Chapter 6: Vulnerable Users Transportation

Facilities for safe, convenient, and efficient bicycle and pedestrian transportation are key elements of a well-balanced regional transportation network. Many of the Old Colony's goals, objectives, and policies include supporting a comprehensive and sustainable transportation network through the fostering of non-motorized active transportation choices.

Bicycling as a mode of transportation offers a high degree of personal mobility, providing door-to-door access, often at speeds comparable to or greater than automobile travel in high-density urban areas. In recent years, bicycling has become an increasingly popular healthy mode choice of travel for commuting to school, work, recreation and exercise. The ever-increasing cost of automobile ownership, a growing focus on sustainability and the persistent issue of traffic congestion has driven much of the increase in the popularity of bicycling as a form of transportation.

Safe, convenient, and well-designed bicycle transportation infrastructure is essential to encourage bicycle use. Roads designed to accommodate bicyclists of all abilities will meet the needs of most users and encourage bicycling for everyday use according to the Massachusetts Department of Transportation (MassDOT). Young children, women and the elderly are especially vulnerable and may require special consideration when designing bicycle transportation facilities, particularly on busy arterial streets and those roads with high-speeds and high traffic volumes.

All bicyclists are best served by:

- Extra operating space when riding on the roadway such as cycle tracks, protected bicycle lanes, bicycle lanes, useable shoulders, or wide curb lane
- Low speed streets (where cars and bicyclists share travel lanes)
- A network of designated bicycle facilities (bicycle lanes, side-street bicycle routes, and shared use paths).

All travelers are pedestrians at some point in their trip, and pedestrians are part of every roadway environment. Pedestrian facilities include sidewalks, walking paths, crosswalks, stairways, curb cuts, curb ramps and transit stops. In some areas, particularly in suburban and rural communities, pedestrians may be sharing the roadway itself or its shoulders. It is important to understand that there is no single "pedestrian type" and that the transportation network needs to accommodate a variety of pedestrians of varying abilities. For example, children perceive their environment differently from adults and are not able to judge how drivers behave. Children typically walk slower, have a shorter gait, and have lower eye height than adults. On the opposite end of the spectrum, older adults may require more time to cross a street, desire more predictable surfaces, benefit from handrails in steep areas and may

require places to rest along their route. People who are blind or have limited sight require audible and tactile cues to safely navigate sidewalks and crosswalks.

People with limited cognitive abilities may rely on symbols, way-finding signage and take longer to cross the street than other pedestrians. Pedestrians using mobility devices such as wheelchairs, scooters, and walkers need pedestrian infrastructure that possesses adequate widths, slopes and to be free of obstacles to allow these pedestrians to travel with ease and with a high degree of comfort. It is important to recognize pedestrians exhibit a wide range of physical, cognitive, and sensory abilities, but they all comprise the pedestrians that roadway design needs to accommodate.

An Act to Reduce Traffic Fatalities

On January 2, 2023, Governor Baker signed An Act to Reduce Traffic Fatalities into law. This bill has a variety of components that will make roadways within the OCPC region and across the commonwealth safer for everyone.

Key components of the bill are as follows:

Defines Vulnerable Road User

The legislation defines 'vulnerable road users' to include people walking and biking; roadside workers; people using wheelchairs, scooters, skateboards, roller skates, etc.

Safe Passing

The bill requires "safe passing distance" to be 4 feet. Massachusetts is one of the last states to pass a safe passing distance, this will be in line with other states in terms of roadway safety.

Truck Safety Devices

Requires state contracted trucks to be equipped with safety side guards, mirrors, and backup cameras to reduce fatalities of people walking and biking.

Safer Speed Limits

Clarifies the process for municipalities to alter speed limits in thickly settled areas from 30 MPH to 25 MPH both on state-controlled roads and on the roads they control.

Crash Reporting

To improve statewide data collection surrounding vulnerable road user crashes, the bill develops a standardized analysis tool to be used to report crashes and incidents involving a person biking or walking.

Rear Red-Light Requirement

To ensure cyclists are visible on our roadways, the legislation adds a new requirement for the use of rear red lights at night. This means that when riding at night bicyclists should have both a front and rear light.

ISSUES IN THE OLD COLONY REGION

There continues to be Elementary, Middle, and High Schools in the region not taking advantage of the Safe Routes to School Program. The Safe Routes to School program (SRTS) aims to encourage and promote kids to walk and bike to school rather than being driven to campus through collaborative community approaches. As of June 2022, 47 Schools are partner schools in the OCPC region.

The Old Colony region is generally auto dependent. Over the past six decades, land-use decisions have generated demand for a transportation system designed to accommodate automobiles without consideration of other transportation modes. Changing demographics, which includes an aging population and a citizenry that is becoming more diverse and includes a wider variety of people who cannot afford the expense of a personal auto (or choose not to drive) and requires better and broader choices in transportation services and infrastructure. Mode shift and inter-modalism can help alleviate auto dependence by increasing the use of transit, carpool/vanpool, and non-motorized transportation modes such as bicycling and walking.

Bicycle parking at transit facilities continues to underperform in some locations. While most transit facilities in the region provide bicycle-parking racks, the number of people biking to transit stations and park and ride facilities remains very low. The minimum security of these racks and a lack of shelter for bicycles may deter bicyclists from taking and parking their bikes at these facilities. Access to park and ride lots and the location of some in the region are not conducive to bicycle too since most roads leading to these park and ride lots are high-speed, high-volume arterials that are unfriendly to cycling. Additionally, facilities such as showers are not available at some individual's place of employment or located near their places of employment, which might suppress the potential of people's willingness to bike to work since they cannot clean up before they begin the workday.

The current ADA accessible sidewalk network does not meet the needs of the users in all places. Most of the main roadways in the region have a sidewalk on at least one side. However, there are many smaller roadways, particularly in more rural areas, where sidewalks are not present. In some cases, worn footpaths exist and in other areas, pedestrians share the roadway with vehicles. For existing sidewalks, width, surface type and conditions, and curbing conditions vary. In some cases, sidewalks are in disrepair from weathering and vegetation and many are lined with obstacles (such as trash cans or utility poles) that make it hard to navigate for those using mobility devices.

Access to major employment centers is constrained due to the region's over-reliance on the automobile as its main source of transportation. Not all major employment centers are accessible by public transportation nor have adequate bicycle transportation infrastructure and amenities that would encourage individuals to bicycle to work to help mitigate the impacts of traffic congestion. With the automobile being such an integral part of one's commute, routes leading to these major employment centers become congested and decrease the quality of life for all that wish to access these places on foot or bicycle.

Environmental Justice Areas generally suffer from lack of infrastructure upgrades. The older infrastructure could generally include poor pavement conditions, lack of ADA compliant sidewalks, and lack proper crosswalks and bike lane markings.

EXISTING CONDITIONS

Sidewalks

According to the Massachusetts Road Inventory File, the Old Colony region has over 390 miles of roadway with a left and/or right sidewalk. Most of the main roadways in the region have a sidewalk on at least one side. However, there are many smaller roadways, particularly in more rural areas, where sidewalks are not present. In some cases, a worn footpath exists and in others, pedestrians share the roadway with vehicles. For existing sidewalks, width, surface type and conditions, and curbing conditions vary. In some cases, sidewalks are in disrepair from weathering, overgrown vegetation and may contain a number of obstacles that impede pedestrians.

Existing Walking Paths and Trails

Several parks, nature areas, and recreation areas throughout the region feature walking and shared use paths. These areas include:

- Ames Nowell State Park, Abington
- Hanover Branch Rail Trail, Abington
- Borderland State Park, Easton
- D.W. Field Park, Brockton and Avon
- Myles Standish State Forest, Plymouth
- Wes Bridgewater Rail Trail, West Bridgewater

In addition to these major areas, several smaller parks and conservation areas exist in each of the towns, many providing pedestrian trails and paths. Bridgewater State University has a network of paved footpaths connecting campus buildings, parking areas, and the Bridgewater MBTA Commuter Rail Station.

Dedicated Bicycle Routes

Claire Saltonstall Boston to Cape Cod Bikeway: The Boston to Cape Cod Bikeway ("Claire Saltonstall Bikeway") is the major bike route in both the Old Colony region and Massachusetts. This facility is approximately 65 miles from Boston to the Cape Cod Canal and then runs to both Provincetown (about 70 miles from the canal) and Woods Hole (about 20 miles from the canal). Principally, it accommodates long-distance recreational trips. The Bikeway traverses existing roadways with the bike route marked by road signage. This facility was developed to utilize low volume back roads as much as possible. In addition, the bikeway provides bicyclists with considerable opportunities to visit points of interest such as historical sites, shopping districts, and parks. In the years since the bikeway was planned, some of the roads, such Long Pond Road in Plymouth, have had large increases in traffic volume, and significantly more conflict between bicyclists and motorists could be occurring now. Additionally, signage that once provided route guidance for bicyclists to follow is missing on many legs of the Claire Saltonstall Bikeway or has fallen into disrepair.

Bay Circuit Trail: The Bay Circuit Trail (BCT) is a more than 230 mile long recreation trail connecting parks, open spaces, and waterways in eastern Massachusetts.-First proposed in 1929 as an outer "emerald necklace," the route stretches from Plum Island in Newburyport on the North Shore to Kingston Bay, traversing 50 cities and towns. The BCT varies in surface type, from earthen hiking trails to paved shared-use trails.

Recreational Bicycle Routes

Seaside Bicycle Trail: The Seaside Bike Trail in Plymouth is a 1.5-mile long facility that runs parallel to the Plymouth seashore between Hedge Road (just south of Cordage Park) and Nelson Street (just north of Downtown Plymouth) at the Nelson Street Recreation Area.

D.W. Field Park Parkway: D.W. Field Park in Brockton has a road that is partitioned for motor vehicles and active transportation usage. The D.W. Field Parkway is 5 miles in length and segmented into a northern section above Pleasant Street and a southern portion below Pleasant Street.

Easton Schools Complex Bikeway: The Town of Easton Schools complex has a quarter mile bikeway within the schools complex campus. The bikeway stretches from Columbus Ave to Lothrop Street.

Areas of Concentrated Activity

Many of the areas of concentrated activity are located within the traditional downtown areas of the Old Colony communities, such as Downtown Brockton, Downtown Whitman, Stoughton Center, Downtown Easton, etc. Others are centered on transit stations, such as the Montello and Campello stations in Brockton.

Abington

The Town of Abington possesses no one concentration of commercial and/or high-density housing units that could be considered a town center. Instead, Abington has a pocket of

commercial activity along certain corridors and housing units disseminated throughout the Town in a suburban pattern. The Town created Transit Oriented Development (TOD) around its MBTA Commuter Rail station and the Town's central business district to encourage the development of uses that complement both the existing rail line and the surrounding residential areas. The district encompassed thirty acres around the Commuter Rail station.

The Town of Abington continues to experience growth but not at the previous rate, it did between the 2000 and 2010 U.S. Census periods. The Abington MBTA Station along with the close proximity of the Stop & Shop/Target shopping center has the potential to become a major intermodal transportation center serving the increasing population and economy of Abington and the surrounding towns by containing the following features:

- Commuter Rail (Existing)
- Parking Facility (Existing 400+ Vehicle Lot)
- Enhanced Walkways between the Station, Housing, and Central Business District
- Enhanced Pedestrian Amenities at area signalized intersections (Potential)
- Bicycle Lockers (Potential)
- Fixed Route Bus Service by Brockton Area Transit (Potential)
- Bicycle transportation facilities such as bicycle lanes between the Station, Housing, and Central Business District

Downtown Bridgewater

Downtown Bridgewater is a crossroads of three numbered Routes: 18, 28, and 104, and served by MBTA Bridgewater Commuter Rail Station. Additionally, the Town of Bridgewater also receives public bus service via Bridgewater State University student bus service and through the Brockton Area Transit Authority's Route 28. Development patterns in the area feature a New England Village style town center, with a mix of housing, local businesses, and services. Traffic flows around the town center in an oblong roundabout-like facility. Bridgewater State University abuts the town center and is a major generator of pedestrian traffic. Many students living in nearby off-campus housing commute to class by foot or biking and similarly many on-campus students travel to nearby businesses via the same means.

Several municipal buildings, including the Town Hall and Public Library, are also located within the center and generate pedestrian and bicycle trips. Due to the scarcity of parking, in some cases, visitors who arrive by automobile must park some distance away from their ultimate destination, and travel from their parking spot to the destination on foot. The area can be greatly served by enhanced pedestrian amenities, including pedestrian countdown signals at signalized intersections and raised crosswalks at major crossing points. Bicycle lanes should be considered on the major roadways leading to and from the college, as the college has a significant population of students and faculty alike that live in nearby housing and may be well served by the option to safely bike to the school. The bicycle transportation infrastructure operating through the town center roundabout should be of robust design with a high degree

of protection for the bicyclist. The Bridgewater MBTA Station should be included in all bicycle and pedestrian improvements involving the college.

Downtown Brockton

Brockton is the largest community in the Old Colony region and is a center of housing, commerce, industry, and government. The Downtown Brockton area contains all of these types of land use within a tight, concentric high-density core that extends between Court Street and Belmont Street from north to south, and Commercial Street and Warren Avenue from east to west.

The Downtown is a typical urban center with a mix of residential units, offices, and retail and service-oriented businesses. Brockton City Hall, Brockton Police Headquarters, the US Post Office, government (county and state) offices, Brockton Area Transit's Intermodal Transportation Centre; and the Brockton Commuter Rail Station are all located within the Downtown. This mix of development over a confined urban downtown generates a large number of pedestrian trips within and into Downtown Brockton. Due to the dense urban pattern of Brockton and in particular Downtown Brockton, makes for the high potential for everyday bicycling in the city according to MassDOT standards laid out in its Bicycle Plan. While there has been increasing progress to implement better pedestrian and bicycle transportation infrastructure in the Downtown Brockton area, additional facilities with a strong focus on greater pedestrian and bicyclist safety and security in the city and the downtown area should be developed to promote greater pedestrian and bicycle activity for transportation purposes. These pedestrian and bicycle infrastructure improvements include:

- Pedestrian countdown signals at Downtown intersections and safety bollards
- Leading Pedestrian Interval (LPI) or concurrent pedestrian signal phase policies
- Better lighting of sidewalks and streetscapes
- Raised crosswalks on Commercial Street, between the Brockton MBTA Station & BAT Intermodal Centre, and in front of the Post Office
- Well maintained, brightly painted crosswalks throughout Downtown Brockton
- Bicycle Lockers at Brockton MBTA Station, BAT Intermodal Centre, and various locations downtown
- Protected bicycles lanes in downtown
- Network of bicycle lanes throughout the City of Brockton
- Bicycle wayfinding signage throughout the city

Campello and Montello MBTA Stations

The Montello and Campello neighborhoods of Brockton each have an MBTA Commuter Rail Station. Montello Station is located between North Montello Street (Route 28) and Spark Street, just to the south of Howard Street (Route 37). Campello Station is located off Plain Street, just to the east of Montello Street (Route 28). Both neighborhoods are very densely developed, and each station generates a large amount of pedestrian traffic. In addition to commuter rail service to Boston, each station is served by Brockton Area Transit's fixed route bus service, and Montello Station is served by MBTA fixed route bus service to Holbrook, Randolph, Braintree, and Quincy.

Montello Station could be better served by greater traffic enforcement on North Montello Street (Route 28). Even though there are clearly defined crosswalks and Rectangular Flashing Beacons (RFBs) at the southern crosswalk at Montello (Route 28) and Wilmington Street, many drivers do not stop for pedestrians even when the RFB has been activated by pedestrians. Additionally, a counter flow bicycle lane should be established on Wilmington Street to bring bicyclist from the MBTA Commuter Rail Station up to North Main Street.

The Campello Station could be better served by enhanced pedestrian connections to the surrounding neighborhood, as access is currently largely limited to the driveway off Plain Street. Many pedestrians access Campello Station via Riverside Ave and currently climb a dirt berm in order to access the station platform. Installing stairs and an accessible wheelchair ramp would allow pedestrians to transverse this berm in a safe and comfortable manner. A pedestrian bridge over the railroad track to Forest Street would allow pedestrians to access the station from the eastern neighborhoods across the tracks making it feasible to walk to this station from homes in this area. Establishing bicycle lanes and wayfinding leading cyclists to the Station are needed.

- Improve Roadway Lighting
- Construction of new sidewalks/Pedestrian bridge
- Construction of bicycle paths and bicycle lanes

Design and implantation of any improvements on local and federal-aid eligible roadways around these stations would be the responsibility of the host communities as these roadways are under local jurisdiction.

Downtown Stoughton

Stoughton Center is a densely developed area around the intersection of Routes 27, 138, and 139. The Stoughton MBTA Commuter Rail Station is also located in Stoughton Center. Development around the Center features a mix of small local shops; services; municipal facilities; and housing. Like other MBTA Station in the Old Colony Region, the Stoughton MBTA Station has the potential to develop into a major intermodal transportation center serving the population and economy of Stoughton and the surrounding towns by containing the following features:

- Commuter Rail (Existing)
- High-Capacity Parking Facility (Existing 400+ Lot)
- Enhanced Walkways between Station, Housing, and Central Business District (Existing and Potential)
- Enhanced Pedestrian Amenities at area signalized intersections (Existing and Potential)
- Bicycle lanes
- Bicycle wayfinding signage
- Bicycle Lockers and Bike Racks (Existing and Potential)

Downtown Plymouth

Downtown Plymouth is less defined than some of the other downtown areas in the region but generally extends north to south along the waterfront from Samoset Street (Route 44) to Lincoln Street. In addition to the traditional mix of commercial, residential, and municipal uses, the Downtown area of Plymouth also features historic sites and major tourist destinations such as Plymouth Harbor, Plymouth Rock, Pilgrim Hall Museum, and the Mayflower II. Plymouth Harbor provides seasonal waterborne transportation options to Provincetown and serves as an operational fishing port.

Plymouth has a parking management system in the Downtown that directs visitors to park at any one of a network of surface parking lots throughout the area, pay for parking, and walk to their destination. Safe and efficient pedestrian amenities are critical to the vitality of Downtown Plymouth, as many businesses, tourist attractions, and government offices do not have on-site or readily available nearby street parking.

Plymouth's MBTA Commuter Rail Station is just 1.74 miles outside the town's linear downtown. While the distance between the MBTA Commuter Rail Station and Plymouth's downtown is not very conducive to walking, it is a bikeable distance. The extension of the Seaside Rail Trail to the Plymouth MBTA Commuter Rail Station would provide a car-free bicycle ride from the station to the northern point of Plymouth's Downtown area, making it more conducive for commuters to combine a bicycle with their Commuter Rail trip. Additionally, the extension of the Seaside Rail Trail would allow for safer and more direct trips between Plymouth's Downtown and the Cordage Commerce Center, which houses many businesses and the Quincy College Plymouth Campus and housing currently in development on the former Walmart site. Needs include:

- Rectangular Rapid Flash Beacons (RRFB) to better delineate crosswalks
- Bike Racks around the Downtown
- Pedestrian countdown signals at signalized intersections
- Leading Pedestrian Interval (LPI) or concurrent pedestrian signal phase policies
- Raised Crosswalks at major mid-block crossing points
- Increased lighting on side streets and alleyways that connect Main Street to Water Street
- Extension of Seaside Rail Trail to Plymouth MBTA Commuter Rail Station
- Bicycle lockers at the Plymouth MBTA Commuter Rail Station

- Expansion of bicycle lanes throughout the Town of Plymouth

Design and implementation of any improvements on these local and federal-aid eligible roadways would be the responsibility of the host communities as these roadways are under local jurisdiction.

Cedarville

Cedarville is a village in the center of Plymouth located at the southern end of Plymouth, between Exit 2 on Route 3, Route 3A, and Hedges Pond Road. The area is highly commercialized along State Road (Route 3A) between Herring Pond Road and Hedges Pond Road. While much of the residential development in the surrounding area is low-density, a large high-density residential development is located along the southern boundary of the village center, on the east side of Route 3A.

The Town has identified this area as an area with a large amount of pedestrian activity and high-hazard to pedestrians. Route 3A is a wide cross-section with high speeds and no signalized intersections to assist with crossings. Pedestrians crossing the highway ramp system at Route 3 Exit 2 also face a high-degree of hazard with unprotected crossings and high travel speeds. According to Strava Metro heat map data, bicyclists do travel through the Cedarville area. However, there is no bicycle accommodation in the Cedarville area. The following improvements have been identified that could greatly improve safety and mobility for pedestrians in the area:

- Signalize the Route 3 Ramps at Herring Pond Road
- Signalize the intersection of State Road (Route 3A) and Herring Pond Road
- Signalize the intersection of State Road (Route 3A) and Hedges Pond Road
- Enhance mid-block crossings at shopping centers, between Herring Pond Road and Hedges Pond Road, and at White Cliffs
- Widening asphalt sidewalks in the area to change their function from pedestrian only, to multiuse paths that accommodate pedestrians and bicyclists.

Queset Commercial District

The Queset Commercial District centers on Route 138 and Route 123 in the Town of Easton. Found in this area are Stonehill College and numerous retail and dining establishments. With the recently developed Water Point Condominium project, formerly known as Queset Commons, the resident population is expected to rise and with the additional retail component of the Water Point Condominium project, there is the potential for greater traffic congestion and bicycle and pedestrian activity due to the increased retail offerings. Currently, the retail establishments around the Queset Commercial District area generates a large amount of pedestrian traffic originating at Stonehill College, with most of these trips travel back and forth on Route 138 and Route 123, with students walking between the two commercial areas of Downtown Easton and the Starbucks plaza. Safety and security along Route 138 and Route 123 can be enhanced for pedestrians and bicycle riders by:

- Creation of bicycle Lanes along Route 138 between Route 123 and Main Street
- Creation of bicycle lanes between Route 138 and Pearl Street
- Enhancement of traffic signals along these two corridors
- Installation of pedestrian signal at Route 138 and Route 123
- Work with Stonehill College to redevelop its former main entrance, the Blessed Basil Moreau Drive, into a bicycle and pedestrian corridor
- Improve signage at the Natural Resources Trust (NRT) Sheep Pasture to inform pedestrians and bicyclists they can pass through this area to reach Downtown Easton.
- Establish well-lighted walkways and streetscapes

Downtown Easton (North Easton)

Downtown Easton or North Easton Center as it is sometimes referred to, is a stretch of Main Street in the Town of Easton that is bound by Seaver Street to the east and Day Street to the west. Found along this stretch of road are numerous retail and dining establishments with single-family homes and medium density housing units present in the area. Downtown Easton is flourishing economically. With this success has come more pedestrian and bicycle activity. Additionally, Downtown Easton has constrained parking availability that results in patrons and residents having to park further away from their destination or homes requiring them to walk a longer distance. Due to the limited road width between Williams Street and Day Street, there are no bicycle lanes or shoulders able to accommodate bicyclists. The following improvements have been identified that could greatly improve safety and mobility for pedestrians and bicyclist in this area:

- Install more bicycle parking to encourage individuals to bike to the area rather than driving their car
- Establish bicycle transition markings informing drivers that cyclist will be leaving the shoulders and taking the travel lane as they enter the commercial area of Downtown Easton
- Reduce automobile speeds along Main Street between Seaver Street and Washington Street to 25mph.
- Increase traffic enforcement along Main Street
- Establish bicycle wayfinding signage
- Where space allows, establish more pedestrian seating

Five Corners (South Easton)

Five Corners is a commercial area located in the Town of Easton, in a section of town known as South Easton. Five Corners is characterized by suburban auto-oriented development with the dispersion of low-density single-family housing and two multifamily complexes. The area is being upgraded to a sewer waste management system that will allow greater commercial and residential development to take place than the current septic waste management systems can handle now. If more intense commercial and residential usage occurs as a result of the upgrade to a sewer system, there will be the potential for greater pedestrian and bicyclist activity than

there is now. The following improvements have been identified that could greatly improve safety and mobility for pedestrians and bicyclist in this area:

- Install pedestrian countdown signals
- Establish a crosswalk on Bay Road and Depot Street
- Reestablish the bicycle lane along Depot Street that is no longer up to modern standards by widening the bike lane to be used as a multiuse path.
- Provide bicycle accommodation such as bicycle lanes in this area.
- Provide greater traffic enforcement in the area

Downtown Whitman

Downtown Whitman is centered on Washington Street, between South Avenue (Route 27) and West Street. A relatively compact area, featuring several businesses, it is flanked by dense residential development on all sides, a large park to the northeast, and town offices and the Whitman MBTA Station three-quarters of a mile to the east. Observations from data collection in the area indicated a large number of pedestrians between Downtown Whitman and the MBTA Station. Two all-way stop controlled four-legged intersections make up the northern and southern ends of the downtown area. While these "4-Way Stop" sign-controlled intersections effectively process traffic in the area, they can present a challenge to pedestrians attempting to cross at the intersection.

Currently, there is no bicycle accommodation within the Downtown Whitman area. That said, because of the dense development patterns in the Downtown area and numerous retail and dining options, Downtown Whitman is a prime location for everyday bicycling. Pedestrian and Bicycle accommodation can be enhanced by:

- Implementing complete street design elements
- Establishment of pedestrian and bicyclist wayfinding
- Establishment of BAT bus service to the town center and MBTA station
- Bicycle parking in Downtown
- Establishment of a bicycles along Route 27

Pembroke Center

Pembroke Center is a traditional New England community center with a shopping plaza, town offices, a library, and several other free-standing businesses. Low-density residential development surrounds the center. The shopping center at Route 14 and Route 36 was recently redeveloped. Despite low-density residential development, pedestrian activity near the center is likely to increase with the relatively fast growth of the town, the newly developed center, and new transit service between the center and the Hanson MBTA Station.

SAFE ROUTES TO SCHOOL

The Massachusetts Safe Routes to School (SRTS) program promotes healthy transportation and mode shift for children and parents in their travel to and from school. It educates students, parents and community members on the value of walking and bicycling for travel to and from school.

The Massachusetts Safe Routes to School program is managed by the Massachusetts Department of Transportation. The program was established out of a pilot program developed by WalkMassachusetts and is currently managed by MassDOT. Safe Routes programs:

- Continue to establish healthy lifetime habits for students
- Increase children's independence
- Help students arrive at school ready to learn
- Teach safe pedestrian, bicyclist, and driver skills
- Encourage non SRTS schools in the region to become participants

Safe Routes to School includes education, encouragement, enforcement, engineering, and evaluation to ensure a comprehensive and successful program to increase walking and bicycling to and from school. As the title of the program suggests, safety is a central theme concerning the initiatives and goals of the program. Some of these specific initiatives include the design and maintenance of effective school zones, maximizing safety at street crossings, and reducing travel speeds.

The Massachusetts Safe Routes to School program offers schools technical assistance designing, implementing, marketing, and evaluating initiatives tailored to each school's needs and priorities. Participating schools receive free promotional materials to implement Safe Routes to School, plus no-cost educational materials targeted to students, parents, and community leaders. Training prepares school stakeholders to identify school access challenges and design solutions. School partners qualify for infrastructure improvements to enhance safety along school routes.

RECOMMENDATIONS

Livability

Livability recommendations include the continued support of MassDOT “Complete Streets” design element initiative in all roadway projects. Complete Streets are roadways that are designed to support safe, attractive, and comfortable access to all users, including pedestrians, bicyclists, public transit and motorists. In addition to enhancing safety and mobility, “Complete Street” designed roadways often enhance the surrounding community and environment through traffic calming techniques and vegetated streetscapes. Complete Streets are categorized by wide paved shoulders or separate bicycling lanes; sidewalks separated from the roadway by raised curbing and/or vegetation; well-placed and well-designed crosswalks; raised medians providing crossing refuge, and bulb-outs at intersections to prevent high-speed turning

vehicles and shorten the crossing distance for pedestrians. Target and Performance Measure: OCPC's goal is to have 100% of member communities with Complete Streets policies and at least 50% of communities have taken part in receiving complete street project funding within 10 years.

Improve mobility and access to the pedestrian infrastructure network for all users. There are currently large gaps in the ADA-accessible pedestrian infrastructure network in the region. As the population continues to age, providing access to all users, including those with physical challenges and disabilities will become critically important. All planning efforts should incorporate the needs of all users, and strategies to improve access and reduce gaps in the ADA-accessible network should be incorporated into all transportation planning products.

Encourage/promote walking and bicycle riding as a viable healthy transportation option to automobile commuting and as a means to improve air quality and to advance MassDOT's policy of promoting the potential for everyday biking laid out in the Statewide Bicycle Plan. Where feasible, walking or bicycling to work or to transit facilities instead of driving would reduce "cold starts," which inject high levels of toxic emissions into the atmosphere with the starting and shutting off of automobile engines. A coordinated effort of local officials, the MassDOT, Regional Planning Agencies and interest groups, should encourage and promote the use of existing designated bicycle routes as a viable healthy transportation option to automobile commuting through public information and awareness efforts and their upgrading to more robust bicycle transportation infrastructure.

Identify, designate and implement additional bicycle paths and routes to be used for both commuting and recreation. Local officials, in concert with state and regional planners, should investigate the development of additional bicycle paths and routes which could safely serve the commuting public. This includes, but is not limited to, the development of abandoned railroad rights-of-way as bicycle paths, and bikeways that connect industrial/business parks, shopping centers, schools, and other key destinations.

Promote/encourage pedestrian ways as a viable healthy transportation option to automobile commuting and means of improving air quality. Where feasible, walking to work or to transit facilities instead of driving would reduce "cold starts," which inject high levels of toxic emissions into the atmosphere with the starting and shutting off of automobile engines. Support of this travel mode includes but is not limited to, the creation of pedestrian walkway connections between residential areas, transit facilities, industrial parks, shopping centers, schools, and other key destinations.

Safety Recommendations

Promote and increase participation in Safe Routes to School program in the region. Continue partnership with MassDOT to promote to communities and increase participation by eligible elementary and middle schools in the Safe Routes to School Program.

Encourage/promote safe bicycle riding and reduce the number of injuries and fatalities associated with bicycle crashes. To help ensure safe travel habits and reduce the number of bicycle crashes, education programs for all road users should be implemented. Coordination of municipalities with the Department of Education, Registry of Motor Vehicles and transportation agencies should be a part of this effort.

Promote the continued installation of bicycle detection loops at actuated signalized intersections to increase safety for entering bicyclists. Noting that roadways serve both drivers of motorized vehicles and users of bicycles, actuated traffic signals should include detection loops for bicycles to maximize safety for bicycle riders.

Support local initiatives, which enact, implement and enforce laws and regulations regarding pedestrian traffic. The responsibility for pedestrian safety ultimately lies with the local jurisdiction.

Communities should utilize safety officers to enforce laws/regulations that promote increased pedestrian safety, with emphasis around high activity areas such as transit facilities, schools, and commercial centers. Participants in the process should include police departments, traffic engineers, school and legal system representatives.

Install physical barriers, pavement markings, and other amenities where needed to maximize pedestrian safety. Marked crosswalks, safety islands, street lighting, pedestrian underpasses/overpasses, sidewalks, traffic signals and signage all constitute useful techniques to separate pedestrians from hazardous vehicular traffic. Particular attention should be given to high activity areas such as transit facilities, schools, and commercial centers.

Promote Installation of Pedestrian Countdown Signals at Signalized Intersections – A Pedestrian Countdown Signal consists of a standard pedestrian signal with standard shapes and color, with an added display that shows the countdown of the remaining crossing time. Studies have shown that these types of signals dramatically decrease pedestrian-vehicle conflicts and increase safety for crossing pedestrians. By viewing the numeric countdown display, pedestrians gain a new level of self-protection by the ability to determine how long it takes them to cross a street, and knowing precisely how much time exists on the current signal phase before the “Don’t Walk” alert comes on and the signal proceeds into its next phase. According to a January 2006 article in the ITE Journal, San Francisco experienced a 52 percent reduction in pedestrian injury collisions at the 700 intersections it had retrofitted with the countdown equipment. The Regional Planning Agency and Metropolitan Planning Organization should work with the City of Brockton and other towns in the Region to retrofit signalized intersections with pedestrian countdown signals. Pedestrian countdown signals should be considered with all new signalization projects. Federal law under the Americans with Disabilities Act (ADA) requires pedestrian crossing signals be timed accordingly to accommodate mobility challenged persons.

Promote Safer Pedestrian Access Designs in Parking Lots – Pedestrian considerations are often overlooked in design for parking areas of retail, entertainment, and employment centers. Often

the pressure to provide as many parking spots as possible or the minimums for zoning regulations eliminates safe pedestrian accommodations from the design process. Once parked and out of the vehicle, pedestrians are often forced to share driveways with motor vehicles. Parking lots in many urban areas are also used as a cut through or connections for pedestrians and bicyclist traveling through a given area, whether it be to shorten a walk or ride or simply because it is safer for the bicyclist or pedestrian to travel through a parking lot for greater safety.

Promote Use of Crossing Islands and Medians in Wide Cross-Sections – According to the MassDOT Project Development and Design Guide, fifty feet is generally the longest uninterrupted crossing a pedestrian should encounter at a crosswalk although islands and medians are also appropriate for shorter distances as well. Many multiple lane roadways exceed fifty feet in cross-section width.

Capacity and Efficiency Recommendations

Along with the Pedestrian Level of Service (PLOS) developed in the last LRTP, the Old Colony Planning Council should implement a program to monitor the development of new sidewalks established in the region and those sidewalks brought into a state of good repair that had been failing the public before.

The Old Colony Planning Council should continue to implement the Bicycle Level of Service (BLOS) rankings on State Numbered Routes and local roadway in the regions. OCPC Staff shall maintain this inventory on a continuing basis, updating information, as it becomes available and existing infrastructure changes. The Old Colony Planning Council should also implement a program to monitor the state of good repair of bicycle lanes in the region to make sure the investment in them does not fall into disrepair. In addition, the installation of new bicycle lane miles should be quantified to be used as a barometer to gauge the regions progress on implementing bicycle infrastructure throughout the region and its commitment to mode shift and the Commonwealths goal of promoting everyday biking.

Environmental Justice Recommendations

Target pedestrian and bicycle infrastructure improvements in environmental justice areas. Transportation planning efforts should include increasing mobility and safety for pedestrian and bicycle infrastructure access in high minority population and low-income population areas.

Planning and Policy Recommendations

Coordinate efforts to improve bicycle facilities with surrounding municipalities and regional agencies. To help form a completer and more contiguous network of bicycle facilities in the region and southeastern Massachusetts, local agencies should coordinate efforts with agencies and organizations outside the region. This includes, but is not limited to, researching the existing bicycle facilities of surrounding towns before formalizing new bikeways, and coordinating public outreach programs to help minimize the cost of these efforts.

Support local, regional, and state initiatives and legislation that create or maintain bicycle infrastructure and safety. To best serve the greater good and needs of the public for a safe and secure transportation system, support and endorsement will be provided to all initiatives and legislation (local/regional/state/federal) that result in the implementation of bicycle facilities, ease congestion, promote recreation, and increase safety and security for bicycle users.