Sustainable Metro Boston

Consortium for Sustainable Communities

Northern Strand Trail Communities Bicycle and Pedestrian Network Plan

Chelsea | Everett | Lynn | Malden | Revere | Saugus

July 2013

Acknowledgments

This document was produced with input from planning departments, departments of public works, advocacy groups, and other stakeholders from the City of Chelsea, City of Everett, City of Lynn, City of Malden, City of Revere, and Town of Saugus. Professional technical assistance provided by the Metropolitan Area Planning Council: Sarah Kurpiel Lee, Transportation Engineer and Planner; Chris Kuschel, Regional Planner; David Loutzenheiser, Transportation Planner; and Bill Wang, GIS Analyst.

This project was undertaken with funds from the Metropolitan Boston sustainable Communities Regional Planning Grant. Funding support was also provided by the Boston Region Metropolitan Planning Organization's Unified Planning Work Program.

Table of Contents

Introduction

MAPC is assisting several groups of communities in advancing pedestrian and bicycle plans, focusing on short-term and low-cost solutions. The primary goal of this effort is to 1) develop a bicycle and pedestrian network plan consisting of region-wide on- and off-road connections; and, 2) begin to institutionalize the implementation of pedestrian and bicycle accommodation at the local level in all projects. The recommendations in this report are not intended to supplant or contradict any existing plans in the communities (open space plans, master plans, etc.). Rather, this document can be used in conjunction with these other initiatives and assist in prioritization and identifying opportunities for new bicycle accommodation during upcoming roadway repaving efforts. This study is part of a larger regional bicycle and pedestrian effort comprising 13 total communities in the MAPC region. This report covers municipalities located north of Boston and surrounding the Northern Strand Community Trail – Chelsea, Everett, Lynn, Malden, Revere, and Saugus.

As part of this planning effort, existing conditions and potential opportunities have been identified for each municipality. This planning effort identifies a network of on- and off-road connections and routes for each of the regional clusters, including proposed bicycle and pedestrian accommodations, and new cross-sections for all major roads in the community.[1]

This report is organized into two sections. First, it provides an introduction on bicycle and pedestrian recommendations applicable to each of the municipalities. Second, it provides detailed discussion and recommendations for each municipality.

These recommendations create a cluster-wide network of bicycle and pedestrian facilities based upon existing roadway configurations with ***no changes*** *to curb location, existing on-street parking requirements, or existing number of vehicular travel lanes. Recommendations are based on highlighting existing opportunities for improvements, generally through roadway restriping for bicycle facilities and sidewalk improvements or construction of pedestrian facilities. Therefore, the proposed changes are appropriate for near-term (ranging from immediate to 2-3 year) implementation.*

An example of a proposed roadway reallocation is shown in Figure 1. In the image Broadway in Lynn has the width to allow bicycle lanes on both sides of the roadway. When the roadway is resurfaced, we encourage Lynn to restripe it with bicycle accommodations.

[1] Major roads were identified by examining the MassDOT functional classification for all roads in the six communities (See Appendix C). Local roads were excluded from the analysis unless they were needed to create an important connection.

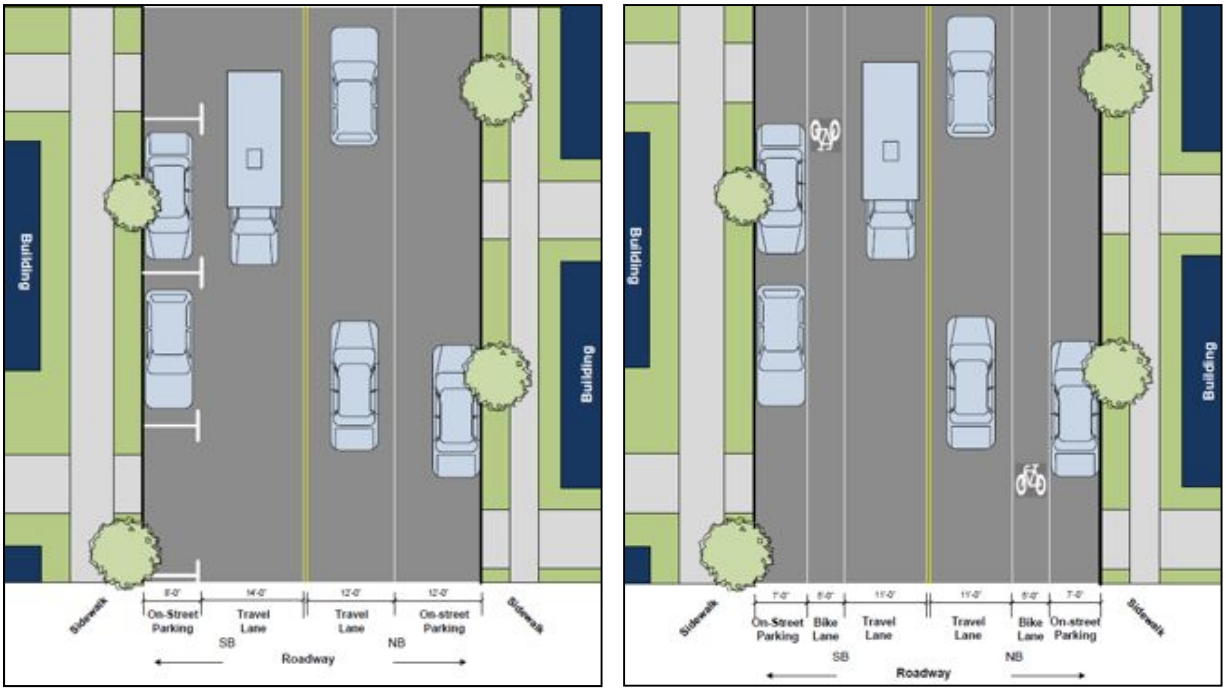


Figure 1: Example of Existing Conditions and Proposed Road Reallocation– Broadway in Lynn (between Jenness St. and Euclid Ave.)

Although outside the scope of this report, over the longer term, each community is encouraged to examine key connections and assess whether lane reductions (for multi-lane roadways) or removing existing parking is a feasible means for achieving more bicycle and pedestrian-friendly roadways. In addition, when communities are designing roadways for reconstruction, they should include access for pedestrians and bicycles to whatever extent possible.

The network concentrates on connecting schools, transit stations, off-road trails, parks, dense residential areas, retail centers, the Northern Strand Community Trail, also known as the Bike to the Sea (described in greater detail on page 7), and other points of interest specific to each community. Although bicycles are legally allowed on most roadways (and thus bicycle facilities are not required to allow bicycle travel) striping and signage prioritizing space for bicycles and alerting drivers to share the road provides a safer environment for bicyclists and encourages more people to travel in this manner.

The proposed accommodations include: exclusive bicycle lanes, shared lane markings, shared use paths, and identification of key barriers. Cycle tracks are noted where possible, but are considered a longer term goal due to cost, and therefore, typically are not explicitly recommended in this plan, but are identified as a buffered bicycle lanes (i.e., additional painting to separate the bicycle lanes from the travel lanes) in the recommendations for each municipality. At the conclusion of the planning effort, it will be the responsibility of the individual municipalities to implement the recommendations. MAPC recommends implementing these bicycle and pedestrian recommendations as these roadways are repaved and/or reconstructed over the next few construction seasons to minimize costs and to ensure optimal roadway surface conditions for cycling.

The following page provides a map detailing the Proposed Northern Strand Trail Communities Bicycle/Pedestrian Network (Figure 2), followed by data and overall recommendations for the Northern Strand cluster. A detail of each community's network plan is included in their relevant sections.

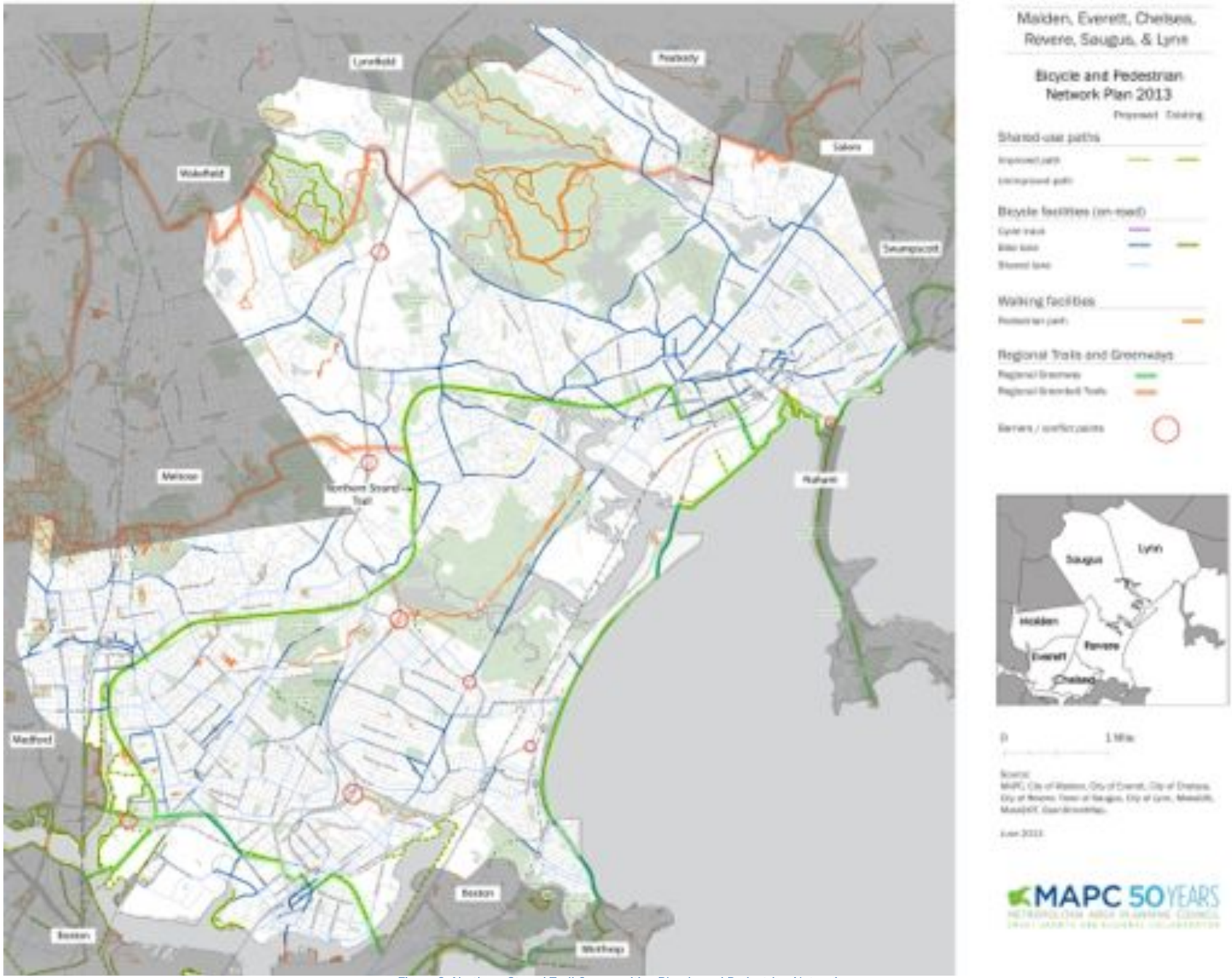


Figure 2: Northern Strand Trail Communities Bicycle and Pedestrian Network

Commute Data

The 2010 American Community Survey compiles statistics over a 5 year period about the modes people use to travel to work. The results are summarized for the six communities and compared with regional data in Table 1 below. Note that the ACS survey is given to less than 15% of all households over a five year period; therefore, margins of error may be significant. This data does not include recreational or utility (e.g., running errands) trips that are taken by foot or bicycle in these communities.

Table 1: Boston Region Travel to Work Data

Municipality	*Population*	*Employees*	*Walk (%)*	*Bicycle (%)*	*Drive (%)*	*Transit (%)*	*Other (%)*
Chelsea	35,177	16,513	9.3	0.4	64.3	23.3	0.9
Everett	41,667	13,317	4.3	0.7	68.7	22.4	2.0
Lynn	90,323	26,838	4.4	0.8	81.7	8.9	1.4
Malden	59,450	15,044	3.3	0.5	66.2	26.1	1.0
Revere	51,755	8,113	2.6	0.1	69.2	25.7	1.3
Saugus	26,628	14,128	1.4	0.2	89.1	6.1	0.1
MAPC	3,066,394	1,820,350	6.5	1.1	71.2	16.0	0.6
Massachusetts	6,587,536	3,304,919	4.6	0.7	80.5	9.1	0.6

Source: 2010 American Community Survey, 2010 Census

As shown in the table, the walking mode share for all of the communities (with the exception of Chelsea) is lower than the overall average for both the MAPC region and the state. In addition, the bicycle mode share for the six communities is lower than the average for the MAPC region. Finally, Lynn and Saugus rely on vehicular transport for commuting more than the MAPC region and State averages.

Two local communities that have prioritized bicycle and pedestrian infrastructure, Cambridge and Somerville, have achieved a significant increase in non-vehicular mode share and can be a useful case study for other communities in the MAPC region. Cambridge's walk and bike share percentages are 22% and 6.5%, respectively. Somerville's walk and bike share percentages are 10% and 4.5%, respectively.

Northern Strand Community Trail (Bike to the Sea)

The Northern Strand Community Trail, also known as the Bike to the Sea, is a proposed and partly constructed ten mile bicycle path, which will connect the cities of Everett, Malden, Revere, Saugus, and Lynn (see Figure 3). Chelsea can connect to this important route via a proposed connection linking it with the trail head in Everett. A key focus of this report's recommendations, therefore, is connecting to the Northern Strand via on-road and off-road bicycle and pedestrian routes.

As of November 2012, the trail from Air Force Road in Everett to Beach Street in Malden opened, as did the Saugus segment of trail, from Laurel Street to Boston Street. Everett and Malden are working on plans to pave their segments of the trail in the next few years but there is no definite timeframe. Work is expected to begin on the Revere segment of the trail in summer 2013.

Although this report focuses on the Northern Strand Trail, there are several other proposed regional corridors that affect the various communities in this report. These include:

- East Boston Greenway
- Chelsea's potential bus-rapid-transit corridor

- Everett's potential casino site
- The waterfront along Revere Beach and Lynn
- Winthrop Greenway

As with the Northern Strand Trail, each of these regional corridors provides off-road connections among multiple communities. See Figure 2 for these regional corridors.

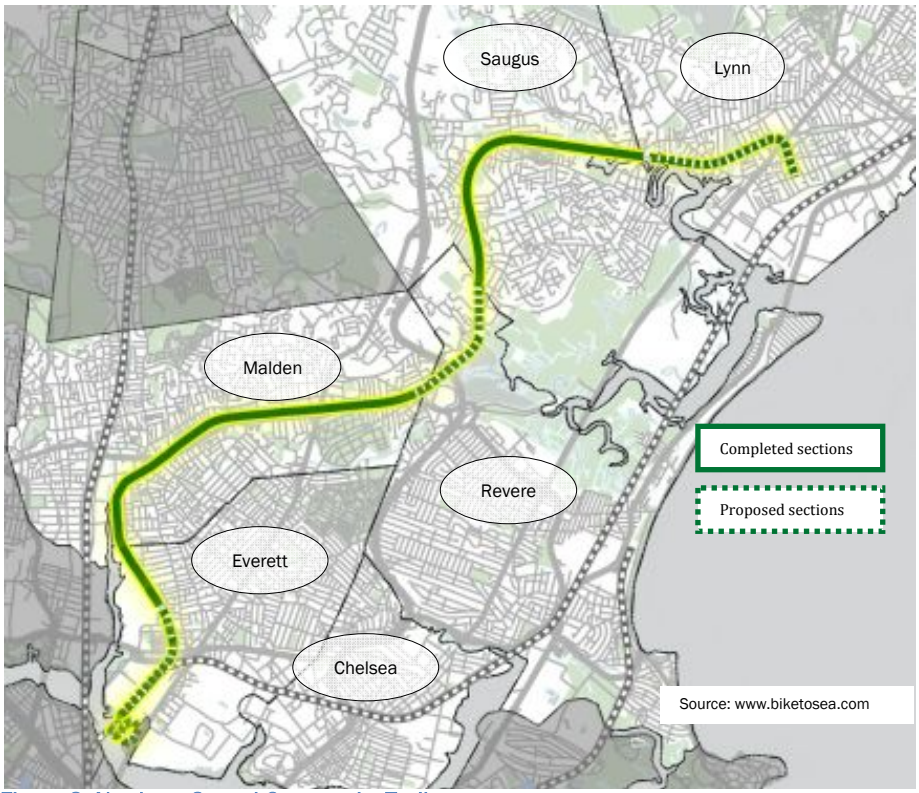


Figure 3: Northern Strand Community Trail

The following sections describe MAPC's process for determining bicycle and pedestrian recommendations, as well as design guidance and considerations applicable to each community. Because bicycle accommodations do not currently exist in these communities and because they are less expensive and require less time to implement than pedestrian infrastructure (e.g., sidewalks), the recommendations focus primarily on bicycle infrastructure.

Bicycle Recommendations

MAPC examined the entire street network for the six Northern Strand Trail communities, collecting street width and existing condition data for roads within our study, and identifying opportunities and constraints for providing bicycle accommodation in those areas. (See Appendix C for each community's Road Classification.) The focus of this effort has been to identify, based on the existing street widths, curb locations, and parking requirements, the opportunity to provide bicycle facilities on these roads in the next repaving cycle. The recommendations detail the recommended roadway layout, including parking and travel lane widths, to provide bicycle accommodations. For roadways owned by the municipality MAPC recommends providing bicycle lanes or shared lanes when repaving all roadways identified in the network plan. Some roadways may be restriped prior to repaving, but a smooth surface is preferred for new bicycle facilities. In some cases MAPC proposed bicycle facilities on roads not owned by the municipalities, but rather the State (i.e., MassDOT or DCR) or private

ownership. In these cases the process for implementation on these roads will differ from municipality-owned roads, and MAPC encourages engagement with the appropriate state offices to implement the recommendations.

Table 2 provides a summary of the total number of approximate miles of new bicycle lanes per community. The table illustrates that there is varying opportunity for bicycle accommodations, due to a variety of reasons, including narrow curb-to-curb road widths and the number of non-local roads in a municipality.

Table 2: Proposed bike lanes per municipality

Municipality	*Proposed bike lanes (miles)*
Chelsea	3.2
Everett	7.5
Lynn	23.0
Malden	9.0
Revere	9.5
Saugus	15.0
TOTAL	67.2

The key on-road bicycle accommodations that were considered in this network plan include buffered bicycle lanes, bicycle lanes, and shared lane markings. In addition, as noted earlier, recommended buffered bicycle lanes could, alternatively, be constructed as cycle tracks (described below). Bicycle facilities with physical separation from motor vehicles are typically the most desired as they provide the highest level of protection and encourage the highest use, however, the limited roadway space often found in our region typically calls for other choices that require less excess roadway space. Therefore, our plan recommends buffered bicycle lanes for short-term implementation and cycle tracks where possible in the longer term.

Complementing the bicycle facilities should be campaigns (e.g., driver education, mailings, signage) to educate both motorists and cyclists on the meaning of the new pavement markings and the laws governing how these modes of transport interact with each other.

On one-way roads with parking on one side of the street, bicycle lanes should be placed on the opposite side from the designated parking. By separating parked cars from bicycle lanes, there is less chance for conflict between bicyclists and motorists opening car doors.

The following are brief descriptions of the types of bicycle facilities that were considered. The list is ordered by desirability, with facilities providing the highest separation between vehicles and bicycles listed first. Please see "Appendix B -- Pedestrian Facilities Design Guidelines References" for resources containing complete descriptions, photos, and design guidance for these bicycles facilities.[2] As a general rule of thumb, MAPC based its recommendations upon following design guides from the AASHTO Guide for the Planning, Design, and Operation of Bicycle Facilities[3] :

- Parking lanes – 7-8' wide.

[2] The illustrations below depicting the various bicycle facilities are from the NACTO Urban Bikeway Design Guide, accessible online at http://nacto.org/cities-for-cycling/design-guide/

[3] See Chapter 4: Design of On-Road Facilities: http://www.railstotrails.org/resources/documents/ourWork/trailBuilding/DraftBikeGuideFeb2010.pdf

- Travel lanes – 10-12' wide. Eleven feet is often ideal. Greater than 12' may encourage vehicles to speed, whereas 10' is adequate on many roads but may be less than optimal for bus routes and roadways with high volumes of heavy or wide vehicles.
- Bicycle lanes –5' wide. Five feet generally provides enough comfort for a bicyclist to ride side-by-side with a vehicle. Four foot bicycles lanes may be installed next to curbing where bicycle lanes are desired but additional space is not available.

Cycle Track - A cycle track is an exclusive bicycle facility that combines the user experience of a separated path with the on-street infrastructure of a conventional bicycle lane. A cycle track is physically separated from motor vehicle traffic and distinct from the sidewalk. A cycle track may be placed at the street level, sidewalk level, or in between. There are several potential opportunities identified in this study to include cycle tracks in discreet road segments. Typically classified in this report as buffered bicycle lanes (described below), these segments are listed in the Bicycle Recommendations for several of the municipalities. Because of the greater capital investment of cycle tracks, this report assumes municipalities may prefer less expensive options, such as buffered bicycle lanes but encourages municipalities to provide cycle tracks and physically separated bicycle facilities wherever feasible.

Figure 4: Cycle track (Source: NACTO)

Buffered Bicycle Lane - Buffered bicycle lanes are conventional bicycle lanes paired with a designated buffer space separating the bicycle lane from the adjacent motor vehicle travel lane and/or parking lane. Pavement markings usually provide this buffer, and lack any sort of physical separation.

Figure 5: Buffered bicycle lanes (Source: NACTO)

Bicycle Lane - A bicycle is defined as a portion of the roadway that has been designated by striping, signage, and pavement markings for the preferential or exclusive use of bicyclists.

Figure 6: Bicycle lanes (Source: NACTO)

Shared Lane - Shared lane markings (SLMs), or "sharrows," are road markings used to indicate a shared lane environment for bicycles and automobiles. Among other benefits, shared lane markings reinforce the legitimacy of bicycle traffic on the street and mark the recommended position for bicyclists. Sharrows should be marked as frequently as 100' apart and not greater than 250' apart, as well as immediately after intersections.

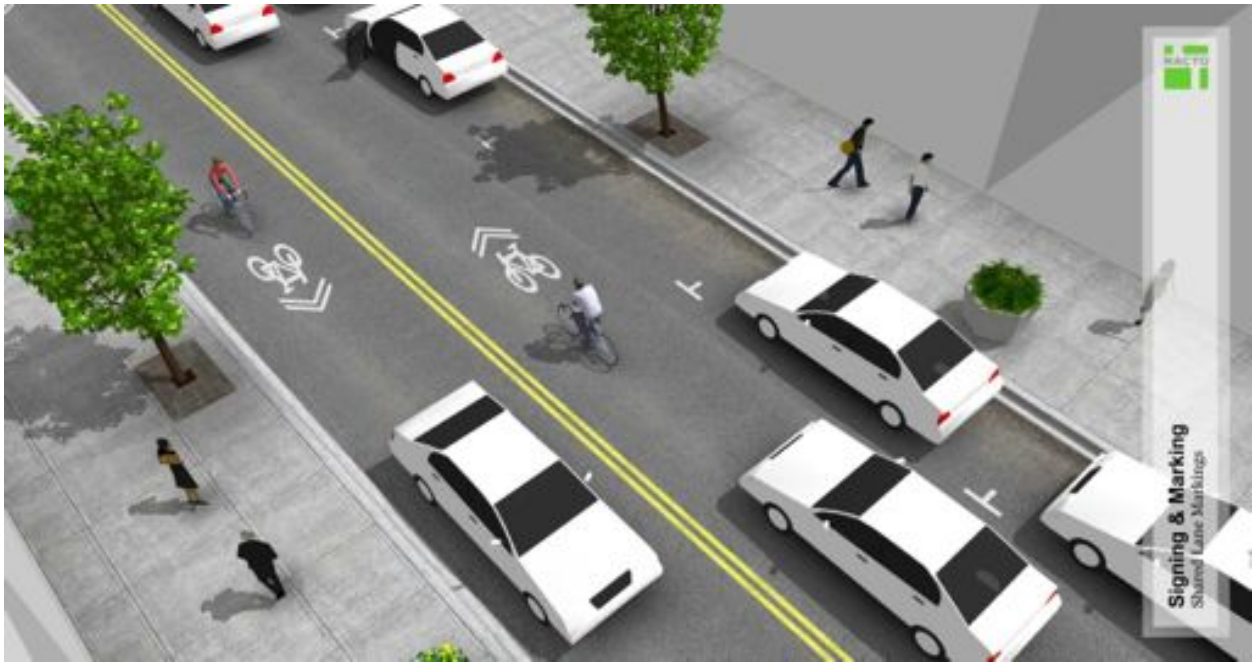


Figure 7: Shared lane markings (Source: NACTO)

Signage – Signs can complement the pavement markings, further alerting motorists to the presence of bicyclists and encouraging all users to share the road. On quiet residential streets with good connections and low traffic volumes or low speed, signs can be used as a means of connecting the bicycle network through these areas without the need to install pavement markings. Signs can also be used for wayfinding purposes to various points of interest.

Figure 8: Examples of bicycle signage

Pedestrian Recommendations

Sidewalk availability and accessibility is an important part of transportation infrastructure in every city and town. Along with bicycling, increased rates of walking in a community can improve health, reduce vehicle use, air pollution, and the cost for maintaining local roadways.

The current regional policy guidelines (Boston Region's Pedestrian Transportation Plan 2010) call for the provision of sidewalks on both sides of all roadways. Although limited rights of way may limit the available width of sidewalks, The Americans with Disabilities Act mandates a minimum width of three feet of unobstructed sidewalk passageway (e.g., no trees, benches, or signage obstructing the

passageway). A sidewalk width of five feet allows two adults to walk comfortably side-by-side. A grass buffer of one or more feet, often with planted trees, can separate the pedestrian space from the vehicular travel lanes, adding to the comfort of pedestrians.

Given that the six communities contain relatively dense, urban environments, the majority of main and local roads contain a sidewalk on at least one side.[4] Table 3 shows the sidewalk availability in each of the six study area communities, denoting the percent of the community with a sidewalk on at least one side. Chelsea and Everett provide the highest percentage of sidewalks on their main roads, and Lynn and Malden provide the highest percentage of sidewalks on their local roads. In Saugus, a less dense area, a significant number of main roads lack sidewalks on at least one side.

Table 3: Sidewalk Coverage by Municipality (2007)

Municipality	% of Roads with Sidewalks (at least one side of road)	
	Main Roads	Local Roads
Chelsea	89%	76%
Everett	89%	76%
Lynn	75%	99%
Malden	80%	92%
Revere	68%	78%
Saugus	32%	64%

Source: MassGIS, 2007

In order to prioritize pedestrian infrastructure and improvements, MAPC reviewed the sidewalks of non-local roads during on-site visits. MAPC recommends that all communities provide sidewalks *on at least one side of every main road* with well-striped continental pattern (also known as ladder pattern) crosswalks connecting the sidewalks. All new roads and reconstructed roads should have ADA-compliant sidewalks or walkways constructed on both sides.

Areas around schools, in particular, should focus on providing pedestrian amenities in order to increase the safety of students, parents, and teachers. Providing a safe pedestrian environment for students to access school is essential and should be a priority for all communities. These areas should include enhanced striping, raised crosswalks, and pedestrian crossing signals. Traffic calming measures, such as speed tables, curb extensions, flashing beacons, rumble strips, and narrower travel lanes should also be considered.

See **Appendix A** for brief descriptions of sidewalk design considerations. In addition, there are a number of resources available that provide detailed information, including MAPC's The Boston Region's Pedestrian Transportation Plan.[5] See **Appendix B** for a list of these additional sources.

Note on Recommendations

MAPC developed the following recommendations for pedestrian and bicycle accommodations and reflect our preference based on current best practices and local conditions. We have met with each community to discuss and finalize the recommendations; however, implementation of the plan, although strongly recommended, is not required. What is implemented is up to each town based on local priorities, funding and public support. In addition, proper education for all users of the roadway should be prioritized along with any changes in infrastructure to increase safety. Ultimately any

[4] Local roads are those classified by the MassDOT functional classification. Main roads are all non-local roads (urban collectors, urban principal arterials, etc.)

[5] The Boston Region's Pedestrian Transportation Plan. MAPC. 2010. www.mapc.org/resources/ped-plan

improvements made to specific locations should be focused on improving the safety of all users of the roadway.

Note that MAPC did not undertake detailed intersection design as a part of this plan; rather, as a part of a regional bicycle network plan, these recommendations are based upon on-site mid-block measurements and observations, and may require additional design at intersections and other conflict areas. Because roadway widths can be inconsistent, prior to installing bicycle facilities road segments should be re-measured by the municipalities to ensure each segment is wide enough to incorporate the recommendations. The following pages provide a detailed description of local recommendations for each community and a map detailing those recommendations.

Chelsea

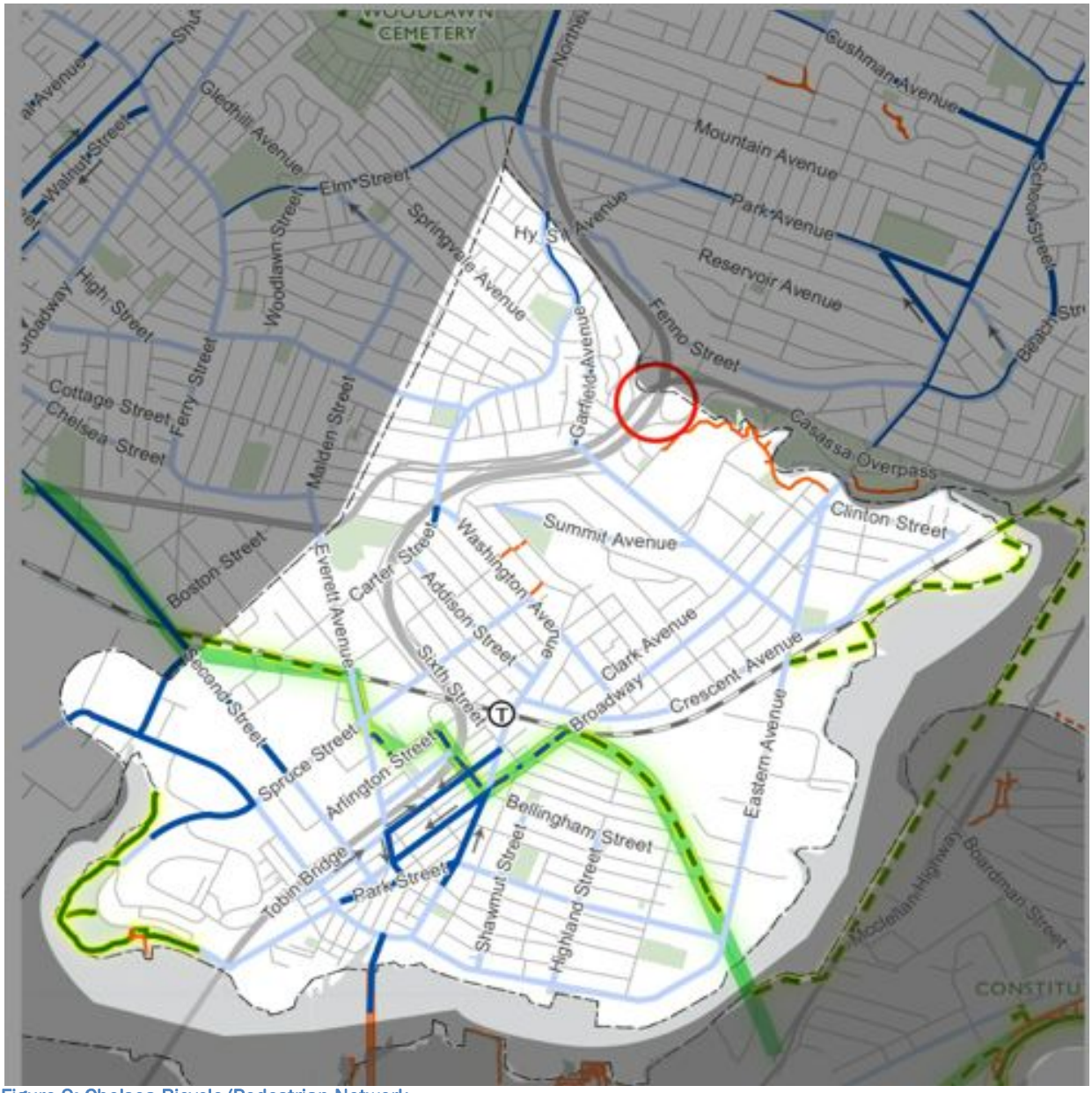


Figure 9: Chelsea Bicycle/Pedestrian Network

Introduction

The City of Chelsea is situated north of Boston adjacent to Everett (located to the northwest) and Revere (located to the northeast), both of which are included in this planning effort. According to the 2010 Census, Chelsea's population was more than 35,000 residents, and approximately 16,500 jobs are located within the City. With the Mystic River to the west and Chelsea Creek to the east, the city connects with its surroundings through a series of bridges. The Tobin Bridge, erected in 1950, is the main vehicular route connecting Chelsea to Boston. Although Route 1, including the Tobin Bridge, acts as a barrier for bicyclists and pedestrians, there are a number of opportunities throughout the city to connect to Chelsea's downtown east of the Tobin, the newer retail areas west, as well as schools and transit hubs.

Priorities for Chelsea include connections to planned and existing bicycle facilities, the commuter rail, and making a key connection to neighboring Everett on Beacham Street safer, which provides access to the Northern Strand Community Trail. Nearby, a beautiful DCR-owned park with sweeping views of Boston runs along Commandant's Way. Although Commandant's Way itself is privately owned and maintained, because the parkland is open to the public, strengthening access to this area from the core of Chelsea is an important connection that the City should prioritize. Currently, there are gaps in the bicycle and pedestrian network to all of these key locations.

There is also a potential regional corridor that runs along the proposed bus-rapid-transit route from Boston, through the downtown, and along the commuter rail line into Everett. See Figure 9 for this corridor.

Projects (Current and Future)

The following list of local projects is based upon discussions with the city and has been identified as priorities, and are not the result of this report's recommendations. This list is intended to highlight important roadway projects that have a potential impact on this plan and is not intended to be an exhaustive list of all upcoming or planned roadway construction projects.

- The City of Chelsea has tentative plans to reconstruct **Spruce Street** in the future from its current, high speed configuration to that of a well-designed boulevard. The city expects to include bicycle lanes as part of the reconstruction. Currently, Spruce Street cannot fit designated bicycle lanes in the existing roadway geometry; therefore, MAPC recommends shared lane markings (also known as "sharrows") be painted on this road.

- **Beacham Street**, which runs through an industrial section of Chelsea, is an important connection to Everett and the Northern Strand Community Trail. The city is considering ways to enhance the bicycle facilities on this road and hopes to provide bicycle lanes in the future, as this study recommends.

- **Everett Avenue** is currently under reconstruction. Because the right of way will not be wide enough to include bicycle lanes comfortably, MAPC recommends shared lane markings painted on this important connection.

- Finally, there are plans to reconstruct **Broadway**; however, the road width will not be widened as part of this effort. The current street width allows for a bicycle lane to fit comfortably running southbound from 5th Street to Everett Avenue. On the remainder of the roadway, this study recommends shared lane markings running along the remainder of the road. Consult the Chelsea Bicycle Recommendations table and Chelsea Bicycle Network Map for details.

Gaps and Barriers

Key gaps and barriers are identified on the Chelsea Bicycle/Pedestrian Network Map. These gaps and barriers have been selected due to a combination of a lack of sidewalks and/or bicycle accommodation and high traffic volumes and speeds. These gaps raise potential safety concerns as well as discourage travel by foot or bicycle.

Route 1, Route 16

These two principal arterials are high speed, multi-lane roadways and generally are not recommended for bicycles (there are, however, sidewalks along most of the length of Route 16 in Chelsea). The City of Chelsea should strengthen the connections across these roads through implementation of the bicycle and pedestrian recommendations.

Bicycle Recommendations

There are a number of streets in Chelsea identified on the Chelsea Bicycle/Pedestrian Network Map (Figure 9) and Chelsea Bicycle Recommendations Table (Table 4) that have the potential for striping bicycle lanes or shared lane markings in the short-term. The table first provides the existing rights-of-way, followed by MAPC's recommendations, categorized by street segments. The recommendations call for the installation of approximately 3.2 miles of bicycle lanes. In many cases, MAPC recommends redistributing existing roadway space to allow for bicycle accommodation, and the table provides details on the recommendations for proposed striping. Some road segments (identified by an asterisk in the following table) can add the recommended bicycle facilities without changes to the existing centerline and other striping, and, therefore, could be installed without roadway resurfacing. **Appendix D** contains a list of all the street segments analyzed.

The City should work with the City of Boston to link to Boston's burgeoning bicycle network wherever possible to provide a seamless transition across city lines.

Note that the bicycle recommendations for the majority of roads are city-owned. In some cases roads may be owned by various state organizations (e.g., MassDOT, DCR) or privately owned. In these cases municipalities should work with the respective owner(s) to incorporate the recommended bicycle facilities. In Chelsea, Commandant's Way, which contains recommended bicycle facilities, is privately owned.

Table 4: Chelsea Bicycle Recommendations

				Roadway						Existing Conditions**							Recommendation	Recommendation - Details									
				Side-walks	Travel Direction		Parking			Curb-to-Curb	Shoulder	Parking Lane	Travel Lane(s)		Parking Lane	Shoulder		Parking Lane	Buffer	Bike Lane	Buffer	Travel Lane(s)		Buffer	Bike Lane	Buffer	Parking Lane
Street Name	From	To	Type	Number	Two-Way	One-Way	None	Both	One Side	(Width)	WB/SB (Width)	WB/SB (Width)	WB/SB (Width)	EB/NB (Width)	EB/NB (Width)	EB/NB (Width)		WB/SB (Width)	WB/SB (Width)	WB/SB (Width)	WB/SB (Width)	WB/SB (Width)	EB/NB (Width)	EB/NB (Width)	EB/NB (Width)	EB/NB (Width)	EB/NB (Width)
2nd St*	Everett Line	Spruce St	Urban Minor Arterial	2	X		X			48			24	24			Buffered bike lanes			8	2	14	14	2	8		
Andrew McArdle Bridge*	East Boston	Pearl St	Urban Principal Arterial		X		X			38			19	19			Bike lanes			5		14	14		5		
Beacham St	Everett line	Market St	Urban Minor Arterial	0	X		X			51			30	21			Buffered bike lanes			6	2	12	12	2	6		
Beacham St	Market St	Williams St (name change)	Urban Minor Arterial	0	X		X			40			21	19			Bike lanes			5		11	11		5		
Broadway	5th	Everett	Urban Collector	2		SB		X		41		8	33		8		Bike lane	7.5			5	21					7.5
Broadway*	Crescent Ave	Eleanor St	Urban Principal Arterial	2	X			X		42			21	21			Shared lanes	8				13	13				8
Broadway*	Eleanor St	Webster Ave	Urban Principal Arterial	2	X			X		42			21	21			Shared lanes	8				13	13				8
Broadway*	Webster Ave	Clinton St	Urban Principal Arterial		X			X		41			20.5	20.5			Shared lanes	7.5				13	13				7.5
Broadway*	Clinton St	City Line/Rt 16	Urban Principal Arterial		X		X			42			20.5	20.5			Shared lanes					21	21				
Carter St*	Route 1 (North Segment)	Orange St	Urban Collector	2		SB			NB	23							Bike lane					11			5		7
Chestnut St	Beacon St	Everett Ave	Urban Collector	2		NB		X		28							Shared lane	7					14				7
Chestnut St	Everett Ave	Fourth St	Urban Collector	2		NB		X		30							Bike lane	7					11		5		7
Chestnut St	Fourth St	Washington	Urban Collector	2		SB		X		*30*							Bike lane	7			5	11					7
Commandants Way*	Williams	Road Narrowing	Local Road	1	X		X			40			20	20			Buffered bike lanes			6	2	12	12	2	6		
Commandants Way	Road Narrowing	Parkland Area	Local Road	1	X		X			23			11.5	11.5			Shared lanes					11.5	11.5				
Commandants Way	Parkland Area	Tobin Bridge	Local Road	2	X		X			23			11.5	11.5			Shared lanes					11.5	11.5				
Cross St*	Broadway	Park St	Urban Principal Arterial	2		SB			NB	30			22		8		Buffered bike lane					12		2	6	2	8
Everett Ave*	Spuce St	Chestnut St	Urban Principal Arterial	2	X			X		56		7	21	21	7		Shared lanes	7				21	21				7
Everett Ave	Chestnut St	Broadway	Urban Principal Arterial	2		SB		X		40		8	23.5		8.5		Bike lane	7.5				20			5		7.5
Garfield St	Washington	Sagamore Ave	Urban Minor Arterial		X			X		40			20	20			One bike lane, one shared lane	7				11	10		5		7
Garfield St	Sagamore Ave	Rt 16 (then Webster)	Urban Minor Arterial		X			X		40			20	20			One bike lane, one shared lane	7				11	10		5		7
Hawthorne St	Central Ave	Congress	Urban Collector	2		NB		X		29							Bike lane	7					10		5		7
Hawthorne St	Central Ave	Bellingham	Urban Collector	2		NB		X		36							Buffered bike lane	8					12	1	5	2	8
Market St	Everett line	Beacham St	Urban Collector	0	X		X			40							Buffered Bike lanes			5	1	14	14	1	5		
Park St	Cross St	Broadway	Urban Minor Arterial	2		EB			WB	30							Bike lane	8					12		10		
Park St	Cross St	Hawthorne St	Urban Minor Arterial	2		EB		X		34							Bike lane	8					12		6		8
Spruce St	Williams Street	Second St	Urban Collector	2	X		X			48			24	24			Shared lanes					24	24				
Spruce St	Second St	Everett Ave	Urban Collector	2	X		X			48	2		22	24		2	Shared lanes					24	24				
Spruce St	Everett Ave	Sixth St	Urban Collector	2	X		X			48	2		22	22		2	Shared lanes					24	24				
Spruce St	Addison St	Washington	Local Road		X					*23*							Install signage	Signage. Good N-S connection.									
Washington Ave	Bell	Garfield	Urban Minor Arterial		X				NB	28			14	14			Shared lanes					10.5	10.5				7
Washington Ave	Garfield	Revere line	Urban Minor Arterial		X			X		40			20	20			One bike lane, one shared lane	7				11	10		5		7
Webster Ave	Locke St	Route 1	Urban Collector	2	X			X		37		7	11.5	11.5	7		Shared lanes	7				11.5	11.5				7
Webster Ave	Parkway Plaza	Locke St	Urban Collector	2	X			X		37		7	11.5	11.5	7		Shared lanes	7				11.5	11.5				7
Webster Ave	Summit Ave	Clark Ave	Urban Collector		X				EB	36			14	14	8		Shared lanes	8				14	14				8

Notes:
--Red text in the travel lanes indicates shared lane markings.
--*Indicates bicycle markings can be painted without resurfacing, because a) they do not require changes to existing centerline and other striping; or, b) striping does not currently exist
--**A breakdown of Existing Conditions striping within the curb-to-curb space is provided when possible. If blank, this indicates that either the roadway does not have existing striping or, in a few cases, roadways were unsafe to measure.

Potential Cycle Tracks

As discussed in the Bicycle Recommendations section of the Introduction, a cycle track is an exclusive bicycle facility that combines the user experience of a separated path with the on-street infrastructure of a conventional bicycle lane. Cyclists generally feel safer with cycle tracks because of the physical separation from vehicles. They do, however, require a greater level of planning and investment than standard bicycle lane striping. The City should consider the importance of the connection when considering whether to construct a cycle track. Based upon existing right-of-way width, the following road segments could incorporate a cycle track rather than a buffered bicycle lane:

- Beacham Street (Everett line to Market Street)
- Second Street (Everett line to Spruce Street)

Roadway Repair Schedule

The upcoming Roadway Repair schedule provides an opportunity to add the appropriate bicycle facilities as part of the Department of Public Works normal repaving operations. The roads designated for repaving, therefore, can be considered a high priority in the sense that there is an upcoming opportunity to add bicycle lanes or shared lane markings, as appropriate. The City may also choose to add bicycle lanes, shared lane markings, and/or signs to other high priority areas that are not identified in the repaving schedule, as well.

Pedestrian Recommendations

MAPC reviewed all of the sidewalk conditions and gaps on the non-local roads in Chelsea. As a dense, urban environment, the majority of roads in Chelsea have sidewalks on at least one side of the roadway. Chelsea has planned or constructed several stairways that create pedestrian-only links off of Washington Street and up to Soldiers Home Memorial Hospital. Chelsea should ensure that these stairways, as well as sidewalks, crossings, and signals remain in good condition, especially in school zones. In addition, traffic calming mechanisms, described in the Pedestrian Recommendations subsection of this report's Introduction, should be considered where appropriate.

Chelsea has collaborated with WalkBoston to complete a walking map assisting residents by identifying key walking routes throughout the city. Chelsea should consider signing these routes and ensure that sidewalks, crossings, and signals within these routes remain in good condition.

Chelsea should also fill gaps in the pedestrian infrastructure within its borders. Beacham Street, discussed above as a key connection to Everett, lacks sidewalks. Because of the wide travel lanes, there is a potential opportunity to create sidewalks by narrowing the lanes.

Because waterways separate Chelsea from Boston, strengthening the connections via existing bridges is a priority for Chelsea. Chelsea should determine its bicycle and pedestrian goals for the Chelsea Street Bridge, which has the potential to be a pedestrian path, a link on a potential Silver Line route, or some combination of the two. The Chelsea Street Bridge is owned and operated by MassDOT; therefore, the City should work with this organization to incorporate its desires along this key route. Depending upon timing, funding, and the right-of-way width, this area could potentially accommodate both a path and a Silver Line route. The Meridian Street Bridge is also another important connection to East Boston and pedestrian facilities should remain in good condition.

Everett

Figure 10: Everett Bicycle/Pedestrian Network

Introduction

The City of Everett is located four miles north of Boston. According to the 2010 Census, Everett's population was approximately 42,000 and 13,300 jobs were located in it. It borders Malden on the north, Revere on the east, and Chelsea on the southeast, all of which are included in this planning effort. Everett also abuts Boston and the Mystic River on the south, and Somerville and Medford on the west. Route 16 (Revere Beach Parkway) is the main thoroughfare cutting across the city from west to east and is the primary barrier for pedestrians and bicyclists.

Priorities for Everett include connections to planned and existing off-road and on-road bicycle facilities, schools, and a key connection to neighboring Chelsea. Because the Northern Strand Community Trail is proposed to originate in Everett near residential areas, priority should be given to connecting to this area. There are currently gaps in the bicycle and pedestrian network to all of these key locations.

There is also a potential regional corridor that runs through the potential casino site to Somerville across the Mystic River and east into Revere. See Figure 10 for this proposed corridor.

Project (Current and Future)

The following list of local projects is based upon discussions with the city and has been identified as priorities, and are not the result of this report's recommendations. This list is intended to highlight important roadway projects that have a potential impact on this plan and is not intended to be an exhaustive list of all upcoming or planned roadway construction projects.

- Everett is one of several cities in the Boston area that is being considered as a site for a **future casino**. The current plan, by Wynn Resorts, calls for a 19-story hotel/casino complex in a current industrial area, located on Lower Broadway Waterway Parcel to the west of Broadway (Route 99). Numerous roadway improvements would be included as part of the project, including widening roadways, redesigning the nearby state-owned rotaries, connecting the area to Rutherford Avenue, and incorporating Complete Streets Design policies and concepts for internal and surrounding roadways. VHB and WorldTech Engineering are the consultants on the proposed project.

Figure 11: Site of proposed Everett casino

- **Ferry Street** is currently under reconstruction. Under its current right-of-way width, the street can accommodate one bicycle lane and one shared lane from Chelsea Street to Broadway and shared lane markings in both directions from Broadway north to the Malden line. The City is working with WorldTech to redesign Ferry Street and has requested that a bike lane and/or signage for sharing the roadway be included.

- **Beacham Street** is a major truck route (truck share is 40% of daily vehicular traffic), necessitating wider than typical lanes. Tentative plans will reconstruct the road with 14'

shared lanes to accommodate trucks and cyclists. Because this is also an important connection from neighboring Chelsea to several off-road paths, including the beginning of the Northern Strand Community Trail, MAPC recommends prioritizing bicycle facilities as part of any reconstruction.

Gaps and Barriers

Key gaps and barriers are identified on the Everett Bicycle/Pedestrian Network Map. These gaps and barriers have been selected due to a combination of a lack of sidewalks and/or bicycle accommodation and high traffic volumes and speeds. These gaps raise potential safety concerns as well as discourage travel by foot or bicycle.

Route 16 (Revere Beach Parkway)

This principal arterial is a high speed, multi-lane roadway that is not recommended for bicycle use. The route also contains two large rotaries. The City of Everett should strengthen the proposed connections across this road via signage to the proposed off-road bicycle route, e.g., the planned section of the Northern Strand Community Trail.

Wellington Station Access

Wellington Station, which contains a major bus terminus as well as a stop along the MBTA Orange Line, is located to the west in Medford. The primary road to access the Wellington Station Area is Revere Beach Parkway, a multi-lane, high speed thoroughfare that is not ideal for bicyclists. There are also several off-road trails in this area, with potential to cross the Malden River by bicycle. Bicycle facilities should be pursued to provide a connection to this important transit area. MAPC's network plan contains proposed off-road connections; in addition, the city may pursue means to provide access via Revere Beach Parkway, currently a multi-lane, high-speed roadway (and thus, not included as part of this report's recommendations).

Bicycle Recommendations

There are a number of streets in Everett identified on the Everett Bicycle/Pedestrian Network Map (Figure 10) and Everett Bicycle Recommendations Table (Table 5) that have the potential for striping bicycle lanes or shared lane markings in the short term. The table first provides the existing rights-of-way, followed by MAPC's recommendations, categorized by street segments. The recommendations call for approximately 6.7 miles of bicycle lanes. In many cases, MAPC recommends redistributing existing roadway space to allow for bicycle accommodation, and the table provides details on the recommendations for proposed striping. Some road segments (identified by an asterisk in the following table) can add the recommended bicycle facilities without changes to the existing centerline and other striping, and, therefore, could be installed without roadway resurfacing. **Appendix D** contains a list of all the street segments analyzed.

Table 5: Everett Bicycle Recommendations

				Roadway						Existing Conditions**							Recommendation	Recommendation - Details									
				Side-walks	Travel Direction		Parking			Curb-to-Curb	Shoulder	Parking Lane	Travel Lane(s)		Parking Lane	Shoulder		Parking Lane	Buffer	Bike Lane	Buffer	Travel Lane(s)		Buffer	Bike Lane	Buffer	Parking Lane
Street Name	From	To	Type	Number	Two-Way	One-Way	None	Both	One Side	(Width)	WB/SB (Width)	WB/SB (Width)	WB/SB (Width)	EB/NB (Width)	EB/NB (Width)	EB/NB (Width)		WB/SB (Width)	WB/SB (Width)	WB/SB (Width)	WB/SB (Width)	WB/SB (Width)	EB/NB (Width)	EB/NB (Width)	EB/NB (Width)	EB/NB (Width)	EB/NB (Width)
Beacham Street	Robin St	Bow St	Urban Minor Arterial	1	X		X			31							Bike lanes			5		10.5	10.5		5		
Beacham Street	Bow	Broadway	Urban Minor Arterial	2	X		X			27							One bike lane, one shared lane					12	10		5		
Bell Rock Street	Malden line	Pierce	Urban Collector	2	X			X		40	2		18	18		2	One bike lane, one shared lane	7		5		10	11				7
Bell Rock Street	Pierce	Tremont	Urban Collector	2	X			X		40	2		18	18		2	One bike lane, one shared lane	7		5		10	11				7
Broadway	Hancock	Summer	Urban Principal Arterial	2	X			X		42		8	13	13	8		Shared lanes	7				14	14				7
Broadway	Summer	Cottage	Urban Principal Arterial	2	X			X		42		8	13	13	8		Shared lanes	7				14	14				7
Broadway	Cottage	Second St	Urban Principal Arterial	2	X			X		42		8	13	13	8		Shared lanes	7				14	14				7
Broadway	Revere Beach Parkway	Second St	Urban Principal Arterial	2	X			X		43		9	12.5	12.5	9		Shared lanes	7.5				14	14				7.5
Broadway	Revere Beach Parkway	Boston line	Urban Principal Arterial	2													Bike lanes	Bike lanes under construction									
Broadway	Ferry	Hancock	Urban Principal Arterial	2	X			X		42		8	13	13	8		Shared lanes	7				14	14				7
Broadway	Ferry	Gledhill	Urban Principal Arterial	2	X			X		44		7	14.5	15	7.5		Bike lanes	7		5		10	10		5		7
Broadway	Gledhill	Malden line	Urban Principal Arterial	2	X			X		44		7	14.5	15	7.5		Bike lanes	7		5		10	10		5		7
Central	Hancock	Ferry	Urban Collector	2		NB			NB	24							Bike lane						12		5		7
Chelsea St*	Malden St	Ferry	Urban Minor Arterial	2	X			X		40		7	13	13	7		Shared lanes	7				13	13				7
Chelsea St*	Ferry	Spring Street	Urban Minor Arterial	2	X			X		41		8	13	12	8		Shared lanes	7				13.5	13.5				7
Chelsea St*	Spring	Broadway	Urban Minor Arterial	2	X			X		41		8	13	12	8		Shared lanes	7				13.5	13.5				7
Church St	Linden	Broadway	Urban Collector	2		NB			Varies	24							Bike lane	8					11		5		
Dexter St	Robin St	Broadway	Urban Collector	2	X		X			25							One bike lane, one shared lane					11	10		4		
Elm St	Washington	Springvale	Urban Minor Arterial	2	X				EB	32			13	19			One bike lane, one shared lane			4		10	11				7
Elm St	Springvale	Woodlawn	Urban Minor Arterial	2	X				EB	32			13	19			One bike lane, one shared lane			4		10	11				7
Elm St	Woodlawn	Ferry	Urban Minor Arterial	2	X		X			36			21	15			Bike lanes			6		12	12		6		
Ferry St	Union	High	Urban Minor Arterial	2	X				SB	35		7	15	13			One bike lane, one shared lane	7				12	11		5		
Ferry St	Union	Chelsea	Urban Minor Arterial	2	X				SB	35		7	15	13			One bike lane, one shared lane	7				12	11		5		
Ferry St	Chelsea	Cottage	Urban Minor Arterial	2	X				SB	35		7	15	13			One bike lane, one shared lane	7				12	11		5		
Ferry St	Broadway	Elm	Urban Minor Arterial	2	X				SB	35		7	15	13			One bike lane, one shared lane	7				12	11		5		
Ferry St	Elm	Nichols	Urban Minor Arterial	2	X				SB	35		7	15	13			One bike lane, one shared lane	7				12	11		5		
Ferry St	Nichols	High	Urban Minor Arterial	2	X				SB	35		7	15	13			One bike lane, one shared lane	7				12	11		5		
Glendale Ave	Hancock	Shute	Urban Collector	2		NE			NB	24							Bike lane						11		5		8
Hancock St	Linden	Walnut	Urban Collector	2	X				NB	32			13	19			Shared lanes					12	12				8
Hancock St	Walnut	Glendale	Urban Collector	2	X				NB	32			13	19			Shared lanes					12	12				8
Hancock St	Glendale	Central	Urban Collector	2	X				NB	32			13	19			Shared lanes					12	12				8
Hancock St	Central	Malden line	Urban Collector	2	X				NB	32			13	19			Shared lanes					12	12				8
Hancock St	Broadway	Linden	Urban Collector	2	X				NB	32			13	19			Shared lanes					12	12				8
Linden St	Church	Hancock	Urban Collector	2	X				NB	32			13	19			One bike lane, one shared lane			4		10	11				7
Main St	Tileston	Revere Beach Parkway	Urban Principal Arterial	2	X			X		40		8	12	12	8		One bike lane, one shared lane	7				11	10		5		7
Main St	Tileston	Baldwin	Urban Principal Arterial	2	X			X		40		8	12	12	8		One bike lane, one shared lane	7				11	10		5		7
Main St	Baldwin	Prescott	Urban Principal Arterial	2	X			X		40		8	12	12	8		One bike lane, one shared lane	7				11	10		5		7
Main St	Prescott	Pierce	Urban Principal Arterial	2	X			X		40		8	12	12	8		One bike lane, one shared lane	7				11	10		5		7
Main St	Pierce	Malden line	Urban Principal Arterial	2	X			X		40		8	12	12	8		One bike lane, one shared lane	7				11	10		5		7
Malden St	Union	Nichols	Urban Collector	2		NB			NB	24							Signage	Consider signage for this link due to narrowing further down on street.									
Malden St	Chelsea	Revere Beach Parkway	Urban Minor Arterial	2	X			X		34							Signage	Consider signage for this link due to narrowing further down on street.									
Malden St	Union	Chelsea	Urban Collector	2	X			X		32							Signage	Too narrow for shared lanes Consider signage.									
Market Street	Second St	Town Line	Urban Collector	0	X		X			36							Bike lanes			5		13	13		5		
Norwood St*	Winthrop	Linden	Urban Collector	2	X				SB	30							Shared lanes	8				11	11				
Norwood St*	Broadway	Winthrop	Urban Collector	2		EB		X		30							Shared lane	8					14				8
Peirce Ave	Bell Rock	Main St	Urban Collector	2		EB			EB	24							Bike Lane						11		5		8
Prescott St	Main	Tremont	Urban Collector	2		WB		X		32							Bike Lane	8				11			5		8
Robin Street	Beacham	Dexter	Urban Collector	2	X		X			25							One bike lane, one shared lane			4		10	11				
Santili Highway	Revere Beach Parkway	Tileston	Urban Minor Arterial	1	X			X		50			24	26			Bike lanes	Existing bike lanes									
School Street	Broadway	Oakes	Urban Minor Arterial	2		SB		X		32		8	16		8		Bike lane	8		5		11					8
Second St	Broadway	Revere Beach Parkway	Urban Minor Arterial	2	X				SB	32			19	13			One bike lane, one shared lane	7				11	10		4		
Second St*	Revere Beach Parkway	Boston St	Urban Minor Arterial	2	X		X			32			16	16			Bike lanes			5		11	11		5		
Second St*	Boston St	Market St	Urban Minor Arterial	2	X		X			32			16	16			Bike lanes			5		11	11		5		
Shute St	Sea	Westover	Urban Minor Arterial	2	X		X			25			12.5	12.5			One bike lane, one shared lane					11	10		4		
Shute St	Westover	Bryant	Urban Minor Arterial	2	X		X			25			12.5	12.5			One bike lane, one shared lane					11	10		4		
Shute St	Bryant	Ferry	Urban Minor Arterial	2	X		X			25			12.5	12.5			One bike lane, one shared lane					11	10		4		
Tileston St	Santili	Main St	Urban Minor Arterial	2	X				WB	40		8	16	12		4	Bike lanes	8		5		11	11		5		
Tremont St	Bell Rock	Prescott	Urban Collector	2	X				NB	34	2		12.5	12.5	7		One bike lane, one shared lane			5		10	11				8
Walnut St	Hancock	Ferry	Urban Collector	2		SB			SB	25							Bike lane	8		5		12					
Washington St	Fuller	Elm	Urban Collector	2	X		X			34			16	18			Bike lanes			6		11	11		6		
Winthrop St	Norwood	Main St	Local Road	2	X				WB	24							Signage	Too narrow for shared lanes. Consider signage.									

Notes:
--Red text in the travel lanes indicates shared lane markings
--*Indicates bicycle markings can be painted without resurfacing, because a) they do not require changes to existing centerline and parking striping; or, b) striping does not currently exis
--**A breakdown of Existing Conditions striping within the curb-to-curb space is provided when possible. If blank, this indicates that either the roadway does not have existing striping or, in a few cases, roadways were unsafe to measure.

Roadway Repair Schedule

The upcoming Roadway Repair schedule provides an opportunity to add the appropriate bicycle facilities as part of the Department of Public Works normal repaving operations. The roads designated for repaving, therefore, can be considered a high priority in the sense that there is an upcoming opportunity to add bicycle lanes or shared lane markings, as appropriate. The city may also choose to add bicycle lanes, shared lane markings, and/or signs to other high priority areas that are not identified in the repaving schedule, as well.

Pedestrian Recommendations

MAPC reviewed all of the sidewalk conditions and gaps on the non-local roads in Everett. As a dense, urban environment, the majority of roads in Everett have sidewalks on at least one side of the roadway. Beacham Street, which should be a priority as it is a key connection to Chelsea, lacks sidewalks. Everett should ensure that sidewalks, crossings, and signals remain in good condition, especially in school zones. In addition, traffic calming mechanisms, described in the Pedestrian Recommendations subsection of this report's Introduction, should be considered where appropriate.

Working with MAPC, Everett has completed a walking plan, known as the Walking Routes to the River. This project sought to identify potential walking routes that would connect neighborhoods with the lower Mystic River and its tributaries (Chelsea Creek, Mill Creek, Island End River and the Malden River). Signs identify the routes. Working with a grant from the Massachusetts Department of Conservation and Recreation, Bike to the Sea Inc. and Groundwork Somerville have formed a partnership with the City of Everett to build the first mile of the Northern Strand Community Trail. Construction work has begun on the first mile starting at the River Green Business Park and additional work will focus on three "gateway" intersections. This mile of trail parallels the Malden River.

Lynn

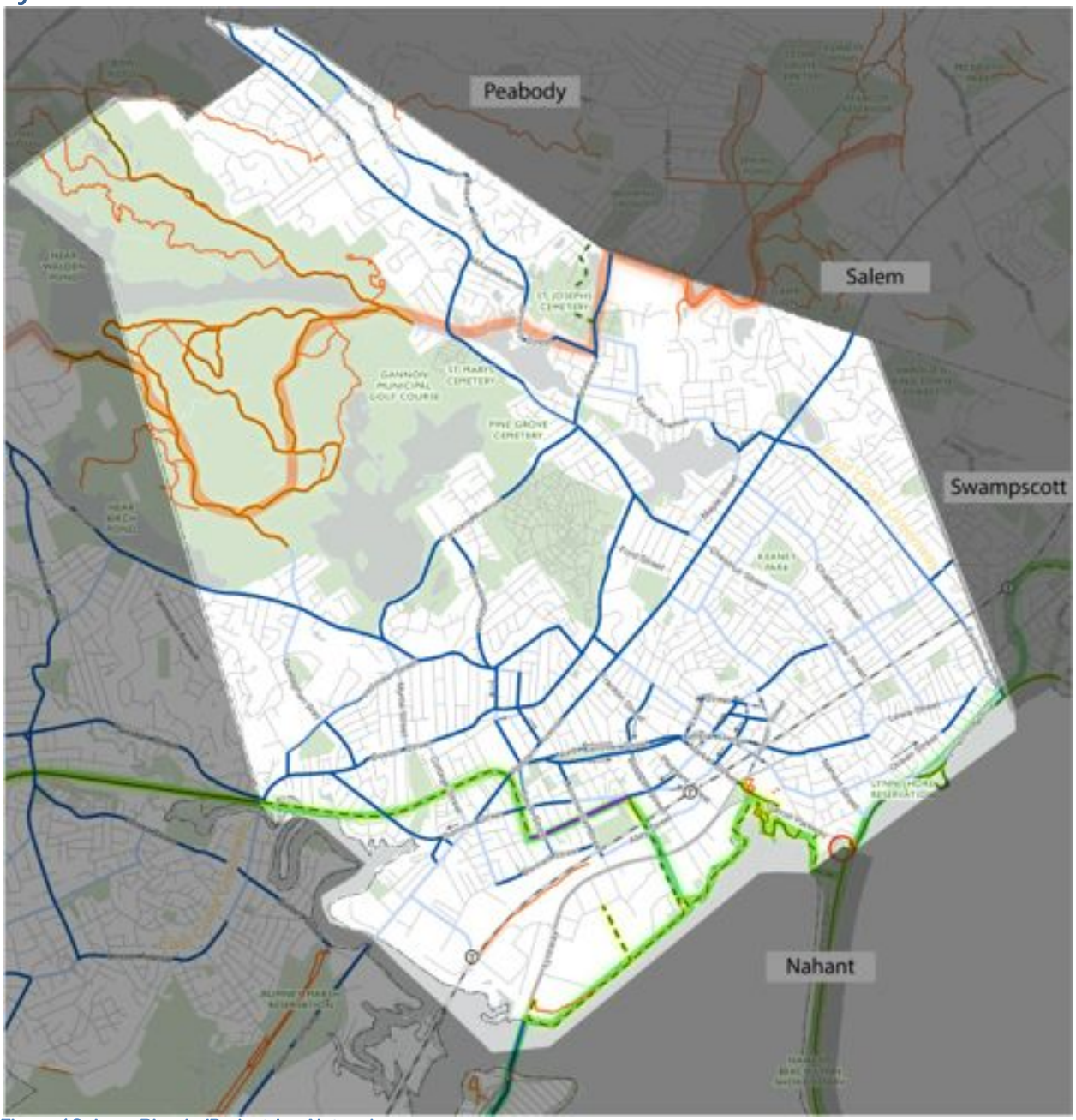


Figure 12: Lynn Bicycle/Pedestrian Network

Introduction

The City of Lynn, located approximately ten miles north of Boston, is a former industrial city. According to the 2010 Census, Lynn's population was more than 90,000 and 26,800 jobs were located in it. It borders Saugus on its west and connects to Revere via a bridge along Route 1A, both of which are communities included as part of this planning effort. Lynn also borders Lynnfield, Nahant, Peabody, and Swampscott.

Priorities for Lynn include completion of and connections to the Northern Strand Community Trail, which will terminate in the city. Connections should also be made to schools, the central retail district and off-road trails. There are currently gaps in the bicycle and pedestrian network to all of these key locations.

There is also a potential regional corridor that runs along the waterfront from Revere up to Nahant. See Figure 12 for this corridor.

Gaps and Barriers

Key gaps and barriers are identified on the Lynn Bicycle/Pedestrian Network Map. These gaps and barriers have been selected due to a combination of a lack of sidewalks and/or bicycle accommodation and high traffic volumes and speeds. These gaps raise potential safety concerns as well as discourage travel by foot or bicycle.

Route 1a (Lynnway)

The Lynnway, running from the bridge to Revere north towards Nahant, is a multi-lane highway. Although the sidewalk is bikeable, the City of Lynn should strengthen potential bicycle facilities along its waterfront (implementing Lynn's existing master plan for that area) and north of Route 1A into its central business/retail district (utilizing the recommendations in this report).

Bicycle Recommendations

There are a number of streets in Lynn identified on the Lynn Bicycle/Pedestrian Network Map (Figure 12) and Lynn Bicycle Recommendations Table (Table 6) that have the potential for striping bicycle lanes or shared lane markings in the short term. The table first provides the existing rights-of-way, followed by MAPC's recommendations, categorized by street segments. The recommendations call for approximately 23 miles of bicycle lanes. In many cases, MAPC recommends redistributing existing roadway space to allow for bicycle accommodation, and the table provides details on the recommendations for proposed striping. Some road segments (identified by an asterisk in the following table) can add the recommended bicycle facilities without changes to the existing centerline and other striping, and, therefore, could be installed without roadway resurfacing. **Appendix D** contains a list of all the street segments analyzed.

Note that the bicycle recommendations for the majority of roads in this report are city-owned. In some cases roads may be owned by various state organizations (e.g., MassDOT, DCR) or privately owned. In these cases municipalities should work with the respective owner(s) to incorporate the recommended bicycle facilities. In Lynn, the following roads containing bicycle recommendations are owned by MassDOT:

- Lynnfield Street
- Western Ave (Salem line to Eastern Avenue)

Table 6: Lynn Bicycle Recommendations

				Roadway						Existing Conditions**							Recommendation	Recommendation - Details									
				Side-walks	Travel Direction		Parking			Curb-to-Curb	Shoulder	Parking Lane	Travel Lane(s)		Parking Lane	Shoulder		Parking Lane	Buffer	Bike Lane	Buffer	Travel Lane(s)		Buffer	Bike Lane	Buffer	Parking Lane
Street Name	From	To	Type	Number	Two-Way	One-Way	None	Both	One Side	(Width)	WB/SB (Width)	WB/SB (Width)	WB/SB (Width)	EB/NB (Width)	EB/NB (Width)	EB/NB (Width)		WB/SB (Width)	WB/SB (Width)	WB/SB (Width)	WB/SB (Width)	WB/SB (Width)	EB/NB (Width)	EB/NB (Width)	EB/NB (Width)	EB/NB (Width)	EB/NB (Width)
Bennett	Commercial	South	Urban Collector	2	X		X			34							Bike lanes			5		12	12		5		
Bennett	South	Elmwood	Urban Collector	2	X		X			34							Bike lanes			5		12	12		5		
Blossom	Tremont	South Common St	Urban Collector	2	X			X		40							One bike lane, one shared lane	7				11	10		5		7
Blossom*	Neptune	Alley St	Urban Collector	2	X			X		36			18	18			Shared lanes	7				11	11				7
Boston	Ford	Chestnut	Urban Minor Arterial	2	X		X			40							Buffered bike lanes			6	2	12	12	2	6		
Boston	Ford	North Franklin	Urban Minor Arterial	2	X		X			40							Buffered bike lanes			6	2	12	12	2	6		
Boston*	Federal	Franklin	Urban Minor Arterial	2	X		X			30			15	15			Bike lanes			5		10	10		5		
Boston	Federal	Cottage	Urban Minor Arterial	2	X				SB	40			20	20			Bike lanes	8		5		11	11		5		
Boston	Saugus line	Keslar Ave	Urban Minor Arterial	2	X		X			40	1		19	19		1	Buffered bike lanes			6	2	12	12	2	6		
Boston	Keslar	Cottage	Urban Minor Arterial	2	X				NB	48		8	13	23			Buffered bike lanes			6	2	12	12	1	6	1	8
Broad*	Nahant	Chestnut	Urban Principal Arterial	2	X			X		55			27.5	27.5			Buffered bike lanes	8		5	2.5	12	12	2.5	5		8
Broadway	Peabody line	Broadway Circle	Urban Minor Arterial	2	X		X			32							Bike lanes			5		11	11		5		
Broadway	Jenness	Broadway Circle	Urban Minor Arterial	2	X		X			32			16	16			Bike lanes			5		11	11		5		
Broadway	Jenness	Euclid Ave	Urban Minor Arterial	2	X			X		46		8	14	12	12		Bike lanes	7		5		11	11		5		7
Broadway	Boston	Parkland	Urban Principal Arterial	2	X			X		48							Bike lanes	8		5		11	11		5		8
Broadway*	Chestnut	Euclid Ave	Urban Minor Arterial	2	X			X		45			22.5	22.5			Bike lanes	7		5		10.5	10.5		5		7
Buffum	Liberty	Union	Urban Minor Arterial	2	X		X			32	1		15	15		1	Bike lanes			5		11	11		5		
Burns	Summer	Western	Urban Collector	2	X		X			33			17	16			Bike lanes			5		11.5	11.5		5		
Central	North Common St	Liberty	Urban Principal Arterial	2		EB		X		32							Bike lanes	8		5			11				8
Central	Union	Oxford	Urban Collector	2		WB		X		44							Bike lane	8				23			5		8
Chatham	Lewis	Essex	Urban Minor Arterial	2	X				X	32			16	16			Shared lanes	8				12	12				
Chatham*	Western	Essex	Urban Minor Arterial	2	X			X		38							Shared lanes	8				11	11				8
Chatham	Western	Maple	Urban Collector	2	X			EB		34			17	17			Shared lanes					13	13				8
Chestnut	Goodridge	Western	Urban Principal Arterial	2	X				WB	34			17	17			Shared lanes	8				13	13				
Chestnut	Goodridge	Adams	Urban Principal Arterial	2	X				NB	34			17	17			Shared lanes					13	13				8
Chestnut	Allerton	Boston	Urban Principal Arterial	2	X			X	NB	40							Bike lanes			5		11	11		5		8
Chestnut	Maple	Allerton	Urban Principal Arterial	2	X		X			32							Bike lanes			5		11	11		5		
Chestnut	Olive	Essex	Urban Principal Arterial	2	X				SB	36			17	19			Shared lanes	8				14	14				
Chestnut	Olive	Lewis St	Urban Principal Arterial	2	X				SB	36			17	19			Shared lanes	8				14	14				
Chestnut	Essex	Adams	Urban Principal Arterial	2	X				NB	33			16	17			Shared lanes					13	13				7
Commercial*	Alley	Bennett	Urban Minor Arterial	2	X		X			40			20	20			Buffered bike lanes			5	2	13	13	2	5		
Commercial	Bennett	Summer	Urban Minor Arterial	2	X			X		46							Bike lanes	7		5		11	11		5		7
Cottage St	Boston	Western	Urban Collector	2	X				SB	32			16	16			Shared lanes	7				12.5	12.5				
Eastern Ave*	Western	Waitt	Urban Minor Arterial	2	X			X		40			20	20			Shared lanes	7				13	13				7
Eastern Ave	Waitt	Harvest	Urban Minor Arterial	2	X				SB	40			20	20			Bike lanes	8		5		11	11		5		
Eastern Ave	Harvest	Essex	Urban Minor Arterial	2	X			X		40			20	20			One bike lane, one shared lane	7		5		10	11				7
Eastern Ave	Essex	New Ocean	Urban Minor Arterial	2	X			X		40			20	20			One bike lane, one shared lane	7		5		10	11				7
Eastern Ave	New Ocean	Lynn Shore Drive	Urban Minor Arterial	2	X				SB	40			20	20			Bike lanes	8		5		11	11		5		
Essex*	Eastern	Swampscott line	Urban Minor Arterial	2	X		X			34			17	17			Bike lanes			5		12	12		5		
Essex	Chatham	Eastern	Urban Minor Arterial	2	X				SB	34			18	16			Shared lanes	8				13	13				
Essex	Chatham	Fayette	Urban Minor Arterial	2	X				SB	34			18	16			Shared lanes	8				13	13				
Essex	Liberty	Washington	Urban Minor Arterial	2		SB		X		40		8			8		Bike lanes	7		5		21					7
Essex*	Chestnut	Fayette	Urban Minor Arterial	2	X			X		40			20	20			Shared lanes	7				13	13				7
Essex*	Essex Court	Chestnut	Urban Minor Arterial	2	X		X			36			18	18			Bike lanes			6		12	12		6		
Euclid Ave*	Fernwood	Maple	Urban Collector	2	X		X			34			17	17			Bike lanes			5		12	12		5		
Euclid Ave	Maple	Chatham	Urban Collector	2	X		X			30			17	13			Bike lanes			5		10	10		5		
Exchange	Broad	Union	Urban Collector	2	X			X		44							Bike lanes	7		5		10	10		5		7
Federal	Marion	Market	Local Road	2	X		X			32							Bike lanes			5		11	11		5		
Hanover	Washington	Chase	Urban Collector	2	X		X			30			16	14			Bike lanes			5		10	10		5		
Hanover	Chase	North Common St	Urban Collector	2		SB			NB	30							Buffered bike lanes			6	2	12				2	8
Holyoke	O Callaghan Way	Walnut	Urban Minor Arterial	2	X		X			30			15	15			One bike lane, one shared lane					14	11		5		
Holyoke	O Callaghan Way	Winnepurkit	Urban Minor Arterial	2	X		X			28			14	14			One bike lane, one shared lane					12	11		5		
Jenness St*	Millard	Broadway	Urban Collector	2	X		X			34			17	17			Bike lanes			5.5		11.5	11.5		5.5		
Keslar	Boston	Holyoke	Urban Minor Arterial	2	X		X			30							Bike lanes			5		10	10		5		
Lewis*	Ocean	Chestnut	Urban Principal Arterial	2	X			X		40			20	20			Shared lanes	7				13	13				7
Liberty	Washington	High	Urban Minor Arterial	2		NB		X		31							Bike lane	7					12		5		7
Liberty*	High	Essex Court	Urban Minor Arterial	2	X				SB	34							Shared lanes	8				13	13				
Liberty	Market	Washington	Urban Minor Arterial			NB		X		30							Shared lane	8					14				8
Linwood Road, Forest St	Walnut	Bulfinch	Urban Collector	2	X		X			30			18	12			Bike lanes			5		10	10		5		
Linwood Street*	Parkland	Walnut	Urban Collector	2	X		X			32			16	16			Bike lanes			5		11	11		5		
Lynn Shore Drive	Swampscott line	Nahant St	Urban Principal Arterial	2	X			X		40		8	12	12	8		Shared lanes	7				13	13				7
Lynnfield St	Lynnfield line	Millard Ave	Urban Principal Arterial	2	X		X			40	2		18	18		2	Buffered bike lanes			5.5	2.5	12	12	2.5	5.5		
Lynnfield St	Millard	Bacheller	Urban Principal Arterial	2	X		X			41	4		17	16		4	Buffered bike lanes			5.5	3	12	12	3	5.5		
Lynnfield St	Bacheller	Broadway	Urban Principal Arterial	2	X				NB	36			18	18			One bike lane, one shared lane					13	11		5		7
Maple	Fernwood	Euclid Ave	Urban Collector	2		SB		X		32							Bike lane	8		5		11					8
Maple	Chestnut	Euclid Ave	Urban Collector	2	X			X		38							Shared lanes	7				12	12				7
Market	Caroll Parkway	State	Urban Minor Arterial	2	X			X		68			36	32			Bike lanes	7		5		22	22		5		7
Market	State	North Common St	Urban Minor Arterial	2	X			X		46							Bike lanes	7		5		11	11		5		7
Millard Ave	Lynnfield St	Jenness	Urban Collector	2	X		X			34	1		16	16		1	Bike lanes			5.5		11.5	11.5		5.5		
Moulton*	Linwood Road	Boston	Urban Principal Arterial	2	X		X			30			15	15			Bike lanes			5		10	10		5		
Moulton	Boston	Western	Urban Principal Arterial	2		SB		X		30							Bike lanes	7		5		11					7
Neptune Blvd EB	Blossom	Commercial	Urban Minor Arterial	2	X				EB	38							Buffered bike lanes						22		5	4	8
Neptune Blvd WB	Blossom	Commercial	Urban Minor Arterial	2	X				WB	38							Buffered bike lanes	8	4	5		22					
New Ocean St	Michigan	Eastern	Urban Collector	2	X		X			30							Shared lanes					15	15				

Table 6: Lynn Bicycle Recommendations

				Roadway						Existing Conditions**							Recommendation	Recommendation - Details									
				Side-walks	Travel Direction		Parking			Curb-to-Curb	Shoulder	Parking Lane	Travel Lane(s)		Parking Lane	Shoulder		Parking Lane	Buffer	Bike Lane	Buffer	Travel Lane(s)		Buffer	Bike Lane	Buffer	Parking Lane
Street Name	From	To	Type	Number	Two-Way	One-Way	None	Both	One Side	(Width)	WB/SB (Width)	WB/SB (Width)	WB/SB (Width)	EB/NB (Width)	EB/NB (Width)	EB/NB (Width)		WB/SB (Width)	WB/SB (Width)	WB/SB (Width)	WB/SB (Width)	WB/SB (Width)	EB/NB (Width)	EB/NB (Width)	EB/NB (Width)	EB/NB (Width)	EB/NB (Width)
North Common St	Western	Central Ave	Urban Principal Arterial	2		WB			WB	38							Bike lane	8		6		24					
North Federal	Walnut	Boston	Urban Collector	2		SB			SB	26							Bike lane	8		5		13					
North Franklin St*	Forest	Boston	Urban Collector	2	X		X			32			16	16			Bike lanes			5		11	11		5		
O Callaghan Way*	Walnut	Holyoke	Urban Collector	2	X			X		40	2		16	16		2	Shared lanes	7				13	13				7
Ocean St	Michigan	Lewis St	Urban Collector	2	X			X		46							Bike lanes	7		5		11	11		5		7
Ocean St	Bassett	Lewis St	Urban Collector	2		NB		X		31							Bike lane	7.5					11		5		7.5
Ocean St*	Nahant St	Bassett	Urban Collector	2	X			X		38							Shared lanes	8				11	11				8
Oxford	Market	High	Urban Minor Arterial	2		SB		X		40							Bike lane	7		5		21					7
Parkland*	Linwood Road	Broadway	Urban Minor Arterial	2	X		X			34			17	17			Bike lanes			5.5		11.5	11.5		5.5		
Parkland*	Walnut	Linwood	Urban Minor Arterial	1	X		X			44			22	22			Bike lanes			5.5		11.5	11.5		5.5		
River, Ida*	Burns	Western	Urban Collector	2	X		X			34			17	17			Bike lanes			5		12	12		5		
South Common St	Western	Central Ave	Urban Principal Arterial	2		EB			EB	38							Bike lane						24		6		8
South St	Bennett	Summer	Urban Collector	2	X		X			29							One bike lane, one shared lane			5		11	13				
South St	Summer	North Common St	Urban Collector	2	X		X			29							One bike lane, one shared lane			5		11	13				
Stanwood	Western	Fernwood	Urban Collector	2	X		X			32							Bike lanes			5		11	11		5		
Summer*	Commercial	Western	Urban Minor Arterial	2	X			X		46			23	23			Bike lanes	7		5		11	11		5		7
Summer	Western	Burns	Urban Minor Arterial	2		WB		X		35							Bike lane	8				12		1	5	1	8
Summer*	Burns	Boston	Urban Minor Arterial	2	X		X			34			17	17			Bike lanes			5		12	12		5		
Tremont	Pleasant	Blossom	Urban Minor Arterial	2		SB		X		40							Bike lane	7		5		21					7
Tremont*	Pleasant	Market	Urban Minor Arterial		X			X		38							Shared lanes	7				12	12				7
Waitt Ave	Eastern	Western	Urban Minor Arterial	2	X		X			34			17	17			Bike lanes			5		12	12		5		
Walnut	Holyoke	Linwood	Urban Principal Arterial	2	X				WB	43							Bike lanes			5.5		12	12		5.5		8
Walnut*	Holyoke	O Callaghan Way	Urban Principal Arterial	2	X		X			34			17	17			Bike lanes			5.5		11.5	11.5		5.5		
Walnut*	Parkland	O Callaghan Way	Urban Principal Arterial	2	X		X			35	1		16.5	16.5		1	Bike lanes			5.5		12	12		5.5		
Walnut*	O Callaghan Way	Saugus line	Urban Principal Arterial	2	X		X			35	1		16.5	16.5		1	Bike lanes			5.5		12	12		5.5		
Washington	Boston	Western	Urban Minor Arterial	2	X		X			32			18	14			Bike lanes			5		11	11		5		
Washington*	Western	Hanover	Urban Minor Arterial	2	X				SB	33	0	8	11	12		2	Shared lanes	7				13	13				
Washington*	Hanover	Central Ave	Urban Minor Arterial	2	X				SB	33	0	8	11	12		2	Shared lane	7				13	13				
Washington*	Broad	Central Ave	Urban Minor Arterial	2		SB		X		30		8					Shared lanes	8				14					8
Washington*	Sagamore	Broad St	Urban Minor Arterial	2	X				NB	33			13	20			Shared lanes					13	13				7
Western	Bridge (north)	Salem line	Urban Principal Arterial	2	X		X			44	6		16	16		6	Bike lanes			6		16	16		6		
Western	Bridge (north)	Bridge (south)	Urban Principal Arterial	2	X		X			36	6					6	Bike lanes			6		12	12		6		
Western	Eastern	Bridge (south)	Urban Principal Arterial	2	X		X			36							Bike lanes			6		12	12		6		
Western*	Chestnut	Eastern	Urban Principal Arterial	2	X			X		44			22	22			Bike lanes	7		5		10	10		5		7
Western	Washington	Chestnut	Urban Principal Arterial	2	X			X		46			24	22			Bike lanes	7		5		11	11		5		7
Western	Washington	Market Square	Urban Principal Arterial	2	X			X		46							Bike lanes	7		5		11	11		5		7
Western	Minot	Market Square	Urban Principal Arterial	2	X			X		46		8	15	14	9		Bike lanes	7		5		11	11		5		7
Winnepurkit	Holyoke	Boston	Urban Minor Arterial	2	X		X			30							Bike lanes			5		10	10		5		
York Road, Cedar Brook Rd, Den Quarry Rd*	Lynnfield line	Millard Ave	Urban Collector	2	X		X			30			15	15			Bike lanes			5		10	10		5		

Notes:
--Red text in the travel lanes indicates shared lane markings.
--*Indicates bicycle markings can be painted without resurfacing, because a) they do not require changes to existing centerline and parking striping; or, b) striping does not currently exist
--**A breakdown of Existing Conditions striping within the curb-to-curb space is provided when possible. If blank, this indicates that either the roadway does not have existing striping or, in a few cases, roadways were unsafe to measure.

Potential Cycle Tracks

As discussed in the Bicycle Recommendations section of the Introduction, a cycle track is an exclusive bicycle facility that combines the user experience of a separated path with the on-street infrastructure of a conventional bicycle lane. Cyclists generally feel safer with cycle tracks because of the physical separation from vehicles. They do, however, require a greater level of planning and investment than standard bicycle lane striping. The City should consider the importance of the connection when considering whether to construct a cycle track. Based upon existing right-of-way width, the following road segments could incorporate a cycle track rather than a buffered bicycle lane:

- Boston Street (Ford Street to North Franklin Street)
- Boston Street (Saugus line to Cottage Street)
- Broad Street (Nahant Street to Chestnut)
- Commercial Street (Alley Street to Bennett Street)
- Hanover Street (Chase Street to North Common Street)
- Lynnfield Street (Lynnfield line to Bacheller Street)
- Neptune Boulevard (Blossom Street to Commercial Street)

Because of its width and proximity to the Northern Strand Community Trail, as well as a part of a proposed regional greenway, **Neptune Boulevard** provides an opportunity for a cycle track. Because of its location, this street segment provides a special opportunity to provide an innovative bicycle facility and would position Lynn to be a leader in providing bicycle facilities among the communities located north of Boston. The Network Map reflects this opportunity with this section identified as a cycle track, rather than as bicycle lanes.

Roadway Repair Schedule

The upcoming Roadway Repair schedule provides an opportunity to add the appropriate bicycle facilities as part of the Department of Public Works normal repaving operations. The roads designated for repaving, therefore, can be considered a high priority in the sense that there is an upcoming opportunity to add bicycle lanes or shared lane markings, as appropriate. The city may also choose to add bicycle lanes, shared lane markings, and/or signs to other high priority areas that are not identified in the repaving schedule, as well.

The following have been identified by Lynn as immediate areas for repaving and also have been recommended by MAPC to include bicycle facilities:

- Bennett Street (install bicycle lanes)
- Broad Street (install buffered bicycle lanes)
- Eastern Avenue (install bicycle lanes and/or shared lane markings, as outlined in the previous table)
- Exchange Street (install bicycle lanes)
- Lewis Street (install shared lane markings)
- New Ocean Street (install shared lane markings)

Pedestrian Recommendations

MAPC reviewed all of the sidewalk conditions and gaps on the non-local roads in Lynn. As a dense, urban environment, the majority of major roads in Lynn have sidewalks on at least one side of the roadway. Lynn should ensure that sidewalks, crossings, and signals remain in good condition, especially in school zones. In addition, traffic calming mechanisms, described in the Pedestrian Recommendations subsection of this report's Introduction, should be considered where appropriate.

In June of 2006, the City partnered with Sasaki Associates and implemented a comprehensive Waterfront Master Plan and Municipal Harbor Plan that will guide development on its waterfront. These plans detail the potential for over 4 million square feet of residential development and close to 2 million square feet of commercial/retail, hotel, office and light industrial space. They also include 45 acres for a port designated area, a boardwalk, marinas and ample open public space. The next major issue the city faces essential to full implementation is the creation of public access, transforming the waterfront into a vibrant destination point with direct linkage to Lynn's downtown and surrounding neighborhoods. To overcome the Lynnway as a barrier for pedestrians, a major route cutting off access to this area, a number of potential solutions include traffic calming, traffic rerouting, pedestrian bridges (e.g., near the Walmart at 780 Lynnway), and suppressing a portion of the Lynnway.

Malden

Figure 13: Malden Bicycle/Pedestrian Network

Introduction

The City of Malden is located north of Boston. According to the 2010 Census, Malden's population was approximately 60,000 and 15,000 jobs were located in it. It borders Everett on the south, Revere on the east, and Saugus on the northeast, all of which are included in this planning effort. Malden also borders Melrose on the north, Stoneham on the northwest, and Medford on the west. With the exception of a short segment of Route 1 running through its northeast corner, the city has no other highways. Access to Interstate 93 is located a short distance away in Medford.

Priorities for Malden include connections to the Northern Strand Community Trail and other communities in this report, as well as connections to schools and the central retail district. Because the Northern Strand Community Trail in Malden provides access to schools, retail areas, and neighboring communities, Malden should prioritize access to this important trail. There are currently gaps in the bicycle and pedestrian network to all of these key locations.

Gaps and Barriers

Key gaps and barriers are identified on the Malden Bicycle/Pedestrian Network Map. These gaps and barriers have been selected due to a combination of a lack of sidewalks and/or bicycle accommodation and high traffic volumes and speeds. These gaps raise potential safety concerns as well as discourage travel by foot or bicycle.

Route 1

This principal arterial cuts through the northeast corner of Malden and is not recommended for bicycles. It is only a short segment in Malden, however, and alternative routes in the vicinity exist.

Bicycle Recommendations

There are a number of streets in Malden identified on the Malden Bicycle/Pedestrian Network Map (Figure 13) and Malden Bicycle Recommendations Table (Table 7) with the potential for striping bicycle lanes or shared lane markings in the short-term. The table first provides the existing rights-of-way, followed by MAPC's recommendations, categorized by street segments. The recommendations call for approximately 9 miles of bicycle lanes. In many cases, MAPC recommends redistributing existing roadway space to allow for bicycle accommodation, and the table provides details on the recommendations for proposed striping. Some road segments (identified by an asterisk in the following table) can add the recommended bicycle facilities without changes to the existing centerline and other striping, and, therefore, could be installed without roadway resurfacing. **Appendix D** contains a list of all the street segments analyzed.

Note that the bicycle recommendations for the majority of roads in this report are city-owned. In some cases roads may be owned by various state organizations (e.g., MassDOT, DCR) or privately owned. In these cases municipalities should work with the respective owner(s) to incorporate the recommended bicycle facilities. In Malden, the following roads containing bicycle recommendations are state-owned:

- Broadway (Melrose line to Bard Street) – MassDOT
- Fellsway East – DCR
- Highland Street (Medford line to McCormack Street) – DCR

Table 7: Malden Bicycle Recommendations

				Roadway						Existing Conditions**							Recommendation	Recommendation - Details									
				Side-walks	Travel Direction		Parking			Curb-to-Curb	Shoulder	Parking Lane	Travel Lane(s)		Parking Lane	Shoulder		Parking Lane	Buffer	Bike Lane	Buffer	Travel Lane(s)		Buffer	Bike Lane	Buffer	Parking Lane
Street Name	From	To	Type	Number	Two-Way	One-Way	None	Both	One Side	(Width)	WB/SB (Width)	WB/SB (Width)	WB/SB (Width)	EB/NB (Width)	EB/NB (Width)	EB/NB (Width)		WB/SB (Width)	WB/SB (Width)	WB/SB (Width)	WB/SB (Width)	WB/SB (Width)	EB/NB (Width)	EB/NB (Width)	EB/NB (Width)	EB/NB (Width)	EB/NB (Width)
Belmont St	Hancock	Main Street	Urban Collector	2	X		X			30			15	15			One bike lane, one shared lane			5		11.5	13.5				
Belmont St	Hancock	Ferry	Urban Collector	2	X		X			29.5			14.5	15			One bike lane, one shared lane			5		11.5	13				
Broadway	Everett line	Eastern Ave	Urban Principal Arterial	*2*	X				*SB*	53							Shared lanes	7				23	23				
Broadway	Plainfield	Hunting	Urban Principal Arterial	2	X			X		43			22	21			Shared lanes	7				14.5	14.5				7
Broadway	Plainfield	Eastern Ave	Urban Principal Arterial	2	X			X		40							Shared lanes	7				13	13				7
Broadway	Central	Bowman	Urban Principal Arterial	2	X		X			43.5			21.75	21.75			Bike lanes			5	3	13.5	14	3	5		
Broadway	Bowman	Hunting	Urban Principal Arterial	2	X		X			43.5			21.75	21.75			Bike lanes			5	3	13.5	14	3	5		
Broadway	Central	Melrose line	Urban Principal Arterial	2	X		X			42.5			21.25	21.25			Bike lanes			5	3	13	13	3	5.5		
Bryant St*	Cross	Everett Line	Urban Minor Arterial	*2*	X			X		39			19.5	19.5			Shared lanes	7				12.5	12.5				7
Bryant St*	Eastern	Cross	Urban Minor Arterial	2	X			X		39.5							Shared lanes	7				12.5	13				7
Canal	Charles	Medford St	Urban Minor Arterial	2	X				NB	40			20	20			Bike lanes			5		11.5	11.5		5		7
Centre Street	Pleasant St	Holden St	Urban Principal Arterial	*2*													Sharrows in each direction	Sharrows in each direction									
Charles	Commercial	Highland Ave	Urban Collector	2	X		X			24.5							Buffered bike lanes					12	12.5				
Charles	Commercial	Canal	Urban Minor Arterial	2	X		X			45			25	20			Buffered bike lanes			6	2.5	14	14	2.5	6		
Charles	Canal	Main Street	Urban Collector	2	X		X			45			23	22			Buffered bike lanes			6	2.5	14	14	2.5	6		
Commercial	Medford line	Medford St	Urban Minor Arterial	2	X		X			54	4		27	27		4	Buffered bike lanes			5	1	21	21	1	5		
Commercial 8	Centre St	Charles	Urban Minor Arterial	2	X		X			46			23	23			Shared lanes					23	23				
Commercial*	Charles	Medford St	Urban Minor Arterial	2	X		X			46			23	23			Shared lanes					23	23				
Cross	Ferry	Bryant	Urban Minor Arterial	2	X		X			26							One bike lane, one shared lane			5		10	11				
Eastern Ave	Main St	Ferry	Urban Principal Arterial	2	X			X		43							Shared lanes	7				14.5	14.5				7
Elm St	Pleasant	Hawthorne	Urban Collector	2		WB			WB	27							Buffered bike lane						12		5	2	8
Elm St	Highland	Hawthorne	Urban Collector	2		EB			EB	40		10	10				Bike lane	8					14		6	2	8
Emerald St	Highland	West St	Urban Collector	2	X			X		29.5							Shared lanes					14.5	15				
Emerald St	West St	Medford line	Urban Collector	2	X			X		29							Shared lanes					14.5	14.5				
Exchange	Main	Middlesex	Urban Minor Arterial	2		EB		X		39		8			8		Buffered bike lane	8	2				14		5	2	8
Exchange	Middlesex	Jackson St	Urban Minor Arterial	2		EB		X		43		8			16 (angle)		Buffered bike lane	8	3				15		6	3	8
Exchange	Commercial	Jackson St	Urban Minor Arterial	2		EB		X		49		16 (angle)			8		Buffered bike lane	16	3				14		6	2	8
Fellsway East	Melrose line	E Border Road	Urban Minor Arterial	0	X		X			32	3		13.5	13.5		2	Bike lanes			5		11	11		5		
Fellsway East	E Border Road	Highland Ave	Urban Minor Arterial	2	X		X			59	2		22	33		2	One bike lane, one shared lane					24	22		5		8
Fellsway East	Highland	Savin	Urban Minor Arterial	2	X		X			59	2		22	33		2	One bike lane, one shared lane					24	22		5		8
Fellsway East	Maple	Savin	Urban Minor Arterial	2	X		X			41	2		18.5	18.5		2	Buffered bike lanes			6	2.5	12	12	2.5	6		
Fellsway East	Maple	Murray Hill Road	Urban Minor Arterial	2	X		X			41	2		18.5	18.5		2	Buffered bike lanes			6	2.5	12	12	2.5	6		
Fellsway East	Murray Hill Road	Pleasant	Urban Minor Arterial	2	X		X			58	2		28	21		0	Bike lanes			6		23	23		6		
Ferry	Centre St	Eastern Ave	Urban Minor Arterial	2	X			X		41.5			20.75	20.75			Shared lanes	8				12.75	12.75				8
Ferry	Belmont	Cross	Urban Minor Arterial	2	X			X		40.5			19.5	21			Shared lanes	8				12.25	12.25				8
Ferry	Cross	High St	Urban Minor Arterial	2	X			X		44.5			20.5	24			Shared lanes	8				14.25	14.25				8
Ferry	High	Eastern Ave	Urban Minor Arterial	2	X			X		44			22	22			Shared lanes	8				14	14				8
Florence*	Main	Washington	Urban Collector	2	X		X			46	1		22	22		1	Shared lanes					23	23				
Florence*	Pleasant	Washington	Urban Collector	2	X		X			46	1		22	22		1	Shared lanes					23	23				
Forest Street	Main	Pierce	Urban Collector	2	X			X		39			18	21			One bike lane, one shared lane	7				10	10		5		7
Forest Street*	Pierce	Sylvan	Urban Collector	*2*	X		*X*			24			12	12			Shared lanes					12	12				
Forest Street*	Sylvan	Melrose line	Urban Collector	2	X		X			24.5							Shared lanes					12	12.5				
Glenwood	Winter	Summer	Urban Collector	2	X		X			25			12.5	12.5			One bike lane, one shared lane					10	10		5		
Glenwood	Highland	Hawthorne	Urban Collector	2	X				EB	32.5		8.5	12	12			One bike lane, one shared lane					10.5	10		5		7
Glenwood*	Hawthorne	Summer	Urban Collector	2	X		X			24.5			12.25	12.25			Shared lanes					12.5	12				
Highland	Fellsway	McCormack St	Urban Minor Arterial	2	X				NB	40	2		18	18		2	Bike lanes			5		11	11		5		8
Highland	McCormack St	Medford line	Urban Minor Arterial	2	X			X		58.5		11	18.5	20	9		Bike lanes	8		5		12	12		5		8
Highland	Maple	Pleasant	Urban Collector	2	X				SB	30			12	18			Shared lanes	7				11.5	11.5				
Highland	Maple	Savin	Urban Collector	2	X				SB	30			12	18			Shared lanes	7				11.5	11.5				
Highland	Fellsway	Savin	Urban Collector	2	X				NB	30							Shared lanes					11.5	11.5				7
Highland	Pleasant	Charles	Urban Minor Arterial	2	X			X		38			20	18			Shared lanes	7				12	12				7
Highland	Medford line	Medford St	Urban Minor Arterial	2	X		X			45.5							Bike lanes			6		11.5	22		6		
Highland	Emerald	Medford St	Urban Minor Arterial	2	X			X		44.5							Bike lanes	7		5		10	10.5		5		7
Highland	Emerald	Charles	Urban Minor Arterial	2	X			X		38							Shared lanes	7				12	12				7
Lynn St	Everett line	Prentiss	Urban Minor Arterial	*0*	X		X			34							Bike lanes			5		12	12		5		
Lynn St*	Prentiss St	Eastern Ave	Urban Minor Arterial	*2*	X			X		35			17.5	17.5			Shared lanes	7				10.5	10.5				7
Lynn St	Beach	Eastern Ave	Urban Collector		X				*34*								Shared lanes					12	22				
Lynn St	Oliver	Beach	Urban Collector		X				*34*								Shared lanes					22	12				
Main St	Salem	Centre	Urban Principal Arterial	2	X			X		58			29	29			Bike lanes	7		5		11	23		5		7
Main St	Clifton	Florence	Urban Principal Arterial	2	X			X		*39*							Shared lanes	7				12.5	12.5				7
Main St	Florence	Salem	Urban Principal Arterial	2	X			X		*39*							Shared lanes	7				12.5	12.5				7
Main St*	Winter	Melrose line	Urban Principal Arterial	2	X		X			42.5			21.25	21.25			Buffered bike lanes			5	2	14	14	2.5	5		
Main St	Winter	Clifton	Urban Principal Arterial	2	X			X		37			18.5	18.5			Shared lanes	7				11.5	11.5				7
Main St	Centre St	Charles	Urban Principal Arterial	2	X			X		66							Buffered bike lanes	8		5	2	12	24	2	5		8
Main St	Charles	Eastern Ave	Urban Principal Arterial	2	X		X			53							Bike lanes			6		16	25		6		
Main St*	Cross	Everett Line	Urban Principal Arterial	2	X			X		38			19	19			Shared lanes	7				12	12				7
Main St	Eastern	Barret	Urban Principal Arterial	2	X			X		*40*							Shared lanes	7				13	13				7
Main St	Barret	Cross	Urban Principal Arterial	2	X			X		39							Shared lanes	7				12.5	12.5				7
Medford St*	Medford line	Highland Ave	Urban Minor Arterial	2	X				WB	32.5			20	12.5			Shared lanes	7.5				12.5	12.5				
Medford St*	Commercial	Highland Ave	Urban Minor Arterial	2	X		X			31.5			20	11.5			Shared lanes					21	10.5				
Medford St*	Main St	Madison	Urban Minor Arterial	2	X				WB	29.5			18	11.5			Shared lanes	7				11	11.5				
Medford St*	Madison	Canal	Urban Minor Arterial	2	X				WB	29.5			18	11.5			Shared lanes	7				11	11.5				
Medford St	Commercial	Canal	Urban Minor Arterial	2	X		X			50			25	25			Bike lanes			5		20	20		5		
Pierce St	Bainbridge	Salem	Urban Collector	2	X		X			31.5							Bike lanes			5		10.5	11		5		

Table 7: Malden Bicycle Recommendations

				Roadway						Existing Conditions**							Recommendation	Recommendation - Details									
				Side-walks	Travel Direction		Parking			Curb-to-Curb	Shoulder	Parking Lane	Travel Lane(s)		Parking Lane	Shoulder		Parking Lane	Buffer	Bike Lane	Buffer	Travel Lane(s)		Buffer	Bike Lane	Buffer	Parking Lane
Street Name	From	To	Type	Number	Two-Way	One-Way	None	Both	One Side	(Width)	WB/SB (Width)	WB/SB (Width)	WB/SB (Width)	EB/NB (Width)	EB/NB (Width)	EB/NB (Width)		WB/SB (Width)	WB/SB (Width)	WB/SB (Width)	WB/SB (Width)	WB/SB (Width)	EB/NB (Width)	EB/NB (Width)	EB/NB (Width)	EB/NB (Width)	EB/NB (Width)
Pleasant St	Pearl	Commercial	Urban Minor Arterial	2	X			X		56			2	28			Bike lanes	8		5		15	15		5		8
Pleasant St*	Medford line	Fellsway East	Urban Principal Arterial	2	X		X			36			18	18			Bike lanes			5		13	13		5		
Pleasant St*	Fellsway East	West St	Urban Principal Arterial	2	X		X			36			18	18			Bike lanes			5		13	13		5		
Pleasant St	West St	Highland Ave	Urban Principal Arterial	2	X			X		40							Shared lanes	7				13	13				7
Pleasant St	Highland	Pearl	Urban Minor Arterial	2	X				EB	40							Shared lanes					16	16				8
Pleasant St	Main	Dartmouth	Urban Minor Arterial	2		WB		X		36.5		9.5			9.5		Buffered bike lanes	8				13			5	2	8.5
Pleasant St	Dartmouth	S Washington	Urban Minor Arterial	2		WB		X		36.5		9.5			9.5		Buffered bike lanes	8				13			5	2	8.5
S Washington St	Pleasant	Florence	Urban Collector	2		NB			NB	26							Bike lane						13		5		8
Salem St*	Rockwell	Maplewood	Urban Minor Arterial	2	X			X		40			20	20			Shared lanes	7				13	13				7
Salem St*	Pierce	Rockwell	Urban Minor Arterial	2	X			X		42			21	21			Shared lanes	8				13	13				8
Salem St	Beach	Revere	Urban Collector	2	X			X		31.5							Signage	Too narrow for shared lanes. Consider signage									
Salem St*	Main	Mt Vernon	Urban Minor Arterial	2	X			X		40			20	20			Shared lanes	7				13	13				7
Salem St*	Maplewood	Broadway	Urban Minor Arterial	2	X			X		40			20	20			Shared lanes	7				13	13				7
Salem St*	Revere St	Lynn St	Urban Collector	1	X		X			40			20	20			Bike lanes			5		15	15		5		
Salem St*	Pierce	Mt Vernon	Urban Minor Arterial	2	X			X		40			20	20			Shared lanes	7				13	13				7
Salem St/Hunting St*	Broadway	Beach	Urban Minor Arterial	2	X			X		40			20	20			Shared lanes	7				13	13				7
Sylvan St	Blantyne Road	Forest	Urban Collector	2	X				WB	39			19.5	19.5			Bike lanes			5		11	11		5		7
Washington St	Melrose line	Winter St	Urban Minor Arterial	2	X				SB	42			21	21			Bike lanes	8		5		12	12		5		
Willow St	Bryant	Eastern Ave	Urban Minor Arterial	2	X				SB	40							Bike lanes			5		11	11		5		8
Winter St	Glenwood	Main Street	Urban Minor Arterial	2	X		X			25			12.5	12.5			One bike lane, one shared lane					11	10		4		

Notes:
--Red text in the travel lanes indicates shared lane markings.
--*Indicates bicycle markings can be painted without resurfacing, because a) they do not require changes to existing centerline and parking striping; or, b) striping does not currently exist
--**A breakdown of Existing Conditions striping within the curb-to-curb space is provided when possible. If blank, this indicates that either the roadway does not have existing striping or, in a few cases, roadways were unsafe to measure.

Potential Cycle Tracks

As discussed in the Bicycle Recommendations section of the Introduction, a cycle track is an exclusive bicycle facility that combines the user experience of a separated path with the on-street infrastructure of a conventional bicycle lane. Cyclists generally feel safer with cycle tracks because of the physical separation from vehicles. They do, however, require a greater level of planning and investment than standard bicycle lane striping. The City should consider the importance of the connection when considering whether to construct a cycle track. Based upon existing right-of-way width, the following road segments could incorporate a cycle track rather than a buffered bicycle lane:

- Broadway (Melrose line to Hunting Street)
- Charles Street (Commercial Street to Main Street)
- Commercial Street (Medford line to Medford Street)

Roadway Repair Schedule

The upcoming Roadway Repair schedule provides an opportunity to add the appropriate bicycle facilities as part of the Department of Public Works normal repaving operations. The roads designated for repaving, therefore, can be considered a high priority in the sense that there is an upcoming opportunity to add bicycle lanes or shared lane markings, as appropriate. The city may also choose to add bicycle lanes, shared lane markings, and/or signs to other high priority areas that are not identified in the repaving schedule, as well.

Pedestrian Recommendations

MAPC reviewed all of the sidewalk conditions and gaps on the non-local roads in Malden. The majority of major roads in Malden have sidewalks on at least one side of the roadway. Gaps that should be considered to install sidewalk include: Beachview Avenue, Elwell Street, Fellsway East (from Melrose line to East Border Road, and Lynn Street (from Everett line to Prentiss Street). Malden should ensure that sidewalks, crossings, and signals remain in good condition, especially in school zones. In addition, traffic calming mechanisms, described in the Pedestrian Recommendations subsection of this report's Introduction, should be considered where appropriate.

Revere

Figure 14: Revere Bicycle/Pedestrian Network

Introduction

The City of Revere is located approximately five miles from downtown Boston. According to the 2010 Census, Revere's population was approximately 52,000 and 8,100 jobs were located in it. It borders Everett and Malden to the west, Chelsea to the south, and Saugus and Lynn to the north, all of which are included in this planning effort. Revere also borders Winthrop and East Boston to the south, and the Atlantic Ocean to the east. Routes 1, 1A, and 60 are the main highways that run through the city.

Priorities for Revere include completion of the Northern Strand Community Trail running through its northern edge, as well as connections to its popular beach, schools, retail areas, and MBTA stations. Because of the potential redevelopment of Suffolk Downs, bicycle and pedestrian infrastructure should be prioritized for this area, and be an integral part of any future plans for this area. There are gaps in the bicycle and pedestrian network to all of these key locations.

There is also a potential regional corridor along Revere Beach that could connect to Lynn's waterfront. See Figure 12 for this corridor.

Gaps and Barriers

Key gaps and barriers are identified on the Revere Bicycle/Pedestrian Network Map. These gaps and barriers have been selected due to a combination of a lack of sidewalks and/or bicycle accommodation and high traffic volumes and speeds. These gaps raise potential safety concerns as well as discourage travel by foot or bicycle.

Routes 1, 1A, 16, 60

These routes are multi-lane thoroughfares, and are not encouraged for bicycle use. The City of Revere should prioritize potential bicycle facilities that cross these routes to provide alternative options for travel.

Squire Road

This section of Route 60 is a busy thoroughfare with a large rotary that is dangerous for cyclists. Squire Road does, however, contain a number of retail establishments, as well as off-road trails to its north. Connections running from the residential areas south of Squire Road should be strengthened in order to facilitate access across Squire Road to these retail and trail areas.

Bicycle Recommendations

There are a number of streets in Revere identified on the Revere Bicycle/Pedestrian Network Map (Figure 14) and Revere Bicycle Recommendations Table (Table 8) that have the potential for striping bicycle lanes or shared lane markings identified in the short term. The table first provides the existing rights-of-way, followed by MAPC's recommendations, categorized by street segments. The recommendations call for approximately 9.5 miles of bicycle lanes. In many cases, MAPC recommends redistributing existing roadway space to allow for bicycle accommodation, and the table provides details on the recommendations for proposed striping. Some road segments (identified by an asterisk in the following table) can add the recommended bicycle facilities without changes to the existing centerline and other striping, and, therefore, could be installed without roadway resurfacing. **Appendix D** contains a list of all the street segments analyzed.

Table 8: Revere Bicycle Recommendations

				Roadway						Existing Conditions**							Recommendation	Recommendation - Details									
				Side-walks	Travel Direction		Parking			Curb-to-Curb	Shoulder	Parking Lane	Travel Lane(s)		Parking Lane	Shoulder		Parking Lane	Buffer	Bike Lane	Buffer	Travel Lane(s)		Buffer	Bike Lane	Buffer	Parking Lane
Street Name	From	To	Type	Number	Two-Way	One-Way	None	Both	One Side	(Width)	WB/SB (Width)	WB/SB (Width)	WB/SB (Width)	EB/NB (Width)	EB/NB (Width)	EB/NB (Width)		WB/SB (Width)	WB/SB (Width)	WB/SB (Width)	WB/SB (Width)	WB/SB (Width)	EB/NB (Width)	EB/NB (Width)	EB/NB (Width)	EB/NB (Width)	EB/NB (Width)
Beach St	School	Winthrop Ave	Urban Minor Arterial	2	X				NB	33.5			12.5	21			Bike lane			5		10.5	11				7
Beach St	Broadway	Winthrop Ave	Urban Minor Arterial	2	X				NB	33.5			12.5	21			Bike lane			5		10.5	11				7
Broadway	Park Ave	Fenno	Urban Principal Arterial	2	X			X		44.5		7	15.5	15	7		One bike lane, one shared lane	7				14	11.5		5		7
Broadway	Squire Rd	Malden St	Urban Principal Arterial	2	X			X		42.5		8	14	13.5	7		One bike lane, one shared lane	7				13	10.5		5		7
Broadway	Cushman Ave	Malden St	Urban Principal Arterial	2	X			X		47		8	16.5	16.5	8		Bike lanes	7		5		11.5	11.5		5		7
Broadway	Route 16	Fenno	Urban Principal Arterial	2	X			X		44			22	14	8		One bike lane, one shared lane	7				14	11		5		7
Broadway	Park Ave	Mountain Ave	Urban Principal Arterial	2	X			X		48		8	16	16	8		Bike lanes	7		5		12	12		5		7
Broadway	Mountain Ave	Cushman Ave	Urban Principal Arterial	2	X			X		44.5		7	15.25	15.25	7		One bike lane, one shared lane	7				14	11.5		5		7
Centennial Ave*	North Shore Road	Dehon St	Urban Minor Arterial	2		EB		X		24							Signage	Too narrow for shared lanes. Consider signage									
Centenial Ave	Dehon St	Centennial Ave	Urban Minor Arterial	2		WB		X		24							Signage	Too narrow for shared lanes. Consider signage									
Cushman Ave	Newhall St	Adams	Urban Collector	2	X				SB	*34*							One bike lane, one shared lane	7				12	10		5		
Cushman Ave	Adams	Broadway	Urban Collector	2	X		*X*			33							Bike lanes			5		11.5	11.5		5		
Hichborn St	Lee Burbank Highway	Franklin Ave	Urban Collector	2	X		X			30							Bike lanes			5		10	10		5		
Hichborn St	Franklin Ave	Shirley Ave	Urban Collector	2		SB		X		30							Bike lane	7		5		11					7
Hy Sil Ave*	Prospect Ave	Dale	Urban Collector	2	X		X			28							Shared lanes					14	14				
Lynnway	Route 1A	Revere Beach Blvd	Urban Minor Arterial	2	X				SB	37			19	18			Bike lanes	7		5		10	10		5		
Malden St	Rumney Rd	Newhall St	Urban Collector	2	X		X			25			13	12			One bike lane, one shared lane					11	10		4		
Malden St	Newhall St	Broadway	Urban Collector	2	X				SB	33			16	17			One bike lane, one shared lane	7				11	10		5		
Oak Island St	North Shore Road	Revere Beach Blvd	Urban Collector	2	X			X		50							Bike lanes	8		5.5		11.5	11.5		5.5		8
Park Avenue	Hysil Ave	Yeamans	Urban Minor Arterial	2	X				EB	31.5	1	8	12	12			One bike lane, one shared lane					10	10		4.5		7
Park Avenue	Yeamans	Broadway	Urban Minor Arterial	2	X				EB	37.5	5	10	11.25	11.25			Bike lanes			5		10	10		5		7.5
Revere Beach Blvd*	Oak Island St	Revere St	Urban Minor Arterial	1	X			X		41			21	20			Shared lanes	8				12.5	12.5				8
Revere St	Route 60	Breed St	Urban Minor Arterial	2	X				EB	34			-				One bike lane, one shared lane					11	11		4		8
Revere St	Breed St	Hutchinson St	Urban Minor Arterial	2	X				EB	34			-				One bike lane, one shared lane					11	11		4		8
Revere St	Hutchinson St	Route 1A	Urban Minor Arterial	2	X				EB	34			-				One bike lane, one shared lane					11	11		4		8
Revere St	Route 1A	Ocean Ave	Urban Minor Arterial	2	X				EB	33.5			15	18.5			One bike lane, one shared lane					11	10.5		4		8
Revere St*	Ocean Ave	Revere Beach Blvd	Urban Minor Arterial			WB				22			22				Shared lane					22					
Revere St	American Legion Hwy	Broadway	Urban Collector	2	X				EB	34.5			20	14.5			One bike lane, one shared lane					11	11		4.5		8
Route 1A Bridge	Revere Line	Lynn Line	Urban Principal Arterial	2	X		X			60	4		26	26		4	Buffered bike lanes			6	1	23	23	1	6		
Route 107	Brown Rotary	Saugus line	Urban Principal Arterial														Use shoulders as bike lanes	Formalize shoulders into bike lanes									
Salem St*	Route 1	Saugus line	Urban Collector	2	X		X			30			15	15			Bike lane			5		10	10		5		
Sargent St	Route 1	Newhall St	Urban Collector	2	X			X		40			20	20			One bike lane, one shared lane	7				11	10		5		7
School St	Broadway	Mountain Ave	Urban Collector	2		NB			SB	23							Bike lane	7					11		5		
Shirley Ave	Route 1A	Walnut	Urban Collector	2		EB		X		30							Bike lane	7		5		11			7		
Washington Ave*	Malden line	Malden St	Urban Collector	2	X				SB	33							Shared lanes	8				12.5	12.5				
Winthrop	Revere Beach Pkwy	State Rd	Urban Minor Arterial	2	X		X			34			16	18			Bike lanes			5.5		11.5	11.5		5.5		
Winthrop Ave*	Broadway	Beach St	Urban Minor Arterial	2	X				SB	29.5							Shared lanes	7.5				11	11				
Winthrop Pkwy*	Route 145 (Rotary)	Town Line	Urban Minor Arterial	2	X		X			34			17	17			Bike lanes			6		11	11		6		
Yeamans St	Park Ave	Broadway	Urban Collector	2		NB		X		31.5							Bike lane	8					11		5		7.5

Notes:
--Red text in the travel lanes indicates shared lane markings.
--*Indicates bicycle markings can be painted without resurfacing, because a) they do not require changes to existing centerline and parking striping; or, b) striping does not currently exist
--**A breakdown of Existing Conditions striping within the curb-to-curb space is provided when possible. If blank, this indicates that either the roadway does not have existing striping or, in a few cases, roadways were unsafe to measure.

Roadway Repair Schedule

The upcoming Roadway Repair schedule provides an opportunity to add the appropriate bicycle facilities as part of the Department of Public Works normal repaving operations. The roads designated for repaving, therefore, can be considered a high priority in the sense that there is an upcoming opportunity to add bicycle lanes or shared lane markings, as appropriate. The city may also choose to add bicycle lanes, shared lane markings, and/or signs to other high priority areas that are not identified in the repaving schedule, as well.

The following have been identified by Revere as immediate areas for repaving in fiscal year 2013 and have been recommended by MAPC to include bicycle facilities:

- Revere Street (install bicycle lanes and shared lane markings; sectionns installed in Spring 2013)
- Hichborn Street (install bicycle lane)
- Centennial Avenue (install shared lane markings)
- Washington Avenue (install shared lane markings)

Pedestrian Recommendations

MAPC reviewed all of the sidewalk conditions and gaps on the non-local roads in Revere. The majority of major roads in Revere have sidewalks on at least one side of the roadway, however the condition of many sidewalks is poor. Revere should ensure that sidewalks, crossings, and signals remain in good condition, especially in school zones. In addition, traffic calming mechanisms, described in the Pedestrian Recommendations subsection of this report's Introduction, should be considered where appropriate.

Squire Road is a busy thoroughfare that has opportunities to improve the pedestrian experience. In particular, more pedestrian crossings are needed to access the retail establishments located on the north side of Squire Road from the residential areas located to the south. Also, reduced driveway widths with tighter turning radii are needed to better define pedestrian areas and provide a safer environment along Squire Road.

Several improvements to the Bell Circle and Brown Street rotaries could make these areas more amenable to pedestrians. A redesign that changes the geometries of various facets could reduce the crossing distances and slow traffic. In addition, MAPC recommends removing the exclusive pedestrian phase in favor of concurrent crossings to reduce pedestrian delay.

The Wonderland rotary, recently redesigned, could be improved with an additional crosswalk on the southeast edge, a major pedestrian desire line.

The Suffolk Downs area of Revere (shared with East Boston) is being considered as a possible site of a future casino. Any future redevelopment of this area, whether as a casino resort complex or alternative scenario, should include amenities for both pedestrians and bicyclists. In particular, the current configuration of the commercial area northwest of Suffolk Downs lacks any suitable connections to the core of Revere and should be considered in any redevelopment plans.

Saugus

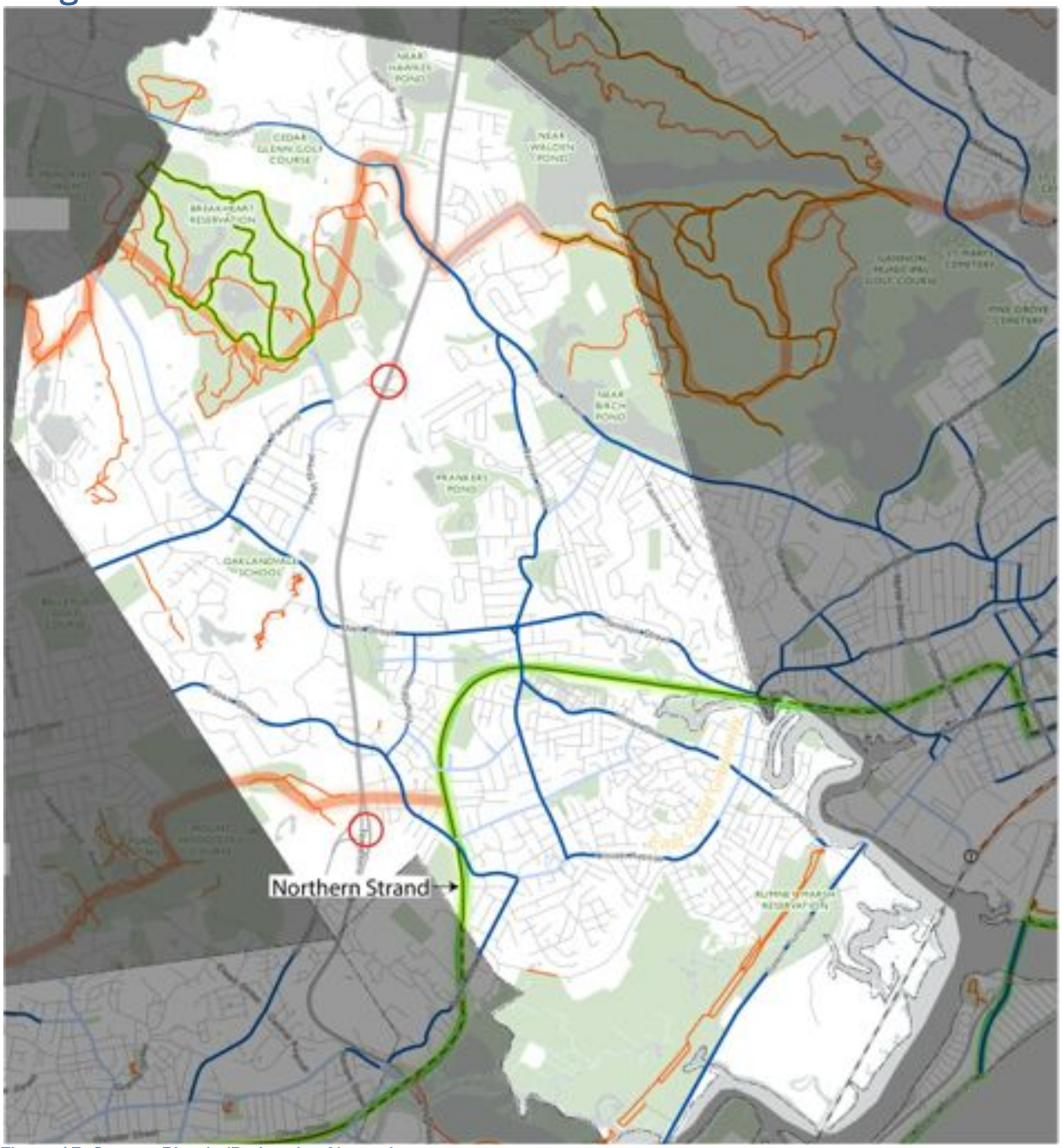


Figure 15: Saugus Bicycle/Pedestrian Network

Introduction

The Town of Saugus is located approximately thirteen miles north of Boston. According to the 2010 Census, Saugus' population was approximately 27,000 and 14,100 jobs were located in it. Saugus borders Lynn to the east and Revere to the south, both of which are included in this planning effort. Saugus also borders Lynnfield to the north, and Wakefield and Melrose to the west. Route 1 is the major highway running through the Town.

Priorities for Saugus include connections to the Northern Strand Community Trail running through its northern edge, as well as connections to schools, retail areas, and off-road trails. The Northern Strand Trail runs through the center of the town and provides a vital link on the route from Revere to the trails terminus in Lynn.

Gaps and Barriers

Key gaps and barriers are identified on the Saugus Bicycle/Pedestrian Network Map. These gaps and barriers have been selected due to a combination of a lack of sidewalks and/or bicycle accommodation and high traffic volumes and speeds. These gaps raise potential safety concerns as well as discourage travel by foot or bicycle.

Route 1

This route is a multi-lane thoroughfare and is not recommended for bicycle use. The Town of Saugus should strengthen potential bicycle facilities along alternate routes and at several crossings across Route 1.

Bicycle Recommendations

There are a number of streets in Saugus identified on the Saugus Bicycle/Pedestrian Network Map (Figure 15) and Saugus Bicycle Recommendations Table (Table 9) with the potential for striping bicycle lanes or shared lane markings in the short-term. The table first provides the existing rights-of-way, followed by MAPC's recommendations, categorized by street segments. The recommendations call for approximately 15 miles of bicycle lanes. In many cases, MAPC recommends redistributing existing roadway space to allow for bicycle accommodation, and the table provides details on the recommendations for proposed striping. Some road segments (identified by an asterisk in the following table) can add the recommended bicycle facilities without changes to the existing centerline and other striping and, therefore, could be installed without roadway resurfacing. **Appendix D** contains a list of all the street segments analyzed.

Note that the bicycle recommendations for the majority of roads in this report are municipality-owned. In some cases roads may be owned by various state organizations (e.g., MassDOT, DCR) or privately owned. In these cases municipalities should work with the respective owner(s) to incorporate the recommended bicycle facilities. In Saugus, Essex Street is owned by MassDOT.

Table 9: Saugus Bicycle Recommendations

				Roadway						Existing Conditions**							Recommendation	Recommendation - Details									
				Side-walks	Travel Direction		Parking			Curb-to-Curb	Shoulder	Parking Lane	Travel Lane(s)		Parking Lane	Shoulder		Parking Lane	Buffer	Bike Lane	Buffer	Travel Lane(s)		Buffer	Bike Lane	Buffer	Parking Lane
Street Name	From	To	Type	Number	Two-Way	One-Way	None	Both	One Side	(Width)	WB/SB (Width)	WB/SB (Width)	WB/SB (Width)	EB/NB (Width)	EB/NB (Width)	EB/NB (Width)		WB/SB (Width)	WB/SB (Width)	WB/SB (Width)	WB/SB (Width)	WB/SB (Width)	EB/NB (Width)	EB/NB (Width)	EB/NB (Width)	EB/NB (Width)	EB/NB (Width)
Ballard St*	Lincoln	Salem Tnpk	Urban Principal Arterial	2	X		X			31			15.5	15.5			Bike lanes			5		10.5	10.5		5		
Central St*	Hamilton	Walnut	Urban Collector	2	X		X			34			17	17			Bike lanes			5.5		11.5	11.5		5.5		
Central St	Hamilton	Winter	Urban Principal Arterial	2	X			X		45			22.5	22.5			Bike lanes	7		5		10.5	10.5		5		7
Central St*	Lincoln	Winter	Urban Minor Arterial	2	X		X			32			16	16			Bike lanes			5		11	11		5		
Essex*	Jackson	Route 1	Urban Minor Arterial	2	X		X			38			19	19			Bike lanes			6		13	13		6		
Essex*	Route 1	Melrose line	Urban Minor Arterial	2	X		X			32			16	16			Bike lanes			5		11	11		5		
Hamilton St	Lynn line	Central	Urban Minor Arterial	2	X		X			30	6		11	12		1	Bike lanes			4.5		10.5	10.5		4.5		
Lincoln Ave	Ballard	Lynn line	Urban Minor Arterial	2	X				NB	32			18	16			Shared lanes					12.5	12.5				7
Lincoln Ave*	Lawndale	Central	Urban Minor Arterial	2	X		X			32			16	16			Bike lanes			5		11	11		5		
Lincoln Ave*	Ballard	Lawndale	Urban Minor Arterial	2	X			X		40							Shared lanes	7				13	13				7
Lincoln Ave*	Central	Jackson	Urban Minor Arterial	2	X			X		36			18	18			Shared lanes	7				11	11				7
Lincoln Ave	Jackson	Revere line	Urban Collector	2	X		X			34			16	18			Bike lanes			5		12	12		5		
Lynn Fells Parkway	Main	Forest	Urban Principal Arterial	2	X		X			34							Bike lanes			5		12	12		5		
Lynn Fells Parkway	Main	Melrose line	Urban Principal Arterial	2	X												Bike lanes			5		12	12		5		
Main Street	Route 1	Forest	Urban Principal Arterial	1	X		X			40	1		19	19		1	Buffered bike lanes			6	2	12	12	2	6		
Main Street	Forest	Lynn Fells	Urban Principal Arterial	2	X		X			32	1		15	15		1	Bike lanes			5		11	11		5		
Main Street	Vine	Central	Urban Principal Arterial	2	X		X			32			14	16			Bike lanes			5		11	11		5		
Main Street	Vine	Route 1	Urban Principal Arterial	2	X		X			32			14	16			Bike lanes			5		11	11		5		
Main Street*	Lynn Fells	Wakefield line	Urban Minor Arterial	2	X			X		43		10	12	11	10		Shared lanes	8				13.5	13.5				8
Route 107	Revere line	Lynn line	Urban Principal Arterial														Bike lanes			Formalize wide shoulders into bike lanes							
Vine St	Essex	Main	Urban Collector	1	X		X			25			13	12			One bike lane, one shared lane					11	10		4		
Walnut Street	Water	Route 1	Urban Principal Arterial	2	X		X			36	2.5		12.5	19		2	Bike lanes			6		12	12		6		
Walnut Street	Route 1	Central	Urban Principal Arterial	1	X		X			40	3.5		16	12		7	Buffered bike lanes			6	2	12	12	2	6		
Walnut Street	Central	Fairmont	Urban Principal Arterial	1	X		X			38.5	7.5		11.5	11.5		7.5	Buffered bike lanes			5.5	2	12	12	2	5		
Walnut Street	Fairmont	Lynn line	Urban Principal Arterial	1	X		X			35	5.5		12	12		5.5	Buffered bike lanes			5	1	11.5	11.5	1	5		
Water Street	Walnut	Wakefield line	Urban Principal Arterial	1	X		X			28	2					2.5	One bike lane, one shared lane			5		11	12				
Winter St, Chestnut St*	Central	Lincoln	Urban Principal Arterial	2	X		X			36			18	18			Bike lanes			6		12	12		6		

Notes:
--Red text in the travel lanes indicates shared lane markings.
--*Indicates bicycle markings can be painted without resurfacing, because a) they do not require changes to existing centerline and parking striping; or, b) striping does not currently exist
--**A breakdown of Existing Conditions striping within the curb-to-curb space is provided when possible. If blank, this indicates that either the roadway does not have existing striping or, in a few cases, roadways were unsafe to measure.

Potential Cycle Tracks

As discussed in the Bicycle Recommendations section of the Introduction, a cycle track is an exclusive bicycle facility that combines the user experience of a separated path with the on-street infrastructure of a conventional bicycle lane. Cyclists generally feel safer with cycle tracks because of the physical separation from vehicles. They do, however, require a greater level of planning and investment than standard bicycle lane striping. The Town should consider the importance of the connection when considering whether to construct a cycle track. Based upon existing right-of-way width, the following road segments could incorporate a cycle track rather than a buffered bicycle lane:

- Main Street (Route 1 to Forest Street)
- Walnut Street (Route 1 to Fairmont Street)

Roadway Repair Schedule

The upcoming Roadway Repair schedule provides an opportunity to add the appropriate bicycle facilities as part of the Department of Public Works normal repaving operations. The roads designated for repaving, therefore, can be considered a high priority in the sense that there is an upcoming opportunity to add bicycle lanes or shared lane markings, as appropriate. The Town may also choose to add bicycle lanes, shared lane markings, and/or signs to other high priority areas that are not identified in the repaving schedule, as well.

Pedestrian Recommendations

MAPC reviewed all of the sidewalk conditions and gaps on the non-local roads in Saugus. The majority of major roads in Saugus have sidewalks on at least one side of the roadway. Saugus should ensure that sidewalks, crossings, and signals remain in good condition, especially in school zones. In addition, traffic calming mechanisms, described in the Pedestrian Recommendations subsection of this report's Introduction, should be considered where appropriate. The Town should also fill the gaps in the pedestrian network, including Lynn Fells Parkway (from Forest Street to Route 1) and Fairmont Avenue (from the Lynn line to Walnut Street).

Appendix A– Description of Sidewalk Design Considerations

Accessibility - Pedestrian facility design must comply with accessibility standards in the Rehabilitation Act of 1973 (Section 504) and the Americans with Disabilities Act (ADA) of 1990. ADA Standards for Accessible Design applies to all projects involving new or altered pedestrian facilities, not just projects funded by state or federal sources.

Sidewalks - Sidewalks are critical components for an effective pedestrian network. Sidewalks, provided on both sides of a street, are generally the preferred pedestrian facility and provide for a safe walking area outside the motor vehicle traffic travel-way. The preferred and most common sidewalk surface is concrete as it requires the least amount of maintenance and has a long life span. Other materials such as asphalt, brick, crushed granite/stone, or bricks and pavers may be used as long as ADA requirements are met. A minimum sidewalk width of 5 feet is encouraged to allow for two adult pedestrians to comfortably walk side-by-side. The Americans with Disabilities Act (ADA) mandates a minimum width of 3 feet of unobstructed sidewalk passageway. Reasonable flexibility exists to allow communities to adjust some dimensions to meet community goals.

Sidewalk Zones - According to Cambridge's Pedestrian Plan and depicted in Figure 16, 'Sidewalk Zones,' the sidewalk is divided into three zones: Curb Zone, Travel Zone and the Building or Comfort Zone. The width of each zone depends in part on the overall width of the sidewalk. Sufficient Curb and Building or Comfort Zones are necessary in order to maintain a usable Travel Zone.

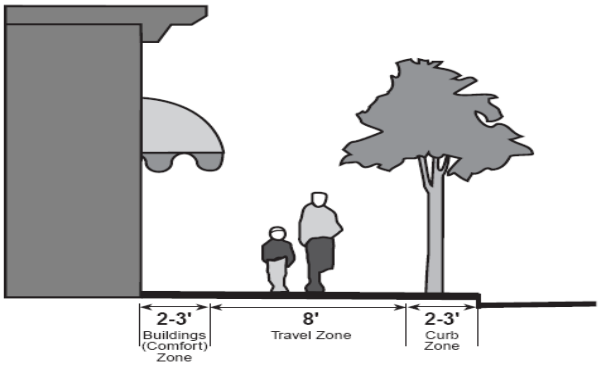


Figure 16: Cambridge, MA sidewalk zones

Lighting - Pedestrians often assume that motorists can see them at night. Without appropriate lighting motorists may not be able to see pedestrians crossing roads in time to stop. Well-designed and well-placed street lighting improves pedestrian visibility and safety.

Crosswalks - Marked crosswalks are used to help designate areas where motorists yield to pedestrians and direct pedestrians to preferred crossing points. Marked crosswalks contribute towards pedestrian safety. Ideally, marked crosswalks should be used in conjunction with other measures, such as curb extensions, advance warning signage for motorists, traffic signals and traffic calming treatments, to improve pedestrian crossing safety.

Curb extensions - Curb extensions extend the sidewalk into the street, reducing the time and distance it takes a pedestrian to cross. Curb extensions can also prevent drivers from parking in front of crosswalks and blocking curb ramps.

Figure 17: Examples of curb extensions

Curb radii – Curb radii is the measurement of the sharpness of a corner at an intersection. Generally, a smaller or tighter curb radius is better for pedestrians. Compared to a large curb radius, a smaller curb radius allows for more pedestrian area at the corner, flexibility in the placement of curb ramps, shorter street crossings, requires vehicles to slow as they turn the corner, and improves sight distance between pedestrians and drivers.

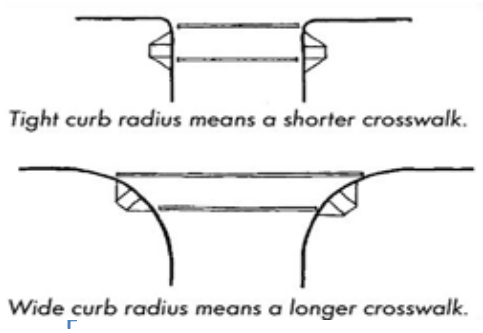


Figure 18: Curb radius illustration

Curb ramp - Curb ramps are used wherever there is a difference in level along a path a pedestrian is traversing. They should be designed to provide an accessible route so pedestrians may safely transition from a roadway to a curbed sidewalk and vice versa.

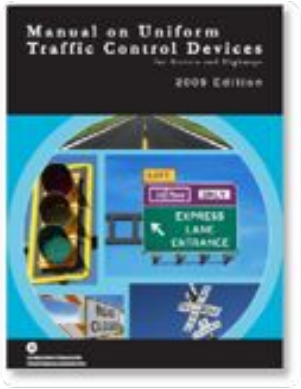
Intersection signals - In an effort to create safe and walkable communities, different actions can be taken to help make traffic signals work well for pedestrians. Signal timing is an important component to how an intersection operates for pedestrians. Traffic signals create gaps in the traffic flow and allow pedestrians to safely cross a street. Each municipality should perform a complete inventory of its signals and ensure that the equipment is updated and properly maintained. Signals need to be designed and timed to be pedestrian friendly and allow for adequate crossing time.

Appendix B – Pedestrian Facilities Design Guidelines References

MassDOT's Development and Design Guidebook[6]

The primary resource that should be adhered to is the MassDOT Project Development and Design Guidebook.

Multimodal accommodation that encourages and supports safe travel for pedestrians, bicyclists and other modes of travel is a key feature of the MassDOT Guidebook. The MassDOT Guidebook directs the designer to begin at the edge with the pedestrian and work their way in, to ensure that the needs of non-motorized users remain integral to project planning and design. This approach facilitates the use of context-sensitive design, environmental protection and the careful consideration of the safety and accessibility needs of pedestrians, bicyclists and non-motorized facility users.



Manual on Uniform Traffic Control Devices (MUTCD)[7]

The Manual on Uniform Traffic Control Devices, or MUTCD defines the standards used by road managers nationwide to install and maintain traffic control devices on all public streets, highways, bikeways, and private roads open to public traffic. States must adopt the 2009 National MUTCD as their legal State standard for traffic control devices within two years.

The MUTCD gives guidelines regarding the location and frequency of crosswalk installation, how long a pedestrian should wait at an intersection before crossing, how much time a pedestrian has to cross a street as well as the design and placement of signals and striping.

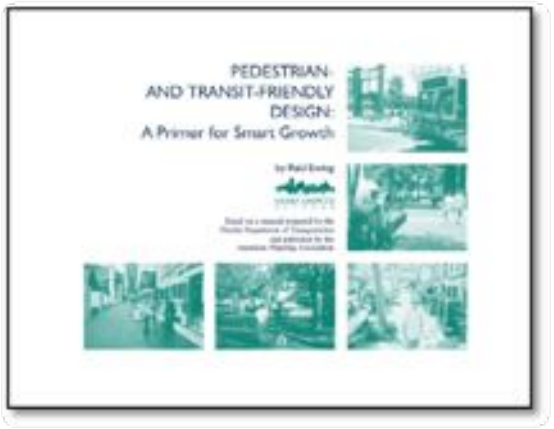
Creating Design Standards for 40R Districts[8]

Prepared jointly by the Massachusetts Department of Housing and Community Development and the Cecil Group in 2008, this Guidebook serves as a resource for communities and citizens in Massachusetts working to establish special design standards in conjunction with Smart Growth Zoning Districts enabled by M.G.L. Chapter 40R.

It provides practical information and references for crafting workable standards that will apply to the land uses and development within Smart Growth Zoning Districts. Accommodations for pedestrians such as walkway and sidewalk width, provision of benches, lighting fixtures and other street furniture elements are addressed in this Guidebook.

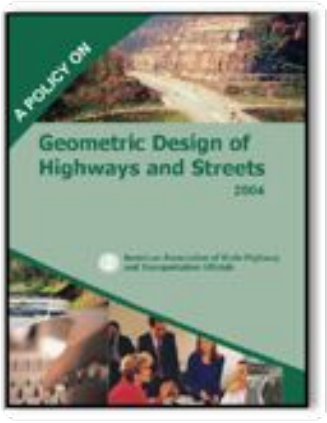
[6] www.massdot.state.ma.us/highway/DoingBusinessWithUs/ManualsPublicationsForms/ProjectDevelopmentDesignGuide.aspx
[7] http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/pdf_index.htm
[8] http://www.growsmartri.org/training/Creating%20Design%20Standards%20for%20Transit-Oriented%20Districts.pdf

Pedestrian and Transit-Friendly Design: A Primer for Smart Growth[9]



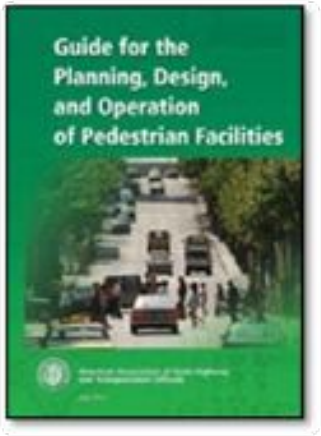
Published by the Smart Growth Network, this guide is based on a manual prepared for the Florida Department of Transportation. The publication is a general guide to and discussion of design concepts that support pedestrian activity and transit use.

The concepts are not presented in the format of design standards but they do provide some of the underlying rationale and strategies around which a community might develop measurable standards. The guide's various elements are broken into three categories: "Essential Features", "Highly Desirable Features", and "Nice Additional Features."



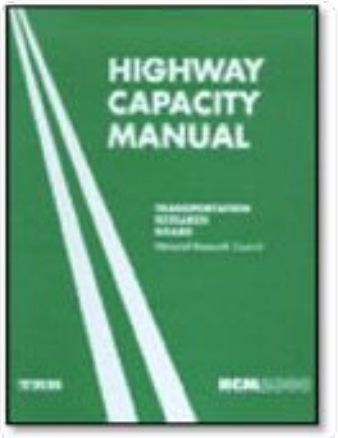
AASHTO's A Policy on Geometric Design of Highways and Streets (2004)

Frequently referred to as the 'Green Book', this policy manual contains information about the latest design practices in universal use as the standard for highway geometric design. The intent of the 'Green Book' is to provide guidance to the designer by referencing a recommended range of values for critical dimensions. The pedestrian and pedestrian facilities are referenced throughout the 'Green Book.'



AASHTO's Guide for the Planning, Design and Operation of Pedestrian Facilities (2012)

The purpose of this guide is to provide guidance on the planning, design, and operation of pedestrian facilities along streets and highways. Specifically, the guide focuses on identifying effective measures for accommodating pedestrians on public rights-of-way. The AASHTO Guide is widely used in the planning and engineering industry.



Highway Capacity Manual (HCM) (2000)

A publication of the Transportation Research Board (TRB), The Highway Capacity Manual (HCM) contains concepts, guidelines, and computational procedures for computing the capacity and quality of service of various highway facilities, including freeways, highways, arterial roads, roundabouts, signalized and unsignalized intersections, rural highways, and the effects of mass transit, pedestrians, and bicycles on the performance of these systems. The fifth edition, HCM 2010, is expected to be published in early 2010.

[9] http://www.epa.gov/smartgrowth/pdf/ptfd_primer.pdf#search='Primer%20on%20Street%20Design%20Guidelines

Appendix C– Road Network Functional Classifications


Chelsea
Road Network
Functional Class
Chelsea
Boston
MAPC


Everett
Road Network
Functional Class
Everett
MAPC


Lynn
Road Network
Functional Class
Interstate
Principal Arterial
Rural minor arterial or
urban principal arterial
Urban collector or
rural minor collector
Urban minor arterial or
rural major collector
Local
Town station
Commuter Rail / Subway
Town hall
Municipal boundary
Water bodies
Open Space
0 0.5 Miles
Source:
MAPC, City of Lynn, MassGIS, MassDOT, OpenStreetMap
October 2012
MAPC


Malden
Road Network
Functional Class
Interstate
Principal Arterial
Rural minor arterial or
urban principal arterial
Urban collector or
rural minor collector
Urban minor arterial or
rural major collector
Local
Commuter Rail / Subway
Town Hall
Water bodies
Open Space
MAPC


Revere
Road Network
Functional Class
Interstate
Principal Arterial
Rural minor arterial or
urban principal arterial
Urban collector or
rural minor collector
Urban minor arterial or
rural major collector
Local
Train station
Commuter Rail / Subway
Town Hall
Municipal boundary
Water bodies
Open Space
0 0.5 Miles
Source:
MAPC, City of Malden, City of Everett, City of Chelsea,
City of Revere, MassGIS, MassDOT, OpenStreetMap
October 2014
MAPC


Saugus
Road Network
Functional Class
Interstate
Principal Arterial
Minor arterial or urban principal arterial
Urban collector or rural minor collector
Urban minor arterial or rural major collector
Local
Commuter Rail / Subway
Municipal boundary
Water bodies
Open Space
MAPC

Appendix D– List of All Street Segments Analyzed

				Roadway							Existing Conditions							Recommendation	Recommendation - Details									
				Side-walks	Travel Direction		Parking			Striping	Curb-to-Curb	Shoulder	Parking Lane	Travel Lane(s)		Parking Lane	Shoulder		Parking Lane	Buffer	Bike Lane	Buffer	Travel Lane(s)		Buffer	Bike Lane	Buffer	Parking Lane
Street Name	From	To	Type	Number	Two-Way	One-Way	None	Both	One Side	Double Yellow Center Line	(Width)	WB/SB (Width)	WB/SB (Width)	WB/SB (Width)	EB/NB (Width)	EB/NB (Width)	EB/NB (Width)		WB/SB (Width)	WB/SB (Width)	WB/SB (Width)	WB/SB (Width)	WB/SB (Width)	EB/NB (Width)	EB/NB (Width)	EB/NB (Width)	EB/NB (Width)	EB/NB (Width)
2nd St*	Everett Line	Spruce St	Urban Minor Arterial	2	X		X			X	48			24	24			Buffered bike lanes			8	2	14	14	2	8		
6th St	Maple St	Spruce St	Urban Collector			NB					22							Leave as-is	Leave as-is									
7th St	Spruce St	Arlington St			X						30							Leave as-is	Leave as-is									
Addison St	Carter St	Maple St	Urban Collector			SB					22							Leave as-is	Leave as-is									
Addison St	Maple St	Spruce St	Urban Collector			SB					22							Leave as-is	Leave as-is									
Andrew McArdle Bridge*	East Boston	Pearl St					X				38			19	19			Bike lanes			5		14	14		5		
Beacham St	Everett line	Market St	Urban Minor Arterial	0	X		X			X	51			30	21			Buffered bike lanes			6	2	12	12	2	6		
Beacham St	Market St	Williams St (name change)	Urban Minor Arterial	0	X		X			X	40			21	19			Bike lanes			5		11	11		5		
Beacon St	Mulberry	Chestnut St	Urban Minor Arterial	2		NB		X			32							Leave as-is	Leave as-is									
Bellingham St	Hawthorne/Broadway	Shawmut St	Urban Collector															Leave as-is	Leave as-is									
Bellingham St	Shawmut St	Highland St	Urban Collector			EB					22							Leave as-is	Leave as-is									
Bellingham St	Highland St	Willow St	Urban Collector		X						23							Leave as-is	Leave as-is									
Bellingham St	Willow St	Eastern Ave	Urban Collector		X					X	27							Leave as-is	Leave as-is									
Broadway	5th	Everett	Urban Collector	2		SB		X			41		8			8		Bike lane	7.5				21			5		7.5
Broadway*	Crescent Ave	Eleanor St	Urban Principal Arterial	2	X			X		X	42			21	21			Shared lanes	8				13	13				8
Broadway*	Eleanor St	Webster Ave	Urban Principal Arterial	2	X			X		X	42			21	21			Shared lanes	8				13	13				8
Broadway*	Webster Ave	Clinton St	Urban Principal Arterial		X			X		X	41							Shared lanes	7.5				13	13				7.5
Broadway*	Clinton St	City Line/Rt 16	Urban Principal Arterial		X		X			X	42							Shared lanes					21	21				
Carey Ave	Broadway	Washington Ave		2	X				NB		29							Leave as-is	Leave as-is									
Carmel St	Addison St	Washington Ave	Urban Collector		X						22							Leave as-is	Leave as-is									
Carter St*	Route 1 (North Segment)	Orange St		2		SB			NB		23							Bike lane						11		5		7
Carter St	Orange St	Route 1 (South Segment)		2	X			X			*38*							Leave as-is	Leave as-is									
Central Ave	Hawthorne St	Shawmut St	Urban Collector															Leave as-is	Leave as-is									
Central Ave	Shawmut St	Highland St	Urban Collector		X					X	38							Leave as-is	Leave as-is									
Central Ave	Highland St	Willow St	Urban Collector		X					X	38							Leave as-is	Leave as-is									
Central Ave	Willow St	Eastern Ave	Urban Collector		X					X	38							Leave as-is	Leave as-is									
Chestnut St	Beacon St	Everett Ave	Urban Collector	2		NB		X			28							Shared lane	7					14				7
Chestnut St	Everett Ave	Fourth St	Urban Collector	2		NB		X			30							Bike lane	7					11		5		7
Chestnut St	Fourth St	Washington	Urban Collector	2		SB		X			*30*							Bike lane	7				11			5		7
Clark Ave	Crescent Ave	Eleanor St	Urban Collector	2		WB		X			29							Leave as-is	Leave as-is									
Clark Ave	Eleanor St	Webster Ave	Urban Collector	2	X			X			29							Leave as-is	Leave as-is									
Clinton St	Broadway/Eastern Ave	Washburn St	Urban Collector								29							Leave as-is	Leave as-is									
Clinton St	Washburn St	Crescent Ave			X					X	29							Leave as-is	Leave as-is									
Commandants Way*	Williams	Road Narrowing		1	X		X			X	40			20	20			Buffered bike lanes			6	2	12	12	2	6		
Commandants Way	Road Narrowing	Parkland Area (N)		1	X		X			X	*23*							Shared lanes					11.5	11.5				
Commandants Way	Parkland Area (S)	Tobin Bridge		2	X		X				23			11.5	11.5			Shared lanes					11.5	11.5				
Crescent Ave	Eastern Ave	Louis St			X					X	27							Leave as-is	Leave as-is									
Crescent Ave	Louis St	Clinton St			X					X	27							Leave as-is	Leave as-is									
Cross St*	Broadway	Park St	Urban Principal Arterial	2		SB			NB		30					8		Buffered bike lane					12		2	6	2	8
Eastern Ave	Bellingham St	Crescent Ave																Leave as-is	Leave as-is									
Eastern Ave	Crescent Ave	Louis St	Urban Minor Arterial		X					X	40							Leave as-is	Leave as-is									
Eastern Ave	Louis St	Clinton St			X					X	40							Leave as-is	Leave as-is									
Everett Ave	Everett line	Spruce	Urban Principal Arterial	2	X		X				36/25	3'					2'	Under construction	Currently under construction									
Everett Ave*	Spuce St	Chestnut St	Urban Principal Arterial	2	X			X		X	56		7	11,11	11,11	7		Shared lanes	7				21	21				7
Everett Ave	Chestnut St	Broadway	Urban Principal Arterial	2		SB		X			40		8			8.5		Bike lane	7.5				20			5		7.5
Franklin Ave	Jefferson Ave	Warren Ave	Urban Collector		X				WB		25			11	14			Leave as-is	Leave as-is									
Garfield St	Washington	Sagamore Ave	Urban Minor Arterial		X			X		X	40			20	20			One bike lane, one shared lane	7				11	10		5		7
Garfield St	Sagamore Ave	Rt 16 (then Webster)	Urban Minor Arterial		X			X		X	40			20	20			One bike lane, one shared lane	7				11	10		5		7
Hawthorne St	Central Ave	Congress	Urban Collector	2		NB		X			29							Bike lane	7					10		5		7
Hawthorne St	Marginal St	Congress			X			X			*30*							Leave as-is	Leave as-is or add signs.									
Hawthorne St	Central Ave	Bellingham	Urban Collector	2		NB		X			36							Buffered bike lane	8					12	1	5	2	8
Highland St	Marginal St	Central Ave	Urban Collector															Leave as-is	Leave as-is									
Highland St	Central Ave	Bellingham St	Urban Collector		X						28							Leave as-is	Leave as-is									
Jefferson Ave	Washington Ave	Franklin Ave	Urban Collector		X		X				30			16	14			Leave as-is	Leave as-is									
Marginal St	Central Ave	Pearl St	Urban Minor Arterial		X					X	38							Leave as-is	Leave as-is									
Market St	Everett line	Beacham St	Urban Collector	0	X		X				40							Buffered Bike lanes			5	1	14	14	1	5		
Nichols St	City Line	Washington Ave	Urban Collector		X				WB		25							Leave as-is	Leave as-is									
Park St	Cross St	Broadway	Urban Minor Arterial	2		EB			WB		30							Bike lane	8					12		10		
Park St	Cross St	Hawthorne St	Urban Minor Arterial	2		EB		X			34							Bike lane	8					12		6		8
Route 1			Principal Arterial															Leave as-is	Leave as-is									
Sagamore Ave	Washington Ave	Murray St	Urban Collector		X			X		X	35.5							Leave as-is	Leave as-is									
Sagamore Ave	Murray St	Garfield Ave	Urban Collector		X			X		X	36							Leave as-is	Leave as-is									
Shawmut St	Marginal St	Central Ave	Urban Collector		X						22							Leave as-is	Leave as-is									
Springvale Ave	City Line	Prospect Ave	Urban Collector		X			X			25.5							Leave as-is	Leave as-is									
Springvale Ave	Prospect Ave	Washington Ave	Urban Collector		X			X			26							Leave as-is	Leave as-is									
Spruce St	Williams Street	Second St	Urban Collector	2	X		X			X	48							Shared lanes					24	24				
Spruce St	Second St	Everett Ave	Urban Collector	2	X		X			X	48	2		Varies	Varies		2	Shared lanes					24	24				
Spruce St	Everett Ave	Sixth St	Urban Collector	2	X		X			X	48	2		11, 11	11, 11		2	Shared lanes					24	24				
Spruce St	Sixth St	Addison St	Local Road		X					X	23							Leave as-is	Leave as-is									
Spruce St	Addison St	Washington	Local Road		X					X	*23*							Install signage	Signage. Good N-S connection.									
Summit Ave	Warren Ave	Warren/Hillside	Urban Collector		X					X	32							Leave as-is	Leave as-is									
Union St	Town Line	Washington Ave	Urban Collector		X			X			33							Leave as-is	Leave as-is									
Warren Ave	Franklin Ave	Lafayette Ave	Urban Collector		X				WB		29							Leave as-is	Leave as-is									
Washington Ave	Route 16	Sagamore Ave	Urban Minor Arterial		X			X		X	38.5			19	19.5			Leave as-is	Leave as-is									
Washington Ave	Sagamore Ave	Bell	Urban Minor Arterial		X				NB	X	26			10	16			Leave as-is	Leave as-is									
Washington Ave	Bell	Garfield	Urban Minor Arterial		X				NB	X	28			14	14			Shared lanes					10.5	10.5				7

				Roadway							Existing Conditions							Recommendation	Recommendation - Details									
				Side-walks	Travel Direction		Parking			Striping	Curb-to-Curb	Shoulder	Parking Lane	Travel Lane(s)		Parking Lane	Shoulder		Parking Lane	Buffer	Bike Lane	Buffer	Travel Lane(s)		Buffer	Bike Lane	Buffer	Parking Lane
Street Name	From	To	Type	Number	Two-Way	One-Way	None	Both	One Side	Double Yellow Center Line	(Width)	WB/SB (Width)	WB/SB (Width)	WB/SB (Width)	EB/NB (Width)	EB/NB (Width)	EB/NB (Width)		WB/SB (Width)	WB/SB (Width)	WB/SB (Width)	WB/SB (Width)	WB/SB (Width)	EB/NB (Width)	EB/NB (Width)	EB/NB (Width)	EB/NB (Width)	EB/NB (Width)
Alpine Avenue	Dartmouth	Garland	Urban Collector	2	X			X			26							Leave as-is	Leave as-is									
Baldwin Avenue	Valley	Main St	Urban Collector	2		EB		X			27							Leave as-is	Leave as-is. Quiet residential street.									
Beacham Street	Robin St	Bow St	Urban Minor Arterial	1	X		X				31							Bike lanes			5		10.5	10.5		5			
Beacham Street	Bow	Broadway	Urban Minor Arterial	2	X		X			X	27							One bike lane, one shared lane					12	10		5			
Beacham Street	Market	Robin	Urban Minor Arterial	0	X						30							Leave as-is	Leave as-is									
Bell Rock Street	Malden line	Pierce	Urban Collector	2	X			X		X	40	2		13	13		2	One bike lane, one shared lane	7		5		10	11				7
Bell Rock Street	Pierce	Tremont	Urban Collector	2	X			X		X	40	2		13	13		2	One bike lane, one shared lane	7		5		10	11				7
Boston St	Second St	Revere Beach Parkway	Urban Collector	2	X		X				25							Leave as-is	Unnecessary connection through industrial area.									
Bow Street	Broadway	Beacham	Urban Minor Arterial	2		NB			NB		23							Leave as-is	Unnecessary connection. Bike lanes provided on nearby streets.									
Bow Street	Beacham	Broadway	Urban Minor Arterial	2		NB			NB		23							Leave as-is	Unnecessary connection. Bike lanes provided on nearby streets.									
Broadway*	Hancock	Summer	Urban Principal Arterial	2	X			X		X	42		8	13	13	8		Shared lanes	7				14	14				7
Broadway*	Summer	Cottage	Urban Principal Arterial	2	X			X		X	42		8	13	13	8		Shared lanes	7				14	14				7
Broadway*	Cottage	Second St	Urban Principal Arterial	2	X			X		X	42		8	13	13	8		Shared lanes	7				14	14				7
Broadway*	Revere Beach Parkway	Second St	Urban Principal Arterial	2	X			X		X	43		10	12.5	12.5	10		Shared lanes	7.5				14	14				7.5
Broadway	Revere Beach Parkway	Boston line	Urban Principal Arterial	2														Bike lanes	Bike lanes under construction									
Broadway*	Ferry	Hancock	Urban Principal Arterial	2	X			X		X	42		8	13	13	8		Shared lanes	7				14	14				7
Broadway	Ferry	Gledhill	Urban Principal Arterial	2	X			X		X	44		7	14.5	15	7.5		Bike lanes	7		5		10	10		5		7
Broadway	Gledhill	Malden line	Urban Principal Arterial	2	X			X		X	44		7	14.5	15	7.5		Bike lanes	7		5		10	10		5		7
Bryant St	Rich	Preston	Urban Minor Arterial	2	X			X		X	28			14	14			Leave as-is	Leave as-is									
Bryant St	Preston	Shute	Urban Minor Arterial	2	X			X		X	28			14	14			Leave as-is	Leave as-is									
Buckingham St	Linden	Malden line	Urban Collector	2	X				NB	X	25			11	14			Leave as-is	Leave as-is									
Central	Hancock	Ferry	Urban Collector	2		NB			NB		24							Bike lane						12		5		7
Chelsea St*	Malden St	Ferry	Urban Minor Arterial	2	X			X		X	40		7	13	13	7		Shared lanes	7				13	13				7
Chelsea St*	Ferry	Spring Street	Urban Minor Arterial	2	X			X		X	41		8	13	12	8		Shared lanes	7				13.5	13.5				7
Chelsea St*	Spring	Broadway	Urban Minor Arterial	2	X			X		X	41		8	13	12	8		Shared lanes	7				13.5	13.5				7
Church St	Linden	Broadway	Urban Collector	2		NB			Varies		24							Bike lane	8					11		5		
Cottage St	Broadway	Ferry	Urban Collector	2	X				EB		25							Leave as-is	Leave as-is									
Dartmouth St	Alpine	Harvey	Urban Collector	2		NB		X			24							Leave as-is	Leave as-is									
Dexter St	Robin St	Broadway	Urban Collector	2	X		X				25							One bike lane, one shared lane					11	10		4		
Elm St	Washington	Springvale	Urban Minor Arterial	2	X				EB	X	32			13	19			One bike lane, one shared lane			4		10	11				7
Elm St	Springvale	Woodlawn	Urban Minor Arterial	2	X				EB	X	32			13	19			One bike lane, one shared lane			4		10	11				7
Elm St	Woodlawn	Ferry	Urban Minor Arterial	2	X		X			X	36			21	15			Bike lanes			6		12	12		6		
Ferry	Union	High	Urban Minor Arterial	2	X				SB	X	35		7	15	13			One bike lane, one shared lane	7				12	11		5		
Ferry	Union	Chelsea	Urban Minor Arterial	2	X				SB	X	35		7	15	13			One bike lane, one shared lane	7				12	11		5		
Ferry	Chelsea	Cottage	Urban Minor Arterial	2	X				SB	X	35		7	15	13			One bike lane, one shared lane	7				12	11		5		
Ferry	Glendale	Broadway	Urban Minor Arterial	2	X			X			38			18	20			Leave as-is	Leave as-is									
Ferry	Shute	Malden line	Urban Minor Arterial	2	X			X		X	34			17	17			Leave as-is	Leave as-is									
Ferry	Broadway	Elm	Urban Minor Arterial	2	X				SB	X	35		7	15	13			One bike lane, one shared lane	7				12	11		5		
Ferry	Elm	Nichols	Urban Minor Arterial	2	X				SB	X	35		7	15	13			One bike lane, one shared lane	7				12	11		5		
Ferry	Nichols	High	Urban Minor Arterial	2	X				SB	X	35		7	15	13			One bike lane, one shared lane	7				12	11		5		
Fuller St	Lynn	Washington	Urban Collector	2	X				EB	X	26			13	13			Leave as-is	Leave as-is									
Garland St	Alpine	Woodlawn	Urban Collector	2	X				WB		23							Leave as-is	Leave as-is									
Gledhill Ave	Broadway	Russell	Urban Collector	2	X				NB		24							Leave as-is	Leave as-is									
Glendale	Hancock	Shute	Urban Collector	2		NE			NB		24							Bike lane						11		5		8
Hancock*	Linden	Walnut	Urban Collector	2	X				NB	X	32			13	19			Shared lanes					12	12				8
Hancock*	Walnut	Glendale	Urban Collector	2	X				NB	X	32			13	19			Shared lanes					12	12				8
Hancock*	Glendale	Central	Urban Collector	2	X				NB	X	32			13	19			Shared lanes					12	12				8
Hancock*	Central	Malden line	Urban Collector	2	X				NB	X	32			13	19			Shared lanes					12	12				8
Hancock*	Broadway	Linden	Urban Collector	2	X				NB	X	32			13	19			Shared lanes					12	12				8
Harvey St	Elm	Dartmouth	Urban Collector	2	X				SB		24							Leave as-is	Leave as-is									
High St	Ferry	Summer	Urban Collector	2	X				WB		24							Leave as-is	Road too narrow. Leave as-is.									
High St	Summer	Broadway	Urban Collector	2		SB			WB		24							Leave as-is	Leave as-is. No connection available to Ferry.									
Lawrence St	Garland	Nichols	Urban Collector	2	X		X				23							Leave as-is	Leave as-is									
Linden St	Buckingham	Church	Urban Collector	2	X				WB	X	28			16	12			Leave as-is	Leave as-is									
Linden St	Church	Hancock	Urban Collector	2	X				NB		32			13	19			One bike lane, one shared lane			4		10	11				7
Lynn St	Broadway	Fuller	Urban Minor Arterial	2	X					X	29			14.5	14.5			Leave as-is	Leave as-is									
Lynn St	Fuller	Malden line	Urban Minor Arterial	2	X					X	29			14.5	14.5			Leave as-is	Leave as-is									
Main St	Tileston	Revere Beach Parkway	Urban Principal Arterial	2	X			X		X	40		8	12	12			One bike lane, one shared lane	7				11	10		5		7
Main St	Tileston	Baldwin	Urban Principal Arterial	2	X			X		X	40		8	12	12			One bike lane, one shared lane	7				11	10		5		7
Main St	Baldwin	Prescott	Urban Principal Arterial	2	X			X		X	40		8	12	12			One bike lane, one shared lane	7				11	10		5		7
Main St	Prescott	Pierce	Urban Principal Arterial	2	X			X		X	40		8	12	12			One bike lane, one shared lane	7				11	10		5		7
Main St	Pierce	Malden line	Urban Principal Arterial	2	X			X		X	40		8	12	12			One bike lane, one shared lane	7				11	10		5		7
Malden St	Union	Nichols	Urban Collector	2		NB			NB		24							Signage	Consider signage for this link due to narrowing further down on street.									
Malden St	Chelsea	Revere Beach Parkway	Urban Minor Arterial	2	X			X			34							Signage	Consider signage for this link due to narrowing further down on street.									
Malden St	Union	Chelsea	Urban Collector	2	X			X			32							Signage	Too narrow for sharrows. Consider signage.									
Market Street	Second St	Town Line	Urban Collector	0	X		X				36							Bike lanes			5		13	13		5		
Nichols	Woodlawn	Lawrence	Urban Collector	2	X				EB		26							Leave as-is	Leave as-is									
Nichols	Lawrence	Revere line	Urban Collector	2	X				WB		26							Leave as-is	Leave as-is									
Nichols	Ferry	Woodlawn	Urban Minor Arterial	2	X				EB		28							Leave as-is	Leave as-is									
Norwood St*	Winthrop	Linden	Urban Collector	2	X				SB		30							Shared lanes	8				11	11				
Norwood St*	Broadway	Winthrop	Urban Collector	2		EB		X			30							Shared lane	8				14					8
Oakes St	School	Main St	Urban Collector	2		WB		X			25							Leave as-is	Leave as-is									
Pierce	Bell Rock	Main St	Urban Collector	2		EB			EB		24							Bike Lane						11		5		8
Prescott	Main	Tremont	Urban Collector	2		WB		X			32							Bike Lane	8					11		5		8
Preston St	Bryant	Westover	Urban Collector	2	X			X			25							Leave as-is	Leave as-is									
Revere Beach Parkway			Principal Arterial															Leave as-is	Leave as-is									

				Roadway							Existing Conditions							Recommendation	Recommendation - Details									
				Side-walks	Travel Direction		Parking			Striping	Curb-to-Curb	Shoulder	Parking Lane	Travel Lane(s)		Parking Lane	Shoulder		Parking Lane	Buffer	Bike Lane	Buffer	Travel Lane(s)		Buffer	Bike Lane	Buffer	Parking Lane
Street Name	From	To	Type	Number	Two-Way	One-Way	None	Both	One Side	Double Yellow Center Line	(Width)	WB/SB (Width)	WB/SB (Width)	WB/SB (Width)	EB/NB (Width)	EB/NB (Width)	EB/NB (Width)		WB/SB (Width)	WB/SB (Width)	WB/SB (Width)	WB/SB (Width)	WB/SB (Width)	EB/NB (Width)	EB/NB (Width)	EB/NB (Width)	EB/NB (Width)	EB/NB (Width)
Rich St	Ferry	Bryant	Urban Collector	2	X			X			30							Leave as-is	Leave as-is									
Robin Street	Beacham	Dexter	Urban Collector	2	X		X				25							One bike lane, one shared lane			4		10	11					
Russell St	Gledhill	Elm	Urban Collector	2	X		X				24							Leave as-is	Leave as-is									
Santili Highway	Revere Beach Parkway	Tileston	Urban Minor Arterial	1	X			X		X	50			24	26			Bike lanes	Existing bike lanes									
School Street	Broadway	Oakes	Urban Minor Arterial	2		SB		X			32		8			8		Bike lane	8		5		11					8
School Street	Oakes	Main St	Urban Minor Arterial	2		SB		X			32		8			8		Leave as-is	Close to rotary. Use main roads instead.									
Second St	Broadway	Revere Beach Parkway	Urban Minor Arterial	2	X				SB	X	32			19	13			One bike lane, one shared lane	7				11	10		4		
Second St*	Revere Beach Parkway	Boston St	Urban Minor Arterial	2	X		X			X	32			16	16			Bike lanes			5		11	11		5		
Second St*	Boston St	Market St	Urban Minor Arterial	2	X		X			X	32			16	16			Bike lanes			5		11	11		5		
Shute St	Sea	Westover	Urban Minor Arterial	2	X		X			X	25			12.5	12.5			One bike lane, one shared lane					11	10		4		
Shute St	Westover	Bryant	Urban Minor Arterial	2	X		X			X	25			12.5	12.5			One bike lane, one shared lane					11	10		4		
Shute St	Bryant	Ferry	Urban Minor Arterial	2	X		X			X	25			12.5	12.5			One bike lane, one shared lane					11	10		4		
Spring St	Chelsea	Revere Beach Parkway	Urban Collector	2	X				SB		30							Leave as-is	Leave as-is									
Springvale Ave	Spruce	Elm	Urban Collector	2		WB			SB		24							Leave as-is	Leave as-is. Quiet residential street. Confusing one-way system.									
Springvale Ave	Revere line	Spruce	Urban Collector	2		EB			SB		24							Leave as-is	Leave as-is. Quiet residential street. Confusing one-way system.									
Summer	High	Broadway	Urban Collector	2	X				EB		25							Leave as-is	Leave as-is									
Tileston St	Santili	Main St	Urban Minor Arterial	2	X				WB	X	40		8	16	12		4	Bike lanes	8		5		11	11		5		
Tremont St	Bell Rock	Prescott	Urban Collector	2	X				NB	X	34	2		13.5	13.5	7		One bike lane, one shared lane			5		10	11				8
Tremont St	Prescott	Valley	Urban Collector	2	X			X		X	33	1		12	13	8		Leave as-is	Leave as-is. Quiet residential street.									
Union	Ferry	Malden St	Urban Collector	2	X				EB		24							Leave as-is	Leave as-is									
Union	Malden St	Chelsea line	Urban Minor Arterial	2	X				SB	X	35		7	15	13			Leave as-is	Unnecessary connection. Bike lanes provided on nearby streets.									
Valley Street	Tremont	Baldwin	Urban Collector	2		SB			SB		24							Leave as-is	Leave as-is. Quiet residential street.									
Vine St	Chelsea	Revere Beach Parkway	Urban Minor Arterial	2	X						30							Leave as-is	Leave as-is									
Walnut St	Hancock	Ferry	Urban Collector	2		SB			SB		25							Bike lane	8		5		12					
Washington St	Fuller	Elm	Urban Collector	2	X		X			X	34			16	18			Bike lanes			6		11	11		6		
Westover St	Malden line	Shute	Urban Collector	2	X			X			24							Leave as-is	Leave as-is									
Winthrop St	Norwood	Main St		2	X				WB		24							Signage	Too narrow for sharrows. Consider signage.									
Woodlawn St	Nichols	Garland	Urban Collector	2	X				NB	X	24			12	12			Leave as-is	Leave as-is									
Woodlawn St	Garland	Elm	Urban Collector	2	X		X			X	24			12	12			Leave as-is	Leave as-is									

Chelsea

				Roadway							Existing Conditions							Recommendation	Recommendation - Details									
				Side-walks	Travel Direction		Parking			Striping	Curb-to-Curb	Shoulder	Parking Lane	Travel Lane(s)		Parking Lane	Shoulder		Parking Lane	Buffer	Bike Lane	Buffer	Travel Lane(s)		Buffer	Bike Lane	Buffer	Parking Lane
Street Name	From	To	Type	Number	Two-Way	One-Way	None	Both	One Side	Double Yellow Center Line	(Width)	WB/SB (Width)	WB/SB (Width)	WB/SB (Width)	EB/NB (Width)	EB/NB (Width)	EB/NB (Width)		WB/SB (Width)	WB/SB (Width)	WB/SB (Width)	WB/SB (Width)	WB/SB (Width)	EB/NB (Width)	EB/NB (Width)	EB/NB (Width)	EB/NB (Width)	EB/NB (Width)
Washington Ave	Garfield	Revere line	Urban Minor Arterial		X			X		X	40			20	20			One bike lane, one shared lane	7				11	10		5		7
Webster Ave	Locke St	Route 1	Urban Collector	2	X			X		X	37		7	11.5	11.5	7		Shared lanes	7				11.5	11.5				7
Webster Ave	Parkway Plaza	Locke St	Urban Collector	2	X			X		X	37		7	11.5	11.5	7		Shared lanes	7				11.5	11.5				7
Webster Ave	Summit Ave	Clark Ave			X				EB	X	36							Shared lanes	8				14	14				
Winnisimmet St	Williams St	School St	Urban Minor Arterial															Leave as-is	Leave as-is									

				Roadway							Existing Conditions							Recommendation	Recommendation - Details									
				Side-walks	Travel Direction		Parking			Striping	Curb-to-Curb	Shoulder	Parking Lane	Travel Lane(s)		Parking Lane	Shoulder		Parking Lane	Buffer	Bike Lane	Buffer	Travel Lane(s)		Buffer	Bike Lane	Buffer	Parking Lane
Street Name	From	To	Type	Number	Two-Way	One-Way	None	Both	One Side	Double Yellow Center Line	(Width)	WB/SB (Width)	WB/SB (Width)	WB/SB (Width)	EB/NB (Width)	EB/NB (Width)	EB/NB (Width)		WB/SB (Width)	WB/SB (Width)	WB/SB (Width)	WB/SB (Width)	WB/SB (Width)	EB/NB (Width)	EB/NB (Width)	EB/NB (Width)	EB/NB (Width)	EB/NB (Width)
Alley Street	Blossom	Commercial	Urban Collector	2	X			X			34							Leave as-is	Leave as-is									
Bacheller	Broadway	Chestnut	Urban Minor Arterial		X				EB		20							Leave as-is	Leave as-is									
Bennett	Commercial	South	Urban Collector	2	X		X				34							Bike lanes			5		12	12		5		
Bennett	South	Elmwood	Urban Collector	2	X		X				34							Bike lanes			5		12	12		5		
Blossom	Tremont	South Common St	Urban Collector	2	X			X			40							One bike lane, one shared lane	7				11	10		5		7
Blossom*	Neptune	Alley St	Urban Collector	2	X			X			36			18	18			Shared lanes	7				11	11				7
Boston	Ford	Chestnut	Urban Minor Arterial	2	X		X			X	*40*							Buffered bike lanes			6	2	12	12	2	6		
Boston	Ford	North Franklin	Urban Minor Arterial	2	X		X			X	*40*							Buffered bike lanes			6	2	12	12	2	6		
Boston*	Federal	Franklin	Urban Minor Arterial	2	X		X			X	30			15	15			Bike lanes			5		10	10		5		
Boston*	Federal	Cottage	Urban Minor Arterial	2	X				SB	X	40			20	20			Bike lanes	8		5		11	11		5		
Boston	Saugus line	Keslar Ave	Urban Minor Arterial	2	X		X			X	40	1		19	19		1	Buffered bike lanes			6	2	12	12	2	6		
Boston	Keslar	Cottage	Urban Minor Arterial	2	X				NB	X	48		8	13	23			Buffered bike lanes			6	2	12	12	1	6	1	8
Broad*	Nahant	Chestnut	Urban Principal Arterial	2	X			X		X	55			27.5	27.5			Buffered bike lanes	8		5	2.5	12	12	2.5	5		8
Broadway	Peabody line	Broadway Circle	Urban Minor Arterial	2	X		X			X	*32*							Bike lanes			5		11	11		5		
Broadway	Jenness	Broadway Circle	Urban Minor Arterial	2	X		X			X	40			20	20			Bike lanes			5		11	11		5		8
Broadway	Jenness	Euclid Ave	Urban Minor Arterial	2	X			X		X	46		8	14	12	12		Bike lanes	7		5		11	11		5		7
Broadway	Boston	Parkland	Urban Principal Arterial	2	X			X		X	*48*							Bike lanes	8		5		11	11		5	8	
Broadway*	Chestnut	Euclid Ave	Urban Minor Arterial	2	X			X		X	45			22.5	22.5			Bike lanes	7		5		10.5	10.5		5	7	
Buffum	Liberty	Union	Urban Minor Arterial	2	X		X			X	32	1		15	15		1	Bike lanes			5		11	11		5		
Bulfinch	Forest St	Boston	Urban Minor Arterial	2	X			X			30							Leave as-is	Leave as-is									
Burns	Summer	Western	Urban Collector	2	X		X			X	33			17	16			Bike lanes			5		11.5	11.5		5		
Central	North Common St	Liberty	Urban Principal Arterial	2		EB		X			32							Bike lanes	8		5		11					8
Central	Union	Oxford	Urban Collector	2		WB		X			*44*							Bike lane	8					23		5		8
Centre Street	North Common St	Marion St	Urban Minor Arterial	2	X		X			X	30			16	14			Leave as-is				Leave as-is.	Bike lanes adjacent.					
Chatham*	Lewis	Essex	Urban Minor Arterial	2	X				X	X	32			16	16			Shared lanes	8				12	12				
Chatham	Essex	Goodridge	Urban Minor Arterial	2	X			X		X	34			17	17			Leave as-is	Leave as-is									
Chatham	Goodridge	Western	Urban Minor Arterial	2	X			X		X	34			17	17			Leave as-is	Leave as-is									
Chatham*	Western	Essex	Urban Minor Arterial	2	X			X		X	*38*							Shared lanes	8				11	11				8
Chatham*	Western	Maple	Urban Collector	2	X			EB		X	34			17	17			Shared lanes					13	13				8
Chestnut*	Goodridge	Western	Urban Principal Arterial	2	X				WB	X	34			17	17			Shared lanes	8				13	13				
Chestnut*	Goodridge	Adams	Urban Principal Arterial	2	X				NB	X	34			17	17			Shared lanes					13	13				8
Chestnut	Allerton	Boston	Urban Principal Arterial	2	X			X	NB	X	*40*							Bike lanes			5		11	11		5	8	
Chestnut	Maple	Allerton	Urban Principal Arterial	2	X		X			X	*32*							Bike lanes			5		11	11		5		
Chestnut	Western	Maple	Urban Principal Arterial	2	X			X		X	*38*							Bike lanes	8				11	11			8	
Chestnut	Broad	Fayette	Urban Principal Arterial	2	X			X		X	32			16	16			Leave as-is	Leave as-is									
Chestnut*	Olive	Essex	Urban Principal Arterial	2	X				SB	X	36			17	19			Shared lanes	8				14	14				
Chestnut*	Olive	Lewis St	Urban Principal Arterial	2	X				SB	X	36			17	19			Shared lanes	8				14	14				
Chestnut*	Essex	Adams	Urban Principal Arterial	2	X				NB	X	33			16	17			Shared lanes					13	13				7
Commercial*	Alley	Bennett	Urban Minor Arterial	2	X		X			X	40			20	20			Buffered bike lanes			5	2	13	13	2	5		
Commercial	Bennett	Summer	Urban Minor Arterial	2	X			X		X	*46*							Bike lanes	7		5		11	11		5		7
Cottage St*	Boston	Western	Urban Collector	2	X				SB	X	32			16	16			Shared lanes	7				12.5	12.5				
Eastern Ave*	Western	Waitt	Urban Minor Arterial	2	X			X		X	40			20	20			Shared lanes	7				13	13				7
Eastern Ave*	Waitt	Harvest	Urban Minor Arterial	2	X				SB	X	40			20	20			Bike lanes	8		5		11	11		5		
Eastern Ave	Harvest	Essex	Urban Minor Arterial	2	X			X		X	40			20	20			One bike lane, one shared lane	7		5		10	11				7
Eastern Ave	Essex	New Ocean	Urban Minor Arterial	2	X			X		X	40			20	20			One bike lane, one shared lane	7		5		10	11				7
Eastern Ave*	New Ocean	Lynn Shore Drive	Urban Minor Arterial	2	X				SB	X	40			20	20			Bike lanes	8		5		11	11		5		
Elmwood	Bennett	West Neptune	Urban Collector	2	X			X			30							Leave as-is	Leave as-is									
Essex*	Eastern	Swampscott line	Urban Minor Arterial	2	X		X			X	34			17	17			Bike lanes			5		12	12		5		
Essex*	Chatham	Eastern	Urban Minor Arterial	2	X				SB	X	34			18	16			Shared lanes	8				13	13				
Essex*	Chatham	Fayette	Urban Minor Arterial	2	X				SB	X	34			18	16			Shared lanes	8				13	13				
Essex	Liberty	Washington	Urban Minor Arterial	2		SB		X			40		8			8		Bike lanes	7		5		21					7
Essex*	Chestnut	Fayette	Urban Minor Arterial	2	X			X		X	40			20	20			Shared lanes	7				13	13				7
Essex*	Essex Court	Chestnut	Urban Minor Arterial	2	X		X			X	36			18	18			Bike lanes			6		12	12		6		
Euclid Ave	Broadway	Fernwood	Urban Collector	2	X			X		X	30			15	15			Leave as-is	Leave as-is									
Euclid Ave*	Fernwood	Maple	Urban Collector	2	X		X			X	34			17	17			Bike lanes			5		12	12		5		
Euclid Ave	Maple	Chatham	Urban Collector	2	X		X			X	30			17	13			Bike lanes			5		10	10		5		
Exchange	Broad	Union	Urban Collector	2	X			X			44							Bike lanes	7		5		10	10		5		7
Fayette	Chestnut	Olive	Urban Collector	2	X		X			X	38			19	19			Leave as-is			Leave as is - bike lanes on parallel street							
Fayette	Olive	Mason	Urban Collector	2	X			X		X	34			17	17			Leave as-is	Leave as-is									
Fayette	Essex	Chestnut	Urban Collector	2	X		X				32							Leave as-is			Leave as is - bike lanes on parallel street							
Federal	Marion	Market		2	X		X				*32*							Bike lanes			5		11	11		5		
Fernwood	Stanwood	Chase	Urban Collector	2	X			X		X	40			18	22			Leave as-is			Confusing street layout - move bicycle lanes to adjacent streets							
Fernwood	Chase	Euclid Ave	Urban Collector	2	X			X		X	40			18	22			Leave as-is			Confusing street layout - move bicycle lanes to adjacent streets							
Ford St	Maple	Boston	Urban Collector	2	X		X			X	32			16	16			Leave as-is			Unnecessary connection. Bike lanes on surrounding streets.							
Foster	Eastern	Swampscott line	Urban Collector	2	X		X				30							Leave as-is				Leave as-is.	No connections.					
Franklin St	Western	Hanover	Urban Minor Arterial	2	X			X		X	34			17	17			Leave as-is	Leave as-is									
Franklin St	Hanover	North Common St	Urban Minor Arterial	2	X			X		X	34			17	17			Leave as-is	Leave as-is									
Goodridge	Chestnut	Chatham	Urban Collector	2	X						30			16	18			Leave as-is	Leave as-is									
Hanover	Washington	Chase	Urban Collector	2	X		X			X	30			16	14			Bike lanes			5		10	10		5		
Hanover	Chase	North Common St	Urban Collector	2		SB			NB		30							Buffered bike lanes			6	2	12				2	8
Holyoke	O Callaghan Way	Walnut	Urban Minor Arterial	2	X		X			X	30			15	15			One bike lane, one shared lane					14	11		5		
Holyoke	O Callaghan Way	Winnepurkit	Urban Minor Arterial	2	X		X			X	28			14	14			One bike lane, one shared lane					12	11		5		
Jenness St*	Millard	Broadway	Urban Collector	2	X		X			X	34			17	17			Bike lanes			5.5		11.5	11.5		5.5		
Keslar	Boston	Holyoke	Urban Minor Arterial	2	X		X				30							Bike lanes			5		10	10		5		
Lewis*	Ocean	Chestnut	Urban Principal Arterial	2	X			X		X	40			20	20			Shared lanes	7				13	13				7
Liberty	Washington	High	Urban Minor Arterial	2		NB		X			31							Bike lane	7					12		5		7

				Roadway							Existing Conditions							Recommendation	Recommendation - Details									
				Side-walks	Travel Direction		Parking			Striping	Curb-to-Curb	Shoulder	Parking Lane	Travel Lane(s)		Parking Lane	Shoulder		Parking Lane	Buffer	Bike Lane	Buffer	Travel Lane(s)		Buffer	Bike Lane	Buffer	Parking Lane
Street Name	From	To	Type	Number	Two-Way	One-Way	None	Both	One Side	Double Yellow Center Line	(Width)	WB/SB (Width)	WB/SB (Width)	WB/SB (Width)	EB/NB (Width)	EB/NB (Width)	EB/NB (Width)		WB/SB (Width)	WB/SB (Width)	WB/SB (Width)	WB/SB (Width)	WB/SB (Width)	EB/NB (Width)	EB/NB (Width)	EB/NB (Width)	EB/NB (Width)	EB/NB (Width)
Liberty*	High	Essex Court	Urban Minor Arterial	2	X				SB		*34*							Shared lanes	8				13	13				
Liberty	Market	Washington				NB		X			*30*							Shared lane	8					14				8
Linwood Road, Forest St	Walnut	Bulfinch	Urban Collector	2	X		X			X	30			18	12			Bike lanes			5		10	10		5		
Linwood Street*	Parkland	Walnut	Urban Collector	2	X		X			X	32			16	16			Bike lanes			5		11	11		5		
Lynn Shore Drive*	Swampscott line	Nahant St	Urban Principal Arterial	2	X			X		X	40		8	12	12	8		Shared lanes	7				13	13				7
Lynnfield St	Lynnfield line	Millard Ave	Urban Principal Arterial	2	X		X			X	40	2		18	18		2	Buffered bike lanes			5.5	2.5	12	12	2.5	5.5		
Lynnfield St	Millard	Bacheller	Urban Principal Arterial	2	X		X			X	41	4		17	16		4	Buffered bike lanes			5.5	3	12	12	3	5.5		
Lynnfield St	Bacheller	Broadway	Urban Principal Arterial	2	X				NB	X	36			18	18			One bike lane, one shared lane					13	11		5		7
Lynnway	Lynn Shore Drive	City line south	Principal Arterial															Leave as-is	Leave as-is									
Maple	Fernwood	Euclid Ave	Urban Collector	2		SB		X			32							Bike lane	8		5		11					8
Maple	Chestnut	Chatham	Urban Collector	2	X			X		X	38			20	18			Leave as-is	Leave as-is									
Maple*	Chestnut	Euclid Ave	Urban Collector	2	X			X		X	*38*							Shared lanes	7				12	12				7
Maple	Chestnut	Ford	Urban Collector	2	X		X			X	28			14	14			Leave as-is		Unnecessary connection. Bike lanes on surrounding streets.								
Maple	Ford	Western	Urban Collector	2	X		X			X	28			14	14			Leave as-is		Unnecessary connection. Bike lanes on surrounding streets.								
Market	Caroll Parkway	State	Urban Minor Arterial	2	X			X			68			36	32			Bike lanes	7		5		22	22		5		7
Market	State	North Common St	Urban Minor Arterial	2	X			X			*46*							Bike lanes	7		5		11	11		5		7
Mason	Chestnut	Fayette	Urban Collector	2	X			X			36							Leave as-is	Leave as-is									
Millard Ave	Lynnfield St	Jenness	Urban Collector	2	X		X			X	34	1		16	16		1	Bike lanes			5.5		11.5	11.5		5.5		
Minot	West Neptune	Western	Urban Collector	2	X			X			30							Leave as-is	Leave as-is									
Moulton*	Linwood Road	Boston	Urban Principal Arterial	2	X		X			X	30			15	15			Bike lanes			5		10	10		5		
Moulton	Boston	Western	Urban Principal Arterial	2		SB		X		X	30							Bike lanes	7		5		11					7
Mt Vernon	Silsbee	Exchange	Urban Collector	1		SB		X			48		Head on			7'		Leave as-is		Leave as-is. Angled parking - not ideal for cyclists								
Myrtle	Boston	Walnut	Urban Minor Arterial	2	X			X		X	34			16	18			Leave as-is		Narrow residential roadway with some parking on both sides; recommend signage								
Nahant	Lynn Shore Drive	Ocean	Urban Collector	2	X			X		X	37			18.5	18.5			Leave as-is	Leave as-is									
Nahant	Ocean	Broad	Urban Collector	2	X			X		X	37			18.5	18.5			Leave as-is	Leave as-is									
Neptune Blvd EB	Blossom	Commercial	Urban Minor Arterial	2	X				EB		35							Cycle Track						22		5		8
Neptune Blvd WB	Blossom	Commercial	Urban Minor Arterial	2	X				WB		35							Cycle Track	8		5		22					
New Ocean St*	Michigan	Eastern	Urban Collector	2	X		X				*30*							Shared lanes					15	15				
North Common St	Western	Central Ave	Urban Principal Arterial	2		WB			WB		38							Bike lane			6		24					8
North Federal	Walnut	Boston	Urban Collector	2		SB			SB		26							Bike lane	8		5		13					
North Franklin St*	Forest	Boston	Urban Collector	2	X		X			X	32			16	16			Bike lanes			5		11	11		5		
O Callaghan Way*	Walnut	Holyoke	Urban Collector	2	X			X		X	40	2		16	16		2	Shared lanes	7				13	13				7
Ocean St	Michigan	Lewis St	Urban Collector	2	X			X		X	*46*							Bike lanes	7		5		11	11		5		7
Ocean St	Bassett	Lewis St	Urban Collector	2		NB		X			31							Bike lane	7.5					11		5		7.5
Ocean St*	Nahant St	Bassett	Urban Collector	2	X			X			*38*							Shared lanes	8				11	11				8
Olive St	Fayette	Chestnut	Urban Collector	2	X			X		X	44			26	18			Leave as-is		Leave as is - bike lanes on parallel street								
Oxford	Market	High	Urban Minor Arterial	2		SB		X			40							Bike lane	7		5		21					7
Parkland*	Linwood Road	Broadway	Urban Minor Arterial	2	X		X			X	34			17	17			Bike lanes			5.5		11.5	11.5		5.5		
Parkland*	Walnut	Linwood	Urban Minor Arterial	1	X		X			X	44			22	22			Bike lanes			5.5		11.5	11.5		5.5		
Pleasant St	Lynnway	South Common St	Urban Collector	2	X			X		X	37			18	19			Leave as-is	Leave as-is									
Richardson	Parkland	Broadway	Urban Collector	2	X		X			X	30			15	15			Leave as-is		Unnecessary connection. Bike lanes adjacent.								
River, Ida*	Burns	Western	Urban Collector	2	X		X			X	34			17	17			Bike lanes			5		12	12		5		
Silsbee	Union	Broad	Urban Minor Arterial	2	X			X			32							Leave as-is		Leave as is - bike lanes on parallel street								
South Common St	Western	Central Ave	Urban Principal Arterial	2		EB			EB		*38*							Bike lane	8					24		6		
South St	Bennett	Summer	Urban Collector	2	X		X				29							One bike lane, one shared lane			5		11	13				
South St	Summer	North Common St	Urban Collector	2	X		X				29							One bike lane, one shared lane			5		11	13				
Stanwood	Western	Fernwood	Urban Collector	2	X		X			X	*32*							Bike lanes			5		11	11		5		
Summer*	Commercial	Western	Urban Minor Arterial	2	X			X		X	46			23	23			Bike lanes	7		5		11	11		5		7
Summer	Western	Burns	Urban Minor Arterial	2		WB		X			35							Bike lane	8					12	1	5	1	8
Summer*	Burns	Boston	Urban Minor Arterial	2	X		X			X	34			17	17			Bike lanes			5		12	12		5		
Tremont	Pleasant	Blossom	Urban Minor Arterial	2		SB		X			40							Bike lane	7		5		21					7
Tremont*	Pleasant	Market			X			X			*38*							Shared lanes	7				12	12				7
Union St	Chestnut	Silsbee	Urban Minor Arterial	2	X			X		X	38			19	19			Leave as-is	Leave as-is									
Union St	Broad	Exchange	Urban Minor Arterial	2	X			X			36							Leave as-is	Leave as-is									
Union St	Silsbee	Broad	Urban Minor Arterial	2	X			X			36							Leave as-is	Leave as-is									
Waitt Ave	Eastern	Western	Urban Minor Arterial	2	X		X			X	34			17	17			Bike lanes			5		12	12		5		
Walnut	Holyoke	Linwood	Urban Principal Arterial	2	X				WB	X	43							Bike lanes			5.5		12	12		5.5		8
Walnut*	Holyoke	O Callaghan Way	Urban Principal Arterial	2	X		X			X	34			17	17			Bike lanes			5.5		11.5	11.5		5.5		
Walnut*	Parkland	O Callaghan Way	Urban Principal Arterial	2	X		X			X	35	1		16.5	16.5		1	Bike lanes			5.5		12	12		5.5		
Walnut*	O Callaghan Way	Saugus line	Urban Principal Arterial	2	X		X			X	35	1		16.5	16.5		1	Bike lanes			5.5		12	12		5.5		
Washington	Boston	Western	Urban Minor Arterial	2	X		X			X	32			18	14			Bike lanes			5		11	11		5		
Washington*	Western	Hanover	Urban Minor Arterial	2	X				SB	X	33	0	8	11	12		2	Shared lanes	7				13	13				
Washington*	Hanover	Central Ave	Urban Minor Arterial	2	X				SB	X	33	0	8	11	12		2	Shared lanes	7				13	13				
Washington*	Broad	Central Ave	Urban Minor Arterial	2		SB		X			*30*		8					Shared lanes	8				14					8
Washington*	Sagamore	Broad St	Urban Minor Arterial	2	X				NB	X	33			13	20			Shared lanes					13	13				7
West Neptune	Elmwood	Minot	Urban Collector	2	X			X			30							Leave as-is	Leave as-is									
Western	Bridge (north)	Salem line	Urban Principal Arterial	2	X		X				44	6		16	16		6	Bike lanes			6		16	16		6		
Western	Bridge (north)	Bridge (south)	Urban Principal Arterial	2	X		X				*36*	6					6	Bike lanes			6		12	12		6		
Western	Eastern	Bridge (south)	Urban Principal Arterial	2	X		X				*36*							Bike lanes			6		12	12		6		
Western*	Chestnut	Eastern	Urban Principal Arterial	2	X			X		X	44			22	22			Bike lanes	7		5		10	10		5		7
Western	Washington	Chestnut	Urban Principal Arterial	2	X			X		X	46			24	22			Bike lanes	7		5		11	11		5		7
Western	Washington	Market Square	Urban Principal Arterial	2	X			X		X	*46*							Bike lanes	7		5		11	11		5		7
Western	Minot	Market Square	Urban Principal Arterial	2	X			X		X	46		8	15	14	9		Bike lanes	7		5		11	11		5		7
Winnepurkit	Holyoke	Boston	Urban Minor Arterial	2	X		X				30							Bike lanes			5		10	10		5		
York Road, Cedar Brook Rd, Den Qua	Lynnfield line	Millard Ave	Urban Collector	2	X		X			X	30			15	15			Bike lanes			5		10	10		5		

				Roadway								Existing Conditions							Recommendation	Recommendation - Details									
				Side-walks	Travel Direction		Parking			Striping		Curb-to-Curb	Shoulder	Parking Lane	Travel Lane(s)		Parking Lane	Shoulder		Parking Lane	Buffer	Bike Lane	Buffer	Travel Lane(s)		Buffer	Bike Lane	Buffer	Parking Lane
Street Name	From	To	Type	Number	Two-Way	One-Way	None	Both	One Side	Double Yellow Center Line	(Width)	WB/SB (Width)	WB/SB (Width)	WB/SB (Width)	EB/NB (Width)	EB/NB (Width)	EB/NB (Width)		WB/SB (Width)	WB/SB (Width)	WB/SB (Width)	WB/SB (Width)	WB/SB (Width)	EB/NB (Width)	EB/NB (Width)	EB/NB (Width)	EB/NB (Width)	EB/NB (Width)	
Bainbridge St	Pierce	Rockwell	Urban Collector	*2*	X		*X*				24			*12*	*12*			Leave as-is			Leave as-is								
Beach St	Oliver	Salem	Urban Minor Arterial	2	X		X			X	29			16	11		2	Leave as-is			Leave as-is. Bicycle facilities on adjacent streets								
Beach St	Lynn St	Oliver	Urban Minor Arterial	2	X		X			X	29			16	11		2	Leave as-is			Leave as-is. Bicycle facilities on adjacent streets								
Beachview Ave	Rockingham Ave	Elwell	Urban Collector	0	X		X				25.5			12.75	12.75			Leave as-is			Leave as-is. No important connections								
Bell Rock St	Medford	Everett Line	Urban Collector	2	X			X			30							Leave as-is			Leave as-is								
Belmont St	Hancock	Main Street	Urban Collector	2	X		X			X	30			15	15			One bike lane, one shared lane			5		11.5	13.5					
Belmont St	Hancock	Ferry	Urban Collector	2	X		X			X	29.5			14.5	15			One bike lane, one shared lane			5		11.5	13					
Bowman	Rockingham Ave	Broadway	Urban Collector	2		EB		X			24.5							Leave as-is			Leave as-is								
Broadway*	Everett line	Eastern Ave	Urban Principal Arterial	*2*	X				*SB*	*X*	53							Shared lanes	7				23	23					
Broadway*	Plainfield	Hunting	Urban Principal Arterial	2	X			X		X	43			22	21			Shared lanes	7				14.5	14.5					7
Broadway*	Plainfield	Eastern Ave	Urban Principal Arterial	2	X			X		X	*40*							Shared lanes	7				13	13					7
Broadway	Central	Bowman	Urban Principal Arterial	2	X		X			X	43.5			Varies	Varies			Bike lanes			5	3	13.5	14	3	5			
Broadway	Bowman	Hunting	Urban Principal Arterial	2	X		X			X	43.5			Varies	Varies			Bike lanes			5	3	13.5	14	3	5			
Broadway	Central	Melrose line	Urban Principal Arterial	2	X		X			X	42.5			Varies	Varies			Bike lanes			5	3	13	13	3	5.5			
Bryant St*	Cross	Everett Line	Urban Minor Arterial	*2*	X			X		X	39			19.5	19.5			Shared lanes	7				12.5	12.5					7
Bryant St	Eastern	Salem	Urban Minor Arterial	2		SB		X			24							Leave as-is			Leave as-is. Bike signs currently provided.								
Bryant St*	Eastern	Cross	Urban Minor Arterial	2	X			X		X	39.5							Shared lanes	7				12.5	13					7
Canal*	Charles	Medford St	Urban Minor Arterial	2	X				NB	X	40			20	20			Bike lanes			5		11.5	11.5		5			7
Canal	Centre St	Charles	Urban Collector	2	X				SB	X	40			20	20			Leave as-is	7		5		11.5	11.5		5			
Central	Broadway	Kennedy Drive	Urban Collector	*2*	X			X		X	36			18	18			Leave as-is			Leave as-is								
Centre Street	Pleasant St	Holden St		2														Sharrows in each direction			Sharrows in each direction								
Charles	West St	Highland Ave	Urban Collector	2	X				WB		28.5							Leave as-is			Leave as-is								
Charles	West St	Fellsway	Urban Collector	2	X				EB		30							Leave as-is			Leave as-is								
Charles	Commercial	Highland Ave	Urban Collector	2	X		X				24.5							Buffered bike lanes					12	12.5					
Charles	Commercial	Canal	Urban Minor Arterial	2	X		X			X	45			25	20			Buffered bike lanes			6	2.5	14	14	2.5	6			
Charles	Canal	Main Street	Urban Collector	2	X		X			X	45			23	22			Buffered bike lanes			6	2.5	14	14	2.5	6			
Clifton	Hawthorne	Summer	Urban Collector	2	X				WB		29.5							Leave as-is			Leave as-is								
Clifton	Highland	Hawthorne	Urban Collector	2	X				WB		29							Leave as-is			Leave as-is								
Clifton	Main	Washington	Urban Collector	2	X				WB		24.5							Leave as-is			Leave as-is								
Clifton	Summer	Washington	Urban Collector	2	X				WB		29.5							Leave as-is			Leave as-is								
Commercial	Medford line	Medford St	Urban Minor Arterial	2	X		X			X	54	4		Varies	Varies		4	Buffered bike lanes			5	1	21	21	1	5			
Commercial 8	Centre St	Charles	Urban Minor Arterial	2	X		X			X	46			11.5 each	11.5 each			Shared lanes					23	23					
Commercial*	Charles	Medford St	Urban Minor Arterial	2	X		X			X	46			11.5 each	11.5 each			Shared lanes					23	23					
Cross	Ferry	Bryant	Urban Minor Arterial	2	X		X				26							One bike lane, one shared lane			5		10	11					
Cross St	Ferry	Hancock	Urban Collector	2	X			X			36.5							Leave as-is			Leave as-is								
Dartmouth	Exchange	Florence	Urban Collector	2		NB					18.5							Leave as-is			Leave as-is								
E Border Road	Summer	Fellsway East	Urban Collector	1	X		X			X	27			14	13			Leave as-is			Leave as-is								
Eastern Ave	Ferry	Centre	Urban Principal Arterial	2	X			X			35.5							Leave as-is			Leave as-is								
Eastern Ave	Centre St	Broadway	Urban Principal Arterial	2	X			X		X	45		8 (est.)	14.5 (est.)	14.5 (est.)	8 (est)		Leave as-is			Leave as-is								
Eastern Ave	Lynn St	Broadway	Urban Principal Arterial	2	X				WB	X	35.5			17.75	17.75			Leave as-is			Leave as-is								
Eastern Ave*	Main St	Ferry	Urban Principal Arterial	2	X			X		X	43							Shared lanes	7				14.5	14.5					7
Elm St	Pleasant	Hawthorne	Urban Collector	2		WB			WB		27							Buffered bike lane						12		5	2	8	
Elm St	Highland	Hawthorne	Urban Collector	2		EB			EB		40		10	No parking line)					10					14		6		10	
Elwell	Beachview	Broadway	Urban Collector	0	X		X				24			12	12			Leave as-is			Leave as-is								
Emerald St	Highland	West St	Urban Collector	2	X			X			29.5												14.5	15					
Emerald St	West St	Medford line	Urban Collector	2	X			X			29												14.5	14.5					
Exchange	Main	Middlesex	Urban Minor Arterial	2		EB		X			39		8			8			8	2				14		5	2	8	
Exchange	Middlesex	Jackson St	Urban Minor Arterial	2		EB		X			43		8			16 (angle)			8	3				15		6	3	8	
Exchange	Commercial	Jackson St	Urban Minor Arterial	2		EB		X			49		16 (angle)			8			16	3				14		6	2	8	
Fellsway	Medford line	Medford line	Urban Principal Arterial	2	X			X			83	4	13.5	11', 12'	12', 11'	13.5	4	Leave as-is			Leave as-is								
Fellsway East	Melrose line	E Border Road	Urban Minor Arterial	0	X		X			X	32	3		13.5	13.5		2	Bike lanes			5		11	11		5			
Fellsway East	E Border Road	Highland Ave	Urban Minor Arterial	2	X		X				59	1 (to median)		11	11	1 + 1 (to media		One bike lane, one shared lane					24	22		5			8
Fellsway East	Highland	Savin	Urban Minor Arterial	2	X		X				59	1 (to median)		11	11	1 + 1 (to media		One bike lane, one shared lane					24	22		5			8
Fellsway East	Maple	Savin	Urban Minor Arterial	2	X		X			X	41	2		18.5	18.5		2	Buffered bike lanes			6	2.5	12	12	2.5	6			
Fellsway East	Maple	Murray Hill Road	Urban Minor Arterial	2	X		X			X	41	2		18.5	18.5		2	Buffered bike lanes			6	2.5	12	12	2.5	6			
Fellsway East	Murray Hill Road	Pleasant	Urban Minor Arterial	2	X		X				58	dian); 1' (NB by media		18', 10'	11', 10'			Bike lanes			6		23	23		6			
Ferry	Centre St	Eastern Ave	Urban Minor Arterial	2	X			X		X	41.5			20.75	20.75			Sharrows	8				12.75	12.75					8
Ferry	Belmont	Cross	Urban Minor Arterial	2	X			X		X	40.5			19.5	21			Sharrows	8				12.25	12.25					8
Ferry	Cross	High St	Urban Minor Arterial	2	X			X		X	44.5			20.5	24			Sharrows	8				14.25	14.25					8
Ferry	High	Eastern Ave	Urban Minor Arterial	2	X			X		X	44			22	22			Sharrows	8				14	14					8
Florence*	Main	Washington	Urban Collector	2	X		X				46	1		11, 11	11, 11		1	Shared lanes					23	23					
Florence*	Pleasant	Washington	Urban Collector	2	X		X				46	1		11, 11	11, 11		1	Shared lanes					23	23					
Forest Street	Main	Pierce	Urban Collector	*2*	X			X			39			18	21			One bike lane, one shared lane	7				10	10		5			7
Forest Street*	Pierce	Sylvan	Urban Collector	*2*	X		*X*				24			12	12			Shared lanes					12	12					
Forest Street*	Sylvan	Melrose line	Urban Collector	2	X		X				24.5							Shared lanes					12	12.5					
Glenwood	Winter	Summer	Urban Collector	2	X		X				25			12.5	12.5			One bike lane, one shared lane					10	10		5			
Glenwood	Highland	Hawthorne	Urban Collector	2	X				EB	X	32.5		8.5	12	12			One bike lane, one shared lane	7				10.5	10		5			
Glenwood*	Hawthorne	Summer	Urban Collector	2	X		X				24.5			12.25	12.25			Shared lanes					12.5	12					
Granite	Maplewood	Laurell	Urban Collector	*2*		WB			EB		25							Leave as-is			Leave as-is. Bicycle accommodations elsewhere.								
Granite	Laurell	Bowman	Urban Collector	*2*	X			X		X	24			12	12			Leave as-is			Leave as-is								
Hancock St	Belmont	Cross	Urban Collector	2	X				NB		29.5							Leave as-is			Leave as-is								
Hawthorne	Glenwood	Clifton	Urban Collector	2	X				SB		24.5							Leave as-is			Leave as-is. Bicycle accommodations elsewhere.								
Hawthorne	Glenwood	Fellsway East	Urban Collector	2	X				SB		24.5							Leave as-is			Leave as-is. Bicycle accommodations elsewhere.								
Hawthorne	Clifton	Maple	Urban Collector	2	X				SB		24							Leave as-is			Leave as-is. Bicycle accommodations elsewhere.								
Hawthorne	Maple	Elm	Urban Collector	2		NB			SB		24.5							Leave as-is			Leave as-is. Bicycle accommodations elsewhere.								
High St	Ferry	Cross	Urban Collector	2	X			X			29.5							Leave as-is			Leave as-is								

				Roadway							Existing Conditions							Recommendation	Recommendation - Details									
				Side-walks	Travel Direction		Parking			Striping	Curb-to-Curb	Shoulder	Parking Lane	Travel Lane(s)		Parking Lane	Shoulder		Parking Lane	Buffer	Bike Lane	Buffer	Travel Lane(s)		Buffer	Bike Lane	Buffer	Parking Lane
Street Name	From	To	Type	Number	Two-Way	One-Way	None	Both	One Side	Double Yellow Center Line	(Width)	WB/SB (Width)	WB/SB (Width)	WB/SB (Width)	EB/NB (Width)	EB/NB (Width)	EB/NB (Width)		WB/SB (Width)	WB/SB (Width)	WB/SB (Width)	WB/SB (Width)	WB/SB (Width)	EB/NB (Width)	EB/NB (Width)	EB/NB (Width)	EB/NB (Width)	EB/NB (Width)
Highland	Fellsway	McCormack St	Urban Minor Arterial	2	X				NB	X	40	2		18	18		2	Bike lanes			5		11	11		5		8
Highland	McCormack St	Medford line	Urban Minor Arterial	2	X			X		X	58.5		11	18.5	20	9		Bike lanes	8		5		12	12		5		8
Highland*	Maple	Pleasant	Urban Collector	2	X				SB	X	30			12	18			Shared lanes	7				11.5	11.5				
Highland*	Maple	Savin	Urban Collector	2	X				SB	X	30			12	18			Shared lanes	7				11.5	11.5				
Highland*	Fellsway	Savin	Urban Collector	2	X				NB	X	*30*							Shared lanes					11.5	11.5				7
Highland*	Pleasant	Charles	Urban Minor Arterial	2	X			X		X	38			20	18			Shared lanes	7				12	12				7
Highland	Medford line	Medford St	Urban Minor Arterial	2	X		X				45.5							Bike lanes			6		11.5	22		6		
Highland	Emerald	Medford St	Urban Minor Arterial	2	X			X		X	44.5							Bike lanes	7		5		10	10.5		5		7
Highland*	Emerald	Charles	Urban Minor Arterial	2	X			X		X	38							Shared lanes	7				12	12				7
Holden St	Salem	Centre	Urban Collector	2	X			X			34.5							Leave as-is	Leave as-is									
Hospital Road	Murray Hill Road	Savin	Urban Collector	2	X		X			X	20			10	10			Leave as-is	Leave as-is									
Jackson	Exchange	Pleasant	Urban Minor Arterial	2		SB		X			31.5		8			8		Leave as-is	Leave as-is									
Kennedy Drive	Central	Salem	Urban Collector	*2*	X			X		X	39			20	19			Leave as-is	Leave as is - no important connections									
Lebanon	Granite	Sylvan	Urban Minor Arterial	*2*	X			X		X	33.5			16	17.5			Leave as-is	Leave as-is									
Lebanon	Melrose line	Sylvan	Urban Minor Arterial	2	X			X		X	33			16.5	16.5			Leave as-is	Leave as-is									
Lynn St	Everett line	Prentiss	Urban Minor Arterial	*0*	X		X			X	34							Bike lanes			5		12	12		5		
Lynn St*	Prentiss St	Eastern Ave	Urban Minor Arterial	*2*	X			X		X	35			17.5	17.5			Shared lanes	7				10.5	10.5				7
Lynn St*	Beach	Eastern Ave	Urban Collector		X						*34*							Shared lanes					12	22				
Lynn St*	Oliver	Beach	Urban Collector		X						*34*							Shared lanes					22	12				
Madison	Main St	Medford St	Urban Collector	2	X				SB		28.5							Leave as-is	Leave as-is									
Main St	Salem	Centre	Urban Principal Arterial	2	X			X			58		8.5' (left turning lane); 22.5' (Incl parking)					Bike lanes	7		5		11	23		5		7
Main St*	Clifton	Florence	Urban Principal Arterial	2	X			X			39							Shared lanes	7				12.5	12.5				7
Main St*	Florence	Salem	Urban Principal Arterial	2	X			X			*39*							Shared lanes	7				12.5	12.5				7
Main St*	Winter	Melrose line	Urban Principal Arterial	2	X		X			X	42.5			21.25	21.25			Buffered bike lanes			5	2	14	14	2.5	5		
Main St*	Winter	Clifton	Urban Principal Arterial	2	X			X		X	37			18.5	18.5			Shared lanes	7				11.5	11.5				7
Main St	Centre St	Charles	Urban Principal Arterial	2	X			X		X	66							Buffered bike lanes	8		5	2	12	24	2	5		8
Main St	Charles	Eastern Ave	Urban Principal Arterial	2	X		X			X	53							Bike lanes			6		16	25		6		
Main St*	Cross	Everett Line	Urban Principal Arterial	2	X			X		X	38			19	19			Shared lanes	7				12	12				7
Main St*	Eastern	Barret	Urban Principal Arterial	2	X			X			*40*							Shared lanes	7				13	13				7
Main St*	Barret	Cross	Urban Principal Arterial	2	X			X		X	39							Shared lanes	7				12.5	12.5				7
Maple	Hawthorne	Highland Ave	Urban Collector	2	X				EB		29							Leave as-is	Leave as-is									
Maple	Hawthorne	Summer	Urban Collector	2	X				WB		21							Leave as-is	Leave as-is									
Maple	Highland	Fellsway East	Urban Collector	2	X				WB		31							Leave as-is	Leave as-is									
Medford St*	Medford line	Highland Ave	Urban Minor Arterial	2	X				WB	X	32.5			20	12.5			Shared lanes					12.5	12.5				7.5
Medford St*	Commercial	Highland Ave	Urban Minor Arterial	2	X		X			X	31.5			10' each	11.5'			Shared lanes					10.5	21				
Medford St*	Main St	Madison	Urban Minor Arterial	2	X				WB	X	29.5			18	11.5			Shared lanes					11	11.5				7
Medford St*	Madison	Canal	Urban Minor Arterial	2	X				WB	X	29.5			18	11.5			Shared lanes					11	11.5				7
Medford St	Commercial	Canal	Urban Minor Arterial	2	X		X			X	50			Varies	Varies			Bike lanes			5		20	20		5		
Middlesex St	Exchange	Pleasant	Urban Collector	1		SB	X				16							Leave as-is	Leave as-is									
Mountain	Main	Washington	Urban Collector	2	X						29			19	10			Leave as-is	Leave as-is									
Murray Hill Road	Fellsway East	Medford line	Urban Collector	2	X		X				23.5							Leave as-is	Leave as-is									
Oliver St	Plainfield	Beach	Urban Collector	*2*	X			X			30							Leave as-is	Leave as-is									
Oliver St	Beach	Lynn St	Urban Collector	2		EB		X			29							Leave as-is	Leave as-is. Bicycle facilities on adjacent streets									
Pearl	Charles	Pleasant	Urban Collector	2	X		X				24.5							Leave as-is	Leave as-is									
Pearl St	Medford	Thacher	Urban Collector	2	X				NB		29.5							Leave as-is	Leave as-is									
Pearl St	Thacher	Charles	Urban Collector	2	X				NB		30.5							Leave as-is	Leave as-is									
Pierce St	Forest	Bainbridge	Urban Collector	*2*	X			*See note*		*X*	25			12.5	12.5			Leave as-is	Leave as-is									
Pierce St	Bainbridge	Salem	Urban Collector	2	X		X				31.5							Bike lanes			5		10.5	11		5		
Plainfield Ave	Broadway	Wescott	Urban Collector	2	X			X	23.5' at squeeze points; 33' with parking									Leave as-is	Leave as-is. Bicycle facilities on adjacent streets									
Pleasant St	Pearl	Commercial	Urban Minor Arterial	*2*	X			*X*		X	56			28	28			Bike lanes	8		5		15	15		5		8
Pleasant St*	Medford line	Fellsway East	Urban Principal Arterial	2	X		X			X	36			18	18			Bike lanes			5		13	13		5		
Pleasant St*	Fellsway East	West St	Urban Principal Arterial	2	X		X			X	36			18	18			Bike lanes			5		13	13		5		
Pleasant St*	West St	Highland Ave		2	X			X		X	*40*							Shared lanes	7				13	13				7
Pleasant St*	Highland	Pearl		2	X				EB	X	*40*							Shared lanes					16	16				8
Pleasant St	Main	Dartmouth	Urban Minor Arterial	2		WB		X			36.5		9.5			9.5		Buffered bike lanes	8				13			5	2	8.5
Pleasant St	Dartmouth	S Washington	Urban Minor Arterial	2		WB		X			36.5		9.5			9.5		Buffered bike lanes	8				13			5	2	8.5
Revere St	Salem	Lynn St	Urban Collector	2	X				NB		24.5							Leave as-is	Leave as-is									
Rockwell St	Bainbride	Salem	Urban Collector	*2*	X		*X*			*X*	24							Leave as-is	Leave as-is									
S Washington St	Pleasant	Florence	Urban Collector	2		NB			NB		26							Bike lane						13		5		8
Salem St*	Rockwell	Maplewood	Urban Minor Arterial	*2*	X			X		X	40			20	20			Shared lanes	7				13	13				7
Salem St*	Pierce	Rockwell	Urban Minor Arterial	*2*	X			X		X	42			21	21			Shared lanes	8				13	13				8
Salem St*	Beach	Revere	Urban Collector	*2*	X			X			31.5							Shared lanes					11	12.5				8
Salem St*	Main	Mt Vernon	Urban Minor Arterial	2	X			X		X	40			20	20			Shared lanes	7				13	13				7
Salem St*	Maplewood	Broadway	Urban Minor Arterial	2	X			X		X	40			20	20			Shared lanes	7				13	13				7
Salem St*	Revere St	Lynn St	Urban Collector	1	X		X			X	40			20	20			Bike lanes			5		15	15		5		
Salem St*	Pierce	Mt Vernon	Urban Minor Arterial	2	X			X		X	40			20	20			Shared lanes	7				13	13				7
Salem St/Hunting St*	Broadway	Beach	Urban Minor Arterial	2	X			X		X	40			20	20			Shared lanes	7				13	13				7
Savin St	Highland	Hospital Road	Urban Collector	2	X		X			X	31			15.5	15.5			Leave as-is	Leave as-is									
Summer	Glenwood	E Border Road	Urban Collector	2	X			NB (restricted)			24							Leave as-is	Leave as-is									
Summer	Maple	Pleasant	Urban Collector	2	X				SB	X	31.5			20	11.5			Leave as-is	Leave as-is									
Sylvan St	Forest	Lebanon	Urban Collector	2	X				EB		24.5							Leave as-is	Leave as-is									
Sylvan St	Blantyne Road	Forest	Urban Collector	2	X				WB	X	39			19.5	19.5			Bike lanes			5		11	11		5		7
Taylor St	Everett line	Broadway	Urban Collector	*2*	X			X			31							Leave as-is	Leave as-is									
Washington St	Melrose line	Winter St	Urban Minor Arterial	2	X				SB	X	42			21	21			Bike lanes	8		5		12	12		5		
Washington St	Winter	Clifton	Urban Collector	2	X				NB		24.5							Leave as-is			Leave as-is. Bicycle accommodations adjcent.							
Washington St	Mountain Ave	Clifton	Urban Collector	2	X		X				24							Leave as-is			Leave as-is. Bicycle accommodations adjcent.							

				Roadway							Existing Conditions							Recommendation	Recommendation - Details									
				Side-walks	Travel Direction		Parking			Striping	Curb-to-Curb	Shoulder	Parking Lane	Travel Lane(s)		Parking Lane	Shoulder		Parking Lane	Buffer	Bike Lane	Buffer	Travel Lane(s)		Buffer	Bike Lane	Buffer	Parking Lane
Street Name	From	To	Type	Number	Two-Way	One-Way	None	Both	One Side	Double Yellow Center Line	(Width)	WB/SB (Width)	WB/SB (Width)	WB/SB (Width)	EB/NB (Width)	EB/NB (Width)	EB/NB (Width)		WB/SB (Width)	WB/SB (Width)	WB/SB (Width)	WB/SB (Width)	WB/SB (Width)	EB/NB (Width)	EB/NB (Width)	EB/NB (Width)	EB/NB (Width)	EB/NB (Width)
Webster	Salem	Broadway	Urban Collector	2	X				EB		29							Leave as-is	Leave as-is									
West	Medford St	Emerald St	Urban Collector	2	X			X			31							Leave as-is	Leave as-is									
West	Emerald	Charles	Urban Collector	2	X			X			31.5							Leave as-is	Leave as-is									
West	Charles	Pleasant	Urban Collector	2	X			X			34							Leave as-is	Leave as-is									
Willow St	Bryant	Eastern Ave	Urban Minor Arterial	2	X				SB	X	40							Bike lanes			5		11	11		5		8
Winter St	Glenwood	Main Street	Urban Minor Arterial	2	X		X			X	25			12.5	12.5			One bike lane, one shared lane					11	10		4		

				Roadway							Existing Conditions							Recommendation	Recommendation - Details									
				Side-walks	Travel Direction		Parking			Striping	Curb-to-Curb	Shoulder	Parking Lane	Travel Lane(s)		Parking Lane	Shoulder		Parking Lane	Buffer	Bike Lane	Buffer	Travel Lane(s)		Buffer	Bike Lane	Buffer	Parking Lane
Street Name	From	To	Type	Number	Two-Way	One-Way	None	Both	One Side	Double Yellow Center Line	(Width)	WB/SB (Width)	WB/SB (Width)	WB/SB (Width)	EB/NB (Width)	EB/NB (Width)	EB/NB (Width)		WB/SB (Width)	WB/SB (Width)	WB/SB (Width)	WB/SB (Width)	WB/SB (Width)	EB/NB (Width)	EB/NB (Width)	EB/NB (Width)	EB/NB (Width)	EB/NB (Width)
Beach St	Route 1A	Kimball Ave	Urban Minor Arterial		X						32			19	13			Leave as-is	Leave as-is									
Beach St	School	Winthrop Ave	Urban Minor Arterial	2	X				NB	X	33.5			12.5	21			Bike lane			5		10.5	11				7
Beach St	Broadway	Winthrop Ave	Urban Minor Arterial	2	X				NB	X	33.5			12.5	21			Bike lane			5		10.5	11				7
Breed St	Route 60	Revere St	Urban Minor Arterial	2	X				EB		32							Leave as-is	Leave as-is - no connections to/from									
Broadway	Park Ave	Fenno	Urban Principal Arterial	2	X			X			44.5		7	15.5	15	7		One bike lane, one shared lane	7				14	11.5		5		7
Broadway	Squire Rd	Malden St	Urban Principal Arterial	2	X			X		X	42.5		8	14	13.5	7		One bike lane, one shared lane	7				13	10.5		5		7
Broadway	Cushman Ave	Malden St	Urban Principal Arterial	2	X			X		X	47		8	16.5	16.5	8		Bike lanes	7		5		11.5	11.5		5		7
Broadway	Route 16	Fenno	Urban Principal Arterial	2	X			X		X	44			22	14	8		One bike lane, one shared lane	7				14	11		5		7
Broadway	Park Ave	Mountain Ave	Urban Principal Arterial	2	X			X		X	48		8	16	16	8		Bike lanes	7		5		12	12		5		7
Broadway	Mountain Ave	Cushman Ave	Urban Principal Arterial	2	X			X		X	44.5		7	15.25	15.25	7		One bike lane, one shared lane	7				14	11.5		5		7
Centennial Ave	Franklin Ave	North Shore Road	Urban Collector	2	X			X			28.5							Leave as-is	Leave as-is									
Centennial Ave*	North Shore Road	Garfield	Urban Minor Arterial	2		EB	X				23.5							Shared lanes					12	11.5				
Cushman Ave	Newhall St	Adams	Urban Collector	2	X				SB	*X*	*34*							One bike lane, one shared lane	7				12	10		5		
Cushman Ave	Adams	Broadway	Urban Collector	2	X		*X*			*X*	33							Bike lanes			5		11.5	11.5		5		
Dale St	Vane St	Park Ave	Urban Collector	2	X			X		X	34							Leave as-is	Leave as-is									
Franklin Ave	Centennial	Hichborn St	Urban Collector	2	X				EB		28.5							Leave as-is	Leave as-is									
Hichborn St	Lee Burbank Highway	Franklin Ave	Urban Collector	2	X		X				30							Bike lanes			5		10	10		5		
Hichborn St	Franklin Ave	Shirley Ave	Urban Collector	2		SB		X			30							Bike lane	7		5		11					7
Hutchinson St	Route 60	Revere St	Urban Minor Arterial	2	X		X				32							Leave as-is	Leave as-is - no connections to/from									
Hy Sil Ave*	Prospect Ave	Dale		2	X		X			X	28							Shared lanes					14	14				
Hy Sil Ave	Prospect Ave	City line		2	X			X		X	34							Leave as-is	Leave as-is									
Kimball Ave	Route 1A	Beach St	Urban Collector	2	X			X			31							Leave as-is	Leave as-is									
Lynnway	Route 1A	Revere Beach Blvd	Urban Minor Arterial	2	X				SB	X	37			19	18			Bike lanes	7		5		10	10		5		
Malden St	Washington Ave	Rumney Rd	Urban Collector	2	X			X			33			16	17			Leave as-is	Leave as-is									
Malden St	Rumney Rd	Newhall St	Urban Collector	2	X		X				25			13	12			One bike lane, one shared lane					11	10		4		
Malden St	Newhall St	Broadway	Urban Collector	2	X				SB	X	33			16	17			One bike lane, one shared lane	7				11	10		5		
Mountain Ave	Washington Ave	Broadway	Urban Collector	2	X				WB		29							Leave as-is	Leave as-is									
Mountain Ave	Broadway	School St	Urban Collector	2	X				EB	X	29			11	18			Leave as-is	Leave as-is									
North Shore Rd	Revere Beach Pkwy	Centennial Ave	Urban Minor Arterial	2	X				NB	X	31.5			13	18.5			Leave as-is	Leave as-is									
North Shore Rd	Shirley Ave	Centennial Ave	Urban Minor Arterial	2	X				NB	X	30.5			13.5	17			Leave as-is	Leave as-is									
Oak Island St	North Shore Road	Revere Beach Blvd	Urban Collector	2	X			X		X	50							Bike lanes	8		5.5		11.5	11.5		5.5		8
Ocean Ave				2	X			X		X	58							Leave as-is	Leave as-is									
Park Avenue	Hysil Ave	Yeamans	Urban Minor Arterial	2	X				EB	X	31.5	1	8	12	12			One bike lane, one shared lane	7				10	10		4.5		
Park Avenue	Yeamans	Broadway	Urban Minor Arterial	2	X				EB	X	37.5	5	10	11.25	11.25			Bike lanes	7.5		5		10	10		5		
Railroad St	Lee Burbank Highway	Revere Beach Parkway		0	X		X				17							Leave as-is	Leave as-is									
Reservoir Ave	Hysil Ave	Broadway	Urban Collector	2	X				EB		24							Leave as-is	Leave as-is									
Revere Beach Blvd*	Oak Island St	Revere St		1	X			X		X	41			21	20			Shared lanes	8				12.5	12.5				8
Revere Beach Blvd	Revere St	Beach St				NB		X			39							Leave as-is	Leave as-is									
Revere Beach Blvd	Shirley Ave	Rotary				NB		X			38							Leave as-is	Leave as-is									
Revere Beach Pkwy	North Shore Road	Lee Burbank Hwy	Urban Principal Arterial	2			X			36 to median	36 to median			Yes	Yes			Leave as-is	Leave as-is									
Revere St	Route 60	Breed St		2	X				EB		34			-				One bike lane, one shared lane	8				11	11		4		
Revere St	Breed St	Hutchinson St		2	X				EB		34			-				One bike lane, one shared lane	8				11	11		4		
Revere St	Hutchinson St	Route 1A		2	X				EB		34			-				One bike lane, one shared lane	8				11	11		4		
Revere St	Route 1A	Ocean Ave		2	X				EB	X	33.5			15	18.5			One bike lane, one shared lane	8				11	10.5		4		
Revere St*	Ocean Ave	Revere Beach Blvd				WB					*22*							Shared lanes					22					
Revere St	American Legion Hwy	Broadway	Urban Collector	2	X				EB	X	34.5		9' turning, 11' t		14.5			One bike lane, one shared lane	8				11	11		4.5		
Route 1			Principal Arterial															Leave as-is	Leave as-is									
Route 1A			Principal Arterial															Leave as-is	Leave as-is									
Route 1A Bridge	Revere Line	Lynn Line	Urban Principal Arterial	2	X		X			*30 to median*	*30 m*	2 each side		13, 13	13, 13		2 each side	Buffered bike lane			6	1	23	23	1	6		
Route 107	Brown Rotary	Saugus line																Use shoulders as bike lanes	Formalize shoulders into bike lanes									
Rumney Rd	Malden St	Broadway	Urban Collector	2		WB		X			24							Leave as-is	Leave as-is									
Salem St*	Route 1	Saugus line		2	X		X			X	30			15	15			Bike lane			5		10	10		5		
Salem Turnpike	Saugus line	Squire Rd	Principal Arterial		X		X							12' each	12' each			Leave as-is	Leave as-is									
Sargent St	Route 1	Newhall St	Urban Collector	2	X			X		X	40			20	20			One bike lane, one shared lane	7				11	10		5		7
School St	Broadway	Mountain Ave	Urban Collector	2		NB			SB		23							Bike lane	7					11		5		
Shirley Ave	Route 1A	Walnut	Urban Collector	2		EB		X			30							Bike lanes	7		5		11			7		
Springvale Ave	Washington Ave	Prospect		2	X			X		X	26			13	13			Leave as-is	Leave as-is									
Squire Rd	Malden line	Route 1 Rotary	Urban Principal Arterial		X													Leave as-is	Leave as-is									
State Rd	Winthrop Ave	Town Line	Urban Minor Arterial		X			X		X	59							Leave as-is	Leave as-is									
Washington Ave*	Malden line	Malden St	Urban Collector	2	X				SB	X	33							Shared lanes	8				12.5	12.5				
Washington Ave	Malden St	Everett line	Urban Collector	2	X			X		X	32							Leave as-is	Leave as-is									
Washington Ave	Springvale Ave	Broadway	Urban Collector	1-2	X			X			34			17	17			Leave as-is	Leave as-is									
Winthrop	Revere Beach Pkwy	State Rd	Urban Minor Arterial	2	X		X			X	34			16	18			Bike lanes			5.5		11.5	11.5		5.5		
Winthrop Ave*	Broadway	Beach St	Urban Minor Arterial	2	X				SB	X	29.5							Shared lanes	7.5				11	11				
Winthrop Pkwy*	Route 145 (Rotary)	Town Line	Urban Minor Arterial	2	X		X			X	34			17	17			Bike lanes			6		11	11		6		
Yeamans St	Park Ave	Broadway	Urban Collector	2		NB		X			31.5							Bike lane	8					11		5		7.5

				Roadway							Existing Conditions							Recommendation	Recommendation - Details									
				Side-walks	Travel Direction		Parking			Striping	Curb-to-Curb	Shoulder	Parking Lane	Travel Lane(s)		Parking Lane	Shoulder		Parking Lane	Buffer	Bike Lane	Buffer	Travel Lane(s)		Buffer	Bike Lane	Buffer	Parking Lane
Street Name	From	To	Type	Number	Two-Way	One-Way	None	Both	One Side	Double Yellow Center Line	(Width)	WB/SB (Width)	WB/SB (Width)	WB/SB (Width)	EB/NB (Width)	EB/NB (Width)	EB/NB (Width)		WB/SB (Width)	WB/SB (Width)	WB/SB (Width)	WB/SB (Width)	WB/SB (Width)	EB/NB (Width)	EB/NB (Width)	EB/NB (Width)	EB/NB (Width)	EB/NB (Width)
Ballard St*	Lincoln	Salem Tnpk	Urban Principal Arterial	2	X		X			X	31			15.5	15.5			Bike lanes			5		10.5	10.5		5		
Broadway	Route 1	Melrose line	Urban Principal Arterial		X					X								Leave as-is	Leave as-is									
Central St*	Hamilton	Walnut	Urban Collector	2	X		X			X	34			17	17			Bike lanes			5.5		11.5	11.5		5.5		
Central St	Hamilton	Winter	Urban Principal Arterial	2	X			X		X	45			22.5	22.5			Bike lanes	7		5		10.5	10.5		5		7
Central St*	Lincoln	Winter	Urban Minor Arterial	2	X		X			X	32			16	16			Bike lanes			5		11	11		5		
Essex*	Jackson	Route 1	Urban Minor Arterial	2	X		X			X	38			19	19			Bike lanes			6		13	13		6		
Essex*	Route 1	Melrose line	Urban Minor Arterial	2	X		X			X	32			16	16			Bike lanes			5		11	11		5		
Fairmont Ave	Walnut	Lynn line	Urban Collector	0	X					X	22							Leave as-is	Leave as-is									
Forest Street	Lynn Fells	Main	Urban Collector	2	X		X			X	21			10	11			Leave as-is	Leave as-is									
Hamilton St	Lynn line	Central	Urban Minor Arterial	2	X		X			X	30	6		11	12		1	Bike lanes			4.5		10.5	10.5		4.5		
Howard St	Main	Melrose line	Urban Collector	1	X					X	30	2		13	13		2	Leave as-is	Leave as-is									
Jackson St	Central	Lincoln	Urban Collector	2	X			X			30			15	15			Leave as-is	Leave as-is									
Lincoln Ave*	Ballard	Lynn line	Urban Minor Arterial	2	X				NB	X	32			18	16			Shared lanes					12.5	12.5				7
Lincoln Ave*	Lawndale	Central	Urban Minor Arterial	2	X		X			X	32			16	16			Bike lanes			5		11	11		5		
Lincoln Ave*	Ballard	Lawndale	Urban Minor Arterial	2	X			X		X	*40*							Shared lanes	7				13	13				7
Lincoln Ave*	Central	Jackson	Urban Minor Arterial	2	X			X		X	36			18	18			Shared lanes	7				11	11				7
Lincoln Ave	Jackson	Revere line	Urban Collector	2	X		X			X	34			18	16			Bike lanes			5		12	12		5		
Lynn Fells Parkway	Forest	Route 1	Urban Principal Arterial	0	N/A	N/A												Leave as-is	Leave as-is									
Lynn Fells Parkway	Main	Forest	Urban Principal Arterial	2	X		X			X	34							Bike lanes			5		12	12		5		
Lynn Fells Parkway	Main	Melrose line	Urban Principal Arterial	2	X					X								Bike lanes			5		12	12		5		
Main Street	Route 1	Forest	Urban Principal Arterial	1	X		X	-	-	X	40	1	-	19	19	-	1	Buffered bike lanes			6	2	12	12	2	6		
Main Street*	Forest	Lynn Fells	Urban Principal Arterial	2	X		X	-	-	X	32	1	-	16	16	-	1	Bike lanes			5		11	11		5		
Main Street	Vine	Central	Urban Principal Arterial	2	X		X			X	32			14	16			Bike lanes			5		11	11		5		
Main Street	Vine	Route 1	Urban Principal Arterial	2	X		X			X	32			14	16			Bike lanes			5		11	11		5		
Main Street*	Lynn Fells	Wakefield line	Urban Minor Arterial	2	X			X		X	43		10	12	11	10		Shared lanes	8				13.5	13.5				8
Route 1				N/A	N/A	N/A												Leave as-is	Leave as-is									
Route 107	Revere line	Lynn line																Bike lanes			Formalize wide shoulders into bike lanes							
Vine St	Essex	Main	Urban Collector	1	X		X			X	25			13	12			One bike lane, one shared lane					11	10		4		
Walden Pond Ave	Route 1	End	Local	0	X			X			25							Leave as-is	Leave as-is									
Walnut Street	Water	Route 1	Urban Principal Arterial	2	X		X	-	-	X	36	2.5	-	12.5	19	-	2	Bike lanes			6		12	12		6		
Walnut Street	Route 1	Central	Urban Principal Arterial	1	X		X			X	40	3.5		16	12		7	Buffered bike lanes			6	2	12	12	2	6		
Walnut Street	Central	Fairmont	Urban Principal Arterial	1	X		X			X	38.5	7.5		11.5	11.5		7.5	Buffered bike lanes			5.5	2	12	12	2	5		
Walnut Street	Fairmont	Lynn line	Urban Principal Arterial	1	X		X			X	35	5.5		12	12		5.5	Buffered bike lanes			5	1	11.5	11.5	1	5		
Water Street	Walnut	Wakefield line	Urban Principal Arterial	1	X		X	-	-	X	28	2	-			-	2.5	One bike lane, one shared lane			5		11	12				
Winter St, Chestnut St*	Central	Lincoln	Urban Principal Arterial	2	X		X			X	36			18	18			Bike lanes			6		12	12		6		