



Regional Pedestrian Plan



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88 Broadway, Taunton, MA

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Credit Page

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Executive Summary

Walking is most often considered a recreational activity. However, walking has assumed a greater significance as an alternative to vehicular transportation over the past several years, particularly for short trips.

Planning for adequate and connected pedestrian facilities is essential to regional transportation given the efficiency and positive characteristics of this mode choice. Providing the public with safe infrastructure will not only enhance walking for existing users, but will attract new users. With this Regional Pedestrian Plan, the Southeastern Metropolitan Planning Organization (SMMPO) hopes to drive the expansion and upgrade of pedestrian facilities that will allow and encourage trips by walking and will safely link important destinations to the areas where people live. This plan describes the current pedestrian needs in southeastern Massachusetts and provides a strategy for achieving a walkable south coast.

The 27 communities that make up the SMMPO region vary widely when it comes to walking conditions, from wide open rural areas with no pedestrian facilities, to small towns with intermittent sidewalks and/or compact town centers, to cities with vast sidewalk networks. In order to assess the needs of pedestrians in the region, staff analyzed how the existing walking conditions in the region contribute to walkability, which is the measure of how friendly an area is for walking. Population statistic data shows that almost everyone can benefit from improved pedestrian infrastructure and connectivity, especially traditionally underserved population groups and neighborhoods, older adults and transit users.

Results from a general public survey showed that many of the respondents are interested in walking but also encounter obstacles such as lack of facilities, perception of safety and concern with safely crossing streets. The majority of respondents also replied that they would like more or better sidewalks, followed by feeling safer while walking including better lighting, safer areas, less or slower traffic, better maintenance such as snow removal and improved crossing conditions such as new or improved crosswalks or features to increase the safety of crossing like signage or crossing beacons.

Results from a municipally aimed survey showed that the majority of communities that responded are interested in improving the walkability of their communities. Many of them have plans in place that could improve walking conditions but a good number do not have specific plans and/or are not taking advantage of programs such as the Massachusetts Complete Streets Program that can provide assistance and funding to improve infrastructure. Lack of budget and manpower were identified as the main obstacles to improving and/or maintaining pedestrian related infrastructure.

Walkability and mode choice are heavily influenced by safety conditions. Nationally, statewide and locally pedestrian crashes are on the rise while other types of vehicle related crashes are decreasing. The National Highway Traffic Safety Administration (NHTSA) reported that nationally “On average, a pedestrian was killed every two hours and injured every seven minutes in traffic crashes” in their 2014 Traffic Safety Facts publication. The Governor’s Highway Safety Association’s 2016 Pedestrian Traffic Fatalities by State publication notes that pedestrian related crashes now account for the largest proportion in traffic fatalities.

In Southeastern Massachusetts from 2013 to 2015, there were 814 vehicle crashes involving pedestrians, of which 22 were fatal and 646 resulted in injuries. This shows a 21% increase in total pedestrian crashes and a 24% increase in crashes resulting in an injury from the last period studied, 2010-2012, but a decrease of 24% in crashes resulting in a fatality.

The locations of these crashes are important to note in order to prioritize safety improvements related to pedestrian travel. 263 (32%) of these pedestrian crashes occurred at intersections, while 551 (68%) occurred at mid-block locations. Of the 263 intersection crashes, 81 occurred at signalized intersections, while 181 occurred at unsignalized intersections, accounting for nearly a quarter of all crashes involving pedestrians. This is indicative of the relative safety of signalized intersections for pedestrians and the lack of adequate pedestrian accommodations along roadways and at unsignalized intersections. The top crash intersections and corridors were identified and are listed in the plan.

Pedestrian transportation facilities that meet ADA guidelines should be an integral part of the overall transportation network. Pedestrian access to transit, community facilities, educational institutions, medical facilities, retail centers and employment centers should become a state and local priority in future transportation planning. To this end, SRPEDD developed a list of Priority Sidewalk Locations and Community Walkability Maps to help communities plan and prioritize pedestrian infrastructure improvements which are included in the plan. SMMPO staff can also provide technical assistance to those communities who wish to plan for pedestrian facilities in their communities.

Major recommendations include improving existing infrastructure, implementing pedestrian infrastructure in high priority areas, improving connectivity to transit and other modes, implementing traffic calming and new safety technology and encouraging or requiring future development to be pedestrian friendly as much as possible, either through the review process or by improving guidelines, policies and regulations.

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Introduction

Walking is most often considered a recreational activity. However, walking has assumed a greater significance as an alternative to vehicular transportation over the past several years, particularly for short trips. The existence of pedestrian infrastructure allows for the safe and efficient movement of pedestrians throughout the region, thereby opening up this transportation mode to more and more people. The more transportation options available to people, the more livable their community becomes.

Beginning with the National Biking and Walking Study, mandated by the 1991 United States Department of Transportation Act, and including highly publicized recent pedestrian planning efforts through Complete Streets and other movements, the safe conveyance of pedestrians has become more prominent in local and regional transportation planning. Further evidence of this trend is shown with the emergence of the term “walkability,” a way of describing and evaluating how friendly an area is to walking. This new prominence also reflects the fact that every automobile, bus, train, plane and even bicycle trip ultimately involves walking. In other words, everyone is a pedestrian.

Planning for adequate and connected pedestrian facilities is essential to regional transportation given the efficiency and positive characteristics of this mode choice. For the purpose of this study, the terms “walking” and “pedestrian” are used inclusively of people of all abilities including those using mobility aids. Providing the public with safe infrastructure on which to walk will not only enhance this mode for existing users, but will attract new users. With this Regional Pedestrian Plan, the Southeastern Metropolitan Planning Organization (SMMPO) hopes to drive the expansion and upgrade of pedestrian facilities that will allow and encourage trips by walking and will safely link important destinations to the areas where people live. To this end, the Southeastern Regional Planning and Economic Development District (SRPEDD), the staff of the SMMPO, performed public outreach for this study to identify and take into consideration the region’s priorities. The following goals were identified:

1. Encourage more trips by walking;
2. Plan for a functional, safe, and interconnected network;
3. Facilitate the development of the network by increasing support, knowledge and funding for projects; and
4. Encourage equal access to walking for all ages and abilities.

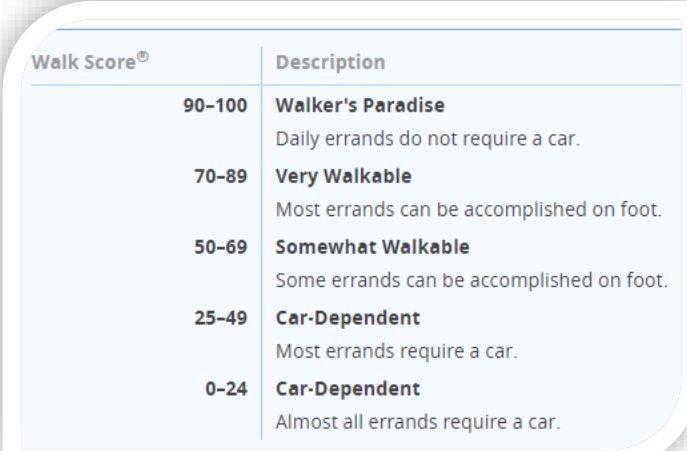
This plan describes the current pedestrian needs in southeastern Massachusetts and provides a strategy for achieving the goals listed above.

The Existing Conditions of Walkability in Southeastern Massachusetts

The 27 communities that make up the SMMPO region vary widely when it comes to walking conditions, from wide open rural areas with no pedestrian facilities, to small towns with intermittent sidewalks and/or compact town centers, to cities with vast sidewalk networks. In rural areas, development patterns and employment opportunities do not necessarily create a demand for multi-modal transportation facilities and can also be characterized by long distances between trip origins and points of destination. They also contain road systems that are generally designed to carry vehicular traffic rather than pedestrians and bicyclists.

In order to assess the needs of pedestrians in the region, staff analyzed how the existing walking conditions in the region contribute to walkability, which is the measure of how friendly an area is for walking. Walkability is mainly influenced by the presence or absence of sidewalks or other protected pedestrian pathways (such as a multiuse path), traffic and road conditions, land use patterns, the presence of pedestrian trip generators (for example schools, grocery stores, etc.), connectivity, accessibility, safety and other factors. We also looked at the results of two surveys aimed at gaining input on the current conditions (or walkability) for pedestrians in the region; one for general public input and the other for municipal input.

To create a visual of the overall walkability of the region, we used data compiled by the Metropolitan Area Planning Commission (MAPC) that uses WalkScore®, a commercial walkability score, to map the overall “friendliness” of the region broken down into 250-meter grid sections. Walkscore was developed as a real estate tool and uses distance to amenities, population density, and road metrics such as block length to give a location a “score” ranging from 0-100, with 0 being the least walkable and 100 being the most walkable. A breakdown of the scores is shown in Figure 1 below. The map, shown as Figure 2 on the next page, shows that compact city centers with lots of trip generators and higher population densities are considered more walkable than rural areas with few trip generators and lower population densities. **Individuals can access their neighborhood’s walkscore by visiting the [WalkScore © website](#).**



Walk Score®	Description
90-100	Walker's Paradise Daily errands do not require a car.
70-89	Very Walkable Most errands can be accomplished on foot.
50-69	Somewhat Walkable Some errands can be accomplished on foot.
25-49	Car-Dependent Most errands require a car.
0-24	Car-Dependent Almost all errands require a car.

Figure 1: WalkScore Range Descriptions

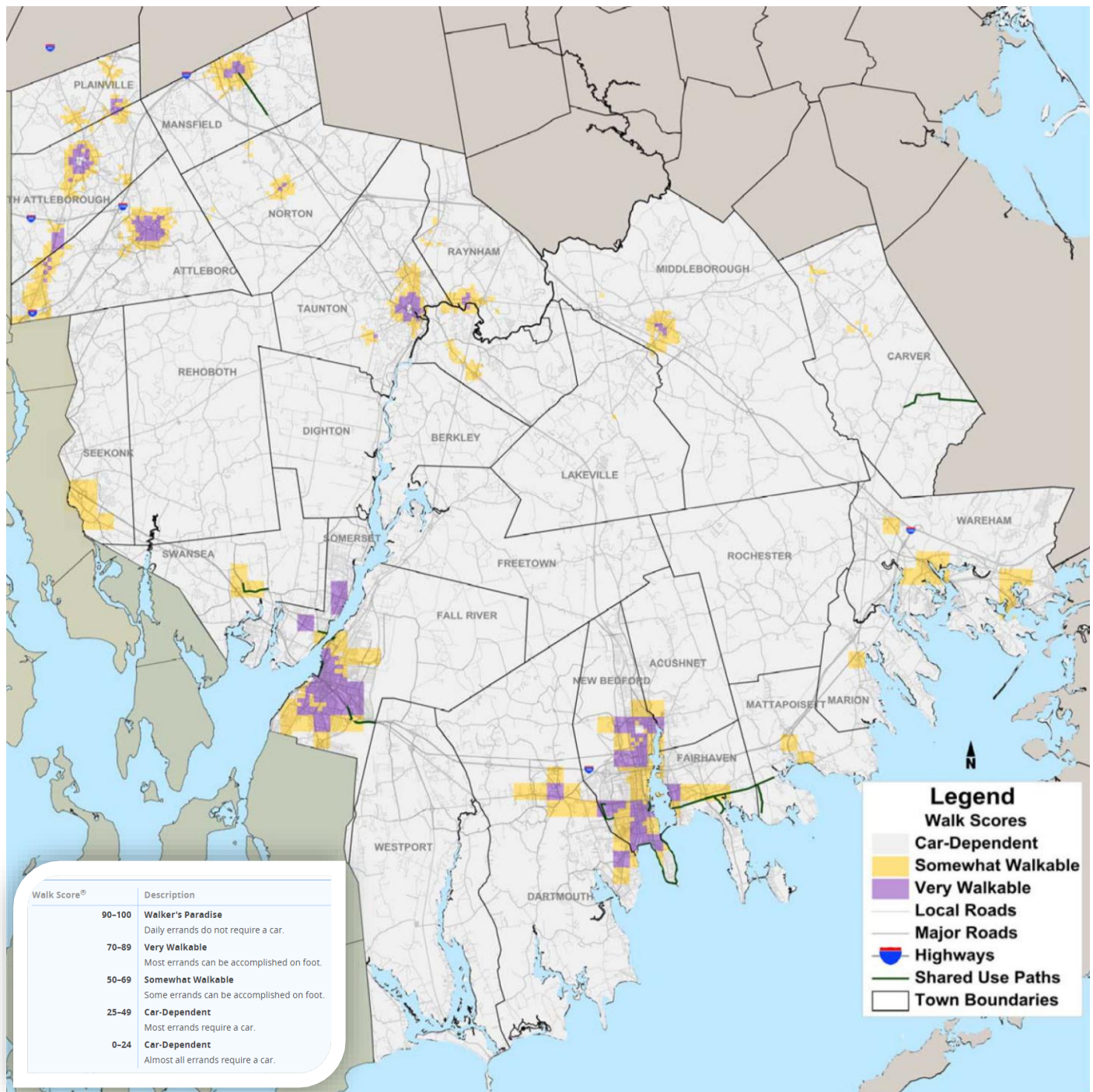


Figure 2: WalkScore Map for Southeastern Massachusetts (Data Source - MAPC)

WalkScore range descriptions are as follows;

- Walkscore 90-100, Walker's Paradise, daily errands do not require a car.
- Walkscore 70-89, Very Walkable, most errands can be accomplished on foot.
- Walkscore 50-69, Somewhat Walkable, some errands can be accomplished on foot.
- Walkscore 25-49, Car Dependent, Most errands require a car.
- Walkscore 0-24, Car Dependent, Almost all errands require a car.

Regional Statistics

The SMMPO region is a mix of urban, suburban and rural landscapes with a population of over 600,000 in 808 square miles, and the needs of our population vary widely based on geography and a diverse socioeconomic background. Several areas in the region are considered “traditionally underserved” communities. These communities include minorities, transit dependent citizens, low-income, older adults, Limited English Proficiency (LEP) and persons with disabilities. For many in these communities, traditional vehicle based transportation is not an option. Transit can be a viable transportation alternative but is not available in all areas, may not be easily accessible, and may not provide service during times when people need to get to work, go to medical appointments, run errands or meet many other needs. When conditions allow, walking can be a viable, affordable and accessible mode choice to meet these needs.

SRPEDD routinely maps minority, low-income (below poverty level), and Limited English Proficiency (LEP) populations/areas for our Transportation Evaluation Criteria, for public outreach purposes, for the Title VI submissions of our regional transit agencies, for transit route equity analyses and evaluations, and for other general planning purposes, including this Regional Pedestrian Plan. SRPEDD defines a Title VI/Environmental Justice (EJ) community and a Title VI/EJ Census block group as such if they are greater than the regional average for minority, LEP persons and poverty level, as calculated in the American Community Survey (ACS). (The Census Bureau uses a set of dollar value thresholds that vary by family size and composition to determine who is in poverty.) For minority populations the regional average is 10.98%, and for LEP populations the regional average is 7.4%. The low income (or percent below the poverty level) is 12.13% for the region.

Minority, low-income and LEP areas for each of the 27 communities in the SRPEDD region are shown in Figure 3 on the next page. Low-income, poverty and LEP were mapped using 2010-2014 ACS data, and minority using 2010 Census data with the intent to determine the level of project distribution equity in areas designated as Title VI and in non-Title VI areas in our region. Providing safe pedestrian transportation facilities in an equitable way should be considered a priority to meet the needs of traditionally underserved populations.

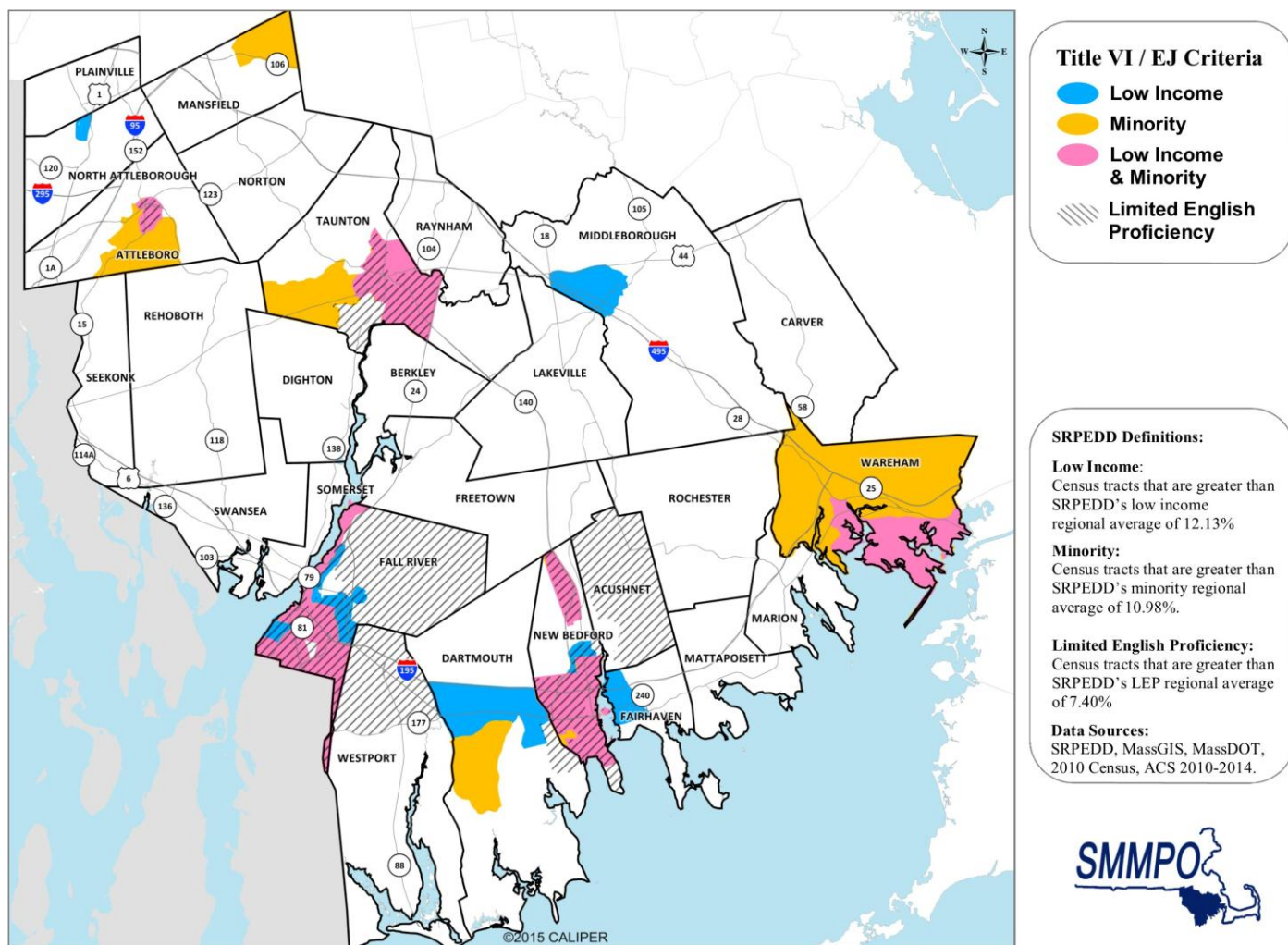


Figure 3: SMMPO Region Title VI and Environmental Justice Areas

The population of the country is aging, and the SMMPO region is not an exception. The American Association of Retired Persons (AARP) statistics show that 1 in 3 people in the United States are over 50, and by 2030 1 in 5 people will be over 65. According to the US Census, the median age of the SMMPO region was 38 in 2000 and increased to 42 in 2010. ACS 2014-2016 data shows a median age of 43.8 for the region. Figure 4 below illustrates the rise in median age in the SMMPO region.

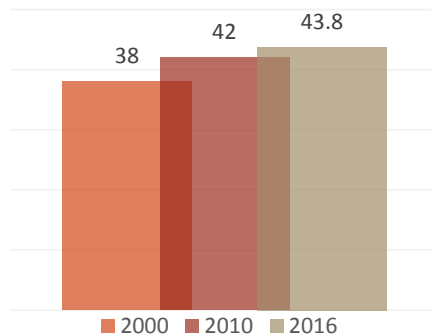


Figure 4: Median Age for the SMMPO Region

As our population ages, our mobility as a population is also changing. AARP surveys consistently report that the vast majority of older adults prefer aging in place, or staying at home, versus moving to a retirement community. Walkability is an important part of aging in place for many reasons. Traditional vehicle based transportation may not be an option for older adults due to medical conditions or other factors and can also be expensive and therefore difficult to obtain for older adults with fixed incomes. Our current system is not designed to accommodate people who cannot drive, particularly in rural areas. Older adults are in danger of getting stranded at home due to the lack of mode choices. AARP recommends creating livable communities, or communities with access to a broad range of accessible transportation options including safe pedestrian facilities, as a way to encourage aging in place.

According to the U.S. Census Bureau American Community Survey (ACS) data collected from 2008-2012, 2.8% of work trips made in America were completed by walking. In the Boston and Providence Metropolitan Areas, walk-to-work percentages were higher, at 4.1% and 3.3% respectively. For the Southeastern Massachusetts Metropolitan Planning Organization (SMMPO) region, walk-to-work percentages are slightly lower, at 2.1% or 6,352 pedestrians. This percentage has remained steady over the last 10 years.

Southeastern Massachusetts contains a variety of walking conditions from compact walkable cities and town centers to very rural areas with no walking infrastructure. Table 1 on the following page shows the most recent community level walk to work data available from the American Community Survey, 2011-2015 as compared to ACS data from 2009-2013. It is important to note that the ACS collects information on how respondents get to work, but the respondents are limited to the single mode used for the longest distance, which excludes any potential secondary travel modes such as walking to a transit stop. The ACS also does not collect data for non-commuting trips such as shopping, appointments, services etc.

Relatively lower percentages of walking commuters in the SMMPO region compared to other areas could be attributed to the relatively rural character of many of the communities. In these rural areas, development patterns and employment opportunities do not necessarily create a demand for multi-modal transportation facilities (such as bike paths, long segments of paved sidewalks or walkways, etc.). These areas are also characterized by long distances between trip origins and points of destination. They also contain road systems that are generally designed to carry vehicular traffic rather than pedestrians.

Another contributing factor could be the condition and/or connectivity of existing infrastructure. Highly developed corridors with a large amount of pedestrian generators, such as Route 1 in Attleboro or Route 44 in Raynham, often have no uniformity with sidewalk presence and condition due to a lack of consistent requirements. Construction of sidewalks is often the responsibility of project developers, and is sometimes negotiated out of a project to save money or is not always required consistently by communities seeking to be business friendly.

Table 1: Walking to Work in Southeastern Massachusetts

Community	ACS 2009-2013			ACS 2011-2015		
	Total Walk to Work	Total Trips to Work	% Walk to Work	Total Walk to Work	Total Trips to Work	% Walk to Work
Acushnet	28	5,206	0.5%	22	5,405	0.4%
Attleboro	399	21,911	1.8%	460	22,121	2.1%
Berkley	11	3,236	0.3%	0	3,393	0.0%
Carver	37	5,988	0.6%	53	5,865	0.9%
Dartmouth	568	15,993	3.6%	730	15,940	4.6%
Dighton	0	3,395	0.0%	3	3,560	0.1%
Fairhaven	84	8,110	1.0%	115	8,136	1.4%
Fall River	1,254	35,018	3.6%	1332	36,319	3.7%
Freetown	48	4,582	1.0%	33	4,627	0.7%
Lakeville	82	5,613	1.5%	9	6,036	0.1%
Mansfield	73	12,264	0.6%	107	12,382	0.9%
Marion	46	2,253	2.0%	27	2,126	1.3%
Mattapoisett	10	2,749	0.4%	0	3,043	0.0%
Middleborough	160	11,223	1.4%	101	11,901	0.8%
New Bedford	1,523	39,549	3.9%	1761	41,318	4.3%
North Attleborough	143	14,696	1.0%	132	15,135	0.9%
Norton	438	9,648	4.5%	503	10,300	4.9%
Plainville	50	4,806	1.0%	43	5,104	0.8%
Raynham	114	6,397	1.8%	96	6,695	1.4%
Rehoboth	71	6,069	1.2%	66	6,475	1.0%
Rochester	0	2,857	0.0%	0	2,831	0.0%
Seekonk	24	7,119	0.3%	86	7,495	1.1%
Somerset	140	8,437	1.7%	96	8,302	1.2%
Swansea	28	8,479	0.3%	10	8,626	0.1%
Taunton	371	26,562	1.4%	281	26,546	1.1%
Wareham	248	10,830	2.3%	266	10,766	2.5%
Westport	54	7,376	0.7%	20	7,602	0.3%
Totals	6,004	290,366		6,352	298,049	

Source: U.S. Census Bureau (ACS 2009-2013 and ACS 2011-2015). Note that data does not factor in walking as part of a multi-modal trip (i.e. walking to commuter rail station).

The Massachusetts Household Travel Survey (MTS), was an activity study conducted by MassDOT contractors between June 2010 and November 2011. The survey collected data from over 15,000 Massachusetts households to identify where and how they traveled on a specific, designated travel day (24 hours). The survey included questions about socioeconomic characteristics and access to transportation in order to ensure a sample that was representative of the Massachusetts population. The MTS survey differs from the ACS data as it looked at an individual's activity for an entire day, including commute to work information and any additional trips such as errands.

The MTS survey collected data for 235,009 households in the SMMPO region. Of these households, 12.9% did not have access to a vehicle and 16% of household members that were of license age did not have valid driver's licenses. 33% of households took between 1 and 5 trips per day and 31% took between 6-10 trips per day. The majority of primary trip purposes, as shown in Table 2 below, involve trips home unrelated to work. 7.7% of trips were commuting trips, 7.4% routine trips such as shopping and 6.9% were to change type of transportation.

Table 2: Primary Trip Purpose from MTS

Primary Trip Purpose	Count	Percent
All other home activities	1,206,393	45.60%
Work/Job	203,454	7.70%
Routine shopping (groceries, clothing, convenience store, HH maintenance)	194,736	7.40%
Changed type of transportation	182,549	6.90%
Visit friends/relatives	96,967	3.70%
Eat meal outside of home	95,177	3.60%
Attending Class	89,707	3.40%
Household errands (bank, dry cleaning, etc.)	77,356	2.90%
Drop off passenger from car	69,176	2.60%
Pick up passenger from car	68,494	2.60%
Work Business Related	61,521	2.30%
Personal business (visit government office, attorney, accountant)	60,003	2.30%
Indoor recreation/entertainment	55,281	2.10%
Health care (doctor, dentist)	53,448	2.00%
Outdoor recreation/entertainment	35,454	1.30%
Service private vehicle (gas, oil lube, etc.)	31,957	1.20%
Shopping for major purchases or specialty items (appliance, electronics, new vehicle, major HH repairs)	15,960	0.60%
Working at home (for pay)	14,552	0.50%
Civic/Religious activities	11,358	0.40%
All other School Activities	8,826	0.30%
Loop trip	7,873	0.30%
All other activities at work	5,836	0.20%
Other, SPECIFY	1,289	0.00%
Volunteer Work/Activities	97	0.00%
While Traveling -- Other, Specify	0	0.00%
Total	2,647,465	100.00%

Walking was the third most used transportation mode in the SRPEDD region overall at 12.3% as shown in Table 3 on the right. Public bus accounted for 2.9% of trip modes and train use at 1.1%.

For trips to work, the vast majority, about 81%, were made using an auto/van/truck. Walking accounted for 1.5% of work trips and bus/public transit accounted for 0.1% of work trips. 5.7% of workers reported working from home. Table 4 on the right breaks down mode to work percentages from the MTS. Commuting to work by walking or public transit can be difficult due to the distance of the commute and the availability/timing of public transit.

There are several programs that could encourage more commuters to take advantage of ride share programs. The MassRIDES program helps to connect Massachusetts commuters with transportation alternatives. More information on MassRIDES can be found in Appendix C.

For transportation to school, the majority of respondents traveled by school bus at 37.6%, followed by 24.5% that rode to school as an auto/van/truck passenger. 19.3% drove themselves to school, 8.1% walked and 4.8% took public transit. A breakdown of school transportation modes are shown in Table 5. School policies regarding walking can vary widely based on the municipality and school level.

Encouraging more school aged students to walk would not only be beneficial for health purposes and traffic reduction, but could also encourage them to choose walking as a mode choice throughout their lives. Schools can partner with the Massachusetts Safe Routes to School (SRTS) Program to help provide walking education and to possibly improve walking conditions. More information on SRTS can be found in Appendix C.

Table 3: Transportation Mode from MTS

Transportation Mode	Count	Percent
Auto/Van/Truck Driver	1,208,156	58.30%
Auto/Van/Truck Passenger	415,249	20.00%
Walk	255,596	12.30%
School bus	75,543	3.60%
Public Bus	60,654	2.90%
Train	23,671	1.10%
Taxi	15,319	0.70%
Bike	8,828	0.40%
Other, SPECIFY	4,125	0.20%
Ferry/boat	1,515	0.10%
Dial-A-Ride/Paratransit	2,937	0.10%
Motorcycle Driver	1,749	0.10%
Total	2,073,343	100.00%

Table 4: Transportation Mode to Work from MTS

Mode to Work	Count	Percent
Auto/Van/Truck Driver	214,326	80.90%
Works from home	15,066	5.70%
Auto/Van/Truck Passenger	15,112	5.70%
Bus / Public Transit	10,575	4.00%
Walk	3,857	1.50%
Other, SPECIFY	3,793	1.40%
Don't Know	780	0.30%
Taxi	438	0.20%
Refused	417	0.20%
Bike	235	0.10%
Dial-A-Ride/Paratransit	234	0.10%
Total	264,831	100.00%

Table 5: Transportation Mode to School from MTS

Mode to School	Count	Percent
School Bus	59,973	37.60%
Auto/Van/Truck Passenger	39,022	24.50%
Auto/Van/Truck Driver	30,810	19.30%
Walk	12,964	8.10%
Bus / Public Transit	7,618	4.80%
Home schooled	4,739	3.00%
Don't Know	2,175	1.40%
Other, SPECIFY	1,533	1.00%
Bike	612	0.40%
Dial-A-Ride/Paratransit	123	0.10%
Total	159,569	100.00%

Pedestrian Safety

Walkability and mode choice are heavily influenced by safety conditions. Nationally, Statewide and locally pedestrian crashes are on the rise while other types of vehicle related crashes are decreasing. The National Highway Traffic Safety Administration (NHTSA) reported that nationally “On average, a pedestrian was killed every two hours and injured every seven minutes in traffic crashes” in their 2014 Traffic Safety Facts publication. The Governor’s Highway Safety Association’s 2016 Pedestrian Traffic Fatalities by State publication notes that pedestrian related crashes now account for the largest proportion in traffic fatalities.

Pedestrians are a particularly vulnerable type of road user. Pedestrians have a much larger chance of being injured or killed in a crash than a motor vehicle operator as they do not have the protection of a vehicle. The speed in which a vehicle is traveling also has a lot to do with the pedestrian’s risk of injury or even the visibility of the pedestrian to the motor vehicle operator. As shown in Figure 5 below, the motor vehicle operators cone of vision decreases significantly as the speed of travel increases and the pedestrian’s risk of serious injury or death increases as the speed of travel increases. Countermeasures to reduce travel speed and increase pedestrian safety can be found in Appendix B.



Figure 5: Motor Vehicle Operator's Field of Vision and Pedestrian's Risk of Death Based on Vehicle Travel Speeds. (Source: Vision Zero Los Angeles, August 2015)

In Southeastern Massachusetts from 2013 to 2015, there were 814 vehicle crashes involving pedestrians, of which 22 were fatal and 646 resulted in injuries. This shows a 21% increase in total pedestrian crashes and a 24% increase in crashes resulting in an injury from the last period studied, 2010-2012, but a decrease of 24% in crashes resulting in a fatality. Massachusetts trends have shown a decrease in total fatalities and incapacitating injuries, but this trend does not apply to pedestrian crashes statewide. It is important to note that as the rate of walking as mode choice increases, so do crashes related to distracted driving.

The locations of these crashes are important to note in order to prioritize safety improvements related to pedestrian travel. 263 (32%) of the pedestrian crashes in the SMMPO region during the study period occurred at intersections, while 551 (68%) occurred at mid-block locations. Of the 263 intersection crashes, 81 occurred at signalized intersections whereas 181 occurred at unsignalized intersections, accounting for nearly a quarter of all crashes involving pedestrians. This is indicative of the relative safety of signalized intersections for pedestrians and the lack of adequate pedestrian accommodations along roadways and at unsignalized intersections. Signalized intersections allow for protected pedestrian phases and therefore minimize vehicle to pedestrian conflicts.

The high number of crashes at unsignalized intersections may be attributed to the failure of either the pedestrian or the driver to yield appropriately. Contributing factors to these crashes might include lack of knowledge of the rules of the road, improper pavement markings or improper signage. The presence of crosswalks could give pedestrians confidence in crossing the street where motorists often do not expect them and fail to yield to them, as is the law. The lack of crosswalks all together can lead to jaywalking at locations that are not safe due to vehicle speeds or sight-distance issues. Multiple-threat pedestrian crashes or pedestrian crashes at locations where there are more than one lane in each direction where a drivers view of a pedestrian crossing can possibly be blocked by a vehicle stopped for the crossing pedestrian are a serious concern whether or not the pedestrian is in a crosswalk. All of these issues led to the high amount of crashes involving pedestrians at unsignalized intersections. Table 6 on the next page displays intersections in the SMMPO region that have experienced more than one pedestrian crash over the 3 year reporting period from 2013-2015.

Table 6: Top Pedestrian Crash Intersections in the SMMPO Region

Municipality	Intersection	Total Crashes	Injury	Fatal	Signalized?
Taunton	Taunton Green	5	1	0	Yes
Fall River	Plymouth Avenue at Rodman Street	4	4	0	Yes
New Bedford	Belleville Avenue at Sawyer Street	3	3	0	Yes
New Bedford	County Street at Elm Street	3	3	0	Yes
Attleboro	Park Street (Route 123) at Bank Street	2	1	1	Yes
Fall River	Broadway at William Street	2	1	0	No
Fall River	County Street at Roccliffe Street	2	1	0	No
Fall River	Jeremiah V Sullivan Drive at Third Street	2	1	0	Yes
Fall River	Plymouth Avenue at Wordell Street	2	2	0	No
Fall River	President Avenue at North Main Street	2	1	0	Yes
Fall River	Quequechan Street at Wamsutta Street	2	1	0	No
Fall River	South Main Street at Hamlet Street	2	2	0	No
Fall River	South Main Street at Middle Street	2	1	0	Yes
New Bedford	Acushnet Avenue at Araujo Street	2	2	0	No
New Bedford	Acushnet Avenue at Branscomb Street	2	2	0	No
New Bedford	Acushnet Avenue at Sawyer Street	2	2	0	Yes
New Bedford	Ashley Boulevard at Tallman Street	2	1	0	No
New Bedford	County Street at Bedford Street	2	1	0	No
New Bedford	County Street at Hawthorn Street	2	2	0	No
New Bedford	County Street at Parker Street	2	2	0	No
New Bedford	Shawmut Avenue at Durfee Street	2	2	0	No
New Bedford	Union Street at Pleasant Street	2	2	0	Yes

In southeastern Massachusetts there are a number of roadway corridors in urban areas with high numbers of pedestrian crashes at both mid-block locations and intersections. These corridors typically fall in close proximity to several pedestrian generators. For corridors with complete sidewalks, their issues may include lack of visibility due to on-street parking, lack of marked crosswalks and vehicle stop lines, poor signage or improper pedestrian/driver behavior. Crashes involving pedestrians along roads without sidewalks or incomplete sidewalks are typically sideswipe-type crashes where pedestrians walking in the street are struck by a vehicle. The lack of sidewalks, as well as poor lighting or poor sight distance is typically the cause of these crashes. Table 7 on the next page lists corridors with a high crash incidence of 6 or more crashes over the 3 year reporting period from 2013-2015 in the SMMPO region.

Table 7: Top Pedestrian Crash Corridors in the SRPEDD Region

Municipality	Corridor	From	To	Sidewalk Presence	Total Crashes
Fall River	South Main Street	Globe Street	North Main Street	Both Sides	40
New Bedford	County Street	Scott Street	Sawyer Street	Both Sides	31
New Bedford	Acushnet Avenue	Delano Street	S/O Manila Street	Both Sides	29
New Bedford	Ashley Blvd	Coggeshall Street	Tacoma Street	Both Sides	20
Fall River	Pleasant Street	W/O Irving Street	Sixth Street	Both Sides	18
Fall River	North Main Street	South Main Street	S/O Cove Street	Both Sides	17
Fall River	Plymouth Avenue	Laurel Street	Pleasant Street	Partial	17
New Bedford	Sawyer Street	Highland Street	E/O Mitchell Street	Both Sides	16
New Bedford	Belleville Avenue	Coggeshall Street	N/O Earle Street	Both Sides	14
New Bedford	Purchase Street	Rockland Street	S/O Deane Street	Both Sides	14
Fall River	Rodman Street	South Main Street	Brayton Avenue	Both Sides	12
New Bedford	Kempton Street	Brownell Avenue	Pleasant Street	Both Sides	12
New Bedford	Pleasant Street	S/O Madison Street	Purchase Street	Both Sides	11
Fall River	Broadway	Globe Street	N/O William Street	Both Sides	10
New Bedford	Rockdale Avenue	S/O Hemlock Street	Rogers Street	Both Sides	10
Fall River	Bedford Street	Ford Street	E/O North Eastern Ave.	Both Sides	9
Fall River	President Avenue	W/O Dyer Street	Robeson Street	Both Sides	9
Dartmouth	State Road (Route 6)	E/O Reed Road	Brownell Avenue	Partial	8
Fall River	Columbia Street	W/O Eagle Street	E/O Union Street	Both Sides	8
Fall River	Robeson Street	N/O Bedford Street	Nicholas Street	Both Sides	8
Fall River	Quequechan Street	N/O Warren Street	N/O Jencks Street	Both Sides	7
Mansfield	Chauncy Street	Copeland Drive	Hope Street	Both Sides	7
New Bedford	Elm Street	County Street	W/O Pleasant Street	Both Sides	7
New Bedford	Nash Road	Mount Pleasant Street	Acushnet Avenue	Both Sides	7
Wareham	Cranberry Highway	W/O Charlotte Furnace Rd	E/O Lowell Street	Both Sides	7
Attleboro	County Street	Thacher Street	North Main Street	Both Sides	6
Attleboro	Pleasant Street	Emory Street	Richardson Avenue	Both Sides	6
Attleboro	Washington Street	Mendon Road	N/O Como Drive	Both Sides	6
New Bedford	Coggeshall Street	County Street	NB/FR Bridge	Both Sides	6
New Bedford	North Front Street	Holly Street	Belleville Road	Both Sides	6
New Bedford	Union Street	Jonathan Street	North Second Street	Both Sides	6
Taunton	Broadway	Court Street	Dartmouth Street	Both Sides	6
Taunton	Tremont Street	Danforth Street	Washington Street	Both Sides	6
Wareham	Marion Road	Hathaway Street	High Street	Both Sides	6
Wareham	Onset Avenue	East Central Avenue	E/O South Blvd	Partial	6

Ultimately, each road segment and intersection, as well as detailed crash reports should be reviewed to determine appropriate measures to enhance pedestrian safety. There are many measures such as traffic calming techniques, equipment, pavement markings, enforcement, signage etc. that have been proven to increase pedestrian safety as well as programs and policies that support the development of safer pedestrian facilities. Design features that improve safety are outlined in Appendix B and programs and policies to improve pedestrian safety are outlined in Appendix C.

Pedestrian Safety Performance Measures

In all safety categories, MassDOT has established a long-term target of “Toward Zero Deaths” through MassDOT’s Performance Measures Tracker. To this end, MassDOT, using FHWA guidelines, defined five safety performance measures including total number of fatalities, rate of fatalities per 100 million vehicle traveled, total number of serious injuries, rate of serious injuries per 100 million VMT and the total number of combined serious injuries and fatalities for non-motorized modes. Of these measures, the total number of combined serious injuries and fatalities for non-motorized modes measure is the only category to see an increase since the measures were set.

The targets were set by MassDOT by using statewide crash data and Highway Performance Monitoring System (HPMS) data for vehicle miles traveled (VMT) to calculate 5-year, rolling average trendlines for all FHWA defined safety measures. MassDOT’s effort to increase non-motorized mode share throughout the Commonwealth has posed a challenge to simultaneously reducing non-motorized injuries and fatalities. Rather than adopt a target that showed an increase in the trendline, MassDOT elected to establish a target of non-motorized fatalities and injuring in Calendar Year (CY) 2018 to remain constant from the rolling average for 2011-2015. Figure 6 below shows a comparison of MassDOT’s combined total cyclist and pedestrian fatalities and serious injury five year averages compared to five year averages from the SRPPED region as well as the statewide target.

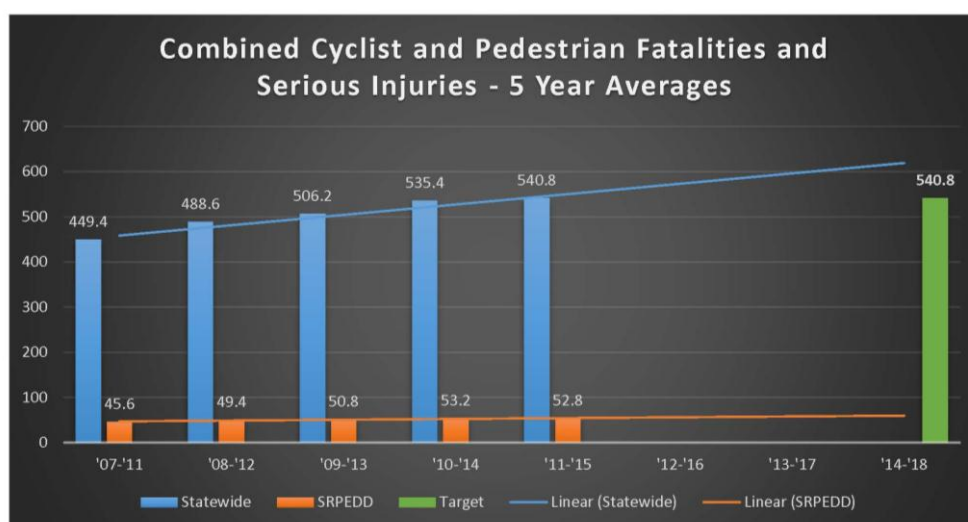


Figure 6: MassDOT and SRPEDD Combined Cyclist and Pedestrian Fatalities and Serious Injuries – 5 Year Averages

The SMMPO officially adopted the statewide performance measure targets set by MassDOT for CY2018. The SMMPO will continue to assist MassDOT in striving towards these targets by actively seeking to improve data collection and methodology for bicycle and pedestrian VMT counts, continuing to analyze crash clusters and crash counts that include both motorized and non-motorized modes and including efforts in the Regional Pedestrian Plan and other studies in order to address safety issues at identified locations. The SMMPO will also assisting with striving for these targets through the project prioritization and the evaluation criteria process. This process awards a higher score for safety improvements that

result in a measurable reduction in injuries and fatalities and that improve and or expand multimodal infrastructure.

Survey Results

As part of this plan, SRPEDD developed two surveys for input, one aimed at the general public and another for a municipal government audience. Both surveys had a great response rate, with over 450 residents responding to the general survey and a 93% response rate from SRPEDD communities. Survey responses reflect the wide range of pedestrian conditions throughout the region and the challenges associated with improving pedestrian travel. Survey questions, public outreach materials and detailed responses can be found in Appendix B.

General Public Survey

The general public pedestrian walking survey results reflect a reasonable geographic representation, with at least one response from every SRPEDD community. The majority of respondents, 72%, were women and 94% of respondents reported that they own or have access to a car. 86% of the respondents answered that they would be willing to walk a mile or more to achieve their purpose for walking and most (70%) like to walk in their own neighborhood. The age of respondents shows a wide distribution as shown in Figure 7 below.

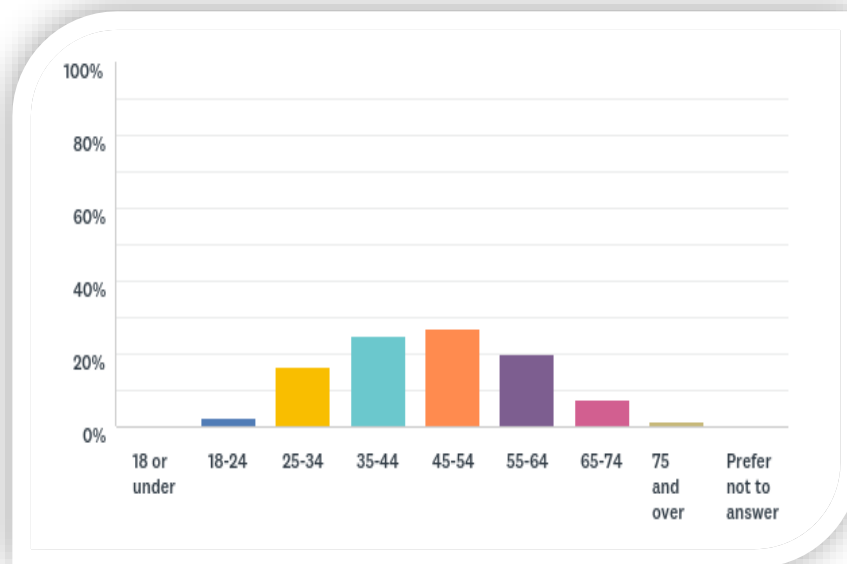


Figure 7: Age Distribution of General Public Survey Respondents

When asked what the respondents main reason for walking, the large majority (94%) responded that they walk for exercise, followed by walking for errands and to visit family or friends. Other common responses included to get to or from work or school, to get to or from transit, to go to the doctor, and walking a pet.

When asked what prevented them from walking, the top three responses were lack of facilities (sidewalks or multiuse paths), perception of safety and concerns with safely crossing the street. Other

common responses included, condition of sidewalks, lack of crosswalks, distance to destination, and lack of time. Other less common responses included lack of connectivity, weather conditions, lack of lighting, poor snow removal, lack of accessibility for wheelchair users (including obstacles), cars parked on the sidewalk and lack of parking.

When asked what would make them walk more, the majority selected more or better sidewalks, followed by feeling safer while walking including better lighting, safer areas, less or slower traffic etc., more bicycle or walking trails or paths, crosswalk push buttons for walking signals and people to walk with, more available time, separation of walking facilities from traffic, snow removal, more crosswalks, and more law enforcement.

The final question on the survey was an open ended response regarding where the respondent would like to see improved pedestrian conditions. A map of responses was made for each community to show the respondents suggested locations in detail. A sample map showing responses in Somerset is shown in Figure 8 on the next page and detailed maps for each community can be found in Appendix A.

Survey Question:
List places that could be
made safer or easier to walk.

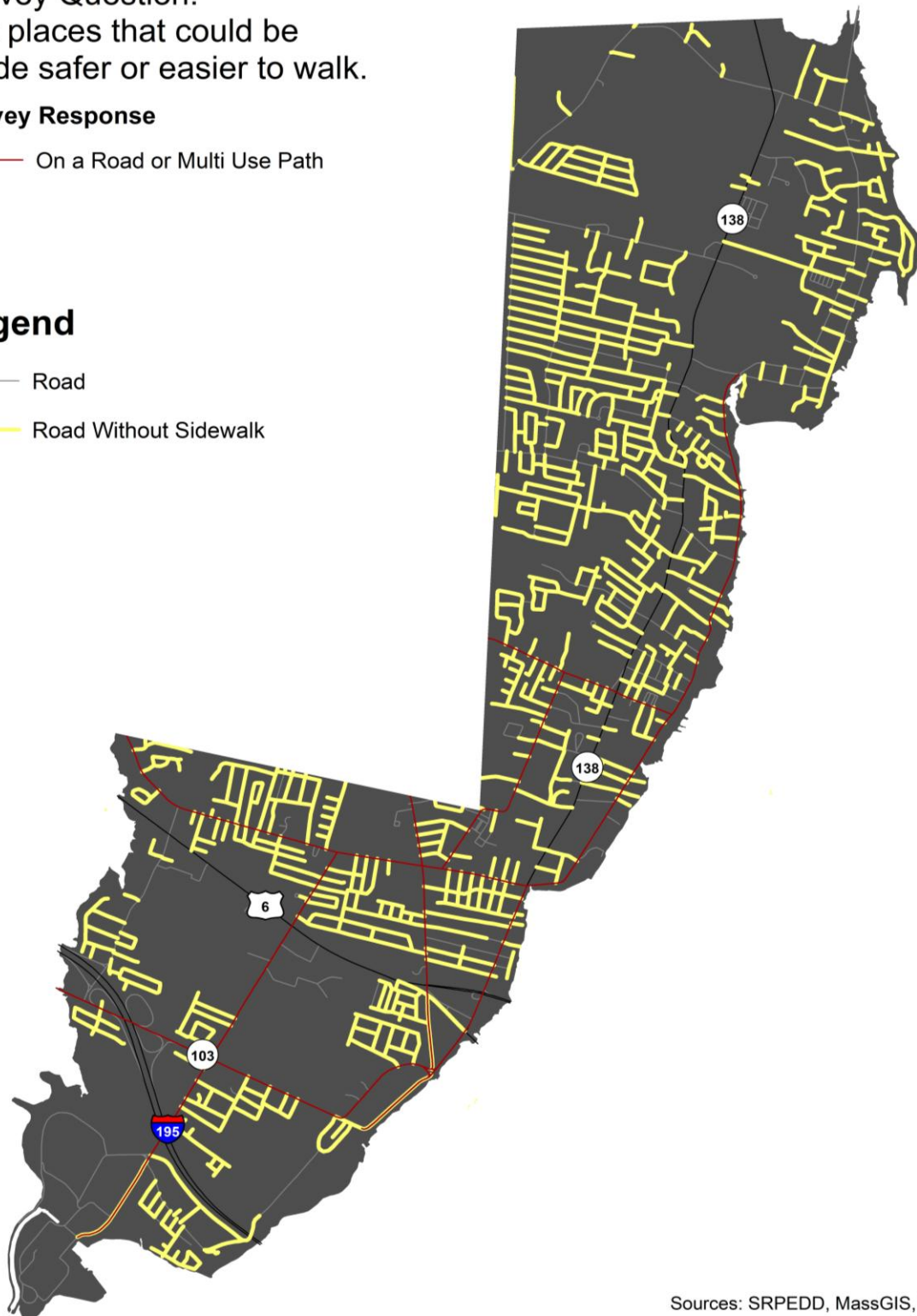
Survey Response

— On a Road or Multi Use Path

Legend

— Road

— Road Without Sidewalk



Sources: SRPEDD, MassGIS, MassDOT

This map is for the sole purpose of aiding regional planning decisions and is not warranted for any other use.

Figure 7: General Public Survey Recommended Locations for Pedestrian Improvements in Somerset

Municipal Survey

The goal of the municipal survey was to identify the current state of pedestrian planning in the SMMPO communities and where and/or if they had identified priority locations for pedestrian related improvements. 43 municipal representatives responded to the survey, representing 93% (25) of the SMMPO communities. The majority of the respondents were associated with the planning department at 42%, 19% with public works/highway departments, 19% with town administration (board of selectmen/town managers), 7% with councils on aging, 2% with conservation and 2% with the health department. See Figure 9 below.

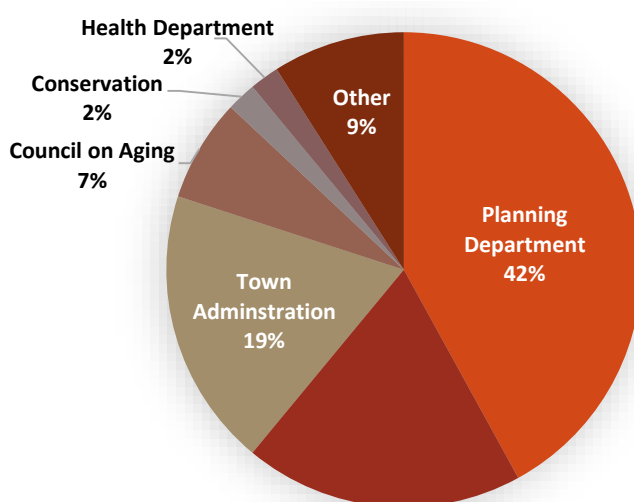


Figure 9: Breakdown of Municipal Affiliation

When asked if they considered their community walkable, just over half of the municipal respondents answered that their community needs improvement in regards to walkability. 30% considered their communities not walkable and 19% considered their community walkable with no improvement needed. When asked if they would say that their community is interested in improving walkability, 58% responded yes and 42% were willing to discuss the possibility.

Municipal respondents were asked if their community has any specific policies or plans that address walking. Table 8 below shows pedestrian related policies or plans by municipality and status. This was not a required question and 20 out of 25 communities who took the survey responded. While this list shows a good representation of walking related plans, the list is not exhaustive and only includes responses from municipalities, therefore there may be plans in these municipalities not listed.

Table 8: Pedestrian Related Policies or Plans by Municipality based on Survey Responses

Municipality	Plans	Status
Acushnet	Pedestrian Component of Master Plan	Complete
Berkley	Pedestrian Component of Master Plan	Complete
Dartmouth	Complete Streets	Complete
	Capital Improvement Plan	Complete
Fairhaven	Pedestrian Component of Master Plan	In Progress
	Open Space Recreation Plan	In Progress
	Capital Improvement Plan	Complete

Municipality	Plans	Status
Fall River	Pedestrian Plan	Complete
	Pedestrian Component of Master Plan	Complete
	ADA Transition Plan	Complete
	Pedestrian Component of Open Space Plan	In Progress
	Complete Streets	In Progress
Lakeville	Complete Streets	In Progress
	Pedestrian Component of Master Plan	Complete
Mansfield	Complete Streets	Complete
	Capital Improvement Plan	Complete
Marion	Pedestrian Plan	Complete
	Component of Master Plan	Complete
	Complete Streets	In Progress
	Component of Open Space Plan	Complete
Mattapoisett	Pedestrian Plan	Complete
	Complete Streets	In Progress
New Bedford	Pedestrian Component of Master Plan	Complete
	ADA Transition Plan	Complete
	Pedestrian Component of Open Space Plan	Complete
	Complete Streets	In Progress
North Attleborough	Complete Streets	In Progress
	Pedestrian Component of Master Plan	Complete
Norton	Complete Streets	In Progress
	Pedestrian Component of Master Plan	Needs to be updated
	Pedestrian Component of Open Space Plan	Complete
Raynham	Complete Streets	In Progress
	Component of Open Space Plan	Complete
Rehoboth	Component of Open Space Plan	Complete
Seekonk	Pedestrian Component of Master Plan	Complete
	Pedestrian Component of Open Space Plan	Complete
	Capital Improvement Plan	Complete
Somerset	Complete Streets	In Progress
	Pedestrian Component of Master Plan	Complete
Swansea	ADA Transition Plan	Complete
Taunton	Complete Streets	In Progress
	ADA Transition Plan	Complete
	Pedestrian Component of Master Plan	Complete
Wareham	Complete Streets	In Progress
	Pedestrian Component of Master Plan	Complete
	Pedestrian Component of Open Space Plan	Complete
	Capital Improvement Plan	Complete
Westport	ADA Transition Plan	Complete

When asked what they considered their biggest challenges to improving walkability, 93% of the municipal respondents answered that budget constraints were their biggest challenge, followed by right-of-way obstacles and public opinion.

Municipal survey respondents were asked to identify locations that they would like to prioritize pedestrian improvements. Those locations are shown on the map in Figure 10.

From SRPEDD's 2017 Regional Pedestrian Plan survey for municipal response - Question 9: Please list any location you would like to prioritize pedestrian improvements.

- Roads
- Priority Roads
- Priority Areas

Sources: MassGIS, MassDOT,
SRPEDD



THEASTERN REGIONAL PLANNING AND ECONOMIC DEVELOPMENT DISTRICT

Access to Transit

Walkability is a key component to effective transit, and transit is a key component to making walking a viable mode choice. TransitCenter, a foundation dedicated to urban mobility, released a report titled *Who's on Board 2016* which highlights the role of walking on transit ridership. One of the major takeaways from the report is that the most important “first mile/last mile” solution to transit access is walking. The report states “The majority of transit riders, including 80 percent of all-purpose riders, typically walk to transit.” This finding underscores the importance of putting transit stations in busy, walkable neighborhoods; building offices and housing within walking distance of transit; and providing more and safer pedestrian routes to transit.”

The SMMPO region is home to two regional transit authorities, the Southeastern Regional Transit Authority (SRTA) and the Greater Attleboro Taunton Regional Transit Authority (GATRA). SRTA operates fixed bus routes with designated stops for the majority of its service area, meaning that riders are picked up at designated stop locations only. In addition to designated stops, GATRA operates as a flag service for all of its service area, meaning that riders can “flag” the bus down to stop at any location along the route. Conditions at stops, including the visibility of the stop, signage, ADA accessibility, presence of benches or shelters and other factors vary widely from stop to stop. SRPEDD conducted a comprehensive Bus Stop Inventory of all designated stops in the SMMPO region from May 2015 to October 2016. A map of bus stop locations inventoried by SRPEDD is shown in Figure 11 on the next page. The inventory involved a field data collection process that looked at the presence and conditions of several factors related to bus stops. The report states, “a bus stop is more than a place where a transit bus picks up and drops off passengers, it is a place of transition where a pedestrian becomes a passenger and where a passenger becomes a pedestrian.” SRPEDD’s ultimate goal with the study is to develop a Bus Stop Capital Improvement Plan that identifies and prioritizes bus stops for improvements.

Communities served by the MBTA, GATRA and SRTA could reasonably convert car-to-transit trips to walk-to-transit trips and many may already have walk-to-transit percentages not reflected in census bureau journey-to-work statistics. Adding and enhancing pedestrian facilities therefore benefits other forms of transportation, primarily transit, which relies heavily on walking and bicycling to be the “first and last mile,” or connections, to origins and destinations.

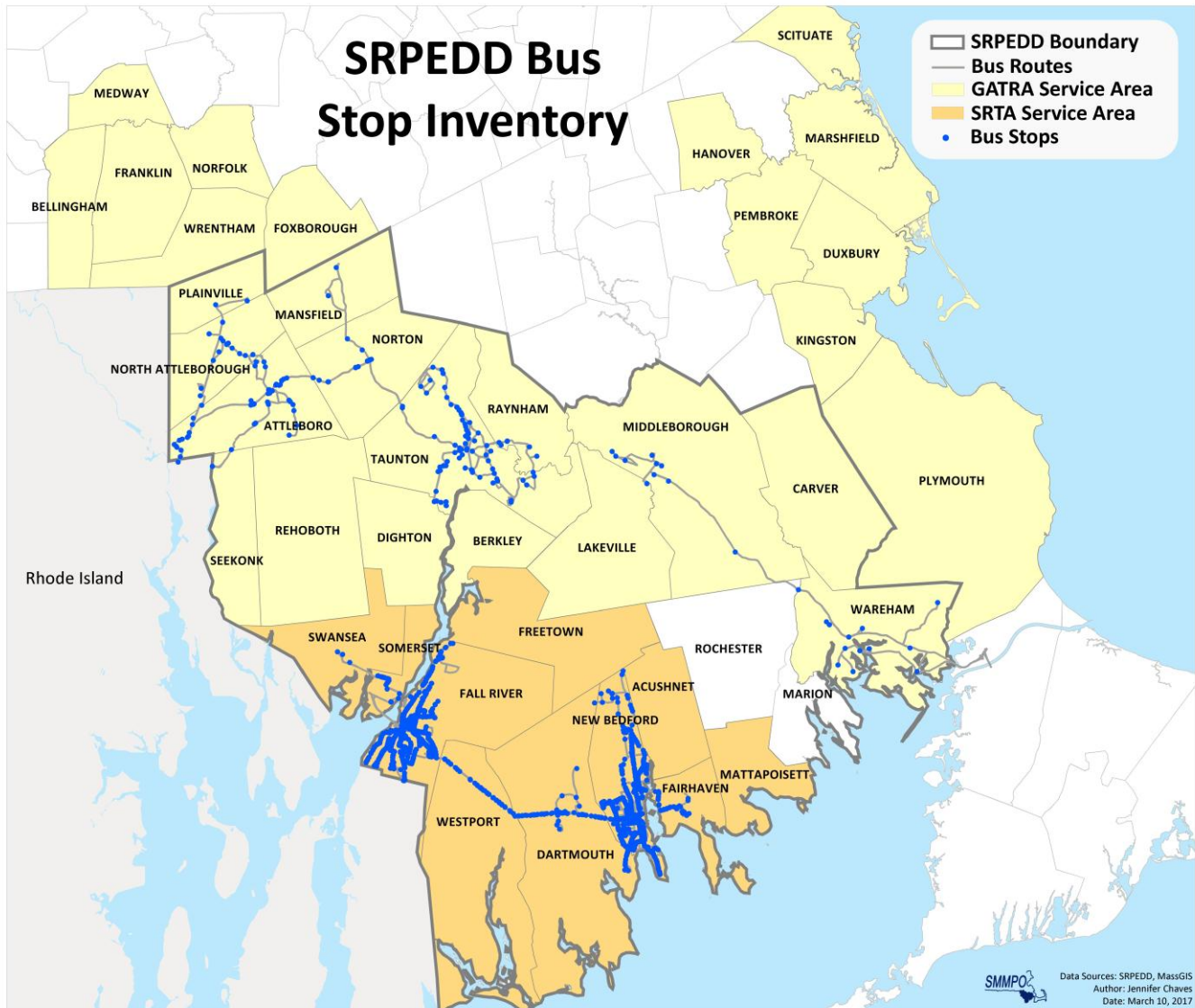


Figure 11: Map of Bus Stop Locations Inventoried by SRPEDD

There are four Massachusetts Bay Transportation Authority Commuter Rail Stations within the SMMPO region, three on the Providence/Stoughton Line - Attleboro, South Attleboro, and Mansfield and one on the Middleborough/Lakeville line – Middleborough/Lakeville. There is also one seasonal stop for the Cape Flyer line in Wareham Center. Pedestrian access to the station varies widely from station to station. Pedestrian access for some of the stations has been studied as part of other efforts, specifically the development of the Attleboro Intermodal Transportation Center and as part of projects surrounding the Mansfield Commuter Rail Station, but a comprehensive analysis of access to all stations has not been completed. A study of the walkshed (a land area within a certain walking distance of a location) for each station would help to identify and prioritize pedestrian improvements to transit access. Walksheds for transit are generally considered to be a quarter mile for “well served by transit” and a half mile for “served by transit”.

Community Level Walkability Maps

While it is important to get a picture of walkability at a large scale, many of the factors contributing to walkability are best viewed at the community level. Projects to improve walkability would also most likely be developed at a community scale versus a large regional scale based on funding and the need to service the specific needs of the individual community. To this end, we have developed a map for each of the SMMPO communities showing factors related to walkability in that individual community. Factors include the lack of pedestrian infrastructure such as sidewalks in relation to pedestrian trip generators, multi-use paths, and transit connections as described below. A sample community map of New Bedford is shown in Figure 12 on the next page. A map for each SMMPO community can be found in Appendix D.

Sidewalk Presence - SRPEDD maintains a database of sidewalks on federal aid eligible roadways as part of the pavement management program. The Massachusetts Department of Transportation (MassDOT) Road Inventory File also contains data on sidewalks. Roads with lack of sidewalks highlighted on the community walkability maps was developed using a combination of this data.

Pedestrian Trip Generators - For the purpose of this study we defined a pedestrian trip generator as a location likely to attract a pedestrian trip. For the map we used MassGIS Level 3 parcel data, a database that identifies the use of each parcel on a town by town basis based on the town's assessor data to represent the location of a generator. Schools, libraries, grocery stores, small retail stores, large retail stores, parks, open space, transit hubs and hospitals as categories for trip generators.

Multi-use Paths – As part of the Bicycle and Pedestrian program SRPEDD maintains a database of all existing and proposed multi-use paths in the region. Due to the use of the paths for walking they were included on the community level maps.

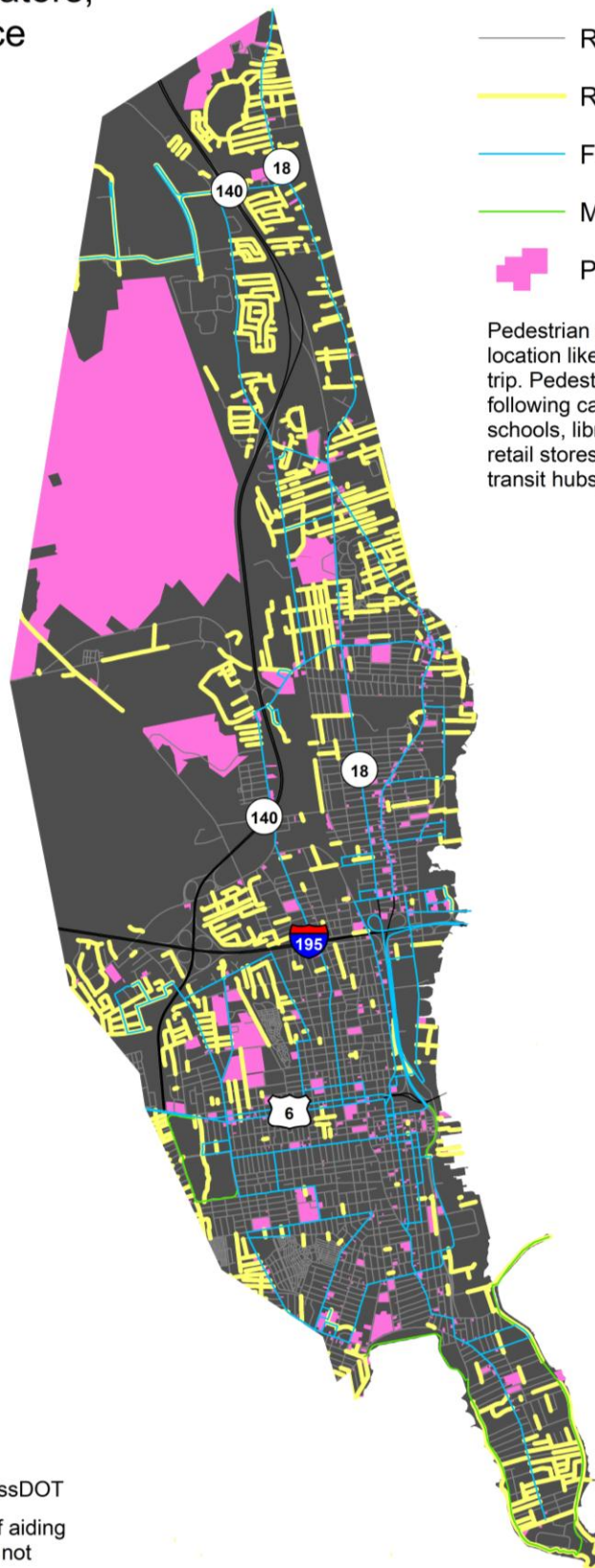
Transit Connections – An acceptable pedestrian walkshed, or the distance a pedestrian is likely to walk to reach a destination is usually considered to be between a half-mile to a mile. As many pedestrian generators can be outside of a pedestrian's walkshed, connectivity to transit is very important to make the connection between where the pedestrian lives and where they would like to go. This is especially important for pedestrians who do not own or have access to a car.

Roads Without a Sidewalk, Pedestrian Generators, and Transit Service

Legend

- Road
- Road Without Sidewalk
- Fixed Bus Route
- Multi Use Path
- Pedestrian Generator

Pedestrian generator is defined as a location likely to attract a pedestrian trip. Pedestrian generators in the following categories are displayed: schools, libraries, grocery stores, retail stores, parks, open space, transit hubs, and hospitals.



Sources: SRPEDD, MassGIS, MassDOT

This map is for the sole purpose of aiding regional planning decisions and is not warranted for any other use.

Figure 12: Community Walkability Map for New Bedford

Pedestrian Count Locations and Volumes

Over the past five years, SRPEDD has routinely collected data on the presence of pedestrians as part of the Signalized Intersection Database. The number of pedestrians and their movements are collected at signalized intersections during the intersection's expected vehicle two-hour peak volume as part of a data collection process that includes motor vehicle and bicycle movements. Counts were taken during the vehicle PM peak period and may not reflect the pedestrian peak period. Count locations and volumes by town are available in a bar graph format in Appendix E. A sample showing volumes and count locations in Attleboro is shown in Figure 9 below. SRPEDD will continue to collect pedestrian volumes with the goal of analyzing trends when comparative data is available.

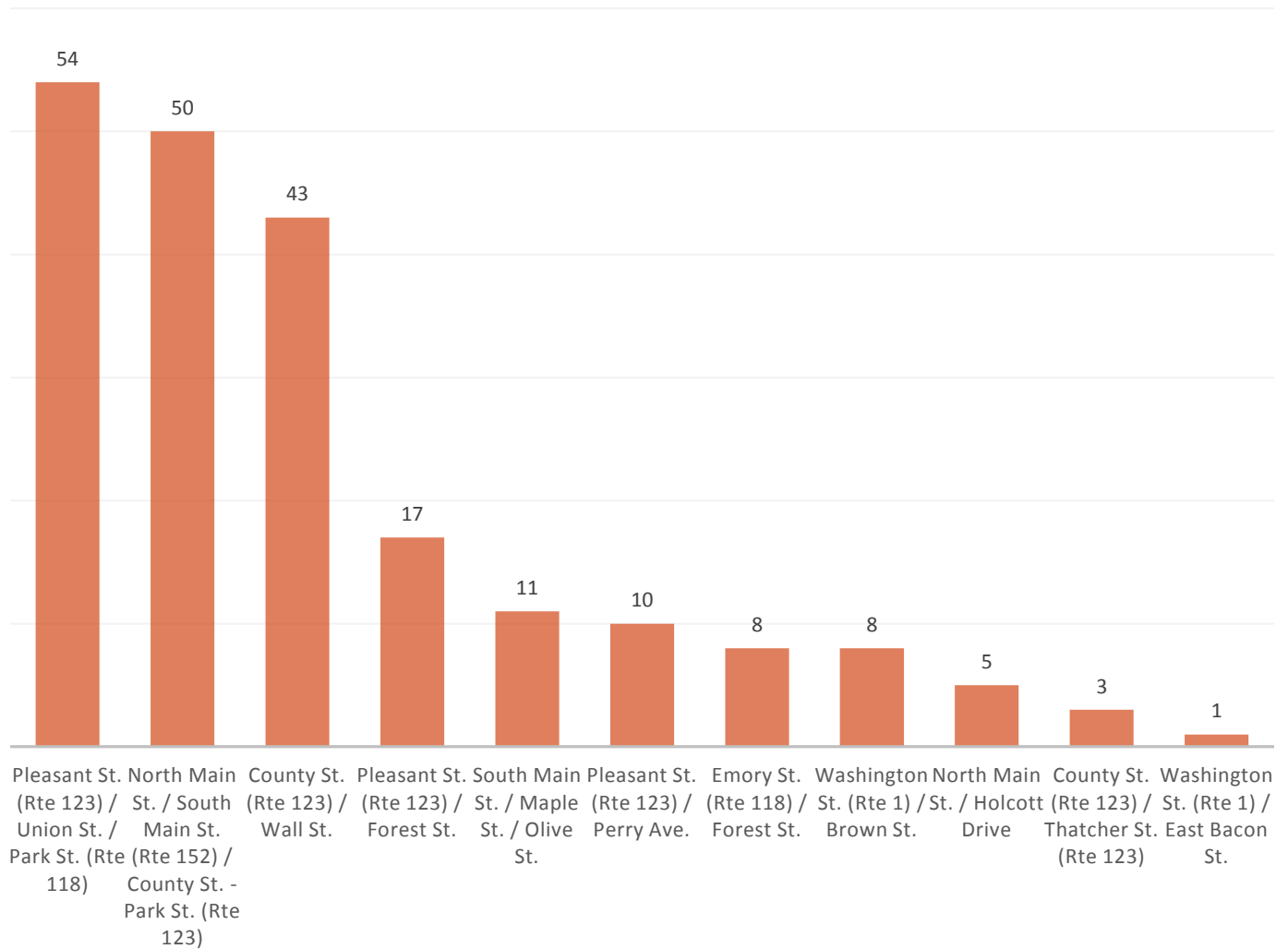


Figure 9: Pedestrian Volumes at Attleboro Intersections during the peak two hours of vehicle travel.

SRPEDD has also performed pedestrian counts at multi-use paths and locations related to bicycle and pedestrian infrastructure. These counts are focused on bicycle and pedestrian movements and generally involve a longer count interval than typically used for signalized intersection counts, most counts were performed for a 3-hour time period or longer. Counts were performed at both off road (multi-use path) locations and mid-block locations along the South Coast Bikeway interim routing. Count volumes and locations are shown in Figure 10 below.

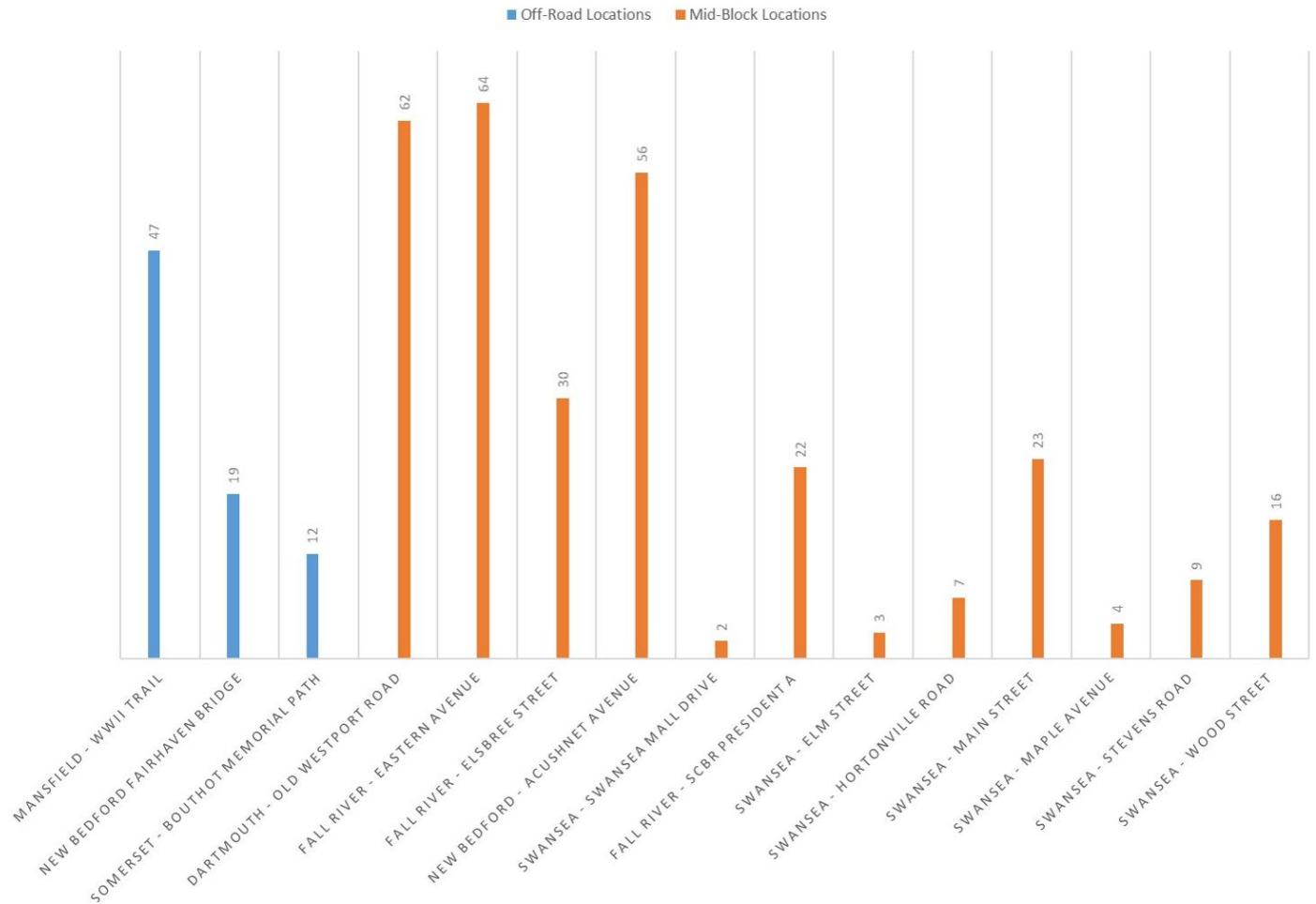


Figure 10: Pedestrian Volumes at Off Road and Mid-Block Locations

SRPEDD will continue to collect pedestrian volumes at intersections, off road paths and mid-block locations with the goal of analyzing trends when comparative data is available.

Prioritizing Roadways for Pedestrian Improvements/Future Conditions

The 2016 Draft Massachusetts Pedestrian Transportation Plan identified the following trends that could lead to an increase in pedestrian travel and emphasizes the importance of planning for improved facilities:

- Per capita vehicle miles traveled are decreasing, both nationally and in Massachusetts.
- Fewer teenagers are getting their driver's licenses.
- The ease with which people can use on-demand transportation services like Uber and Lyft is lessening the need for private vehicle ownership.
- Automated vehicle technology, specifically, crash avoidance systems, are becoming more common on new cars; fully autonomous vehicles are on the horizon.
- Real estate studies are showing a shift from single family homes to multi-unit buildings, and suburban populations are growing faster than urban ones.

These factors, coupled with new policies and programs such as Massachusetts Healthy Transportation Policy and Complete Streets Certification Program, highlight the need for planning and prioritizing for improved pedestrian facilities. A breakdown of pedestrian related programs and policies can be found in Appendix D.

As part of efforts related to SMMPO Regional Transportation Plans dating back to 2007, staff has identified, on a region-wide basis using GIS and municipal input, sidewalk existence in proximity to high priority pedestrian destinations. These destinations build upon the "priority locations for sidewalks" as identified in the 1998 Massachusetts Pedestrian Transportation Plan and involve pedestrian generators such as schools, transit routes, transit stations, major and small retail locations and medical services. The inclusion of sidewalks within a ½ mile of these destinations will encourage more people to utilize walking as their mode of transportation for short trips and make these particular locations more livable areas. Many of these locations have been on the list for its duration with little or no improvements made. Several locations were added to this list based on SRPEDD study recommendations.

Table 9 on the next page summarizes those major roadways in the SMMPO region that lack complete sidewalks and are within a ½ mile of two or more pedestrian destinations, thus making them "priority locations for sidewalks."

Table 9: Priority Sidewalk Locations in the SMMPO Region

Municipality	Location
Attleboro	Oak Hill Avenue (Route 118)- Lee Street to Rehoboth Town Line
Attleboro	Park Street (Route 118) - Oak Hill Avenue to Steere Street
Attleboro	Washington Street (Route 1) – Newport Avenue to North Attleborough Town Line
Dartmouth	Hixville Road - Village Drive to Faunce Corner Road
Dartmouth	Faunce Corner Road - Interstate 195 Ramps to Ledgewood Blvd
Dighton	Around Center Street and Somerset Avenue (Route 138)
Lakeville	Bedford Street (Route 105) - Wilkie Street to Highland Road
Mattapoisett	Fairhaven Road (Route 6) - Mattapoisett Neck Road to Main Street
Middleborough	Wood Street - Sachem Street to Wareham Street
Middleborough	Wareham Street – Wood Street to Fairview Street
Middleborough	Fairview Street - Wareham Street to East Grove Street (Route 28)
Middleborough	East Grove Street (Route 28) – Wood Street to South Main Street (Route 105)
Middleborough	West Grove Street (Route 28) - Anderson Avenue to Middleborough Rotary
Middleborough	Anderson Avenue – Old Center Street to West Grove Street (Route 28)
Norton	Route 123 – Attleboro Town Line to Easton Town Line
Norton	Mansfield Avenue - Mansfield Town Line to Freeman Street
North Attleborough	South Washington Street (Route 1) – Attleboro Town Line to Interstate 295 Ramps
Plainville	School Street - Highland Street to George Street
Raynham	South Street - Taunton City Line to Orchard Street
Raynham	Route 44 - Taunton City Line to Interstate 495 Ramps
Rehoboth	Route 44/Route 18 Intersection
Rochester	Hartley Road - Cushman Road to Vaughn Hill Road
Seekonk	Taunton Avenue (Route 44) - Arcade Avenue to Jacob Street
Somerset	Whetstone Hill Road – County Street (Route 138) to Millers Lane
Swansea	Milford Road – Swansea Mall Drive to Hortonville Road
Taunton	Norton Avenue – Ferncrest Drive to Tremont Street (Route 140)
Wareham	Depot Street / Glen Charlie Road - Minot Avenue to Perry Avenue
Wareham	Tobey Road/Main Street – Cranberry Highway (Route 28) to Hathaway Street
Westport	State Road (Route 6) – Gifford Street to S Berryman Street
Westport	Main Road – Adamsville Road to Brookwood Drive

Community Level Walkability Maps created by SRPEDD (available in Appendix A) highlight roads in the region that lack complete sidewalks and identify pedestrian generators that can be used to further evaluate locations for prioritizing sidewalks. Collector and arterial roadways have the highest need, however, and low traffic local roadways highlighted may not actually necessitate sidewalks.

Pedestrian transportation facilities that meet ADA guidelines should be an integral part of the overall transportation network. Pedestrian access, especially for persons with disabilities, to transit, community facilities, educational institutions, medical facilities, retail centers and employment centers should become a state and local priority in future transportation planning. More information on access for persons with disabilities can be found in Appendices B and C.

SMMPO staff can provide technical assistance to those communities who wish to plan for pedestrian facilities in their communities. For example, in 2016 SRPEDD was contracted by the City of Fall River to develop a Pedestrian Action Plan as part of the State and Local Public Health Actions to Prevent Obesity, Diabetes, and Heart Disease and Stroke Program (DP14-1422PPHF14) otherwise known as the 1422 Program, through the Centers for Disease Control and Prevention (CDC) and through the Massachusetts Department of Public Health (MDPH), Mass-in-Motion Fall River, and the Stanley Street Treatment and Resource Center.

The Pedestrian Action Plan involved an extensive inventory of existing pedestrian conditions for priority routes within the one-mile walkshed of the Alfred J. Lima Quequechan River Rail Trail (AJLQRRT) which opened in 2016. Data collection was performed using ArcGIS Collector Software. The software allows data to be collected on a tablet and georeferenced to each location. A screen shot of the software can be found in Figure 14. Streets were broken down into segments and intersections for collection purposes and a set of questions was developed for each type, one for intersections and one for points. Questions were developed by SRPEDD and reviewed by Mass-in-Motion Fall River and the Fall River Bicycle and Pedestrian Commission. The questions incorporated several factors related to safe pedestrian travel including presence of sidewalks, crosswalks, signage, and benches and other street furniture, maintenance conditions, wayfinding, basic ADA compliance, tree presence and several other features. Sidewalk presence for the priority walking routes is shown in Figure 15 on the next page.

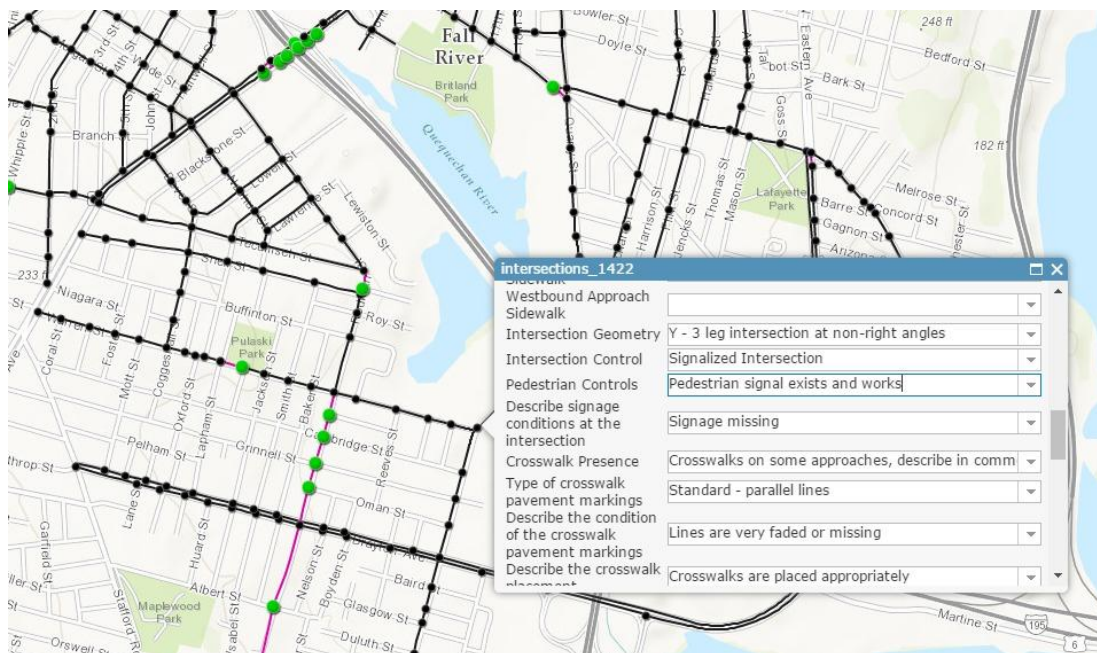


Figure 14: Screenshot of ArcGIS Collector Pedestrian Condition Data Collection Tool

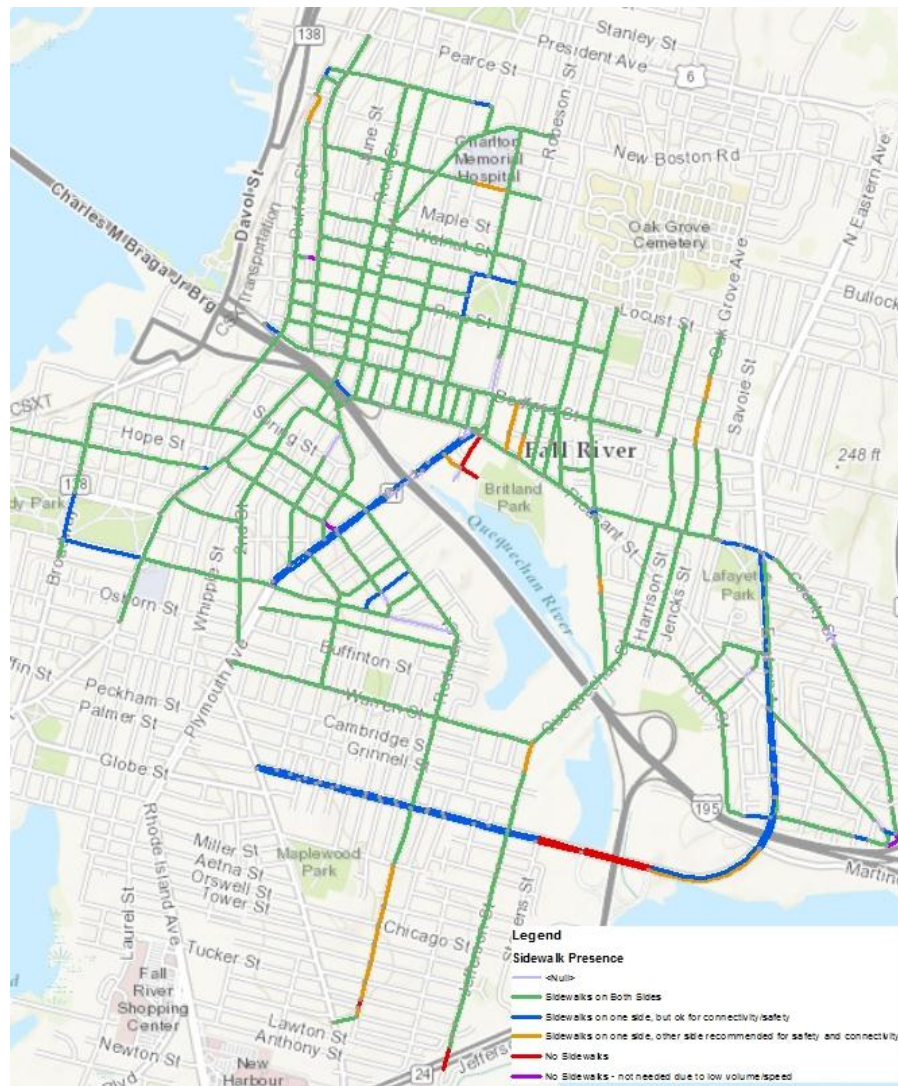


Figure 15: Sidewalk Presence on the Priority Walking Routes for the AJLQRT Walkshed

Data from this process was used to develop a list of improvement priorities. SRPEDD hopes to continue use of this detailed and informative process to collect data throughout the region. A similar effort is currently underway in several towns as part of Complete Streets efforts.

Conclusions and Recommendations

Walkability has health, environmental and economic benefits. According to the Center for Disease Control (CDC) and other sources, physical activity has been shown to prevent chronic diseases such as diabetes, hypertension, obesity, cardiovascular disease and osteoporosis. Walking is a form of physical activity that does not require a gym membership or for the participant to be in good physical shape, therefore it is easy for most people to access. Increased walking reduces automobile trips which leads to a reduction of carbon emissions, leading to improved air quality and overall quality of life.

More and more people are choosing to live and work in walkable communities. People also like to take trips where they can avoid using their car and being stuck in traffic. Communities can benefit from these trends economically by making their community walkable and therefore attractive for homeowners, businesses and tourism.

The SMMPO recommends the following to improve walkability and address pedestrian needs throughout the region:

1. Improvements in the forms of new/improved sidewalks, pedestrian-actuated signals, striping of crosswalks, raised table crosswalks, bump-outs, pedestrian refuge medians, sharpened street corners, “no turn on red” or “yield to pedestrian” signage and improved lighting should be considered at all intersections along corridors with high numbers of pedestrian crashes identified in Tables 2 and 3.
2. Improvements to streets where high rates of pedestrian crashes occur at non-intersection locations (as identified in Table 4), including mid-block crosswalks, improved lighting and new/improved sidewalks should be implemented. Mid-block crossings should be studied further to see if they are correctly placed or potentially creating unsafe conditions for pedestrians, especially in locations that could be experiencing multiple threat crashes.
3. Sidewalk construction and/or improvement should be prioritized at collector and arterial roadways within a half-mile of any school, child/elderly service and transit hub, as well as along routes that have fixed transit service and between residential areas and commercial areas. This includes those roadways identified in Table 5 and gaps identified in the Community Level Walkability Maps in Appendix A. Developers along these roadways should be encouraged to construct sidewalks to connect to pedestrian destinations. New construction on roadways should also consider transit pull off areas.
4. In major employment centers where transit stops are located at a distance from the destination points, sidewalks should be included along internal roadways in order to provide safe access to and encourage the use of transit facilities.

5. Recommendations from SRPEDD's Bus Stop Inventory Program that improve and encourage pedestrian access to transit should be implemented.
6. Access to the existing and proposed commuter rail and commuter bus stations in the SMMPO region, including each stations walkshed, should be studied with the goal of improving and encouraging pedestrian access.
7. Sidewalks built to MassDOT Design Guide and ADA standards (including appropriate curb ramps, etc.) should be included with new road construction, road improvements and in private developments.
8. In large retail developments where storefronts are setback from the street by parking lots, sidewalks and crosswalks should be considered to provide pedestrian access from surrounding streets in logical locations where pedestrian traffic would be the heaviest. This includes sidewalks along any internal circulators with crosswalks at each internal intersection. In urban areas, retail developments should be encouraged to design access with minimal interaction between parking cars and pedestrians, preferably placing parking to the side or rear, to avoid the necessity of pedestrians having to transverse large and potentially dangerous parking lots.
9. Increased enforcement related to pedestrian safety, especially related to pedestrian right-of-way in crosswalks. Pedestrian crossing and awareness signs along with education campaigns are strongly encouraged. Potential locations for this signage and enforcement should include locations identified in the tables of this plan.
10. Encourage local school districts to form partnerships with MassRides under the Safe Routes to School program in order to fund infrastructure projects and educational programs regarding pedestrian safety around schools.
11. Encourage communities to participate in the Massachusetts Complete Streets Certification Program to potentially qualify them for additional complete streets funding and to help promote complete streets design principles in SRPEDD communities.

Expanding and improving pedestrian infrastructure in the region will make pedestrian travel safer and more efficient and encourage more people to utilize walking as a form of transportation. Communities that are walkable allow for more convenience and less use of the single occupancy vehicle. They also can be better served by transit as they allow for higher densities. All of these factors make for a more livable and sustainable community.

“The transportation system should be socially equitable and strengthen civil rights; enabling all people to gain access to good jobs, education and training, and needed services. Where possible, personal transportation expenses should be minimized in ways that support wealth creation. Integrated with land use planning, transportation should also enhance the quality, livability and character of communities and support revitalization without displacement. The transportation system should allow every American to participate fully in society whether or not they own a car and regardless of age, ability, ethnicity, or income.”

–The New Transportation Charter, Surface Transportation Policy Project, 2001