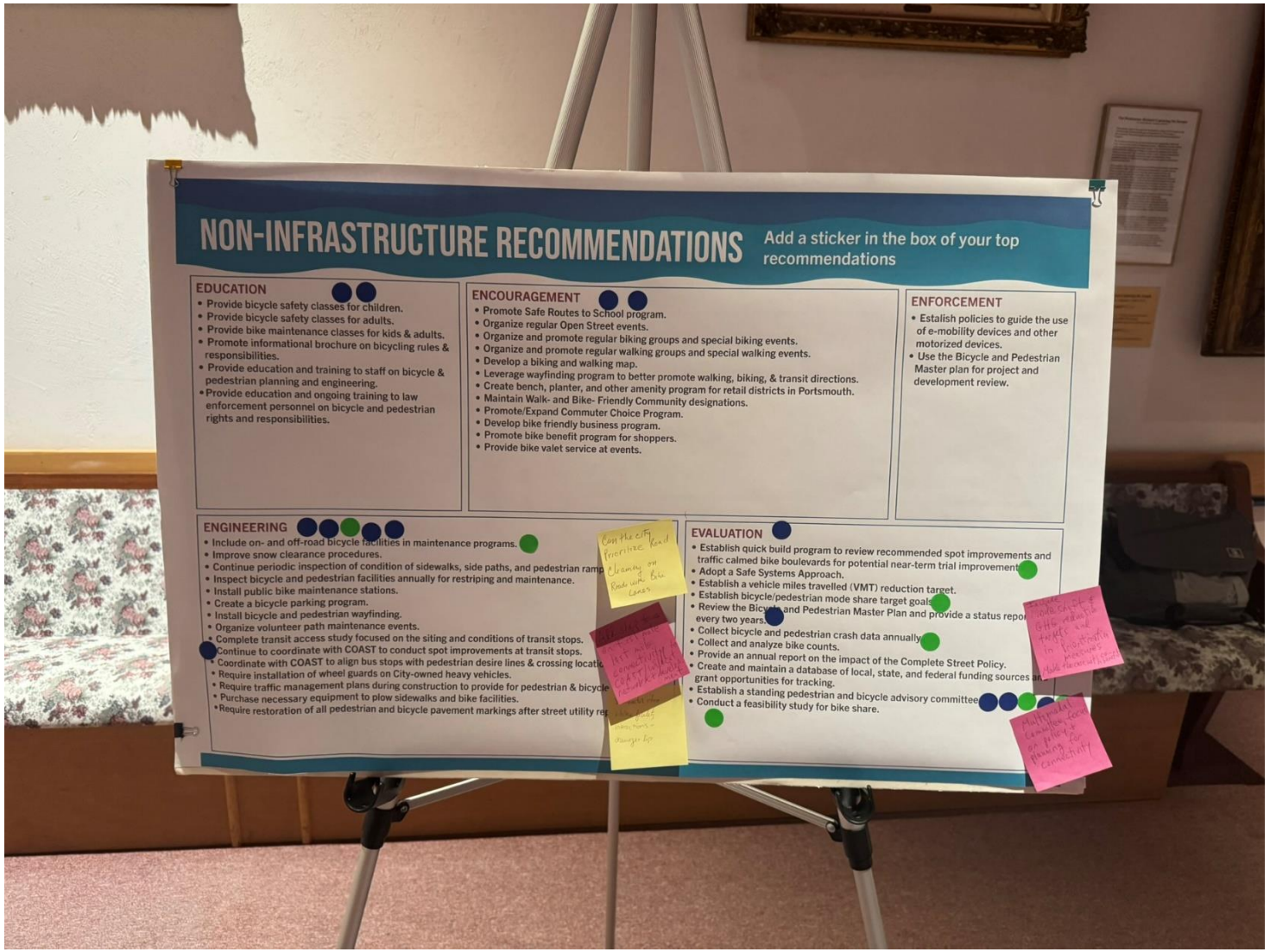


Figure 8A. Non-Infrastructure Recommendation Categories

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BICYCLE AND PEDESTRIAN NETWORK PLAN UPDATE

Appendix B Existing Conditions

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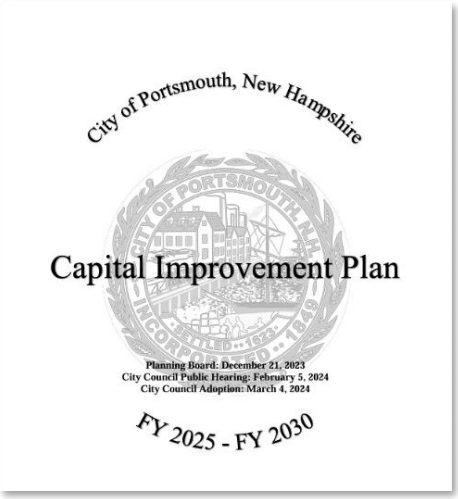
Appendix B
Existing Conditions

PREVIOUS PLANS, STUDIES, AND POLICIES

To understand the work that has already been done and to provide context for future recommendations, the following plans and policies were reviewed and are summarized in the following section:

- Capital Improvement Plan FY 2025-2030 (2024)
- New Hampshire Pedestrian and Bicycle Plan (2023)
- City of Portsmouth Open Space Plan (2020)
- City of Portsmouth Complete Streets Design Guidelines (2017)
- Portsmouth 2025 Master Plan (2017)
- Portsmouth Bicycle and Pedestrian Plan (2014, Updated 2018)
- Wayfinding Plan (2014)
- Bicycle Friendly and Walk Friendly Community Policies (2013)
- Safe Routes to School Action Plan (2010)

City of Portsmouth Capital Improvement Plan FY 2025-2030 (2024)



The Capital Improvement Plan (CIP) for FY 2025-2030 was adopted on March 4, 2024. The Plan outlines a six-year timetable and funding strategy to carry out essential public enhancements and address infrastructure requirements. Funding sources identified include city revenue streams, federal and state grants, bonding, and public private partnerships.

CIP projects for FY 2025-2030 that focus on bicycle and pedestrian infrastructure are listed in **Table B1**. For each project, the CIP assigns a priority level:

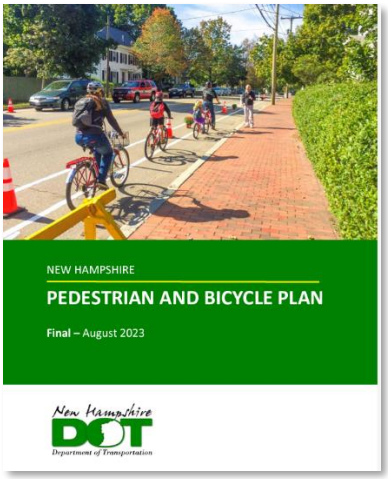
- Category A: High priority projects needed within 0 to 3 years;
- Category B: Medium priority needed within 4 to 6 years;
- Category O: Longer-term projects that are ongoing or programmatic.

Table B1: Bicycle and Pedestrian Infrastructure CIP Projects FY 2025-2030

CIP (FY 25-30)	Project Description	Priority	CIP Funding[1]
BI-20-RC-33	Greenland Road Recreation Facility (main access point to the NH Seacoast Greenway)	A	$8,253,466
TSM-15-PL/NH-58	Hampton Branch Rail Trail (NH Seacoast Greenway)	A	$3,627,000
TSM-15-PL-59	Bicycle/Pedestrian Plan Implementation	O	$530,000
TSM-21-PL-60	Market Street Sidepath- Between Kearsarge Way and Woodbury Avenue	A	$2,160,000
TSM-08-PL/NH-61	U.S. Route 1 New Sidepath Construction – Constitution Avenue to Wilson Road and Ocean Road to White Cedar Boulevard	A	$1,425,000
TSM-16-PL/NH-62	US Route 1 Crosswalks and Signals - Constitution Avenue to Wilson Road and Ocean Road to White Cedar Boulevard	A	$270,000
TSM-25-PW-63	Greenleaf Avenue Sidewalk – North side of Greenleaf Avenue connecting to Lafayette Road and South Street	A	$400,000
TSM-25-PW-64	Constitution Avenue Multi-Use Path – Connecting to Hampton Branch Trail Via Constitution Avenue	B	$1,200,000
TSM-08-PW-65	Wayfinding System	O	$625,000
TSM-21-PW-66	Greenland Road/Middle Road Corridor Bicycle/Pedestrian Improvements – Middle Road and Greenland Road from Spinney Road to Harvard Street	A	$1,350,000
TSM-15-PW-67	Market Square Upgrade –Pedestrian and Streetscape Enhancements	A	$3,100,000
TSM-95-PW-68	Citywide Sidewalk Reconstruction Program	O	$2,800,000
TSM-10-PW-69	Citywide Traffic Signal Upgrade Program	O	$1,200,000
TSM-11-PW-70	Citywide Intersection Improvements	O	$900,000
TSM-16-PL-71	Russell Street/Market Street Intersection Upgrade	B	$2,132,336
TSM-16-PL-72	Railroad Crossings	B	$490,000
TSM-21-PW-76	Traffic Calming	A	$620,000
TSM-15-PW-79	Junkins Avenue Improvements	A	$1,250,000
COM-20-PW-95	Fleet Street Utilities Upgrade and Streetscape	A	$14,200,000
COM-22-PW-99	The Creek Neighborhood Reconstruction	A	$6,900,000

[1] CIP Funding includes the 6-year horizon of the current CIP (FY25-FY30) as well as CIP funding allocated from the 6 prior fiscal years.

New Hampshire Pedestrian and Bicycle Plan (2023)

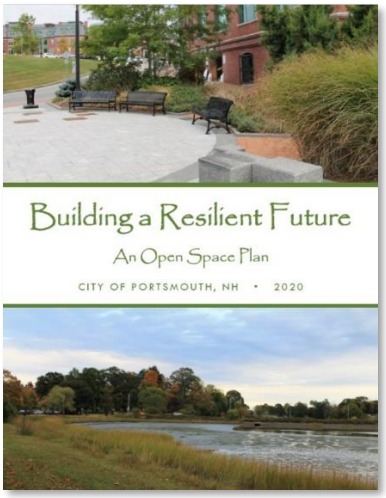


The New Hampshire Pedestrian and Bicycle Plan outlines a 10-year vision to make walking and biking safer and more accessible for communities across the state. Specifically, the Plan provides a proposed statewide pedestrian, bikeway, and trail network, regional priorities for network improvements, and policies and programs for the New Hampshire Department of Transportation (NHDOT) to enact to support and bolster safe pedestrian and bicycle travel in the state. Portsmouth's Complete Street Policy and Guidelines are also highlighted as a best practice in the plan.

As a statewide plan, the recommended network improvements related to Portsmouth focus on regional connections and facilities under state jurisdiction.

To evaluate pedestrian and bicycle infrastructure, NHDOT outlines the "Bicycle Level of Traffic Stress Analysis" methodology to assesses how comfortable it is to bike on different roads by assigning scores based on factors such as speed limits, number of lanes, traffic volume, and the presence and quality of bicycle facilities. This tool is used to pinpoint areas with high stress for cyclists and for determining where enhancements to bicycle infrastructure are necessary.

Open Space Plan (2020)



The city adopted the Open Space Plan in 2020 to guide management of existing City open spaces and prioritize future land acquisition to support passive recreation and environmental preservation objectives. A key focus of the plan is to strengthen public access to and connections between open spaces.

According to the plan, as of 2020, the city had 7 miles of public trails (including 2.3 miles within the Sagamore Creek Lands, 3.5 miles at the Urban Forestry Center, and 1.5 miles on the Little Harbor Loop Trail). The NH Seacoast Greenway, which was opened in September 2024, added another 3.6 miles.

The plan outlines the following recommendations for trails and wayfinding:

- Improving connections between trailheads and the on-street bicycle and sidewalk network.
- Promoting trail access with maps, wayfinding signs, amenities, and features like mile markers, seating, boardwalks, and parking.
- Ensuring proper maintenance and periodic upgrades to trail surfaces and features to minimize erosion and protect the natural environment.
- Designing trails considering land characteristics, expected use, and ensuring they are wide enough for all users.

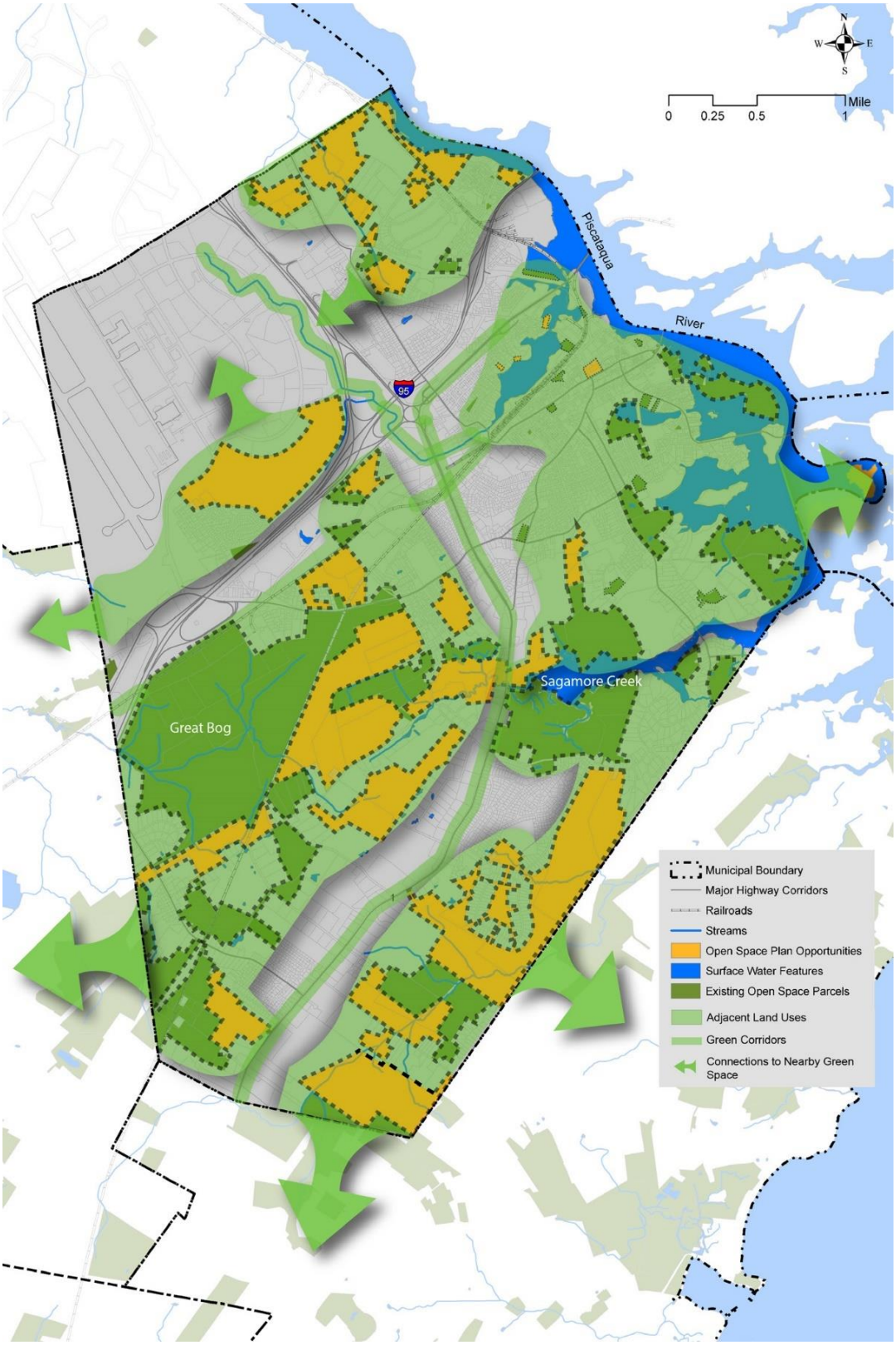
- Incorporating interpretive and educational features, as well as public art, to highlight the area's natural and cultural characteristics.

Specific recommendations from the Plan are summarized in **Table B2. Figure B1** illustrates open space and connection opportunities.

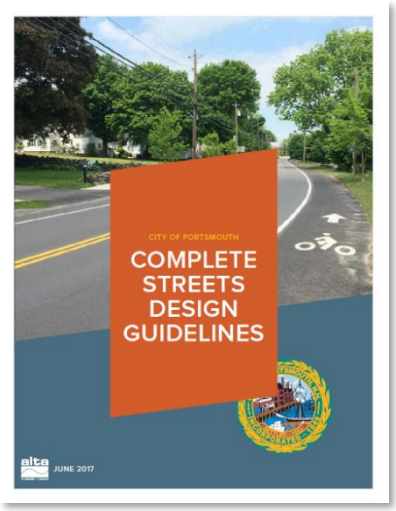
Table B2: Key Recommendations from the Open Space Plan

Priority	Project Description
High	Trail along the river and through nearby parcels to Porpoise Way, Portsmouth Blvd/Dunlin Way
Medium	Land between Gosling Meadows neighborhood and Durgin Lane – trail could provide access to nearby properties. (Ownership-Portsmouth Housing Authority)
Medium	Trail habitat corridor – Portsmouth Blvd/Dunlin Way to the river (Ownership-Private)
Medium	Hislop Park requires trail signage and access/wayfinding
Medium	Provide water Access near North Mill Pond
Medium	Create a boardwalk viewing area and access to the shoreline
Medium	Provide river access from property on Marsh Lane north of Maplewood Ave – (Ownership-City by Easement)
Medium	Consider boardwalks in trail creation to improve access to parcels (Ownership-City)
Medium	Land between Sagamore Creek and South Street has potential for trail connections (Ownership-Private)
Medium	Potential access off Greenleaf Avenue (Ownership-Private)
Medium	Existing trails connect to the St. Patrick School – there is potential for other trail connections
Medium	Access to non-conserved portion is off Route 1-Build/formalize trails (Ownership Private)
Future	Land between Gosling Meadows neighborhood and Durgin Lane – trail could provide access to nearby properties. (Ownership-Private)

Figure B1: Open Space Opportunities



Complete Streets Design Guidelines (2017)

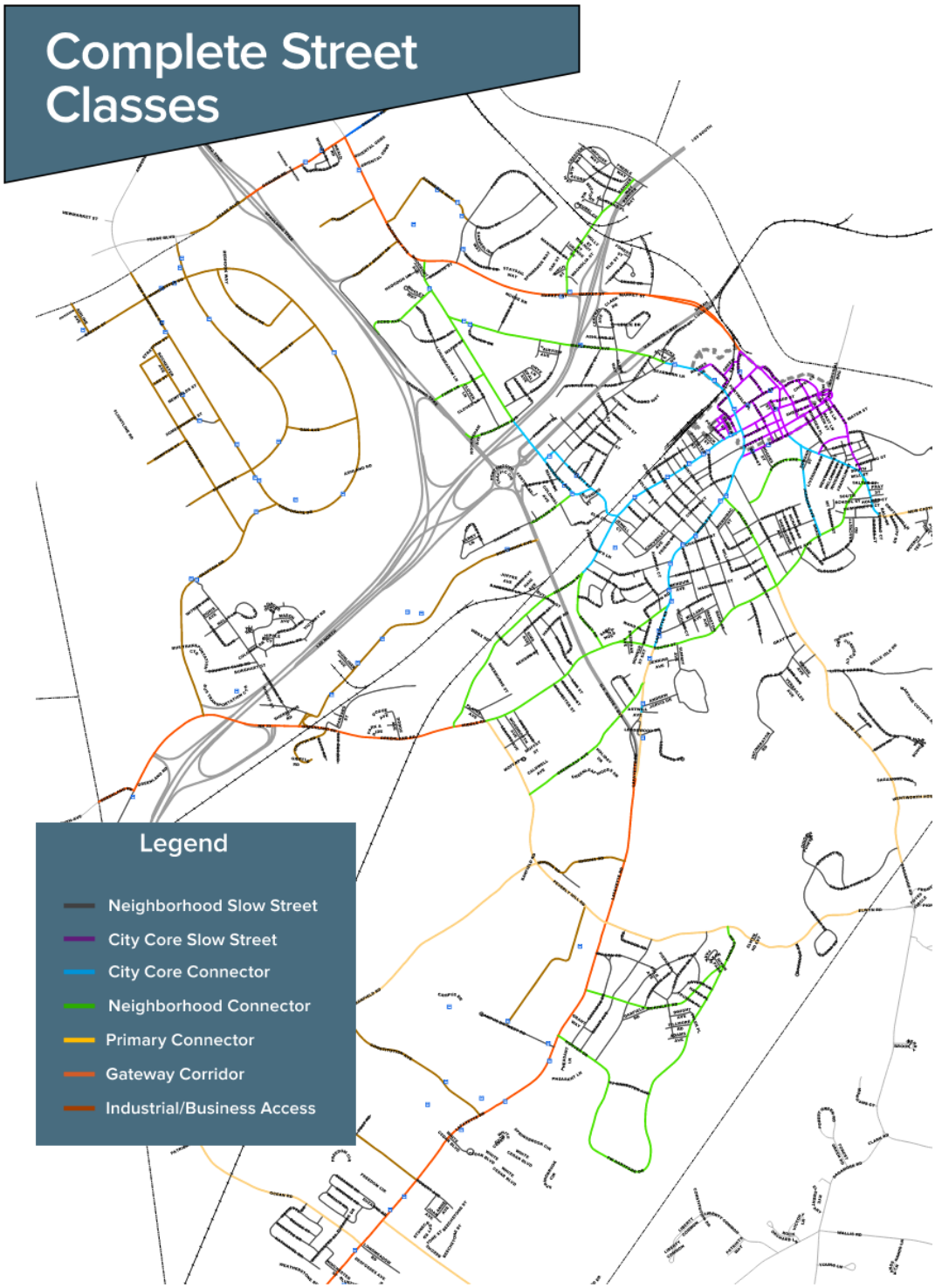


The City of Portsmouth Complete Streets Design Guidelines were developed to provide a design framework for bicycle and pedestrian facilities based on individual roadway characteristics and neighborhood context. The guidelines can be applied to all neighborhood projects, both public and private.

Portsmouth has seven Complete Streets Classifications with accompanying design guidelines. A map of the Complete Streets Classes is shown in **Figure B2** and the definitions of these Classifications from the Guidelines are summarized below:

- ***Neighborhood Slow Street*** *- Neighborhood Slow Streets are residential routes meant for short, slow trips, prioritizing safety for motorists, cyclists, and pedestrians.*
- **City Core Slow Street -** *City Core Slow Streets are designed for short, relaxed trips in downtown commercial zones, mainly used by visitors. Safety for pedestrians and cyclists is a top priority on these streets.*
- **City Core Connector** *- City Core Connector streets transition from faster roads to slower urban areas, signaling the change with two lanes and on-street parking.*
- **Neighborhood Connector -** *Neighborhood Connectors enable residents to move between Neighborhood Slow Streets and other city regions, bridging the gap between high-speed corridors and neighborhood areas.*
- **Primary Connector -** *Primary Connectors focus on facilitating efficient travel between connector and corridor streets by ensuring smooth traffic flow at intersections with turn lanes.*
- **Gateway Corridor** *- Gateway Corridors are the main entry and exit points for the City of Portsmouth, prioritizing efficient vehicle movement with 2-4 lanes.*
- **Industrial/Business Access** *- Industry/Business Park Corridors are vital for accessing major employment centers and facilitating commercial activity.*

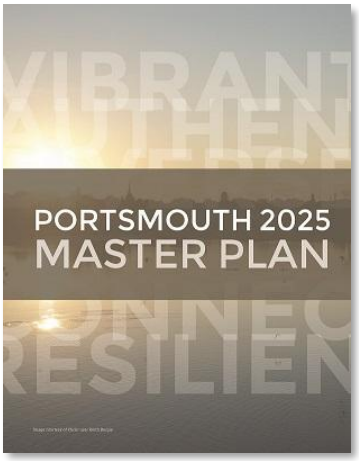
Figure B2: Complete Street Classes



5

Portsmouth 2025 Master Plan (2017)

The 2025 Master Plan was completed in 2017. Citywide recommendations related to bicycles and pedestrians include:



- Update the City's roadway standards to reflect current design best practices, including full accommodation for bicyclists and pedestrians.
- Complete the implementation of the citywide wayfinding program.
- Consider accommodations for all users in planning, design, construction and maintenance of all city road and bridge projects.
- Work with state and regional partners to convert the former Hampton Branch rail corridor to the off-road portion of the New Hampshire Seacoast Greenway.
- Update city ordinances to enhance safety and convenience for bicycles and pedestrians in development projects.
- Consider year-round weather impacts on bicycle and pedestrian circulation in the design of public and private projects.

In addition to city-wide recommendations, the Plan organizes Portsmouth into five focus areas (see **Figure B3**), representing different types of land use and development patterns in the City. The following section summarizes the bicycle and pedestrian-related recommendations for each focus area.

Urban Core

- Complete implementation of the wayfinding program
- Increase availability of short-term and long-term bicycle parking
- Complete the North Mill Pond Path
- Improve street network to integrate walking and biking where feasible

Corridors

- Improve street network based on Complete Streets principles to include full accommodation for bicycles and pedestrians
- Coordinate with NHDOT to improve major state-owned corridors (Route 1 and Route 1-Bypass) for bicycles and pedestrians

Urban Neighborhoods

- Improve street network to integrate walking and biking, reduce automobile dependence and improve connectivity

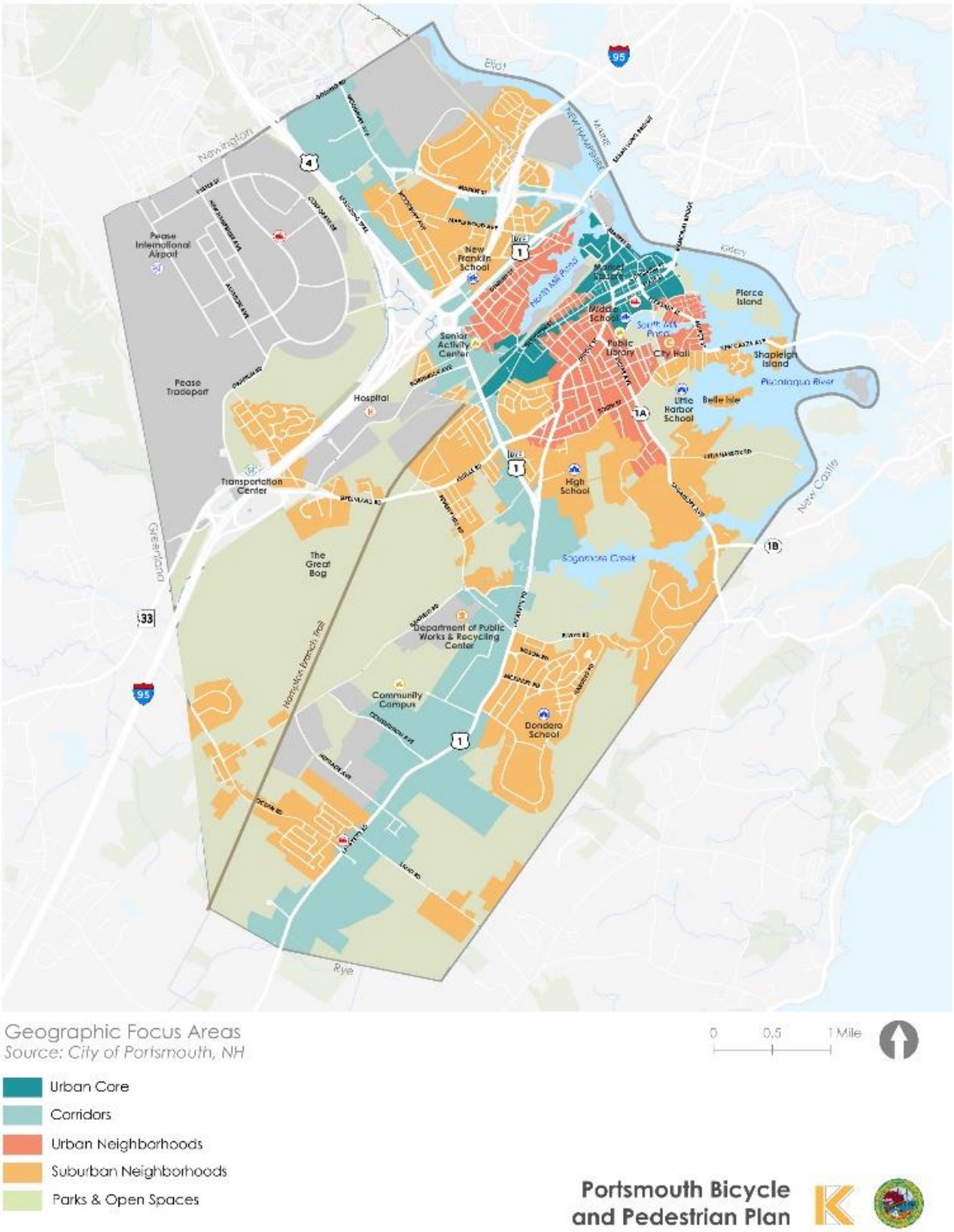
Suburban Neighborhoods

- Improve safety, connectivity, and comfort of bicycle and pedestrian facilities
- Strengthen pedestrian links between neighborhoods and the corridor areas

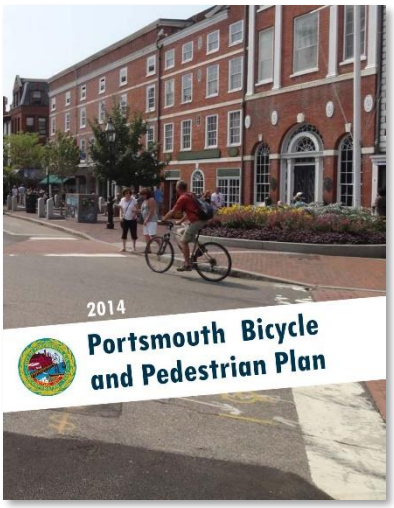
Parks & Open Space

- Facilitate connections between opens spaces, trails and greenways

Figure B3: Master Plan Focus Areas

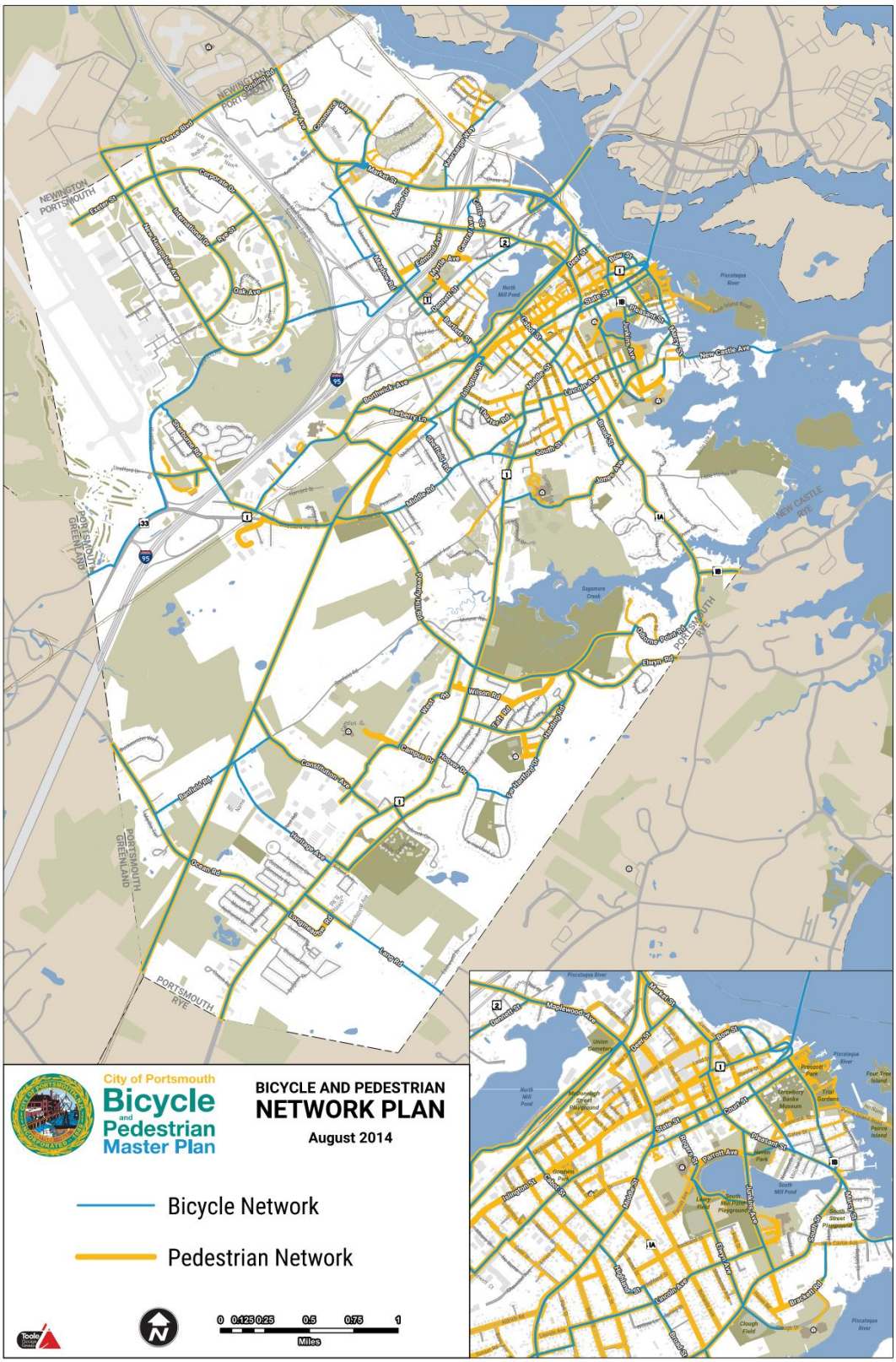


Portsmouth Bicycle and Pedestrian Plan (2014, Updated in 2018)

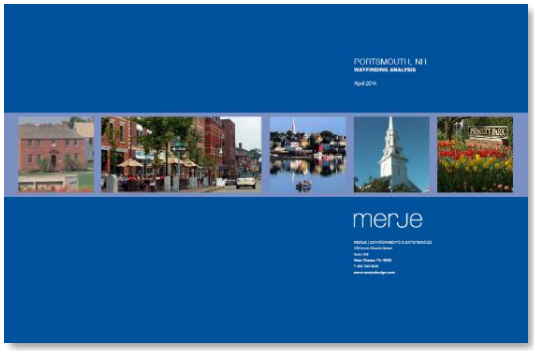


In 2014, the city completed its first Bicycle and Pedestrian Plan which was intended as a comprehensive strategy to make bicycling and walking safe, comfortable, and convenient for people of all ages and abilities. The plan laid out a complete city-wide bicycle and pedestrian network, provided guidelines and standards for bicycle and pedestrian facilities, and includes a prioritized list of infrastructure improvements as well as non-infrastructure initiatives to improve connectivity and safety for bicyclists and pedestrians. The complete proposed bicycle and pedestrian networks from the 2014 Plan are shown in **Figure B4**. The plan was updated in 2018 to track the status of completed and on-going projects.

Figure B4: 2014 Bicycle and Pedestrian Master Plan Networks



Wayfinding Plan (2014)



The city prepared a Wayfinding Plan in 2014 to provide guidance and standards for a city-wide wayfinding program. The Plan's purpose is to assist with vehicular, pedestrian, and bicycle navigation throughout the city with an emphasis on improving access to key destinations and frequently used areas. The Plan provides a menu of wayfinding tools, guidance on messaging, recommended locations, and a uniform design template. Since the completion of the plan, the city has rolled out a phased implementation of the design and installation of wayfinding signs around the city.

Bicycle and Walk Friendly Community Policies (2013)

In 2013, the City Council adopted two separate policies to formalize a commitment to being a Bicycle and Walk Friendly Community respectively. The Bicycle Friendly Community Policy's purpose is to recognize that increasing bicycle use can have a positive impact on improving congestion, lessen negative environmental impacts, increase safety, and improve the overall health and well-being of the population. The policy outlines the following objectives:

- *Provide safe and convenient bicycle access to all parts of the community through a network of on-and off-street facilities, low-speed streets, and secure parking.*
- *Establish information programs to promote bicycling for all purposes and to communicate the many benefits of bicycling to residents and businesses.*
- *Make the City a model employer by encouraging bicycle use among its employees.*
- *Ensure all city policies, plans, codes, and programs are updated and implemented to take advantage of every opportunity to create a more bicycle-friendly community.*
- *Educate all road users to share the road and interact safely.*
- *Enforce traffic laws to improve the safety and comfort of all road users, with a particular focus on behaviors and attitudes that cause motor vehicle/bicycle crashes.*
- *Promote intermodal travel between public transport and bicycles*

The Walk Friendly Community Policy's purpose is to recognize the benefits of walking and commits the City to reducing the physical, social, and institutional barriers that limit walking activity. The policy outlines the following objectives:

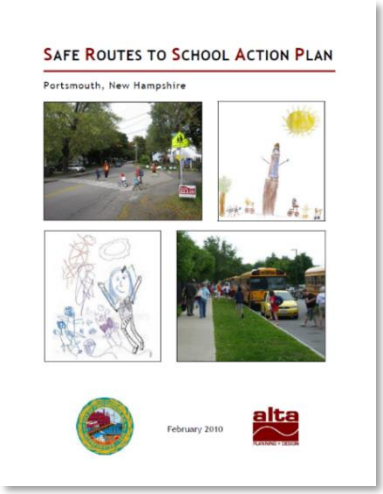
- *Provide clean, well-lit sidewalks free from obstruction, and with sufficient opportunities to cross roads safely and directly.*
- *Ensure seating is provided in outdoor public spaces in quantities and locations that meet the needs of all users.*
- *Provide protection for pedestrians from weather and climate elements with landscaping and facilities as appropriate (for example shade or shelter).*
- *Provide coherent and consistent information and signage systems to support exploration and discovery on foot.*

- *Build and maintain high-quality networks of connected, functional and safe walking routes between residential areas and local destinations.*
- *Provide an integrated, extensive and well-equipped public transportation service with vehicles which are fully accessible to all potential users and public transport stops and interchanges with easy, safe and convenient pedestrian access and supportive information.*
- *Encourage a pedestrian-friendly driving culture with targeted campaigns and enforcement of road traffic laws.*
- *Maintain reduced motor vehicle traffic speeds in residential areas, shopping areas, around schools, and in other areas with a high frequency of pedestrian traffic.*
- *Reduce the impact of busy roads by installing sufficient safe crossing points, ensuring minimal waiting times and enough time to cross for the slowest pedestrians.*
- *Ensure that facilities designed for cyclists and other non-motorized modes do not compromise pedestrian safety or convenience.*
- *Involve all relevant agencies at all levels to recognize the importance of supporting and encouraging walking and to encourage complementary policies and actions.*
- *Actively encourage all members of the community to walk whenever and wherever they can as a part of their daily lives.*

Complete Streets Policy (2013)

In addition to the Bicycle and Walk Friendly Community policies, City Council also adopted a Complete Streets Policy in 2013. This document broadens the City's commitment to provide facilities for pedestrians, bicyclists, transit vehicles and riders, and people of all ages and abilities in all new construction and retrofit or reconstruction projects. The policy applies to all projects within municipal jurisdiction, as well as private development projects.

Safe Routes to School Action Plan (2010)



The City of Portsmouth includes three elementary school districts, namely New Franklin, Little Harbour, and Dondero. Portsmouth also has a Middle School, High School, the Robert J. Lister Academy, and the Saint Patrick Academy (a private Pre-K through 8th grade school). The Action Plan, funded with NH Safe Routes to School program funding, was developed to identify specific measures for improving safety for students walking and biking to school. The Plan outlined recommendations for pedestrian and sidewalk connections, bicycle facility recommendations, intersection improvements, and traffic calming. Many of the infrastructure recommendations were incorporated into the 2014 Bicycle and Pedestrian Plan, and the city has continued to promote various Safe Routes to School initiatives, including developing a program web page, distributing educational materials, and coordination of walk and bike to school days.[2]

[2] Portsmouth Safe Routes to School

EXISTING CONDITIONS ASSESSMENT

The existing conditions assessment provides an overview of existing bicycling and walking infrastructure, travel behaviors, safety trends, and land use. This assessment will help to identify existing network gaps and issues and anticipated future needs and opportunities.

Land Use

Existing land use as of 2024 is shown in **Figure B5**. Land uses in the Downtown and West End are predominantly mixed use, retail, restaurants, and multi-family residential. A concentration of tourism-based businesses along with some of the city's most popular visitor destinations are located within the Downtown.

As a result of recent zoning changes, new residential and mixed-use developments have started to be built along the traditionally commercial corridors of Route 1 and the Route 1 Bypass. Woodbury Avenue north of Market Street continues to be a predominantly commercial corridor.

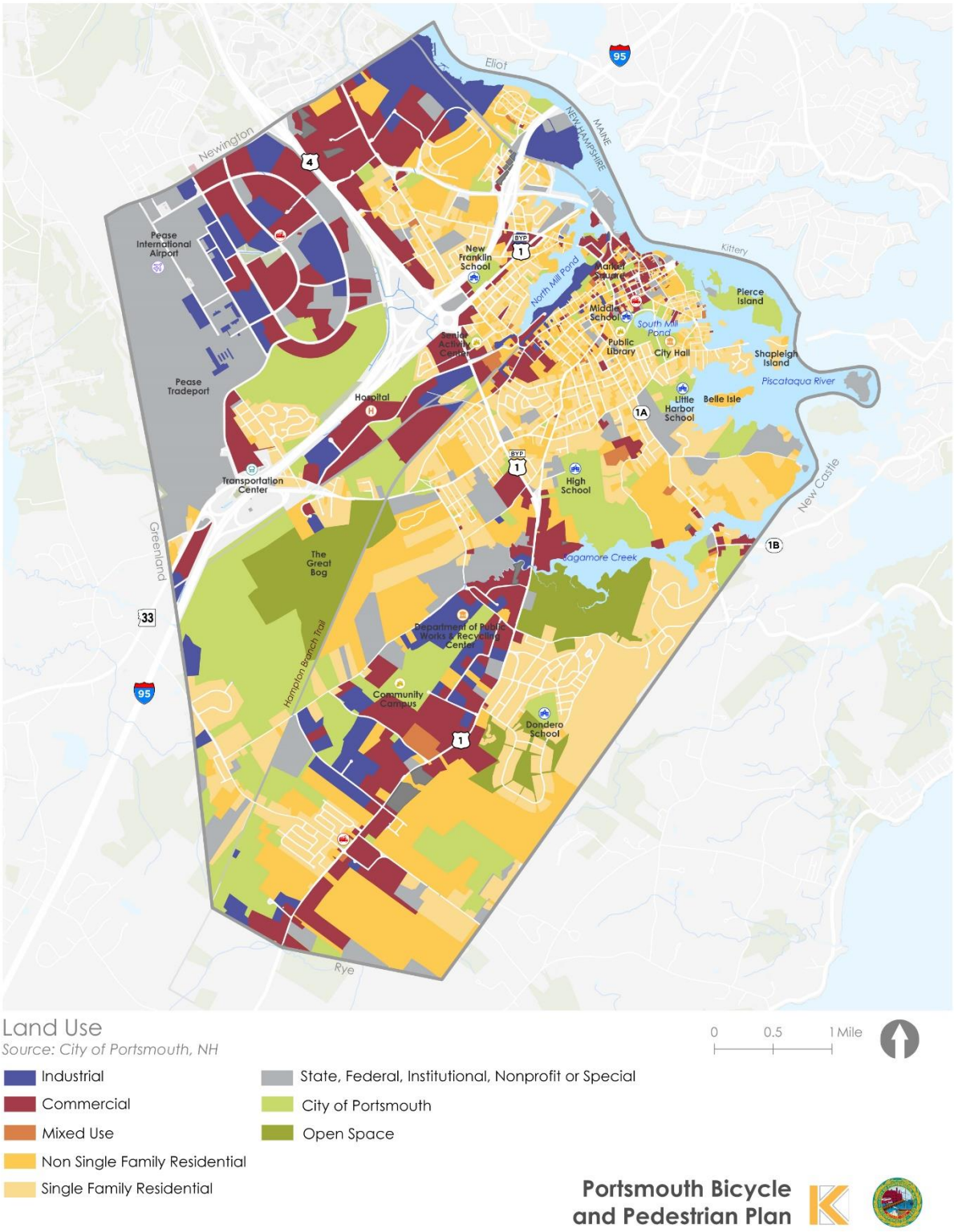
Borthwick Avenue, outer Greenland Road, and the Pease Tradeport are exclusively non-residential areas with a mix of office parks, medical facilities, transportation and industrial uses. There are multiple medical facilities located within Pease Tradeport and along Borthwick Avenue. The hospitality industry is a key component of Portsmouth's local economy with hotels concentrated in the Downtown, Pease Tradeport, and near the Route 1 Traffic Circle.

Distinct residential neighborhoods with predominantly single-family housing stock are spread throughout Portsmouth, such as Atlantic Heights and Osprey Landing in the northwest, the South End and Little Harbor neighborhoods south of Downtown, the Islington Creek neighborhood north and south of the North Mill Pond, Elwyn Park and the Woodlands in the southeast, Maple Haven and Hillcrest Estates in the south, and Pannaway Manor south of Pease Airport. These neighborhoods generally have walkable and bikeable local streets within the neighborhood but some are disconnected by major or minor arterials and natural barriers from other destinations. For the neighborhoods in and around the downtown core, the local street network is dense and interconnected, making this area generally conducive to short trips by bike or foot.

Residential neighborhoods north of North Mill Pond and I-95 are dependent on Market Street, Maplewood Avenue, Woodbury Avenue/Bartlett Street, and Route 4/Route 1 Bypass to cross the manmade and natural barriers of the pond and interstate.

Residential neighborhoods in the south of Portsmouth adjacent to Route 1 (Lafayette Road) include Elwyn Park and the Woodlands as well as Maple Haven and small pockets of multi-family developments. These neighborhoods are largely dependent on U.S. Route 1 Bypass to access most daily needs. However, this corridor has high traffic volumes and offers limited comfortable facilities for residents to reach destinations by walking and biking. The Pannaway Manor neighborhood is also isolated with access across I-95 provided by Sherburne Road to Route 33/Greenland Road and access across Route 4/Spaulding Turnpike via Ashland Road and the bike and pedestrian overpass.

Figure B5: Land Use



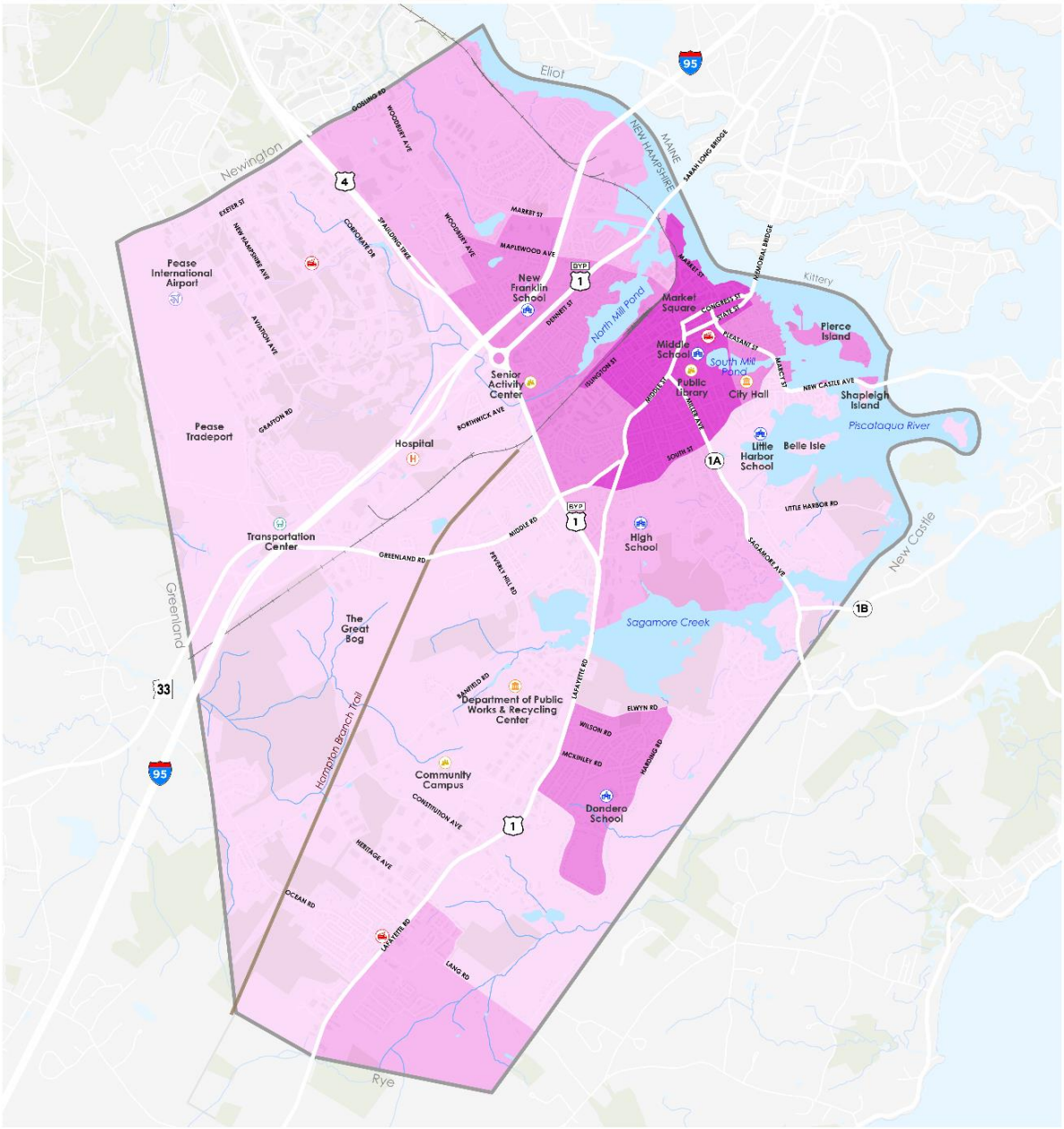
Socio-economic and Demographic Characteristics

A review of the socio-economic and demographic characteristics was conducted to illustrate areas of density, vulnerable roadway users such as children and seniors, and areas where residents may be more dependent on walking, biking, and transit to get around. This data comes from the 2022 Census and 2022 American Community Survey 5-Year Estimates.

POPULATION DENSITY

Portsmouth has a mix of household sizes, with an average of two people per household. As shown in **Figure B6**, the city is most dense in the downtown core. The city's population density is skewed east of the Route 1/Route 1 Bypass/Route 4 north-south-corridor and there are pockets of mid-density residential development in areas like Elwyn Park. The Pines Apartments, one of Portsmouth's higher-density housing developments, are located in the south, off of Route 1/Lafayette Road. The Hillcrest Estates and Maple Haven are two medium density residential neighborhoods located in the same area.

Figure B6: Population Density

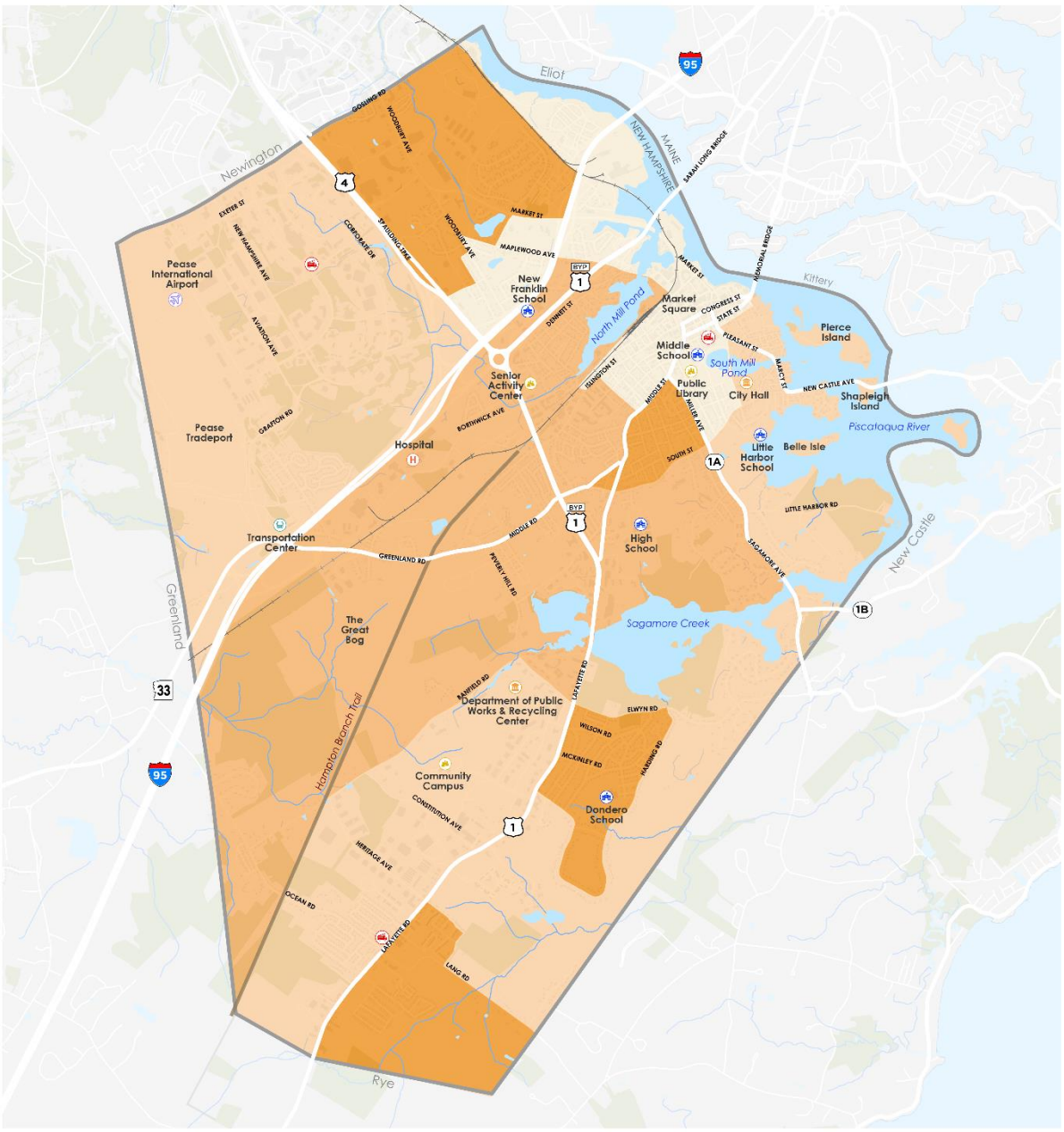


YOUTH AND SENIOR POPULATIONS

Youth Population

Sixteen percent of Portsmouth's population is under the age of 18. There are concentrations of youths in the northeast area of Portsmouth bounded by Route 4/Spaulding Turnpike and I-95 as seen in **Figure B7**. Residential neighborhoods in this area include Atlantic Heights, Osprey Landing, and Gosling Meadows. Student-age children in this area are closest to the New Franklin School. Other Census Block Groups with higher concentrations of children under the age of 18 are in the area to the south of the downtown core bounded by Route 1/Middle Street, Miller Avenue, and South Street, the area that includes the Elwyn Park and Woodlands neighborhoods, and in the south of Portsmouth on the east side of Route 1/Lafayette Road, which includes Hillcrest Estates and The Pines Apartments. Student-age children near the downtown are closest to the Little Harbour School. Student-age children in Elwyn Park and in southern Portsmouth near Route 1/Lafayette Road are closest to the Dondero School.

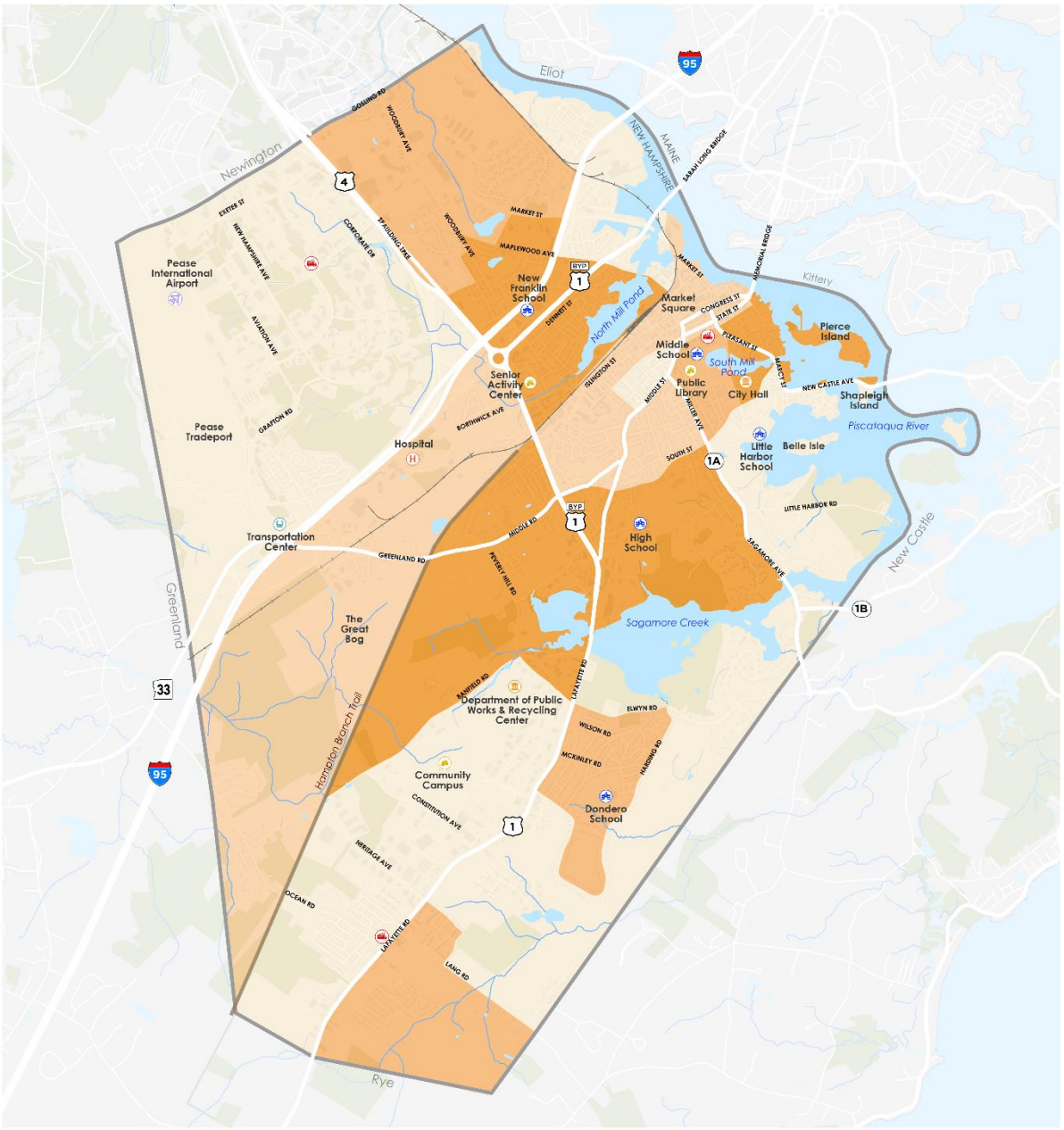
Figure B7: Percent Youth Population (Under 18 years) by Census Block Group



Senior Population

Twenty percent of the population is 65 years of age or over. **Figure B8** illustrates the percent of Portsmouth's total population at the Census Block Group level that is 65 years of age or older; the highest concentrations of seniors are in neighborhoods immediately surrounding the downtown. This includes the Islington Creek area near the North Mill Pond, which also includes the Portsmouth Senior Activity Center. Other Census Block Groups with higher concentrations of people 65 or older are generally bounded by the Hampton Branch rail corridor, Banfield Road and Sagamore Creek, Sagamore Avenue, South Street, and the Route 1 Bypass. Finally, the South End is identified as having a higher concentration of people aged 65 or over.

Figure B8: Percent Senior Population (Over 65 years) by Census Block Group



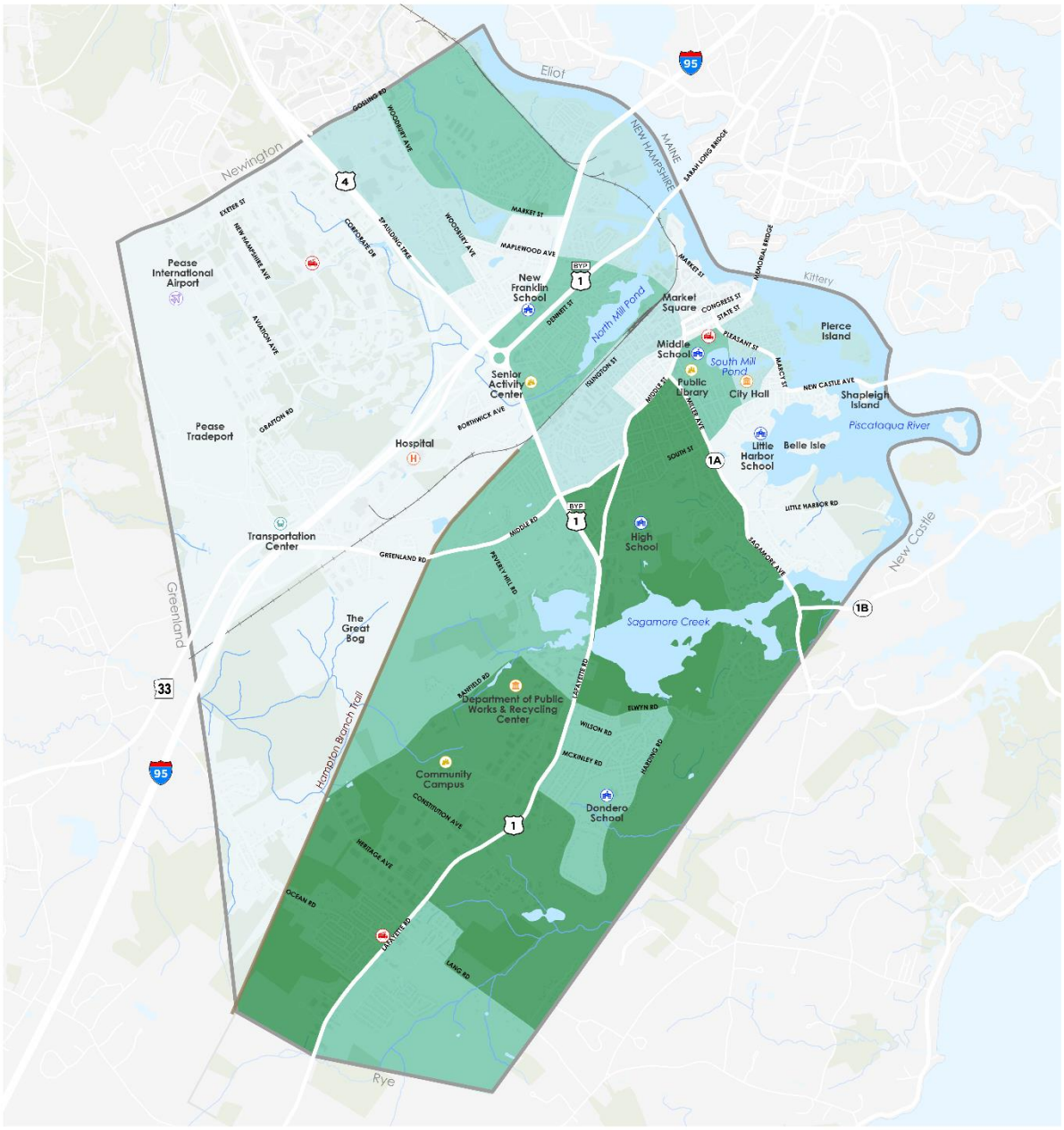
LOW INCOME AND ZERO VEHICLE HOUSEHOLDS

Lower Income Households

The median household income in Portsmouth is $100,169.[3] **Figure B9** highlights the percent of households in each Census Block Group that are below the poverty level. The areas with higher concentrations of households below the poverty level are generally bounded by Route 1/Lafayette Road/Middle Street and by Miller Avenue/Sagamore Avenue.

[3] U.S. Census Bureau (2022), ACS 5-Year Estimates

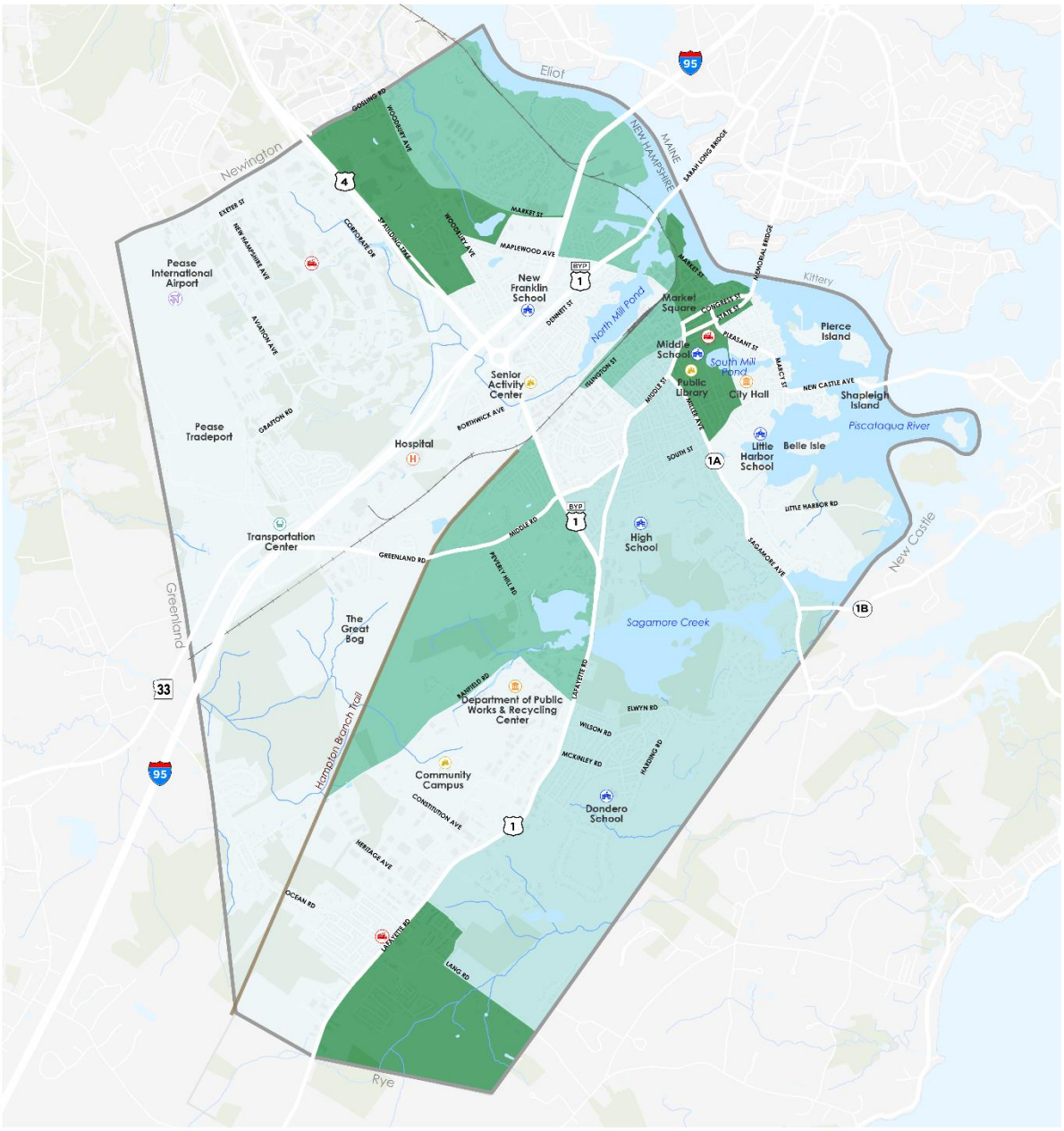
Figure B9: Percent of Households Below Poverty Level by Census Block Group



Zero Vehicle Households

Figure B10 shows the percent of households in each Census Block Group without a car. Households without regular access to a car are more likely to be dependent on transit, walking, biking, rideshare, or carpooling due to lack of access to a private vehicle. The areas with higher concentrations of households without a vehicle are located in northern Portsmouth bounded by Route 4/Spaulding Turnpike and Woodbury Avenue, within the downtown core where many destinations are within walking or biking distance and there are transfers between multiple COAST bus routes, and in the south of Portsmouth, overlapping with Hillcrest Estates and The Pines Apartments.

Figure B10: Percent of Households with Zero Vehicles by Census Block Group



Pedestrian and Bicycle Networks

PEDESTRIAN NETWORK

In New Hampshire, pedestrians are permitted to walk on all public roads, except for interstate highways and turnpikes[4]. Figure B11 shows existing sidewalks and shared use paths. Sidewalk coverage is comprehensive downtown and extends out from this dense core on arterial and collector roads like Maplewood Avenue, Woodbury Avenue, Islington Street, Middle Street, Lafayette Road, and Sagamore Avenue. Some residential neighborhoods have sidewalk coverage, including Pannaway Manor, Elwyn Park, Osprey Landing, Atlantic Heights, and Maple Haven. The shared use path network, including the Hampton Branch Trail, Borthwick Avenue, Grafton Road and the Pease bike and pedestrian overpass over Route 4/Spaulding Turnpike, have expanded walking infrastructure coverage significantly.

Sidewalk coverage is missing in key areas including Peverly Hill Road and Elwyn Road, the southern portion of Route 1/Lafayette Road, the Route 1 Bypass between Lafayette Road and Route 4/Spaulding Turnpike, Banfield Road, and the Sarah Long Bridge. Route 4/Spaulding Turnpike and I-95 are barriers with few crossing points for people walking.

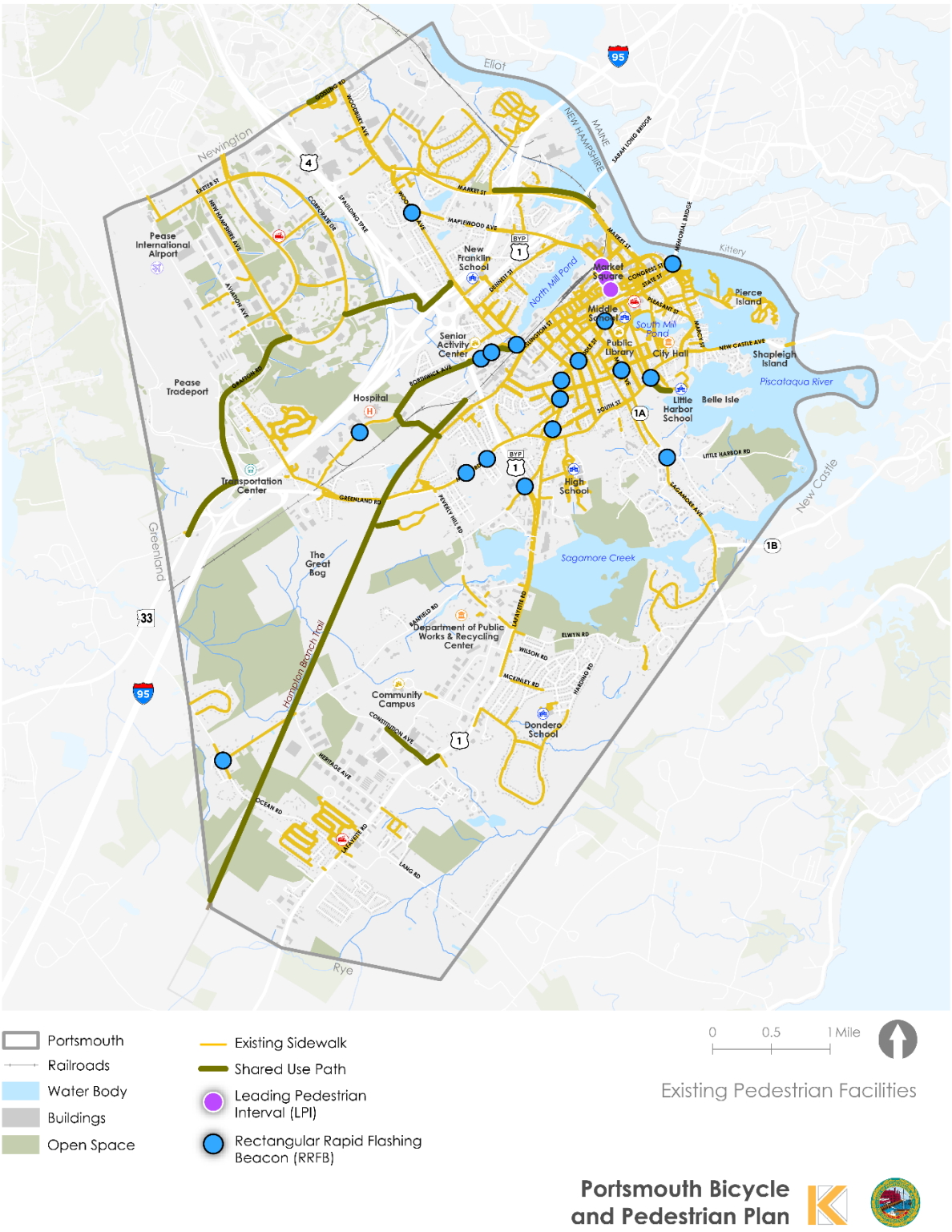
The City has installed pedestrian crossing features such as Accessible Pedestrian Signals (APS), Leading Pedestrian Interval (LPI) and Rectangular Rapid Flashing Beacons (RRFB). LPI have been installed at three locations on Maplewood Avenue while RRFBs have been installed on several roadways, including Woodbury Avenue, Miller Avenue, Middle Street and Lafayette Road (Figure B11). All intersections in the city have APS installed, with the exception of the following locations listed in Table B3 that require upgrades:

Table B3: Planned Locations for APS Installation

Locations	Status
Middle Street at Miller Avenue and Summer Street	Planned for 2025
Congress Street at Fleet Street	Due for upgrade during Fleet Street reconstruction
South Street at Sagamore Avenue and Miller Avenue	To be determined
Middle Road at Peverly Hill Road	Due for upgrade with reconstruction of Peverly Hill Road
Islington Street at Middle Road/Greenland Road	To be determined

[4] NHDOT Pedestrian and Bicycle Plan 2024

Figure B11: Existing Pedestrian Network



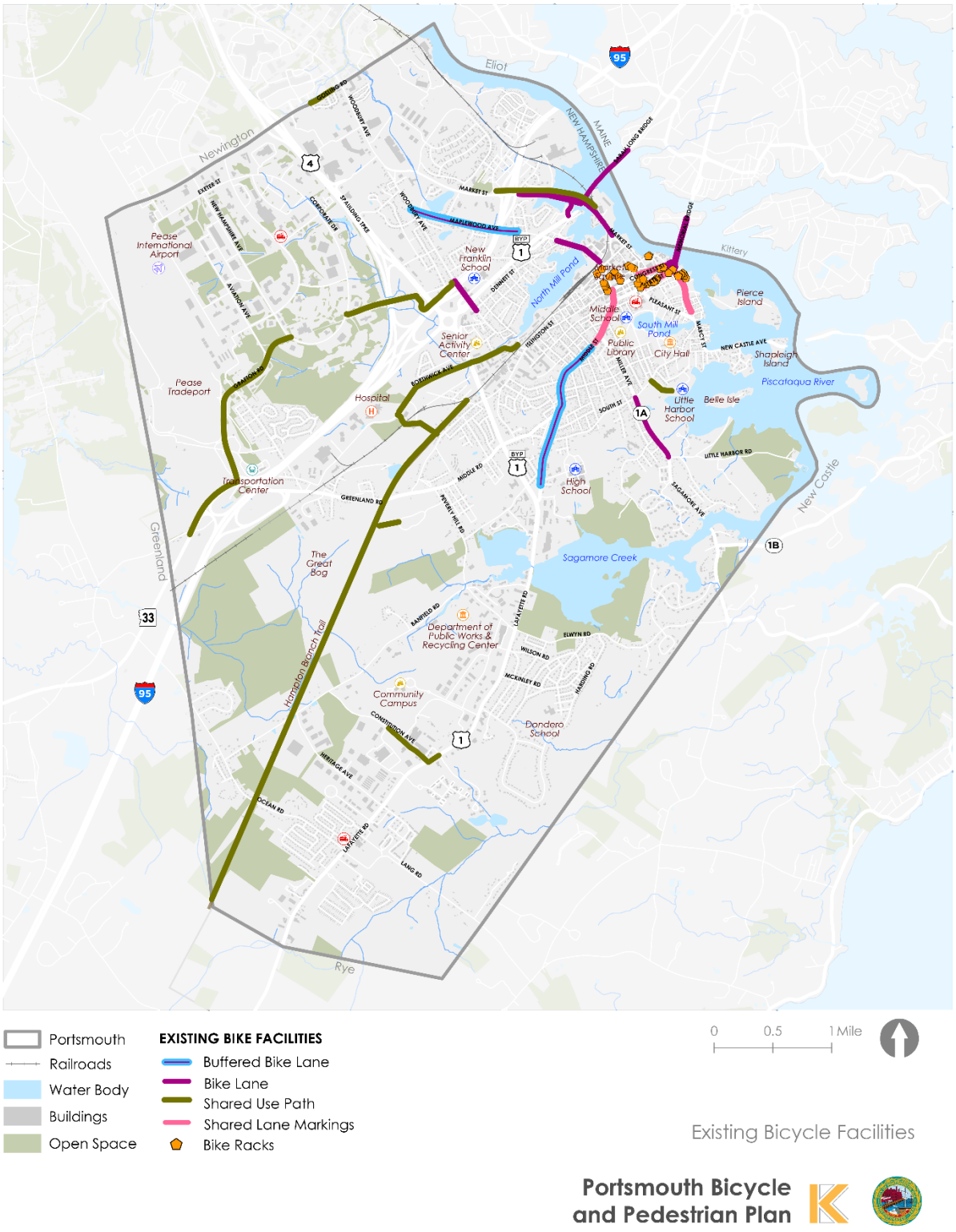
BICYCLE NETWORK

The existing bicycle network includes shared lane markings, bike lanes, buffered bike lanes, and shared use paths (**Figure B12**). The newly constructed Hampton Branch Trail portion of the Seacoast Greenway and shared use path on Borthwick Avenue/Hodgdon Way provides the longest continuous high comfort route for people biking. There are shared use paths on Grafton Road and Ashland Road, separated by a short section of two-lane roadway in Pease Tradeport (Corporate Drive), and along a portion of Market Street. Ashland Road continues as a bike and pedestrian connection over Route 4/Spaulding Turnpike. Shorter sections of connecting shared use path are found between the Sage Lane residential development and the Hampton Branch Trail, and a portion of Constitution Avenue.

There are buffered bike lanes on Maplewood Avenue and Lafayette Road/Middle Street and bike lanes on portions of Sagamore Avenue, Market Street, Submarine Way, Maplewood Avenue across the North Mill Pond bridge, Woodbury Avenue across I-95 and the Route 1 Bypass. There are also bike lanes on Memorial Bridge and the Sarah Long Bridge. Shared lane markings extend from the Middle Street buffered bike lane and the Memorial Bridge bike lanes into the downtown core. While not part of the official bicycle network, lower-speed residential streets, such as Lincoln Avenue, may serve as "bicycle boulevards."

Prior plans have identified the need for convenient and secure short-term and long-term bicycle parking. The City has made progress increasing on-street bike parking supply in and around the downtown core and the City's zoning regulations require provision of bicycle parking for most new developments. However, there are limited options for long-term public bike parking. There is a lack of bicycle parking outside of the downtown core, which is a limiting factor in the ability to bike to destinations around the city.

Figure B12: Existing Bicycle Network



Progress Over the Past Ten Years

Portsmouth has completed several projects from the 2014 Bicycle and Pedestrian Plan, while there are several others in design, programmed or partially complete. Figure B13 highlights programmed projects that are currently in progress as well as completed projects, including: protected bike lanes on a portion of Market Street, Middle Street, dedicated bike lanes on Sagamore Avenue and Maplewood Avenue and Sarah Long Bridge and shared use paths along Hodgdon Way, Gosling Road, Constitution Avenue, the Pease Bike Path and the Pease Bike Bridge.[5] Project highlights are listed in Table B4 below:

Table B4: Completed and In-Progress Bicycle and Pedestrian Projects

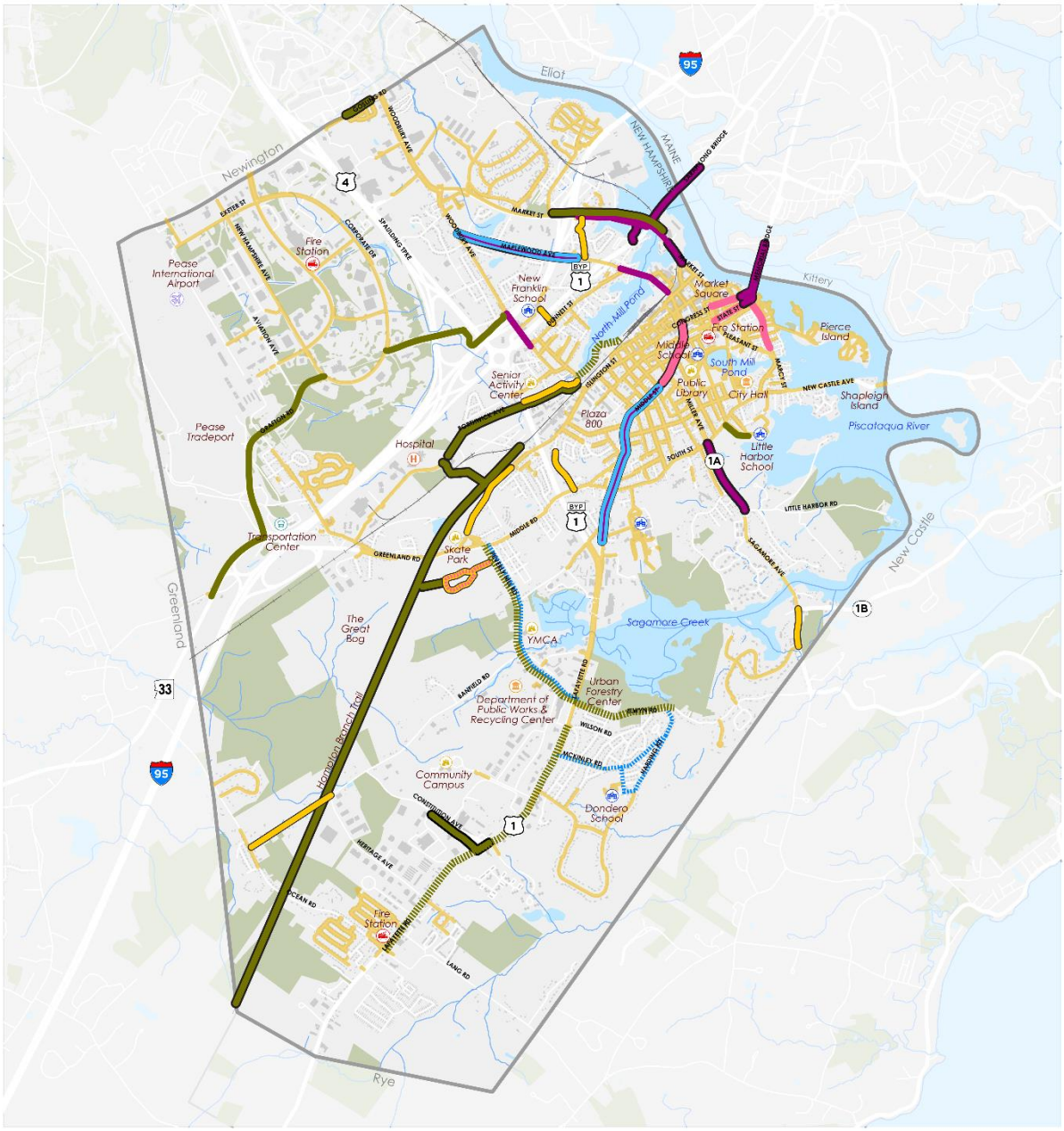
Project Location	Facility Type
Constructed	
Grafton Road path between Greenland Road and Corporate Drive (Pease)	Shared Use Path
Hodgdon Way and Cate Street	Shared Use Path and Sidewalk
Sagamore Avenue (South Street to Little Harbor Road)	Bike Lanes, RRFB at Little Harbor Road
Market Street (Russell Street to Kearsarge Way)	Bike Lanes, Shared Use Path
Lafayette Road/Middle Street (Andrew Jarvis Drive to State Street)	Buffered Bike Lanes, Shared Lane Markings, RRFB at Richards Avenue
Maplewood Avenue (Cutts Street to Woodbury Avenue)	Bike Lanes, Traffic Calming, Pedestrian Median Islands at Woodbury Avenue
Cutts Street (Maplewood Avenue to Market Street)	New Sidewalk, Shared Use Path from Cutts Street to Market Street
Sarah Mildred Long Bridge and Submarine Way (Market Street to Kittery, ME)	Bike Lanes
Pleasant Street	Sidewalk Upgrades
Eileen Dondero Foley Avenue (Borthwick Avenue to NH Seacoast Greenway rail trail)	Shared Use Path
Path between Eileen Dondero Foley Avenue and Islington Street	Shared Use Path
Gosling Road (Weald Road to Wedgewood Road)	Shared Use Path
Islington Street (Route 1 Bypass bridge to Rutland Street)	Sidewalk
Islington Street (Route 1 Bypass Bridge to Dover Street)	Sidewalk upgrades

[5] NHDOT Bicycle and Pedestrian Plan

Islington Street (Cabot Street, Cass Street, Columbia Street, Cornwall Street, Bartlett Street, Rock Street, Spinney Road)	Curb Extensions, Crosswalk Treatments
Spinney Road (Middle Road to Sewall Road)	Sidewalk
Lafayette Road @ Greenleaf Avenue	Crosswalk
Lafayette Road @ Andrew Jarvis Drive	Crosswalk, Pedestrian Signal, Bus Stop Landing
Junkins Avenue @ Parrot Avenue	Curb Extensions, Crosswalk Treatments
Edwards Street @ Junkins Avenue	Closed portion of street to create pedestrian path added sidewalk
Maplewood Avenue @ Congress Street	Added concurrent phasing with LPI
Pleasant Street @ Hancock Street	Crosswalk
Stark Street (Dennett Street to New Franklin School)	Sidewalk
Path from Sage Lane to Hampton Branch Rail Trail	Shared Use Path
Sage Lane	Sidewalk
Sagamore Avenue (1169 Sagamore Avenue to Wentworth House Road)	Sidewalk
Banfield Road (Ocean Road to Heritage Avenue)	Sidewalk
Constitution Avenue (Route 1 to Wal-Mart rear driveway)	Shared Use Path
Route 1 (Constitution Avenue to Portsmouth Green Driveway)	Shared Use Path
2075 Lafayette Road frontage	Shared Use Path
NH Seacoast Greenway / Hampton Branch Rail Trail (Ocean Road to Barberry Lane)	Shared Use Path
Bartlett Street (Cate Street to Dennett Street)	Sidewalk (filling existing gaps), Crosswalk Treatments, Traffic Calming
Thornton Street (Bartlett Street to Woodbury Avenue)	Sidewalk (filling existing gaps)
Sage Lane	Shared Lane Markings
In Design	
Peverly Hill Road (Route 1 to Middle Road)	Shared Use Path, Bike Lanes, Sidewalk
Elwyn Road (Route 1 to Harding Road)	Shared Use Path

McKinley Road	Sidewalk
McKinley Road (at Coolidge Drive, Grant Avenue, Taft Road, Garfield Road, Truman Place, Hayes Place, Taylor Lane)	Crosswalks
Van Buren Avenue	Sidewalk
Adams Street	Sidewalk
Harding Road (McKinley Road to Elwyn Road)	Sidewalk
Planned	
North Mill Pond Trail (Bartlett Street to North Mill Pond)	Shared use Path

Figure B13: Existing and Programmed Bicycle and Pedestrian Facilities



SELECT PEDESTRIAN AND BICYCLE PROJECTS UNDERWAY

Elwyn Park Sidewalks and Traffic Calming

Based on the recommendations from the Elwyn Park Sidewalks and Traffic Calming Study (2020) this project will improve pedestrian safety and access in the Elwyn Park neighborhood with a focus on improving safety for Dondero School through new sidewalks, crosswalks, and traffic calming measures. Project improvements include:

- Installation of sidewalks on one side of McKinley Road, Harding Road, Van Buren and Adams Avenue
- Crosswalks along McKinley Road at Coolidge Drive, Grant Avenue, Taft Road, Garfield Road, Truman Place, Hayes Place, Taylor Lane
- Intersection improvements at Garfield Road and Taft Road, Garfield Road and McKinley Road, Taylor Lane and McKinley Road, and McKinley Road and Harding Road

Elwyn Road Sidepath Project

The Elwyn Road Sidepath Project will create a shared use path for bicycles and pedestrians along the north side of Elwyn Road, from Route 1 to Harding Road, passing by the Urban Forestry Center and historic Langdon Farm. New crosswalks at intersections and connections to the shared use path will be added. This project is partially funded by a Federal Highway Administration grant through the Congestion Mitigation and Air Quality (CMAQ) program, managed by NHDOT. As of February 2024, the preliminary design plans are underway.

New Hampshire Seacoast Greenway

The New Hampshire Seacoast Greenway (NHSG) is a 3.6-mile shared use path along the former Hampton Branch rail corridor from Barberry Lane to the Greenland town line. This project is part of a broader initiative to create a 17.2-mile bicycle and pedestrian route connecting several coastal communities and linking Maine's Eastern Trail and Massachusetts' Border-to-Boston Trail. The City of Portsmouth is developing connections to various points planned at several locations, including Banfield Road and Borthwick Avenue. NHDOT owns the rail corridor and will collaborate with local communities for the NHSG segment's design, construction, and management.

North Mill Pond Trail and Greenway

The North Mill Pond Trail is a proposed shared use path and community park along the eastern side of the North Mill Pond from Bartlett Street to Market Street, with an on-road section along Maplewood Avenue. The project will include scenic areas and a one-acre park accessible from Vaughan Street. The purpose of the project is to connect Downtown to adjacent neighborhoods as well as create valuable new accessible open space in underutilized areas. As most of the land is privately owned, the city's plan is to pursue a public/private partnership for construction. A portion of the path from Bartlett Street to the North Mill Pond shoreline will be constructed in conjunction with a private development project.

Peverly Hill Road Complete Streets Project

The City's Peverly Hill Road Complete Streets project is making progress towards final design and construction as early as winter of 2025/26. The project's goal is to rebuild Peverly Hill Road from Middle Road to West Road to create a safer roadway for all users, aligning with the City of Portsmouth's Complete Street Policy. Currently, vehicles travel at high speeds, there are sight distance restrictions, no bicycle or pedestrian accommodations, a mix of residential and commercial traffic, and drainage issues along the roadway. This project is currently in design.

Route 1/Lafayette Road Corridor Plan

The Route 1/Lafayette Road project is led by NHDOT (project number 29640) and includes approximately 1.7 miles on Route 1 from Wilson Road to Ocean Road. The primary purposes of the project are to improve safety, including the construction of pedestrian and bicycle facilities which are currently lacking in this section of Route 1, enhance traffic flow and minimize bypass traffic, enhance integration with public transit, and improve resiliency and stormwater quality. The project is in the process of selecting a preferred alternative. The recommended alternative, as of a July 2024 public meeting, includes options for 16 to 21.5 feet of space for shoulder, utilities, sidewalk, and side path on either side of a three- to four-lane cross section. It also proposes reconstructing the intersections with White Cedar Boulevard and Springbrook Circle with the removal of some slip lanes or as roundabouts. The project highlights that Lafayette Road is a Gateway Corridor per the City's Complete Streets Guidelines[6].

Major destinations and multimodal generators

Most people drive to work in Portsmouth (70%). A large portion (18%) of people work from home. Walking and carpooling are the next most used modes of transportation for work at five percent each and transit, bicycling, and other compose the remaining approximately three percent of trips (**Figure B14**).

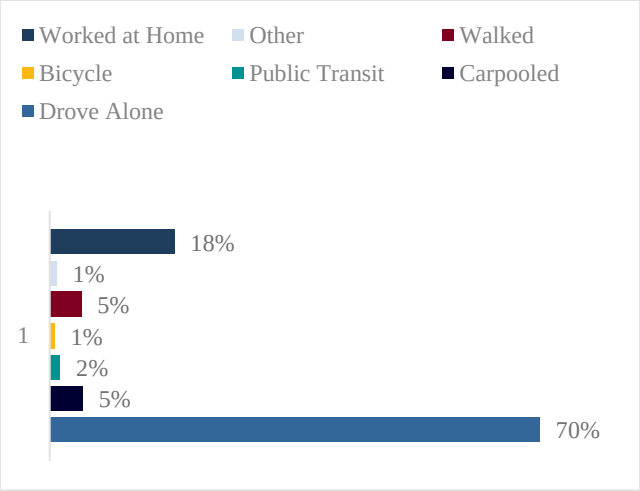
Figure B15 shows the large number of workers (72%) that travel to Portsmouth. For workers that live in Portsmouth, about 49% of their jobs are within ten miles (**Table B5**). Although the average travel time to work in Portsmouth is 23 minutes, 46% of workers have a commute of just 14 minutes[7]. Relatively short trips such as these present opportunities for mode shift to biking or micromobility.

Table B5: Jobs by Distance

	Count	Share
Total All Jobs (2021)	**11,397**	**100%**
Less than 10 miles	5,598	49.1%
10-24 miles	2,024	17.8%
25 to 50 miles	2,598	22.8%
Greater than 50 miles	1,177	10.3%

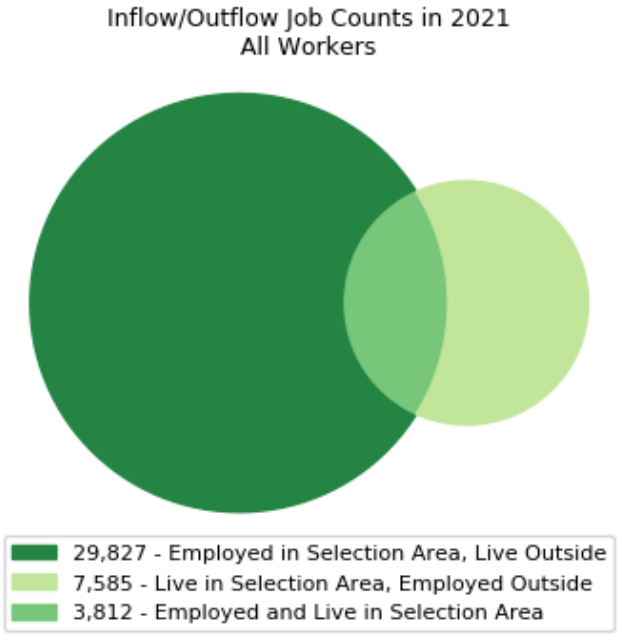
[6] NHDOT Portsmouth US Route 1 Improvements: Public Information Meeting – July 24, 2024. https://www.dot.nh.gov/sites/g/files/ehbemt811/files/inline-documents/29640-pre-07242024-2.pdf
[7] U.S. Census Bureau (2022), ACS 5-Year Estimates

Figure B14: Means of Transportation to Work



Source: US Census Bureau, ACS 5-Year Estimates 2022

Figure B15: Workers in Portsmouth



Source: U.S. Census Bureau Longitudinal Employer-Household Dynamics 2022

Major employers in the area include the Portsmouth Regional Hospital and Pease Tradeport, where several manufacturing and technology companies are situated. Downtown is another employment hub owing to the number of hotels, retail stores, and restaurants. Workers are employed in the following industry sectors:

- Professional, Scientific, and Technical Services – 4,460 Jobs (14%)
- Health Care and Social Assistance – 4,450 Jobs (13%)
- Manufacturing – 3,700 Jobs (11%)
- Retail Trade - 3,122 Jobs (9.3%)

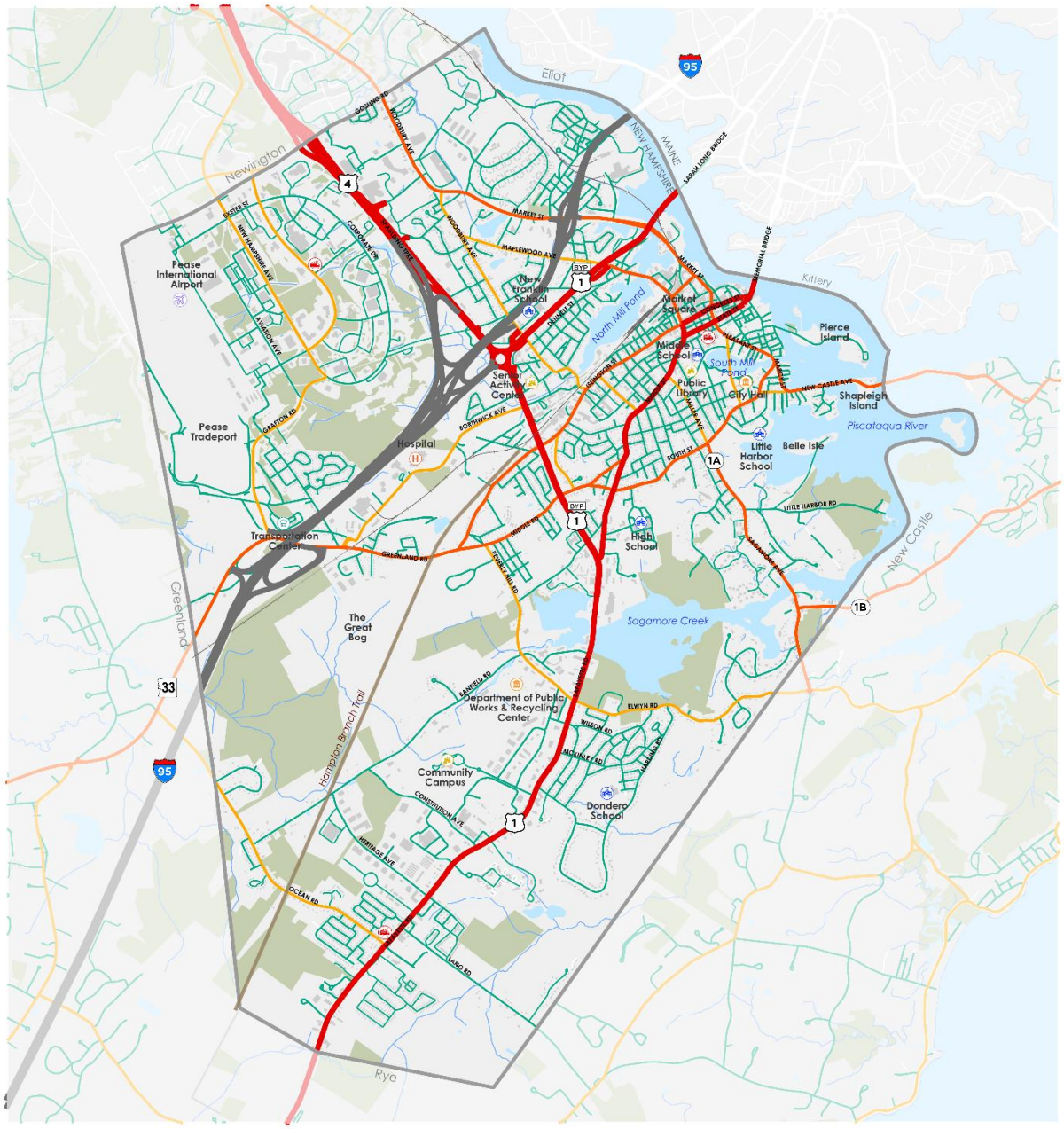
Roadway Characteristics

The I-95 interstate and Route 4/Spaulding Turnpike are limited access roadways that pose major barriers for pedestrian and bicyclist connectivity. Other major roads like Route 1 and the Route 1 Bypass generally divide Portsmouth in half from north to south and pose safety and connectivity challenges for all multimodal users. There are pockets of local roads between the principle arterial, minor arterial, and collectors that offer opportunities on low speed and low volume routes for people walking and biking. Several minor arterials and collectors provide important connections to everyday destinations.

For example, in the north, Market Street, Maplewood Avenue and Woodbury Avenue are the key connectors through the area bounded by Route 4/Spaulding Turnpike and I-95, providing connections across I-95, Route 1 Bypass, and North Mill Pond, and connecting people to the major commercial uses on either side of Woodbury Avenue/Market Street, including the Market Basket shopping plaza.

Borthwick Avenue is a collector that connects to the hospital and other medical facilities. Greenland Road, Middle Road, and South Street are minor arterials that cut across the City east-west between the towns of Newcastle and Greenland, NH and connect across I-95. North of Greenland Road, Grafton Road and New Hampshire Avenue are collectors that extend into Pease Tradeport. Extending south and east from Middle Road, Peverly Hill Road and Elwyn Road are collectors that cross Route 1/Lafayette Road and tie together multiple residential neighborhoods. **Figure B16** shows the existing roadway network.

Figure B16: Roadway Functional Classification



Transit Network

Portsmouth is provided bus transit service by the Cooperative Alliance for Seacoast Transportation (COAST). There are seven bus routes that serve Portsmouth and regionally to neighboring communities with bus service continuing as far north as Farmington, NH as well as into southern Maine. Buses are equipped with bicycle racks, although COAST staff have noted that changes in the size and weight of bikes, such as e-bikes and cargo-bikes, are making these racks less effective.

COAST routes and stops in Portsmouth are shown in **Figure B17**. Bus transit can be used to get to Pease Tradeport and the Portsmouth Transportation Center, medical facilities off Borthwick Avenue, commercial destinations off Woodbury Avenue and Market Street, and to commercial and residential destinations on Route 1/Lafayette Road.

Most bus stops are connected to the sidewalk network. Exceptions include the COAST Route 41 stops that loop off of Route 1/Lafayette Road on Wilson Road, West Road, and Campus Drive. There are also some stops on Route 1/Lafayette Road that are not connected by continuous sidewalk, including near Springbrook Circle, White Cedar Boulevard and the Walmart, and Freedom Circle. Many of the bus stops on Route 1/Lafayette Road lack nearby safe pedestrian crossings, both along the corridor and at major intersections like White Cedar Boulevard.

Wildcat Transit is another bus transit service provided by the University of New Hampshire (UNH) and includes a route that runs between Portsmouth and UNH in Durham. The Wildcat Transit Route 4 travels primarily along Route 4/Spaulding Turnpike and Woodbury Avenue, stopping at the Walmart and Fox Run Mall, and looping through downtown Portsmouth via Maplewood Avenue, Islington Street, and Bartlett Street. The Wildcat Route 4 is shown in **Figure B18**.

Figure B17: COAST Transit Network

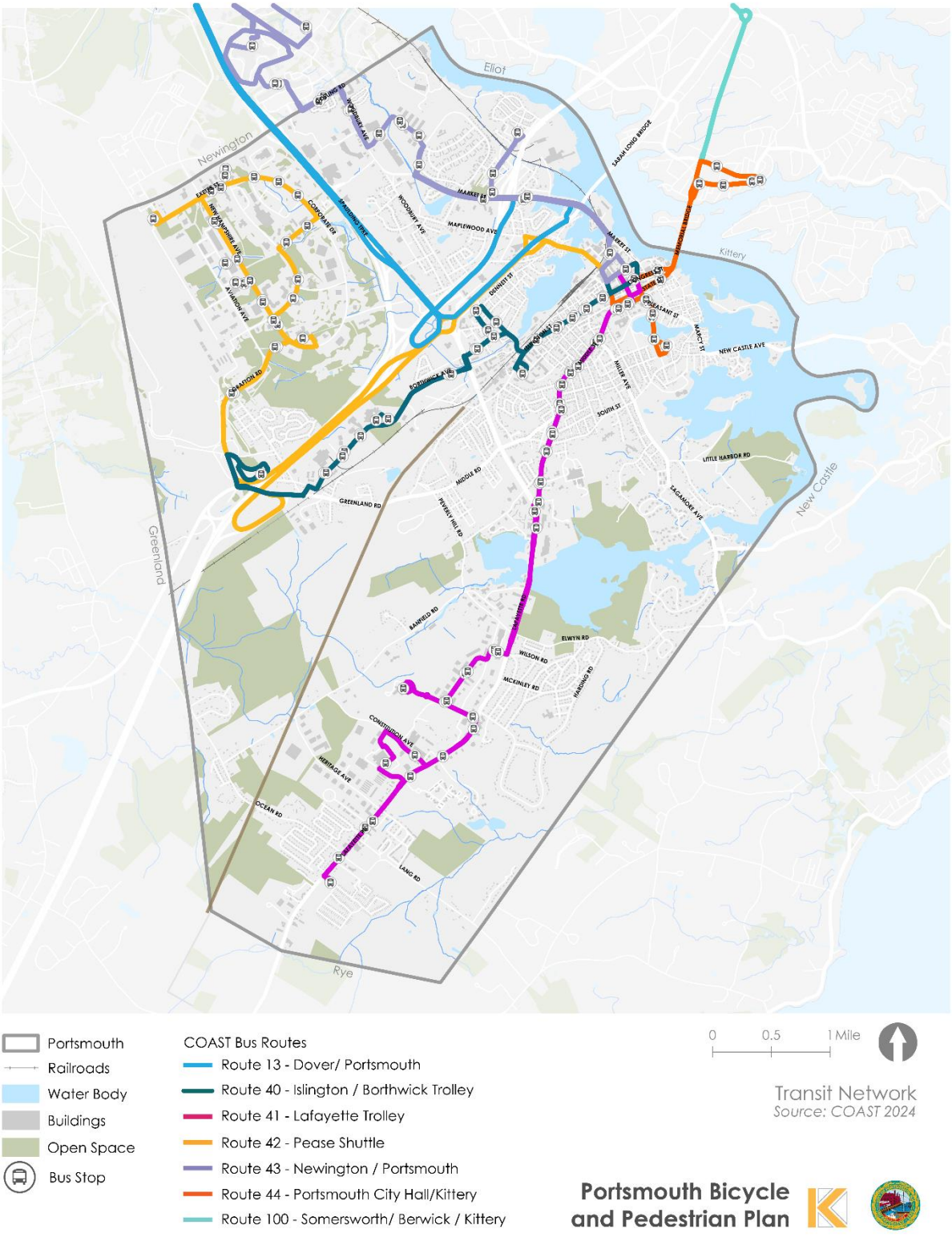
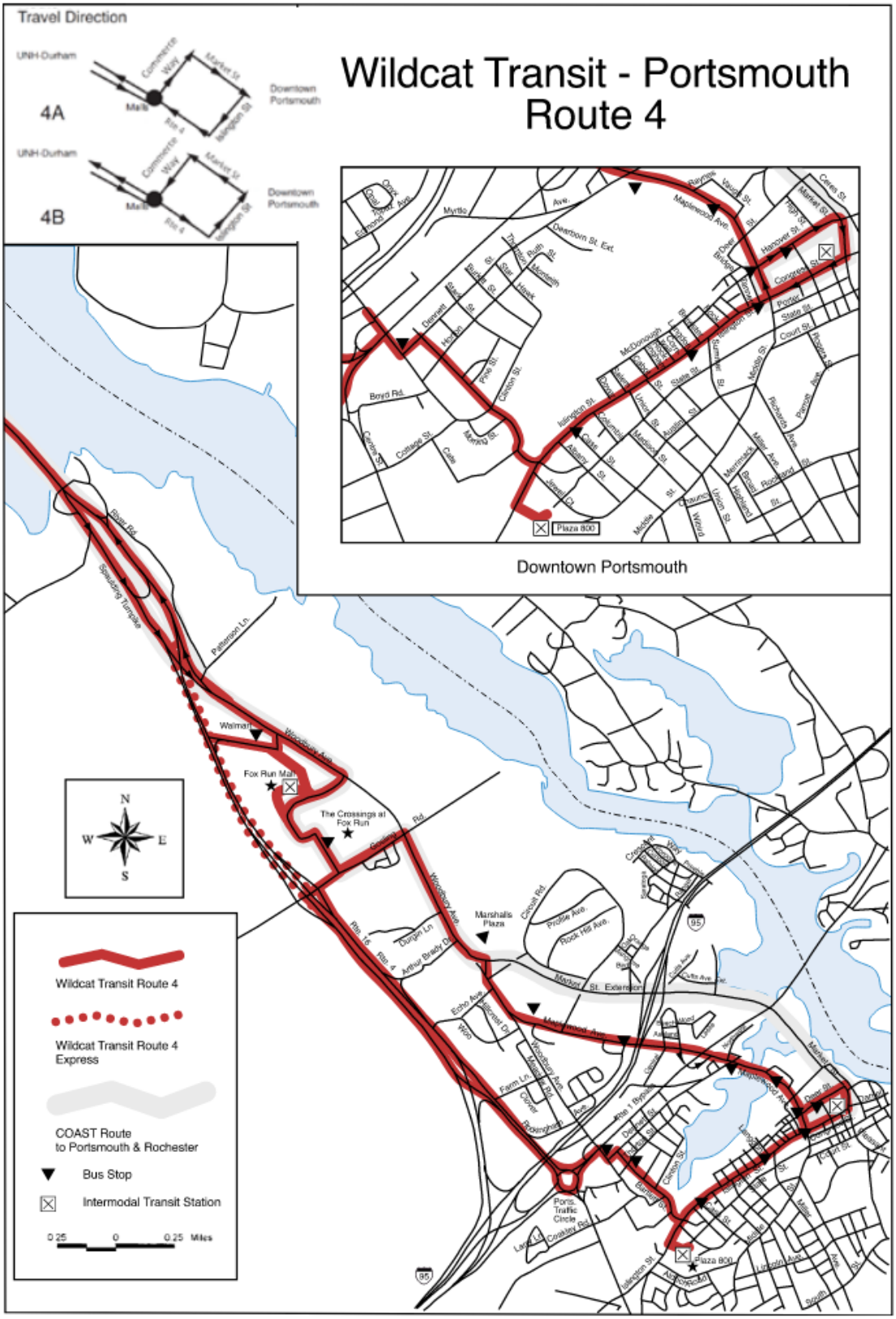


Figure B18: Wildcat Transit Route 4



Crash History

Over the last five years (May 2019 to May 2024), there have been 11 crashes involving a bicyclist and 32 crashes involving a pedestrian. None of these crashes have been fatal. Most crashes occurred downtown, with multiple occurring on Maplewood Avenue/Middle Street. A higher density of crashes in the downtown is reflective of the high volumes of people walking and biking in this dense area of the city.

Multiple crashes occurred in the vicinity of Woodbury Avenue and Gosling Road in addition to two crashes within the Durgin Square shopping center on the west side of Woodbury Avenue and two crashes in the Market Basket shopping center parking lot to the east of Woodbury Avenue. Parking lots introduce large areas of potential conflict between people walking or biking and people driving. There may also be pedestrian or bicyclist demand to go between the two shopping centers, resulting in crossing Woodbury Avenue.

Crashes also occurred at relatively even intervals on Route 1/Lafayette Road between Ocean Road and the Route 1 Bypass. Route 1 is state owned and lacks consistently spaced pedestrian crossings. The city is working with NHDOT to implement a shared use path project on Route 1 (Route 1/Lafayette Road Corridor Plan) which will cover the extents in which crashes have been observed over the past five years.

There was a cluster of crashes in the vicinity of Islington Street and Bartlett Street and two crashes were reported at the Portsmouth Regional Hospital. Two crashes also occurred in the vicinity of the South Street and Sagamore Avenue intersection. Finally, single crashes were reported on Middle Road just east of Islington Street and on Banfield Road between Constitution Avenue and Pickering Brook.

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BICYCLE AND PEDESTRIAN NETWORK PLAN UPDATE

Appendix C Prioritization

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Appendix C
Prioritization

Cut Sheet	Project	Description	Safety & Accessibility	Connectivity	Equity	Public Realm Enhancement	Total Score	TOTAL	Feasibility	Timeframe	Life Cycle Cost
Southeast to Downtown	4	Widen sidewalk to a shared use path on west side of Sagamore Avenue between Odiorne Point Road and Sagamore Grove. Add a pedestrian crossing across Sagamore Avenue at Wentworth House Road.	3	3	2	2	10	High	Low	Long	High
Southeast to Downtown	8	Designate as a bike boulevard on Walker Bungalow Road, Broad Street, and Richards Avenue as low-stress alternative routes for Sagamore Avenue and Miller Avenue.	2	3	3	1	9	High	High	Short	Low
Southeast to Downtown	9	Upgrade existing bike lanes to shared use path on Sagamore Avenue between South Street and Little Harbor Rd.	3	3	2	2	10	High	Low	Long	High
Southeast to Downtown	2	Upgrade pedestrian curb ramps at the intersection of South Street and Broad Street and add a Rectangular Rapid Flashing Beacon across South Street.	3	2	2	1	8	Medium	Medium	Short	Medium
Southeast to Downtown	3	Upgrade existing bike boulevard to bike lanes on Middle Street between Highland Street and Congress Street.	2	2	2	1	7	Medium	Medium	Short	Low
Southeast to Downtown	5	Complete sidewalk across Shapleigh Island.	3	3	1	1	8	Medium	Medium	Medium	Medium
Southeast to Downtown	6	Add bike lanes on Pleasant Street/Junkins Avenue between State Street and South Street.	2	3	2	1	8	Medium	Medium	Low	Low
Southeast to Downtown	10	Designate a bike boulevard along Pleasant Street/Marcy Street/New Castle Avenue between Junkins Avenue and the Portsmouth border.	2	3	2	1	8	Medium	High	Short	Low
Southeast to Downtown	1	Add pedestrian crossings across South Street at Richards Avenue and the Cemetery entrance.	2	2	1	1	6	Low	High	Short	Medium
Southeast to Downtown	7	Eliminate one left turn lane from northbound Pleasant Street between Congress Street and State Street. Widen sidewalks and enhance public realm.	1	1	1	3	6	Low	Medium	Medium	High
Southwest to Downtown	4	Continue shared use path on Borthwick Avenue to Greenland Road. Address pedestrian crossings and visibility, particularly at Hospital entrance.	3	3	1	3	10	High	Medium	Medium	Medium
Southwest to Downtown	12	Continue design of North Mill Pond Trail and New Hampshire Seacoast Greenway.	2	3	1	3	9	High	Medium	Long	High
Southwest to Downtown	2	Complete sidewalk gaps on Cate Street between Hodgdon Way and Cottage Street and on the west side of Woodbury Avenue from Boyd Road to Cottage Street. Add a pedestrian crossing across Cottage Street at Cate Street to access the Senior Activity Center. Designate as a bike boulevard on Cate Street to access Senior Activity Center.	2	3	1	2	8	Medium	Medium	Medium	Medium
Southwest to Downtown	3	Complete sidewalk gap on Spinney Road between Islington Street and Sewall Road.	3	2	1	2	8	Medium	Medium	Medium	Medium
Southwest to Downtown	6	Designate as a bike boulevard on Court Street between Marcy Street and Middle Street, on State Street between Middle Street and Cass Street, and on Hanover Street/McDonough Street/Islington Street between Market Street and Bartlett Street as lower-stress alternative routes through Downtown.	2	2	2	1	7	Medium	High	Short	Low
Southwest to Downtown	7	Designate as a bike boulevard on Park Street/Cass Street and on Aldrich Road between Islington Street and Lincoln Avenue/Middle Street. Enhance existing bike boulevard on Lincoln Avenue between Junkins Avenue and Middle Street.	2	2	3	1	8	Medium	High	Short	Low
Southwest to Downtown	10	Complete and upgrade sidewalk on Franklin Avenue.	2	2	1	2	7	Medium	Medium	Medium	Medium
Southwest to Downtown	1	Enhance pedestrian crossings across Route 1 Bypass at Borthwick Avenue.	2	2	1	1	6	Low	Medium	Medium	Medium
Southwest to Downtown	5	Designate as a bike boulevard on Bow Street between Daniel Street and Market Street.	2	2	1	1	6	Low	High	Short	Low
Southwest to Downtown	8	Improve pedestrian crossings and ramps at Dennett Street and Stark Street.	3	1	1	1	6	Low	High	Short	Low
Southwest to Downtown	9	Designate as a bike boulevard on Dennett Street between Woodbury Avenue and Maplewood Avenue.	2	1	1	1	5	Low	High	Short	Low
Southwest to Downtown	11	Convert Stark Street to a bicycle boulevard to improve access to New Franklin School.	2	2	1	1	6	Low	High	Short	Low
Northwest to Downtown	6	Add shared use path on Woodbury Avenue between Portsmouth border and Market Street.	3	3	2	2	10	High	Medium	Long	High
Northwest to Downtown	1a	Continue existing shared use path on Market Street between Woodbury Avenue and Kearsarge Way and between railroad tracks and Russell Street. Maintain existing shared use path between Kearsarge Way and Cutts Street. Tighten intersection geometry and stripe bicycle markings through Market Street and Russell Street intersection.	3	3	2	2	10	High	Low	Long	High
Northwest to Downtown	1b	Upgrade existing bike lanes on Market Street between Cutts Street and Submarine Way to separated bike lanes.	3	3	2	2	10	High	Medium	Medium	Medium
Northwest to Downtown	7a	Add a shared use path on Woodbury Avenue between Market Street and Rockingham Avenue.	3	3	3	2	11	High	Medium	Long	High
Northwest to Downtown	4	Explore separated bike lanes on Maplewood Avenue between Emery Street and Dennett Street and between Deer Street and Congress Street/Islington Street. Enhance existing bike lanes between Dennett Street and Deer Street.	3	2	2	1	8	Medium	Low	Medium	Medium
Northwest to Downtown	8	Convert bike lanes to a shared use path on east side of Woodbury Avenue between Rockingham Avenue and Dennett Street.	3	2	1	2	8	Medium	Low	Long	High
Northwest to Downtown	7b	In the interim, designate bike boulevards on Echo Avenue, Hillcrest Drive/Longmeadow Lane, Maple Street/Meadow Road, and Farm Lane and add a shared use path connection on the unimproved ROW between Longmeadow Lane and Farm Lane as lower-stress alternative routes for Woodbury Avenue.	2	2	3	1	8	Medium	Medium	Short/Medium	Medium
Northwest to Downtown	2	Replace pedestrian bridge on Market Street with upgraded at-grade crossing.	3	2	2	1	8	Medium	Medium	Medium	High

Cut Sheet	Project	Description	Safety & Accessibility	Connectivity	Equity	Public Realm Enhancement	Total Score	TOTAL	Feasibility	Timeframe	Life Cycle Cost
Northwest to Downtown	3	Designate as a bike boulevard on Market Street between Russell Street and Congress Street.	2	2	1	1	6	Low	High	Short	Low
Northwest to Downtown	5	Designate as a bike boulevard on Bartlett Street/Dennett Street between Woodbury Avenue and Islington Street.	2	2	1	1	6	Low	High	Short	Low
Northwest to Downtown	9	Add wayfinding and bike boulevard on Cutts Street and add curb cuts and ramps between Cutts Street path and Market Street.	2	2	1	1	6	Low	High	Short	Medium
Northwest to Downtown	10	Add warning signs for cyclists at approaches to rail tracks on Maplewood Avenue and Market Street.	2	1	1	1	5	Low	High	Short	Low
North-South Connections	5	Add a shared use path on Lafayette Road between Elwyn Road and Greenleaf Avenue.	3	3	2	3	11	High	Low	Long	High
North-South Connections	6	Add a shared use path on West Road between Peverly Hill Road and Campus Drive.	3	2	2	3	10	High	Medium	Long	High
North-South Connections	8	Continue progress on US Route 1 Corridor Project in coordination with NHDOT.	3	3	3	3	12	High	Medium	Medium	High
North-South Connections	1	In coordination with NHDOT, improve pedestrian crossings along Lafayette Road at Wilson Road.	2	2	2	2	8	Medium	Medium	Short	Low
North-South Connections	2	In coordination with NHDOT, improve pedestrian crossings along Lafayette Road at White Cedar Boulevard.	2	2	2	2	8	Medium	Medium	Short	Low
North-South Connections	3	In coordination with NHDOT, improve pedestrian crossings along Lafayette Road at Heritage Avenue.	3	2	2	1	8	Medium	Medium	Short	Low
North-South Connections	4	In coordination with NHDOT, improve pedestrian crossings along Lafayette Road at Ocean Road.	2	2	2	2	8	Medium	Medium	Short	Low
North-South Connections	7	Add wayfinding on Barberry Lane to the New Hampshire Seacoast Greenway.	2	1	1	2	6	Low	High	Short	Low
East-West Connections	1	Improve crossing at Elwyn Road/Peverly Hill Road and Lafayette Road.	3	3	3	1	10	High	Medium	Medium	Medium
East-West Connections	2	Add shared use path on Greenland Road between Sherburne Road and Peverly Hill Road and on the north side of Middle Road/South Street between Peverly Hill Road and Lafayette Road.	3	3	2	2	10	High	Medium	Long	High
East-West Connections	3	Continue shared use path on Constitution Avenue between Lafayette Road and Banfield Road.	3	3	3	3	12	High	Medium	Long	High
East-West Connections	4	Add shared use path to Heritage Avenue between Lafayette Road and Banfield Road.	3	3	3	3	12	High	Medium	Long	High
East-West Connections	5	Add off-road connections between Freedom Circle and the New Hampshire Seacoast Greenway and between Nathaniel Drive and the New Hampshire Seacoast Greenway.	3	3	1	3	10	High	Medium	Long	High
East-West Connections	8	Add shared use path connection on Longmeadow Road/Lang Road between Lafayette Road and the Rye border.	3	3	3	2	11	High	Low	Long	High
East-West Connections	10	Continue progress on shared use path connection on Banfield Road between New Hampshire Seacoast Greenway to Campus Drive. Add a trailhead connection to the New Hampshire Seacoast Greenway.	3	3	3	3	12	High	Medium	Long	High
East-West Connections	11	Continue progress on Elwyn Road Side Path, Elwyn Park Sidewalks and Traffic Calming, and Peverly Hill Road Complete Street projects.	3	3	2	3	11	High	High	Long	High
East-West Connections	6a	Add sidewalks on Elwyn Road to Rye border.	3	3	2	1	9	High	Medium	Medium	Medium
East-West Connections	6b	Improve off-road connection between Elwyn Road and Odiorne Point Road.	3	3	2	2	10	High	High	Medium	Medium
East-West Connections	7	Add sidewalk on Campus Drive to fill gaps.	2	2	1	2	7	Medium	High	Medium	Medium
East-West Connections	9	Formalize off-street connection between Lafayette Plaza Shopping Center parking lot and Ledgewood Drive.	2	2	2	2	8	Medium	Low	Medium	Medium
East-West Connections	6c	Continue to progress Elwyn Road crossing at Harding Road.	2	2	2	1	7	Medium	High	Short	Low
Connections to Pease	2	Update pedestrian bridge at Greenland Road to accomodate bicycles.	2	3	1	1	7	Medium	Medium	Medium	Medium
Connections to Pease	3	Formalize bike boulevard and path connection on Sherburne Road between Grafton Road and Greenland Road.	2	3	1	1	7	Medium	High	Short	Low
Connections to Pease	5	Coordinate with the Pease Development Authority to add a crossing across Grafton Road at the Portsmouth Transportation Center.	2	3	1	2	8	Medium	Medium	Short	Low
Connections to Pease	6	Complete sidewalk on Edmond Avenue and convert into a Neighborhood Slow Street by removing the center line and designating as a bike boulevard, enabling a low-stress connection to Ashland Road path.	3	2	1	2	8	Medium	Medium	Medium	Medium
Connections to Pease	8	Add shared use path on Gosling Road/Newington Street between Woodbury Avenue and International Drive.	3	3		2	8	Medium	Low	Long	High
Connections to Pease	1	Add bike route wayfinding to and from the Transportation Center.	1	2	1	2	6	Low	High	Short	Low
Connections to Pease	4	Coordinate with the Pease Development Authority to add an enhanced pedestrian crossing across Grafton Road at Sherburne Road path.	2	2	1	1	6	Low	Medium	Short	Low
Connections to Pease	7	Add wayfinding on Edmond Avenue and Rockingham Avenue to and from the Ashland Road path. Add a Rectangular Rapid Flashing Beacon to enhance the pedestrian crossing at Rockingham Avenue and Woodbury Avenue for connection to the bike path.	2	2	1	1	6	Low	High	Short	Medium

2014 Priority	2024 Recommendation	5 Es	Lead Jurisdiction	Associated City Department/Office	Frequency	Safety	Promote Walking and Biking	Remove Barriers	2025 Priority	Same as 2014?	Feasibility	Cost/Level of Effort
High	**Provide bicycle safety classes for adults.** Classes should include education on safe riding skills, bicycle safety checks, rules of the road for bicyclists, and bicycle facilities and infrastructure. Provide support and partnership to organizations like SABR who provide these classes.	Education	Community	Planning Dept	Ongoing	2	3	2	High	Yes	High	Low
High	**Provide bicycle safety classes for children on a regular cycle.** Courses should instruct children how to ride a bicycle, complete a bicycle safety check, safe riding skills, and the rules of the road. Schools should offer bicycle safety courses as part of the Safe Routes to School program or through other programming. Identify opportunities for key partners beyond schools.	Education	City	School Dept	Ongoing	2	3	2	High	Yes	Medium	Low
Med	**Distribute informational brochure on bicycling rules and responsibilities.** Provide support and partnership to BWANH and SABR to distribute brochures to realtors, businesses, schools, and City departments with information and education about bicycle facilities, laws, and safe riding. Promote the brochures through a City web page dedicated to bicycle safety in Portsmouth.	Education	City	Planning Dept	Ongoing	2	2	1	Medium	No	High	Low
Med	**Provide bicycle maintenance classes for youths and adults.** Bicycle maintenance classes provide the basic skills needed for casual riders to maintain bicycles for transportation and recreation. Provide support and partnership to	Education	Community	Planning Dept	Ongoing	2	2	2	Medium	No	Medium	Low
Med	**Provide education and training to City staff on bicycle and pedestrian planning and engineering**. Education may include online or in-person training from Association of Pedestrian and Bicycle Professionals, Pedestrian and Bicycle Information Center, American Planning Association, Institute of Transportation Engineers, or other organizations. Host mandatory training sessions on an annual	Education	City	Public Works Dept	Ongoing	3	1	1	Medium	No	High	Low
Med	**Provide education and ongoing training to law enforcement personnel on bicycle and pedestrian rights and responsibilities.** Education may include online or in-person training from Association of Pedestrian and Bicycle Professionals, Pedestrian and Bicycle Information Center, American Planning Association, Institute of Transportation Engineers, or other organizations. Provide resources for optional training in addition to ongoing informal roll call settings related to safety for people walking and biking.	Education	City	Police Dept	Ongoing	2	1	1	Low	No	High	Low
High	**Develop biking and walking maps.** Printed and online verstion should be developed and include information such as preferred bike routes, walking paths and trails, distances between major destinations, sites of interest, transit stops, and other amenities such as public restrooms and water fountains. Maps can be distributed at events, civic and social services, schools, and local businesses.	Encouragement	City	Planning Dept	5 years	1	3	3	High	Yes	Medium	Medium

2014 Priority	2024 Recommendation	5 Es	Lead Jurisdiction	Associated City Department/Office	Frequency	Safety	Promote Walking and Biking	Remove Barriers	2025 Priority	Same as 2014?	Feasibility	Cost/Level of Effort
High	**Promote Safe Routes to School program**. Safe Routes to School participation can take the form of organizing annual walk events (such as International Walk to School Day), data collection, walking school buses, bike trains, walking and biking curricula, and monthly walk to school events. Update City web page to reflect integration of SRTS into the Transportation Alternatives Program (TAP) and current information.	Encouragement	City	School Dept	Ongoing	2	3	2	High	Yes	Medium	Medium
Low	**Leverage the City's wayfinding program to better promote walking, biking, and transit directions.** The City adopted a Wayfinding Plan in 2014. Wayfinding helps people, especially those not familiar with Portsmouth, know their transportation options and will increase the visibility of walking and biking in Portsmouth. As the bike and shared use path networks in Portsmouth expand, updating maps and signing to incorporate and direct people to these facilities.	Encouragement	City	Planning Dept	Ongoing	1	2	2	Medium	No	Medium	Medium
Low	**Organize and promote regular biking groups and special biking events.** These may include the popular Portsmouth Criterium, a cyclovia event (where streets are closed to vehicular traffic), midnight bicycle rides, Bike to Work day, or other	Encouragement	Community	Planning Dept	Ongoing	1	3	2	Medium	No	High	Medium
Med	**Organize and promote regular walking groups and special walking events.** The Senior Services Center holds regular walking groups for seniors. The City and other organizations should expand walking groups around other demographics, geographic location, or interests (e.g. mom & baby, Pease lunchtime walks, Strawberry Banke weekly walks, seniors walk with kids to school). Special walking events may include holiday or seasonal themed walks with businesses, walking challenges (distance over time), Walk to Work Days, International Walk to School Day, or other events that encourage people of all ages and abilities to walk.	Encouragement	Community	Recreation Dept	Ongoing	1	3	2	Medium	No	High	Medium
Med	**Promote/Expand Commuter Choice Program. Encourage businesses to promote commuting options for employees through development agreements or voluntarily.** Programs may include incentives for walking and biking, a guaranteed ride home program, flexible hours, or other programs to encourage employees to include walking or biking in their commutes. Businesses can join the commuteSMART Seacoast TMA to take advantage of their emergency ride	Encouragement	Community	Planning Dept	Ongoing	1	2	2	Medium	No	Medium	Low
Low	**Provide bike valet service at City-hosted events.** Volunteers can valet bicycles to temporary parking for events, helping reduce overflow of bicycle parking and illegal bicycle parking, and helping to increase the visibility of bicycling.	Encouragement	Community	Public Works Dept	Ongoing	1	2	2	Medium	No	High	Low
Low	**Provide resources in the form of guidance or program for amenities.** In retail districts, amenities such as benches, planters, or bike parking can be provided by businesses individually or coordinated as a street furniture program. Beautification projects can be supported through the Adopt-A-Spot Program.	Encouragement	City	Planning Dept	Ongoing	1	2	2	Medium	No	Medium	High
Med	**Maintain Walk- and Bike- Friendly Community designations.** Walk- and Bike-Friendly Community (WFC and BFC) designations can be earned from the League of American Bicyclists and the Pedestrian and Bicyclist Information Center.	Encouragement	City	Planning Dept	Ongoing	1	2	1	Low	No	Medium	Low
Low	**Organize regular Open Street events.** During these events, such as the "Summer in the Street" events, streets are closed to traffic and open to the community for exercise, recreation, shopping, and general enjoyment during open street events. These events are an opportunity to promote walking and biking education and	Encouragement	City	Planning and Public Works Dept	Annual	1	2	1	Low	Yes	High	Medium
Low	**Promote Bike Benefit program for shoppers.** SABR operates a Bike Benefits program that entitles bicycle riders to discounts from local retailers. Bike Benefit programs may also include special hours on bike event days or special events promoting biking to retail.	Encouragement	Community	Planning Dept	Ongoing	1	2	1	Low	Yes	Medium	Low

2014 Priority	2024 Recommendation	5 Es	Lead Jurisdiction	Associated City Department/Office	Frequency	Safety	Promote Walking and Biking	Remove Barriers	2025 Priority	Same as 2014?	Feasibility	Cost/Level of Effort
Low	**Promote Bike-Friendly Business program.** Bike-friendly business programs recognize businesses that offer programs and amenities to employees to encourage bicycling or walking to work, such as financial incentives, bicycle parking, and office shower facilities. Organizations like CommuteSMART Seacoast could organize their own program or encourage businesses to apply for an existing bike-friendly recognition program (such as the League of American	Encouragement	Community	Planning Dept	Ongoing	1	2	1	Low	Yes	High	Low
	Develop a policy to guide the use of speed feedback signs. The policy should define when and where speed feedback signs should be installed.	Enforcement	City	Public Works Dept	Once	3	1	2	Medium	n/a	Medium	Low
	Establish policies to guide the use of e-mobility devices and other motorized devices. As more devices become available on the market, determine acceptable classifications of e-mobility devices for bicycle facilities, shared use paths, and other mixing areas. Electric devices are banned from sidewalks. The City should determine regulations for the use of electronic devices on roadways, bicycle facilities, and shared use path facilities. All regulations and etiquette should be	Enforcement	City/State	Planning Dept	Once	2	1	2	Medium	n/a	Medium	Low
High	**Require traffic management plans during construction to provide for pedestrian and bicycle travel.** The City should review traffic management plans for signs, detours, and temporary accommodations that maintain ADA-compliant	Engineering	City/StateDOT	Public Works Dept	5 years	3	2	3	High	Yes	High	Low
Low	**Use the Bicycle and Pedestrian Master plan for project and development review.** Compare all proposed capital projects and development reviews to the infrastructure recommendations in the Bicycle and Pedestrian Master Plan for opportunities to implement recommendations.	Engineering	City	Public Works Dept	Ongoing	3	2	2	High	No	High	Low
High	**Complete transit access study focused on the siting and conditions of transit stops.** Transit stops should be accessible to disabled persons and connect to sidewalks. Stop locations should be audited for crosswalks and warning signage to improve the visibility and safety of pedestrians using the transit stop. Opportunities for partnership between Rockingham Planning Commission (RPC),	Engineering	Rockingham Planning Commission	Planning Dept	5 years	2	2	2	Medium	No	High	Low
Med	**Continue to coordinate with COAST to conduct spot improvements at transit stops.** Improvements may include upgrading signage, installing shelters or seating, lighting, route maps, and schedules.	Engineering	COAST	Planning Dept	Ongoing	1	2	3	Medium	No	Medium	High
Low	**Create a bicycle parking program.** The City should create a bike parking request system and install new bike racks and bike parking corrals in areas of high	Engineering	City	Public Works Dept	Annual	1	2	3	Medium	No	Medium	Medium
High	**Improve snow clearance procedures.** Continue to modify snow clearance activities to improve access to pedestrian ramps and crosswalks at intersections and to improve access to pedestrian activation buttons. Encourage voluntary	Engineering	City	Public Works Dept	Seasonal	2	1	3	Medium	No	Medium	High
Med	**Include on- and off-road bicycle facilities in maintenance programs.** Bike lanes and off road paths should be cleared of debris and snow, year-round. Bicycle facilities should be added to street sweeping and snow clearance programs.	Engineering	City	Planning Dept	Once	2	1	3	Medium	No	Medium	High
Low	**Install bicycle and pedestrian wayfinding.** Bicycle and pedestrian wayfinding should include navigation to popular destinations, time and/or distance to destination. This should be integrated with Citywide wayfinding plan for all	Engineering	City	Public Works Dept	Ongoing	1	2	3	Medium	No	Medium	Medium
Low	**Install public bike maintenance stations.** Public maintenance stations allow bicyclists to fill tires with air and complete minor repairs. These stations offer convenience to bicyclists and increase the visibility of bicycling in the community.	Engineering	City	Public Works Dept	Ongoing	1	2	2	Medium	No	High	Medium
	Purchase necessary equipment to plow sidewalks and bike facilities. Narrow plows are be used on both sidewalks and separated bike facilities to support clear	Engineering	City	Public Works Dept	Once	1	1	3	Medium	n/a	Medium	Medium
Med	**Require installation of wheel guards on municipally-owned or contracted heavy vehicles.** Wheel guards prevent bicyclists from being pulled under the wheels of	Engineering	City	Public Works Dept	Ongoing	3	1	1	Medium	No	Medium	Medium
Med	**Require restoration of all pedestrian and bicycle pavement markings after street utility repairs.** Include pavement markings as part of inspection list for utility repairs. Supply pavement marking plans with street opening permits.	Engineering	City	Public Works Dept	Ongoing	3	1	2	Medium	No	Medium	Low

2014 Priority	2024 Recommendation	5 Es	Lead Jurisdiction	Associated City Department/Office	Frequency	Safety	Promote Walking and Biking	Remove Barriers	2025 Priority	Same as 2014?	Feasibility	Cost/Level of Effort
Med	**Organize volunteer path maintenance events.** The City should partner with local organizations such as New Hampshire Seacoast Greenway (NHSG) and SABR to have volunteers conduct seasonal maintenance on off-road paths. Maintenance may include trash pickup, sweeping, cleaning of vandalism, and reporting areas in need of more	Engineering	City/State	Planning Dept/Conservation Commission	Seasonal	1	2	1	Low	No	Medium	Low
	Adopt a Safe System Approach. A Safe System Approach is a guiding paradigm adopted by the U.S. DOT's National Roadway Safety Strategy that focuses on both human mistakes and human vulnerability to design a system with many redundancies in place to protect all road users. Safety programs should be focused on infrastructure, human behavior, responsible oversight of the vehicle and transportation industry, and emergency response. This approach is also	Evaluation	City	Planning Dept	Once	3	2	2	High	n/a	Medium	Low
High	**Establish a standing pedestrian and bicycle advisory committee.** A bicycle and pedestrian advisory committee can assist the City in evaluating and sustaining walking and biking policies and programs.	Evaluation	City	Planning Dept	Ongoing	2	3	2	High	Yes	Medium	Medium
Med	**Establish Quick-Build program to review recommended spot improvements and proposed bike boulevards for potential near-term trial improvements.** Some recommendations may be candidates for temporary or low- cost interim improvements. This will allow the City to try out recommendations before	Evaluation	City	Planning Dept	Ongoing	3	2	2	High	No	Medium	Medium
Med	**Collect and analyze bike counts.** The City should complete annual counts of bicyclist volumes at key locations throughout the City to track bicycle use. Counts can be collected through electronic data from built-in detectors at signals and spot counts can be conducted as needed.	Evaluation	City	Public Works Dept	Annual	2	2	1	Medium	No	High	Medium
High	**Collect bicycle and pedestrian crash data annually.** The City should collect bicycle and pedestrian crash data and regularly monitor and assess locations and conditions of bicycle and pedestrian crashes to identify crash trends.	Evaluation	City	Police Dept	Annual	3	1	1	Medium	No	High	Low
Low	**Conduct a feasibility study for a privately-operated bike share.** Bike share programs can increase bicycle mode share, provide an amenity to visitors, and	Evaluation	City	Planning Dept	Once	1	3	2	Medium	No	Medium	Medium
	Create and maintain a database of local, state, and federal funding sources and grant opportunities for tracking. Tracking regular funding opportunities and	Evaluation	City	Planning Dept	Ongoing	2	2	2	Medium	n/a	High	Medium
Low	**Establish a vehicle miles travelled (VMT) reduction target.** The City should set a target VMT reduction percentage by a specific date. This will provide a benchmark	Evaluation	City	Planning Dept	5 years	1	3	1	Medium	No	High	Low
Low	**Establish bicycle and pedestrian mode share target goals.** The City should set target mode shares for walking and biking. Mode share can be tracked through	Evaluation	City	Planning Dept	5 years	1	3	1	Medium	No	High	Low
Med	**In accordance with the Complete Street policy, provide an annual status report on the impact of same policy.** Audit complete projects and note the frequency	Evaluation	City	Planning Dept	Annual	2	2	2	Medium	No	High	Medium
Med	**Review the Bicycle and Pedestrian Plan and provide a status report every two years.** Regular review of the plan will help inform ongoing initiatives and long-term project planning. Status reports can include performance metrics to measure the progress of recommendations from the plan.	Evaluation	City	Planning Dept	Every two years	2	2	2	Medium	No	High	Medium