

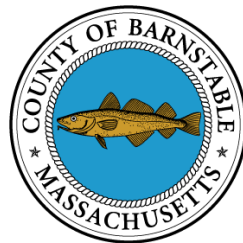


CAPE COD
COMMISSION

Town of Falmouth

Complete Streets Prioritization Plan

April 22, 2022



Prepared by Cape Cod Commission staff on behalf of the Town of Falmouth

Acknowledgements

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Executive Summary

The Town of Falmouth is seeking to improve the travel experience for all users of its streets – motorists, pedestrians, and bicyclists – through the development of a Complete Streets Prioritization Plan. With funding provided by the Massachusetts Department of Transportation (MassDOT), Falmouth has retained the services of the Cape Cod Commission (CCC) transportation staff to develop this plan. The purpose of this study is to explore transportation improvement alternatives that will reduce conflicts, improve traffic flow, and incorporate multi-modal transportation options in Falmouth, while furthering the creation of vibrant, pedestrian- and bicycle-oriented mixed-use centers throughout the town.

The plan includes discussion of the town’s characteristics and existing conditions to help identify problem areas. With a population of over 32,000 people (year-round) and a summer population least two to three times as large, summer traffic demands can be challenging, especially for pedestrians, who must use many town streets that lack sidewalks. Additional factors are also considered such as speed limits and areas with reported pedestrian or bicyclist crashes.

Potential need for pedestrian/bicyclist travel is affected by the distributions of the residential population, including Environmental Justice (EJ) populations designated by the state based on low-income populations in parts of southern Falmouth, minority populations in areas of northern Falmouth, and low-income *and* minority populations in central Falmouth. Other areas that are well suited to access via walking and bicycling are business and community activity areas. Consequently, the study group identified such areas within Falmouth.

CCC and the Town of Falmouth held a public workshop in January 2021 to gather input and prepare a list of potential projects. Staff then developed criteria to evaluate project characteristics including type of project (e.g., sidewalk, paved shoulders, etc.), traffic levels, speed levels, crash history, gap analysis and several others. Evaluation of these criteria resulted in a benefit score for each project that was then adjusted for project cost. These benefit/cost scores were provided to Town of Falmouth officials to develop a project ranking for the fifty-two projects shown in the following table. A second public workshop was held in January 2022 for public feedback on the list and ranking of the fifty-two projects is included in the Prioritization Plan.

Following MassDOT review, an approved prioritization plan was approved in April 2022 and allows the Town of Falmouth to apply for up to \$400,000 of Complete Streets Tier 3 funding from MassDOT.



Complete Streets Project Ranking

Project Priority Ranking	Project Name	Estimated Project Cost Range	Funding Requested from MassDOT
1	Katharine Lee Bates shared use path	\$250,000 - \$400,000	\$300,000
2	Brick Kiln Road at Sandwich Road Intersection Improvements	>\$400,000	\$400,000
3	Jones Rd at Gifford St Intersection Improvements	>\$400,000	\$400,000
4	Extension of Shining Sea Bikeway*	>\$400,000	\$400,000
5	Goodwill Park Crossing on Gifford Street	<\$50,000	\$25,000
6	Dillingham Ave Extension Sidewalk upgrade	\$100,000 - \$250,000	\$250,000
7	Route 151 at Boxberry Hill Road/Sam Turner Road/Cloverfield Way Intersection Improvements	>\$400,000	\$400,000
8	Gifford St Shared Use Path (South End)	>\$400,000	\$400,000
9	Brick Kiln Road Shared Use Path	>\$400,000	\$400,000
10	Gifford St Shared Use path (North End)	>\$400,000	\$400,000
11	Route 151 Shared Use Path	>\$400,000	\$400,000
12	Crosswalk upgrade at intersection of Gifford St and Dillingham Ave	<\$50,000	\$20,000
13	Curley Blvd Road Diet	\$50,000 - \$100,000	\$50,000
14	Jones Rd Bicycle Lanes	>\$400,000	\$400,000
15	Dillingham Ave Shared Use Path	\$250,000 - \$400,000	\$400,000
16	Scranton Ave sidewalk installation	>\$400,000	\$400,000
17	Seacoast Shore Blvd Pedestrian Improvements	<\$50,000	
18	Main St curb ramp extensions and crosswalk improvements	\$50,000 - \$100,000	\$50,000
19	Gifford St and Brick Kiln Rd Traffic Signal Improvements	\$50,000 - \$100,000	\$100,000
20	Teaticket Elementary School crosswalk upgrades	<\$50,000	\$20,000
21	Old Main Road streetscape improvements	>\$400,000	\$400,000
22	Relocate the existing North Falmouth Elementary school crosswalk on Old Main Rd	<\$50,000	\$10,000
23	Sandwich Road Shared Use Path	>\$400,000	\$400,000
24	Roundabout at Spring Bars Rd and Worcester Ct	>\$400,000	\$400,000
25	Quaker Rd Sidewalk Extension	>\$400,000	\$400,000
26	Old Dock Lane Sidewalk Extension	\$50,000 - \$100,000	\$100,000
27	Worcester Ct at Lake Leaman Rd crosswalks	<\$50,000	\$5,000



28	Fresh Pond Rd sidewalk extension	>\$400,000	\$400,000
29	Bike Path crossing upgrade on Ter Heun Drive	<\$50,000	\$25,000
30	Thomas Landers Road Shared Use Path	>\$400,000	\$400,000
31	Shore St Sidewalk Extension	\$100,000 - \$250,000	\$200,000
32	Maravista Ave Complete Street	>\$400,000	\$400,000
33	Acapesket Road sidewalk upgrade project	>\$400,000	\$400,000
34	East Falmouth Elementary school sidewalk and crosswalk upgrades	<\$50,000	\$20,000
35	Davisville Rd sidewalk reconstruction	>\$400,000	\$400,000
36	Nashawena Rd Sidewalk Installation	>\$400,000	\$400,000
37	Carriage Shop Rd sidewalk	>\$400,000	\$400,000
38	Quaker Rd sidewalk installation	>\$400,000	\$400,000
39	Old Barnstable Rd sidewalk extension	\$250,000 - \$400,000	\$300,000
40	Central Ave Shared Signage and Pavement Markings	<\$50,000	\$10,000
41	Menauhant Rd sidewalk connectivity	\$250,000 - \$400,000	
42	Grand Ave Shared Signage and Markings	<\$50,000	\$10,000
43	Quissett Harbor Road bicycle connection to The Knob	<\$50,000	\$10,000
44	Church St sidewalk extension	>\$400,000	\$400,000
45	Sippewissett Rd/Quissett Ave Shared Signage and Markings	<\$50,000	\$10,000
46	Route 28 Multi-Modal Accommodations*	>\$400,000	n/a
47	Route 28A at Route 151 Intersection Improvements*	>\$400,000	n/a
48	Route 28A at Curley Blvd Roundabout Improvements*	\$100,000 - \$250,000	n/a
49	CCRTA Sealine Transit Improvements*	\$100,000 - \$250,000	n/a
50	Woods Hole Road at Oyster Pond Road crosswalk*	>\$400,000	n/a
51	Upgrade and install missing sidewalks on Route 28A*	>\$400,000	n/a
52	Woods Hole Road Sidewalk Installation*	>\$400,000	n/a

**To be funded outside of Complete Streets Program*



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Introduction

The Town of Falmouth has agreed to join MassDOT's Complete Streets program to provide streets that address the mobility needs of all users – pedestrians, cyclists, drivers, persons with disabilities, and transit riders – making streets safer, more sustainable, and more accessible to a wide variety of people. Providing safer, more sustainable, and more accessible means of travel between home, school, work, recreation, and retail destinations helps promote a more livable community.

The Cape Cod Commission, serving as the regional planning agency for the fifteen towns on Cape Cod, has reviewed transportation issues and recommended potential improvements at many locations over the years during various planning activities, including the Regional Transportation Plan, the Transportation Improvement Program, Developments of Regional Impact, and various planning projects.

The project team has reviewed the roadways in Falmouth and collected needed data from Automatic Traffic Recorders (ATRs) as well as Turning Movement Counts (TMCs). High traffic volumes, particularly in the summer months, have caused congestion and crashes along some of the main routes, such as Routes 28, 28A and Route 151 as well as at busy intersections along these routes.

The study relies on public participation to better understand how street design can impact the quality of life in Falmouth neighborhoods. Cape Cod Commission staff has met with stakeholders and interested members of the public to facilitate the project direction, develop alternatives, and create a list of priority projects to improve Falmouth streets.

STUDY OBJECTIVES

The purpose of this study is to explore transportation improvement alternatives that will reduce conflicts, improve traffic flow, and incorporate multi-modal transportation options in Falmouth, while furthering the creation of vibrant, pedestrian- and bicycle-oriented mixed-use centers throughout the town. The safe accommodation of pedestrians and bicycles has been previously identified by the Cape Cod Commission as critical to achieving the goals of the town to create nodes of mixed-use development.

The study aims to establish a preferred roadway redesign which addresses multi-modal transportation improvements, including pedestrian and bicycle connectivity. The study includes recommendations for roadway changes that accommodate projected traffic volumes while accommodating all users of the roadway. This evaluation of preferred alternatives results in a Complete Streets Prioritization Plan for the Town of Falmouth.



TOWN CHARACTERISTICS

According to the 2020 United States Census, Falmouth has an estimated population of 32,517, making it the 2nd most populous town in Barnstable County. As of September 2021, Falmouth ranks 2nd in employment with 14,670 employees, according to the U.S. Bureau of Labor Statistics. Employment is higher in all Cape communities in the summer. For example, in Falmouth, employment totaled approximately 16,000 in July and August of 2021.

The Commonwealth of Massachusetts classifies Environmental Justice (EJ) areas in different ways. The types of classification that apply to Falmouth are listed below:

- **Minority:** The block group minority population is $\geq 40\%$, or the block group minority population is $\geq 25\%$ and the median household income of municipality containing the block group is $< 150\%$ of the Massachusetts median household income. (Massachusetts’s median household income in 2020 was \$85,843).
- **Income:** At least 25% of households have a median household income 65% or less than the state median household income. 65.49% (the cutoff) of \$85,843 is \sim \$56,220.
- **Minority and Income:** The block group qualifies for EJ status on both Income and Minority grounds (above).

According to the 2020 U.S. census, there are four different census blocks in Falmouth that fall into EJ classifications. As shown in Figure 1, there are two Income-based blocks in southern Falmouth; a Minority-based block in the northern part of the town; and a single Minority and Income block in central Falmouth.

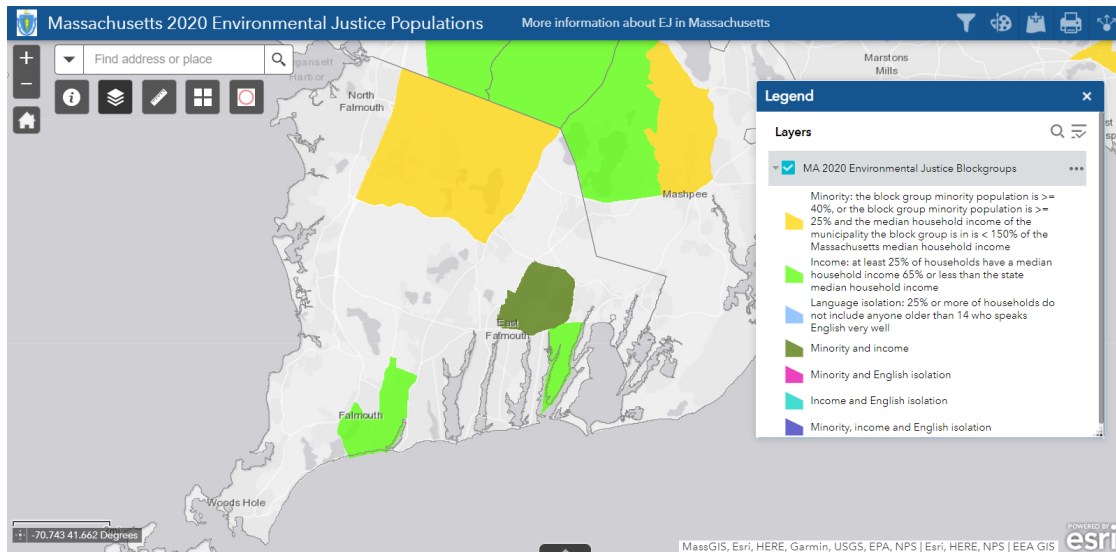


Figure 1 – Environmental Justice Population Areas



Review of Previous Studies

Over the past several years the Cape Cod Commission and other agencies have undertaken transportation planning studies – several of which are listed below, including summaries of relevant recommendations.

FALMOUTH BICYCLE PLAN (2015)

In 2015 the Cape Cod Commission produced the “Falmouth Bicycle Plan” for the town. [The study](#) included recommendations for the creation of new bicycle connections, shared use paths, and improved crosswalks (Table 1). Such projects were also ranked in projected importance with cost estimates. These projects are shown graphically as well in Figure 2.

Table 1: Ranking of Recommended Projects from the Falmouth Bicycle Plan

Rank	Location	Description	Responsibility	Cost x \$1,000
1	Shining Sea Bikeway Extension to Cape Cod Canal in Bourne	Endorse the construction of a shared use path adjacent to or on rail bed from Route 151 to Bourne Canal Bike Path [7.5 mi]	Town/ MassDOT	
2	Goodwill Park Rd/Rt 28 intersection	Solar-powered crossing lights to improve safety; improve signage (currently blocked from view)	MassDOT	21
3	Shining Sea Bikeway Connector- Katherine Lee Bates Rd/Rt 28 intersection	Solar-powered crossing lights to improve safety; improve signage (currently blocked from view)	MassDOT	21
4	Goodwill Park Rd/ Gifford St intersection	Install crosswalk as part of proposed East-West Connector	Town	2
5	Dillingham Rd from Gifford to Davis Straits	Install bike lanes or widened shoulder [0.6 miles]	Town	300
6	Dillingham Av from Hamlin Av to Gifford St	Install bike lane [0.1 mi]	Town	2
7	Town land between Goodwill Park Rd and Brick Kiln Rd	Install bike path on town land [1.1 miles]. Widen sidewalk to 10’ on Gifford St Extension	Town	1,259



		between Brick Kiln Rd & Old Campus Dr [0.6 miles]		
8	Brick Kiln Rd from Route 28A to Ox Bow Rd	Construct bike path/lanes [3.5 miles]	Town/ MassDOT	2,680
9	Katherine Lee Bates Rd from Rt 28 to Shivericks Pond area	Widen sidewalk for multi-use, include access to Mullen Hall & Lawrence schools [0.5 mile]	Town	250
10	Thomas Landers Rd from Steamship parking to Shining Sea Bikeway	Construct bike path/lanes [1.2 miles]	Town/ MassDOT	919
11	Land between Trotting Park Fields to Trotting Park Rd	Develop right of way on town land. Construct multi-use path [630 ft]	Town	60
12	Bike path from end of Alphonse St into Teaticket School	Repave bike path [750 feet]	Town	27
13	Rt 28 at Metoxit Rd & Spring Bars Rd intersections	Re-mark pavement markings at crosswalks	MassDOT	2
14	Rt 28	Accommodate bikes from downtown to Mashpee line	MassDOT	
15	Rt 28 Main St	Improve Bicycle accommodations in downtown area	Town	
16	Shining Sea Bikeway from Woods Hole to Downtown	Reconstruct & overlay	Town (Env. Bond Bill)	900
17	Locust St & Woods Hole Rd from Rt 28 to Woods Hole	Construct wide sidewalk [3.7 miles]	MassDOT	2,442
18	Thomas Landers Rd from Steamship parking area to Sandwich Rd	Construct bike path/lanes [2.2 miles]	Town/ MassDOT	1,684
19	Steamship Authority parking lot in Woods Hole	Improve pavement markings and signs designating bikeway through parking area [0.6 miles]	Town/ Steamship Authority	6
20	Rt 28 from Seacoast Shores Blvd to Childs River Rd	Construct wide sidewalk [0.3 miles]	MassDOT	198



21	Bike route from north end of Shining Sea Bikeway to Town of Bourne	Install bike route signs (Claire Saltonstall realignment) via County Rd, Garnet Av [1 mile]	MassDOT/ Town	1
22	Rt 151 from Shining Sea Bikeway to Mashpee town line	Install bike lanes or widened shoulder [4.9 miles]	MassDOT	2,458
23	Parcels between Maravista Av and Rose Morin Ln	Work with Falmouth Housing Authority to consider connection between Rose Morin Ln and Morin Av and from Ocean State Job Lot parking to Maravista Av	Town	
24	Falmouth Bus Depot	Construct covered bike parking	Town/ EDIC	

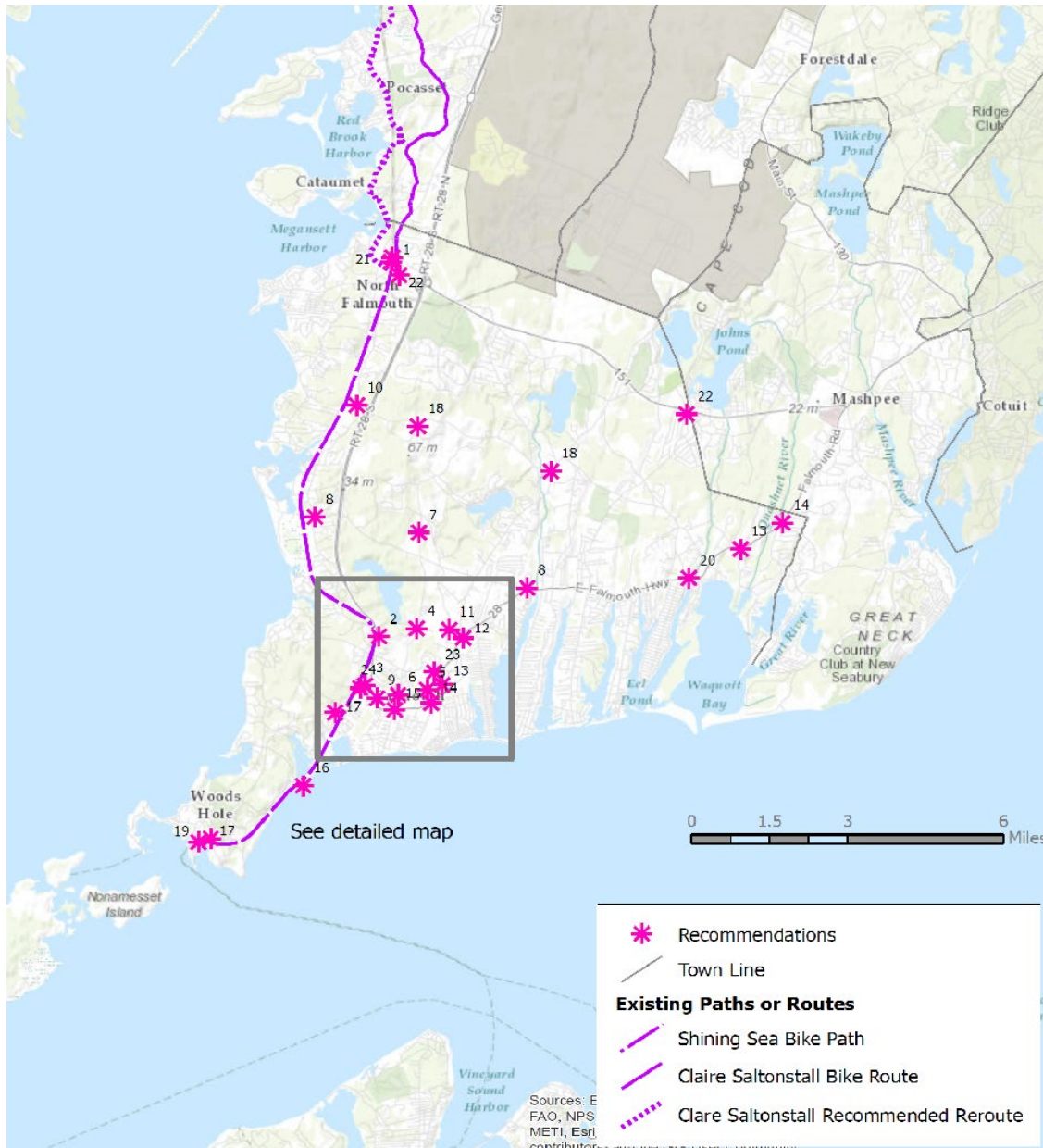


Figure 2: Map of Recommended Projects from the Falmouth Bicycle Plan

ROUTE 28/MAIN STREET TRANSPORTATION MASTER PLAN (2016)

Published in 2016, [this document](#) covers the section of Route 28 that lies between Palmer Avenue (Route 28) on the west and Maravista Avenue Extension on the east. This project undertaken by the Town of Falmouth and its transportation consultant McMahon Associates, Inc., analyzed this route, as well as ten key intersections within that corridor. Corridor issues/deficiencies were listed, and recommendations were provided, which are summarized below by type:



Pedestrian and Bicycle Improvements

- Encourage bicycles to use parallel routes, such as Katharine Lee Bates Road and Dillingham Avenue (wider ROW and less traffic). Bike lanes recommended on Katharine Lee Bates Road between Palmer Avenue and Gifford Street, and on Dillingham Avenue between Gifford Street and Teaticket Highway.
- Provide curb extensions at 7 key crossings.
- Raised crossing and lighted crossing proposed west of Library (with lighted crossings also recommended at Academy Lane).
- Add a shared use path on one side of Teaticket Highway (from Gifford Street to Maravista Avenue Extension).

Vehicle Corridor-Based Improvements

- Add a Two Way Left Turn Lane (TWLTL) to the section of the corridor between Jones Road and Sandwich Road.

Intersection Improvements

- In the interest of brevity, all short- and long-term recommendations are not listed here. However, specific recommendations can be found on pages 50-71 of [this document](#). Some recommendations include restriping (for short-term projects), re-signalization, and roundabout installation(s).

FALMOUTH LOCAL COMPREHENSIVE PLAN: GUIDING THE DEVELOPMENT OF FALMOUTH FOR THE NEXT 50 YEARS (2016)

The transportation element of Falmouth's [most recent comprehensive plan](#) was reviewed. Relevant action items are as follows:

- Design and implement the improvements recommended in the MainStreet/Route 28 Transportation Master Plan prepared by McMahon Associates, 2015.
 - Short-term: Begin within the next 6 months
 - Responsible Parties: DPW, Board of Selectmen, Planning Board, Town Meeting
- Collaborate to develop multiple proposals to better manage Falmouth's transportation network, including wayfinding, a parking management plan, as well as the Commonwealth's Safe Routes to Schools Initiative.
 - Short-term: complete within the next year.
 - Responsible Parties: Board of Selectmen, DPW, Planning Board.
- Begin to implement improvements recommended in the "Bike Plan" prepared by the Cape Cod Commission.
 - Short-term: begin within the next year.
 - Responsible Parties: Board of Selectmen, DPW, Bikeways Committee



ROAD SAFETY AUDIT: ROUTE 28 CORRIDOR HIGH CRASH LOCATIONS (2017)

This road safety audit (RSA) was completed by TEC Inc and Tata & Howard. [This RSA](#) examines area with high crashes along the Route 28 corridor. The RSA looked at the following corridors/intersections:

- Main Street (Route 28) from Palmer Avenue to Shore Street.
- Intersection: Davis Straits (Route 28) / Dillingham Avenue / Spring Bars Road.
- Intersection: Worcester Court / Spring Bars Road.
- Teaticket Highway (Route 28) from Stop & Shop Driveway to Sandwich Road.
- Intersection: Davis Straits (Route 28) / Dillingham Avenue / Spring Bars Road and the roadway to the immediate north.
- Teaticket Highway (Route 28) between the Town Fair Tire Driveway and the Driftwood Shops Driveway.
- Teaticket Highway (Route 28) between the Stop & Shop Right-In Driveway and Figuerido Way.

An inventory of local conditions was created, and potential safety issues were flagged (7 general safety issues along the corridor, 8 intersection-related safety conditions, and 5 safety issues along specific portions of the corridor). Then, the project team offered recommendations for each of those issues, and then categorized each intervention by time frame and estimated costs.

OTHER ROAD SAFETY AUDITS IN FALMOUTH

The above-mentioned RSA was not the only one completed in Falmouth in recent years. For example, the Town of Falmouth, working with MassDOT, commissioned the following studies:

- [Davis Straits \(Route 28\) Between the 13 Davis Straits and 80 Davis Straits](#) (completed by GPI), 2021
 - Focused on safety along a short stretch (0.25 miles) of a 1 mile planned reconstruction of Davis Straits/Route 28).
- [Route 151 Corridor Road Safety Audit](#) (completed by TEC and Tata & Howard), 2018
 - Focused on improving safety on Route 151, also known as Nathan Ellis Road, between Falmouth Woods Road and Currier Road)
- [N. Falmouth Highway \(28A\)/Nathan Ellis Highway \(151\)](#), (completed by Tetra Tech Inc.), 2014
 - Focused on improving safety at the high crash location of Nathan Ellis Highway (Route 151) and the North Falmouth Highway (Route 28A)



Problem Identification

Besides synthesizing ideas from a review of previous studies, the project team also identified current transportation issues and concerns, as well as proposed improvements from the following sources.

MEETINGS WITH TOWN OF FALMOUTH & PUBLIC WORKSHOP

After a kick-off meeting with Town of Falmouth staff in November 2020, the Cape Cod Commission also attended a Falmouth Select Board meeting in December of 2020, presenting the prioritization plan process, the type of eligible streets, the types of complete streets projects (by mode and ease of implementation), the proposed public outreach, and the planned schedule. Town staff and the Board of Selectmen offered valuable information and feedback on the project.

VIRTUAL PUBLIC INPUT SESSIONS

Virtual Public Input, Session 1

The Cape Cod Commission coordinated with the Town of Falmouth to host a Virtual Public Input Session on January 13th, 2021, at 6:00 PM. Figure 3 shows the flyer for this event. Approximately 154 people attended the meeting. In that meeting, the Commission presented the following project components to members of the public, town officials, and other interested parties:

Part 1: Presentation

The topics presented include:

1. What is a Complete Street?
 - a) Benefits of Complete Streets and Complete Street Needs
 - Improved Health
 - Crash Reduction
 - Benefits for People with Disabilities
 - Benefits for Children
 - Benefits for Aging Population
 - Economic Benefits
 - Environmental Benefits
 - b) Importance of Context Sensitivity
 - c) Funding Available for Complete Streets (MassDOT program)
 - Explanation of Tier 1 (Training and Complete Streets Policy Development) and Tier 2 (Prioritization Plan Development) in MassDOT's Complete Streets program
2. What is a Prioritization Plan?
 - a) Components of the plan and scope
 - Complete Streets Projects by Type
 - Traffic Flow and Driver Safety
 - Bicycle Facilities



- Pedestrian Facilities
- Transit Facilities
- Complete Streets Project Types by Effort
 - Short-Term/Low Cost
 - Long-Term/High Cost
- b) Prioritization Plan template
- 3. Falmouth Existing Conditions
 - a) Relevant Studies
 - b) Ongoing Projects in Town
 - c) Existing Conditions Map

Part II involved interactive brainstorming sessions (with participants using breakout rooms) in which participants were asked the following three questions:

- What locations present challenges for roadways users?
- Where are the existing safety issues?
- What are the priority projects you want to see in Falmouth?

Participants were introduced to—and reminded to use—the interactive online tool to submit those (and any other) comments. Staff also received email suggestions.



Complete Streets Prioritization Plan: Improving Safety & Accommodating All Users Town of Falmouth – Virtual Public Meeting



PUBLIC INPUT SESSION

Thursday, January 13, 2021 at 6:00 pm

Join with the link below:

<https://capecodcommission.org/transportation/join>

If prompted for a passcode, enter: join

Phone: (929) 205-6099

Meeting ID: 961 1903 7671

Q: What is a “Complete Street”?

A: A Complete Street provides accommodations for all users including motorists, pedestrians, bicyclists and persons with disabilities.

What do you think would improve Falmouth’s streets for bicyclists and pedestrians? The Town of Falmouth and the Cape Cod Commission want to hear your thoughts. Join us for a public meeting to help us understand the multimodal issues and opportunities in your town. Based on the information from this meeting, improvements in Falmouth will be listed in a Prioritization Plan that will help your town gain access to state and federal funding.

For more information, please visit

www.capecodcommission.org/FalmouthCompleteStreets or call 508-362-3828



Figure 3: Advertisement for the Virtual Public Input Session

Virtual Public Input, Session 2

A second Public Input Session was held on January 19, 2022. At that meeting, the project’s progress and timeline were summarized. Additionally, CCC staff presented on the proposed top 50 projects—two later projects were added after this meeting to arrive at the final fifty-two—using the Draft Priorities Tool (described in more detail below). Participants were then placed into breakout rooms, with the following prompts:

- What projects stick out?



- Where are there projects that are ranked too high? Too low?
- Where are projects missing entirely?

ONLINE TOOLS

While the Falmouth Existing Conditions Map, the Public Comment Tool, and the Draft Priorities Map were demonstrated at both Virtual Public Input Sessions, these tools were also made available on the Commission’s website. By placing these tools on the website—and publicizing them—the Commission was able to capture a broader range of community views (while supporting individuals who could not attend the Virtual Public Input Sessions).

The Falmouth Complete Streets Online Project Viewer included the [Existing Conditions Map](#), the [Public Comment Tool](#), and the [Draft Priorities Map](#).

The Existing Conditions Map showed the following conditions:

- Sidewalks and Destinations
- Roadway Classification
- Crashes and Traffic Volume
- Bike, Pedestrian, and Transit Infrastructure

The Public Comment Tool was more interactive and allowed people to add points and lines to the map to identify the type of recommendation, the proposed solution and action (install or update), and other comments. A total of 236 points and 193 routes were inputted into the public comment tool in Winter 2021.

The Existing Conditions Map and the Public Comment Tool were released in 2021, in coordination with Virtual Public Input, Session 1.

Then, in June of 2021, Commission staff released an online public survey, which solicited input on what types of complete streets projects should be prioritized. This tool was less geographically focused than the public comment tool of the Online Project Viewer. The survey results guided the development of the evaluation criteria that was used to rank the draft prioritization plan projects. The online public survey received over 275 responses. A summary of public input can be found [here](#).

Finally, in January 2022, the [Draft Priority Tool](#) was released. This draft map showing the top 50 projects was released to the public (and was demonstrated at the second Virtual Public Input Session, in the main room and in breakout rooms). Those top 50 projects were determined based on feedback from Town Staff and the first Virtual Public Input Session. Participants were then asked to complete an online public survey, which asked them to rank projects as “Project should be higher priority,” “Ranked just right,” or “Project should be lower priority.” Participants could also submit open-ended responses. The survey received responses from 246 unique individuals. Additional comments via email were also welcomed. This feedback was then fed into the final ranking of projects. As mentioned, Commission staff and Town of Falmouth staff added two projects to the prioritization plan, totaling 52 projects being included.



The public comment tools assisted the Commission and Town of Falmouth staff in identifying

- 1) The locations of problematic areas in which to walk, bike or take transit.
- 2) The types of Complete Streets projects most favored by participants.
- 3) The relative ranking of individual projects.

Roadway Functional Classification

Roadway functional classes were also examined, with the jurisdiction and typology of roads impacting whether a road is under Falmouth jurisdiction, and whether a certain treatment is appropriate. Most of the roads in Falmouth are contained in the Census-designated Urbanized Area (UZA) for Cape Cod. (Most of the areas outside of the UZA are in the north-central portion of the town). Additionally, roadways under MassDOT jurisdiction are not eligible for Complete Streets Tier 3 construction funds (for example, Route 28, and 28A). Other Falmouth streets included in this study fall into lower classifications such as minor arterial, collector, or local road. These classifications indicate the relative importance of mobility vs. accessibility and are used to guide design characteristics.

Participants were—and are—able to view road classification in the Complete Streets Online Project Viewer [here](#).

Sidewalk Availability and Locations of Activities

For the most part, sidewalks in Falmouth are limited to the downtown area. Even in the central section, however, many streets lack sidewalks. In addition to a few sidewalk segments scattered throughout the town, the most significant amount of bicycling/pedestrian infrastructure consists of the Shining Sea Bike Path, running north-south through neighborhoods on the western section of the town. Many of Falmouth's commercial attractions are located along Route 28 / Main Street from Jones Road on the west to Sandwich Road on the east. Additionally, a high concentration of civic/community activities are along that corridor in the town's central area.

Participants were—and are—able to view sidewalk availability and the locations of business and community activities in the Falmouth Complete Streets Online Project Viewer [here](#).

Bike, Pedestrian, Transit

The [Falmouth Complete Streets Online Project Viewer](#) offers users a view of the locations of community activities, bike accommodations (lanes, existing paths, proposed paths, and future portions of the Claire Saltonstall Bike Route), and existing transit routes.



Traffic Volumes and Crash History

Traffic volumes and crash pattern data are accessible in the Falmouth Complete Streets Online Project Viewer [here](#). Specifically, these data include:

- **Traffic Volumes:** Route 28 (between the town line on the north and John Parker Road on the east), and Route 151 (between Route 28 on the west and the town line on the east) are by far the heaviest traveled roads and are represented in dark green and light green colors. There is also heavy traffic along Routes 28A Brick Kiln Road, and Gifford Street (*source: Cape Cod Commission/MassDOT traffic counting programs*).
- **Crash Data:** Over the most recent three years on record (2018-2020), there were 64 reported crashes in Falmouth that involved either a pedestrian or a bicyclist. The greatest concentration of crashes occurred in the central area of Falmouth along Route 28 (*source: MassDOT Crash Portal*). The [Falmouth Complete Streets Online Project Viewer](#) shows bike or pedestrian crashes over a wider period of time (2012-2017) in order to give the users a wider view of the safety picture.



Project Evaluation

PROJECTS FOR EVALUATION

In the following figure, fifty-two complete streets projects have been identified and included in the Prioritization Plan. Proposed projects include categories such as:

- Bicycle Infrastructure
- Crosswalk Improvement/Signage
- Intersection Improvement
- Multi-use Paths
- Traffic Calming
- Sidewalk Construction
- Sidewalk Reconstruction

Projects are ranked in order, with the highest scores corresponding to projects that are the highest priority. The priority listing does not necessarily indicate the order of implementation, however. Additional factors—such as available funding, project readiness, and whether the project can be combined with another project or with routine maintenance work—will be used by the Town to determine the exact order of implementation.



EVALUATION METHODOLOGY

The following rating system was developed by CCC staff and was used specifically for evaluating Falmouth’s list of projects. Points were summed up and were assigned a final score. The top performing projects received scores of 37 (out of a max of 40).

Table 2: Project Evaluation Scores

Safety	Points
1 Highest: Addresses a High Crash Location or RSA location	15
2 High: Project will improve safety significantly for all modes at a location/roadway with a ped/bike crash history	12
3 Medium: Project will improve safety significantly for all modes	8
4 Low: Project provides a moderate safety improvement for all modes	5
5 Lowest: Project with minimal safety improvement for all modes	1
6 Neutral: Addresses a location with no known crashes	0
Mobility	Points
1 Highest: Provides a regional connection	10
2 High: Provides accommodations on a high-speed, high-volume roadway	7
3 Medium: Fills a gap in the existing network or extends an existing network	5
3 Lowest. Provides a new disconnected link	1
Access	Points
1 High: Project directly supports bike/ped/transit access to a vulnerable population (i.e. school children or seniors)	5
2 Medium: Project improves ped/bike/transit access to major pedestrian-oriented destinations (beaches, parks) or a large population area	3
3 Low: Improves bike/ped/transit access to a smaller population area	1
4 Lowest: Project does not greatly improve multimodal access	0
Ease of Implementation	Points
1 Easy: Project under design and needs more funding	5
2 Simple: Within public ROW, no takings, no wetlands, historic or archeological issues	3
3 Moderate: Project is viable with minor impacts to ROW or environmental	2
5 Negative: Major concerns with ROW and environmental impacts	-1
Project Support	Points
1 Highest: Project is supported by town officials/boards	5
2 High: Project has significant public support	3
3 Moderate: Project has some public support	1
4 Negative: Project has mixed or negative public support	0



Recommendations & Project Prioritization

FALMOUTH COMPLETE STREETS PRIORITIZATION TABLE

The ultimate recommendation of this study is the implementation of projects in the Falmouth Complete Street Prioritization Table. While Routes 28 and 28A are under MassDOT jurisdiction and are outside the scope of the Complete Streets Program, they are nevertheless critical corridors for pedestrian and cyclist travel in Falmouth as denoted with eight (8) state road projects listed in the Prioritization Plan. As MassDOT proceeds with implementation of complete street upgrades to facilities under their jurisdiction, the following are recommended for on state-owned roadways in Falmouth:

- Construct ADA-compliant sidewalks, curb ramps and crosswalks
- Provide pull-off areas for bus stops
- Provide wayfinding signage guiding users to best routes connecting to beaches, recreation areas, Shining Sea Bikeway, and other destinations

Based the scoring evaluation methodology previously discussed, a ranked list of projects is presented in Table 3. A complete printout of the prioritization plan worksheet is available in the Appendix.



Table 3: Project Ranking

Project Priority Ranking	Project Name	Project Description	Estimated Project Cost Range	Funding Requested from MassDOT
1	Katharine Lee Bates Shared Use Path	Convert existing sidewalk into a 10-foot wide shared use path. This will meet the limits of the recent Katherine Lee Bates sidewalk upgrade from Mullen Hall school. The installation of a RRFB at the Route 28 crossing is not included as part of the grant request.	\$250,000 - \$400,000	\$300,000
2	Brick Kiln Road at Sandwich Road Intersection Improvements	Intersection improvement project to improve vehicular safety and incorporate missing multi modal accommodations.	>\$400,000	\$400,000
3	Jones Rd at Gifford St Intersection Improvements	Intersection improvement project to improve vehicular safety, reduce congestion, and incorporate multi modal accommodations, including bike lanes.	>\$400,000	\$400,000
4	Extension of Shining Sea Bikeway*	Extension of the Shining Sea Bikeway to connect to the planned Bourne Rail Trail.	>\$400,000	\$400,000
5	Goodwill Park Crossing on Gifford Street	Install a crosswalk with ADA compliant curb ramps and an RRFB at Goodwill Park driveway on Gifford Street. Project will connect to existing sidewalk on Gifford St	<\$50,000	\$25,000
6	Dillingham Ave Extension Sidewalk upgrade	Install a 5-foot ADA compliant sidewalks on both sides of the road to encourage walking and bicycling to the Lawrence school.	\$100,000 - \$250,000	\$250,000
7	Route 151 at Boxberry Hill Road/Sam Turner Road/Cloverfield Way Intersection Improvements	Intersection improvement project to improve vehicular safety and incorporate multi modal accommodations.	>\$400,000	\$400,000



8	Gifford St Shared Use Path (South End)	Convert existing sidewalk into a 10-foot wide shared use path from Goodwill Park south to Main Street.	>\$400,000	\$400,000
9	Brick Kiln Road Shared Use Path	Installation of a 10-foot wide shared use path on the northern side of road. Project will likely need to be phased. The Rt 28 interchange would be excluded from funding request.	>\$400,000	\$400,000
10	Gifford St Shared Use path (North End)	Widen the existing sidewalk into a 10-foot wide shared use path from Goodwill Park to Falmouth High School. Consider installation of speed feedback signs.	>\$400,000	\$400,000
11	Route 151 Shared Use Path	Extension of the planned 10-foot wide shared use path from Mashpee to connect to the Shining Sea Bikeway. The area within the state right-of-way would be excluded from a funding request. Project may need to be phased.	>\$400,000	\$400,000
12	Crosswalk upgrade at intersection of Gifford St and Dillingham Ave	Install additional pedestrian warning signage and consider installation of a flashing pedestrian warning beacon/sign to improve visibility for this crosswalk which is along a designated bike and school route.	<\$50,000	\$20,000
13	Curley Blvd Road Diet	Road diet on Curley Blvd to restripe roadway and allocate a space for 10-foot wide on-road buffered bicycle lanes. Install RRFB at existing mid-block crosswalk at Old Main Rd.	\$50,000 - \$100,000	\$50,000
14	Jones Rd Bicycle Lanes	Widen roadway to install five-foot wide bicycle lanes on Jones Road between Route 28 north and Route 28 south	>\$400,000	\$400,000
15	Dillingham Ave Shared Use Path	Widen existing sidewalk into a 10-foot wide shared use path on Dillingham Ave to encourage this alternate bicycle route from Route 28.	\$250,000 - \$400,000	\$400,000
16	Scranton Ave sidewalk installation	Install sidewalk along the eastern side of the road. Consider widening western sidewalk to a 10-foot wide shared use path.	>\$400,000	\$400,000



17	Seacoast Shore Blvd Pedestrian Improvements	Install missing crosswalk signage along Seacoast Shore Blvd. Install traffic calming measures such as feedback signs.	<\$50,000	
18	Main St curb ramp extensions and crosswalk improvements	Construct curb ramp extensions and crosswalk upgrades along Main St.	\$50,000 - \$100,000	\$50,000
19	Gifford St and Brick Kiln Rd Traffic Signal Improvements	Upgrade pedestrian signal heads with countdown timers and audible signal buttons. Install bicycle signal loop detectors. Consider installation of Flashing Yellow Arrow signal heads to improve safety.	\$50,000 - \$100,000	\$100,000
20	Teaticket Elementary School crosswalk upgrades	Install flashing pedestrian signage/ beacons at Teaticket Elementary crosswalks on Maravista Ave Extension to improve safety. Consider consolidation of crosswalks.	<\$50,000	\$20,000
21	Old Main Road streetscape improvements	Streetscape project to reconstruct five-foot sidewalks and extend to future Shining Sea Bikeway extension. Consider traffic calming elements.	>\$400,000	\$400,000
22	Relocate the existing North Falmouth Elementary school crosswalk on Old Main Rd	Consider relocation of the existing North Falmouth Elementary school crosswalk on Old Main Rd to intersect Hollis St to align with pedestrian desire lines to/from the bike path.	<\$50,000	\$10,000
23	Sandwich Road Shared Use Path	Installation of a new 10-foot wide shared use path from Route 151 to Brick Kiln Road. Project will likely need to be phased over multiple phases.	>\$400,000	\$400,000
24	Roundabout at Spring Bars Rd and Worcester Ct	Consider installation of a roundabout at the unsignalized intersection of Spring Bars Road and Davis Straits to address safety.	>\$400,000	\$400,000
25	Quaker Rd Sidewalk Extension	Construct a five-foot wide sidewalk from Old Shore Rd Lane to Little Island Rd to improve access to Old Silver Beach.	>\$400,000	\$400,000



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26	Old Dock Lane Sidewalk Extension	Extension of the existing sidewalk from the Bike Path to West Falmouth Harbor to address pedestrian safety. Match existing width.	\$50,000 - \$100,000	\$100,000
27	Worcester Ct at Lake Leaman Rd crosswalks	Install missing marked crosswalks with related signage for this intersection.	<\$50,000	\$5,000
28	Fresh Pond Rd sidewalk extension	Proposed five-foot wide sidewalk extension to a local park/recreation fields.	>\$400,000	\$400,000
29	Bike Path crossing upgrade on Ter Heun Drive	Upgrade existing mid-block crosswalk on Ter Heun Drive to install a Rectangular Rapid Flashing Beacon	<\$50,000	\$25,000
30	Thomas Landers Road Shared Use Path	Installation of a new 10-foot wide shared use path along entire length of road. The area within the Route 28 interchange would be excluded from funding request. Project may need to be phased.	>\$400,000	\$400,000
31	Shore St Sidewalk Extension	Proposed five-foot wide sidewalk extension on the eastern side of the roadway to Clinton Ave to address gap.	\$100,000 - \$250,000	\$200,000
32	Maravista Ave Complete Street	Upgrade roadway to accommodate bicyclists with wider shoulders or a shared use path. Roadway provides connection to commercial area.	>\$400,000	\$400,000
33	Acapesket Road sidewalk upgrade project	Upgrade the existing Acapesket Road sidewalk on west side of road to be five-feet wide.	>\$400,000	\$400,000
34	East Falmouth Elementary school sidewalk and crosswalk upgrades	Reconstruct existing sidewalk connecting to the school on Davisville Rd and upgrade crosswalk(s) to improve visibility and ADA compliance. Proposed five-foot wide sidewalks.	<\$50,000	\$20,000
35	Davisville Rd sidewalk reconstruction	Reconstruct existing sidewalk on the eastern side of the road to five feet.	>\$400,000	\$400,000



36	Nashawena Rd Sidewalk Installation	Installation of a five-foot sidewalk from Little Island Rd to Old Dock Lane	>\$400,000	\$400,000
37	Carriage Shop Rd sidewalk	Installation of a five-foot sidewalk along this roadway. This project may need to be phased.	>\$400,000	\$400,000
38	Quaker Rd sidewalk installation	Installation of a 5-foot sidewalk. This project has the potential to increase walking and biking to North Falmouth Elementary School from the New Silver Beach area.	>\$400,000	\$400,000
39	Old Barnstable Rd sidewalk extension	Extend five-foot sidewalk through bog area to fill a sidewalk gap on Old Barnstable Rd.	\$250,000 - \$400,000	\$300,000
40	Central Ave shared signage and pavement markings	Install Share the Road/May Use Full Lane signage.	<\$50,000	\$10,000
41	Menauhant Rd sidewalk connectivity	Close existing gaps in sidewalk network on Menauhant Rd from Foster Rd to Central Avenue and from Inn Seasons Resort to Great Pond bridge by constructing five-foot wide sidewalks.	\$250,000 - \$400,000	
42	Grand Ave shared signage and markings	Install additional pedestrian warning signage at crosswalks, Share the Road/May Use Full Lane signage and consider installation of sharrow pavement markings.	<\$50,000	\$10,000
43	Quissett Harbor Road bicycle connection to The Knob	Stripe sharrow pavement markings on Quissett Harbor Rd heading easterly from Route 28 and install bicycle parking for The Knob.	<\$50,000	\$10,000
44	Church St sidewalk extension	Consider installation of 5-foot sidewalks on Church Street	>\$400,000	\$400,000
45	Sippewissett Rd/Quissett Ave shared signage and markings	Install Share the Road/May Use Full Lane signage and/or sharrow bicycle pavement markings along Sippewissett Road and Quissett Ave which is a popular bicycle route.	<\$50,000	\$10,000



46	Route 28 Multi-Modal Accommodations*	MassDOT Project (# 609218) which includes multi-modal improvements along Route 28 from Falmouth Heights Road to Oxbow Rd. Project is currently phased with three segments.	>\$400,000	n/a
47	Route 28A at Route 151 Intersection Improvements*	Intersection improvement project to address safety and incorporate multi modal accommodations.	>\$400,000	n/a
48	Route 28A at Curley Blvd Roundabout Improvements*	Incorporate signage and striping improvements to improve safety at this circular intersection. Install multi-modal crossings and sidewalk connections.	\$100,000 - \$250,000	n/a
49	CCRTA Sealine Transit Improvements*	Install new bus shelters or bus pull-offs and other amenity upgrades along the Route 28 corridor for the Sealine service.	\$100,000 - \$250,000	n/a
50	Woods Hole Road at Oyster Pond Road Crosswalk*	Install a signalized pedestrian crossing at this existing signalized intersection.	>\$400,000	n/a
51	Upgrade and install missing sidewalks on Route 28A*	Installation of new 5-foot sidewalks along the entire length of Route 28A which support connections to the Shining Sea Bikeway.	>\$400,000	n/a
52	Woods Hole Road Sidewalk Installation*	Construction of a 5-foot sidewalk on Woods Hole Rd. Project may need to be phased.	>\$400,000	n/a

**To be funded outside of Complete Streets Program*



NEXT STEPS/NOTES

The study team has submitted a draft plan to MassDOT for feedback and has received approval and suggested edits. The Town of Falmouth is now eligible to apply for Complete Streets funding up to \$400,000 (competitive process). This phase is referred to as Tier 3 of the Complete Streets Program. Project considerations include the following general and specific comments.

General Comments

1. Wayfinding signs should comply with MUTCD
2. The shared lane marking is a pavement marking with a variety of uses to support a complete bikeway network; it is not a facility type and should not be considered a substitute for bike lanes, separated bike lanes, or other exclusive bicycle facility. The MUTCD outlines guidance for shared lane marking in section 9C.07.
3. Adjacent to a proposed bus shelter, a boarding/alighting area shall be provided, with an 8.0' depth (from edge of curb) and 5.0' width.
4. When designing a new sidewalk segment, the project limits must meet an existing sidewalk network or terminate with compliant curb ramps. If terminating at an intersection, include a reciprocal curb ramp and crosswalk.
5. At marked crossings, the bottom of the ramp run (4'-0" by width of ramp opening), exclusive of flared sides shall be wholly contained within marked crossing. Refer to AAB 521 CMR: 21.2.1
6. Pushbuttons/Pedestrian Beacons/RRFBs/HAWKS should be accessible from a level landing. Refer to AAB 521 CMR 21.10.4 for reach and clearance guidance.
7. Shared use paths are preferred to be 12 feet wide or a minimum of 10 feet wide.
8. The MUTCD does not recommend using the SHARE THE ROAD (W16-1P) plaque in conjunction with the Bicycle (W11-1) and other vehicular traffic (https://mutcd.fhwa.dot.gov/knowledge/faqs/faq_part9.htm)

Specific Comments

1. Provide proposed sidewalk, bicycle lane/buffer and shared use path widths in the Project Descriptions.
2. Project Descriptions should provide a clear description of the work being proposed. When proposing "improvements" (e.g. geometric improvements) better define which improvements are being proposed in the Project Description and the associated Complete Streets Project Type.
3. When applying for Tier 3 funding, feasibility of the sidewalk installation on corridors with constrained ROW should be known.



4. If the Total Estimated Project Cost is greater than the Complete Streets Funding Requested, provide/identify Other Funding Source(s) or indicate as TBD.
5. For Ranks 4, 46, 47, 48, 49, 50, 51 and 52, Provide clarification. State-owned roadways are not eligible for Complete Streets Funding Program reimbursement. Please revise the Complete Streets Funding Requested and Other Funding Source(s) and Amount, or indicate as TBD.
6. For Rank 13, MassDOT is defining road diets as the repurposing of roadway space to improve safety and mobility for all modes of transportation, through the elimination of one or more vehicular travel lanes. Confirm that your municipality's proposed road diet(s) is eliminating travel lanes rather than exclusively narrowing one or more vehicular travel lanes. Revise if necessary.



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Appendix A: Town of Falmouth Complete Streets Policy

Town of Falmouth Complete Streets Policy

Introduction

The Town of Falmouth is a diverse, historical, seaside community with a rich cultural background pre-dating the revolutionary war. The transportation system experiences significant seasonal challenges owing to harsh New England winters and the summer influx of tourists.

Falmouth is committed to providing a transportation system and infrastructure that is safe, efficient, accessible and reliable to accommodate the widest array of transport modes.

Vision and Intent

Complete Streets are intended to provide safety, comfort and accessibility for all the users of our roads, trails and transit systems which include pedestrians, bicyclists, motorists, transit riders, commercial vehicles and emergency vehicles. “Users” refers to people of all ages, abilities / disabilities and income levels. Further, Complete Streets principles contribute toward the safety, health, economic viability and quality of life in the community by providing greater opportunities in multi-modal and non-motorized transportation in conjunction with accessible and efficient transportation connections between home, school, work, recreation, medical facilities and retail destinations and transportation hubs by improving the pedestrian, cyclist and vehicular infrastructure environments throughout the community.

The intent of Falmouth’s Complete Streets Policy, therefore, is to accommodate all users by creating a roadway network that fulfills the needs of persons utilizing a variety of transportation modes, while preserving the aesthetic character of the roadways.

The Town will, to the maximum extent possible, design, construct, maintain and operate all streets to provide for a comprehensive and integrated roadway network of facilities for people of all ages and abilities.

Core Commitment

The Town of Falmouth recognizes that users of all transportation modes including, but not limited to pedestrians, cyclists, transit and school bus riders, motorists, delivery and service personnel, freight haulers and emergency responders are legitimate users of roadways and deserving of safe facilities.

All roadway projects – including new, reconstruction or maintenance – represent opportunities to implement Complete Streets design principles. Where feasible, Complete Streets design recommendations shall be incorporated into all publicly and privately funded projects. This includes transportation infrastructure and roadway design projects requiring funding or approval by the Town of Falmouth as well as projects funded by the state or federal government such as Chapter 90 funds, Transportation Improvement Program (TIP), the MassWorks Infrastructure Program, Community Development Block Grants (CDBG), Capital Funding and other state and federal funds for roadway and infrastructure design. The same will be applied to private developments and roadway related design components. In addition, to the extent practical, state-owned roadways will comply with the Complete Streets resolution, including the design, construction and maintenance of such roadways within Town boundaries.

The Department of Public Works shall use its best judgement regarding the feasibility of applying Complete Streets principles for routine roadway maintenance and projects. Transportation infrastructure projects, including, but not limited to roadway reconstruction, roadway reconfiguration, subdivisions or transportation improvements may be excluded upon approval by the Director of Public Works or designee where documentation and data indicate any of the following:

- Areas where specific users are prohibited by law such as interstate freeways or pedestrian malls. An effort will be made, in these cases, for accommodations elsewhere.
- Where the costs or impacts of accommodation is excessively disproportionate to the need or probable use.
- There is an absence of current and future need.
- Protected scenic, historic and/or environmental features/qualities would be adversely impacted.

Best Practices

The Town of Falmouth's Complete Streets Policy focuses on developing a connected, integrated transportation network that serves all users. Complete Streets principles will be integrated into policies, planning and design of all types of public and private projects, including new construction, reconstruction, rehabilitation or repair / maintenance of transportation facilities on roadways and redevelopment projects.

The Town of Falmouth recognizes that Complete Streets may be achieved through single elements incorporated into a particular project or incrementally through a series of smaller improvements or maintenance activities over time.

Complete Streets principles include the development and implementation of projects in a context-sensitive manner in which project implementation is sensitive to the community's physical, economic and social setting. The context-sensitive approach to process and design includes a range of goals by considering stakeholder and community values on a level plane with the project need. It includes goals related to livability with greater participation of those affected in order to gain project consensus. The design process may incorporate flexibility to balance user's needs. The overall goal of this approach is to preserve and enhance scenic, aesthetic, historical and environmental resources while improving or maintaining safety, mobility and infrastructure conditions.

The latest design guidance, standards and recommendations available will be used in the implementation of Complete Streets including, but not limited to:

- Massachusetts Department of Transportation (MassDOT) - Project Development & Design Guide
- American Association of State Highway Transportation Officials (AASHTO) – A policy on Geometric Design of Highway and Streets
- United States Department of Transportation Federal Highway Administration’s - Manual on Uniform Traffic Control Devices
- Architectural Access Board (AAB) – 521 CMR Rules and Regulations
- National Association of City Transportation Officials (NACTO) – Urban Street Design Guide and Urban Bikeway Guide
- Cape Cod Commission – Complete Streets/Living Streets Design Manual
- Cape Cod Metropolitan Planning Organization – Regional Transportation Plan

The Town of Falmouth Complete Streets Policy shall be consistent with project selection criteria for multi-purpose pathway and pedestrian projects as determined by the Falmouth Department of Public Works. Guidance for selection criteria may be found in the above cited references.

Generally, selection criteria will favor projects that meet one or more of the following categories:

- Continuity – These projects alleviate network gaps or deficiencies. The facilities integrate with or improve an existing network or link to either complete or extend systems. However, a project that is the first element of a planned multi-purpose path or walkway system will also be valued. Isolated projects with no clearly defined origin or destination will be avoided.
- Destinations / Attractions – The purpose of such facilities is to provide pedestrian or multi-modal links to destinations including transit stops, business district / shopping centers, beaches, playgrounds or other pedestrian oriented destinations.
- Schools – These facilities serve roadways and the transportation network surrounding schools. They may augment other programs such as Safe Routes to Schools.

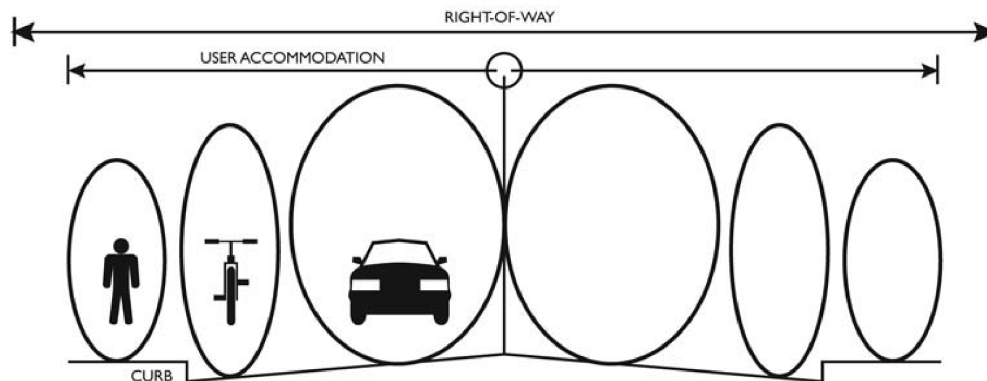


Appendix B: MassDOT Design Guide Bicycle/Pedestrian Accommodation

The following are excerpted from the Massachusetts Department of Transportation's Design Guide. The Cape Cod Commission has included applications of each case identified with **parentheses**.

Case 1 - Separate Accommodation for All Users (Bike Lane)

- Often the preferred option to provide safe, convenient, and comfortable travel for all users.
- Appropriate for areas with moderate to high levels of pedestrian and bicycle activity.
- Appropriate for roadways with moderate to high motor vehicle speeds.
- Appropriate in areas without substantial environmental or right-of-way constraints.

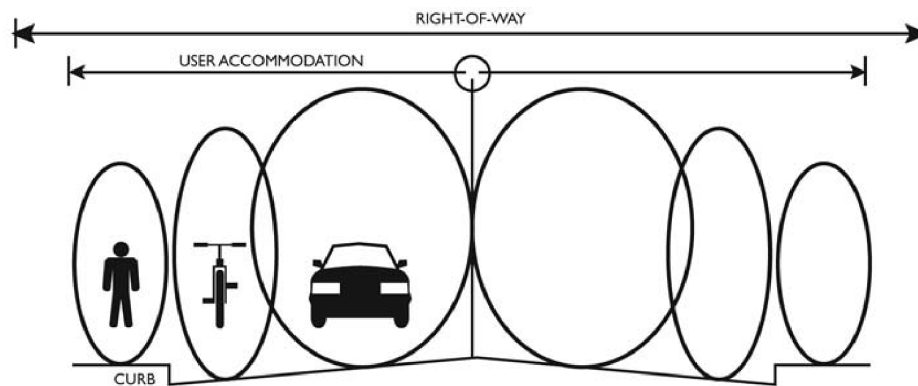


MassDOT Design Guide: Case 1 - Separate Accommodation for All Users



Case 2 - Partial Sharing for Bicycles and Motor Vehicles (**Wide Shoulder**)

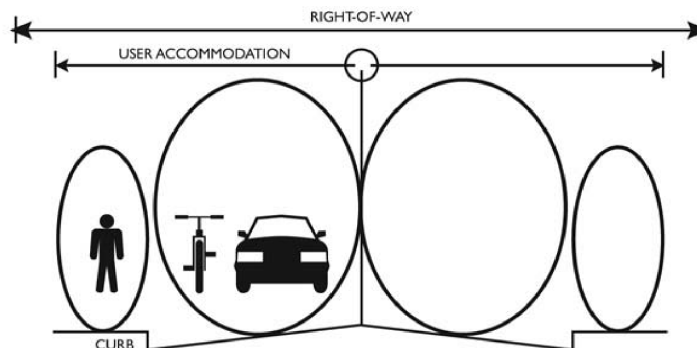
- Used in areas where the width necessary to provide Case 1 accommodation is not available.
- Under Case 2, pedestrians are provided with a sidewalk or separate path while space for bicyclists and drivers overlap somewhat.
- Appropriate in areas with low motor vehicle speeds and low to moderate motor vehicle volumes.



MassDOT Design Guide: Case 2 - Partial Sharing for Bicycles and Motor Vehicles

Case 3 - Shared Bicycle/Motor Vehicle Accommodation (**Sharrow**)

- Under Case 3, pedestrians remain separate, but bicycle and motor vehicle space are shared.
- Used in densely developed areas where right-of-way is constrained.
- Also, applicable to most residential/local streets where speeds and traffic volumes are low.



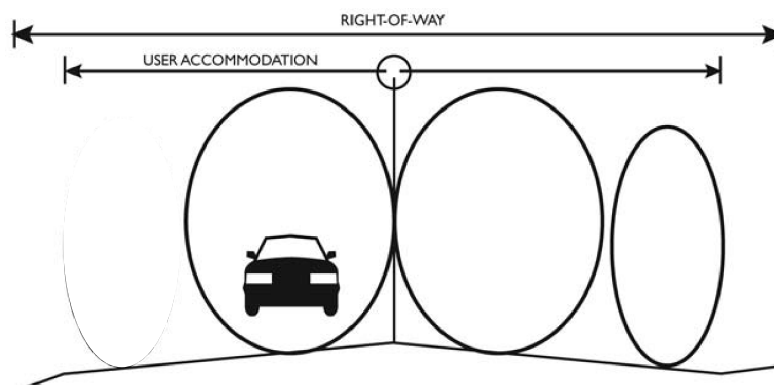
MassDOT Design Guide: Case 3 - Shared Bicycle/Motor Vehicle Accommodation

Case 4 - Shared Bicycle/Pedestrian Accommodation

- Under Case 4, pedestrians and bicyclists share the shoulder.



- Common in rural or sparsely developed areas.
- Appropriate for areas with infrequent pedestrian and bicycle use.

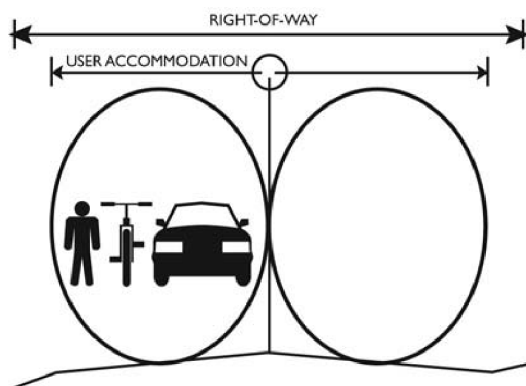


MassDOT Design Guide: Case 4 - Shared Bicycle/Pedestrian Accommodation

The Bikeways Committee has identified wider sidewalks and preferably multi-use paths as strategies for Case 4.

Case 5 - Shared Accommodation for All Users

- Under Case 5, all users share the roadway.
- Appropriate where user demands, and motor vehicle speeds are very low or when severe constraints limit the feasibility of providing separate accommodation.



MassDOT Design Guide: Case 5 - Shared Accommodation for All Users



Appendix C: Unit Costs of Improvements

The following tables of unit costs of bicycle and pedestrian accommodation techniques were used to determine project costs used in this prioritization plan. The first table has the latest costs based on MassDOT projects. The second table includes costs for certain additional items and was originally included in the “Bicycle Feasibility Study: Integrated Bicycle Plan for Cape Cod” published by the National Park Service/Cape Cod National Seashore in partnership with the Cape Cod Commission in 2011.

**Town of Eastham, Massachusetts
MassDOT Complete Streets Funding Program Project Prioritization Plan
Conceptual Construction Cost Estimate (Unit Cost Summary)**

Item	Unit Price	Unit	Comment
<i>Pedestrians</i>			
HMA Sidewalk (1 side)	\$ 8.00	per SF	
Concrete Sidewalk (1 side)	\$ 12.00	per SF	
Granite Curbing (1 side)	\$ 50.00	per LF	
R&R Granite Curbing (1 side)	\$ 25.00	per LF	
Concrete ADA Curb Ramp	\$ 3,000.00	per EACH	
Crosswalk	\$ 500.00	per EACH	Crosswalks are based on 10 feet wide per linear foot cost
Pedestrian crossing sign	\$ 100.00	per EACH	
RRFB (one on either side of a street)	\$ 15,000.00	per EACH	
Install APS Signal Head and Push Button on existing Post	\$ 3,000.00	per EACH	
Install new APS Signal Head and Push Button and Post	\$ 7,000.00	per EACH	
Install new post for APS Signal Head	\$ 4,000.00	per EACH	
<i>Reconstruction/Widening</i>			
Remove existing pavement and replace with loam and seed	\$ 18.00	per SF	
Roadway Widening	\$ 11.00	per SF	
Utility Pole Relocation	\$ 5,000.00	per EACH	
Tree Removal - diameter under 24 inches	\$ 1,200.00	per EACH	
Tree Removal - diameter 24 inches and over	\$ 2,500.00	per EACH	
<i>Bike</i>			
Remove existing pavement markings	\$ 1.00	per LF	
4" Reflectorized White Markings for bike lane (1 side)	\$ 1.00	per LF	
Bicycle Lane Symbol	\$ 280.00	per EACH	Every 500 feet and/or after every intersection
Sharrow Symbol	\$ 350.00	per EACH	Every 250 feet and/or after every intersection
Bike Sign and Post	\$ 240.00	per EACH	Every 1,000 feet or so
<i>Drainage</i>			
1 catchbasin, 1 manhole, and a 10 foot lateral pipe	\$ 10,000.00	per EACH	Every 300 feet, needed with every sidewalk installation
Main line (12" or 15" RCP)	\$ 78.00	per LF	If roadway does not have existing drainage, then closed drainage system is needed with sidewalk installation (as well as drainage structures above)
Stormceptor Unit	\$ 12,000.00	per EACH	Assume 1 per 5 catchbasins

References:

- Unit Prices: based on MassDOT Average Weighted Unit Prices (Statewide and District) and unit price from limited local projects. (Verification by the City is recommended)

Assumptions:

- All pavement markings unit cost price are based on thermoplastic
- All signs cost includes rebuild 2' x 2' existing sidewalk panel for sign installation

Cost Adjustments:

- Add 20% for Contingencies
- Add 8% for Police Detail



Table 4 Bicycle & Pedestrian Accommodations Unit Costs

Accommodation	Requirements	Unit	Unit Cost
On-road bikeway	Signing & striping	LF	\$ 2.00
On-road bikeway	Widen existing roadway to provide shoulder/bike lane	LF	\$ 95.00
Off-road bikeway	Construct shared use path adjacent to existing roadway, including utility pole relocation	LF	\$ 145.00
Off-road bikeway	Construct rail to trail path using abandoned railroad bed, minimal grading required	LF	\$ 125.00
Off-road bikeway	Construct shared use path on new alignment	LF	\$ 165.00
Off-road bikeway	Construct shared using existing corridor, minor grading and clearing required	LF	\$ 150.00
Roadway Crossing, residential	Pavement markings, and curb cuts/ADA curb ramps	EA	\$ 1,500.00
Roadway Crossing, signalized	Mast arms, signal heads, pedestrian signals, pavement markings, and curb cuts/ADA curb ramps	EA	\$ 70,000.00
5' Sidewalk, bituminous	Sidewalks located on both sides of street	LF	\$ 120.00
5' Sidewalk, concrete	Sidewalks located on both sides of street	LF	\$ 140.00
Bicycle/pedestrian bridge	Total lump sum construction	LS	\$1,200,000.00
Wayfinding Signage	Complete signage for wayfinding including directional and distance signs, route signs, destinations, etc.	LM	\$ 18,400.00
Bicycle rack (parking)	Installation on existing slab, drill & grout bolts	EA	\$ 1,500.00
Parking lot, trailhead		EA	\$ 50,000.00



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Appendix D: Prioritization Worksheet



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