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# Barrington Complete Streets Implementation Plan

## Town of Barrington

Barrington, RI

Adopted by Barrington Town Council on April 7, 2025

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# 1 Introduction and Purpose

Barrington, RI has been a leader in planning for expansion of its Complete Streets network. The term "Complete Streets" refers to an approach to planning, designing, building, operating, and maintaining streets that enables safe access for all people who need to use them, including pedestrians, bicyclists, motorists, and transit riders of all ages and abilities.

In 2022, the Town formulated and adopted its first Complete Streets Plan which laid out a vision for a network of complete streets and identified many possible projects to achieve that vision. In the intervening period, the Town has taken steps to improve facilities for pedestrians and cyclists, but many **stakeholders and community leaders want to accelerate the pace of implementation of the Complete Streets network**.

This document, the *Barrington Complete Streets Implementation Plan* builds upon the foundation of the adopted 2022 Complete Streets Plan prepared by the Town of Barrington and its consultant VHB. Created in collaboration with Town staff, the appointed Bicycle and Pedestrian Advisory Committee (BPAC), the Implementation Plan provides a detailed roadmap by which to build the network the Town Council adopted as its vision of Barrington's future.

This *Implementation Plan* was adopted by the Barrington Town Council on April 7, 2025 and provides a road map for action by prioritizing discrete projects for implementation to maximize whole network connectivity as soon as possible. It also provides detailed methods for advocating for projects on State roads, and funding mechanisms for implementing more projects each year. The *Barrington Complete Streets Implementation Plan* is intended to be incorporated into the Town's Comprehensive Community Plan in order to enable its contents and recommendations to become actionable by the Town Council, Town boards and commissions, and municipal staff.

A survey of residents conducted as part of the 2025 Comprehensive Planning process identified walking and biking as, by far, the two most common outdoor activities for residents, and named improved sidewalks and bike paths as their top infrastructure priorities. However, walking and biking are not only recreation and are not a frivolity. Barrington residents want to be able to safely commute to school, access the East Bay Bike Path to commute to work, go to the nearest market to get a loaf of bread and cycle to dinner downtown; all without having to use a motor vehicle.

# 2 Building on Existing Planning and Accelerating Implementation

## 2.1 Clarifying the Vision: What is Barrington's Complete Streets Network When Completed?

Barrington's existing roadway network is designed primarily for vehicles and only a limited areas are served by dedicated pedestrian and cycling infrastructure. This is a substantial but surmountable challenge in creating a Complete Streets network and improvements will be critical to establishing and maintaining an interconnected network to equitably service all types of users.

Removing or reducing the gaps and barriers that limit both neighborhood and townwide travel for non-motorized road users is the most critical step in creating a Complete Streets network. Examples of these gaps and barriers include missing sidewalks and inadequate bicycle facilities, especially on major connectors that link key uses that cyclists and walkers seek to access.

Another important goal that can be achieved as the Town creates its Complete Streets network is to make its streets safe and accessible for all users. This goes beyond the legally mandated requirements of the Americans with Disabilities Act (ADA) to the goals of making non-motorized movement universally accessible by residents of all abilities and ages. Barrington can aspire to the global rule of thumb that communities should be safe and usable for eight-year-olds AND eighty-year-olds. The child on the tricycle, the walker, the cyclists (of all abilities) and the person in the wheelchair or with a walker should have the ability to:

- move through the landscape as easily and safely as those with cars,
- cross the street safely,
- walk/roll on sidewalks,
- ride their bicycles on the street,
- connect to regional transit, and
- all this should happen without fear, injury or death.

If we design for the 8- and the 80-year-olds, then everyone else in between those ages will be able to move about comfortably and safely as well.

## 2.2 Updating and Implementing the Barrington Complete Streets Plan in 2025

Implementation of the adopted Complete Streets Plan requires a long-term view, expanded financial resources and successful advocacy with State and Federal funders and decision makers. This Complete Streets Implementation Plan updates the 2022 Complete Streets Plan by:

- Aggregating expanded community inputs to identify gaps in the bicycle and pedestrian route networks
- An analysis of existing safety concerns that guide facility and intersection upgrades to reduce risk.
- Identifying community activity nodes that generate high levels of bike/pedestrian users to guide prioritization of facilities upgrades.
- Prioritizing the implementation of projects so that Town actions will have maximum benefits for the largest groups of residents and facility users.

- Recognizes that the majority of gaps in the bicycle and pedestrian route networks are on State roadways. Because of this reality, we make recommendations for increased advocacy with State agencies whenever possible to improve State roads. Where State resources cannot be increased, we provide guidance for coordinated municipal actions where necessary.
- Incorporates resilience to climate events in project assessment and design recommendations.
- Provides concept designs for the top five (5) priority projects for immediate implementation.

# 3 Existing Conditions

### 3.1.1 Transportation Infrastructure

We must begin by acknowledging that the existing transportation (primarily roadway) network is designed primarily for car and truck drivers and represents a substantial but surmountable challenge in creating a Complete Streets network. This network spans all roadway types ranging from major arterial roads (frequently owned and managed by the State of Rhode Island), through local connectors (either under State or Town jurisdiction) and local streets (typically owned by the Town). The quality of pedestrian and bicycle facilities on all these roadway types currently varies widely, improvements will be critical to establishing and maintaining an interconnected network to equitably service all types of users.

For much of the past 100 years, American communities have designed and built roadways primarily for the movement of motorized vehicles, especially passenger cars. The resulting network provides very few facilities for pedestrians, typically narrow sidewalks that are disconnected from other sidewalks. There are even fewer facilities for cyclists (with the notable exception of the East Bay Bike Path). Barrington epitomizes these long-term historical trends.

#### Roads

Barrington has approximately 110 miles of State and Town-maintained roadways (Figure 1). Barrington's major artery is County Road (Route 114/103), the only direct route connecting Barrington with the neighboring community of Warren, with bridge crossings at the Barrington River and the Palmer/Warren River. Local roads, which account for about 75 percent of the total road length, provide access within neighborhoods and districts. These streets generally lack sidewalks and have low vehicular traffic volumes. Critical transportation corridors that are priority multimodal roadways are classified as arterials and collectors (Figure 2 and list below).

#### Expressway - State Roads

- Wampanoag Trail/County Road (RI 114 and RI 103/114) from East Providence Line to north of the County-Massasoit intersection

#### Principal Arterials - State Roads

- County Road (RI 103) from Riverside to the merge with Wampanoag Trail (RI 114)
- County Road (RI 103/114) from north of County-Massasoit intersection to Warren line

#### Minor Arterials - State Roads

- Massasoit Avenue
- Middle Highway from Nayatt Road to County Road
- Nayatt Road from Rumstick Road to Middle Highway
- New Meadow Road from Massasoit Avenue to Sowams Road
- Rumstick Road from County Road to Nayatt Road
- Sowams Road

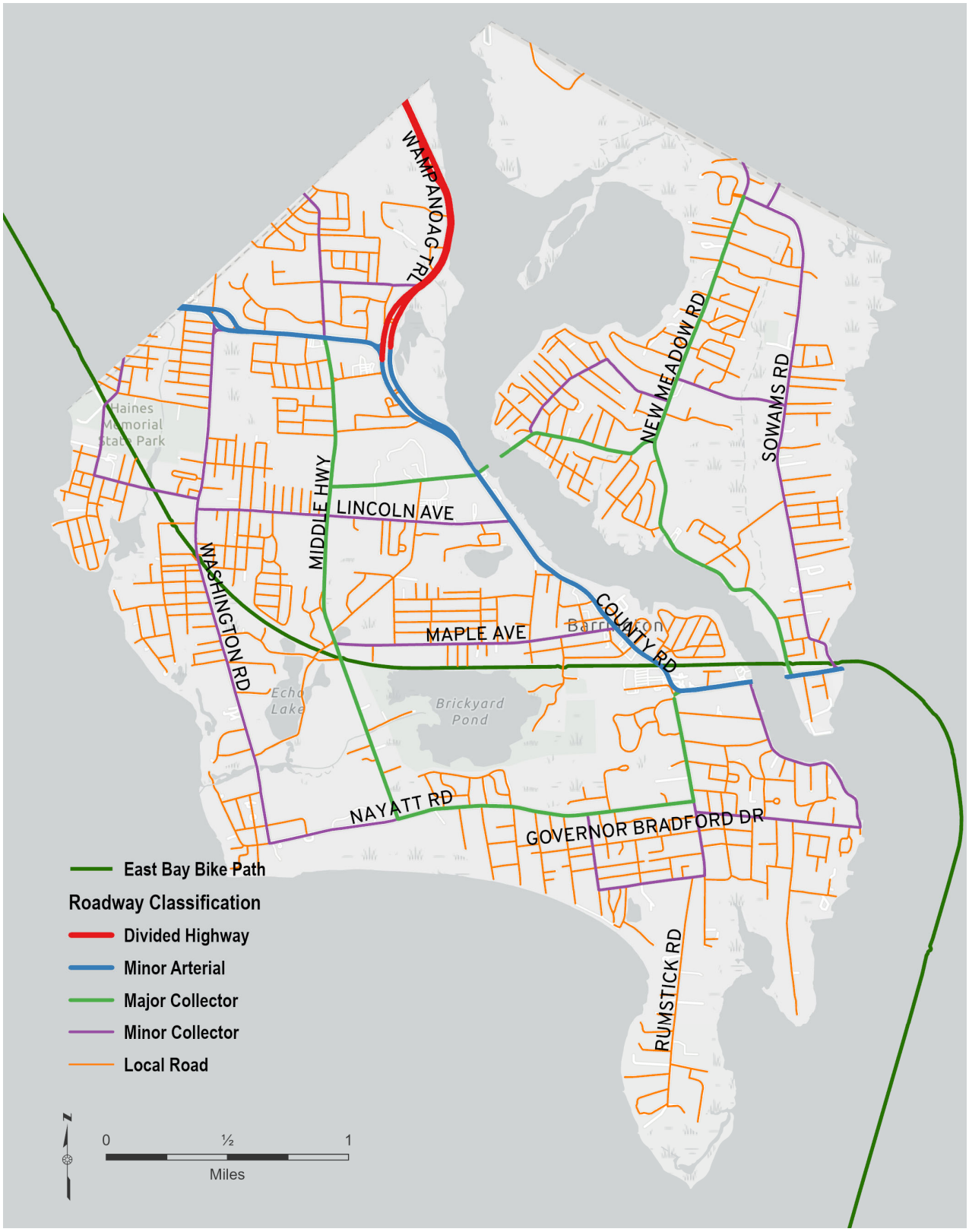



*Figure 1: Roadway classification based on FHWA standards*

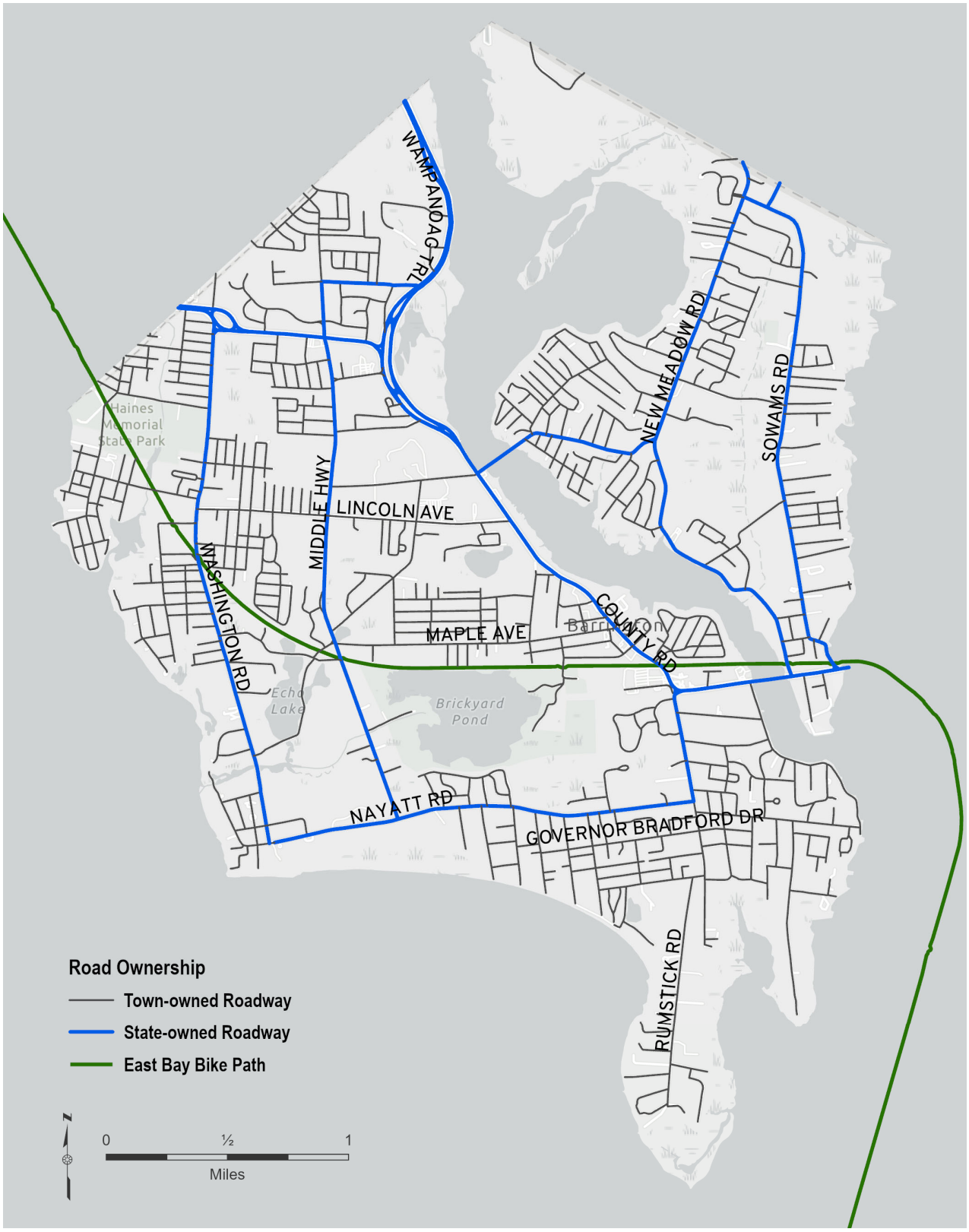



*Figure 2: Town-owned and State-owned roadways in Barrington*

### Collectors - State Roads

- Barneyville Road
- Middle Highway from County Road to Primrose Hill Road
- Nayatt Road from Middle Highway to Washington Road
- New Meadow Road from Massasoit Avenue to County Road, and from Sowams Road to Massachusetts line
- Primrose Hill Road
- Washington Road

### Town Roads

- Bay Road from Nayatt Road to Chachapacassett Road
- Bay Spring Avenue from Washington Road to Narragansett Avenue
- Chachapacassett Road
- Federal Road
- Ferry Lane
- Kent Street
- Lamson Road from Martin Avenue to New Meadow Road
- Lincoln Avenue
- Mathewson Road
- Metropolitan Park Drive to East Providence line
- Maple Avenue
- Martin Avenue
- Narragansett Avenue from Bay Spring Avenue to Metropolitan Park Drive
- Rumstick Road from Nayatt Road to Chachapacassett Road

### Private Roads

Private Roads represent a small fraction of the street network. The most significant are Mallard Cove Way off New Meadow Road and Woodhaven Road off Nayatt Road. The remaining private streets are short dead-end roads serving up to two lots.

### Existing Right of Way (ROW) widths

Barrington has a Right of Way scarcity on many of the roadways in which it may wish to see have expanded bicycle and pedestrian facilities. This takes many forms:

- Narrow ROW width where the State or Town owned land is narrow, only accommodating the existing paved surfaces for shared auto, bike and pedestrian traffic. This is especially true on older roadways.
- Roadways with a moderate ROW, but where the existing configuration of paved roadway surfaces and accompanying infrastructure such as sidewalks, utility poles, stormwater drainage systems are placed in such a way as to inhibit expansion of bike and pedestrian facilities.
- Moderate ROW but where the ROW includes environmentally sensitive areas such as wetlands. Expansion of bike/ped facilities into these areas may be difficult to permit and costly to construct.

### Bridges

Roadway Bridges: The State owns and maintains the three roadway bridges in town: Veterans Memorial Bridge ("White Church Bridge" or "Central Bridge"), the Lance Corporal Victor Patrick Andreozzi and Vietnam Veterans Bridge (Barrington River Bridge) and Warren River Bridge, all replaced since 2010. The bridges all have sidewalks on both sides, but no provisions for bicycles . Temporary modifications to the Barrington and Warren River Bridges in 2021 provided additional width for bikes and pedestrians on the north side of the bridge by removing the guardrails and constructing an 8-foot-wide wood walkway, protected from vehicular traffic by jersey barriers placed in the shoulder of the roadway. These measures are to remain in place until the East Bay Bike Path bridges are replaced over both rivers.

Bike Path Bridges: The bike path bridges over the Barrington River and Warren River, originally railroad bridges built about 100 years ago, were closed in 2019 due to concerns about the severely deteriorated condition. The State has been engaged in construction to replace the bridges and completion is expected in 2025.

### Bikeway System - State

The East Bay Bicycle Path ties together Bristol, Warren, Barrington, and East Providence, as well as Providence via the I-195 bridge. Many types of users frequent the bike path – walkers, joggers, and bicyclists, including commuters. The bike trail is owned by the RI Department of Transportation (RIDOT) and maintained by the RI Department of Environmental Management (RIDEM). In Barrington, the Bike Path is centrally located and directly connects local neighborhoods with a range of destinations including Haines State Park, Bicknell Park, the Bayside Y and Veterans Park, and the downtown Barrington and Bay Spring areas.

### Bikeway System – Town

The Town has just one street with in-street (unprotected) bike lanes – on Kent Street, about a half mile in length. The Town also has striped "sharrows" (share the road) markings in the travel lanes of Wood Avenue, about 600 feet in length, installed as part of the 2018 Village Center Streetscape Project.

### Sidewalk System

Barrington has approximately 17 miles of sidewalks on public roads. The sidewalks are primarily along major thoroughfares and in the vicinity of the schools, commercial areas, and the Government Center.

The Town has made progress toward adding sidewalks along critical transportation corridors, with more than1.25 miles of new sidewalks built within Barrington since 2015 (see Table 4.2). Overall, there remain significant gaps in the town's sidewalk system, limiting the community's access to safe, connected pedestrian environment. One of the main objectives of this Plan is to identify and prioritize projects to focus on the critical sidewalk needs first – such as in the vicinity of schools, commercial areas, and mixed-use districts.

### New and Rebuilt Sidewalks (Built Since 2015) include:

- Bay Spring Ave. at 60 Bay Spring (200 feet by Developer)
- Sowams Rd. at Coach Murgo Ln to Zompa Rd. (700 feet by Developer)
- Sowams Rd. at Zompa Rd. to Crossways St. (300 feet by Town with Fee in Lieu Fund)
- Coach Murgo Ln. (1,090 feet) by Developer
- Waseca Ave. West of Wood Ave. (190 feet) by Developer
- West Street at Maple Ave. to Bike Path (790 feet) by Town with Streetscape Bond

- Cottage St. at Hamilton Ave. to Maple Ave. (235 feet) by Town with Streetscape Bond
- Wood Ave. (1,235 feet) by Town with Streetscape Bond
- Middle Hwy. at Bike Path to Seven Oaks Dr. and Western Ave. to Sherwood Ln. (1,475 feet) by State with Safe Routes to School Grant
- Middle Hwy. at Sherwood Lane to St. Andrew's Farm (2,650 feet) by State with Safe Routes to School Grant
- Lincoln Ave. at Middle Hwy. to BMS driveway (540 feet) by Town with Middle School Bond
- Lincoln Avenue at Middle Hwy. to Washington Road (3,236 feet) by Town with State with Safe Routes to School Grant

*Source: Town of Barrington*

While this infrastructure is impressive, we must recognize that bike and ped facilities are still the exception on Barrington roadways and neighborhoods, not the rule. As Figure 3 shows, the key elements are:

- East Bay Bike Path
- Bicycle facilities on Kent Street and Wood Street
- Sidewalks along State roads:
    - County Road (RI-114)
    - Middle Highway (sections near Middle School)
- Sidewalks along Town roads:
    - Rumstick Road (section to Nayatt)
    - Nayatt Road (sections to serve school)
    - Maple Avenue (frequently substandard)
    - Washington Road (sections, frequently substandard)
    - Bay Spring Avenue
    - New Meadow Road
    - Sowams Road (sections to serve school)

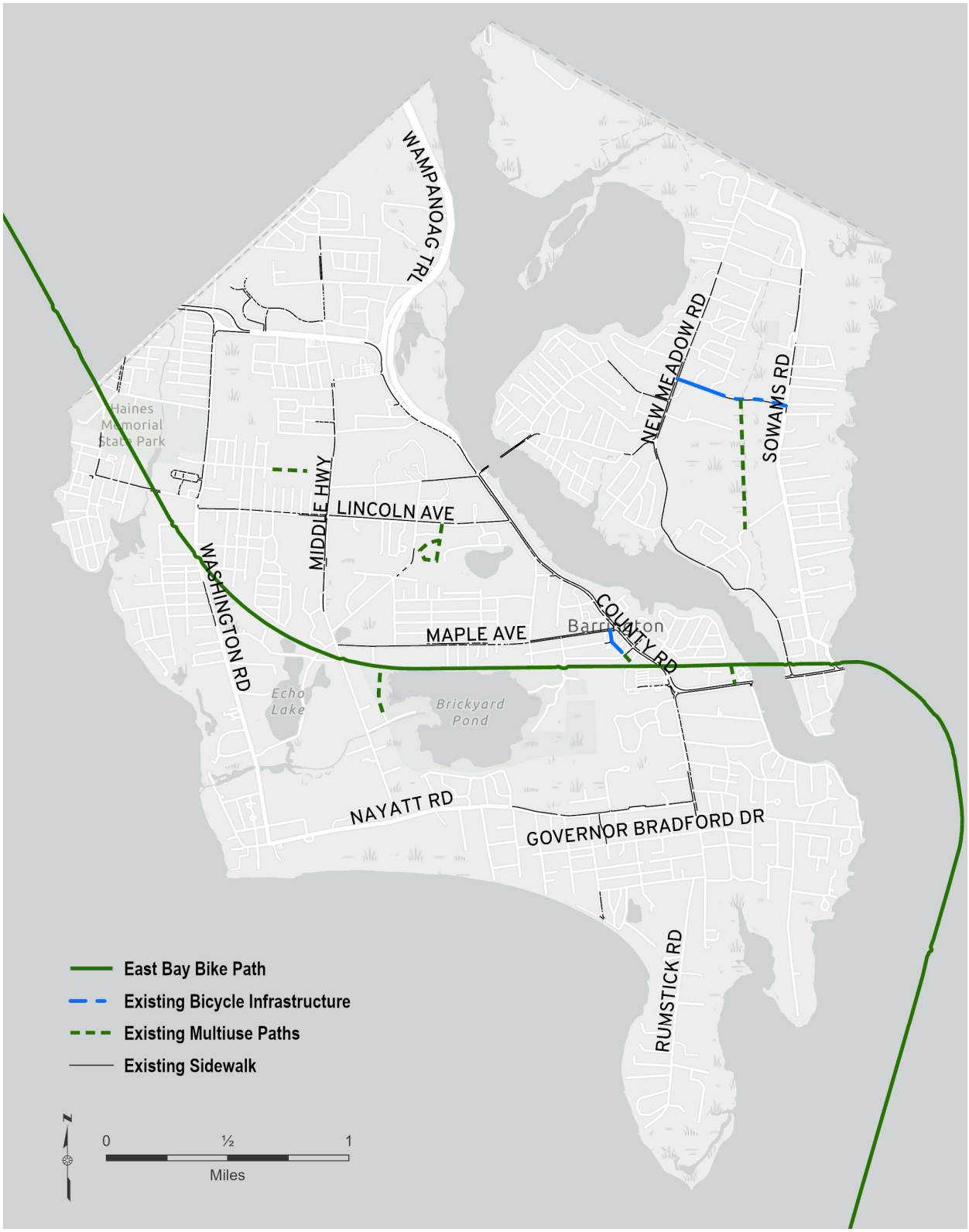



*Figure 3: Existing infrastructure for bicycle and pedestrian users. Note disconnections that result in gaps that users perceive as unsafe.*

### Trail Systems

Barrington's trail systems and segments can help achieve Complete Streets objectives by providing alternative off-road access for pedestrians and cyclists. These opportunities are site-specific. For example, the existing main trail at St. Andrew's Farm extends between the end of Fountain Avenue to Middle Highway and provides a safe route to school for Middle School and Primrose Hill School students. The deteriorated Town roadway at South Lake Drive connects the EBBP with Washington Road as well as several conservation and waterfront access areas. Another example of a dirt trail is the Hampden Meadows Greenbelt Trail extending between Linden Road to Kent Street, and Kent Street to the rear of Sowams School.

*Figure 4: South Lake Drive*

### Public Transportation

The only means of public transit serving Barrington is the R.I. Public Transit Authority (RIPTA) bus service. Senior Services also offers transportation to residents aged 60 and above. RIPTA's Route 60 serves Route 114 in Barrington as it travels between Providence and Newport. There are about 14 bus stops located between Massasoit Avenue and the Warren Bridge. There are also a few stops on Route 114 north of Massasoit, although the presence of guardrails present obstacles for bus riders needing to cross the roadway. Bus shelters are located at the White Church, East Bay Mental Health Center, Police Cove and just north of Town Hall. Route 61X provides additional daily bus trips.

RIPTA does not provide a bus route that services the areas of West Barrington. The closest bus service for residents in this part of Town is at the Shaw's shopping center in Riverside on RIPTA Route 33.

There are two park-and-ride commuter lots in Barrington.

- The 100-space lot at the "White Church" is owned by the Barrington Congregational Church and allows for use of their privately owned parking under a lease agreement with the RI Department of Transportation. RIPTA has a bus stop in that location on Route 114.
- The 36-space lot at Police Cove Park by the Barrington River bridge is owned by the Town and has a bus pull-out lane with RIPTA bus stop to allow traffic on Route 114 to pass stopped buses.

The Barrington Senior Center bus is free and available to local senior citizens on weekdays for transportation to and from the Senior Center (Center for Adult Enrichment), weekly shopping trips and local appointments, when possible. Reservations must be made in advance.

### 3.1.2 Upcoming State and Town Road Improvement Projects

RIDOT and the RI Division of Statewide Planning (RIDSP) manage the selection and funding of transportation improvement projects through the State Transportation Improvement Program (STIP). The STIP is a list of transportation projects the State of Rhode Island intends to implement using United States Department of Transportation funds. For a transportation project to utilize federal funds it **must** be included in the STIP.

Federal regulations require that the State Planning Council, acting as the single statewide Metropolitan Planning Organization (MPO) in Rhode Island, adopt a new STIP at a minimum of every four (4) years. The Federal Fiscal Year (FFY) 2022-2031 Rhode Island State Transportation Improvement Program (STIP) was adopted by the State Planning Council on September 9, 2021. It covers the required four-year revenue constrained time period of Federal Fiscal Years FFY 2022-2025, with additional information included for FFY 2026-2031.

A project's inclusion in the STIP is a critical step, but it does not represent an allocation of funds, obligation to fund, or grant of funds. Projects supported with federal dollars are only guaranteed funding after the Rhode Island Department of Transportation (RIDOT) or the Rhode Island Public Transit Authority (RIPTA) or the U.S. Department of Transportation (USDOT) reviews the design, financing, and environmental impacts of a project.

Upcoming roadway projects that provide the Town of Barrington with an opportunity to advocate to RIDOT to incorporate multimodal transportation options in those designs. These upcoming projects, and their anticipated timeline are included in Table 1 and Figure 5. The Town is uploading new projects to the STIP portal in March of 2025 for future evaluation, consideration and action.

*Table 1: Upcoming RIDOT projects in Barrington (source RIDOT State Transportation Improvement Plan)*

| Street | TIP Project No | Timeline | Project Description |
|---|---|---|---|
| County Rd | 1297 | 2025-2027 | Resurfacing the roadway, rehabilitation of sidewalk, and handicapped ramp installation. |
| New Meadow Rd | 1473 | 2026-2029 | New sidewalk along one side of New Meadow Road from Christine Drive to Deep Meadow Road |
| Massasoit Ave | 1474 | | New and upgraded sidewalks along Massasoit Avenue from Woodward Avenue to Arvin Avenue |
| Middle Hwy | 7404 | 2024 | Chip seal, surface seal, thin overlay of Middle Highway from Primrose Hill to Federal Road. This is a maintenance project that extends the life of the roadway. It may be a candidate for additional multimodal treatment in 5-10 years |
| Sowams Rd | 13002 | 2022 | Study and analysis of potential pedestrian improvements along Sowams Road between County Road and New Meadow Road |

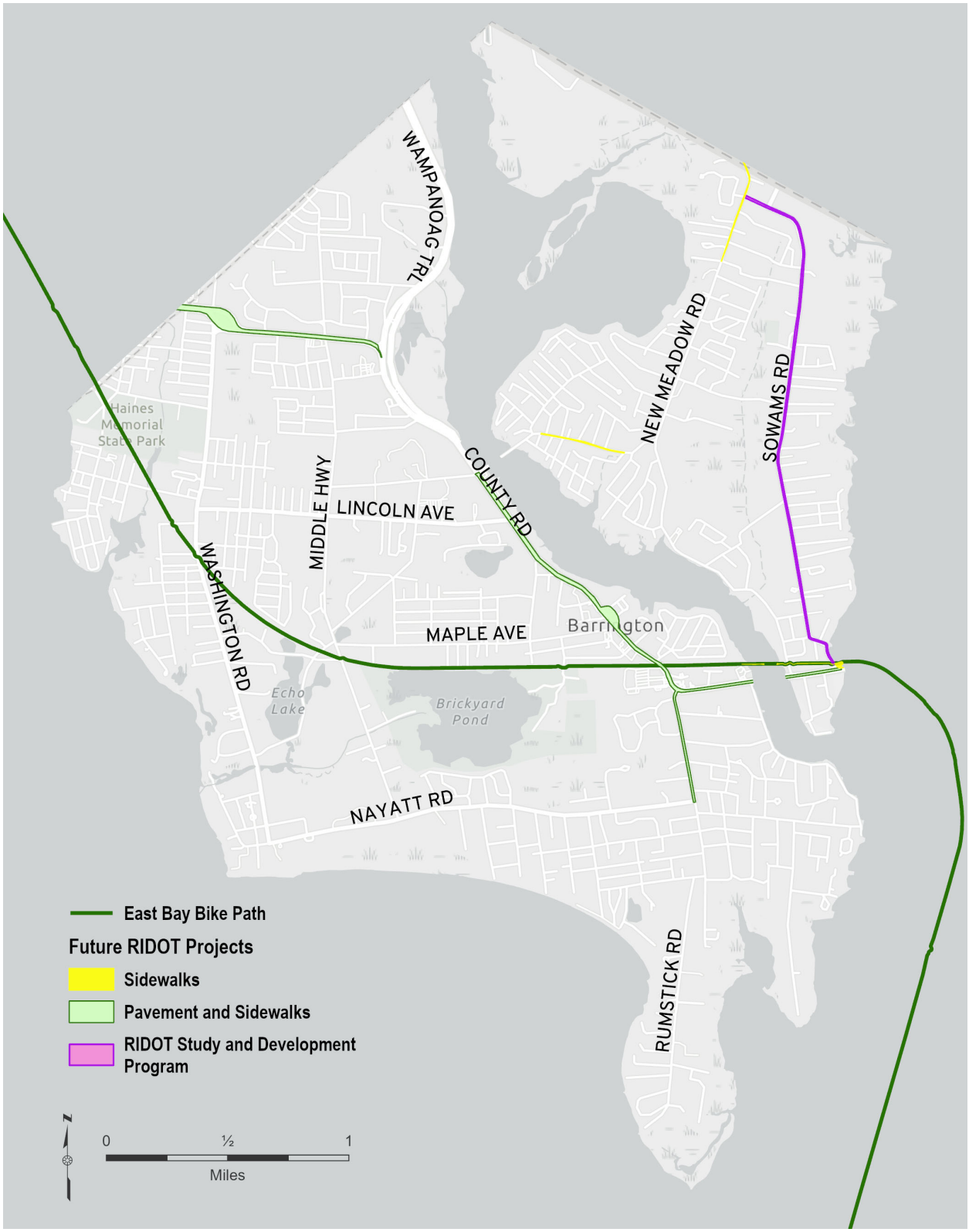



*Figure 5: Barrington Projects on the STIP (December 2024 version), including project start and end dates*

## 3.2 Municipal Complete Streets Planning and Implementation in Barrington to Date

The Town of Barrington has been a leader among Rhode Island municipalities in planning for safe networks that can accommodate vehicles, cyclists and pedestrians. Starting with the 2015 Comprehensive Plan, town residents expressed their concerns with pedestrian and cyclist safety on Barrington streets. A **Complete Streets Ordinance**, adopted by the Town in 2015, set the foundation for adopting a defining Bylaw to guide Town actions.

In 2019 the Barrington Town Council adopted a **Complete Streets Policy** in accordance with residents' vision for a less car-dependent Barrington. The policy provides a more detailed framework for the goals and objectives to guide municipal action to achieve a linked multi-modal street network throughout the town and connect regionally via the East Bay Bike Path.

Following the adoption of the Complete Streets Policy, Town staff and its consultant VHB developed a thorough **Complete Streets Plan** in 2022, to identify the streets that could form the basis of the town-wide network if bicycle and pedestrian infrastructure was added or improved. The Plan was adopted by the Town Council on October 3, 2022. Along with improvements to infrastructure, the 2022 Plan proposed a wide range of possible actions to improve safety and access throughout the community, including speed limit adjustments, restriping, signage, and trail upgrades.

To support implementation of the plan and advocate for improvements to bike/ped infrastructure, the Town Council formed and appointed the **Barrington Bicycle and Pedestrian Committee (BPAC)** in January 2023. The BPAC is charged "to advise the Town administration, Planning Board and Town Council on bicycle and pedestrian projects, plans and policies, fostering a transparent process for decisions regarding bicycles and pedestrians. The Committee will provide feedback and input on implementing the Town's Complete Streets Plan, focused on creating, connecting, and promoting safer streets and routes in town."

For many years the Town has been competitive and successful in the **Safe Routes to School** funding program. Town staff have prepared successful grant applications and administered construction projects resulting in the construction of expanded sidewalk networks, with improved road crossings, around all of Barrington's schools. These routes improve connections for students and families walking to school, but also for students cycling to schools from longer distances, who can legally use the separated sidewalks to stay out of vehicular road traffic.

Throughout this period of policy change and capacity-building, the Town has also been successful in securing funding from the federally funded STIP process and RIDOTs Municipal Road and Bridges Grant Program to keep up a steady amount of implementation projects.

Recent projects that have expanded pedestrian and cycling facilities include:

- Nayatt Road Reconstruction: The plans for the reconstruction of Nayatt Road included 10-foot- wide travel lanes with a maximum 1-foot shoulder, crosswalks, and ADA-compliant sidewalks with granite curbing. The project rebuilt approximately 3,950 linear feet of sidewalk on the north side of Nayatt Road between Rumstick Road and Broadview Drive. Completed in 2019.

- Village Center Streetscape Project: This project, with funding from a $1.6 million bond, included construction of new sidewalks on Wood Avenue, West Street and Cottage Street, reconstruction of sidewalks on the north side of Maple Avenue, new crosswalks, and striping of "sharrows" on Wood Avenue.

- Barrington Middle School: The State built a new sidewalk on the west side of Middle Highway between Seven Oaks Drive and the East Bay Bike Path as part of a Safe Routes to School project. The construction of the new Middle School, completed in 2019, included reconstruction of the sidewalk along the Middle Highway frontage, the installation of bike racks at the front and rear of the school, a multi-use path on the southerly portion of the property between Middle Highway and Roberta Plat, and a separate bus drop off area in front of the school. Additional sidewalk and intersection improvements at Middle and Lincoln were completed in 2024.

- Lincoln Avenue: The Town received funding from the Municipal Road and Bridges Grant Program/Rhode Restore program to complete improvements sidewalk replacement on Lincoln Avenue from Washington Road to Peck Avenue, completing a critical east-west connection to the existing Middle School sidewalk system. Completion is anticipated for 2025.

- Elementary school area improvements though the Safe Routes to School Program: The Town received funding from Safe Route to Schools Program to complete improvements such as crosswalk, signage, lighting and sidewalk installation/upgrades in area schools. Projects included: Primrose Hill School and Hampden Meadows School.

- Maple Avenue: The Town received funding from the Municipal Road and Bridges Grant Program/Rhode Restore program to complete improvements for the sidewalk and drainage pipe replacement on Maple Avenue from Walter Street to Prince's Hill Avenue. Completion is anticipated for 2025.

- Off-Site Improvements: The Town requires sidewalks to be included in new projects within commercial areas and in subdivisions located near schools. In 2012, the Town revised the Zoning Ordinance to allow the Planning Board to require a payment-in-lieu of providing sidewalks to provide funding for off-site sidewalk improvements, in cases where requiring a sidewalk is not warranted. Sidewalks built since 2019 by developers to comply with Planning Board requirements include:
    - 700 feet on Sowams Road between Coach Murgo Lane and Zompa Road
    - 200 feet on Waseca Avenue west of Wood Avenue
    - 200 feet on Bay Spring Avenue at 60 Bay Spring Ave

## 3.3 State Law, Planning and Implementation for Complete Streets

### 3.3.1 RI Laws Related to Bike and Pedestrian Networks

Barrington's planning and implementation for Complete Streets does not take place in a vacuum. The State of Rhode Island owns the majority of the roadways in Barrington that require improvement to make them complete streets that are safer and accessible for larger numbers of pedestrians and cyclists. The State sets laws and policies that impact the use and design of these roadways that need to be considered when advocating for improvements.

**Where to Ride:**

Rhode Island requires that every person operating a bicycle upon a roadway shall ride as near to the right side of the roadway as practicable, exercising due care when passing a standing vehicle or one proceeding in the same direction except where official traffic control devices (signs or pavement markings) specifically direct bicyclists to do otherwise. (Source: R.I. Gen. Laws §31-19-6)

**Sidewalk Riding**:

Rhode Island provides that a person may ride any vehicle operated by human power upon and along a sidewalk or across a roadway upon and along a crosswalk, unless prohibited by official traffic-control devices (signs). When riding on a sidewalk a person has all the rights and all the duties applicable to a pedestrian under the same circumstances. (Source: R.I. Gen. Laws §§31-19-11; 31-19-12)

**Safe Passing Laws:**

Rhode Island requires that the driver of a motor vehicle must pass a bicyclist by driving to the left of the bicycle at a safe distance, that is sufficient to prevent contact with the person operating the bicycle if the person were to fall into the driver's lane of traffic, and returning to the lane of travel once the motor vehicle is safely clear of the overtaken bicycle. (Source: R.I. Gen. Laws §31-15-18)

**Dooring Law:**

Rhode Island requires that no person open the door of a motor vehicle on the roadways, streets, or highways of this state, available to moving traffic, unless and until it is reasonably safe to do so and can be done without interfering with the movement of other traffic, including pedestrians and bicycles on sidewalks, shoulders, or bicycle lanes. In addition, no person shall leave a door open on the side of a vehicle available to moving traffic, including pedestrians and bicycles on sidewalks, shoulders or bicycle lanes, for a period of time longer than necessary to load or unload passengers. (Source: R.I. Gen. Laws §31-21-14)

**Authorization for Local Regulation of Bicycles:**

Rhode Island provides that its state traffic laws shall not be deemed to prevent local authorities, with respect to streets and highways under their jurisdiction and within the reasonable exercise of the police power, from regulating the operation of bicycles and requiring the registration and licensing of bicycles, including the requirement of a registration fee. (Source: R.I. Gen. Laws §31-12-12)

### 3.3.2 State Planning Documents

The State of Rhode Island does have several important policy frameworks, plans and programs that Barrington can connect with to advance its own complete streets goals.

#### State of Rhode Island's Bicycle Mobility Plan (BMP): Moving Forward 2040

https://planning.ri.gov/documents/LRTP/Bicycle-Mobility-Plan.pdf
The Rhode Island Bicycle Mobility Plan (BMP) was published in 2020 and is the first statewide initiative to expand the bicycle network strategically. The plan also seeks to safely and efficiently connect people and places so that riding a bicycle in Rhode Island is safe and fun for all ages. In order to achieve the expanded network, this plan identifies candidate corridors and the supporting policies and programs to make this initiative a reality. The vision for this plan was developed through collaboration with a geographically and professionally diverse Bicycle Advisory Committee. The critical needs identified through public and stakeholder outreach were:

- Improve connectivity
- Fill network gaps
- Overcome gaps along the State's many bridges
- Addressing equity and differences in access between communities
- Address policy gaps
- Fix incomplete streets
- Enhance bicyclist and driver education
- Improve safety and maintenance
- Explore dedicated funding options

The BMP should be a central tool for Barrington as it implements its Complete Streets plan. The routes, gaps and barriers identified in the plan should score high in RIDOTs funding formulas because they are embedded in the adopted BMP. The BMP identifies one key barrier in Barrington. The intersection at Sowams Road and Route 114 is identified as a "challenging intersection" with
sharp curve and no shoulder on key road access to East Bay Bike Path."

#### Rhode Island Complete Streets Guide

RIDSP, in partnership with RIDOT and RIPTA, is developing a plan and guide for both State and municipal governments to build transportation projects that are "complete" – user friendly, safe, and accessible for all roadway users, thereby creating a healthier, greener, and more equitable roadway system. The plan will include Complete Streets policy recommendations, implementation guidance, and design guidelines. The guidelines for roadway designers will provide best practices for redesigning streets, intersections, traffic calming, bikeways, walkways, transit, green streets, and more. The plan is expected to be published in mid-2025.

**RI Department of Transportation - Guide to Cycling in the Ocean State (2020)**

This online and printed map provides cyclists with a map of all roadways and bike paths in the state, and further recommends roadways for cycling by labeling them with designations related to their suitability for cycling, such as “Bike Path Completed”, “Most Suitable Road”, “Suitable Road”, “East Coast Greenway”, etc..


*Figure 6: Excerpt from the 2020 “A Guide to Cycling in the Ocean State” 2020 showing Barrington area. Source RIDOT website, accessed 12/10/24)*

## 3.4 Accident Data and Areas of Concern

Despite many streets lacking sidewalks, Barrington has an excellent pedestrian safety record, with zero pedestrian deaths from 1960 to 2024. Tragically, there was a pedestrian fatality at the intersection of Willett Avenue and Richmond Avenue (adjacent to Riverside Plaza) near the East Providence line in March 2024. In comparison, 122 pedestrians were killed in Rhode Island from 2009 to 2018 – a 10-year period when pedestrians killed in motor vehicle crashes increased by 55 percent in the United States.

Motor vehicles are an ever-present threat to pedestrians and bicyclists, with the risk of death increasing rapidly above speeds of 20 mph. A 2011 study by the AAA Foundation for Traffic Safety assessed the risk of severe injury or fatality for pedestrians of all ages, when hit by vehicles traveling at certain speeds.

- Older residents are the most vulnerable, with an estimated 50 percent of cyclists at the age of 70 killed when impacted by a motor vehicle traveling at 35 mph.
- Even at speeds of just 20 mph, the average cyclist has a 7 percent chance of being killed in a crash involving a motor vehicle; it increases to 13 percent for cyclists who are 70 years old.
- The study found that 10 percent of pedestrians suffered severe injuries when struck by a car traveling at 16 mph; the rate increases to 90 percent at 46 mph.

Barrington likely benefits from the fact that most streets have speed limits of 25 mph, with some major collector streets at 35 mph. The only road with a speed limit over 35 mph is Wampanoag Trail, with a speed limit of 40 to 45 mph, a street where very few people walk or bike.

A report by the National Highway Traffic Safety Administration's National Center for Statistics and Analysis from 2019 evaluated national statistics on pedestrian fatalities, concluding the following:

- Eighteen percent of the fatalities occurred at intersections, 73 percent at locations that were not intersections, and the remaining 9 percent at other locations including roadsides/shoulders, parking lanes/zones, bicycle lanes, sidewalks, medians/crossing islands, driveway accesses, shared-use paths/trails, non-traffic way areas, and other sites.
- More pedestrian fatalities occurred in the dark (76%) than in daylight (21%), dusk (2%), and dawn (2%).

While Barrington has been recognized for its pedestrian safety record, the town has had some close calls over the years, with dozens of vehicle crashes involving pedestrians and cyclists since 2011. From 2011 through June 2022, Barrington Police responded to 49 pedestrian and 47 bicyclist (96 total) motorist-involved accidents in town. These incidents often resulted in injury, some serious, according to the Police Department.

Almost 30 percent (28 out of 96) of the incidents took place at crossings of the East Bay Bike Path. The bike path crossing at County Road had the most incidents (9), followed by Bay Spring Avenue (6) and Washington Road (4). Other locations with multiple incidents included County Road between the Bike Path and Maple Avenue, the Barrington Shopping Center, and the Massasoit Avenue-County Road intersection.

Accidents involving pedestrians and cyclists (especially with motor vehicles) were assessed to understand the roadways, intersections and areas where safety could be improved through implementation of Complete Streets strategies. Figure 77 shows the locational density of these incidents as documented by the Barrington Police Department for the period from 2011 to 2023. Key areas of concern to integrate into the Town's Complete Streets Implementation actions include:

- Sidewalk crossings on County Road corridor
- East Bay Bike Path crossing with County Road
- East Bay Bike Path crossings with State and Town roads
- Pedestrian crossings and pedestrian zones at all schools

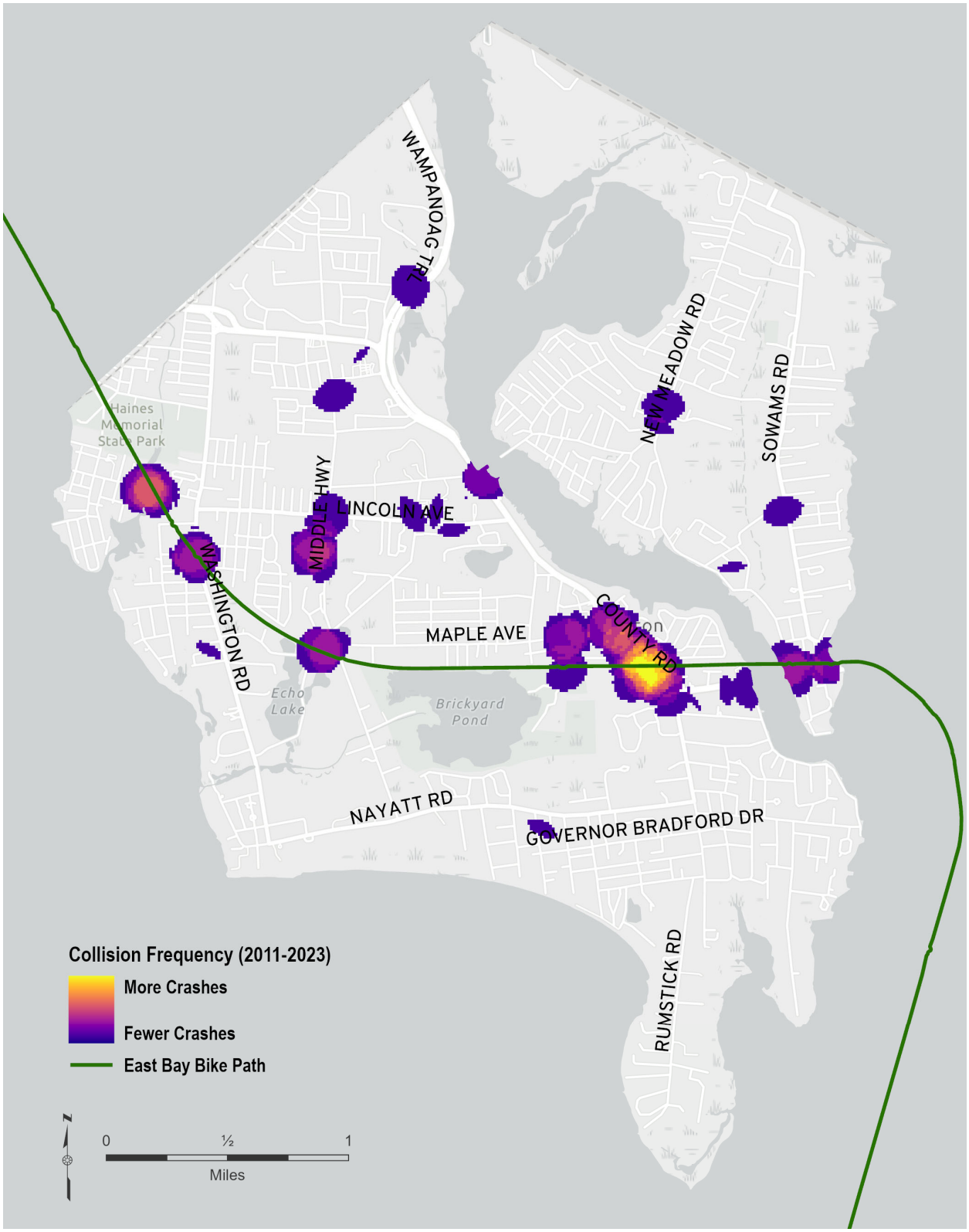



*Figure 7: Heat map of collisions between vehicles and either cyclists or pedestrians. (Source: Barrington Police Department)*

# 4 What Pedestrian and Cycling Users Want and Need

### 4.1.1 Where Do Barrington Residents Want to Travel by Bike and On Foot

A key step in planning for the incremental Complete Streets network build out is identifying where residents start their journeys, where they want to go, and how they want to get there. We know from national studies that many residents would travel more frequently by bike (for trips from ¼ up to 3 miles) and on foot (for trips of up to ¼ up to 1 mile) if they felt safer doing so. Users typically start their trips from their homes. Because of Barrington's tradition of suburban development patterns of separated land uses, these residences are not scattered evenly across town, but are clustered in residential neighborhoods, generally accessed by a main street that connects to one of Barrington's main connector roads.

Residents are generally traveling from their homes to key **Activity Nodes** in their communities. Activity nodes are critically important to the functions they play in people's lives but also to how they value Barrington:

- Schools are certainly central nodes for children, but are also community centers as they have gyms, courts and playing fields used for athletics, and indoor spaces for community organizations and groups.
- Recreation facilities
- Retail and service clusters
- Government and municipal services

*Figure 8: BPAC members and Town staff identifying Activity Nodes and Preferred Paths*

Activity Nodes were categorized as either of town-wide importance (the town beach, the larger catchment areas of the Middle and High Schools) or of neighborhood-wide importance (smaller parks, the smaller catchment areas of elementary schools, etc.). The BPAC identified fifteen (15) town-wide activity nodes and thirty (30) neighborhood activity nodes (Figure 9).

BPAC members then identified the **Preferred Paths**; the routes Barrington residents want to use in order to get to those activity nodes from the starting point of each trip, specifically those routes they would use when traveling by walking or cycling. Generally, Barrington residents want safe paths for children to get to schools, access to the shopping and dining options in Downtown, the Town Beach, active recreation facilities like parks and playgrounds, and waterfront access points across the community (Figure 99).

It is important to recognize that traveling to and from Activity Nodes is not always by the straightest path. Users are very efficient in their selection of travel routes and will typically select a route that balances the elements of 1) feeling safe, 2) avoiding extra effort and 3) covering the shortest distance. In establishing and improving routes along Preferred Paths, Barrington can build upon routes where good facilities (sidewalks, bike lands and access to the East Bay Bike Path) already exist.

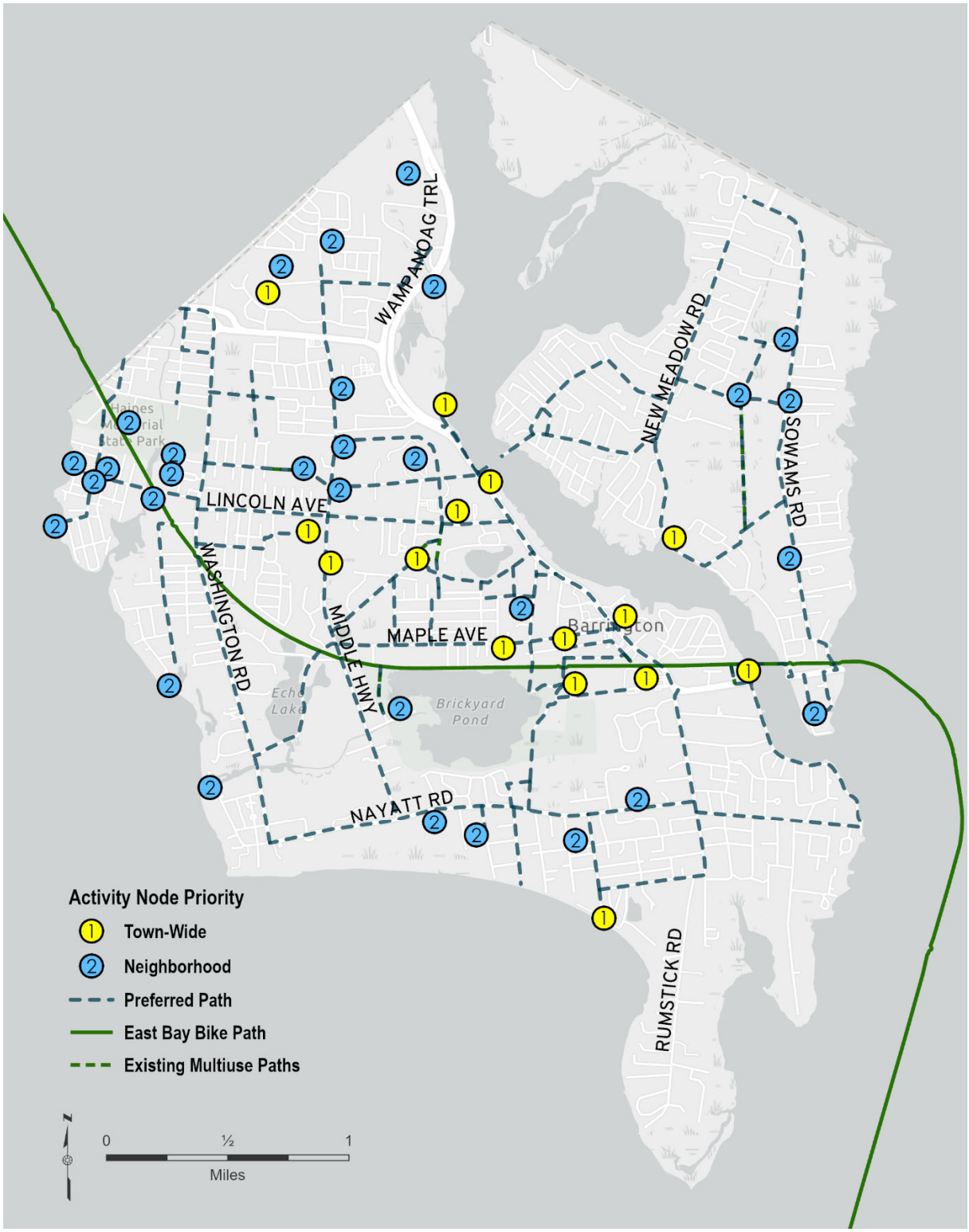



*Figure 9: Activity Nodes and Preferred Paths.*

## 4.2 Existing Levels of Traffic Stress (LTS)

Learning how safe and secure residents feel as they move around Barrington walk or bicycle is a critical step in identifying the most important areas in which to improve the Complete Streets network connections. The actual and perceived risk of death or serious injury to a pedestrian in a collision with a vehicle is one of the main reasons residents avoid walking or cycling to get around town. This Level of Traffic Stress (LTS) can be measured for both cyclists and pedestrians based on existing road conditions independent of subjective observer preference. We can combine input from cyclists and pedestrians with available road network information, and by asking users the right questions, identify how a range of road users likely feel on any given street in Barrington.

The LTS methodology (Mekuria et al. 2012) has been implemented in cities and towns across the country. This methodology examines objective criteria, such as vehicle speeds, number of lanes, quality of existing non-vehicle infrastructure, particularly at intersections, to estimate the subjective LTS experienced by pedestrians and cyclists. It is based on the assumption that for each increase in stress level, a percentage of road users will avoid using non-motorized transportation modes like walking and cycling. Determining the LTS for a street segment requires applying a set of criteria against the objective measurements of that segment. These criteria are flexible enough to account for variable availability of specific data sets and road design among jurisdictions.

There are four Levels of Traffic Stress, Very Low, Low, Medium, and High (Figure 10), though the criteria are flexible enough to allow additional stress levels if local conditions require them. The Levels of Traffic Stress reflect the percentages of users who will accept, either by choice or by lack of reasonable alternative, traveling on foot or by bicycle along a given road segment. Accessibility for users of all abilities and confidence levels is key.

While data have not been collected specifically for Rhode Island, data has been collected in a study of users in the Northeast (Dill and McNeil, 2013). Almost half of people in that study (48%) fall under the category of "interested but concerned". In other words, **if roads were made safer for pedestrians and cyclists, they would use these lower stress roadways to move around town**. Convincing this group is the key to a widely used Complete Streets network, which can then induce a mode shift where less trips are made by vehicles and more by walking and cycling.

8% of riders consider themselves "strong and fearless" (e.g., bike couriers in New York City) and will cycle on any roadway and in any conditions, regardless of vehicle conflicts. A further 4% consider themselves "enthusiastic and confident" and will cycle on all but the most stressful roadways.


*Figure 10: Levels of Traffic Stress. From the Montgomery County, MD Bicycle Master Plan, 2018*

### 4.2.1 Field Data Collection

Assigning Levels of Traffic Stress to road segments is necessarily a data-intensive exercise. Some data, like number of lanes and the posted speed limit, is readily available from public data sources. While LTS can be determined using limited data, additional information can yield more precise LTS assessments. To fill this data gap, members of the BPAC volunteered to collect additional information. To facilitate and standardize data collection, Fuss & O'Neill developed an online fillable form (Appendix A) for BPAC members to complete. Fifteen members of BPAC who had been trained on how to use the form collected data on road segments in Barrington in April and May 2024 (Figure 11).

*Figure 11: Volunteer members of the BPAC implemented the Level of Traffic Stress survey for over 375 roadway segments in Barrington.*

All roads in Barrington that were safe to assess (e.g., Wampanoag Trail) were visited and assessed by trained BPAC members. Some roads were assessed multiple times, which provided an assessment of consistency of answers across multiple data collectors. Longer roads, such as Sowams and Washington were divided into multiple segments, recognizing that roadway conditions may change over the length of a longer street.

Data was collected for 375 separate road segments. Following data collection, data was reviewed for quality assurance by Fuss & O'Neill. Areas requiring discussion and clarification were discussed at the BPAC meeting on June 17, 2024 to achieve consensus on the LTS dataset that would form the basis for this implementation plan.

### 4.2.2 Pedestrian Levels of Stress Data

Maps showing existing conditions and Levels of Traffic Stress on Barrington's streets are included. Each condition contributes to an overall perception of the Level of Traffic Stress that pedestrians in Barrington feel when walking on Barrington streets.

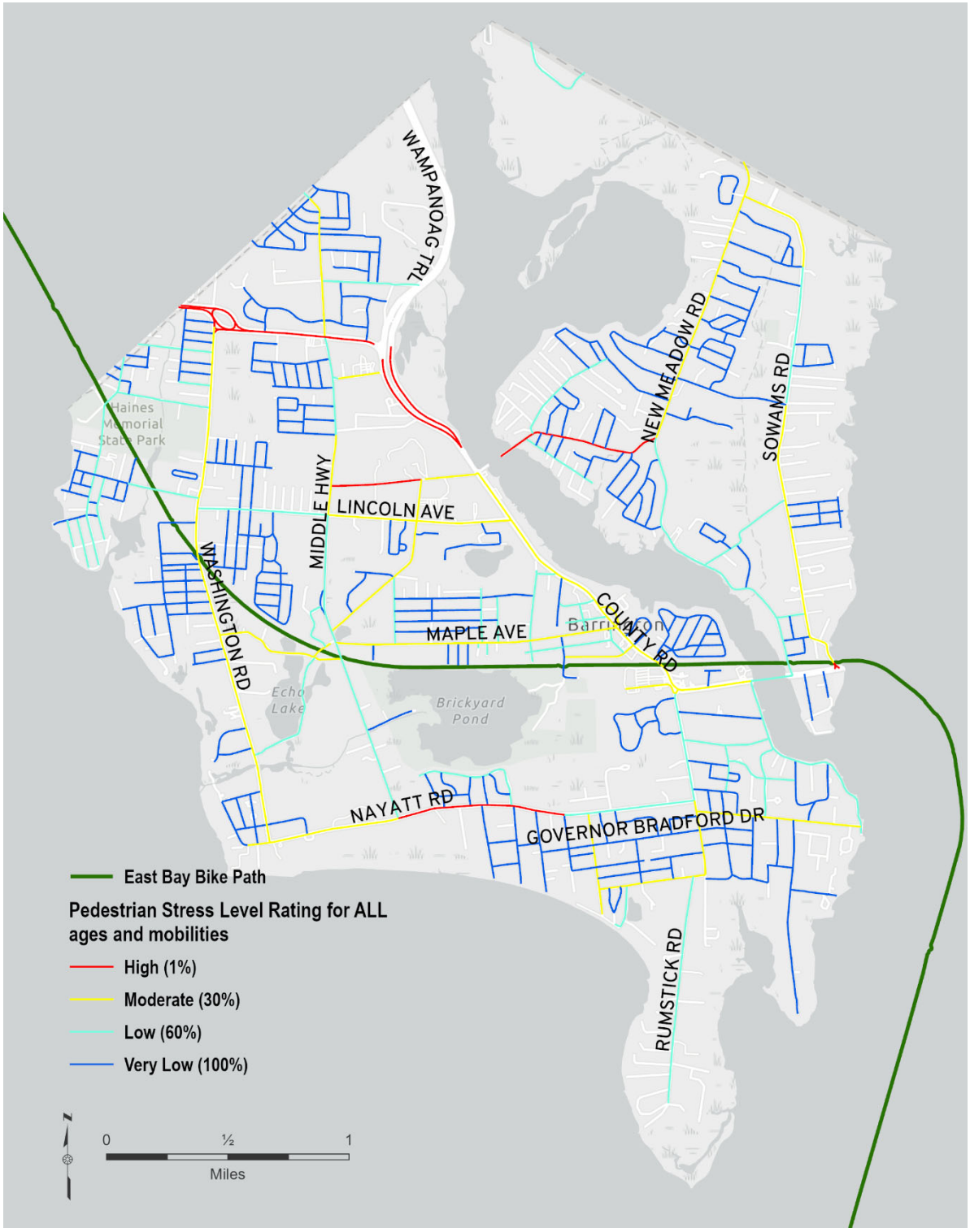



*Figure 12: Existing Levels of User Stress for **Pedestrians***

### 4.2.3 Cyclist Levels of Stress Data

Maps showing existing conditions and Levels of Traffic Stress on Barrington's streets are included. Each condition contributes to an overall perception of the Level of Traffic Stress that cyclists in Barrington feel when riding on Barrington streets.

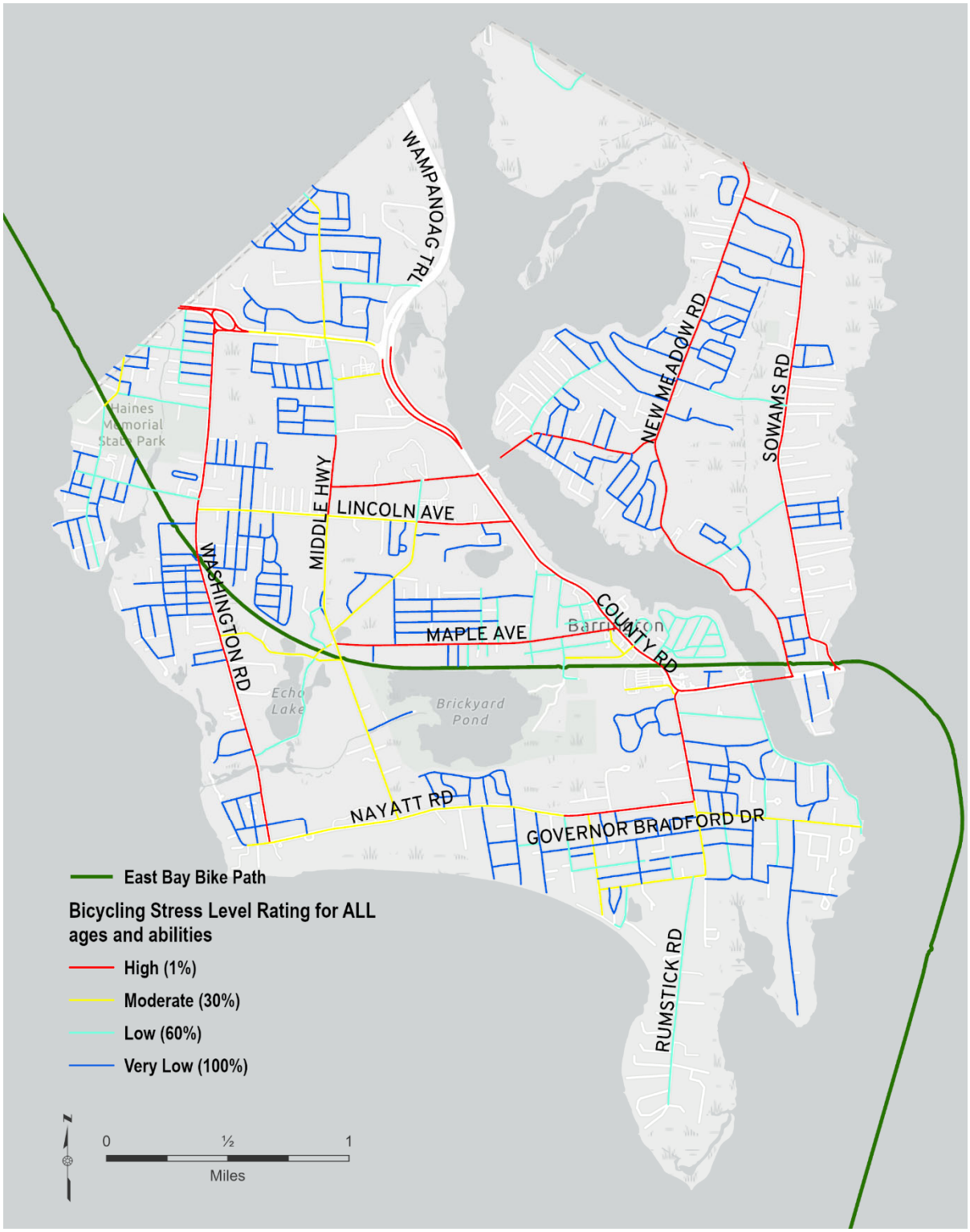



*Figure 13: Existing Levels of User Stress for **Cyclists***

### 4.2.4 Key Findings from Evaluation of LOS Survey

There are several key findings that can be extrapolated from the LOS survey data and resulting stress level mapping and inform Complete Streets planning and implementation.

**Finding 1: Residential neighborhoods are "Islands of Safety" for pedestrians and cyclists:**

Many neighborhoods in Barrington are considered by residents to be safe for cyclists and pedestrians because of their low vehicle speed and low traffic volumes. Within these (primarily residential) areas, cyclists and pedestrians can move with relative ease and safety on existing streets and, where available, sidewalks. This is a typical 20th century development pattern. As we will see, the challenge is that these areas are isolated from Activity Nodes such as schools, recreational facilities and commercial centers, and other residential neighborhoods where residents want to travel to by bike and on foot. They are frequently separated by barriers of higher stress collector roads and arterials that have minimal or nonexistent separated facilities for cyclists and pedestrians (Figure 15).

*Figure 14: Lee Street is a typical low speed, low volume street with residential properties where walkers and cyclists feel comfortable sharing the existing paved area with motor vehicles.*

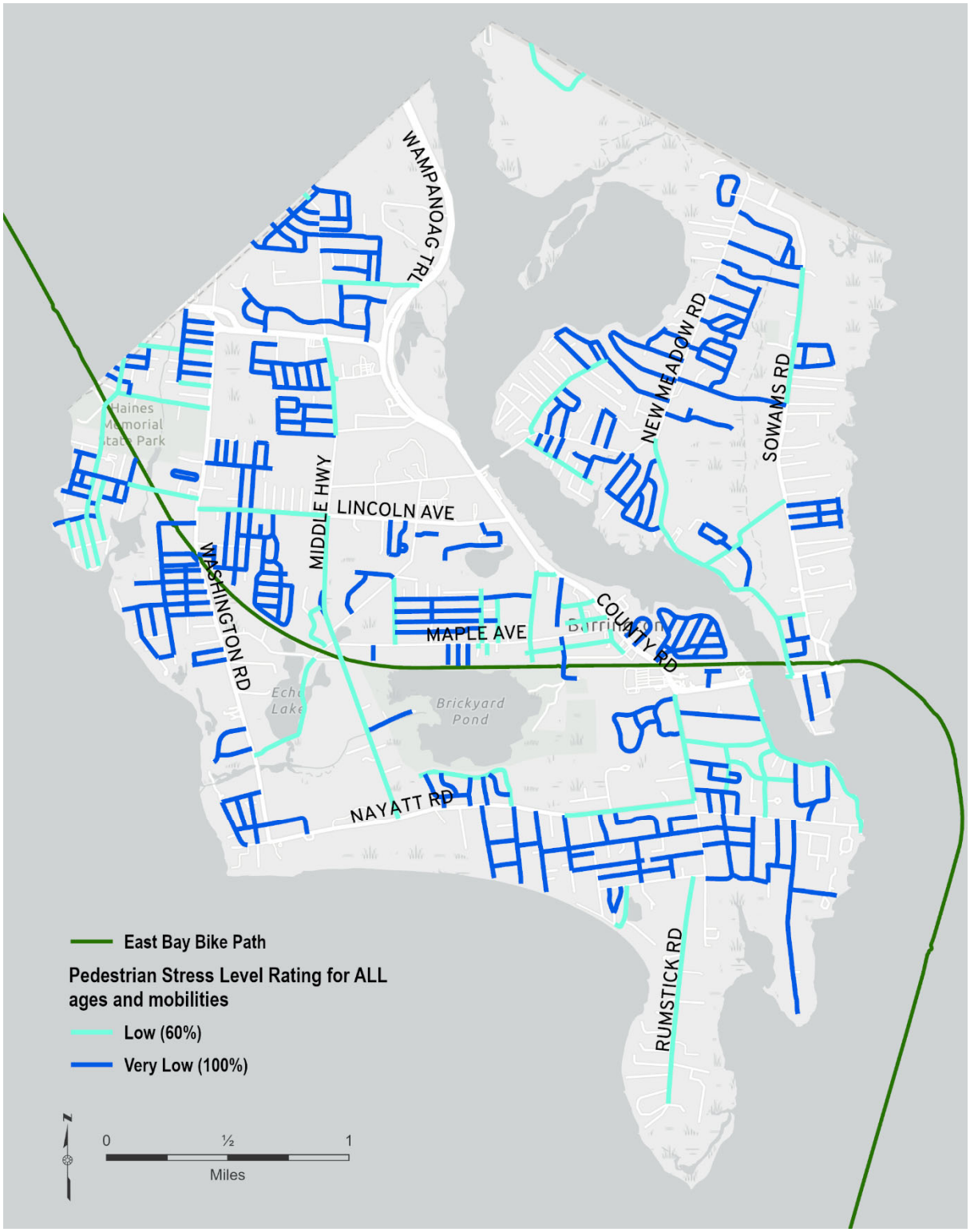



*Figure 15: "Islands of Safety" (shown in blue) area connected residential areas which have Very Low and Low levels of user stress for cyclists and pedestrians.*

**Finding 2: The State relies almost entirely on the East Bay Bike Path to serve as the bicycle infrastructure for Barrington (and the entire East Bay area) and has constructed virtually no infrastructure for cyclists to more safely connect to other areas of Town**.

Because the priority has been roadways for cars and few people were expected to ride bikes, the State has constructed very little infrastructure for non-vehicular users. This results in high levels of user stress on State roadways with very limited bike infrastructure. While the East Bay Bike Path is a wonderful asset that provides safe and separated travel across Town, it is the exception to the rule.

### Cyclist Level of User Stress:

Figure 13 shows mapping of the Level of User Stress for Cyclists. Key areas of high stress occur where there are narrow shoulders to allow comfortable passing distances between vehicles and cyclists, or no shoulders at all. This is exacerbated on roadways with high vehicle volumes and high vehicle speeds.

Key segments of **High Stress** include:

- County
- Washington
- Federal
- Maple
- Federal
- Middle (center)
- Rumstick (north segment)
- Nayatt (east segment)
- New Meadow
- Sowams
- Massasoit

Key segments of **Moderate Stress** include:

- County
- Nayatt (west segment)
- Middle (south)
- Lincoln
- Upland
- South Lake
- Ferry
- Chachapacassett
- Bay
- Narragansett (north)


*Figure 16: Washington Road is typical of many State roads with no sidewalks and very limited shoulders (source: Google Street View, accessed 12/14/24)*

### Finding 3: State roadways typically have undersized and disconnected infrastructure for pedestrians and cyclists.

Because the priority has been roadways for cars and few people were expected to walk, the State has constructed very little infrastructure for non-vehicular users. Exceptions to this rule are the areas where the Town has advocated or secured funding for sidewalks around schools. This results in high levels of user stress on State roadways with no sidewalks.

### Pedestrian Level of User Stress:

Figure 12 shows mapping of the Level of User Stress for Pedestrians. Key areas of high stress occur where there are no sidewalk facilities and where there are high vehicle volumes and vehicle speeds.

Key segments of **High Stress** include:

- County (north segment)
- Federal (west segment)
- Nayatt (center segment)
- Sowams (south segment)
- Massasoit

Key segments of **Moderate Stress** include:

- County
- Washington
- Middle
- Maple
- Federal
- Lincoln
- Rumstick (north segment)
- Nayatt (east segment)
- Rumstick (south segment)
- New Meadow (north segment)
- Sowams

## 4.2.5 Additional Public Inputs to Identify Gaps in Complete Streets Networks

### Mining Data from the Town's ArcGIS StoryMap

The Town of Barrington conducted a public input campaign in August 2022 during the public input phase of the 2022 Complete Streets plan which yielded a large amount of information on the preferences of Barrington's citizens for improving its transportation systems. There were 679 responses submitted. When asked what interventions would make their neighborhood feel safer for walking and cycling, prioritized responses were:

1. New sidewalks – 515
2. Sidewalk repairs – 214
3. Signage – 158
4. Accessibility for strollers, wheelchairs and other mobility aids – 165
5. Repainting/restriping (crosswalks, lane widths, bike lanes) – 137
6. Speed limit adjustments - 138
7. Lights - 138

At the start of the 2024 Implementation Plan project, Fuss & O'Neill geolocated and quantified these public comments received during the public input phase of the 2022 Complete Streets plan to identify those streets where residents most wanted to see Complete Streets interventions on the existing road design.

### Collaborating with the Town's Comprehensive Plan Update Process and Public Engagement Events

The Fuss & O'Neill team and members of the BPAC prepared and manned an interactive station at the "Comp Planapalooza" public listening session for the Barrington Comprehensive Plan update on July 23, 2024. Project staff and volunteers engaged with participants to share project findings and asked attendees to note their preferences on what roads they use, concerns around safety and where they wish to see safety improvements for bike and pedestrian users.

*Figure 17: Public participation at Barrington Comprehensive Plan workshop "Plan-a-palooza" on 7/23/24.*

## 4.3 Prioritizing Existing Gaps for Action

All of the input from residents, pedestrians, cyclists and other stakeholders indicate that there are key disconnections that prevent Barrington from having a complete network. **Resident surveys show that even if a very short section of bike or pedestrian facility (like a sidewalk of wide shoulder for cycling as short as 20' feet) is missing along a Preferred Path, then potential walkers and cyclists will instead opt for another way to get to the activity node (usually by car) out of fear that they will not be safe.** The goal of having an interconnected Complete Streets Network is to eliminate gaps so users feel confident while walking/cycling and feeling safe the whole way to the destination.

Prioritization began by overlaying the LTS ratings on the Preferred Paths, resulting in a clear identification of the road segments that currently act as barriers between neighborhoods and the Activity Nodes and other destinations residents would like to get to (Figures 11 and 12).

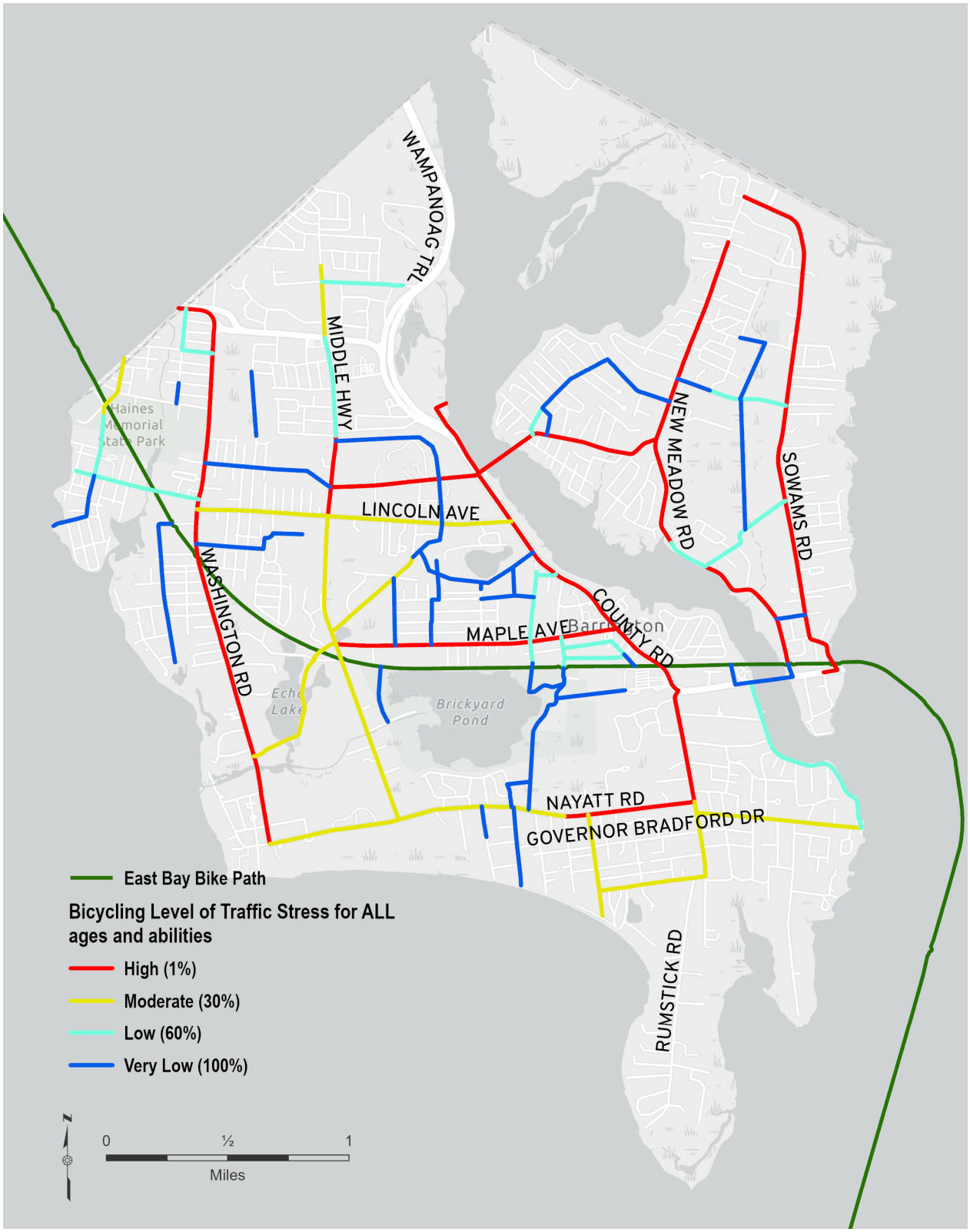



*Figure 18: Bicycling levels of traffic stress on Preferred Paths*

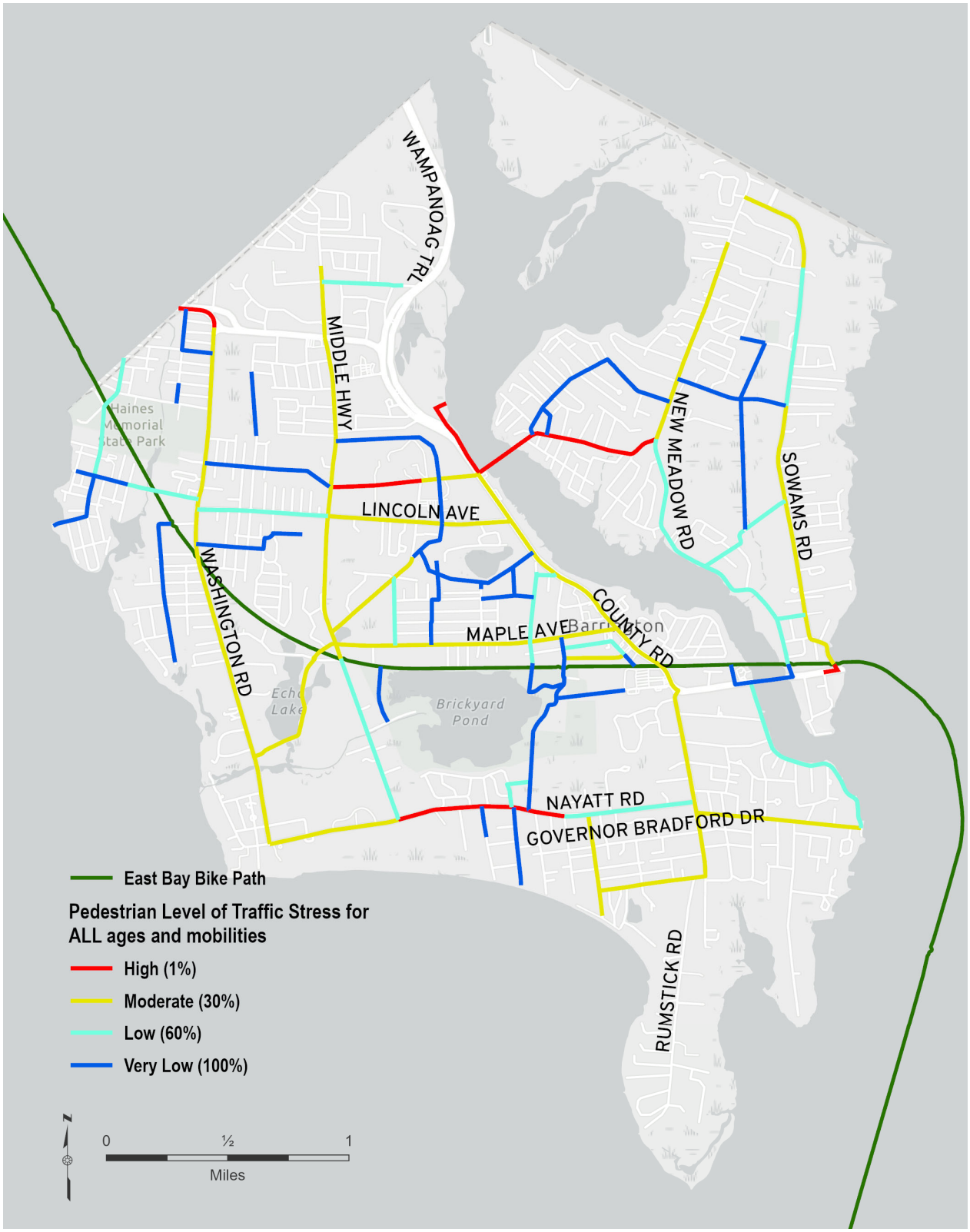



*Figure 19: Pedestrian Levels of Traffic Stress on Preferred Paths*

After identification of high priority segments, a complete list of the gaps that should be addressed with improved bike and pedestrian facilities was created. This was further developed for prioritization based on the number of households that are currently cut off from the existing Complete Streets network by the lack of bike/pedestrian facilities.

### Priority 1 - Townwide network connections:

#### Priority 2 - Neighborhood impact connections:

These gaps disconnect specific areas of town from the rest of the bike and pedestrian system.

14. New Meadow Road (STATE): No sidewalks north of Christine. Limited cycling facilities and markings.
15. Sowams Road (STATE): Gaps in sidewalk connections, especially on south segments. Limited cycling facilities and markings.
16. Middle Highway (STATE): No sidewalks north of County. Limited cycling facilities and markings.
17. Rumstick Road (STATE): Difficult existing pedestrian and cycling movements and crossings from existing facilities into Bosworth Street, Shaw's Plaza and EBBP connector area.
18. Rumstick Road (TOWN): No sidewalks south of Brentonwood. Limited cycling facilities and markings.
19. Martin Avenue and Lamson Road corridor (TOWN): No sidewalks on Martin and fragmented sidewalks on Lamson. Reports of high vehicle speeds and cut-through traffic. Limited cycling facilities and markings.
20. Legion Way to East Bay Bike Path connector (TOWN): Rough pathway not suitable for all users levels of accessibility.
21. Saint Andrew's Farm Trail (TOWN): Rough pathway not suitable for all users levels of accessibility.
22. Wampanoag Trail/RI-114 North (STATE): Currently this area is inaccessible to pedestrians and very challenging for cyclists to access an important Town recreation facility that offers water access and views, water sports like kayaking and rowing, hiking and picnicking.
23. Hampden Meadows Greenbelt trail (TOWN): Existing dirt trail is frequently used but is frequently flooded and too rough for regular safe use.
24. Middle Highway (STATE): No sidewalks south of EBBP to Nayatt Road. Limited cycling facilities and markings.
25. Ferry Road (TOWN): No sidewalks, narrow roadway and limited cycling facilities/signage.
26. Chachapacassett Road (TOWN): No sidewalks, narrow roadway and limited cycling facilities/signage.
27. Bay Road (TOWN): Narrow undersized sidewalks and limited cycling facilities on popular connection to Town Beach.
28. Narragansett Avenue (TOWN): Gaps in sidewalk system and inaccessible sidewalks where extant. Limited cycling facilities and signage.

### Site specific safety concerns

1. Driver warning and speed-inhibiting measures at all school zones (STATE AND TOWN PROJECT).
2. East Bay Bike Path crossings with State roads (STATES WITH RIDEM REVIEW)
3. East Bay Bike Path crossings with local roads (TOWN PROJECTS WITH RIDOT/RIDEM REVIEW)

# 5 Priority Implementation to Close the Gaps in the Complete Streets Network

## 5.1 Prioritized Projects List

A fully implemented townwide Complete Streets network is the ultimate goal of the community and many of its leaders and residents. However, it is not practical to build out the entire network in one campaign; the community recognizes that State and Town financial resources are limited and that projects must go through design and permitting before construction can begin. **Therefore, it is critical to prioritize potential projects for implementation.**

To prioritize all potential projects identified in Section 4.4, the following criteria were developed and applied to arrive at an aggregate prioritization score:

- **Project impact in closing a gap in the townwide network or neighborhood connection**:
  - Projects that close a gap on a townwide network are of a higher priority than those that only impact a smaller neighborhood. Fuss & O'Neill assessed the importance of each potential project to town-wide Bike-Ped connectivity. This included measurement of project impact in connecting the most households possible to the network. For most projects, the area of increased connectivity was estimated and the 2020 census data applied to calculate the number of households that would benefit. This assessment rated each potential project on a scale from 0-4 for consistency with the scaled vote tallies.
  - **Public identification and support of the project from public engagement efforts**:
    - Votes in favor of each listed project were tallied from the Town's 2021 on-line public input survey that informed the 2022 Complete Streets Plan.
    - To obtain relative scoring during the 2024 process, we combined input from the BPAC project identification workshop on July 14 and the Comprehensive Planapalooza public input session on July 23. Because the range of vote totals was not consistent between 2022 plan and 2024 input, vote tallies for both were scaled to fall within a consistent range, in this case between 0 and 4.
  - **Aggregate Prioritization Calculation**:

  Scores from all inputs were summed, for a maximum possible raw prioritization score of 12. For ease of comparison, raw scores were scaled to fall between 0 (minimal public support and importance to connectivity) and 1 (high public support and importance to connectivity).

### Functional goals for prioritized implementation:

1. Build on the strength that Barrington has many residential neighborhoods with streets that are low volume, low speed and where users feel low stress about walking and cycling within those "safe pockets".
2. Build on the strength of the East Bay Bike Path, which serves as a vehicle-free, multi-use super-connector through the center of the community and as a regional connection to Providence, other East Bay communities and other bicycle and pedestrian networks.
3. Increase connections to the East Bay Bike Path (EBBP) for as many users as possible. Connect from already safe neighborhood streets to the EBBP which can then safely connect cyclists and walkers to activity centers like downtown, recreation facilities and other neighborhoods. Rather than adding cycling facilities to all Barrington east-west streets (e.g. Maple Avenue), the Implementation Plan proposes better connections and intersections, north south roadways and paths with the EBBP.
4. Develop as many sidewalk connections as possible because they are relatively small interventions. Although they are primarily for pedestrians, they can legally be used by cyclists (especially younger users including commuting students) to provide facilities separated from vehicular traffic.

5. Expand the existing sidewalk systems that emanate from school zones to create strategic connectors that link to the townwide network.
6. Improve existing minimally improved trails that are currently used by pedestrians and cyclists. The goal is to increase the number of users who feel comfortable using an improved connection.
7. Integrate traffic calming designs into all projects that improve bicycle and pedestrian facilities. This can include the inclusion of narrowed traffic lanes (with separated bike lanes if space permits), neckdowns to shorten pedestrian crossing distances at crosswalks, speed tables, flashing stop signs, rectangular rapid flashing beacons (RRFBs) and reduced speed limits.

**A table of all Prioritized Projects with details about all projects in Appendix B.**

From that overall list, these projects have been further classified into two broad priority groups depending on how much of Barrington they connect. Projects that improve town-wide connectivity are grouped into Priority 1, while projects that improve neighborhood connectivity are grouped into Priority 2. Projects are prioritized within each group below and are shown according to the key below in Figure 20.

### 5.1.1 Priority 1 – Projects with Townwide Impact

These improvements fill missing connection(s) or improve substandard connection(s) that allow for pedestrian and/bike/ped travel between large areas of town and facilitate movement to/from clusters of Activity Nodes.

1. Washington Road (STATE PROJECT): Assess ability to redesign and construct with separated cycling/multiuse path facilities to achieve continuous pedestrian/bike facilities from Route 103 on the north to Nayatt Road on the south. If infeasible, move forward (with RIDOT) to design and install sidewalks to fill missing gaps and replace/upgrade existing sidewalks that are undersized and in poor condition. Improve street crossings with signage, lighting and paint. OUTCOME: Connects all neighborhoods that access Washington Road (approximately 1,050 households) to travel north-south, more safely reach the East Bay Bike Path and an (eventually) improved east-west connector streets.
2. Nayatt Road (STATE PROJECT): Redesign to accommodate separated sidewalks on at least one side to create continuation from Devonshire to Middle Highway. Also assess for feasibility of painted bike lanes and signage. OUTCOME: This can more safely accommodate pedestrians and cyclists moving from the Nayatt and Barrington Beach areas (approximately 170 households) to and from Nayatt School as well as the new proposed multi-use trail through Veteran's Park that links the area to the Shaw's Plaza and the rest of the downtown civic center.
3. Massasoit Avenue (STATE PROJECT):
    a. Construct sidewalks on Massasoit Avenue from the intersection with Woodward to Arvin Avenue. (Note: This is currently on the STIP (Project ID # 1474) for implementation in 2026-29.) OUTCOME: Connects walkers and school-age cyclists to separated access from vehicles so they can connect west (to County Road, High School and Federal Road) and east to New Meadow corridor. This is a major east-west bike/ped linkage that improves safe access for all Barrington residents.
    b. Assess and potential redesign/upgrades to the intersection of Massasoit and Martin to improve safety of pedestrians and cyclists, especially those crossing Massasoit.
4. Washington Road (STATE PROJECT): Improve cycling facilities from Route 103 on the north to Nayatt Road on the south. Assess ability to redesign and construct with separated cycling/multiuse path facilities. If infeasible, move forward with RIDOT to design and install bike safety markings and install bike safety signage. OUTCOME: Connects all neighborhoods that access Washington Road (approximately 1,050 households) to reach the East Bay Bike Path and an (eventually) improved Lincoln Avenue.

5. Veteran's Park (TOWN PROJECT): Upgrade existing dirt trail to multiuse trail connector (potentially reinforced permeable gravel surface with elevated boardwalk in wetland locations) from Broadview Drive and/or Nayatt on south to Kent Street at YMCA on north. OUTCOME: Connects all neighborhoods along and south of Nayatt Road (approximately 440 households) with direct access to the East Bay Bike Path and Downtown Barrington (approximately .9 miles) without those users having to 1) climb hill to Nayatt and then cross Rumstick Road to head north (currently 1.3 miles) or 2) head west to use Middle Highway and then double back east on EBBP (currently 2.7 miles).
6. Foote Street path (TOWN PROJECT): Construct bicycle/pedestrian connector trail connector on Town-owned land that connects from Foote Street on the south to Lincoln Avenue on the north. OUTCOME: Provides an off-street connection from Barrington High School and the Lincoln Avenue corridor to neighborhoods to the south and the East Bay Bike Path, which connects to the townwide network beyond.
7. Federal Road (TOWN PROJECT): Redesign to accommodate separated sidewalks on south side from Upland Way to Middle Highway and painted bike lanes. OUTCOME: Serves as critical east west connector for all users, especially to High School, Barrington Farm School, St. Andrew's Farm facility and east-west trail and Middle Highway corridor.
8. Maple Avenue (TOWN PROJECT): Improve sidewalks where ROW and existing utilities permit. Do not add on-street cycling facilities for east-west cycling movement. Instead, improve access to the East Bay Bike Path from Maple Avenue and intersecting streets that connect to the Path (Despirito Lane, Kirby Street and Prince's Hill Avenue). Improve crossings at Maple and connections to the East Bay Bike Path. OUTCOME: Improving safe passage for cyclists and pedestrians from the Maple Avenue/Foote Street neighborhood to the EBBP and connections beyond.
9. County Road/RI-114 (STATE PROJECT): Redesign roadway from intersection with Rumstick north to Sullivan Terrace to include sidewalks to be universally accessible and advocate for redesign that improves the character of the roadway to be more like traditional New England Main Streets (e.g. Hope Street in Bristol and Main Street in Warren. (Note: This is currently on the STIP (Project ID # 1297) for implementation in 2025-27, but the exact design configuration is not known at this time.) OUTCOME: Improve both the pedestrian and bicycling functionality and character of County Road (RI 114) through the center of downtown Barrington.
10. Lincoln Avenue (TOWN PROJECT): Continuous pedestrian and bike facilities from Middle Highway to County Road (RI-114). Improve the existing sections of sidewalk to result in a fully connected, grade-separated sidewalk on the north side of roadway from Barrington High School to Middle Highway. Paint bike safety markings and install bike safety signage. Improve street crossings with signage, lighting and paint. OUTCOME: Serves as critical east west connector, especially to High School and Middle School.
11. Middle Highway (STATE PROJECT): Continuous bike facilities from East Providence line on the north to Nayatt Road on the south. Paint bike safety markings and install bike safety signage. OUTCOME: Connects all neighborhoods that access Middle Highway to reach the East Bay Bike Path, the Middle School and an (eventually) improved Lincoln Avenue and Federal Road.
12. South Lake Drive (TOWN PROJECT): Convert existing deteriorated road into an ADA-accessible path for pedestrians and cyclists from North Lake Drive to Washington Road. OUTCOME: Serves as north-south connector, especially from East Bay Bike Path to southern Washington Road/Nayatt Road neighborhoods. Is also a destination for walkers, runners and birdwatchers.
13. Upland Way (TOWN PROJECT): Assess feasibility to expand sidewalks on east side of street to complete connection to Federal Road to north and Lincoln Avenue on north.

### 5.1.2 Priority 2 – Projects with Neighborhood Impact

These projects improve connectivity for specific areas of town to a broader network of complete streets.

14. New Meadow Road (STATE PROJECT): Redesign to accommodate improved cycling facilities (bike lanes, signage, etc.) where feasible. Install separated sidewalks in missing area north of Christine Drive to Deep Meadow Road to achieve connectivity to schools to the south and Sowams Road on the north, serving approximately additional 150 households. (Note: This is currently on the STIP (Project ID # 1473) for implementation in 2026-29.) OUTCOME: Connects all neighborhoods that access Sowams Road to safely reach the Activity Nodes on the east side of the Barrington River (mainly schools) and the East Bay Bike Path to connect with the west side of Barrington.
15. Sowams Road (STATE PROJECT): Redesign the south segment to accommodate separated sidewalks in the missing areas to achieve full connectivity from New Meadow on north to Crossways on south. (Note: This project is currently on the STIP (Project ID # 13002) for implementation in 2022 to "study and analysis of potential pedestrian improvements…between County Road and New Meadow Road.") Key missing segments of sidewalk include:
    - New Meadow to Francis: 2,200 feet
    - Sowams School to Kent: 1,500 feet
    - Kent to Coach Murgo: 3,600

    Redesign paved area to include painted bike lanes and signage. OUTCOME: Connects all neighborhoods that access Sowams Road to safely reach the Activity Nodes on the east side of the Barrington River and East Bay Bike Path to connect with the west side of Barrington (approximately 420 households).
16. Middle Highway (STATE PROJECT): Design sidewalks to fill missing gaps and replace/upgrade existing sidewalks that are undersized and in poor condition from County Road (Route 103) to East Providence line. A key segment is between Sherwood Lane and County Road. OUTCOME: Connects all neighborhoods that access Middle Highway (approximately 180 households plus the potentially 300-400 units within the proposed redevelopment of the Zion Bible College site) to reach schools and sidewalk networks further south on Middle Road.
17. Rumstick Road (STATE PROJECT): Redesign to include sidewalks on west side of roadway from Jenny's Lane to existing sidewalks at NW corner with Woodland Road. OUTCOME: This can more safely accommodate pedestrians and cyclists moving from the Rumstick Village and Rumstick/Adams Point areas (approximately 650 households) to and from the Shaw's Plaza and the rest of the downtown civic center.
18. Rumstick Road (TOWN PROJECT): Redesign to include sidewalks on west side of roadway from Brentonwood Avenue and Chachapacassett Road. OUTCOME: This can more safely accommodate pedestrians moving from the southern Rumstick, Chachapacassett and Barrington Beach areas (approximately 350 households) to and from Nayatt School, the Shaw's Plaza and the rest of the downtown civic center.
19. Martin Avenue and Lamson Road corridor (TOWN PROJECT): Redesign roadway to include sidewalks to be universally accessible (if ROW has necessary room). Paint bike safety markings and install bike safety signage. Improve street crossings with signage, lighting and paint. Consider signage and traffic calming measures in roadway to slow vehicular speeds and limit cut-through traffic patterns. OUTCOME: Improve pedestrian and cyclist safety through the corridor, especially for students and families traveling to/from Hampden Meadows School.
20. Legion Way to East Bay Bike Path connector (TOWN PROJECT): Upgrade existing dirt trail to multiuse trail connector (potentially reinforced permeable gravel surface) from Legion Wy on south to East Bay Bike Path no north. OUTCOME: Connects Legion Way recreation area directly with EBBP.

21. Saint Andrew's Farm Trail (TOWN PROJECT): Upgrade existing dirt trail to multiuse trail connector (potentially reinforced permeable gravel surface) from Fountain Avenue on west to Saint Andrew's Farm parking area on east. OUTCOME: This a frequently used cut-through already; improvement of the existing eroded dirt path will provide a safe, separated pedestrian and cyclist route for residents of neighborhoods west of Middle Highway to improved access connections to EBBP, Primrose Hill School and Middle School without having to go on Washington Road.
22. Wampanoag Trail/RI-114 North (STATE PROJECT): Redesign to accommodate separated sidewalks on east side (northbound) from intersection of Massasoit/Federal north to entrance at Walker Farm Town Recreation Facility to accommodate both pedestrians and cyclists. (OUTCOME: Currently this area is completely inaccessible to pedestrians and very challenging for cyclists to access. This new connection will make an important recreation facility that offers water access and views, water sports like kayaking and rowing, hiking and picnicking.)
23. Hampden Meadows Greenbelt trail (TOWN PROJECT): Upgrade existing dirt pathway to multiuse trail connector from Linden Road to Sowams School OUTCOME: Connects Kent Street corridor (and Sowams and New Meadow neighborhoods) to internal connector that can be used only by pedestrians and cyclists.
24. Middle Highway (STATE PROJECT): Design and construct sidewalk on one side of roadway from East Bay Bike Path south to Nayatt Road. Improve street crossings with signage, lighting and paint. OUTCOME: Connects neighborhoods that access southern Middle Highway (approximately 70 households) to more safely reach the East Bay Bike Path, the Middle School and an improved Lincoln Avenue.
25. Ferry Road (TOWN PROJECT): Assess feasibility to accommodate separated sidewalks on at least one side to create connection from Mathewson Road to existing sidewalks on Rumstick Road. Also assess for feasibility of painted bike infrastructure and signage. OUTCOME: This can more safely accommodate pedestrians and cyclists moving from the Adams Point and Rumstick Village neighborhoods, and Mathewson Road corridor (approximately 360 households)
26. Chachapacassett Road (TOWN PROJECT): sidewalks: Assess feasibility of separated sidewalks from Bay Road to Rumstick Road. OUTCOME: Increase pedestrian safety on this neighborhood connector and popular walking route.
27. Bay Road (TOWN PROJECT): Improve existing sidewalks on east side of roadway to complete connection from Chachapacassett Road on north Add bicycle and pedestrian awareness signage along remainder of Bay Road to its connection with Nayatt Road. OUTCOME: Increase pedestrian safety on this neighborhood connector and popular walking route.
28. Narragansett Avenue (TOWN PROJECT): Assess feasibility to accommodate separated sidewalks on at least one side to create connection from Haines Park Road to Bay Spring Avenue. Also assess for feasibility of painted bike infrastructure and signage. OUTCOME: Create improved connections from East Bay Bike Path to the Bay Spring neighborhood.

### 5.1.3 Priority 1 – Site Specific Safety Improvement Projects

1. Schools are the hearts of their neighborhoods (especially elementary schools) and middle schools and high schools are important centers for students and the broader community as they serve many roles like recreation centers, civic meeting locations and voting places. To increase safety in the areas around schools, the Town and School Department can consider a range of potential interventions including, but not limited to:
    1. brightly painted crosswalks,
    2. narrowed lanes with neck downs to shorten pedestrian crossing distance,

3. speed tables,
4. radar speed display signs (for approaching vehicle speed),
5. flashing lights at crossings,
6. flashing stop signs and,
7. speed cameras.

2. East Bay Bike Path crossings with State roads (STATE PROJECTS WITH RIDEM REVIEW): Improve conditions at these crossings through vegetation cutting to improve sight lines, reduced speed zones and warning signage in vehicle approach zones, flashing beacons, improved crosswalks and user behavior signage.
    1. Washington Road
    2. Middle Highway
    3. County Road
    4. New Meadow Road
    5. Sowams Road
3. East Bay Bike Path crossings with local roads (TOWN PROJECTS WITH RIDOT/RIDEM REVIEW): Improve conditions at these crossings through vegetation cutting to improve sight lines, reduced speed zones and warning signage in vehicle approach zones, flashing beacons, improved crosswalks and user behavior signage.
    1. Narragansett Avenue/Metropolitan Park Road
    2. Bay Spring Avenue
    3. South Lake Drive
    4. West Street

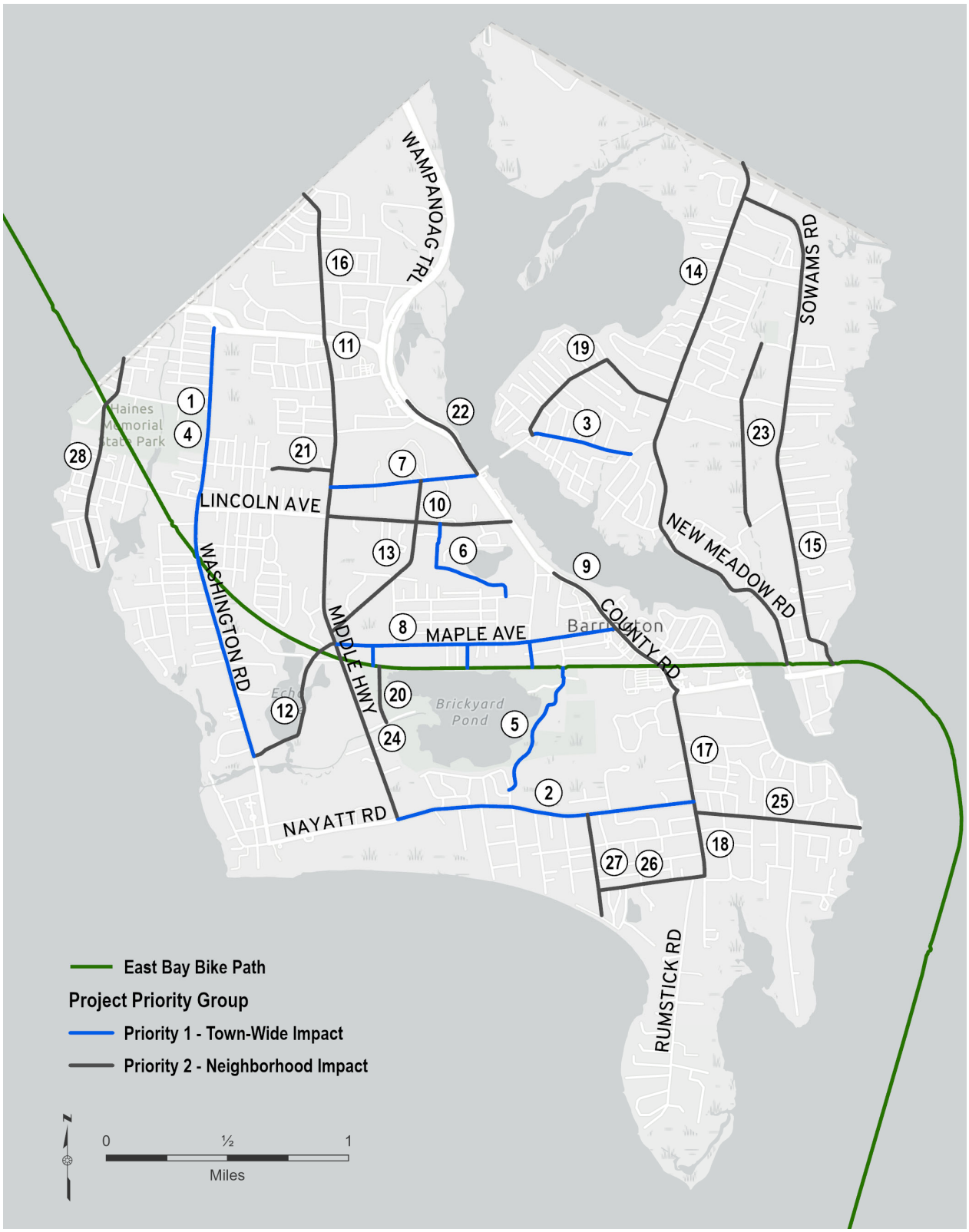



*Figure 20: Prioritized Complete Streets project locations*

## 5.2 Implementing Projects on State Roadways

The main roads in Barrington are controlled by RIDOT (Figure 21). Sixty-three percent (63%) of roadways targeted for improvement in this *Complete Streets Implementation Plan* to serve as part of a complete streets network are State Roads. (The other 37% of network facilities are on Town of Barrington roadways or in Town parks as locations for multiuse trail connections.) Therefore, improvement of bike and pedestrian infrastructure those State roadways will be a result of effective advocacy or direct Town action to fund projects.

### State Transportation Improvement Program (STIP)

Traditionally improvements to these roads are funded through the State Transportation Improvement Program (STIP) (https://planning.ri.gov/stip). The STIP is a list of transportation projects the State of Rhode Island intends to implement using United States Department of Transportation funds. For a transportation project to utilize federal funds it must be included in the STIP. Projects are nominated by municipalities for inclusion on the STIP by municipalities and State agencies.

Federal regulations require that the State Planning Council, acting as the single statewide Metropolitan Planning Organization (MPO) in Rhode Island, adopt a new STIP at a minimum of every four (4) years. The Federal Fiscal Year (FFY) 2022-2031 Rhode Island State Transportation Improvement Program (STIP) was adopted by the State Planning Council on September 9, 2021. It covers the required four-year revenue constrained time period of Federal Fiscal Years FFY 2022-2025, with additional information included for FFY 2026-2031.

A project's inclusion in the STIP is a critical step, but it does not represent an allocation of funds, obligation to fund, or grant of funds. Projects supported with federal dollars are only guaranteed funding after the Rhode Island Department of Transportation (RIDOT) or the Rhode Island Public Transit Authority (RIPTA) or the U.S. Department of Transportation (USDOT) reviews the design, financing, and environmental impacts of a project.

Once on the list, it is also critical to have the project score as high as possible to be prioritized for implementation in design and construction phases. This requires that the municipality make the case that the State roadway segment being improved is already a high priority on State and municipal multimodal connectivity plans and that improvements will increase users safety.

### Safe Streets for All (SS4A)

The SS4A program is a Federally-funded planning and project implementation program targeted at making all road segments and intersections safe for all users equitably. The State of RI, through RIPTA, will complete its Safety Action Plans for the State as a whole and for each of RI's individual communities in 2025. Projects identified in Barrington's SS4A Safety Action Plan can seek funding from the SS4A program to implement projects that overlap with those projects identified in this Complete Streets Implementation Plan.

### Advocating for State and/or Federal Funding

For each project Barrington seeks to implement, it will need to organize Town resources and create coalitions with partner organizations that can join to **advocate** for funding to design, permit and construct the project. In order to build a coalition approach, it will be important to understanding the strengths and limitations of each participant and deploy it accordingly.

- Town Council is made up of elected officials who may have excellent access to other decision makers and be able to allocate funding and make policy decisions to support bicycle and pedestrian projects.
- Town planning staff can create case statements for the projects and educate stakeholders and community members. However, Town staff are paid municipal employees and are prohibited from lobbying in that role.
- Bicycle Pedestrian Advisory Committee: The BPAC is an advisory Town agency and can make policy and project recommendations for Town actions to be approved by the Town Council.
- There is currently no non-governmental advocacy organization that actively and consistently lobbies for the implementation of these types of bicycle and pedestrian infrastructure projects in Barrington. This type of coalition partner has been critical to successful implementation in many communities, including Newport (Bike Newport) and Providence (Providence Streets Coalition).

A detailed method for increasing the Town's effective advocacy for funding and implementation of pedestrian and bicycle infrastructure projects on State roadways is included in Appendix B.

### Direct Town Funding for Maintenance Repairs of Sidewalks on State Roads

The Town is required to maintain existing sidewalks on State roadways and is liable for claims for injuries because of sidewalk conditions. Several communities in Rhode Island have allocated local budget funding to improve conditions in areas where sidewalks exist and create a critical connection in the network.

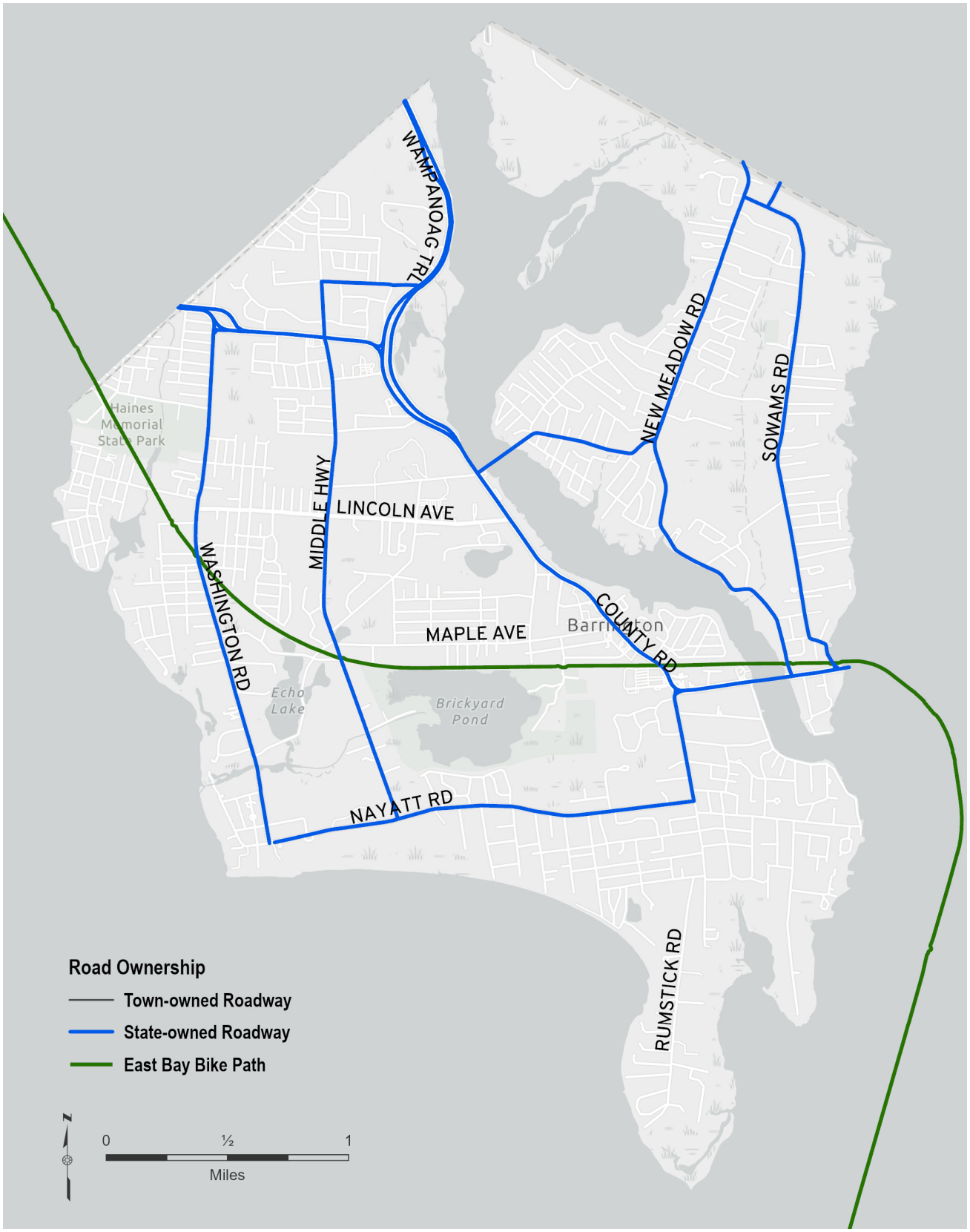



*Figure 21: State Roadways (under RIDOT jurisdiction) in Barrington*

## 5.3 Implementing Projects on Town Roadways

The Town can choose to implement improvements on its roadways at any time, but the size and scale of those undertakings is usually limited by available municipal budget and staff resources. The following are some ways that the Town can accelerate implementation:

- Inclusion in Barrington's Municipal Capital Improvement Plan (CIP) which will be funded through the Town's traditional budgeting process. It is critical that all Town departments, especially the Department of Public Works, assess the projects for suitability and relative importance to other Town needs and goals.
- State funding through grant programs:
    - RhodeRestore funds (through RIDOT)
    - Safe Routes to Schools Program
    - Municipal Road and Bridges Grant Program (through RIDOT)
    - Recreational Trail Grants (through RIDEM)
- Local bond funding: Many communities propose and approve local bonds to fund construction of bike/ped infrastructure. At the May 25, 2022 Barrington Financial Town Meeting, the residents voted to allocate $4 million to improve pedestrian and bicycle infrastructure on Town roads from the remaining Barrington Middle School bond balance.
- Town Department Budget Allocation: Barrington Department of Public Works has an annual plan for paving projects. It would be possible to add a sidewalk fund to each year's department budget that could be used to implement critical sidewalk projects to fill the prioritized missing gaps.
- Allocation of Line Item for "Complete Streets Infrastructure" in the Capital Projects section of the Annual Town budget. The Town currently carries a similar line item for Climate Mitigation Projects which is used as the source for matching funds for grant funded projects requiring a local match. Such a dedicated local fund would allow the Town to compete more effectively for grants.

## 5.4 Policy Changes to Improve Bicycle and Pedestrian Function and Safety

<u>Reducing vehicle speeds on Town roadways</u>

We know from examples in other communities and national studies that to improve cycling safety and user comfort levels, that communities should lower vehicular speeds to both increase the perception of speed (thus increasing perception of safety) and reduce lethality of collisions between cyclists and vehicles that do occur. Hoboken, NJ lowered vehicle speeds on all local roads to 20 mph as part of its Vision Zero effort to eliminate bike and pedestrian fatalities.

Adopt an ordinance or public works specification that establishes roadway lane widths based on the street's speed limit. For example, a standard lane width of 10 feet within 25 mph zones.

<u>Construct supportive infrastructure on Town properties for bicycling and walking travelers</u>

- Parking areas for bikes at all public buildings, located near the main entrance. These should have secure bike racks for bike parking and lockup.
- Electric bike charging stations at nodes of government users such as Town Hall complex and schools.
- Expand bicycle and pedestrian route wayfinding signage on the East Bay Bike Path and Town Center area to guide surrounding routes and activity nodes.

<u>Bicycle and Pedestrian Systems Infrastructure Policies</u>

- Work with the Barrington Public Schools Department to identify a School Department liaison to the BPAC. This person can serve as a conduit for Bike/ped needs at the schools to be relayed to the BPAC and incorporated into system planning, prioritization and implementation. They can also serve as a source of information on student walker/cyclist data.
- The Town Manager should request that the Chief of Police designate a Barrington Police Department liaison to the BPAC. This person can serve as a conduit for bike/ped needs that may be identified by Town Public Safety staff to be relayed to the BPAC and incorporated into system planning, prioritization and implementation. They can also serve as a source of information on accident information.
- The Town Manager should request that the Department of Public Works designate a DPW liaison to the BPAC. This person can serve as a conduit for bike/ped planning that can be incorporated into DPW maintenance programs and capital planning.
- The BPAC should establish relationships with entities that support local businesses and promote economic development in Barrington and the East Bay area. BPAC can educate and collaborate with these organizations to highlight the positive impacts of increased bike and pedestrian mobility on local business.
- In collaboration with the Barrington School Department and the Barrington Police Department, expanded cycling and pedestrian education (at multiple grade levels) should be offered to students in Barrington schools. There are many models for this nationally. In past years (last in 2023) the Barrington Public Library, Barrington Lion's Club, Barrington Police Department, and Washington Trust have collaborated to offer the Bike Safety and Repair Day which included a free Helmet Giveaway and Fitting, Bike Safety Training, a Bike Obstacle Course and basic repair help.
- Expand cycling education for adults through signage on the East Bay Bike Path, PSAs, group presentations and other methods. There are many models for this nationally.
- Advocate for the State agencies that manage the East Bay Bike Path to plow the Path in the winter to keep it open for users. The EBBP is not merely a recreation facility; it is used by Barrington school students and workers to commute daily to their destinations.

## 5.5 Complete Streets Design Resources

Barrington should rely on the many excellent local, state, regional and national precedents and best practices when considering design alternatives for policies and physical interventions for improvements to bicycle and pedestrian infrastructure and policies. This can lower Barrington's costs of identifying alternatives and concept level design. At the schematic design stage, the Town will need to work with roadway engineers and permitting specialists to assess the feasibility of potential options.

Resources that Barrington should consult in the identification of alternative treatments will include:

- **Rhode Island Complete Streets Guide:** a plan and guide for both State and municipal governments to build transportation projects that are "complete" – user friendly, safe, and accessible for all roadway users, thereby creating a healthier, greener, and more equitable roadway system. The plan will include Complete Streets policy recommendations, implementation guidance, and design guidelines. The guidelines for roadway designers will provide best practices for redesigning streets, intersections, traffic calming, bikeways, walkways, transit, green streets, and more. The plan is expected to be published in mid-2025.
- **State of Rhode Island's Bicycle Mobility Plan (BMP): Moving Forward 2040** https://planning.ri.gov/documents/LRTP/Bicycle-Mobility-Plan.pdf While the RI BMP is the overarching planning document for cycling systems and infrastructure in the state, and also contains a toolkit section

(pages 42-51) with extensive examples of many physical improvements that municipalities and State agencies can undertake.

- **Complete Streets websites from the Federal Highway Administration and US Department of Transportation** provide policy and design resources that are in keeping with Federal policy.
- **National Association of City Transportation Officials (NACTO)** website https://nacto.org/ provides resources that can be used in network connectivity as well as site specific designs for bicycle and pedestrian transportation infrastructure.
- **Smart Growth America** is one of the national leaders in Complete Streets resources**.** Their website section on Complete Streets policy and design is a clearinghouse of usable information. https://smartgrowthamerica.org/program/national-complete-streets-coalition/resources/
- Many municipalities similar to Barrington have created or adopted detailed design guidelines for sidewalk and cycling infrastructure. Many in Massachusetts have been funded through the State of Massachusetts' Complete Streets Program and their physical environments are very similar to Barrington, making them ideal models.
    - 2012 Cape Cod Commission publication Complete Streets/Living Street: A Design Manual for Cape Cod.
    - MassDOT also completed a Cape Cod Route 28 Corridor Complete Streets study in for Route 28 from Falmouth to Orleans.

# 6 Concept Designs for High Priority Projects

The Town staff and BPAC identified five (5) projects from the Priority 1 List that are critical for early design consideration ahead of implementation. Fuss & O'Neill was tasked with preparing the following for each project:

- Existing conditions assessment
- Concept level design for interventions
- Order of magnitude cost estimate for interventions

The top 5 priority projects advanced to concept design under this task of the Implementation Plan are:

1. **Washington Road:** Assess ability to redesign and construct with separated cycling/multiuse path facilities to achieve continuous pedestrian/bike facilities from Route 103 on the north to Nayatt Road on the south. If infeasible, assess feasibility to install sidewalks to fill missing gaps and replace/upgrade existing sidewalks that are undersized and in poor condition. Improve critical street crossings with signage, lighting and paint.

2. **Sowams Road:** Redesign south segment to accommodate separated sidewalks in the missing areas to achieve full connectivity from New Meadow on north to Crossways on south. Examine potential for Crossways to provide east-west connection to New Meadow Road sidewalk network and EBBP beyond. Redesign paved area to include painted bike lanes and signage.

3. **Veteran's Park Multiuse Path:** Upgrade existing dirt trail to multiuse trail connector (potentially reinforced permeable gravel surface with elevated boardwalk in wetland locations) from Broadview Drive and/or Nayatt on south to Kent Street at YMCA on north. This would be similar to the elevated trail boardwalk south of the YMCA and in conformance with RI DEM's "Guidance for Wetland Crossings during Trail Development, section on Bike Paths, Foot Paths – Trails and Boardwalks."

4. **Martin Avenue/Lamson Road:** Calm traffic and provide sidewalks for separated pedestrian facilities where missing. Traffic volume probably does not warrant stop signs. The main concerns by residents appear to be higher than permitted vehicle speeds and truck traffic using the streets as a cut-through. The paved area on Martin Avenue and Lamson Road ranges from 22 to 25 feet in width, which is typical for roadways of this type and surrounding residential land uses. Some recommended interventions to reduce vehicle speed and improve safety for all users include:
    a. The existing speed limit on both Martin and Lamson is 25 miles per hour. Consider reducing the posted limit on both streets.
    b. Lamson Road has partial sidewalks on the south side of the street. Martin Avenue has no sidewalks. Assess right of way size (and associated existing conditions) for feasibility of installing a separated sidewalk on at least one side of the roadway to permit all walkers (especially those traveling to and from area schools) safe distance from vehicular traffic.
    c. Use paint to highlight narrower travel lanes to signal to drivers that this is a narrow residential street, not a higher speed collector roadway.
    d. Install vertical signage highlighting bike and pedestrian users and consider radar actuated speed signage to inform drivers of actual travel speeds.

5. **County Road/RI-114 through Barrington Center:** The Town is interested in remaking County Road/RI-114 as a walkable "Main Street" with enhanced multimodal access, to include widening sidewalks, adding

on-street parking, closing curb cuts where feasible, and improving bicycle infrastructure. The work will be to research precedents for similar downtown areas with State roadway. Using these precedents, we have assessed the available right of way and created alternative treatments that improve facilities for cyclists and pedestrians.

# 7 End Notes and Sources

Mekuria M. C., Furth P. G., and Nixon H. *Low-Stress Bicycling and Network Connectivity*. MTI Report 11-19. CA-MTI-12-1005. Mineta Transportation Institute, San Jose, Calif., 2012.

Dill J., and McNeil N. Four Types of Cyclists? Examination of Typology for Better Understanding of Bicycling Behavior and Potential. In *Transportation Research Record: Journal of the Transportation Research Board, No. 2387*, Transportation Research Board of the National Academies, Washington, D.C., 2013, pp. 129–138.

# Appendix A: Level of Traffic Stress Survey Form

You do not have permission to submit this survey record. Show details

# Barrington Complete Streets Data Collection

**Street name:**

COUNTY RD

**Does this match the street you think you're on?***

- Yes
- No

**Please take a photo of typical bike/ped conditions on this street**

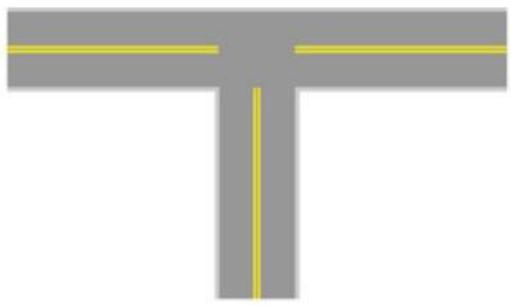
Please do not stand in the street to take this photo

Drop image here or select image

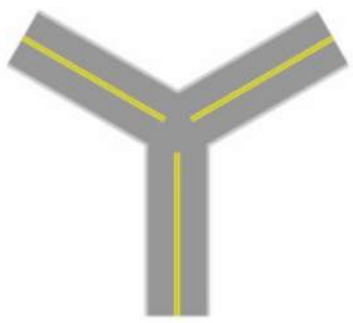
## Intersections on this segment

**In general, how many streets meet at each intersection?***

- Two (2)



- Three (3)



- Four (4)

- Five (5)

**Do intersections on this road have crosswalks?***

- Yes
- Some, but not all
- No

You do not have permission to submit this survey record. Show details

Do intersections on this segment have a pedestrian signal?

- Yes
- Some, but not all
- No

## Information about vehicle travel

**Do people typically park on the street here?**

- Yes
- No

**How many vehicle travel lanes are there on the street named above?***

Include both directions if this is a two-way road

- One (1)
- Two (2)
- Three (3)
- Four (4)
- Five (5)
- Six (6)

**During the morning or evening commuting peak, how frequently are cars going past?***

- Less than every 10 seconds
- Between 10-60 seconds
- More than a minute

**While you are filling out this form, how fast are people driving?***

Relative to the speed limit

- People generally respect the speed limit
- People go a little over the speed limit
- People go waaay over the speed limit

**Is there room/low volume so that drivers have room and can safely pass and accommodate pedestrians?***

- There's always enough space to cars
- Drivers give space when they can
- Drivers never have space to give

**Is there room/low volume so that drivers have room and can safely pass and accommodate cyclists?***

You do not have permission to submit this survey record. Show details

There's always enough space to cars

Drivers give space when they can

Drivers never have space to give

## Multimodal Facilities

**Are there bicycle facilities on this segment?***

(e.g. painted bike lane, sharrows, etc)

- (●) Yes
- ( ) No

**Are there sidewalks on this segment?***

- (●) Yes
- ( ) No

## Bicycle Facilities

**What kind(s) of bicycle facilities are present?***

Select all that apply

- [ ] Separated bike lane

- [ ] Painted bike lane (not separated)

- [ ] Symbolized bike lane (not separated)

You do not have permission to submit this survey record. Show details

On-Street Sharrows


**What condition is the bike facility in?***

Good

Fair

You do not have permission to submit this survey record. Show details

Poor


Very Poor

**How faded are the markings indicating a bike facility?***

- Fresh Paint
- Slightly Faded
- Very Faded

**How many signs indicating bike facilities are present?***

- Many
- Some
- Absent

## Pedestrian Facilities

**How wide is the sidewalk?**

In inches

**Select the option that describes the sidewalk configuration for this segment***

- Both sides

You do not have permission to submit this survey record. Show details

Only one side

Desire Path(s)

Sometimes one, sometimes none

Sometimes both, sometimes one

**What condition are sidewalks in?***

Good

Fair

Poor

You do not have permission to submit this survey record. Show details

Crumbling

**What material are the sidewalks made of?***

Concrete

Asphalt

Concrete AND Asphalt

You do not have permission to submit this survey record. Show details

**Does sidewalk heaving impair a wheelchair rider or create a tripping hazard?***

Greater than 3/4" misalignment

- Yes

- No

**Are the sidewalks grade-separated?***

- Yes

- No

## Perceived User Stress

**Considering the following existing factors, provide YOUR assessment of how much stress pedestrians and cyclists would feel while using this road segment:**
**Factors:**
**- Existence and quality of separated/designated facilities**
**- Volume of vehicles**
**- Speed of vehicles**
**- Distance from passing vehicles**
**- Driver aggressiveness**

**Bicycling Stress Level Rating for ALL ages and abilities***

You do not have permission to submit this survey record. Show details

Very Low (all users feel comfortable)

Low (60% of users feel comfortable)

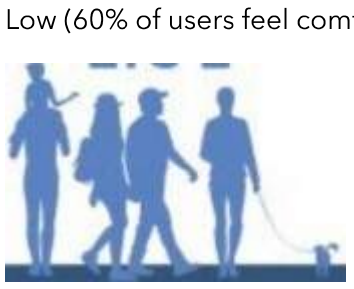
Moderate (10% of users feel comfortable)

High (1% of users feel comfortable)

**Pedestrian Stress Level Rating for ALL ages and mobilities***

Very Low (all users feel comfortable)

Low (60% of users feel comfortable)



Moderate (10% of users feel comfortable)

You do not have permission to submit this survey record. Show details

High (1% of users feel comfortable)

**Additional notes: Is there anything unique about this street NOT captured by the questions above?**

- (●) Yes
- ( ) No

## Additional Comments

**Please describe the unique conditions at this location**

**Please take a photo the unique condition at this location**

A good photo shows both the condition and the its context for pedestrians and cyclists

▸ Details

Drop image here or select image

Submit

# Appendix B: Public Input Prioritization Matrix

**Barrington Bicycle/Pedestrian Implmentation Plan** **Public Input Prioritization Matrix** **FINAL DRAFT - 3/26/2025**

*Note 1: This list is composed of key roadway segment improvements that were identified during public engagement. These represent projects that the public feel will fill existing gaps in the existing bicycle and pedestrian facility network in Barrington RI. Filling those gaps results in a townwide, interconnected network that users feel safe to utilize.*

*Note 2: Ranking method: Projects were scored using the following inputs, and then all results tallied and weighted.*

*- July 2024 BPAC Workshop Results: Network Gap Prioritization Vote Tallies*

*- Scaled results (scale 0-4) from July 2024 BPAC Workshop Results: Network Gap Prioritization Vote Tallies*

*- 2022 Complete Streets Plan Survey Results (total votes by public)*

*- Scaled results (scale 0-4) of 2022 Complete Streets Plan GIS Mapping Survey Results (total votes by public)*

*- Importance to Overall Barrington Bike and Pedestrian Network Connectivity as rated by Fuss & O'Neill (Score 0-4)*

| Roadway | Section | State or Local roadway | Issue/condition identified by BPAC in 2024 Plan Process | Potential Improvement identified by BPAC in 2024 Plan Process | Complexity/ difficuly to implement (1= LOWEST AND 5= HIGHEST | TOTAL Scaled Priority Based on Public Input (1= HIGHEST AND 0 = LOWEST) |
|---|---|---|---|---|---|---|
| Washington | Entire length | State | Missing sidewalks on sections/sidewalk repair of existing needed on Washington to create complete separated sidewalk | Improve and connect existing sidewalks on Washington, specific areas include Willett Avenue to Sweetbriar, Bay Spring Avenue to 3rd street, Bittersweet Court to Nayatt Road | 3 | 1.00 |
| New Meadow | From New Meadow and Sowams to EBBP | State | Create safe bike/ped connections from New Meadow and Sowams to EBBP | Connect sidewalks the remaining length of New Meadow, to bike path | 2 | 0.90 |
| Sowams | From Kent Street to County Road | State | Sowams between County to Kent, no sidewalks, no shoulder, lots of school traffic, kids biking to school, walking to school near Kent | Improve narrow/non-grade separated sidewalks and curb cuts; fill in missing sidewalk gaps | 2 | 0.80 |
| Middle Hwy | At intersection with County Road (RI-103) | State | Missing sidewalks south of RI-103 intersection | Add new sidewalks on west side of Middle Highway between County Road and Sherwood Lane to extend Safe Routes to School | 2 | 0.72 |
| Nayatt | From Broadview Drive to Middle Hwy | State | No sidewalks on Nayatt from Broadview Drive to Middle Hwy | Connect sidewalks between Broadview and Middle Hwy | 4 | 0.64 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Massasoit | From Arvin Avenue to Woodward Avenue | State | No sidewalks on either side of Massasoit from Arvin Avenue to Woodward Avenue | Add sidewalks on south side of Massasoit | 2 | 0.63 |
| Washington | Entire length | State | Bikes share narrow paved lane area with vehicular traffic with little room for safe passing. | Separated or delineated bike lanes along length of Washington Road | 4 | 0.60 |
| Massasoit | Intersection of Massasoit and Martin | State | Poor sight distances and no markings/signage to facilitate pedestrians and cyclists crossing. Higher than posted speeds by motorists through corner. | Improved signage, speed deterants to improve intersection, crosswalks, flashing beacons | 4 | 0.58 |
| Rumstick | Section from Woodland (north) to south of Hart Lane. | State | Rumstick only has sidewalks on east side. For residents (especially kids that live in Woodland/Half-Mile neighborhoods on west side of Rumstick, they must cross Rumstick to walk/cycle to Nayatt School. Either extend sidewalks on west side of Rumstick or install crosswalk with signage. | Need bike lanes on Rumstick and sidewalks on both sides. | 2 | 0.53 |
| Massasoit | Massasoit and Federal intersection | State | Signal phasing for bike-ped crossing is not optimized for all users | Improve signal phasing to intersection for safer bike-pedestrian crossing | 3 | 0.50 |
| East Bay Bike Path | East Bay Bike Path intersections with State Roads at: Washington Road, Middle Highway, County Road (RI-114), New Meadow and Sowams Road. Town Roads at: Narragansett Avenue, Bay Spring Avenue, South Lake Drive, West Street, | State | Poor sight lines, poor stopping/yielding behavior by cyclists and motorized vehicle users at intersections along East Bay bike path. | Create/improve visibility of bike path intersections by striping or signage. Improve user behavior with signage, surface painting and paving. | 1 | 0.48 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Martin and Lamson | From New Meadow Road (east) to Massasoit Avenue (west) | Town | Martin and Lamson Streets are used as frequent alternative routes by cyclists and pedestrians who feel unsafe on Massasoit. | Improve cycling and pedestrian facilities along Martin and Lamson including signage, pavement markings and bike lanes | 2 | 0.45 |
| Veterans Park | From West Street/East Bay Bike Path/YMCA (north) to Nayatt Road (south) through Park Road and Veteran's Park | Town and BCWA | There is informal, unimproved trail connection from West Street, East Bay Bike Path and the YMCA to Nayatt Road through Park Road and Veteran's Park. It is narrow and somethimesw overgrown and muddy/flooded during rainy periods. This is used by many school kids and walkers to read the Bike Path, schools and downtown in order to avoid going around on Nayatt/ Rumstick or Middle Highway. | Improve the informal path from West Street/the YMCA to Nayatt Road so it is ADA accessible and accomodates cyclists and pedestrians in wet weather. | 3 | 0.44 |
| Federal | County Road (on east) to Middle Highway (on west) | Town | Pedestrians and cyclists have little separation from vehicular traffic. There are no separated sidewalks. This is an important east-west connector. | Increase pedestrian and cyclists safety by improving infrastructure including signage, sidewalks, pavement markings, crosswalks, etc. | 3 | 0.43 |
| East Bay Bike Path | East Bay Bike Path (north) to Legion Way/skate park (south) | Town Trail | There is an informal, unimproved trail from East Bay Bike Path to Legion Way/skate park | Network signage on bikepath, clear vegetation, improve path surface | 1 | 0.38 |
| Maple | Despirito Lane, Vineyard Lane, Joy Street, Kirby Street, School Lane, Prince's Hill Avenue | Town | Dead end streets on South Side of Maple Avenue do not have accessible and clear connections to East Bay Bike Path. | Add connections from dead end streets off Maple including: Despirito Lane, Vineyard Lane, Joy Street, Kirby Street, School Lane, Prince's Hill Avenue | 2 | 0.36 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Rumstick | From intersection of County (RI-114) at north to Jennys Lane on south | State | Pedestrians and cyclists frequently do not use signalized intersection at Rumstick and County. They instead try to cross Rumstick south of County where there are poor sightlines for all users. There are no sidewalks on west side of Rumstick south of Woodland Road. | Redesign pedestrian and bicycle facilities in this area with sidewalks, crosswalks with push button lights and improved signage | 3 | 0.36 |
| County | Massasoit Avenue (on northwest) to Warren Town line (on southeast) | State | Condition of paving is deteriorating and maintenance and/or reconfiguration is scheduled. Existing lane configuration provides for no separation between cyclists and motoror vehicles. Sidewalks are narrow and frequently made inaccessible by utility poles which restrict usable width. | Collaborate with RIDOT upcoming maintenance and redesign opportunities for County Road. Consider eliminating center turn lane and including separated bike lanes. Consider enhanced pedestrian facilities, crosswalks, signage and crossing lights at key intersections. | 3 | 0.33 |
| Haines Memorial State Park | From Narragansett Ave on west to Washington Road on east. | State | Haines Park Road is in poor condition but is valuable esat-west connector from EBBP to Washington Road. Unmaintained paths in Park have potential to be better pedestrian connectors. | Improvements to paths in Haines Park to connect to neightborhoods. Signage on Haine Park road to encourage bicycle and pedestrian users. | 3 | 0.32 |
| Downtown | Area bounded by County Road (RI-114), Hilltop Avenue, West Street, East Bay Bike Path | | Vehicular traffic on downtown streets exceeds speed limits in this high density area. | Add traffic calming measures to side streets in downtown area | 2 | 0.29 |
| Maple | Barrington Avenue, Walter Street, South Street, Centennial Avenue, Prince's Hill Avenue | Town | Crossing on Maple to get to High School | Add crosswalks to Maple Avenue to improve north-south accessibility for pedestrians and cyclists | 2 | 0.28 |
| Bay Spring | From Narragansett Ave on west to Washington Road on east. | Town | Bay Spring has space for sidewalks and bike lanes | Add bike lanes or sidewalks to Bay Spring | 3 | 0.28 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Hampden Meadows Greenbelt | Path between Kent & Linden | Town | Improvements for multi-use path between Kent & Linden | Consider improvements for multi-use path | 3 | 0.25 |
| Middle Hwy | Intersection at County Road (RI-103) | State | Fast signal changes at Middle Hwy intersection, dangerous intersection for students (hill to touch button- hard for kids on bikes) | Improve signal changes with longer intervals for students at Primrose school | 2 | 0.25 |
| Walnut | From Alden (north) to East Bay Bike Path | Town | Entire neighborhoods south of Lincoln Avenue (centered on Bradford Street and Houghton Street) are adjacent to, but wholly disconnected from, the East Bay Bike Path. | Extend Walnut Street across existing Town-owned Bicknell Park to the East Bay Bike Path (small bridge) | 3 | 0.25 |
| County | Intersection with Mathewson Road | Town | Matthewson crossing at bike path has poor visibility | Add signage to Matthewson bike path crossing | 2 | 0.20 |
| Nayatt | | State | Crosswalk across from little trail kids use to get to Nayatt (not just at existing) | Crosswalk across Nayatt to school | 3 | 0.20 |
| County Road (RI 103) | Riverside to the merge with Wampanoag Trial (RI 114) | State | No sidewalks | Add sidewalks | 2 | 0.16 |
| Maple | Entire length | Town | High vehicular speeds on Maple make pedestrian and bike users unsafe | Add traffic calming to Maple | 2 | 0.14 |
| Rumstick | From County (on north) to Chacapacasset (on south) | State | Speeding on Rumstick combined with frequent street and driveway entrances creates dangerous conditions for all users, especially cyclists | Added speed deterants and traffic calming on Rumstick | 3 | 0.11 |
| Ferry | Entire length | Town | Pedestrians and cyclists on Matthewson have little separation from vehicular traffic. This is a popular walking and cycling route. | Increase pedestrian and cyclists safety by improving infrastructure including signage, sidewalks, crosswalks | 4 | 0.11 |
| Matthewson | Entire length | Town | Pedestrians and cyclists on Matthewson have little separation from vehicular traffic. This is a popular walking and cycling route. | Increase pedestrian and cyclists safety by improving infrastructure including signage, sidewalks, crosswalks | 4 | 0.11 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Lincoln | At Barrington High School | Town | High School drop off area road is crowded with cars and lacking space | Add separated sidewalk within grassy area near trees, students walk there anyway, cars park along existing sidewalk (Lincoln Ave) | 3 | 0.10 |
| Lake Shore Drive | From South Lake Drive (on west) to Mdddle Hwy (on east) | Town | North Lake Drive, one-way, only 1 house, could use to make better connection to bike path | Make North Lake Drive into one-way with bike access | 2 | 0.09 |
| Lincoln | At Middle Hwy intersection | Town | Middle school intersection, dangerous for bikers and walkers | Make the intersection No right on red to reduce motorist/pedestrian conflicts | 3 | 0.09 |
| Nayatt | Crossings at Clarke, Bluff, Collins, Water Way, Bay, Karen and Terrace | State | Crossings from south streets/neighborhoods are not prominent enough to alert drivers to stop for pedestrians. | Add school signs and push button lights | 3 | 0.09 |
| Rumstick | Rumstick, Chachapacassett intersection | State | Intersection is confusing to users and favors vehicles driving north to south. | Make intersection "All way stop", all crosswalks and signage to improve ped/bike safety | 2 | 0.09 |
| Nayatt | Entire length | State | RIPTA used to go on Nayatt; also RIPTA buses don't stop | Add service and bus stops on Nayatt | 5 | 0.02 |
| East Bay Bike Path | Entire length | State | Electric bike speeds on bike path (bikes, scooters) have potential to cause high-speed collisions and accidents. | More signage about e-bike speed restriuctions on East Bay bike path | 2 | 0.00 |

# Appendix C: Advocacy Methods for State and Federal Funding/Approvals

For each project Barrington seeks to implement, it will need to organize Town resources and create coalitions with partner organizations that can join to advocate for funding to design, permit and construct the project. Some methods (within a sequenced process) for increasing the Town's effective advocacy for funding and implementation of pedestrian and bicycle infrastructure projects on State roadways are presented here. They are drawn from best practices on the local, regional and national levels.

**1. Build a Strong Case Statement:**

- **Highlight the Benefits:** Emphasize the positive impacts of the project, such as improved safety, increased physical activity, reduced traffic congestion, environmental benefits, and economic development.
- **Data and Evidence:** Gather data to support your claims. This could include crash statistics, traffic counts, surveys on community needs, and examples of successful projects in other areas. Use compelling graphics to illustrate the problem and proposed solutions.
- **Community Support:** Gather public support for the project through petitions, letters of support, and attendance at public meetings. Demonstrate this support to the potential funder or reviewing agency.
- **Learn from Leaders:** Connect with regional and national leaders to incorporate their best practices, data and tools:
    - People for Bikes (https://www.peopleforbikes.org/) works nationally on three pillars: infrastructure, policy and participation. They are a wealth of resources on ways in which communities can advocate at the local, state and national level for increased resources for cycling (and frequently shared bike/pedestrian) infrastructure.
    - Advocacy Advance (https://www.advocacyadvance.org/) is an organization dedicated to helping states fully fund, staff, and implement safe bicycle and pedestrian infrastructure projects with a good information clearinghouse.
    - League of American Bicyclists (https://bikeleague.org/) is the grassroots movement to create safer roads, stronger communities, and a Bicycle Friendly America for everyone through education, advocacy and promotion.
    - Bike Newport https://bikenewportri.org/) is a model for how a local non-profit organization can impact local planning and create a constituency that can lobby for policy changes and increased funding for project implementation.
    - The Rhode Island Bicycle Coalition (ribike.org) works to make "Rhode Island as a place that is safe & accessible for all, with safe and connected bike routes separated from traffic within easy reach of most families."
    - Partnership for Active Transportation (https://www.activetrans.org/) is a broad coalition advocating for increased public investment in walking and bicycling.

**2. Develop a Compelling Project Proposal:**

- **Clear and Concise:** Using the Case Statement, present your project proposal in a clear, concise, and persuasive manner. Highlight how existing infrastructure is insufficient for safe bike and pedestrian movement and how the project will improve life for users. Keep writing simple and direct and include graphics that clearly explain the project.

- **Detailed Plans:** Formulate designs that meet Federal and State design standards. Create a clear set of design plans, cost estimates, and a timeline for project completion. These can begin with a concept and can be refined as the project progresses through schematic design, design development, permitting and final design its design and funding process.
- **Address Concerns:** Anticipate potential concerns from RIDOT, neighborhood residents and other stakeholders and address those concerns proactively in your proposal.

**3. Identify Potential Funding Sources:**

- **State Transportation Improvement Program (STIP):** Have a broad coalition of community project supporters become familiar with RI's STIP, which outlines planned transportation projects and funding allocations.
- **State Funding Programs:** Research State funding opportunities, such as the RIDEM Recreational Trails Grants, Bicycle Infrastructure funding programs, and RIDOT program set-asides for active transportation infrastructure that can apply to the proposed project.
- **Federal Programs:** Research federal funding opportunities, such as the Transportation Alternatives program, the Safe Routes to School program, Safe Streets for All and grants from the Federal Highway Administration that can apply to the proposed project.
- **Local Funding:** Advocate for and designate local funding sources, with a focus on programs within municipal budgets such as roadway maintenance line items, active transportation projects fund and recreational trails construction through the Parks and Recreation Department. Local funds are critical as matches for competitive State and Federal grant programs.

**4. Engage with Stakeholders:**

- **State DOT Officials:** Build relationships with key decision-makers at the DOT. Request meetings to discuss your project and to learn about their requirements and methods to make design decisions for State roads running through RI communities. There is often a tension between RIDOT's objective for safe and efficient "throughput" of traffic to get to its ultimate destination and Barrington's goals to reduce speeds of traffic to improve safety and the level of stress for cyclists and pedestrians. Build knowledge about how RIDOT project development system works and how projects are on the STIP and how they are prioritized
- **Elected Officials:** Make local and state leaders aware of the improvements Barrington wants to see on the State roads and why they are critical for safety, livability and fairness. Contact (and ideally meet with) the following officials to inform them about the project and seek their support:
    - State representatives and senators
    - State legislative Committee chairs responsible for transportation
    - Governor and Lt. Governor
    - US Congressional representative and Senators (and their transportation/local projects staffers)
- **Stakeholders in the project area:** Bringing change to the roadways in a community can be divisive. The project coalition should connect with the following "concentric circles" of stakeholders to make them aware of the project, make the case statement as to why it will be beneficial and answer questions and listen to concerns with an open mind.
    - Abutting property owners
    - Area business owners
    - Neighborhood organizations/block associations
    - Municipal government boards and commissions who may review/permit the project

    - Other organizations specific to the area and/or project type
- **Community Groups:** Partner with local bicycle and pedestrian advocacy groups, environmental organizations, and other community stakeholders to build a coalition of support.

**5. Be a Persistent and Patient Advocate:**

- **Follow Up with DOT:** Follow up regularly with DOT officials and elected officials to track the status of your funding request.
- **Public Awareness:** Keep the project in the public eye and raise public awareness about the project through media outreach, social media, and community events.
- **Build relationships:** Cultivate strong relationships with key decision-makers and stakeholders.
- **Celebrate successes:** Acknowledge and celebrate milestones along the way to maintain momentum. Thank those DOT and community partners who have supported the progress of the project.

# Appendix D: Concept Design – Washington Road

**Washington Road:** Assess ability to redesign and construct with separated cycling/multiuse path facilities to achieve continuous pedestrian/bike facilities from Route 103 on the north to Nayatt Road on the south. If infeasible, assess feasibility to install sidewalks to fill missing gaps and replace/upgrade existing sidewalks that are undersized and in poor condition. Improve critical street crossings with signage, lighting and paint.

FUSS & O'NEILL

# M E M O R A N D U M

**TO**: Phil Hervey, AICP – Town Manager

**FROM**: Katherine O'Shea, EIT
Arnold Robinson, AICP – Project Manager

**CC:** Herb Durfee – Director of Planning, Building and Resilience

**DATE**: February 7, 2025

**RE**: Barrington Complete Streets Implementation Plan, F&O Project 2017058.A60

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**Washington Road between South Lake Drive and County Road**

Roadway Existing Conditions

- Available ROW
  - Minimum width: 41 feet (at Bay Spring Avenue)
  - Average width: 51 feet
  - Maximum width: 61 feet (at Annawamscutt Road)

- Roadway Width
  - Minimum width: 20 feet (Spinnaker Drive)
  - Average width: 22 feet
  - Maximum width: 33 feet (at Short Road)
  - Lane width: 10 feet
  - Shoulder width: 0-6 feet

- Vehicle Volumes
  - Average Daily Traffic (ADT): 3,000 (counted in 2013)

- Vehicle Speeds
  - Speed Limit: 35 MPH traveling northbound (between South Lake Drive and Bradford Street)
  - Speed Limit: 25 MPH traveling northbound (between Bradford Street and County Road)
  - Speed Limit: 35 MPH traveling southbound (between County Road and South Lake Drive)
  - School Zone: 25 MPH (between Milton Rd/Fountain Ave and ~200 feet north of Crown Avenue)

- Existing Compliant Pedestrian Facilities
  - Asphalt sidewalk on the west side of Washington Road between Bittersweet Court and 3rd Street (~1,000 feet)
  - Mix of asphalt and cement concrete sidewalk on the west side of Washington Road between Bay Spring Avenue and Milton Road/Fountain Avenue (~760 feet)
  - Cement concrete sidewalk on the west side of Washington Road/south side of Willett Avenue between John Street and Richmond Avenue (~975 feet)

- Existing Substandard Pedestrian Facilities
  - Asphalt sidewalk on the west side of Washington Road between Alfred Drowne Road and Bay Spring Ave (~515 feet)
  - Asphalt sidewalk on the west side of Washington Road between Milton Road/Fountain Avenue and John Street (~2,830 feet)

- Existing Crosswalks across Washington Road
  - At Short Road/Myles Street
  - At Lincoln Avenue
  - At Bay Spring Avenue
  - At Milton Road/Fountain Avenue
  - In front of 108 Washington Road

Proposed Sidewalks

The approximate lengths and costs of proposed sidewalks on Washington Road can be found in Table 1 below. Cost estimates include construction costs but do not include engineering design, permitting or bidding costs. These costs typically run between 9% and 12% of construction costs depending on the complexity of site conditions and regulatory requirements. They do not contain costs for legal fees related to temporary construction or permanent easements.

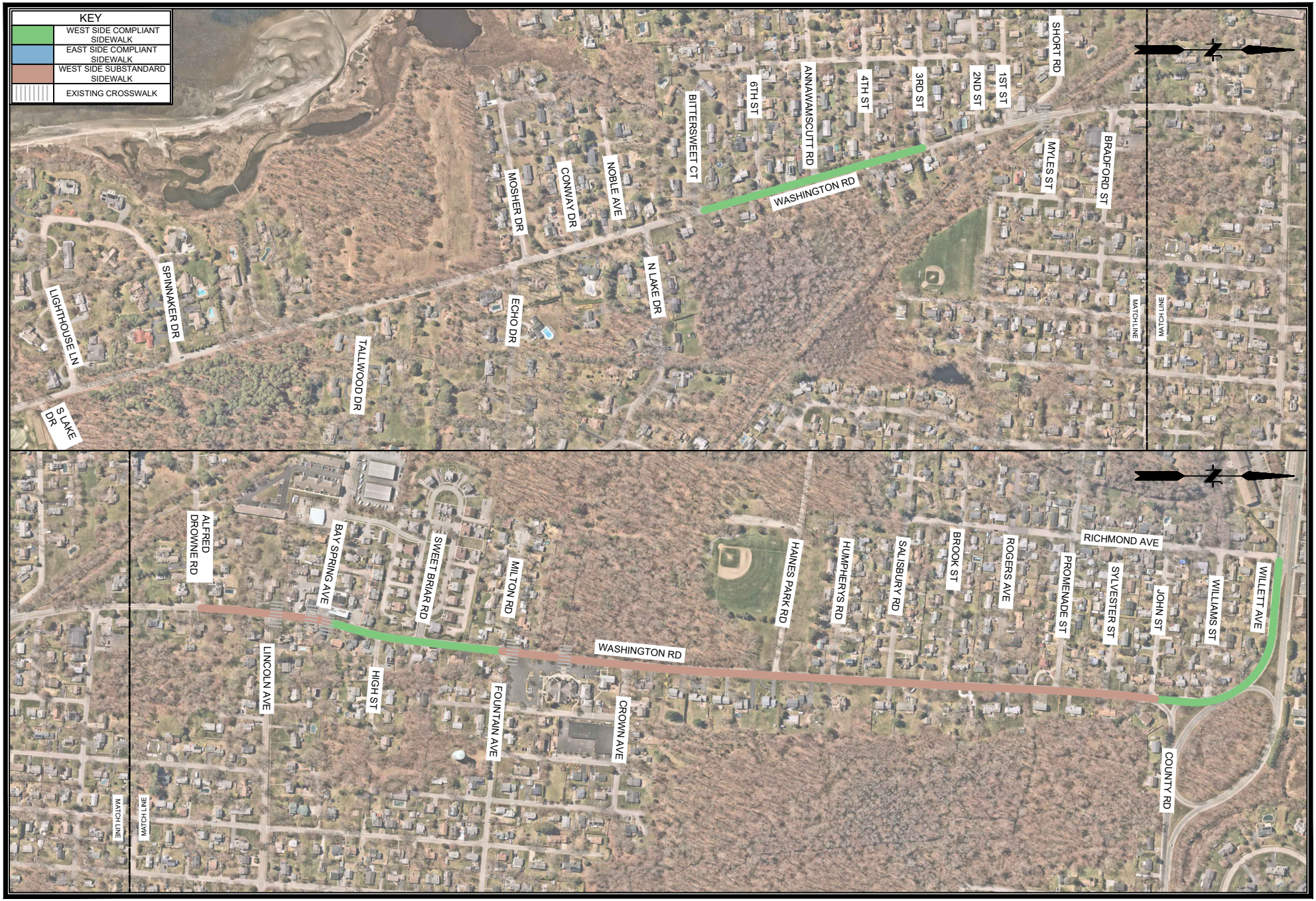
**Table 1**
**Proposed 5-foot Cement Concrete Sidewalks on Washington Road**
**Approximate Lengths and Costs**

| Roadway Segment | Treatment Adjacent to Sidewalk | | Approx. Length (ft) | Unit Cost | Total Cost |
|---|---|---|---|---|---|
| | Landscaped Buffer | Granite Curb | | | |
| South Lake Drive to Bittersweet Court *(Sidewalk on East Side)* | | X | 3,000 | $170 / LF | $510,000 |
| 3rd Street to 2nd Street *(Sidewalk on West Side)* | | X | 300 | $170 / LF | $51,000 |
| 2nd Street to Bradford Street *(Sidewalk on East Side)* | | X | 600 | $170 / LF | $102,000 |
| Bradford Street to Bay Spring Avenue *(Sidewalk on West Side)* | | X | 1,000 | $170 / LF | $170,000 |
| Milton Road to John Street *(Sidewalk on West Side)* | | X | 2,850 | $170 / LF | $484,500 |
| | | | | **TOTAL:** | $1,317,500 |

Proposed Crosswalks

The following crosswalks are proposed across Washington Road:

- At Spinnaker Road
- At Tallwood Drive
- At Bittersweet Court
- At 2nd Street
- At Bradford Street
- At Haines Park Road
- At Promenade Street

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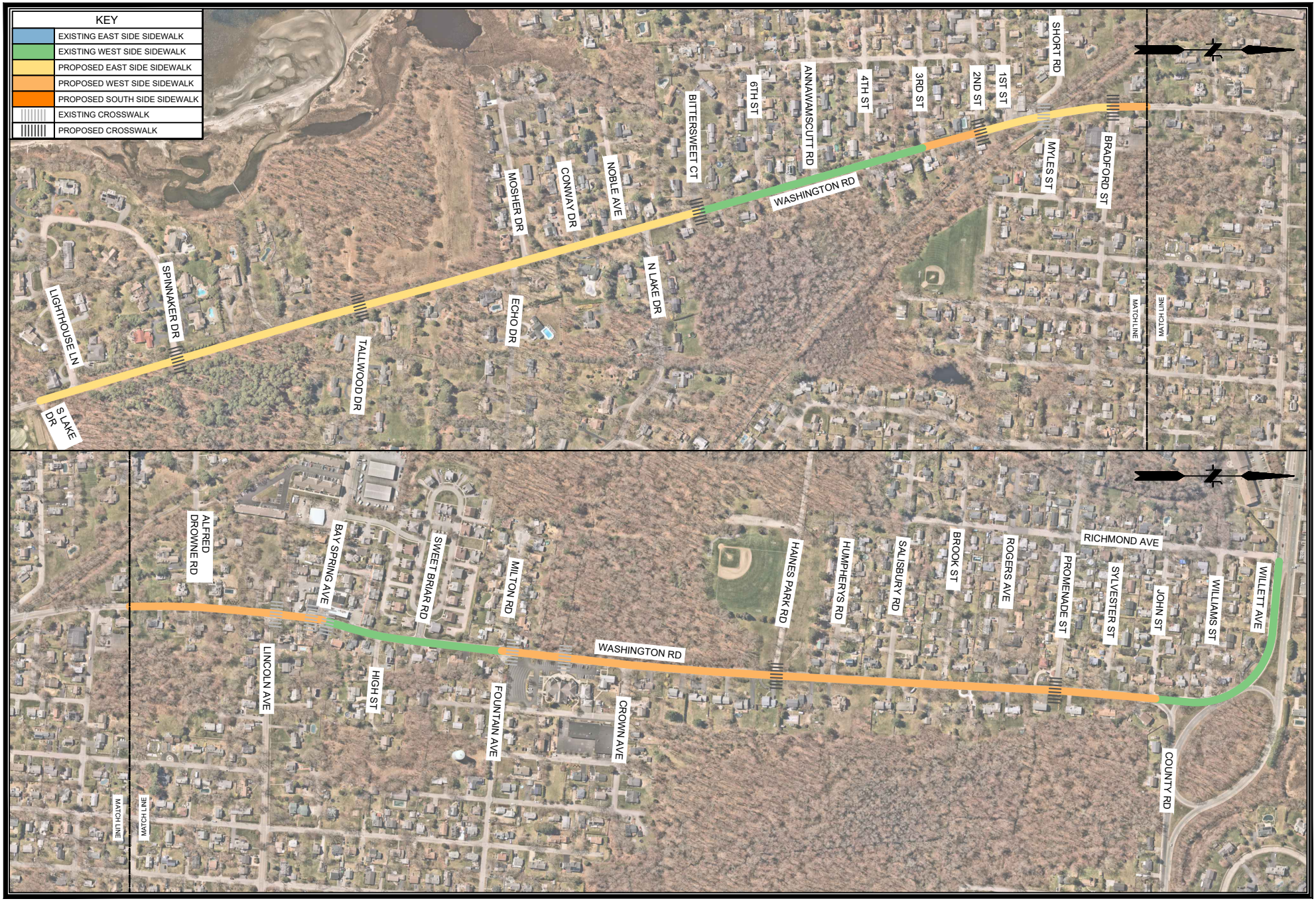
# EXISTING CONDITIONS ON WASHINGTON ROAD

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# PROPOSED CONDITIONS ON WASHINGTON ROAD

# Appendix E: Concept Design – Sowams Road

**Sowams Road:** Redesign south segment to accommodate separated sidewalks in the missing areas to achieve full connectivity from New Meadow on north to Crossways on south. Examine potential for Crossways to provide east-west connection to New Meadow Road sidewalk network and EBBP beyond. Redesign paved area to include painted bike lanes and signage.

FUSS & O'NEILL

# MEMORANDUM

**TO**: Phil Hervey, AICP – Town Manager

**FROM**: Katherine O'Shea, EIT
Arnold Robinson, AICP – Project Manager

**CC:** Herb Durfee – Director of Planning, Building and Resilience

**DATE**: February 7, 2025

**RE**: Barrington Complete Streets Implementation Plan, F&O Project 2017058.A60

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**Sowams Road between County Road and New Meadow Road**

Existing Roadway Conditions

- Available ROW
  - Minimum width: 37 feet (at Fox Run Road)
  - Average width: 40 feet
  - Maximum width: 53 feet (at Hampden Street)
- Roadway Width
  - Minimum width: 22 feet (at Crossway Street)
  - Average width: 27 feet
  - Maximum width: 33 feet (at Commonwealth Ave)
  - Lane width: 10 feet
  - Shoulder Width: 2-4 feet
- Vehicle Volumes
  - Average Daily Traffic (ADT): 2,200 vehicles (counted in 2013)
- Vehicle Speeds
  - Speed Limit: 30 MPH
  - School Zone: 20 MPH (between Belvedere Avenue and ~200 feet south of Christine Drive)
- Existing Compliant Pedestrian Facilities
  - Cement concrete sidewalk on the west side of Sowams Road between Crossways Street and Coach Murgo Lane (~960 feet)
  - Cement concrete sidewalk on the east side of Sowams Road between Columbus Avenue and Bullock Avenue (~1,560 feet)
  - Cement concrete on the west side of Sowams Road between Ownes Lane and Francis Street (~1,070 feet)

- Existing Substandard Pedestrian Facilities
  - Cement concrete sidewalk on the west side of Sowams Road between Sowams Elementary School and Owens Lane (~340 feet)

- Existing Crosswalks across Sowams Road
  - At Coach Murgo Lane
  - At Kent Street/Oak Grove Avenue
  - In front of Sowams Elementary School at Bullock Avenue

Proposed Sidewalks

The approximate lengths and costs of proposed sidewalks on Crossways Street and Sowams Road can be found in Tables 1 and 2 below. Cost estimates include construction costs but do not include engineering design, permitting or bidding costs. These costs typically run between 9% and 12% of construction costs depending on the complexity of site conditions and regulatory requirements. They do not contain costs for legal fees related to temporary construction or permanent easements.

**Table 1**
**Proposed 5-foot Cement Concrete Sidewalks on Crossways Street**
**Approximate Lengths and Costs**

| Roadway Segment | Treatment Adjacent to Sidewalk | | Approx. Length (ft) | Unit Cost | Total Cost |
|---|---|---|---|---|---|
| | Landscaped Buffer | Granite Curb | | | |
| New Meadow Road to Sowams Road *(Sidewalk on South Side)* | | X | 600 | $170 / LF | $102,000 |

Sidewalk is proposed on the south side of Crossways Street to connect to the existing sidewalk network on New Meadow Road.

**Table 2**
**Proposed 5-foot Cement Concrete Sidewalks on Sowams Road**
**Approximate Lengths and Costs**

| Roadway Segment | Treatment Adjacent to Sidewalk | | Approx. Length (ft) | Unit Cost | Total Cost |
|---|---|---|---|---|---|
| | Landscaped Buffer | Granite Curb | | | |
| Coach Murgo Lane to River Oak Road *(Sidewalk on East Side)* | | X | 2,650 | $170 / LF | $450,500 |
| River Oak Road to Columbus Avenue *(Sidewalk on East Side)* | X | | 750 | $80 / LF | $60,000 |
| Bullock Avenue to Owen Lane *(Sidewalk on West Side)* | X | | 600 | $80 / LF | $48,000 |
| Francis Street to Barneyville Road *(Sidewalk on East Side)* | X | | 1,750 | $80 / LF | $140,000 |
| Barneyville Road to New Meadow Road *(Sidewalk on West Side)* | | X | 600 | $170 / LF | $102,000 |
| | | | | **TOTAL:** | $800,500 |

Sidewalks are not proposed on Sowams Road between County Road and Crossways Street due to constrained ROW, steep grades on adjacent properties, and the proximity of decorative property features (such as the stone wall at 46 Sowams Road) to the roadway. It may be possible to install sidewalk along this portion of the roadway, but it is likely prohibitively expensive as retaining walls and ROW acquisition would likely be required. These constraints are depicted in images 1 and 2 below.

*Image 2: Decorative Features Located at 46 Sowams Road*

*Image 1: Existing Stone Wall and Grade Changes on Sowams Road near South Lane.*

Proposed Crosswalks

The following crosswalks are proposed across Sowams Road:

- At Lillis Avenue
- At Orchard Avenue
- In between Stanley Avenue and Linden Road
- At Francis Street

Additionally, a crosswalk is proposed across New Meadow Road at the intersection of Sowams Road and New Meadow Road. This crosswalk would provide a connection from the existing neighborhood on the western side of New Meadow Road to the proposed sidewalk network on Sowams Road.


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# EXISTING CONDITIONS ON SOWAMS ROAD


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# PROPOSED CONDITIONS ON SOWAMS ROAD

# Appendix F: Concept Design – Veteran's Park Multiuse Path

**Veteran's Park Multiuse Path:** Upgrade existing dirt trail to multiuse trail connector (potentially reinforced permeable gravel surface with elevated boardwalk in wetland locations) from Broadview Drive and/or Nayatt on south to Kent Street at YMCA on north. This would be similar to the elevated trail boardwalk south of the YMCA and In conformance with RI DEM's "Guidance for Wetland Crossings during Trail Development, section on Bike Paths, Foot Paths – Trails and Boardwalks."

FUSS & O'NEILL

# M E M O R A N D U M

**TO**: Phil Hervey, AICP – Town Manager

**FROM**: Katherine O'Shea, EIT
Arnold Robinson, Project Manager

**CC:** Herb Durfee, Director of Planning, Building and Resilience

**DATE**: March 21, 2025

**RE**: Barrington Complete Streets Implementation Plan, F&O Project 2017058.A60

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**Veterans Park Trail Improvements**

Existing Conditions

Veterans Park trail network provides 2.4 miles of trails across 230 acres. The existing trails are unideal, as they are narrow, often muddy throughout the year, and difficult to traverse by bicycle.

Proposed Improvements

Two existing trails in Veterans Park have been identified as potential candidates to receive improvements that will ensure ADA compliance of the trails. These proposed improvements include upgrading the existing at-grade path to provide an 8-foot shared-use path with a crushed stone base. An 8-foot wooden boardwalk with helical pillars would be provided at wetland crossings.

*Figure 1: Typical construction for raised wooden boardwalk across wetland crossing.*

The following two trails route options have been identified as potential candidates for improvements:

- Trail 1 – Connects from Broadview Drive to the parking lot at the southern end of Park Road
  - Trailhead entrance through existing ROW between 30 and 32 Broadview Drive
  - Approximately 1,150 feet of improved 8-foot crushed stone path
  - Approximately 200 feet of 8-foot wooden boardwalk over wetlands
  - No sidewalk provided on Broadview Drive to connect the trailhead to the existing sidewalk network on Nayatt Road
- Trail 2 – Connects from Nayatt Road to the parking lot at the southern end of Park Road
  - Trailhead entrance at an existing access on Nayatt Road across from Bluff Road
  - Approximately 1,700 feet of improved 8-foot crushed stone path
  - Approximately 750 feet of 8-foot wooden boardwalk over wetlands
  - Connects directly to existing sidewalk network on Nayatt Road

Approximate Cost

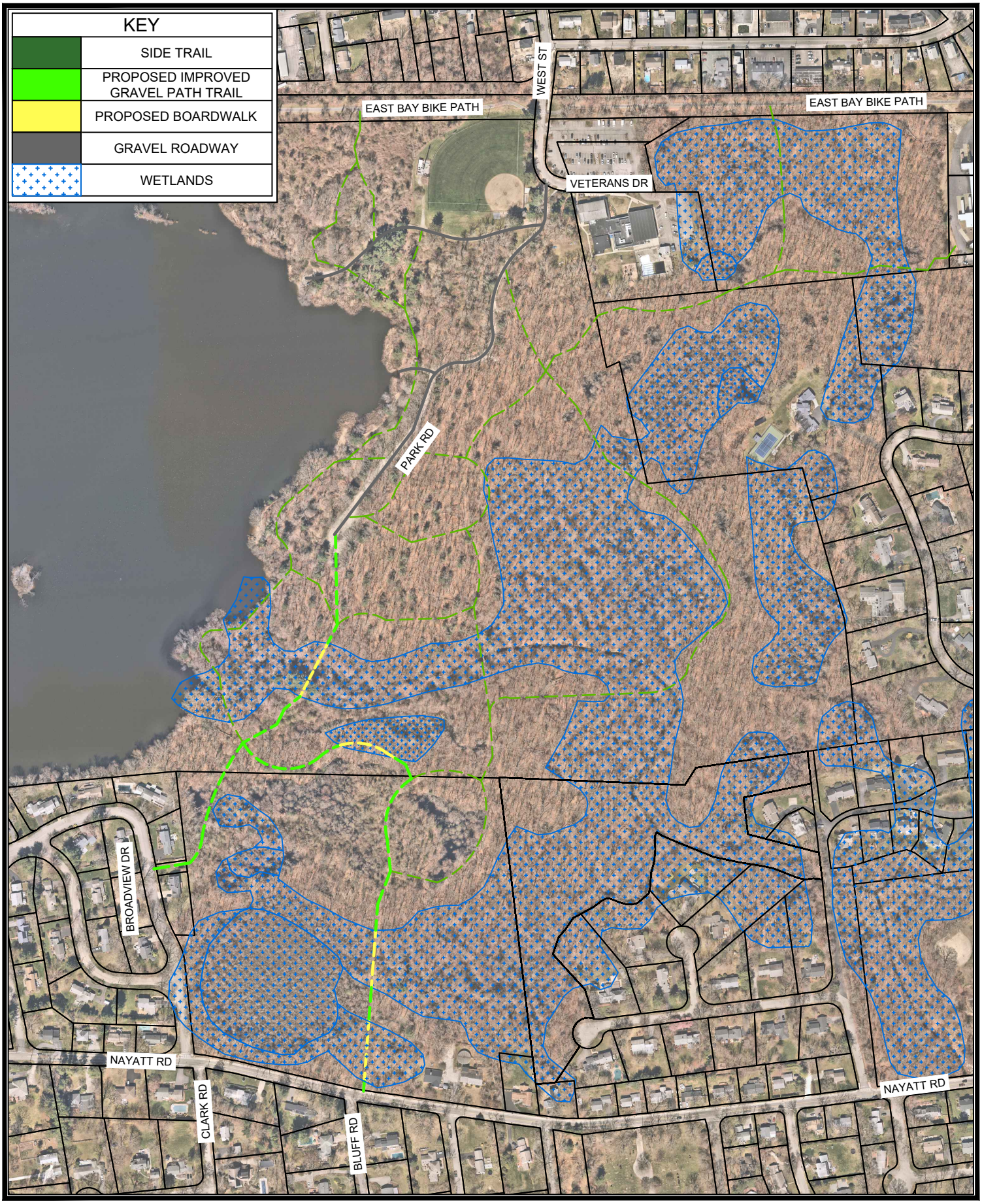
Cost estimates for the new walkways include construction costs and engineering design, permitting or bidding costs. They do not contain costs for legal fees related to temporary construction or permanent easements.

**Table 1**
**Trail 1 – Broadview Drive to Parking Lot at the Southern End of Park Road**
**Approximate Lengths and Costs**

| Roadway Segment | Approx. Length (ft) | Width (ft) | Unit Cost | Total Cost |
|---|---|---|---|---|
| Shared-use Path with a Crushed Stone Base | 1,150 | 8 | $15 / SF | $138,000 |
| Wooden Boardwalk with Helical Piers | 200 | 8 | $1,100 / LF | $220,000 |
| | | | **TOTAL:** | **$358,000** |

**Table 2**
**Trail 2 – Nayatt Road to Parking Lot at the Southern End of Park Road**
**Approximate Lengths and Costs**

| Roadway Segment | Approx. Length (ft) | Width (ft) | Unit Cost | Total Cost |
|---|---|---|---|---|
| Shared-use Path with a Crushed Stone Base | 1,700 | 8 | $15 / SF | $204,000 |
| Wooden Boardwalk with Helical Piers | 750 | 8 | $1,100 / LF | $825,000 |
| | | | **TOTAL:** | **$1,029,000** |

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# VETERANS MEMORIAL PARK TRAIL IMPROVEMENTS

# Appendix G: Concept Design – Martin Avenue/Lamson Road

**Martin Avenue/Lamson Road:** Calm traffic and provide sidewalks for separated pedestrian facilities where missing. Traffic volume may not warrant stop signs. The main concerns by residents appear to be higher than permitted vehicle speeds and truck traffic using the streets as a cut-through. The paved area on Martin Avenue and Lamson Road ranges from 22 to 25 feet in width, which is typical for roadways of this type and surrounding residential land uses.

1. Some recommended interventions to reduce vehicle speed and improve safety for all users include:
2. The existing speed limit on both Martin and Lamson is 25 miles per hour. Consider reducing speed the posted limit on both streets.
3. Lamson Road has partial sidewalks on the south side of the street. Martin Avenue has no sidewalks. Assess right of way size (and associated existing conditions) for feasibility of installing a separated sidewalk on at least one side of the roadway to permit all walkers (especially those traveling to and from area schools) safe distance from vehicular traffic.
4. Use paint to highlight narrower travel lanes to signal to drivers that this is a narrow residential street, not a higher speed collector roadway.
5. Install vertical signage highlighting bike and pedestrian users and consider radar actuated speed signage to inform drivers of actual travel speeds.

FUSS & O'NEILL

# M E M O R A N D U M

**TO**: Phil Hervey, AICP – Town Manager

**FROM**: Katherine O'Shea, EIT
Arnold Robinson, AICP – Project Manager

**CC:** Herb Durfee – Director of Planning, Building and Resilience

**DATE**: February 7, 2025

**RE**: Barrington Complete Streets Implementation Plan, F&O Project 2017058.A60

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**Martin Avenue and Lamson Road between Massasoit Avenue and New Meadow Road**

Existing Roadway Conditions

- Available ROW
  - Minimum width: 37 feet (at Craig Drive)
  - Average width: 40 feet with a variation of one foot
  - Maximum width: 41 feet (at Meadow Road
- Roadway Width
  - Minimum width: 20 feet (at Boyce Avenue)
  - Average width: 23 feet
  - Maximum width: 26 feet (at Hanson Avenue)
- Vehicle Speeds
  - Speed Limit: 25 MPH (on both Martin Avenue and Lamson Road)
- Existing Pedestrian Facilities
  - Non-compliant asphalt sidewalk on the south side of Lamson Road between Martin Avenue and New Meadow Road (~1,640 ft)
- Existing Crosswalks
  - Across Lamson Road at New Meadow Road

Proposed Sidewalks

The approximate lengths and costs of proposed sidewalks on Martin Avenue and Lamson Road can be found in Tables 1 and 2 below. Cost estimates include construction costs but do not include engineering design, permitting or bidding costs. These costs typically run between 9% and 12% of construction costs depending on the complexity of site conditions and regulatory requirements. They do not contain costs for legal fees related to temporary construction or permanent easements.

**Table 1**
**Proposed 5-foot Cement Concrete Sidewalks on Martin Avenue**
**Approximate Lengths and Costs**

| Roadway Segment | Treatment Adjacent to Sidewalk | | Approx. Length (ft) | Unit Cost | Total Cost |
|---|---|---|---|---|---|
| | Landscaped Buffer | Granite Curb | | | |
| Massasoit Avenue to Sunset Drive *(Sidewalk on South Side)* | | X | 200 | $170 / LF | $34,000 |
| Sunset Drive to Lamson Road *(Sidewalk on North Side)* | | X | 2,150 | $170 / LF | $365,500 |
| | | | | **TOTAL:** | **$399,500** |

**Table 2**
**Proposed 5-foot Cement Concrete Sidewalks on Lamson Road**
**Approximate Lengths and Costs**

| Roadway Segment | Treatment Adjacent to Sidewalk | | Approx. Length (ft) | Unit Cost | Total Cost |
|---|---|---|---|---|---|
| | Landscaped Buffer | Granite Curb | | | |
| Martin Avenue to 40 Lamson Road *(Sidewalk on South Side)* | X | | 650 | $80 / LF | $52,000 |
| 40 Lamson Road to 32 Lamson Road (*Sidewalk on South Side)* | | X | 150 | $170 / LF | $25,500 |
| 32 Lamson Road to New Meadow Road (*Sidewalk on South Side)* | X | | 800 | $80 / LF | $64,000 |
| | | | | **TOTAL:** | **$141,500** |

Proposed Crosswalks

The following crosswalks are proposed across Martin Avenue:

- At Massasoit Avenue
- At Sunset Drive
- At Lamson Road

Traffic Calming Measures

A portion of vehicle traffic on Martin Avenue and Lamson Road has been identified as non-local trips. Drivers use these roads as a cut-through from Massasoit Avenue to New Meadow Road. To deter this behavior, various traffic calming measures are proposed on these roadways, including speed humps and raised crosswalks.

Speed humps calm traffic by introducing vertical deflection on the roadway. Driving over a speed hump, or any traffic calming device that introduces vertical deflection, too fast is an uncomfortable experience. Therefore, drivers tend to slow down in advance of speed humps.

Pedestrian safety is greatly improved in the vicinity of a speed hump due to reduced vehicle speeds. The full traffic calming effects of speed humps are realized when they are implemented in series on a roadway.

The cost of installing a single speed hump is approximately $2,000.

Raised crosswalks operate similarly to speed humps in terms of reducing vehicle speeds; however, raised crosswalks offer a flat top that provides an accessible crossing for pedestrians. Raising a crosswalk above the roadway grade improves driver visibility of pedestrians. This results in a much safer crossing experience for pedestrians.

The cost of installing a single raised crosswalk is approximately $5,000 to $7,000.

Included as an attachment to this document is the City of Boston typical details for speed humps and raised crossings.


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# EXISTING CONDITIONS ON MARTIN AVENUE AND LAMSON ROAD


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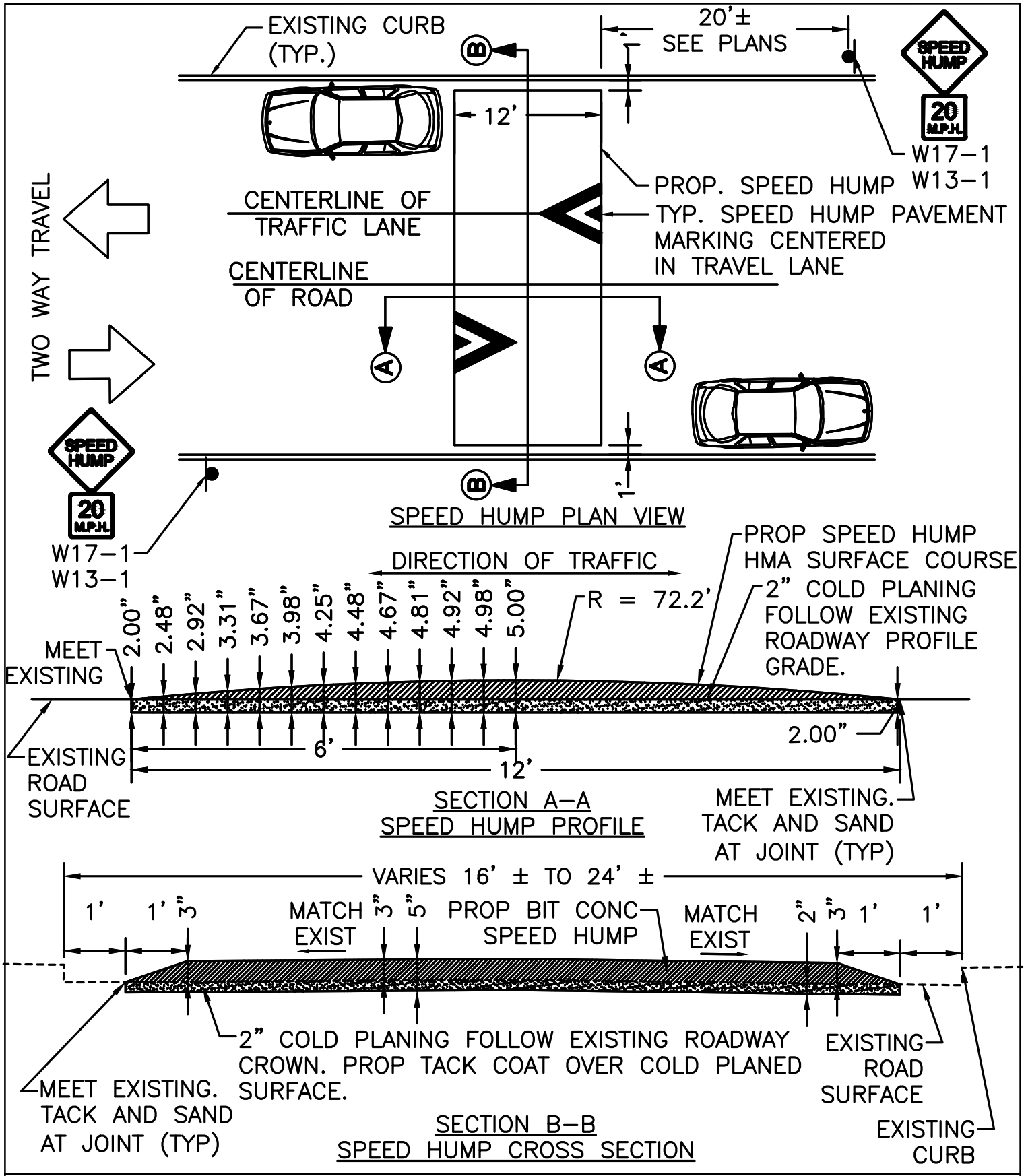
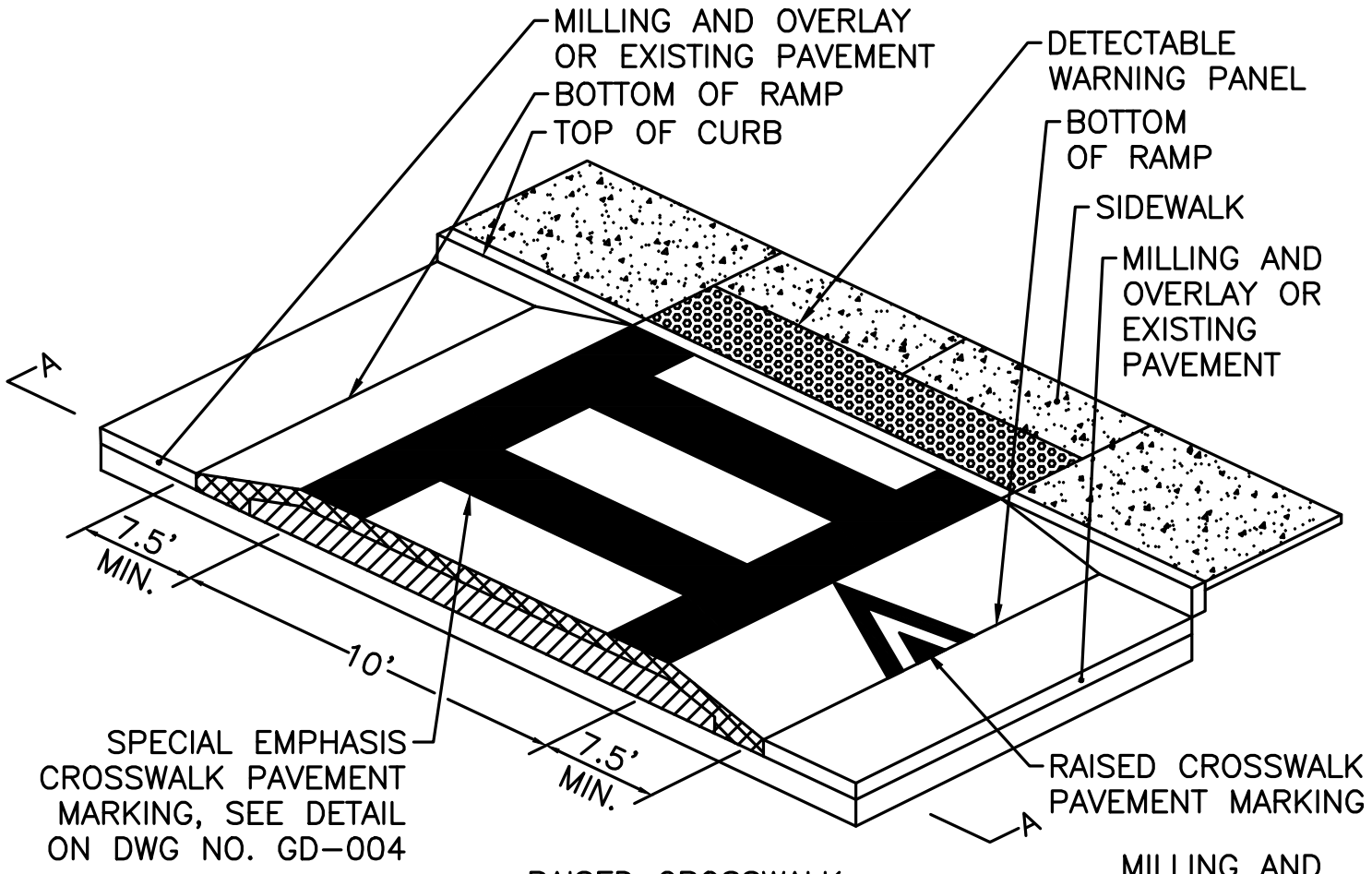
# PROPOSED CONDITIONS ON MARTIN AVENUE AND LAMSON ROAD

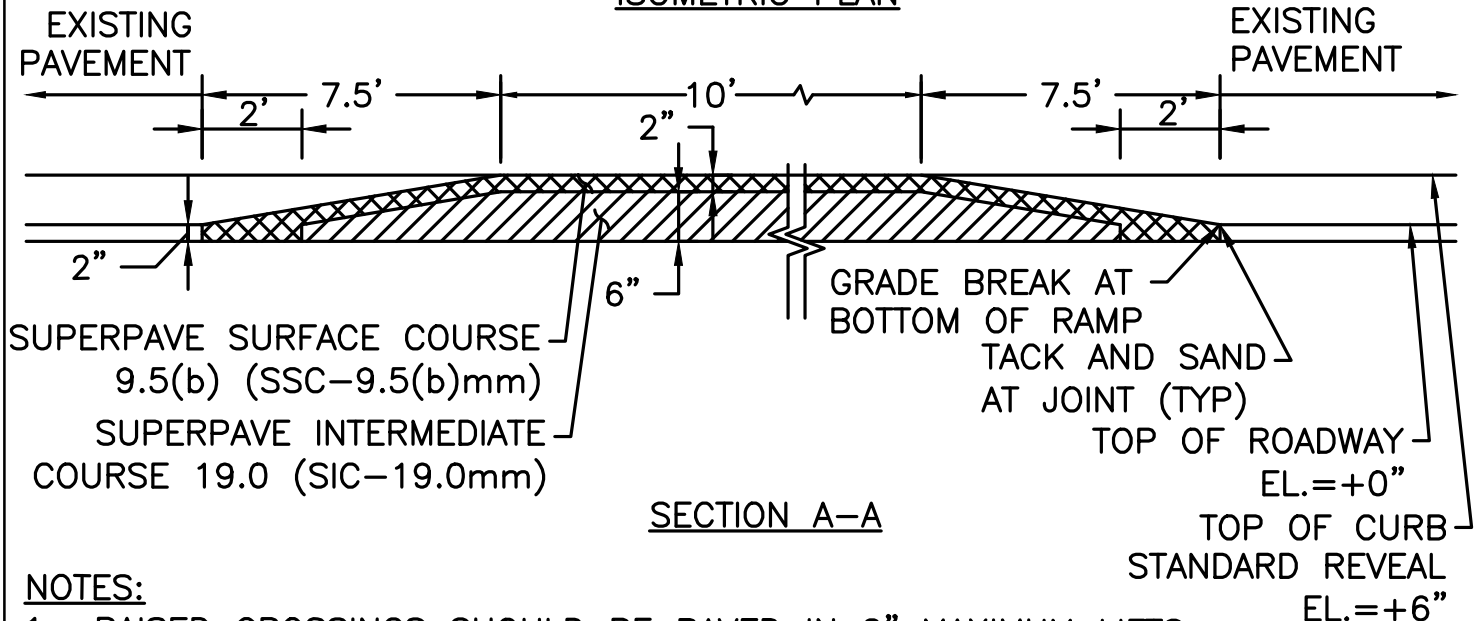



# SPEED HUMP TYPICAL DETAIL

| | | | | | |
|---|---|---|---|---|---|
| BOSTON TRANSPORTATION DEPARTMENT | Public Works Department<br>Engineering Division<br>1 CITY HALL SQUARE, ROOM 710<br>BOSTON, MA 02201<br>(617) 635-4968 | | SCALE:<br>NOT TO SCALE | DATE:<br>1/1/20 | DETAIL NO.<br>A724 |




RAISED CROSSWALK ISOMETRIC PLAN




SECTION A-A

NOTES:

1. RAISED CROSSINGS SHOULD BE PAVED IN 2" MAXIMUM LIFTS.
2. THE RAMP SLOPE SHOULD NOT EXCEED 7% RELATIVE TO THE EXISTING SLOPE OF THE STREET ADJACENT TO THE CROSSING.

# RAISED CROSSING TYPICAL DETAIL

BOSTON TRANSPORTATION DEPARTMENT


Public Works Department
Engineering Division
1 CITY HALL SQUARE, ROOM 710
BOSTON, MA 02201
(617) 635-4966


| SCALE: | DATE: | DETAIL NO. |
|---|---|---|
| NOT TO SCALE | 1/1/20 | A723 |

# Appendix H: Concept Design – County Road/RI-114 in Barrington Center

**County Road /RI-114 in Barrington Center:** The Town is interested in remaking County Road/RI-114 as a walkable "Main Street" with enhanced multimodal access, to include widening sidewalks, adding on-street parking, closing curb cuts where feasible, and improving bicycle infrastructure. The work will be to research precedents for similar downtown areas with State roadway. Using these precedents, we have assessed the available right of way and created alternative treatments that improve facilities for cyclists and pedestrians.

FUSS & O'NEILL

# M E M O R A N D U M

**TO**: Phil Hervey, AICP – Town Manager

**FROM**: Arnold Robinson, AICP – Project Manager
Katherine O'Shea, EIT

**CC:** Herb Durfee – Director of Planning, Building and Resilience

**DATE**: February 7, 2025

**RE**: Barrington Complete Streets Implementation Plan, F&O Project 2017058.A60

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**County Road (Route 114) Between Sullivan Terrace and Rumstick Road**

Existing Roadway Conditions

- Available ROW
  - Minimum width: 50 feet (in the vicinity of Sullivan Terrace)
  - Average width: 56 feet
  - Maximum width: 77 feet (in the vicinity of Rumstick Road)

- Roadway Width
  - Minimum width: 37 feet (in the vicinity of Sullivan Terrace)
  - Average width: 42 feet
  - Maximum width: 65 feet (in the vicinity of Rumstick Road)
  - Lane width: 11 feet
  - Center turn lane width: 13 feet
  - Shoulder Width: 2-4 feet

- Vehicle Speeds
  - Posted Speed Limit: 25 MPH

Existing County Road cross sections are depicted in images 1 and 2 below.

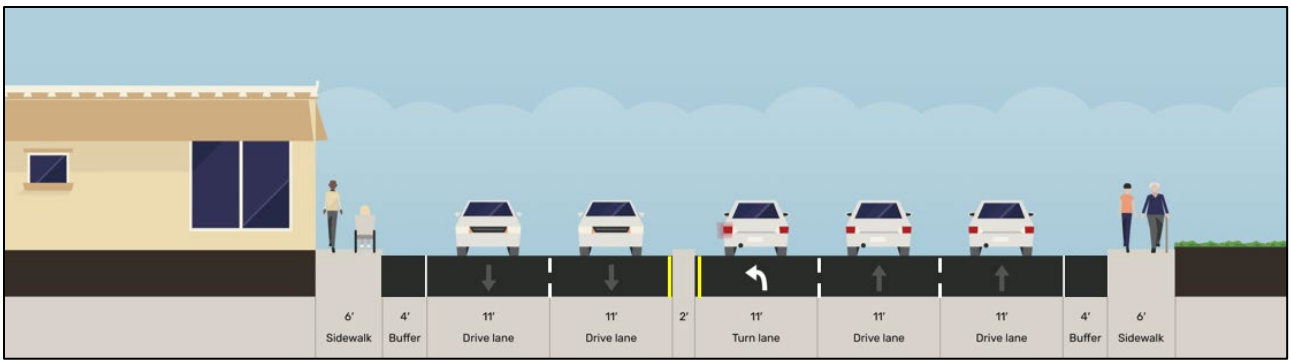


*Image 1- County Road South of Bosworth Street (Looking North)*

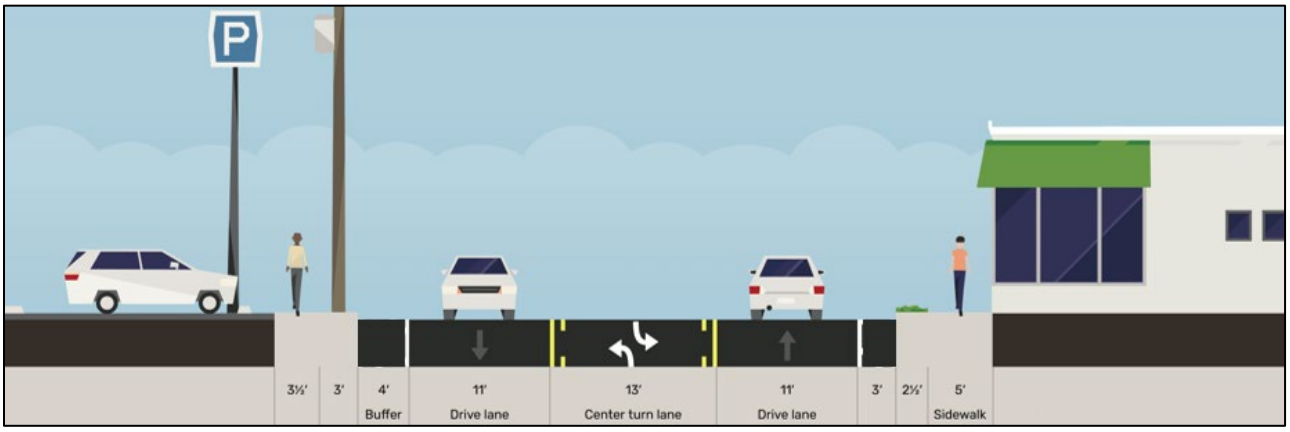


*Image 2- County Road North of Markwood Drive (Looking North)*

As depicted in image 2 above, a two-way left turn lane is provided on County Road that extends for approximately 0.6 miles between Sullivan Terrace and Bosworth Street. This turn lane is designed to accommodate traffic turning left into and from the multitude of commercial driveways that line both sides of the roadway.

Existing Sidewalk Conditions

Sidewalk is provided on both sides of County Road. On the east side of the roadway, a landscaped buffer is provided along some portions of the roadway to provide lateral separation between the edge of the roadway and the sidewalk. On the west side of the roadway, no such lateral separation is provided.

Existing sidewalk widths exceed the preferred accessible width of five feet, however, utilities located in the sidewalk frequently reduce the effective path of travel, as pictured in image 3 below.

*Image 3- Light Posts and Utility Poles Reducing Travel Path Width*

Recommended Improvements

County Road is lined with primarily commercial uses, many of which have multiple access points on County Road. These frequent access points are depicted in images 4 and 5 below.


*Image 4- Commercial Complex with 4 Access Points on County Road*

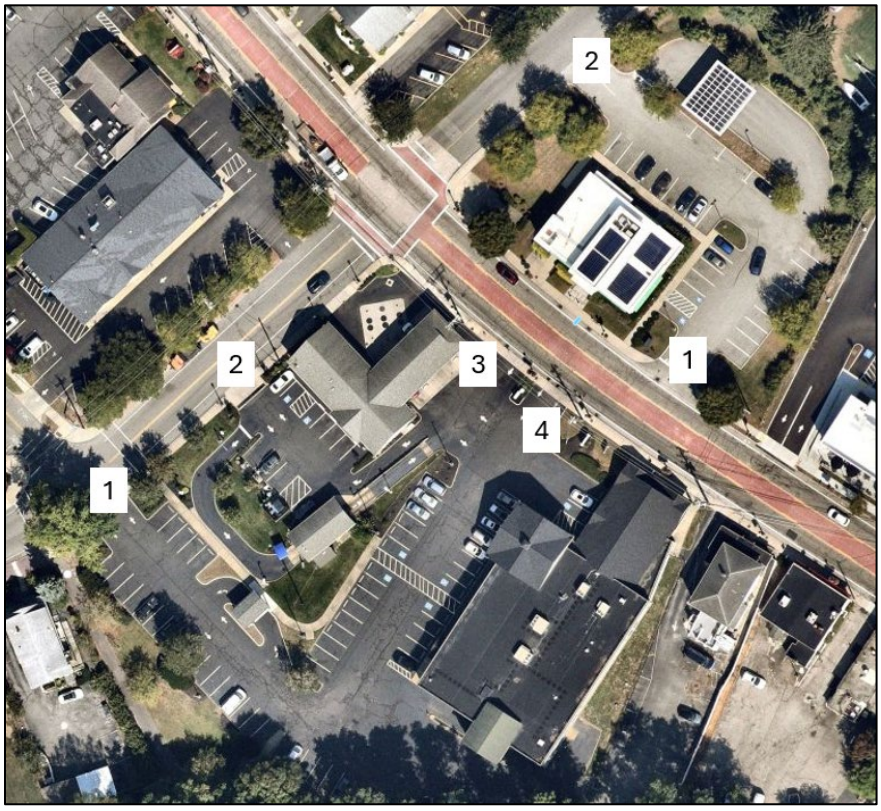


*Image 5- Commercial Properties with Multiple Points of Access*

Each of these driveways adds potential vehicle conflict points to the roadway and increases the potential for vehicle conflict with pedestrians on the sidewalk. Consolidating these driveways when possible to provide a single point of access for each adjacent commercial property would improve the overall safety of the roadway. For the properties depicted in Image 5, it could be possible to eliminate access from County Road entirely, directing vehicles to driveways on intersecting side streets. Such driveway closures could be implemented on a temporary basis with planters or barricades and made permanent by installing curbing as desired.

Further, eliminating some of these access points could allow for the removal of the two-way left turn lane, in turn allowing for the implementation of bicycle facilities. Potential future cross sections are depicted in images 6 through 8 below.

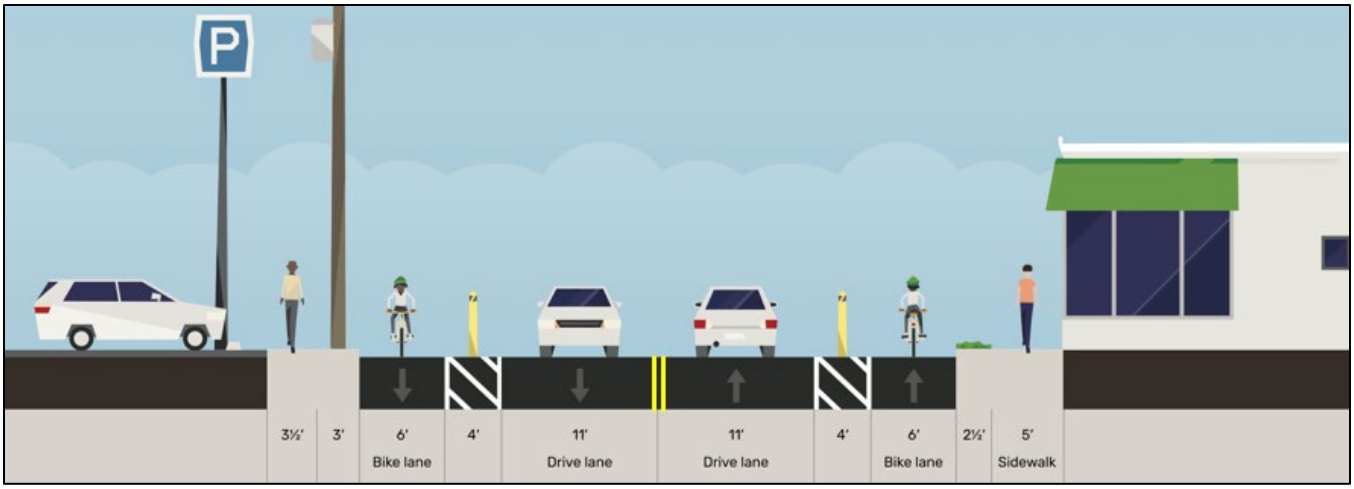


*Image 6- County Road Alternative Cross Section 1 (Retains Existing Curb to Curb Width)*

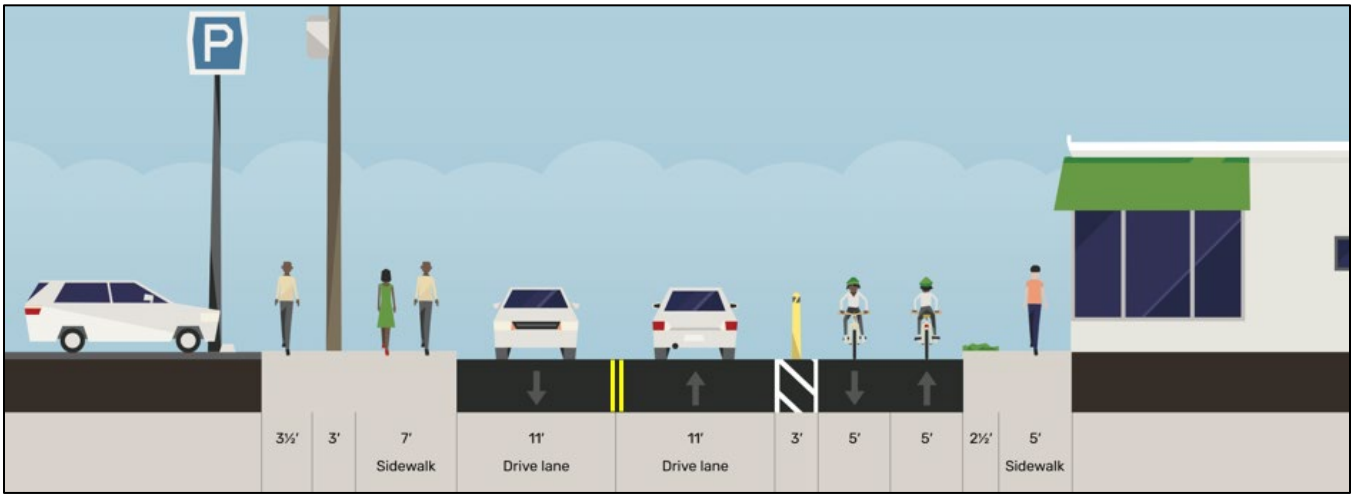


*Image 7- County Road Alternative Cross Section 2 (Narrows Existing Curb to Curb Width)*

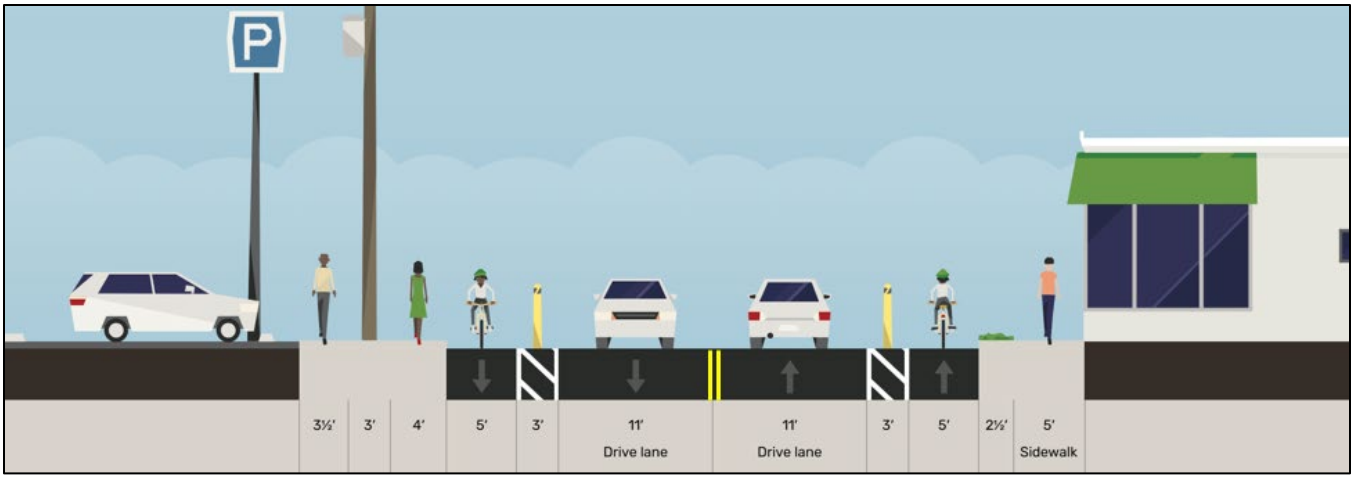


*Image 8- County Road Alternative Cross Section 3 (Narrows Existing Curb to Curb Width)*

Alternative 1 maintains the existing curb to curb width and would therefore be the least expensive to implement. This alternative proposes buffered bicycle lanes with 11-foot vehicle travel lanes. The proposed cross section could be modified at intersections or primary access points to accommodate left turn lanes as needed. A modified version of this cross section is depicted in image 9 below.

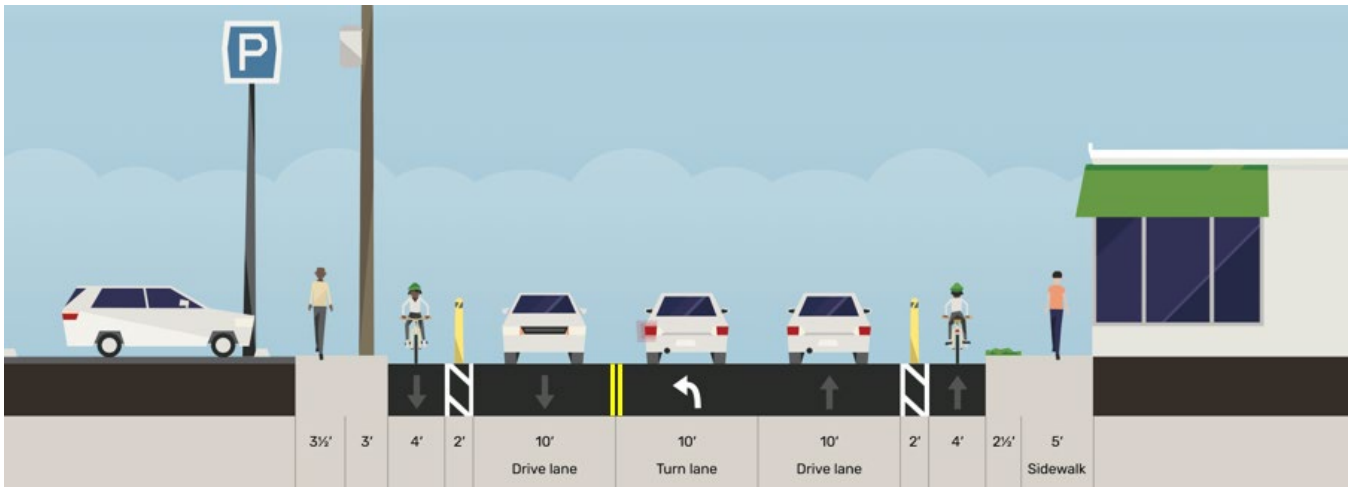


*Image 9 - County Road Alternative Cross Section 1A*

Alternatives 2 and 3 propose adjusting the western curb line to narrow the roadway and allow for additional sidewalk space on the western side of the roadway, where many of the existing utility conflicts are present. The use of a two-way buffered bicycle facility in Alternative 2 allows for additional ROW width to be allocated to the sidewalk by reducing the necessary buffer width. Alternatives 2 and 3 are more costly due to the reconstruction of curb and sidewalk that would be required.

Feasibility for eliminating the two-way left turn lane and implementing the above cross sections is primarily related to the existing left turn volumes. Through capacity on the roadway would not be substantially impacted by the

removal of the lane since it does not serve through traffic. However, if the volume of left turns is significant, queueing may occur behind vehicles making a left turn from the travel lane. Condensing or eliminating commercial access points on County Road would mitigate these impacts, but it may not be necessary.

Route 114 through Warren also serves a variety of commercial land uses with frequent access points and does not provide a two-way left turn lane, as depicted in image 10 below.

*Image 10- Route 114 Approximately 1 Mile South of the Study Area, in Warren*

Approximate Cost

It is anticipated that Alternative 1 or any similar option that retains the existing curb line would cost approximately $2,000,000. Alternative 2 or any similar option that adjusts the curb line and widens existing sidewalk would cost approximately $4,500,000 to $5,000,000. These estimates include repaving the roadway, which is already planned to take place in the next two years. The estimated paving cost for the existing roadway cross section is approximately $1,200,000 between Sullivan Terrace and Rumstick Road. These estimates do not include costs for design and permitting which can range between 9% and 12% of construction costs, depending on the complexity of design and amount of permitting required.

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