CHAPTER 12
CONCLUSIONS AND RECOMMENDATIONS

CHAPTER 4 – REGIONAL PROFILE

Increase accessibility at the neighborhood scale. One approach is to use the Subdivision Rules and Regulations to encourage pedestrian and bicycle ways to connect cul-de-sacs and local streets in subdivisions to one another and to nearby schools, stores and other destinations.

Increase accessibility to the Avon Merchants Park and the proposed Stoughton Industrial Park. The present and potential problems caused by the cul-de-sac nature of the parks could be resolved by connecting their main roads, thereby creating a service road through the two parks and between the Harrison Blvd. and Route 139 interchanges with Route 24.

Develop healthier and more varied centers. Therefore, doing would increase opportunities available in compact settings, and reduce trips by concentrating local destinations and strengthening community character. Communities should seek means to guide public, commercial and high- density residential investment to selected multi-purpose centers. Larger communities with failed shopping centers should adopt Planned Unit Development regulations or other tools for redeveloping such sites with diverse complementary uses.

Develop a North-South industrial access and service road through Brockton's discontinuous central industrial corridor. The City should study ways of acquiring land, constructing new segments and improving others between Court St. and Spark St. with minimum neighborhood impacts.

Continue to study the implications of major development projects. Even after MEPA review and local approval, many large and complex projects can have ill-defined impacts or significant changes in major factors, particularly involving actions not requiring State permits. It is important to have the capacity to continue reviewing major traffic-generating projects such as the reuse of the South Weymouth Naval Air Station and the Pine Hills project in Plymouth.

Increase transit accessibility to nearby, unserved, employment centers. Put high priority on extending fixed-route service and on encouraging growth in industrial areas whose location and configuration fit such service, but be open to limited demand-responsive service where required to give residents needed employment opportunities.

Respond to the potential impacts of major highway and rail projects potentially encouraging continued overall sprawl development. Southeastern Massachusetts remains a "Region at Risk" due to the impacts of unplanned growth and change. There is a need to continue exploring issues raised by the Southeastern Massachusetts Vision 20/20 project examining and publicizing alternatives to current trends, refining goals and objectives, developing a plan implementation effort; and working for region-wide acceptance of the program and meaningful commitments to it.

Strengthen downtown Plymouth and increase convenient service to nearby high-density neighborhoods by seeking extension commuter rail service from Cordage to Downtown and more frequent peak hour service. Though difficult given scheduling to the Kingston station, space requirements, and possible use conflicts, this expanded KPP study recommendation would partially complete the originally planned system and greatly strengthen downtown Plymouth and give the town a more fitting level of service.

Modify transportation improvement projects and priorities to encourage the compact close-in development patterns envisioned in the Plan's Goals and Objectives. Take actions ranging from improving the flexibility of minor arterials, major collectors and minor collectors, to improving ease of pedestrian/ bicycle movement in and between neighborhoods and facilities and within the downtown. Examples in Brockton would be restoring the stairs at the Downtown Rail station, which allowed direct movement from the platform toward most downtown destinations and reopening the recently blocked 100-year old pedestrian underpass between Lincoln Street and the Post Office.

Use traffic calming and other roadway alterations to protect neighborhoods in mixed residential/industrial areas. Study opportunities to lessen industrial impacts on neighborhoods by rerouting truck traffic, creating safe pedestrian ways, and working with firms to lessen impacts from noise, lighting, odors and vibration.

Develop new build out analysis based on most recent data and trends to better understand impacts of development and continued growth.

CHAPTER 5 – REGIONAL HIGHWAY SYSTEM

Adequately maintain and operate the highway and bridge network of the region. This includes, but is not limited to, supporting, implementing and funding projects such as ongoing and/ or project review committee approved reconstruction, rehabilitation, preservation, and intersection improvement projects.

Continue the support of management systems. The Commonwealth of Massachusetts and the regional planning agencies should continue to support the management systems. Such systems are examples of how transportation planning and asset management can be effectively integrated.

Enhance town center circulation. Advocate for the initiation of improvement strategies for enhancing town center circulation. Implement the recommendations of Downtown Brockton Circulation Study by re-establishing two-way traffic flow.

Mitigate congestion along corridors. Support the mitigation of corridor segments currently experiencing congestion problems.

Improve safety and traffic flow at intersections. Support the initiation and continuation of an intersection analysis program as a means to improve safety and traffic flow. Conduct before and after intersection analyses to determine the effectiveness of implemented safety improvements. Support legislation for Red Light Running Camera enforcement.

Utilize regional access management polices, guidelines, and techniques to reduce arterial crashes.

Install rumble strips on all divided highways. Support installation of 'rumble strips' on all divided highways in the region.

Continue to support the Traffic Monitoring System for Highways. Support actively maintaining and participating in coordinated Traffic Monitoring System for Highways.

Continue operation of pavement management systems that involve monitoring/evaluating pavement distresses along the federal aid eligible roadways toward the development of both maintenance and budgetary strategies, which produce increased efficiency in terms of utilization of federal and state money.

Pavement Management Systems should address municipal program requirements. Pavement management should include provisions for policies, which address the developing crisis of the growing maintenance queues experienced by municipal highway officials who must maintain increasingly deteriorating local roadway with fewer fiscal resources.

Encourage the provision of adequate parking and traffic mitigation, and direct pedestrian access from nearby neighborhoods at the Old Colony Rail Line facilities. It is imperative that local officials confer with MBTA planners and engineers to determine that access and egress to/from station sites are properly mitigated.

Encourage large employers to form Transportation Management Associations (TMAs), which marshal business resources to manage employee transportation needs on an area-wide basis. MassRides for example, is available to provide TMA assistance that match employees who wish to carpool, vanpool, etc. Demand for costly long-term parking can be managed by encouraging shared-ride commuting through preferential parking incentives or special discounts for employees.

Conduct additional studies concerning the movement of goods/materials within and through the region. Additional studies should be undertaken which address the movement of goods and materials, such as the movement of hazardous materials, the identification and designation of regional and local truck routes, the identification of additional intermodal facilities, and the overall enhancement of the efficient movement of freight.

Conduct studies to improve east-west access in the region. This should also include further study of the widening of Route 106 from Route 24 to just east of Route 28 in West Bridgewater.

Implement access management at the local level through a number of avenues (Master Plans, Zoning Ordinances, Subdivision regulations and site plan reviews).

Place stronger focus on maintenance of local bridges. Support increased emphasis on the rehabilitation needs of locally maintained bridges.

Continue support of bridge management. The Commonwealth should continue its support of the Bridge Management System.

Accommodate grade separation for pedestrian and vehicular bridges or underpasses along the planned or new commuter rail system. Bridges or underpasses should be a consideration at the grade crossings of existing or proposed commuter rail system currently under construction.

Accommodate pedestrians in all bridge maintenance and construction. Addition of sidewalks and bike lanes or shared bi-ways where appropriate, should be a considered whenever bridges are replaced or rehabilitated.

Promulgate policy to address need for raising bridge clearances to accommodate double stacking of containers in railroad freight hauling operations. This policy is essential to promoting increased intermodal opportunities in the movement of goods within and across state and international borders. In addition, expeditious movement of imported and exported goods serves to increase profitability and job creation in the end.

Continue to work with local and state agencies to rehabilitate and reconstruct the bridges in the region that are remaining in the structurally deficient category, or will enter into that category during the next 23 years.

Resurface Route 24 between the Stoughton Canton line and I-495.

Resurface Route 138 in Easton between the Stoughton line and the Raynham town line.

Resurface Route 106 Foundry Street in Easton between Eastman Street and Depot Street.

Resurface Route 3A State Road in Plymouth from Bartlett Road to the Bourne line.

Utilize Access Management techniques throughout the region. Areas within the region in which access management techniques should be a prime focus include.

- Route 3A in Kingston and Plymouth
- Route 18 in Abington
- Samoset Street in Plymouth
- Route 28 (Memorial Drive) in Avon from Harrison Boulevard south to Route 37 (Howard Street) in north Brockton

- Route 28 through the Brockton downtown (between Route 37 and Plain Street)
- Route 28 in south Brockton (Main Street)
- Route 28 in West Bridgewater (North Main Street and south Main Street)
- Route 28 (Bedford Street) Route 18 corridor south of Bridgewater center
- Route 123 Belmont Street east and west of Route 24 in Brockton
- Route 123 in Brockton east of the downtown to Abington
- Route 104 east of Route 24 in Bridgewater
- Route 106 east of Route 138 in Easton to West Bridgewater Center
- Route 138 north of Stoughton Center
- Route 138 in Easton

Study, analyze, and integrate Intelligent Transportation Systems. Opportunities for such technologies include:

- Downtown Brockton - Several ITS components are included in the recommended improvements for Downtown Brockton in the Brockton Central Area Traffic Study completed in 1999. Traffic signal preemption is recommended for emergency vehicles at all signalized intersections in the downtown area. In addition, it is recommended that all traffic signals be connected within a closed loop system, with a connection to a central monitoring system. Video surveillance at critical downtown area locations is also recommended. Although not specifically recommended in the study, a Traffic Operations Center (TOC) would also be recommended in order to provide a mechanism for managing these systems.

- Town of Plymouth - The Regional ITS Architecture for Southeastern Massachusetts contains provisions for a traffic management center in Plymouth. The traffic management center would be used to monitor and control the Town's traffic signals, traffic sensors, and variable message signage. The TMC would interface with a variety of equipment and departments, including the Plymouth Police Department; Plymouth Department of Public Works; the Massachusetts Highway Department; GATRA; Plymouth & Brockton Street Railway Company, and other agencies.

- Information Kiosk at Route 3 Exit 5 in Plymouth - There are many opportunities for the application of Intelligent Transportation Systems at the new MassHighway Rest Area at Exit 5 on Route 3 in Plymouth. This Rest Area includes a tourist information center, food services, and a terminal for the Plymouth and Brockton Street Railway Company (P&B). Automated kiosks can be used for transit fare sales for P&B, MBTA, and Steamship Authority routes. Variable message signs can be used to inform visitors of traffic conditions on lower Route 3, Routes 6 and 6A, and the Cape Cod Canal bridges. Since the P&B terminal provides connections to Logan Airport, systems informing travelers of flight and gate information, including delays, could be useful.

- Local DPW Maintenance and Construction Vehicle AVL - Many public works and emergency services departments around the country are installing automated vehicle locator systems on their equipment. The systems consist of GPS receivers and transmitters on vehicles that allow the tracking of vehicle activity. Not only are the systems very useful for administrative purposes, but also they exist as an invaluable asset for dispatch efficiency.

ROUTE 3 CORRIDOR

- Support the capacity enhancement project for Route 3 (from Route 18 to Route 14).

- Initiate a multi-agency Comprehensive Management Plan for the entire Route 3 corridor building upon past work to discern impacts of growth, and future highway deficiencies.

- Construct a southbound ramp to Route 3 from Cranberry Road for mitigation of traffic from a new mixed-use development adjacent to the Kingston commuter rail station.

- Conduct a traffic study to define the operational deficiencies at Route 3 Exit 6 in Plymouth, and to analyze the potential improvement concept to construct an acceleration lane at the bottom of the southbound ramp to Samoset Street.

- Implement improvements to Exit 5 Long Pond Road in Plymouth. Add a northbound slip ramp from Long Pond Road to Route 3 northbound to allow traffic direct access from Long Pond Road.

- Implement improvements to Route 3 Exit 4 in Plymouth that include a off-ramp from Route 3 northbound to Plimouth Plantation Highway eastbound.

ROUTE 18 CORRIDOR

- Improvements to Route 18 in anticipation of the redevelopment of the former Weymouth Naval Air Station include the widening of Route 18 in Abington from Route 139 to Highland Place in Weymouth, which is currently in the design phase.

- Close monitoring of traffic growth within this corridor should continue within Abington, Whitman, East Bridgewater, and Bridgewater along with continued discussion with town officials regarding access management applications and specific congestion improvement projects. A comprehensive study of the Route 18 Corridor in Abington, Whitman, East Bridgewater, and Bridgewater should be undertaken to discern the impacts of cumulative traffic growth due to development. The study should include an analysis of existing and future traffic operations at East Bridgewater Center, and an analysis of future alternative recommended improvements to address operational deficiencies at this location.

ROUTE 24 WIDENING AND IMPROVEMENTS

- Support interstate conversion and capacity enhancement for the Route 24 Corridor.

- Develop a comprehensive Corridor Management Plan (CMP). The CMP should be a joint effort that includes affected regional planning agencies, state agencies, local officials, and interested parties.

- Provide a northbound slip ramp from Route 104 in Bridgewater westbound to Route 24 northbound. This would place the northbound on and off ramps in the northeast quadrant of the interchange.

ROUTE 25

- Provide a Route 25 interchange in Plymouth to Bourne Road as an access and egress improvements to mitigate impacts of developmental growth. The construction of this interchange would most likely require right of way takings.

- Implement improvements to Route 3A at Route 3 Exit 2 between Hedges Pond Road and Herring Pond Road in Plymouth. As part of the developer mitigation, the proponent of the project has proposed to widen Route 3A to a four-lane cross section between the Herring Pond Road intersection and the Hedges Pond Road/Old County Road intersection. The developer has proposed the installation of traffic signals at four locations: at the Route 3A/Hedges Pond Road/Old County Road intersection, at the Route 3A retail drive intersection, at the Herring Pond Road/State Road intersection, and at the Route 3 northbound ramps/Herring Pond Road intersection. The plan calls for the coordination the signals to minimize vehicle stops and maximize progression along the major road.

ROUTE 27 CANTON STREET AT SCHOOL STREET STOUGHTON

- Based on analysis of operations at the Canton Street (Route 27) and School Street intersection, geometric improvements and full signalization of this intersection is recommended.

ROUTE 28 AT MATFIELD STREET WEST BRIDGEWATER

- Based on the Route 28 Corridor Study, the traffic on Route 28 is such that there are few sufficient gaps on Route 28 for side street traffic from Matfield Street to safely enter traffic flow. The installation of traffic signals at this intersection was recommended.

RESTORE BROCKTON DOWNTOWN TWO-WAY TRAFFIC CIRCULATION

- These changes will convert Main Street, Warren Avenue, Spring Street, West Elm Street, and Belmont Street from one-way to two-way in the downtown.

ROUTE 104 BRIDGEWATER

- A development project to widen Route 104 to a four-lane cross section from the Route 24 ramps to Elm Street is slated for the near term. MassHighway has determined that the addition of an on ramp in the northeast quadrant carrying Route 104 westbound traffic to Route 24 northbound will improve traffic flow on Route 104, and relieve back-ups on Route 24 that currently occur due to vehicles waiting to turn onto the ramps under the current configuration. The proponent of the development project has entered in an agreement for a land swap that will enable MassHighway to relocate this northbound ramp to the northeast quadrant of the Exit 15 interchange. The construction of this ramp is recommended, however, it is recommended that monitoring of the corridor continue and that future studies regarding this corridor consider the widening of Route 104 to Bridgewater center.

ROUTE 106 AT DEPOT STREET AND BAY ROAD IN EASTON

- Improvements at this intersection, which include relocating Bay Road at a "T: type intersection further north on Depot Road, signal upgrades, and adding additional turning lanes on Route 106, are recommended.

ROUTE 106 AT PROSPECT STREET IN EASTON

- OCPC conducted a study of traffic operations at this intersection for Easton, which recommended the installation of a traffic signal in order to add needed gaps in the major street, Route 106, traffic flow that would allow side street traffic to enter the major street safely. The signal would also improve safety at this intersection due to a lack of sight distance at the side street, Prospect Street, approaches.

ROUTE 106 IN WEST BRIDGEWATER

- Widening Route 106 between Route 24 and Route 28, which has the support of the West Bridgewater, along with the application of access management such as consolidating access drives, will improve traffic flow and safety. One of the major constraints to widening Route 106 from two to four lanes is the limited right of way, which is 50 feet within this Route 106 section (based on MassHighway's 2005 Road Inventory). A study should be conducted that discerns the impacts of alternative widening plans including the use of a Two-Way Turning Lane (TWTL).

ROUTE 106 AT ROUTE 28 WEST BRIDGEWATER

- Improvements to the intersection of Route 106 (East and West Center Street) and Route 28 (North and South Main Street) at the West Bridgewater Town Center should take into account the future vision that the West Bridgewater has for its town center. This intersection operates under forced flow conditions with long delays (LOS "F") during the peak hours. Improvement concepts require widening the Route 106 eastbound and westbound approaches, along with the realigning the Route 28 approaches in order to improve the level-of-service. A high priority project to implement improvements at this intersection is included in the Old Colony 2007-2010 TIP. The project is

presently in the design stage. The concepts included adding turning lanes and/or reconfiguring the intersection with River Street as a two-way. All of these concepts require right-of-way takings.

ROUTE 106 AT HOWARD STREET WEST BRIDGEWATER

- Traffic on the Route 106 corridor in this section is so heavy that vehicles entering the Route 106 major street from the side streets experience very long delays, especially during the peak hours. Recent retail development on Howard Street will add vehicles entering and exiting Howard Street from Route 106. The signalization of this intersection is necessary to mitigate impacts from development and allow safe efficient access to and from Route 106.

ROUTE 123 FROM ROUTE 24 TO LINWOOD STREET BROCKTON

- The lane widths and shoulder are substandard for the speeds and traffic volumes on this road. Delays occur on Route 123 east of the Route 24 interchange in Brockton due to congestion at the Route 123/Manley Street intersection. Although the width of the right of way in this section is 50 feet, it is recommended that further studies be conducted in order to discern the impacts of lane widening and other potential improvements at specific intersections within this corridor.

ROUTE 138 AT UNION STREET IN EASTON

- The installation of traffic signals at this intersection has been recommended in the State Numbered Routes Corridor Study. The traffic on Route 138 is such that there are few sufficient gaps for side street traffic from Union Street safely enter traffic flow.

ROUTE 138 AT ELM STREET IN EASTON

- A study of operations at this intersection concluded that deficiencies exist due to poor alignment and heavy peak hour traffic flow on the major street, Route 138 allows insufficient gaps for side street traffic to enter the major street. The study recommended the installation of a traffic signal at this intersection.

Utilize Access Management to reduce conflicts and improve safety. The goals of access management include conserving highway corridor capacity and improving safety. Access management is important throughout highway corridors in order to manage the placement, spacing, and width of curb cuts that provide access to adjacent properties. Areas within the region in which access management techniques should be a prime focus, at a minimum, include:

- Route 28 (Memorial Drive) in Avon from Harrison Boulevard south to Route 37 (Howard Street) in north Brockton.
- Route 123 Belmont Street east and west of Route 24 in Brockton
- Route 123 in Brockton east of the downtown to Abington
- Route 28 through the Brockton downtown (between Route 37 and Plain Street)
- Route 28 in south Brockton (Main Street)
- Route 28 in West Bridgewater (North Main Street and South Main Street)
- The Route 28 (Bedford Street) Route 18 corridor south of Bridgewater center
- Route 138 north of Stoughton Center
- Route 138 in Easton
- Route 106 east of Route 138 in Easton to West Bridgewater Center
- Route 104 east of Route 24 in Bridgewater
- Route 18 in Abington
- Route 3A in Kingston and Plymouth
- Samoset Street in Plymouth

CHAPTER 6 – REGIONAL TRANSIT SYSTEM

Transit Connectivity Opportunities

Increase use of smaller general aviation airports. Municipal Airports in the region, such as the facility in Plymouth, have experienced marked growth in the numbers of take-offs and landings in recent years. Both runways at Plymouth Airport have been expanded to increase capacity and promote greater safety.

Support additional service. In 1999, BAT implemented Sunday service on both fixed and paratransit routes. This much-needed service provides access for residents of the BAT member communities to weekend jobs and shopping. Support such new programs, as well as the continuation of existing programs that support economic development in the region.

Maintain productivity and cost effectiveness. BAT contracts out transportation services to a variety of private carriers. Support this method of maintaining productivity and cost effectiveness.

Meet operations needs. BAT annually seeks FTA 49 U.S.C. Section 5307 grants to finance support equipment and operations costs. BAT should continue to seek this method of funding to meet operations needs, for as long as such funding is available.

Maintain capital planning for BAT's paratransit services. BAT continues to seek funding each fiscal year through the Mobility Assistance Program for the replacement of paratransit vehicles as needed. This policy should be maintained so that BAT may replenish its rolling stock that is considered "beyond its useful life."

Support the development of a Human Services Coordinated Plan for the region. This is a requirement of the federal SAFETEA-LU legislation. This coordinated effort can enhance and improve human services in the region as a coordinated effort and merging of resources.

Improve mass transit linkages. Every effort should be made to promote improved linkages between mass transit and other modes of transportation. One example would be a public private relationship utilizing private carriers to connect localized RTA's.

Increase intermodal connections at the Montello Station. Currently an MBAT route, a BAT route, and passenger rail to Boston is serviced by the station. Coordinating the fixed routes there and making the station a mini –intermodal center will enhance the transportation options for the people in the area and using the station.

Encourage the development of a Plymouth Intermodal Center. Plymouth is interested in building an Intermodal center that would enhance both commuters and tourist transportation experiences.

Continue commuter rail operations funding. Support the funding of commuter rail operations in the Commonwealth through a statewide funding mechanism.

Provide feeder service to Old Colony commuter rail stations. Intercity bus carriers, such as P&B and JBL Bus Lines, Inc. should consider altering and/or adding routes, to serve as feeder routes to Old Colony commuter rail stations.

Encourage adequate parking and traffic mitigation at station sites. It is imperative that local officials confer with MBTA planners and engineers to determine that access and egress to/from station sites are properly mitigated.

Encourage increased use and expansion of commuter parking facilities. The MassHighway should continue to promote existing commuter parking facilities and develop additional spaces, where needed, for intermodal uses.

Develop additional park-and-ride facilities. OCPC should interact with MassHighway in determining potential new sites for the construction of park-and-ride facilities to augment existing facilities.

Support creation of HOV lanes on congested highways leading into Boston. Intercity bus carriers throughout the region maintain that the creation of genuine High Occupancy Vehicle (HOV) lanes would reduce their commuting time into Boston, making commuter bus lines more competitive with commuter rail. In addition, HOV lanes would make commuter bus lines a more acceptable alternative to individuals who drive automobiles (primarily alone) into Boston, thereby reducing congestion.

Study the feasibility of HOV lanes for buses, carpools and vanpools. As was mentioned earlier, HOV lanes installed along Principal Arterials such as the one on Interstate 93 would improve commuting times into Boston, reduce congestion and improve air quality. A feasibility study should be conducted to determine the potential for HOV lanes along Principal Arterials in the OCPC region.

Support alternative means of funding mass transit. Support initiatives to determine dedicated sources of revenue, such as the fuel tax and Senate Bill 2315, which could fund transit operations throughout the Commonwealth.

Consider development of additional public moorings in Plymouth Harbor. The development of additional public moorings would better serve recreational and visiting boaters. Support such an initiative.

Consider expansion of North Plymouth Harbor. Such a development could potentially derive additional economic development as well as tourism benefits by instituting a water shuttle between Cordage Park and Town Wharf or State Pier.

Increase parking capacity in downtown Stoughton. The town-owned and MBTA-owned lots are at capacity on a daily basis. The MBTA should study the feasibility of constructing a multi-level parking garage in Downtown Stoughton adjacent to the station.

Develop park-and-ride facilities to maximize a multimode transportation system. Park-and-Ride facilities should be sited adjacent to major interchanges/arterials, rapid transit and passenger rail stations.

Transit Service Area Expansion Opportunities

Determine potential for regional airports to accommodate tilt-rotor aircraft. New tilt-rotor services could co-exist with fixed wing operations at existing airports, or operate directly out of additional capacity to the traveling public. The potential for regional airports to accommodate these services should be investigated.

Preserve abandoned railroad rights-of-way by use of Rail Banking. Support preservation abandoned railroad rights-of-way having the potential for construction of future transportation projects.

Support efforts to operate a full weekday schedule on holidays on which most retail stores are open. Increasing the amount of service would provide access for both patrons and employees to businesses that do not observe those holidays**.**

Support the guidelines recommended by MARTA to bring service at BAT and GATRA to its most efficient levels. Service has been cut across the state over the last couple of years to complete with raising fuel and employee benefit costs. When service is cut and fares are raised to compensate for this, the transit riding public is put at a disadvantage. The proposal set out by the MARTA study would restore those cuts and bring transit up to a level that could best serve the community.

Study the feasibility of BAT expanding its service area.

Encourage interagency agreements to enhance passenger service. For example, currently the MBTA 230 bus ends at the Montello Station, but extending that service to the Bat Centre, would enhance passenger connections.

Continue current outreach programs. BAT should continue its outreach program to the elderly and disabled communities.

Encourage private sector participation in public transit operations. BAT is encouraged to continue joint development initiatives with private sector concerns when feasible.

Support expanding the reach of fixed route transit as identified in the Route 3 Corridor Transit Options Study.

Study expansion of intercity bus service. Studies should be performed to consider the feasibility of implementing intercity bus service between Brockton and Plymouth, Taunton and Brockton.

Expand commuter services by private commuter carriers. In order to better meet mass transit needs in the region, the expansion of commuter services by private carriers is encouraged in areas where there is a demand for such services.

Support extension of commuter rail to Fall River and New Bedford.

Support extension of commuter rail to Buzzards Bay.

Support installation of a commuter rail station in West Bridgewater along Old Colony Commuter Rail Line.

Encourage staggered work hour initiatives. Where feasible, encourage large employers to stagger their work hours to offset emissions from high concentrations of automobiles during peak hours.

Support employer-based transportation programs. Large employers should be encouraged to form Transportation Management Associations (TMAs), which marshal business resources to manage employee transportation needs on an area-wide basis. As well, managing demand for costly long-term parking by encouraging shared-ride commuting through preferential parking incentives or special discounts for employees. MassRides is a great first resource for an employer looking to establish commuter programs for their employees.

Support legislative initiatives affecting corporate commuter services program. Under the Massachusetts General Laws, Chapter 63, Section 31D, corporations doing business in Massachusetts are allowed a tax credit amounting to 30% of the cost of purchasing or leasing a commuter van for their employees to use in their daily work trips. This legislation also waives registration fees, creates a special license plate for commuter vans and established insurance requirements for participating vehicles.

Corporations are encouraged to implement commuter services programs that provide incentives through the above legislative initiatives.

Encourage the use of Transit Tax Credits. Currently the federal government will allow employees to use up to 110 dollars of month pretax to pay for transit passes. In the state of Massachusetts, a similar benefit is extended only to the MBTA. The utilization of the federal benefit and the extension of a Massachusetts transit income tax benefit would benefit both employees and employers.

Enforce Massachusetts's rideshare regulation. To comply with Massachusetts's environmental regulation (310 CMR 7.16), employers with more than 250 employees at a single location must implement commuter programs geared to reducing drive alone commuting by 25%. Program options include instituting a transit pass program, creating incentives for bicycle commuting, posting transit schedules and maps, and promoting carpooling. In addition, companies with more than 1000 employees at one facility must implement a vanpool program.

Develop a plan for senior transition from personally operated vehicles to public transportation. Seniors as they lose their mobility and the reaction necessary to drive maybe more will to move to public transportation if they can achieve some level of flexibility while retaining their independence. A plan should be developed to enhance and encourage this transition.

Support Car Sharing. Car sharing programs like Zipcar and Flexcar can be a great way to offers residents flexible transportation options. Areas that would be great candidates in the OCPC region are Bridgewater State College, Stonehill College and the developing area around the BAT intermodal Centre.

Encourage the application of Smart Growth Principles to development in the region.

Support redevelopment of the former Weymouth Naval Air Station. Support mixed transit focused reuse of the land occupied by the former Weymouth Naval Air Station.

Transit Safety and Intelligent Transportation Systems

Support BAT's bus replacement program and system preservation to ensure a state of good repair. BAT should continue to seek funding to update its fixed route bus fleet and allied equipment on an as needed basis.

Support the Development of Transit Safety Plans As technologies improve so will the need to keep our safety and security systems up to date. Some steps are as simple as the cooperation amongst RTAs to develop a continuity of operations plan (COOP). This is a great first step. The next step, making sure that the entire key stakeholders understand what is involved when the plan is invoked will be the key to its success.

Support the integration of technologies across modes of transportation. Examples of this would be a regional fare card or integrated AVL systems to improve transit connections across systems.

Support the use of Rail Education programs like Operation Life Saver Regional efforts to increase safety can come from many levels, for example the continuation of educational programs like operation lifesaver is important to communities that have to live with frequent rail traffic in there community.

Support transportation improvements save energy. Transportation improvements in the region should be undertaken with consideration to energy conservation. Support should be developed for increased

promotion of ridesharing, HOV lanes, employer sponsored trip reduction plans and the use of alternative forms of energy.

Support the use of new technologies for transit vehicles. Hybrid and hydrogen technology on buses can reduce fuel consumption and pollution and AVL technology for DIAL-A-BAT and BAT can improve safety and efficiency for the service.

Study the use of Signal Priority in the BAT service area. Signal priority for the BAT system especially near the BAT Centre would increase efficiency and on time performance. The same technology can be employed at intersections to the benefit of emergency services vehicles as well.

Develop park-and-ride facilities, which support and enhance state air quality goals and commitments. Facilities should serve as many alternative High-Occupancy Vehicle (HOV) modes as possible. Public and private transit operators should be encouraged to serve park-and-ride facilities. Site selection criteria should include consideration of bicycle and/or pedestrian accessibility to reduce the number of cold starts by vehicles.

Support the improvement of pedestrian safety around transit stations. For example, the streets surrounding the Montello station do not promote pedestrian safety and pedestrians are often forced to choose unsafe routes to the station.

Freight and Air Transportation Transit Networks

Investigate potential of municipal airports' ability to serve as freight terminals. Currently, there is no scheduled freight service at any of the municipal airports throughout Southeastern Massachusetts. A feasibility study should be considered by the Massachusetts Aeronautic Commission to determine whether there is potential for any of the municipal airports to serve as airfreight terminals. Depending upon the type of freight, such a facility could serve intermodal purposes.

Accommodate freight and passenger railroad operations. Old Colony commuter rail operations could affect existing freight train services by reducing the flexibility available to CSX and Bay Colony Railroad. However, the low frequency of operation of the Old Colony lines during off-peak periods, coupled with the provision of a modern signaling system, centralized traffic control and passing sidings at strategic locations would permit freight operations during the midday periods. Consideration of freight and passenger railroad impacts is encouraged.

Increase the level of freight/goods movement by rail on the Old Colony and Stoughton lines. Support such initiatives, which would serve to reduce truck traffic congestion, particularly if the double stacking of containers in railroad freight hauling operations is implemented in the near future.

Allow for freight rail operations and the Old Colony commuter rail service to co-exist. Coordination should be encouraged between the MBTA and the two railroad freight operators in the region: CSX (Middleboro Line) and Bay Colony Railroad (Plymouth Line). Although freight railroad service in the region generally should not conflict with the restored passenger rail service during its peak operating periods in the A.M. and P.M., contingencies will need to be addressed such as the installation of updated switching equipment and passing siding.

Routinely review project proposals through the MEPA process and other review opportunities to assure that provisions for bicyclists and pedestrians are incorporated into design plans.

Plymouth MBTA Commuter Rail Station and Seaside Rail Trail: Construction of new connections and enhancements to existing ones should be made between the Plymouth Station, the Plymouth Seaside Trail, and the Historic Plymouth Waterfront and Downtown Plymouth. Currently there is some degree of disconnect between these three components to this underutilized transportation corridor.

Develop a Regional Bicycle and Pedestrian Transportation Plan. A Regional Bicycle and Pedestrian Transportation Plan will examine the existing infrastructure in the region that supports bicycle and pedestrian transportation, and identify strengths and weaknesses in the system. The Plan will identify key areas to address for the creation of a contiguous, region-wide network of sidewalks, walkways, bicycle paths, and bicycle lanes, as well as identify strategies to accomplish the goals of the plan.

Encourage/promote bicycle riding as a viable alternative to automobile commuting and as a means to improve air quality. Where feasible, 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 automobile engines. A coordinated effort of local officials, the Massachusetts Highway Department, Regional Planning Agencies and interest groups, should encourage and promote the use of existing designated bicycle routes as a viable alternative to automobile commuting through public information and awareness efforts.

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.

Support bicycle riding as a part of intermodal travel. Coordination between different modes of transportation should include the improvement of bicycle access to public transportation. This includes, but is not limited to, permits to allow bicycles on train cars; external racks to carry bicycles on buses as done in Portland and San Francisco, and bicycle lockers at park-and-ride lots, train stations and bus terminals

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.

Coordinate efforts to improve bicycle facilities with surrounding municipalities and regional agencies. To help form a more complete and 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.

Enhance bicycle facilities at intermodal facilities (MBTA Stations, BAT Centre, Park and Ride). The potential for MBTA Stations, the BAT Centre, and MassHighway Park and Ride lots to serve as true intermodal facilities can be maximized by enhancing bicycle facilities, including but not limited to: installation of external bike racks on buses that serve these facilities; the installation of bicycle lockers; and bicycle lanes and paths entering and exiting facilities.

Continue bicycle and pedestrian transportation safety efforts in Safety Management System. The Safety Management System promotes and plans for safety improvements throughout all modes on the transportation network.

Promote the installation of bicycle detection loops at actuated signalized intersection 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.

Enhance pedestrian consideration during the planning and design phases. Too often municipalities over look the safety and access of pedestrians in areas with high volumes of automobiles. Only as an afterthought, safety amenities are added or design conditions are changed. A coordinated effort of planners, engineers, and local officials, should encourage pedestrian needs to be of higher priority during the initial design process.

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 marking, 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.

Continue to study/identify additional pedestrian facilities. Continue to conduct studies in the region as needed to identify, designate, and implement additional pedestrian facilities. These facilities should improve linkages between existing pedestrian walkways, transit facilities, activity areas, and residential neighborhoods, and provide a safe and accessible means of short distance travel and recreation.

Promote/encourage pedestrian ways as a viable alternative 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 automobile engines. Support of this alternative 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.

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 increases 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 intersection with pedestrian countdown signals. Pedestrian countdown signals should be considered with all new signalization projects.

Promote Safer Pedestrian Access Designs in Parking Lots. Pedestrian consideration is 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. With the boom in popularity of Sport Utility Vehicles and large profile trucks during the 1990's and early 2000's, often-exiting drivers have very little, if any, visibility of the driveway approaches, making pedestrians virtually invisible. Dedicated pathways between the parking area(s) and building(s) should be provided for pedestrian access. Facility owners should also consider the use of pavement markings, textured surfaces, and other traffic calming devices to further enhance pedestrian safety in parking areas.

Promote Use of Crossing Islands and Medians in Wide Cross-Sections. According to the MassHighway 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. Raised medians provide the following benefits to pedestrians on the roadway network:

- Allow pedestrians to cross few lanes at a time, reducing exposure time.
- Provide a refuge so slower pedestrians (older persons, physically disabled, etc) can wait for a break in the traffic stream.
- Allow pedestrians to focus on one direction of traffic at a time.
- Reduce the total distance over which pedestrians are exposed to conflicts with motor vehicles.
- May provide easily accessible location for pedestrians signal call buttons.
- May also further enhance safety by functioning as a traffic-calming device, forcing drivers to reduce speed on approach to the crossing area.

Promote Pedestrian Level of Service D or Better at Intersections With High Pedestrian Activity. Pedestrian level of service is defined by the delay experienced by the pedestrian at an intersection, with guidance provided for by the Highway Capacity Manual (HCM). At Level of Service grades A and B, the likelihood of risk taking behavior (accepting dangerously small traffic gap, ignoring signals, etc) in evaluated as "Low" by the HCM. The likelihood of risky behavior increases to "Moderate" at Level of Service grades C and D. At level of service E, the likelihood of risky behavior increases to "High". All reasonable efforts should be exercised in planning, design, and construction of pedestrian facilities at intersections to minimize the potential risk taking behavior by pedestrians at intersections.

CHAPTER 8 - ENVIRONEMTNAL QUALITY, HAZARDS, AND ENERGY

Environmental Quality

Strive to reduce vehicle emissions. Encourage research and technology development to find new solutions to air pollution problems created by motor vehicles.

Strive to reduce single occupancy vehicle travel. Support programs, which encourage means to reduce single occupancy automobile travel. Examples are flexible working schedules, preferential parking for ridesharing, and incentives for transit use. MassRides program offers employers and their employee's benefits of carpooling and ridesharing.

Encourage the use of non-motorized alternatives. Encourage and support non-polluting modes of transportation, such as bicycling and walking as described in the Bicycle and Pedestrian component of this Plan.

Make maximum use of existing facilities and programs. The Massachusetts Environmental Policy Act Unit is responsible for reviewing large-scale development projects and should be allowed to maximize their influence to help protect the quality of the environment. The MassHighway Project Development and Design Guidebook can be extremely helpful in the protection and preservation of the environment as it promotes an integrated multimodal approach to roadway planning and design, ensures that context sensitivity is integrated into the planning, design, and construction process, and provides a clear project development process.

Encourage coordination between municipalities, federal, state, and regional agencies. Coordination between all interested parties is important to reduce the negative impacts to the environment. Improving air, land, water, and wildlife quality begins with a team approach and is successful with all voices recognized.

Support programs that mitigate water resource shortages. The Taunton River Desalinization Plant in Dighton (Aquaria project) will help meet the water demand of the Old Colony MPO region.

Reduce nonpoint source pollution. Support the development of new and improved designs and Best Management Practices (BMP) to reduce the contamination of water resources from transportation facilities and projects.

Minimize the use of road salt and sand. Studies have shown that road salt can have negative effects on some roadside vegetation and aquatic life. Accumulated amounts of sand can be hazardous to both the natural environment (air, land, and water) as well as to the traveling public. MassHighway has taken a number of steps to reduce the environmental impact from winter sanding and salt practices on state highways; including the reduction of sand applied during storms, use of liquid and flake calcium chloride to reduce sodium levels in runoff; construction of covered facilities for sand and salt storage and establishment of certain zones where reduced salt is used.

Support programs that reduce transportation related litter. The MassHighway Adopt-A-Highway program is a public service program that utilizes volunteer teams to pick up litter along the roadways.

Develop solutions for controlling transportation related noise. Transportation-related noise impacts can be minimized through improved facility design, compatible land uses, and enforcement of noise regulations. Encourage all regional and local transportation-planning efforts deal with noise problems as a normal step in the planning process.

Work to reduce/prevent light and noise impacts. Develop solutions for controlling transportation-related noise. Include noise mitigation through improved facility design, compatible land uses, enforcement of noise regulations, and selective use of sound barriers. Relate takings and designs to the sensitivity of adjacent habitats and neighborhoods. Design/install highway lights and streetlights to be directed down away from houses or other sensitive receptors or the sky.

Encourage Brownfield Redevelopment. Brownfields properties are often located where there is existing infrastructure, workforce and other amenities and therefore, are attractive for potential new business. Reuse of these facilities cleanses the existing site and eliminates the need to clear-cut forest for more development. Fostering the cleanup and re-use of contaminated properties is a priority for the state and the Old Colony MPO and is consistent with the Sustainable Development Principles established by the Massachusetts Office of Commonwealth Development.

Encourage Smart Growth Development Strategies. Support the smart growth initiatives resulting in cluster and condensed development. These strategies aim to reduce vehicle trips and vehicle dependency, therefore, resulting in benefits to air quality and reduction of foreign fossil fuel dependency.

Encourage the formation of Transportation Management Associations (TMAs). Transportation Management Associations (TMAs) are private, non-profit, member-controlled organizations that provide transportation services in a particular area, such as a commercial district, mall, medical center or industrial park. MassRides offers carpooling, vanpooling, parking management, and other techniques allow employees to diversify their trips to and from work, thereby reducing congestion and improving air quality.

Promote the use of Corridor Management Plans. The Office of Transportation Planning through the Executive Office of Transportation is developing a Route 44 Plymouth-Taunton Corridor Management Plan. This type of planning is vital to the Southeastern Massachusetts region, as it encourages collaboration between corridor municipalities, the Commonwealth, and other agencies and identifies potential growth and transportation management strategies for the corridor.

Encourage the use of parking garage structures. As more development occurs along major transportation infrastructure, the pressure to make parking lots larger to accommodate more residents, shoppers, and visitors increases. Parking garage structures allow the impact of vehicle parking to happen on a smaller footprint, thus reducing the amount of impervious pavement.

Encourage the proper design and use of High Occupancy Vehicle (HOV) lanes. High Occupancy Vehicle lanes should be designed for and only used by buses carrying large amounts of people to and from their destinations. These lanes would make commuter bus lines a more acceptable alternative to individuals who drive automobiles, thereby reducing congestion and improving air quality.

Support "Intermodalism." Promote using "intermodalism" to better integrate all transportation modes such as: Automobile, Motorcycle, Transit, Rail, Bus, Water, Air, Walking, and Bicycling. Providing a hub that supports all transportation modes attracts more people and increases efficiency.

<u>Hazards & Evacuations</u>

Encourage pre-disaster planning. Many communities have participated in a multi-hazard pre-disaster planning effort, which focused on natural disasters and how the region's citizens will respond.

Reduce the loss of life, property, infrastructure, and cultural resources from natural disasters. A coordinated response to a natural disaster will reduce the loss of life, property, infrastructure and cultural resources. Visible evacuation routes will also eliminate congestion on major routes.
Make maximum use of existing facilities and programs. Programs and facilities that are established to mitigate damage to transportation infrastructure, property, and cultural resources should be maintained and utilized to their greatest potential.

Increase the number of communities using Hazard Mitigation Grants or Pre-Disaster Mitigation Grants.

Improve pre-disaster planning and communication/coordination between federal, state, regional, county, municipal, private, and non-profit agencies and major firms and institutions, especially prisons, colleges, and concentrations of population and employment.

Energy & Emissions

Reduce dependency on foreign fossil fuels. Promote research, development and implementation of standards, policies, and programs to reduce fuel consumption and the increase investments in alternative fuels.

Conserve Natural Resources. The southeastern portion of Massachusetts has seen substantial growth over the past decade. Water demand will be the limiting factor in terms of growth in the region and that water resource must be protected.

Encourage the use of Renewable Energy. Promote the use of renewable energies throughout the Commonwealth, such as solar and wind. Using these sources in place of fossil fuels and nuclear energy reduces the depletion of natural resources and the creation of both toxic and non-toxic wastes.

Promote the increase and enforcement of Corporate Average Fuel Economy (CAFEE) Standards for passenger car and light truck fleets. Automobile manufacturers should be required to meet and exceed CAFE standards for passenger and light truck fleets and should be recognized for doing so.

Continue to enforce the emissions standards set by the Commonwealth. Enforcing the emissions standards for all vehicles of the Commonwealth plays a large role in improving the air quality of the State.

Promote new and forward thinking "green" technologies. The Carl Moyer Program in California is a prime example of how Massachusetts can encourage drivers to replace their old automobiles with newer and less polluting vehicles.

CHAPTER 9 - SAFETY

Reduce the rates of motor vehicle, bicycle, and pedestrian fatalities by incorporating engineering, enforcement, education, and emergency response into the planning process.

Support the increase of safety of highway & railroad grade crossings and other locations where modes intersect.

Support the increase and improvement of safety of services, vehicles and facilities for transit, and for the transportation disadvantages.

Support the implementation of emergency response and evacuation plans in cooperation with emergency management agencies.

Continue to utilize safety performance measures in the planning process.

Broaden the awareness of safety issues through dissemination of messages o the public and elected officials.

Identify top lane departure and crash location and work at the local and regional levels to develop and implement location specific strategies to mitigate the deficiencies.

Expand the Safe Routes to School Program.

Support the increase of seat belt use in the State.

Increase the awareness of the dangers of speeding.

CHAPTER 10 - SECURITY

Foster communication and cooperation between federal, state, regional, and local agencies for the planning, practice, and implementation of emergency scenario plans.

Support the forum for cooperation between the different transportation agencies in the state on security concerns through the Regional Homeland Security Councils.

Incorporate intelligent transportation systems, such as variable message signs, into the emergency response system.

Increase surveillance and security efforts at transportation facilities throughout the region.

Continue other security improvements at the public use airports, such as the installation of security fencing, gates, and access control and video monitoring systems.

Facilitate comprehensive evacuation planning and coordination procedures between state and local agencies.

Designate and indicate, through road signs, emergency evacuation routes, and shelters

Support enforcement of state and local traffic laws.

Continue to implement "Transit Watch" and the station improvement program of the MBTA, including station monitors and the new communications system.

CHAPTER 11 – FINANCE

Preserve and maintain transportation assets for future generations.

Adequately maintain all elements of the transportation system to protect the public's investment.

Increase the efficiency of the transportation system using appropriate technologies.

Discuss, analyze, and incorporate, as deemed appropriate, the recommendations of the Transportation Finance Commission.

Support the increase of the annual Chapter 90 statewide total amount to at least $250 million.

Assist communities in preparing and updating their road inventories to ensure that they reflect accurate mileage amounts for publicly accepted roads.

Continue to review, develop, and analyze supplemental funding resources. Such resources could include increased user fees, transit mitigation banks, and concurrency management systems. Concurrency is the growth management concept intended to ensure that the necessary public facilities are available concurrent with the impacts of development.

Implement fare and revenue policies that grow with inflation.

Establish and dedicate transit funding from sources that grow with inflation.

Support congestion improvements and the reward for regional approaches to coordinating and interconnecting signalized intersections and corridors.

Support and enhance asset management capabilities to perform the appropriate type of improvement at the right time.

Support the establishment of a RTA service fund to restore and enhance service.

Support the changing of RTA financing from retroactive reimbursement to current financing (forward funding).