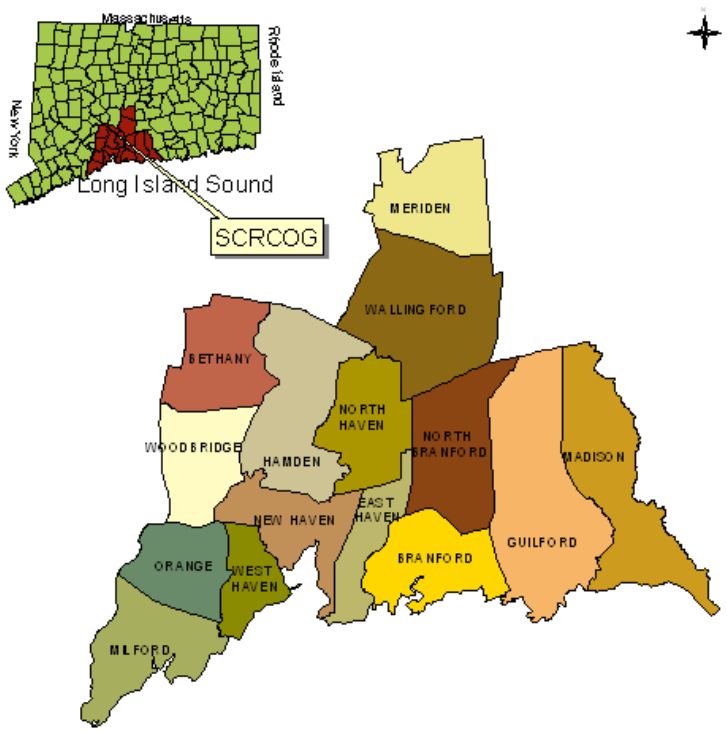
# South Central Regional Long Range Transportation Plan 2011-2040

## Framing the Region's transportation programs and investments




**South Central Regional Council of Governments**
**127 Washington Avenue, 4th Floor West**
**North Haven, Connecticut 06473**

**April 27, 2011**

# Table of Contents

# Introduction

The South Central Regional Transportation Plan addresses broad goals for the transportation needs of the Region through 2040. The Plan reviews, updates and extends the timeline of the previous plan for the Region.

The Plan provides direction for the Region on major policy issues on all modes of transportation. Regional needs and initiatives are outlined for utilization in framing transportation solutions during the period covered by the Plan. The South Central Regional Council of Governments (SCRCOG), in consultation with the member municipalities, the Connecticut Department of Transportation, federal transportation agencies, and other state agencies, has set priorities which are reinforced and expanded by this update of the Plan.

The Plan is required to be fiscally constrained. Many of the initiatives, services and infrastructure needs identified herein are beyond the fiscal constraint of the Plan. The SCRCOG, in conjunction with the member municipalities, state and federal governments, looks for cooperative efforts to utilize existing and any additional funding sources to prioritize and accomplish the transportation goals and initiatives outlined within the Plan.

*Land use and transportation needs are linked. Transportation options are necessary to meet the needs of the Region's residents and workforce.*

*Highway improvements can only address a portion of the transportation needs. Multi-modal solutions will be required to meet the Region's needs over the timeline of the Plan.*

Preparation of this report was financed in part through funding from the U.S. Department of Transportation, Federal Highway Administration and funding from the Connecticut Department of Transportation. The opinions, findings and conclusions expressed in this report are those of the South Central Regional Council of Governments and do not necessarily reflect the official views or policy of other government organizations.

# Major Goals of the Plan

**Travel Options** – The Region has the basics in place for a functional, multi-modal, and first class transportation system. Highways, rail, bus, water, and air modes are all operational. Enhancement and interconnection of these modes to provide more and better travel and movement of freight and goods will be necessary to insure the continued quality of life in the Region. The Plan identifies existing and anticipated needs for additional transportation services which would improve travel options.

**Transportation Funding** – The wise use of available funding to bring the most return on investment for the Region is critical. Funding levels continue to be well below documented needs for implementation of identified transportation solutions. Priorities must be established to meet fiscal constraints while identifying needs which will require significant investment beyond the fiscally constrained portion of the Plan. The demonstrated need for additional funding, shown by the number of enhancements and initiatives which cannot be addressed within the financial constraints of the Plan, is substantial. The goals of the Plan can only be implemented by the provision of additional transportation funding. The Region looks to state and federal agencies to address these funding needs.

**Policy Guidance** – The adoption of this Plan reaffirms and expands the major policy guidance as outlined in subsequent chapters. All transportation issues must be framed and reviewed within the context of the Plan to insure meeting of the goals noted. Previous study efforts by the SCRCOG have produced effective guidelines for the implementation of transportation strategies and solutions.

**Regional Solutions** – It is clear that transportation issues and opportunities can only be addressed by regional solutions. The SCRCOG, supported by its Transportation Committee and Transportation Technical Committee, considers, reviews, and prioritizes proposed projects to insure regional benefits. Monthly meetings and updates provide information from the Region to its member municipalities and state and federal agencies, stressing the importance of interagency communication and cooperation.

**Linking Land Use with Transportation** – Local land use regulations and decisions have an inseparable link with the regional transportation system and its needs. Land use decisions can dramatically change the impacts on segments of the Region's transportation system. Consultation and cooperation with the local land use agencies will be required to reduce sprawl and increase travel options by working to locate development in those portions of the Region where the transportation infrastructure will, or can be enhanced to, support the additional demand.

**Aging Infrastructure** – Many portions of the Region's infrastructure were constructed many years ago. Improvements have been made to portions of the infrastructure but

urgent needs for modernization and enhancements remain. The Region must insure that its infrastructure is maintained, upgraded, and enhanced as appropriate. The minimum standard must be a state of good repair for all portions of the infrastructure. Local and state governments are responsible for these maintenance activities. The federal government provides substantial funding. Numerous regional needs exist for improvement of infrastructure for all modes of transportation. The Plan identifies these needs.

**Economic Vitality** – The Region's economic health depends upon the efficiency and extent of the Region's transportation system. The SCRCOG is committed to policies and solutions that improve the Region's economic outlook. Investment in the policies and improvements outlined in the Plan will be crucial to the Region during the timeline of the Plan and beyond. The Safe, Affordable, Flexible, Efficient, Transportation Equity Act: a Legacy for Users (SAFETEA-LU) expanded the definition of economic vitality to include the promoting of consistency between transportation improvements and local, regional or state planned growth and economic development. Regional coordinated efforts will be critical to maintain continued economic vitality.

**Congestion Management Process –** SAFETEA-LU requires that a congestion management process be a key element of the Plan. Highway congestion is a continuing impediment to the free flow of movement of people and goods throughout the Region due to continued dependency on the automobile and trucks. Increased highway capacity within the fiscal constraints of the Plan can address only some of the Region's congestion locations. Transportation mode shifts and increased utilization and efficiency of existing regional transportation resources will be necessary as part of the process to address congestion issues. The SCRCOG must utilize a congestion management process in framing transportation decisions which may include both transportation demand management (TDM) and transportation supply management (TSM) initiatives. Managing congestion is a key factor in maintaining regional economic vitality and the attractiveness of the Region to residents and businesses while improving overall environmental quality.

**Preservation of Existing Transportation Resources** – The Region has many options and transportation modes to meet transportation needs. Each of these modes plays an important role in the overall transportation system. Fiscally constrained planning requires a component which maintains all current transportation resources, recognizing the importance of each current mode and service option. The Region can ill afford to lose any service and move backwards. The preservation of the various resources will allow opportunities for the future as regional needs evolve. Transportation needs have not diminished since the preparation of the last Plan update and the importance of maintaining existing transportation resources cannot be understated. The fiscal constraint imposed by the Plan limits the opportunities to preserve the existing transportation resources. Additional funding will be needed to guarantee full preservation and continued operation of the current transportation operations and infrastructure.

**Climate Change** – While there is no federal guidance on climate change impacts of transportation planning, the Region is mindful of the impacts of transportation on the

environment. As noted elsewhere in the Plan, the Region encourages wise transportation decisions that reduce emissions of greenhouse gasses, while providing improved transportation choices throughout the Region. These decisions will reflect the varying character of the Region and will involve different solutions for densely populated and rural sections.

# Major Policy Directions

Transportation planning policies guide all reviews and decisions made in the Region. Policies adopted in the past by the SCRCOG have shaped the decisions while moving the Region closer to its transportation goals. The policies outlined below are specifically noted as necessary to meet the goals previously outlined and the needs of the Region over the timeline of the Plan.

**Increase accessibility and mobility** – The movement of people and goods is critical to the Region. Individual activities and business successes rely on the ability to access transportation and move about the Region and beyond. Current transportation patterns rely primarily on the highway system to move people and goods. The increasing highway congestion in the Region indicates that this reliance on one primary mode of transportation is not in the best interest of the Region. While highway improvement projects can address some of the congestion, increased accessibility and mobility for both people and goods can only be accomplished by greater utilization of other modes of transportation. Service must be conveniently located, highly reliable, reasonably priced, scheduled to provide timely service and routed to cover the identified corridors of the Region to be responsive to transportation needs and goals. Information technology can increase awareness and provide easy access to transportation system information, providing information on transportation options. Transportation decisions must be framed with these important criteria to increase accessibility and mobility.

**Enhance modal integration** – Major advances have been made in the Region in improved connections for the integration of rail, pedestrian, and highway modes for the movement of people in the last decade. Completion of the downtown State Street Station, with convenient downtown pedestrian access to many work destinations, and other station construction and parking expansions for Shore Line East are good examples of modal integration. The Region needs to build on these successes by promoting and implementing additional opportunities and projects which improve the movement of people and goods utilizing integrated modes of transportation. Interconnections between modes, such as rail-water and water-highway for freight, and rail-bus for people, are key components in avoiding regional gridlock and reducing ongoing congestion.

**Support economic vitality** – It is clear that the economic vitality of the Region benefits all the residents of the Region and Connecticut. The economic impacts of transportation decisions are critical factors in transportation planning, especially in times of limited transportation funding. Business retention and expansion decisions are strongly influenced by the transportation systems available and planned for the Region. The Region must look to insure that all transportation decisions promote economic vitality throughout the Region, and are consistent with local and regional plans of conservation and development.

**System Preservation** – The goal of preservation of all transportation resources in the Region can only be accomplished with the support of local, state and federal government, as well as the input of the public and private operators which service the Region. Special attention should be paid to the input of these operators to insure that issues which negatively impact the existing service are addressed. Close communication between the operators, all levels of government and the SCRCOG is critical for the future of the transportation system.

**Promote system efficiencies** – The major infrastructure investment noted in the Plan only meets some of the identified needs for all modes of transportation. It is therefore critical that the available transportation resources are utilized to their highest potential. Regional emphasis must focus on strategies to improve performance and mobility. Funding agencies and public and private operators are encouraged to review their services and work with the Region to identify opportunities. Opportunities may develop after study which can be implemented at minimal cost. Others will be governed by fiscal constraint, requiring further study, demonstration of demand for improvements, identification of funding sources, and strategies to fund the identified needs.

**Protect the environment** – Connecticut has a long tradition of environmental protection and required mitigation of the impacts of transportation activities on the environment. SAFETEA-LU requires the Region to look at different types of environmental mitigation activities, as well as potential locations. This overview will identify opportunities for the restoration and maintenance of environmental functions which could be affected by the components of the Plan. While the environmental permitting for transportation activities remains primarily at the state level, the review by the Region and its municipalities will provide the potential for local input to the state permitting process, working toward the goal of a better environmental outcome for every transportation project.

# Linking Land Use and Transportation

The Region recognized the correlation between land use and transportation in the last Plan. Transportation systems serving the Region are primarily concentrated in the I-95 and I-91 corridors, where the infrastructure, work destinations, and population densities support these systems. The State Plan of Conservation and Development (POCD) frames the areas which are anticipated to have further development and increased transportation needs. The Regional Plan of Conservation and Development frames regional perspectives and must be consistent with the state POCD. The 2008 update identified these areas and goals. Each municipality in the Region has prepared, or is in the process of updating, their local Plan of Conservation and Development. The local POCD must be consistent with the state and regional POCDs. The outreach from the Region to each municipality has resulted in better coordination of the regional and local POCDs and will result in consistency of all POCDs when the current update cycle is completed. The Region is required to promote consistency between the local, regional and state Plans of Conservation and Development and transportation improvements. Transportation improvements that are consistent with the various POCDs lead to increased travel options, better transportation systems, increased economic vitality and containment of sprawl. Sprawl has been identified as detrimental to the Region and State, creating negative impacts on the existing transportation resources and increasing highway congestion. During the timeline of the Plan, the following land use concepts are outlined for review as part of the transportation planning process:

**Sustainable Communities/Smart growth/Livability Principles** – Increased congestion must be addressed on several fronts. Expanded highway capacity is difficult in the Region due to adjacent development patterns and the high cost of land. An alternative is to utilize the sustainable communities concepts. Whether called sustainable communities, smart growth, or livability, the goal is to direct development to areas of the Region that:

- are good places to live and work
- maintain and improve the quality of life
- sustain economic growth
- build a strong sense of community
- reinvest in urban centers
- develop on lands which have existing supportive infrastructure (i.e., existing public utilities and road network).

Key components also preserve open space, prime farmland, and support safe streets, a healthy environment, and travel options. Travel options must include transit or rail to reduce dependence on auto usage and reduce congestion. An emphasis on pedestrian travel as one of those travel options is critical to the quality of life and sense of community goals. A viable pedestrian network must be included in these initiatives. The areas of the Region suitable for Sustainable Communities/Smart Growth/Livability must be identified by each municipality and provisions made in local zoning to accommodate this type of development. The success of these initiatives rests upon the

communication, cooperation and coordination of all levels of government to provide transportation resources which serve these communities and are an integral part of the regional transportation system.

The Region is currently participating in a larger consortium for the greater New York area with the federal Sustainable Communities Initiative. The planning effort being undertaken will analyze the region, identify gaps and propose solutions for possible future funding opportunities. It is anticipated that the Region will continue participation in these initiatives as opportunities and funding are available.

In addition, the Federal Highway Administration has outlined six livability principles which are suggested to be components of both the Plan and the Region's annual Unified Planning Work Program. The six livability principles are:

- **Provide more transportation choices**. Develop safe, reliable, and economical transportation choices to decrease household transportation costs, reduce our nation's dependence on foreign oil, improve air quality, reduce greenhouse gas emissions, and promote public health.
- **Promote equitable, affordable housing**. Expand location-and energy-efficient housing choices for people of all ages, incomes, races, and ethnicities to increase mobility and lower the combined cost of housing and transportation.
- **Enhance economic competitiveness**. Improve economic competitiveness through reliable and timely access to employment centers, educational opportunities, services, and other basic needs by workers, as well as expanded business access to markets.
- **Support existing communities**. Target Federal funding toward existing communities—through strategies like transit oriented, mixed-use development, and land recycling—to increase community revitalization and the efficiency of public works investments and safeguard rural landscapes.
- **Coordinate and leverage Federal policies and investment**. Align Federal policies and funding to remove barriers to collaboration, leverage funding, and increase the accountability and effectiveness of all levels of government to plan for future growth, including making smart energy choices such as locally generated renewable energy.
- **Value communities and neighborhoods**. Enhance the unique characteristics of all communities by investing in healthy, safe, and walk able neighborhoods—rural, urban, or suburban.

These principles, while now suggested as outlined by FHWA, have been incorporated by the Plan for many years in slightly different wording. No matter how worded, the Region supports the goals noted.

**Coordination with Regional Plan of Conservation and Development** – Each municipality within the Region participates in the transportation planning process through the actions of the SCRCOG approval process. Added emphasis on consistency between the Regional Plan of Conservation and Development and transportation actions will insure that transportation decisions will lead to the preferred regional growth patterns and continued economic vitality.

**Transit Oriented Development (TOD)** – Past development in the Region has often resulted in sprawl with population densities which are low and cannot sustain further transit opportunities. Fiscal constraint causes transit providers to strive for significant sustained ridership on all transit services for wise utilization of limited funding. Regional growth that includes transit oriented development will allow for siting of new developments along existing transit routes, thereby allowing better travel options for the residents while allowing for expansion of the ridership of the current services. The potential construction of new bus hubs and the potential construction of new railroad stations on the New Haven/Hartford/Springfield line within the Region provide opportunities for new TOD projects. TOD can provide the Region with new economic activity while minimizing the impacts of this activity on highway congestion.
TOD must be planned through local planning and zoning with input from the Region and transit providers to insure successful development which does not overburden existing facilities or service or will provide transportation enhancements necessary to meet the needs of the project. Communication, cooperation and coordination at all levels of government are necessary to address all the impacts of TOD and provide the benefits to the Region.

**Travel Forecast Model** – Maintaining and updating the Region's travel forecast model will continue to be a key activity. The travel forecast model is a tool which estimates the regional travel needs in the future. Current travel data is entered into the model which then estimates future travel demands on the regional roadway system. Air quality conformity determinations will govern transportation decisions during the timeframe of the Plan and are best judged in the context of regional needs and trends. The travel forecast model will help frame those decisions. As opportunities for transportation mode shifts occur, the travel forecast model can estimate potential benefits and help frame decisions to increase accessibility and mobility, while increasing the potential for environmental benefits.

**Context Sensitive Transportation Solutions** – Transportation solutions must not be out of scale or character and must be appropriate for the location. The Region's infrastructure and land use patterns have evolved over many decades. Design of new transportation infrastructure cannot detract from existing development patterns and must integrate with communities to encourage continued quality of life and addressing of community concerns. Solutions which meet these goals provide stronger communities and better long range transportation solutions for the Region.
Context sensitive transportation solutions address these concerns as part of the planning and design process. Public Outreach provides an opportunity for the issues surrounding a specific transportation proposal to be raised. Coordination with the municipality and the Region provide other means to understand the potential impacts of the transportation improvement. Community needs and other site specific issues are considered and addressed to mitigate any adverse impacts of the proposed transportation improvements. Context sensitive solutions work with site specifics such limited available land and existing surrounding development and other limitations to allow transportation improvements to be in scale with the area. When utilized in conjunction with Sustainable

Communities and congestion management process initiatives, context sensitive transportation solutions provide substantial benefits to the residents near the transportation project and the Region in general.

**Regional Growth Centers** – Broad identification of areas of the Region which are suggested for future development are noted on the State Plan of Conservation and Development. The specific identification of suitable locations or sites for Regional Growth Centers should be a priority of the Region. These locations or sites are within areas which have regional significance as existing or potential employment centers, have existing or planned infrastructure to support existing and expanded employment and will therefore not shift infrastructure and transportation demands to currently undeveloped portions of the Region. Reuse of existing developed sites, expansion of underutilized sites and availability of transportation options for both people and freight are necessary components of these centers. Once identified, these specific sites for Regional Growth Centers can be added to the Plan and will be an important consideration for all transportation decisions.

The areas of the Region suitable for growth must be identified by each municipality and provisions made in local zoning to accommodate this type of development on the identified sites. The success of these initiatives rests upon the communication, cooperation and coordination of all levels of government to identify transportation resources which would serve these growth centers, have current capacity or can be expanded to meet the transportation demands of the growth centers, and are an integral part of the regional transportation system.

# Public Outreach

The SCRCOG has adopted Public Participation Guidelines and a public outreach process to insure public input into transportation decisions and the Plan. Input is solicited from the business community and the general population to insure the Plan reflects the needs and goals for regional transportation issues.

**Public Participation Guidelines** – The Region's "Public Participation Guidelines for Transportation Planning, December 6, 2005" were adopted by SCRCOG on November 16, 2005. The Guidelines outline the many avenues utilized to insure public participation and input. Dissemination of information is accomplished monthly to various parties in the Region and State through the distribution of agendas for the monthly meetings. Regular public attendance at monthly Transportation Committee and SCRCOG meetings indicates the success of the outreach.


**SCRCOG Website** – Outreach through the Web has the greatest potential to provide information and receive input from the various sources within the Region. SCRCOG maintains reports, agendas, data, regional links and other information for website visitors. Communication through the website enhances the ability to transmit information to the SCRCOG members and municipal staff. This important link will grow in importance over the timeframe of the Plan.

**Municipal Chief Elected Official and Staff outreach** – Monthly activities of SCRCOG allow for interaction and outreach to all the municipalities of the Region. Transportation Committee and Transportation Technical Committee (consisting of municipal staff) joint meetings review and recommend action on SCRCOG agenda items before full SCRCOG consideration.

**Long Range Plan Update** – SCRCOG staff outreach to municipalities included presentations on the update of the Long Range Transportation Plan and the Regional Plan of Conservation and Development to organizations in the Region.

The update of the Plan also required specific outreach chief elected officials and municipal staff to insure that all aspects of the regional transportation system were considered and addressed. Responses have been included to insure that the Plan reflects the specific goals and needs of each municipality.

In accord with the consultative process required under SAFETEA-LU, copies of the draft Plan were forwarded to the Connecticut Department of Transportation for discussion with other governmental agencies.

Information was disseminated to the SCRCOG media distribution list concerning the timeline for adoption of the Plan and the opportunities for public comment. A display ad was published on April 5, 2011 in the New Haven Register to make the Region aware of the process.

Copies of the draft Plan were mailed to each chief elected official in the Region and to each appointed member of the Transportation Technical Committee along with correspondence which outlined the schedule for adoption and solicited comments on the draft.

The Transportation Committee and Transportation Technical Committee briefly discussed the draft and the approval process at their January, February and March, 2011 meetings. The draft was recommended to SCRCOG for approval on April 13, 2011.

An Informal public meeting was conducted 6 pm on April 20, 2011.

The 45 day public comment period ended on April 26, 2011, 2011.

A compilation of comments received, along with a revised draft, was forwarded to the SCRCOG for consideration at the April 27, 2011 meeting. The Plan, as amended, was then adopted by the SCRCOG.

A summary of the outreach to organizations noted above, the comments received during the public comment period comments and suggested changes are included in Appendix C.

# Environmental Justice

The SCRCOG prepared a report concerning environmental justice, "Environmental Justice Briefing Package, Transportation Planning: 2003-2004 Goals and Outreach", which has been utilized as guidance to address Environmental Justice (EJ) issues. This guidance has helped frame transportation decisions which impact EJ areas. In addition, a regular outreach from the Region to the New Haven Environmental Justice Network (NHEJN) has been underway for many years to provide dialogue and input from the community. SCRCOG staff is in contact with the NHEJN to foster communication and input for regional efforts. The following areas are important to insuring the transportation planning process addresses EJ issues.

**Access to jobs –** Opportunities for accessible employment are critical for EJ areas in particular. Regional initiatives are in place to expand employment opportunities as far as possible. The Plan encourages the continuation of these initiatives and recognizes the importance of consideration of EJ concerns during the transportation planning process.

**Transit Service** - A higher percentage of residents in EJ identified areas do not have a car available for their use. Transit service, therefore, is critical for access to employment and for meeting other transportation needs of these residents of the Region. The Plan must address the need for maintenance of existing transit services and provide opportunities to seek out additional transit needs and work to meet them. Opportunities for additional capacity at minimal cost, such as the utilization of larger, articulated busses, must be considered. Any modifications to the transit fare structure must consider the impacts of any increases on EJ areas.

**Clean busses** - As diesel exhaust has been determined to have a negative impact on many residents of EJ areas, the utilization of "clean buses", with reduced diesel emissions, must be a part of the Plan. The benefits of initiatives such as this, while primarily benefiting EJ areas, extend throughout the Region and promote the clean air and environmental goals of the Plan.

**Truck Routing** – Many EJ areas are adjacent to industrial areas and have the burden of significant truck traffic. Regional and local efforts should be continued to insure that the routing of trucks, with the attendant diesel emissions, are minimized through EJ and other residential areas in the Region. Working with the major operators, local police, municipal staff, and neighborhood representatives, truck routes can be identified to minimize neighborhood impacts.

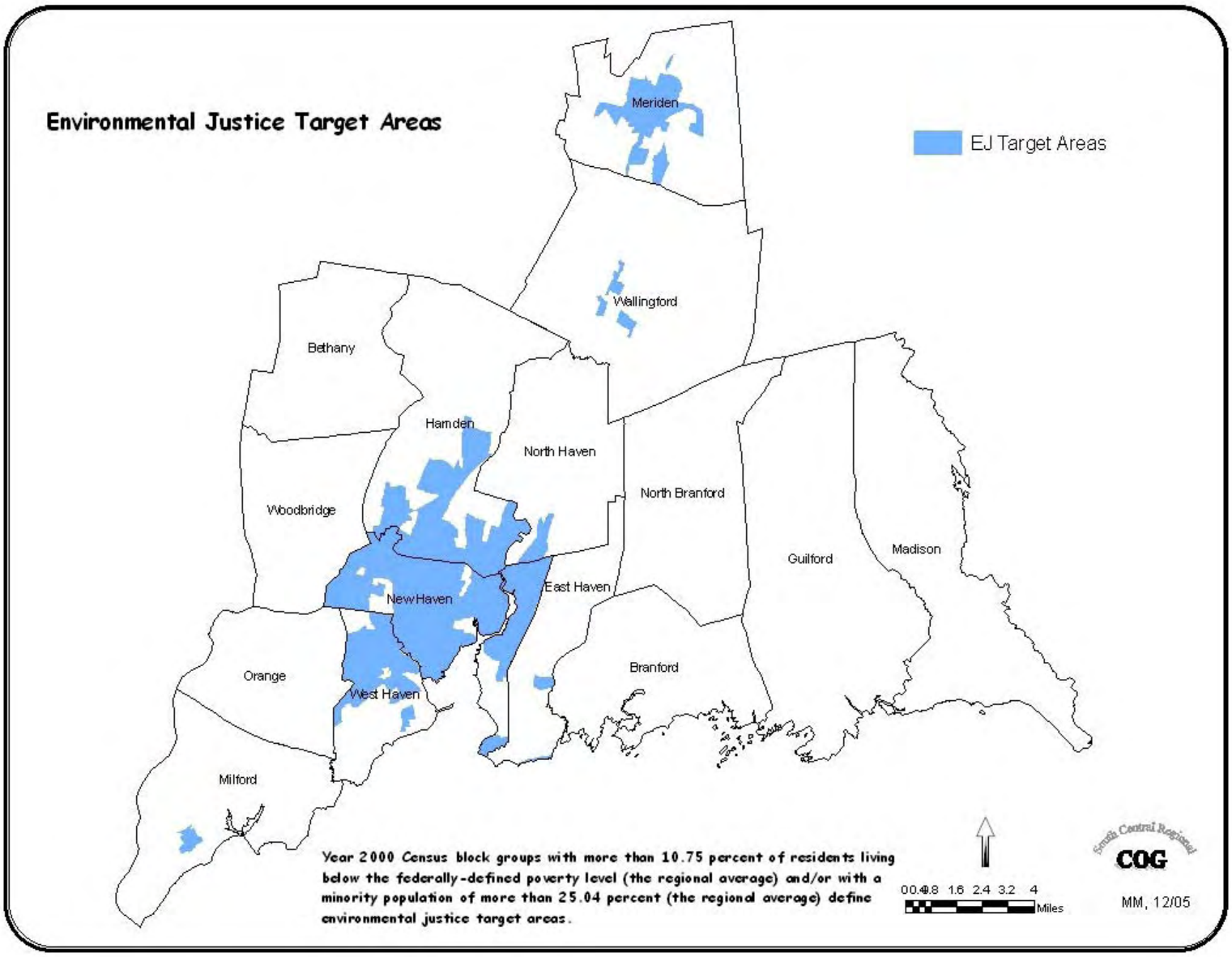
**Pedestrian and Bicycle Connections** – Access to non-motorized transportation opportunities is especially important as access to autos is not available to many residents of EJ areas. Normal sidewalk networks are in place and each transportation project should be reviewed carefully to insure maintenance of the existing sidewalk network. The

review should also identify and promote any opportunities for improvements or enhancements of the sidewalk network. Bicycle connections are also important, but must be reviewed in accord with a regional plan. The SCRCOG undertook a regional bicycle and pedestrian study leading to a final Regional Bicycle and Pedestrian Plan in 2007. Implementation of the recommendations of the completed Regional Bicycle and Pedestrian Plan will further the achievement of EJ goals by providing additional opportunities for non-motorized transportation modes serving these and other portions of the Region.

**Air Quality** – Air quality issues are especially important in EJ areas due to high population densities and congested conditions. Two opportunities for reduced emissions are encouraged by DEP.

- For large construction projects in urban areas, the use of construction equipment with air pollution control devices is encouraged. The use of particulate filters or "clean fuels" will provide the reduction. Contract specifications requiring the use of these pollution reduction measures should be promoted, as have been in the Pearl Harbor Memorial Bridge improvements.
- DEP regulations limit the idling of mobile sources to three minutes. However, these regulations are only enforceable by DEP. It is suggested that all contract provisions for construction include anti-idling restrictions to allow enforcement by the project, thereby improving air quality for the construction area.

The 2010 Census data will be reviewed by the Region to update the EJ areas. Study of any changes noted from the 2010 Census data will lead to potential policy goals and evaluation of EJ areas in transportation planning decisions.


Environmental Justice Target Areas
EJ Target Areas
Meriden
Wallingford
Bethany
Hamden
North Haven
Woodbridge
North Branford
Guilford
Madison
New Haven
East Haven
Orange
West Haven
Branford
Milford
Year 2000 Census block groups with more than 10.75 percent of residents living below the federally-defined poverty level (the regional average) and/or with a minority population of more than 25.04 percent (the regional average) define environmental justice target areas.
0 0.4 0.8 1.6 2.4 3.2 4
Miles
South Central Regional
COG
MM, 12/05

# Transit

As highway congestion increases throughout the Region, it is clear that transit opportunities are critical to maintaining a functioning and efficient transportation system. Past system improvements and enhancements have provided the Region with a good basic system, covering bus, car and vanpooling, and rail passenger service. Clearly, the regional transit system has rebounded from the low point of a few decades ago. Just as clearly, the opportunities over the timeline of the Plan are significant and critical to the Region. Efficient movement of people is a vital component of the long term economic health and vitality of the Region.

In 2004 and 2005, the SCRCOG undertook a Regional Transit Development Strategies Study to conduct a comprehensive overview of the transit system for the Region. The study culminated with a final report entitled "Strategies Evaluation Report" which provided discussion and recommendations for transit operations and improvements. The recommendations were summarized in the report as Table 3.1-1 which is shown on page16. Subsequent input revised the recommendation concerning a West Haven or Orange Railroad Station to now recommend construction of stations at both locations. The West Haven station has advanced and is currently under construction.

An additional study was undertaken in 2007 and 2008 to advance the 2004 and 2005 Study. This study focused on implementable portions of the recommendations and outlined necessary steps for implementation. In addition, this study reviewed and made recommendations on the multiple shuttles in downtown New Haven. The final report with detailed recommendations has been forwarded to the operators for implementation as funding and service needs permit.

The Plan looks to the further study and implementation of the recommendations noted above. Implementation of these recommendations is beyond the fiscal constraint of the Plan and additional funding will be required. Once implemented, these enhancements will be an important part of the congestion management process and will meet the goals of providing more and better travel options for the Region.

Current transit services are available from many sources. Service options, identified needs and providers are described below:

**Connecticut Transit** - As the fixed route bus operator for the Region, CTTRANSIT works to maintain existing service, and seeks opportunities to improve service within the fiscal constraint of their annual appropriations. As with most transit operations, the fares generated do not pay for the operational costs, necessitating operating appropriations. Significant increases and fluctuations in the price of gasoline and diesel fuel over the last several years have increased the ridership of CTTRANSIT. This increase has strained the capacity of several routes in the Region. CTTRANSIT has obtained necessary legislative changes and acquired several articulated busses, which allow for increased capacity, with

minimal additional operating costs. These are about to be placed in service and may require some improvements in bus stops on the various routes. System and equipment modifications such as these or additional buses will be required to serve the increased ridership that is anticipated for the Region. As needs are identified, CTTRANSIT, in consultation with the SCRCOG, the municipalities served, CDOT and local elected representatives of the Connecticut Legislature, must work to meet these needs. Expanded service in one area cannot be accomplished at the expense of service in another, unless ridership declines are evident. The goal of the Region is to maintain and enhance service to meet identified needs.

## Table 3.1-1: South Central Connecticut Regional Transit Development Strategies Summary

Recommendations

| | Implementation Timeframe | | | Ridership Impacts | | | Financial Impacts | | | Service Impacts | | | | | | | | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Short | Medium | Long | Benefit Existing Riders | Attract New Riders | Model / Quantitative Estimate | Operating Costs | Capital Costs | Overall System Productivity | Expand Service/ Fill Gaps | More Convenient/ Comfortable | Simpler/More Understandable | Fewer Transfers | Faster Service | More Frequent Service | Solves Capacity Constraints | | |
| **High Priority** | | | | | | | | | | | | | | | | | | |
| Route Simplification | ■ | | | ↑↑ | ↑↑ | 10-20% | – | – | ↑ | – | ↑↑ | ↑↑ | – | ↑↑ | ↑ | – | | |
| Development of Hub and Spoke System | | | | | | 10-20% | | | | | | | | | | | | |
| *Service Changes* | ■ | | | ↑↑ | ↑↑ | | ↑ | ↑ | ↑ | ↑ | ↑↑ | ↑↑ | ↑↑ | ↑ | – | – | | |
| *Hub Facility Development* | | ■ | ■ | ↑↑ | ↑ | | ↑ | ↑↑↑ | ↑ | – | ↑↑ | – | – | – | – | – | | |
| Consolidate stops | ■ | | | ↑↑ | ↑ | 5-20% | – | – | ↑ | – | – | ↑ | – | ↑ | – | – | | |
| Consolidate New Haven Shuttles | ■ | | | ↑ | ↑ | about 100% | ↑ | – | ↑ | – | ↑ | ↑ | – | – | – | – | | |
| Rider-Request Service | ■ | | | ↑ | ↑ | about 20% | ↓ | – | ↑ | ↑ | ↑ | – | – | – | – | – | | |
| **Medium Priority** | | | | | | | | | | | | | | | | | | |
| Bus Stop Improvements | ■ | ■ | | ↑↑ | ↑ | 5-10% | ↑ | ↑↑ | ↑ | – | ↑↑ | – | – | ↑↑ | – | – | | |
| "Rapid Bus" Service (excluding stop consolidations) | | ■ | ■ | ↑↑ | ↑↑ | 10-20% | – | ↑↑↑ | ↑ | ↑ | ↑↑ | ↑ | – | ↑↑ | ↑ | – | | TSB Rec |
| Park and Ride Expansion (at rail sites) | | | | | | | | | | | | | | | | | | |
| *West Haven or Orange* | | ■ | ■ | ↑ | ↑↑ | 10-15% | ↑ | ↑↑↑ | ↑ | ↑↑ | ↑↑ | – | – | ↓ | – | ↑↑ | | TSB Rec |
| Expand Joint Fares | ■ | ■ | | ↑ | ↑ | – | ↑ | – | – | – | ↑ | ↑ | – | – | – | – | | TSB Rec |
| **Low Priority** | | | | | | | | | | | | | | | | | | |
| Improved Bus-Rail Connections | ■ | | | ↑ | – | – | ↑ | ↑ | ↑ | – | ↑ | ↑ | – | ↑ | – | – | | |
| Parking Expansion | | | | | | | | | | | | | | | | | | |
| *New Park and Ride Lots* | *To be determined* | | | ↑↑ | ↑↑ | – | ↓ | ↑↑ | ↑ | ↑↑ | ↑↑ | ↑ | – | – | – | ↑↑ | | |
| **Initiatives Underway or Studied Elsewhere** | | | | | | | | | | | | | | | | | | |
| New Haven - Hartford - Springfield Commuter Rail | | ■ | ■ | ↑↑ | ↑↑ | | ↑↑↑ | ↑↑↑ | – | ↑↑ | ↑↑ | | ↑↑ | ↑↑ | ↑↑ | | | TSB Rec |
| Parking Expansion | | | | | | | | | | | | | | | | | | |
| *New Haven (in progress)* | Underway | | | ↑↑ | ↑↑ | | ↓ | ↑↑↑ | ↑ | – | ↑↑ | – | – | – | – | ↑↑ | | TSB Rec |
| *Milford* | | ■ | | ↑↑ | ↑↑ | | ↓ | ↑↑↑ | ↑ | – | ↑↑ | – | – | – | – | ↑↑ | | TSB Rec |
| Provide Better Transit Information | Underway | | | ↑ | ↑ | | ↑ | ↑ | ↑ | – | – | ↑ | – | – | – | – | | TSB Rec |

Key:

*Service and Productivity Impacts*

↑↑ = Strongly Positive

↑ = Positive

– = Neutral/No significant impact

↓ = Negative

↓↓ = Strongly Negative

*Financial Impacts*

↑↑↑ = Large Increase/High Cost

↑↑ = Moderate Increase/Moderate Cost

↑ = Low increase/Low cost

– = No significant impact/cost

↓ = Small reduction

↓↓ = Moderate reduction

↓↓↓ = Large reduction

*CTTRANSIT bus service provides route options for this transportation mode. Existing service is vital for many residents of the Region. Enhanced service will help address regional highway congestion, while providing more travel options for riders.*

The headways between busses on several routes have been discussed. Headways of ten minutes or less on the major bus lines in the Region have been recommended to provide good service, reduce crowding and encourage mode shifts to transit for reducing highway congestion. Reliable and timely service is a critical component of the attractiveness of bus utilization to potential riders.

CTTRANSIT can only accomplish these goals with the proper facilities and equipment. A new garage and maintenance facility, in planning for many years, opened for New Haven Division use in 2010. This new facility provides modern facilities critical for the maintenance of service during the timeline of the Plan. This investment by CDOT emphasizes the commitment to the health of the regional transit system.

Intermodal connections should be encouraged. Bicycle transportation facilities should be part of the overall CTTRANSIT planning and service as noted below.

Fleet replacement is planned and utilized American Recovery and Reinvestment Act of 2009 (ARRA) funding to advance the replacement schedule. Ongoing fleet replacement is necessary to ensure reliable and desirable service. Additional equipment may be necessary to meet the reduction desired in headway or to provide additional route capacity. Likewise, bus shelter improvements and replacements are required to provide suitable protection for riders in all weather conditions. These amenities are important to retain riders in all types of weather and reduce highway congestion and weather related delays.

**Greater New Haven Transit District** - The Greater New Haven Transit District (GNHTD) provides public transportation services in the Region which augment the CTTRANSIT fixed route services. The most extensive of these services provides trips to individuals with disabilities and is mandated by Federal law via the Americans with Disabilities Act. A number of other services are provided for transportation of elderly and/or disabled passengers who may not be eligible for the ADA transportation services. The size of the populations needing the services provided by the District continues to increase. Expanding numbers of elderly and disabled individuals in the region will drive the need for additional funding and careful planning in order to continue to provide these populations the freedom to travel and to maintain their quality of life.

*GNHTD "My Ride" buses*

Various capital improvement projects related to transit services are administered through the District, including transit enhancement projects and bus shelter installation and replacement projects.

The District also provides transportation for seniors and disabled persons through a municipal grant program funded by the state. This program has been funded by the state for the last five years and has provided transportation for eligible residents of the Region. The program has provided necessary transportation services for the elderly and disabled and has been well utilized. The Region must work with state elected officials to insure that this program has the necessary funding.

**Milford Transit District** – Milford Transit District provides transportation services for the western portion of the Region. Fixed route service, and ADA service, as well as "dial-a-ride" service, are provided for their service area.

**Meriden Transit District** – Meriden Transit District contracts for ADA and "dial-a-ride" service for their service area.

**Wallingford Transit District** – Wallingford Transit District contracts for ADA and "dial-a-ride" service for their service area.

**Estuary Transit District** – Estuary Transit District provides service in their Region east of the South Central Region. Connections are provided to the CTTRANSIT S Route in Madison.

**Rideworks** – Rideworks provides the Region with commute alternatives that help reduce dependence on the single occupant vehicle. Carpool and vanpool formation, information on the ease of use and benefits of these options, customized work or travel trip planning, promotion of transit usage and other commute trip options are all available for the benefit of the Region's travelers. Commuter outreach efforts raise awareness of the full range of state sponsored commute alternatives to driving to work alone. As congestion increases,

Ridework's efforts will continue to be vital to ensure full utilization of all transportation modes, thereby increasing system efficiency, especially during daily peak travel hours. Rideworks' provides employers and key traffic generators with technical expertise to help design customized Transportation Demand Management (TDM) programs for their employees. While employers can experience bottom-line benefits from adding policies supportive of transportation alternatives to their benefit package, they also help reduce traffic congestion and improve air quality in the region. TelecommuteCT, a newer TDM initiative, supports telecommuting to the worksite by providing design, development and implementation of a telecommute program to area employers. While telecommuting, the employee can completely remove a work trip from the Region's transportation system, reducing transportation related emissions, decreasing energy demands and improving air quality.

**LOCHSTP** – SAFETEA-LU requires the development of Coordinated Public Transit - Human Service Transportation Plans (LOCHSTP) in order to qualify for federal transportation funds under the following three Federal Transit Administration's (FTA) programs:

*Job Access and Reverse Commute (JARC***)** programs are to improve access to employment and employment related activities for low-income workers.

*New Freedom Initiative (NFI)* programs are to assist individuals with disabilities with transportation. Grants are for new public transportation services and public transportation alternatives that go beyond the requirements of the ADA.

*Section 5310 Vehicle Grant Program Funding for Elderly and Disabled Transportation* provides vehicle grants to nonprofit agencies or municipalities to provide transportation to seniors and persons with disabilities.

For planning purposes the Connecticut Department of Transportation and regional planning organizations across the state have developed a locally coordinated LOCHSTP plan. The LOCHSTP plan recommends to CDOT how those funds should be spent in Connecticut and is developed through a process that includes representatives of public, private and nonprofit human services transportation providers and participation by the public. At this time, LOCHSTP only covers the three FTA-funded programs described above. In the future, it could encompass additional federally-funded and state-funded programs.

**Local Providers** – The Region has many municipalities and non-profit agencies that provide travel options for certain segments of the public. As part of SAFETEA-LU, funding is available for vehicle acquisition under the 5310 program. In accord with program timelines, applications for vehicle funding are received and ranked by the Region for recommendation to CDOT. The program has provided many vehicles which provide travel services to the residents of the Region. Continued funding for vehicle acquisition under this program is necessary to insure continuation of these needed and well-utilized travel options.

**Shore Line East** – Commuter rail services for municipalities east of New Haven have experienced significant growth and capital investment. Construction of new stations, with high level platforms and good, well lit parking, has led to increased ridership. Remaining station upgrades are to be built near term. Many parking lots are utilized to near capacity, requiring planning for further expansion. Solutions could also involve transit service and carpooling to some station locations. Connections at the destination end of the rail trip, by Commuter Connection buses and private shuttles, have increased the viability of using the train and should continue to expand. Service modifications which allow for riders to remain on the same train for service west of New Haven have been well-received. The success of the commuter service and the desire to provide additional rail travel options to reduce congestion and dependence upon the automobile has led to weekend service and proposals for reverse commute service. Due to the success of Shore Line East, the Region has adopted service enhancements and expansions as a continued regional priority for legislative action. This regional priority is beyond the fiscal constraint of the Plan. As noted below under Bicycle Transportation Facilities, provision should be made for bicycle facilities both at the stations and on the passenger rail cars.

*Guilford Shore Line East Station provides for "up and over" access, allowing service on both tracks and parking on both sides of the railroad.*


*Regional transportation solutions require the construction of similar "up and over" stations at all Shore Line East stops.*

Service enhancements and expansion will provide greater travel options and reduce highway congestion on I-95. Additional infrastructure including parking and access to both tracks will be required. Operating agreements with AMTRAK will need to be addressed for reverse commute service. Beyond these enhancements, expansion of Shore Line East with additional service to New London and possibly beyond to Providence, Rhode Island should be considered during the timeline of the Plan. Equipment upgrades should encourage seamless service, allowing riders to travel further without changing trains, utilizing the current successful service continuation west of New Haven as the model. The Plan notes the importance of these additional travel options.

*Shore Line East Service Enhancements and Expansion are major goals of the region*

**Shore Line East Station for East Haven** – Provision for a station on Shore Line East for East Haven remains a key need. Operational needs identified by AMTRAK for the corridor and potential locations present challenges which must be addressed. Serious discussions and negotiations with CDOT as service provider, and AMTRAK as operator, must be undertaken to allow for the service expansion and enhancements. As the only town along Shore Line East without a station, residents must travel to either Branford or New Haven, utilizing available parking in either location. In New Haven, the lack of sufficient parking is already an identified issue while the trip to Branford is a reverse trip with parking there already limited, but under expansion. Travel to either station only increases current congestion on the highways. The construction of this station is beyond the fiscal constraint of the Plan but must be viewed as a near to midterm need.

**New Haven, Hartford, Springfield (NHHS) expanded rail passenger service** – Rail passenger service is currently provided along this corridor. A CDOT commissioned study, "New Haven, Hartford, Springfield Commuter Rail Implementation Study", provided documentation and recommendations for expanded service. The Connecticut Transportation Strategy Board has identified expanded service along this corridor for commuter, as well as continued non-peak and weekend travel, as a key component of the State transportation strategy. The final recommendations include bi-directional service with a minimum of 14 one-way trips on a 30 minute peak hour schedule. A fare structure

similar to other state sponsored commuter services is a key component of the success of this proposal. The SCRCOG adopted the implementation of this commuter service as one of its legislative priorities for 2007.
Recent applications by CDOT for high speed rail (HSR) funds have been approved, and matching funds authorized by the State of Connecticut, as part of a corridor which extends north through Massachusetts. Construction should commence during the term of the Plan and should include improvements to the corridor infrastructure, including double tracking, capital equipment purchases, station upgrades, new station construction in North Haven and possibly other locations, and parking facility improvements.

**Shore Line East Connection to NHHS expanded rail** – As commuter rail service is expanded and enhances, the need for interconnection of these services will be important. In this Region, Shore Line East and NHHS service currently meet at Union Station in New Haven. As part of the Plan, an interconnection which bypasses this busy hub may be important in providing timely travel options from one commuter rail to another. Rail connections exist which would bypass New Haven and allow interconnections in North Haven at a new station and either Branford or East Haven, if a station is built there.

**Union Station Parking, New Haven** – The increased utilization of rail service and the lack of transit service in many portions of the Region requires the riders to travel to the rail stations. A supply of convenient and easily accessible parking is necessary to ensure that no impediments to rail use are in place. While progress has been made in improving the frequency and convenience of the rail connections into Union Station from the Region, the current service leaving Union Station provides significantly more options than are available inbound from the Region. Many riders therefore travel to Union Station by car to travel by rail beyond the Region. The parking at Union Station has been identified for many years as extremely inadequate. Numerous attempts have been made to address this deficit in the near vicinity of the station. Temporary surface lots and shuttle service have provided temporary solutions, pending re-use of the surface parking sites. The resolution of this issue is a key requirement to increase transit and rail usage and further reduce highway congestion. The SCRCOG encourages all parties to work to a permanent solution which provides adequate and convenient parking for Union Station needs.

**West Haven and Orange Metro North Passenger Stations** – The creation of additional passenger stations between New Haven and Milford has been under discussion for many years. Studies have been conducted in the past, leading to a SCRCOG decision to recommend a station first in West Haven, with the subsequent construction of a second station in Orange as soon as possible. SCRCOG considers the construction of stations in both towns critical to the Region. CDOT has addressed the environmental issues for both stations. Legislative action in 2006 required the construction of both stations.
The West Haven station has been funded and construction is underway.
The Region looks to CDOT and the Legislature to resolve the remaining issues and advance the construction of the Orange station.

**Milford Railroad Station Parking Expansion** – Current parking at this location is extremely inadequate. Waiting lists for available parking show a substantial demand for additional parking for commuter utilization of the rail facility. Parking demand which is not met results in additional cars dropping off or picking up commuters at peak hours or additional traffic on highways if the traveler cannot utilize rail opportunities. Those adverse impacts demand that the parking availability at this location be addressed. A study of the parking options entitled "Structured Parking Feasibility Study for the Milford Railroad Station, July 1, 2006" was provided to the Milford Transit District. The study provided recommendations concerning location and preferred alternatives as well as construction costs and operations plans and costs.
While the construction of the stations in West Haven and Orange may reduce some of the parking demand, regional patterns suggest that the parking demand will still far outstrip the currently available spaces. Construction of near term solutions in Milford is required. This need is beyond the fiscal constraint of the Plan and additional funding should be sought to address this need.

**High Speed to Core Service** – High speed service to central New Haven employment areas has been operated by CDOT busses for many years with varying success. Unfortunately, the regional infrastructure does not support exclusive access, thereby requiring the high speed service to compete with other commuter peak highway traffic. This competition reduces the viability of the service as congestion increases and commuter peak traffic impacts occur for longer periods of time each morning and evening. Shore Line East and the New Haven, Hartford, Springfield railroad services should address these needs in the I-95 and I-91 corridors, when service upgrades and enhancements are fully implemented. The "Strategies Evaluation Report" noted above identified several high speed to core service opportunities which warrant further investigation. Additional needs identified over the timeline of the Plan for other corridors and opportunities for high speed to core service should be studied and, if feasible, implemented to reduce regional congestion and traffic impacts on the economy and the environment, provide better travel options, and improved access to major employment centers.

**Major Capital Investments** – SAFETEA-LU requires that all transit major capital investments be evaluated utilizing several criteria. As funding for most initiatives comes from sources outside the Region, it is important the regional decisions meet the criteria of the federal legislation.
The criteria are discussed below.

*Alternatives Analysis* – All decisions must include an analysis of alternatives. Viability of alternatives must be evaluated through the weighing of many factors, including existing infrastructure capacity, environmental impacts, overall cost, necessary infrastructure improvements, input received during public outreach, intermodal connections, right of way issues and numerous other factors. The Plan envisions that this analysis will have active participation by the Region in the process and a decision on the preferred alternative by the SCRCOG.

*Justification of the Project* – Once the needs have been identified, and the alternatives analysis undertaken, sufficient information and data will be available

to document the justification for the project. Formal approval action by the SCRCOG will be necessary for the project to proceed.

*Local Financial Commitment* – Transit activities are primarily funded by State and Federal funds. Any project undertaken will be funded by these sources. Endorsement by the SCRCOG will indicate the Region's desire for the project to proceed. Once funded by these sources, adoption into the Region's Transportation Improvement Program (TIP) will indicate concurrence with the financial commitment by the SCRCOG.

*Economic Development Potential* – Each regional transit program has an impact on the economic vitality of the Region. Major capital investments will most likely have an impact on the economic development potential of the portions of the Region served by the transit service proposed for major capital investment. SCRCOG staff meets regularly with organizations in the Region concerned with economic vitality, development, and job preservation and growth, such as the Regional Economic Xcelleration (REX), regional and local Chambers of Commerce, and municipal economic development staff. Regular monthly SCRCOG meetings include reports from some of these organizations, as well as agenda distribution to all. Economic impact information can easily be obtained from these sources to insure consideration of the economic factors in the decision-making process.

*Reliability of Ridership and Costs Forecasts* – Major capital investments must be evaluated utilizing many factors to determine the long term viability of the proposed major capital project. CDOT, in consultation with AMTRAK and other regional service providers, can provide the information necessary to address reliability of ridership and cost forecasts. SCRCOG staff will participate in the planning process and review CDOT reports. The SCRCOG will review the information provided by CDOT as part of the consideration for adoption of the project into the Region's TIP, a necessary step in the actual implementation of the major capital investment.

Improved coordination of the various services offered by numerous providers is an opportunity which will benefit existing users and visitors to the Region. The providers of the services noted in this chapter are encouraged to continue to work for all inclusive information and coordination which will promote intermodal opportunities, improved transportation options, increased mobility, and regional economic vitality.

# Transit Enhancement Projects

SAFETEA-LU requires that one percent of the Federal Transit Administration (FTA) capital and operating funds allocated to the New Haven-Meriden Urbanized Area be allocated for transit enhancement projects. Transit enhancement projects increase access to transit or improve modal connections to transit. These funds flow through the Greater New Haven Transit District, the region's FTA eligible agency. In order for a municipality to secure funding, a 20% local match is required. Projects designed to enhance public transportation services or their use that are physically and functionally related to transit facilities are considered transit enhancement projects.
Eligible projects are:

- historic preservation, rehabilitation, and operation of historic public transportation buildings, structures, and facilities (including historic bus and railroad facilities);
- bus shelters;
- landscaping and other scenic beautification, including tables, benches, trash receptacles, and street lights;
- public art;
- pedestrian access and walkways;
- bicycle access, including bicycle storage facilities and installing equipment for transporting bicycles on public transportation vehicles;
- transit connections to parks within the recipient's transit service area;
- signage; and
- enhanced access for persons with disabilities to public transportation

Past transit enhancement projects in the Region have been either improved or provided additional pedestrian facilities to allow improved access to transit, or bus stop improvements, including new, improved or replacement bus shelters. These projects have been well received and SCRCOG encourages the continuation of this program.

*Kohl's Hamden Mart Bus Shelters*

*Bus Shelters provide protection from adverse weather conditions. Transit ridership increases where amenities enhance the attractiveness of the service.*

*Past and Current Projects* - In FY2008 the region approved the funding of $523,750 (Federal) funds to 5 projects in 4 municipalities:

**Projects Approved in 2008**

| Municipality | Project Title | Cost | Federal |
|---|---|---|---|
| Meriden | Bus Shelter @ Research & Murdock | $ 18,350 | $ 14,680 |
| New Haven | Union Station Bicycle Interconnect | $145,000 | $130,500 |
| | Ramsdell/Fountain Bus Stop & Pedestrian Improvements | $213,212 | $170,570 |
| Wallingford | Bus Shelter @ Burke Heights | $ 10,000 | $ 8,000 |
| West Haven | TOD Streetscape Project | $250,000 | $200,000 |
| | | $637,000 | $523,750 |

In FY2009 the region approved the funding of $156,232 (Federal) funds to 2 projects in 2 municipalities:

**Projects Approved in 2009**

| Municipality | Project Title | Cost | Federal |
|---|---|---|---|
| New Haven | Bus Shelter Enhancement @ New Haven Green | $110,300 | $ 88,240 |
| West Haven | Bus Shelter Improvements@ 4 Locations | $ 84,932 | $ 67,760 |
| | | $194,232 | $156,232 |

***Status of Current Funding***

Apportionment and Carryovers New Haven Meriden Urbanized Area

| | 1% Set Aside | Carryover | Committed | Available |
|---|---|---|---|---|
| *FFY 05* | *$136,897* | *$276,724* | *$438,400* | *-$24,779* |
| FFY 06 | $164,752 | -$24,779 | $0 | $139,973 |
| FFY 07 | $168,727 | $139,973 | $0 | $308,700 |
| FFY 08 | $182,282 | $308,700 | $523,750 | $-32,768 |
| FFY 09 | $194,701 | $-32,768 | $156,232 | $156,232 |
| FFY10 | $194,216 | 0 | $0 | $194,216 |
| FFY11 | $194,216* | $194,216 | $0 | $388,432 |
| | | | **Total Funds Available** | **$388,432** |

* *Estimated amount*

The Region will continue outreach to the Region for the continued utilization of these funds.

# Interstate 95 Central Corridor Expansion

After decades of discussion and planning, the I-95 Central Corridor Expansion projects are underway. The completion of this series of construction contracts will influence the Region's Plan for the timeframe of the Plan and beyond.
Major capacity expansions are either completed or in planning for I-95 from Exit 54 Cedar Street in Branford, on the north (east) end to of Exit 46 on the south (west) end. The expansion also includes the replacement of the Pearl Harbor Memorial Bridge (Q Bridge) with a new structure and the complete rebuilding of the I-95, I-91, and Route 34 interchange.

**Exit 54 to Exit 49 –** Contracts for this section have been completed. A third lane in each direction has been added from Exit 54 to Exit 51. Two additional southbound lanes and one additional northbound lane have been completed between Exit 51 and the former location of Exit 49, which has been combined with Exit 50 to accommodate the additional expanded lane construction and capacity.

**Pearl Harbor Memorial Bridge** – The replacement structure will be constructed in phases due to the tight construction area and the need for maintenance and protection of traffic. The completed structure will not be fully operational before 2017. Additional lane capacity and improved circulation over the entrance to New Haven Harbor will eliminate the perception of inaccessibility to New Haven and other portions of the Region due to daily congestion and difficult movements due to limited capacity. The completed transportation resource will be a positive influence on the economic well-being of the Region.

*Signature Design for new Pearl Harbor Memorial Bridge (Courtesy CDOT)*

**I-95, I-91, Route 34 interchange** – The reconstruction of this interchange is not only vital to the I-95 corridor, but also to the I-91 corridor and access to downtown New Haven. Daily congestion occurs due to the lack of capacity for many movements at this location. The reconstructed interchange will allow safer movements and address the left lane merges which have been identified as compromising motorist's safety.

**Long Wharf Area** – The Corridor Improvements include improvements to Exit 45. Lack of consensus concerning the best approach to this section of the Corridor delayed decisions and moved construction to the end of the construction timeline. The replacement of the Howard Avenue Bridge, currently under construction, is part of this portion of the corridor improvements.

**Boathouse Replacement** – The former Yale Boathouse was acquired and removed as part of the Pearl Harbor Memorial Bridge replacement. As part of the Long Wharf portion of the corridor project, a replacement structure is proposed. The Plan envisions this structure as part of the City of New Haven's long stated goal of making the shoreline in this area more accessible and attractive to the public.

# Interstates and Limited Access Highways

With the exception of the I-95 Central Corridor Project, the interstate system and state limited access highways in the Region has not seen substantial improvements since the initial construction of the last interstate section almost forty years ago. Many other portions of this system suffer from operational and capacity deficiencies. While most of the identified issues are beyond the fiscal constraints of the Plan, there are real impacts of these deficiencies which are felt throughout the Region.

**I-95 North (East) of Exit 54** – The CDOT has investigated the conditions of I-95 from Exit 54 in Branford to the Rhode Island state line. The Southeast Corridor Study concluded that additional capacity was needed and that a third lane should be constructed in each direction for the entire length. The study was forwarded to the Connecticut Legislature for consideration and funding. Commuter morning and evening peaks, as well as peaks throughout the weekend confirm the need for additional capacity. CDOT has identified improvements to a section of this portion of I-95 outside our Region as a Major Project of Statewide Significance and included it within the fiscal constraint of the Plan. The SCRCOG endorses additional capacity for that portion of the corridor within this Region as a mid-term construction goal.

**I-95 North (East) Interchange improvements** – The Southeast Corridor Study also identified several opportunities for interchange improvements. Other opportunities have been identified by the municipalities in this portion of the Region. The interchange opportunities are outlined below.

*Exit 53* – Current configuration allows for movements oriented to or from the south (west) direction. Potential reconfiguration of the connection of Exit 53 to Route 1 has lead to conceptual plans for a connection to allow for a full interchange in both directions. These additional movements will allow better access to that area of Branford and also allow for economic development potential, furthering several goals of SAFETEA-LU.

*Exit 59* – The Study proposed near term improvements to allow for safe connection with I-95 and Route 1 at Goose Lane. The concept raises additional concerns as it severely impacts the current CDOT maintenance facility. Regional growth will further deteriorate the traffic level of service at this interchange and, whether the current concept or another, solutions are necessary. Improvements to Exit 60 as noted below may partially address this issue.

*Exit 60* – Due to its proximity to the former Madison toll station on I-95, Exit 60 was only constructed to have movements to or from the north (east) direction. Original plans called for the south (west) movement to be made from Wildwood Avenue. In fact, these ramps were rough graded but never constructed when the Connecticut Turnpike, the original name for this section of I-95, was built. The Study identified these never completed ramps as a possible near-term improvement.

Further study is necessary for both Exit 59 and Exit 60. As each is in a different municipality, differing concerns surround each modification. There are implications on local streets for access to these areas from nearby residential areas. The Region looks to CDOT to address these interchange issues in full discussion with both municipalities.

No funding for interchange improvements from Branford to the Rhode Island state line is specifically included in the fiscal constraint of the Plan. The SCRCOG encourages CDOT to continue the process on these interchange issues.

**I-95 South (west) of Exit 45 -** CDOT completed a study of I-95 from New Haven to the New York state line several years ago. The Legislature recognized the difficulty of constructing additional capacity on I-95 due to limited current right of way and intense adjacent development. The solution mandated by the legislative action was to analyze the transportation needs and develop a plan to reduce the base levels of highway demand by 5% within five years.

Actions of CDOT included the reduction of highway demand by increasing utilization of other means of transportation. These included increased rail usage, increased ride-sharing/carpool usage, increased vanpool usage, increased full and part-time telecommuting, increased use of alternative work schedules, increased inter-regional bus ridership, and new ferry ridership. Results reported by CDOT include success in some of these areas and below goal reductions in others.

Any additional actions within the Southwest Corridor are anticipated to address transportation demand and not provide increased highway capacity.

**I-95 South (west) Interchange Improvements** – Exit 41 has been reconstructed and Exit 42 reconstruction has also been completed. These projects have addressed long-standing issues and improve the efficiency of the interstate system. The Plan looks to identify opportunities such as these over the timeframe of the Plan to insure efficient and safe operation of all interchanges on I-95 in the Region. Any identified projects are beyond the fiscal constraint and would require additional funding.

**I-95 New Haven-West Haven West River Bridge/**
**I-95 Milford-Stratford Moses Wheeler Bridge**
**Bridge Repair/Replacement**

Maintenance of aging infrastructure subject to traffic volumes far in excess of the design volumes requires attention and significant funding. Viaduct systems such as these bridge structures are especially important. CDOT has identified these as major projects of statewide significance within the fiscal constraint of the Plan for these important links along I-95.

**I-91 Interchange Improvements** – The interchange issues on I-91 are less significant as the design standards were more stringent for I-91, which was constructed a decade or more after the Connecticut Turnpike (I-95). However, changes in traffic patterns and

volumes due to adjacent development cause increased interchange usage, resulting in unsatisfactory interchange operations. Two examples are as follows:

*Route 68 – Wallingford* - Improvements have been accomplished at the I-91-Route 68 interchange to address substantially increased traffic volumes. The increased capacity has resulted in improved interchange efficiency.

*Route 80 – New Haven* – Interchange improvements have been identified as necessary for the northbound off ramp as a Major Project of Statewide Significance and included it within the fiscal constraint of the Plan. The SCRCOG views this project as a near to midterm improvement.

The Plan looks to identify opportunities such as these over the timeframe of the Plan to insure efficient and safe operation of all interchanges on I-91 in the Region. Any newly identified projects are beyond the fiscal constraint and would require additional funding.

**I-691 Interchanges - Meriden** – The previous Plan identified improvements to the Chamberlain Highway interchange as desirable for the efficiency of the local highway network. A SCRCOG sponsored study was completed in 2008 which expanded the review and recommended improvements to interchanges 5, 6, and 7 and circulation on adjacent highways. The Study has been forwarded to CDOT for programming and the implementation is beyond the fiscal constraint of the Plan. The SCRCOG encourages CDOT to advance these modifications and improvements in cooperation with the City of Meriden and the Region.

**Wilbur Cross Parkway** – The Wilbur Cross Parkway, Connecticut Route 15, is the only non-interstate limited access highway in the Region. Constructed in the 1930's, the Parkway was constructed for passenger vehicles only and, together with the Merritt Parkway, provides a connection from the New York state line to Hartford. Distinctive and unique designs were used for the bridge structures. The design kept many trees and continues to provide a scenic roadway for travel through the state. Minor improvements have been made since the original construction, but many interchanges have changed little since initial construction. As traffic volumes and speeds have increased, and safety standards have evolved, many of these interchanges require study for improved safety while entering and exiting the parkway.

In response to this need, a SCRCOG sponsored Wilbur Cross Parkway Interchange Needs Assessment Study was completed in 2009. In close consultation with CDOT and the involved municipalities, recommendations were made for near, mid and long term improvements to the interchanges.

The scenic character of the parkway is a feature which is valued by the residents and motorists and must be maintained. The challenge is to insure safety while maintaining the character of the parkway. The Region remains concerned that the traffic speeds, which currently greatly exceed the posted speed limit in many sections of the parkway, are potentially requiring more substantial improvements than would be required for design speeds reflecting the posted limits. The increased improvements potentially will not only impact the character of the parkway, but also utilize additional limited funding, thereby decreasing the amount of improvements undertaken. Speed limit enforcement needs to be a significant portion of the solution to the safety issues. The Region encourages CDOT to

advance the recommendations in the Study on the interchange issues and provide context sensitive solutions to the identified operational and safety issues.

**Rest Area Study** – The CDOT undertook a study to determine the future of rest areas and service plazas along Connecticut's interstate and limited access highways. Recent changes in federal legislation have allowed greater flexibility in the requirements for service plaza operations. Facilities that were constructed with the Connecticut Turnpike in the 1950's have become extremely dated. Truck parking has been evaluated and available parking is far below the documented needs. Lack of truck parking causes operators to place their rigs in undesired areas such as interstate pull-offs, exit ramps, commercial developments, and local streets adjacent to residential areas.
The Study led to a solicitation for operators. CDOT has entered into a long term contract with a single statewide operator for improvements and upgrades undertaken and financed by the vendor. The Region looks forward to the improvements to provide more traveler friendly facilities, with better food choices, improved facilities and help promote a better image of Connecticut to the traveling public.

**Park and Ride Lots –** For many decades, CDOT has constructed and maintained Park and Ride Lots adjacent to the Region's interstates and limited access highways. Most of these lots have been constructed within the land acquired for the construction of the interstates at interchanges. Most of these lots are well utilized and serve as both informal and formal staging areas for car, van and bus usage. Each lot removes cars from the highway and is an important component of congestion reduction initiatives.
Highway improvement and expansion projects often impact these well-utilized lots. Any impacted lots should be relocated and expanded to continue the reduction in single occupant vehicle usage. The Plan encourages CDOT to work with the Region to provide additional capacity where needs are identified as part of the regional transportation system.


*Park and Ride Lots reduce single occupant vehicle usage, reduce highway congestion and, when suitably located, provide intermodal connections.*

**Incident Management/Traffic Management** – Congestion is evident on certain portions of the interstate system daily. Incidents on the interstates can cause congestion to increase dramatically. Any significant congestion has an adverse impact on local roads, whether through diversion routes or by drivers attempting to avoid delays. The Region is guided by a planning document prepared for the New Haven-Meriden Metropolitan Area titled "Intelligent Transportation System Strategic Deployment Plan, New Haven-Meriden Metropolitan Area, 1999", prepared by TransCore.

Phase 1 and 2 construction has installed the infrastructure for video surveillance and communication on the interstates in the Region. These facilities allow for real time information to be available to CDOT traffic operations facilities.

Highway Advisory Radio (HAR) is proposed for interstates not currently covered in the Region. Operation of this system will provide information for motorists to utilize in their choice of routes.


*Variable Message Signs and Highway Advisory Radio provide important travel information for reducing congestion and travel delays due to highway incidents.*

Variable Message Signs have also been installed along I-91 and I-95.

Each municipality in the Region which contains a portion of I-91 or I-95 has participated in a process with CDOT that produced a "Diversion Plan" for that town. These Diversion Plans provide guidance for CDOT, Connecticut State Police, local police, local emergency responders, local public works and other departments to utilize in the event of a major event on the interstate. These major events displace traffic from the slowed or stopped interstate to local, parallel routes. Diversion Plans provide a mechanism to minimize the impacts of the diverted traffic in each municipality by providing prior assessment and planning.

The Plan views the Diversion Plans as dynamic documents which require timely revision in response to changed conditions and as a result of the experience gained from their utilization in response to interstate incidents. Periodic reviews and updates are required to insure the best response to the challenges of incident management.

**Unified Response Manual** – The SCRCOG, in cooperation with federal and state agencies, has undertook the preparation of a comprehensive, National Incident Management System (NIMS) compliant, multi-disciplined Highway Incident Unified Response Manual (URM) for Connecticut.

The Connecticut Transportation Strategy Board (TSB), in 2003, established a Statewide Incident Management Task Force (SIMTF) which was charged with developing recommendations for improving the efficiency, coordination, and management of the response to and clearance of incidents on the state's highways. In October 2003, the SIMTF presented a White Paper detailing recommendations to the TSB. A high priority recommendation was to develop a URM for statewide use.

The SCRCOG, in FY 2007, engaged a consultant for the URM preparation. SIMTF is assisted the SCRCOG in the review of the consultant draft and administration of the consultant contract.

Utilization of the URM will allow for better and improved response to incidents on the highways of the state.

# Arterial System

Arterial highways of the Region are key components of the highway system and serve predominantly regional and local traffic. Congestion and operational inefficiencies are immediately observable to the residents of the Region as they regularly utilize this portion of the highway system. Opportunities exist on the arterials of the Region for both large and small scale improvement projects which can provide substantial operational enhancement in the immediate area of the project.
The previous Plan outlined numerous arterials and options for study and possible capacity improvements. Corridor studies have been undertaken on several of the highways suggested in the table from the previous Plan. The identified deficiencies still exist and must be addressed.

**Arterial Goals** – The Plan recognizes that the arterials in the Region must function efficiently for the free flow of traffic and goods throughout the Region. Arterial improvement projects and land use patterns must be advanced which offer improvement in the following areas:

*Access and performance* – It has been shown that access issues and policies can substantially impact the performance of the arterial. Zoning Regulations which allow multiple curb cuts and little or no required separation contribute to increased turning movements and lowered arterial performance. Crossing and turning traffic increases conflicting movements which, in turn, decreases overall vehicle speed and lane volumes.

*Continuity* – Optimal operation of arterials requires a consistent lane configuration. Motorists should expect to maintain traffic flow at all intersections and not have turning movements stop the flow of traffic in a travel lane. The opportunities for additional capacity outlined in the table below would address turning movements, providing improved motorist safety and increased arterial capacity with investment of limited available funding.

*Traffic Signal Upgrades* – Traffic signal control technology has advanced substantially in the past decade. State of the art equipment and control can allow extended section of arterials to be managed and coordinated to give through movement priority while insuring satisfactory side street access without significant delays. Signal upgrades on the CDOT system have addressed some coordination along arterial sections in the Region. Many more opportunities for coordination and improved efficiency of the regional arterials exist. Locally maintained and controlled traffic signal systems also have opportunities, though often not addressed due to limited local funding. While beyond the fiscal constraint of the Plan, equipment and control upgrades are a critical part of the congestion management process. Additional funding must be a regional priority. An FY 11 SCRCOG sponsored “Regional Traffic Signal Study” will help frame the issues for future improvements.

*Good design implementation* – Many of the arterials in the Region have undergone various improvements which have not addressed underlying conditions such as offset intersections, poorly spaced intersections and similar design

considerations. While the addressing of these issues is often complicated due to right of way concerns and other limiting factors, it is clear that improvement projects must address these design considerations to provide long term solutions which optimize performance of the Region's arterials.

*Safety* – All of the above considerations must address the underlying principle of highway safety. Arterial projects must be considered with emphasis on the potential for improved highway and pedestrian safety. Regional arterials serve many functions, providing connections throughout the Region and supporting adjacent economic activity which is vital to the regional economy. Access to adjoining properties and businesses must be provided without compromises to vehicular safety. High volume arterials have additional safety considerations. Raised medians can be utilized to improve safety on arterials with numerous curb cuts, eliminating crossing traffic and directing crossing movements to adequately spaced "U-turn" opportunities.

Pedestrian movements must be evaluated to provide cross walks and signal timing that promotes both pedestrian movements and pedestrian safety. The raised median may also be utilized to provide pedestrian refuge areas.

**Arterial Improvements** – The table below addresses opportunities for arterial improvement. These potential arterial improvements have been identified in the previous Plan. Additional potential improvement projects have been identified by the municipalities in the Region and are noted in Appendix A. The opportunities noted below could be considered as "system improvements" within the fiscal constraint of the Plan. The only Major Projects of Statewide Significance on arterials in this Region noted within the fiscal constraint is the improvements along Route 1 in Milford and Orange and improvements on Route 80 in North Branford. (See Chapter 17 – Financial Plan)

Candidate Arterials

| Route | Town | Limits | Distance (feet) | Existing | Option 3 Lanes | Option 4 or 5 Lanes | 2005 ADT |
|---|---|---|---|---|---|---|---|
| Rte 10 | Hamden | Washington Ave to Route 40 | 3500 | 4 | | X | 16,500 |
| Rte 10 | Hamden | Rt 40 to Todd St | 9000 | 4 | | X | 21,900 |
| Rte 10 | Hamden | Todd St so to Shepard Ave | 3600 | 2 | | X | 19,700 |
| Rte 10 | Hamden | River St to Cheshire TL | 6600 | 2 | | X | 17,500 |
| Rte 122 | West Haven | US 1 to Elm St | 7200 | 2 | X | | 18,700 |
| Rte 150 | Wallingford | Rt 71 overpass | 500 | 1 | X | | 14,000 |
| Rte 150 | Wallingford | South of Old Colony Rd to Rt 68 | 2750 | 2 | X | | 14,000 |
| Rte 162 | West Haven | Elm St to Greta St | 2750 | 2 | X | | 15,800 |
| Rte 162 | Orange | West Haven TL to US 1 | 1450 | variable | | X | 14,300 |
| Rte 162 | Milford | West of Old Gate Ln to Gulf St | 4200 | 2 | X | | 15,700 |
| Rte 162 | Milford | Clark St to US 1 | 3100 | 2 | X | | 14,000 |
| Rte 17 | No. Branford | N & S Rte 22 intersection | 2350 | 2 | X | | 17,600 |
| Rte 63 | New Haven/Woodbridge | Dayton St (NH) to Landin St (Wdbg) | 6200 | variable | | X | 15,600 |
| Rte 68 | Wallingford | Hanover St to No. Main St | 5850 | 2 | | X | 16,000 |
| Rte 69 | New Haven/Woodbridge | Rte 63 to Landin St | 3000 | 2 | | X | 18,700 |
| Rte 80 | No. Branford | East Haven TL to Doral Farms Rd | 6750 | 2 to 3 | X | | 17,100 |
| Rte 80 | No. Branford | Rt 22 to Guilford TL | 8500 | 2 | X | | |
| US 1 | Branford | East Haven TL to Echlin Rd | 8000 | 4 | | X | |
| US 1 | Branford | Rt 146 to Cedar St | 3800 | 2 | | X | 17,200 |
| US 1 | Branford | Cedar St to East Main | 4400 | 2 | X | | 14,000 |
| US 1 | Branford | E. Main to I-95 x55 | 5100 | 2 | X | | 19,500 |
| US 1 | Branford | I-95 x55 to Leetes Island Rd | 5500 | 2 | X | | 20,500 |
| US 1 | West Haven | Campbell Ave to Orange TL | 8500 | 4 | | X | 17,900 |
| US 1 | Guilford | State St to Tanner Marsh Rd | 6800 | 2 | X | | 15,700 |
| US 5 | Wallingford | S. Orchard St to Ward St | 2750 | 2 | X | | 12,500 |
| US 5 | Wallingford | Christian St to Meriden City Line | 9800 | variable | | X | 18,900 |
| US 5 | Meriden | Wallingford TL to Olive St | 9400 | variable | | X | 15,400 |
| US 5 | Hamden/No. Haven | Olds St(Hmdn) to Sackett Point Rd | 3700 | variable | | X | 15,100 |

**Corridor Studies** – Corridor studies undertaken by the Region allow for study of the options available to address near and long range solutions for congested portions of the regional arterial roadway network. Recent studies have been undertaken by the Region through its annual Unified Planning Work Program (UPWP) which utilizes federal and state planning funds available to the Region. Corridor studies undertaken for Route 68 in Wallingford, Route 10 in New Haven and Hamden, Route 34 in New Haven, and Route 162 in West Haven and Orange have provided options for addressing congestion on these routes.


*Route 22 Corridor Study proposed options for the Route 17, Route 22 intersection in North Branford (Northford Center)*

The corridor study will provide the basis for future action on corridor improvements. Discussions involving representatives of the municipality, CDOT and the Region will be the next step in prioritizing and implementing the recommendations contained in the corridor study. The implementation could be considered a "system improvement" within the fiscal constraint of the Plan. The corridor study is a necessary first step in framing the transportation solution for these arterial corridors.

# Municipal Roads and Bridges

Local roads comprise the vast majority of the mileage of the highway system in the Region. Traffic volumes can approach those noted on state maintained arterials, with the maintenance needs increasing as traffic volumes rise. Municipal budgets are the main source of funding for roadway maintenance and improvement projects. The many competing demands for the utilization of municipal tax dollars often leads to substantially less money appropriated for local highways and bridges than is needed to provide sufficient funding for proper maintenance, structure preservation, and required improvements.

Several state programs are available which provide limited funding to municipalities for maintenance and improvements of highways and bridges. These are outlined below:

**Local Bridge Program –** Previously, this program provided funding to municipalities based upon a formula which includes the relative wealth of the municipality and the overall condition rating of the bridge structure. The funding ranged from a minimum of 10% to a maximum of 30% of eligible costs. Unfortunately, the funding for this program was removed by the Legislature and Governor to address the state's fiscal needs. The program, when funded, provided assistance to municipalities and was utilized for many years. Restoration of the program, with additional funding by the Legislature, an increased percentage of covered costs, and the acceptance of applications throughout the year, would better serve municipalities and the Region by providing another funding source for municipalities to address local bridge needs.

**Town Aid for Roads (TAR) –** The TAR program has been in existence for many years, providing funding for highway activities, including maintenance, materials, equipment and salaries. Unfortunately, the amount of funding allocated has varied substantially and this fluctuation has caused municipalities to reduce the maintenance and preservation activities which it has previously supported. The program will better allow for local road activities by raising and stabilizing the funding level and providing annual adjustments for increased costs of materials and services. This program is well utilized and must be continued.

**Local Capital Improvements Program (LOCIP) –** LOCIP provides funding based upon a statutory formula for projects identified on a Capital Improvements Program approved by each municipality. The local priorities are determined in the plan over at least a five year period. While the program allows for the utilization of LOCIP funds for any capital improvement, many municipalities utilize LOCIP for highway improvements, including repaving. Projects undertaken from the approved plan are eligible for reimbursement funding under the annual LOCIP allocation. As in the TAR program, the amount of funding has varied substantially, depending upon legislative action. Uncertainty over funding through the minimum period of five years covered by the Capital Plan leads municipalities to be cautious, often delaying needed activities. The

program will better serve the municipalities and the Region with an increased and stable funding level with annual adjustments for increased costs of materials and services.

Funding is also available for local roads under SAFETEA-LU through the Surface Transportation Program Urban (STP Urban) category.

**STP Urban -** Funding is provided for highway improvements in urban areas as identified by the most recent census. These federal funds are part of an overall funding formula which provides for project costs to be funded by 80% federal funds, 10% state funds and 10% local funds. The Region is most of the New Haven Meriden Urban area and is allocated approximately 7.3 million federal dollars (includes Cheshire and a portion of the Estuary Region) annually for these projects.
The SCRCOG has established the sub allocation of these funds to each municipality based upon population. Proposals are solicited from the municipality, scoped in cooperation with CDOT, and ranked and programmed by the Transportation committee and the SCRCOG. This process has provided funding for many needed improvements over the last two decades, benefiting the municipality in which the project has been constructed and the Region.
The current projects as programmed are noted in the table below:

STP-Urban Program summary

| Municipality | Project | Phase | | Federal Cost |
|---|---|---|---|---|
| FY 2011 | | | | |
| DOT | STPNH Scoping | | | $133,333 |
| Branford | Cedar/ Pine Orchard/ Thimble Islands | CON | | $535,000 |
| Cheshire | Route 42 Realignment | ROW | | $184,000 |
| Hamden | Shepard Ave/ Hamden Hills Dr | CON | | $850,000 |
| New Haven | Davenport / Dixwell / Grand Ave | CON | | $3,000,000 |
| New Haven | Legion Ave | CON | | $474,000 |
| New Haven | Grand Ave Bridge Design | ENG | | $1,700,000 |
| Wallingford | River Rd / Exit 64,65 | ROW | | $80,000 |
| Wallingford | North Plains Industrial Rd | CON | | $886,000 |
| Wallingford | Toelles Rd | CON | | $176,000 |
| West Haven | Culvert Replacements | CON | | $250,000 |
| Woodbridge | Peck Hill Rd | CON | | $1,040,000 |
| **FY 2011 Totals** | | | **Fed** | **$9,308,333** |
| FY 2012 | | | | |
| DOT | STPNH Scoping | | | $133,333 |
| Meriden | Gravel St | CON | | $4,880,000 |
| North Haven | Sackett Pt Bridge | ROW | | $320,000 |
| Wallingford | River Rd / Exit 64,65 | CON | | $2,420,000 |
| **FY 2012 Totals** | | | **Fed** | **$7,753,333** |
| FY 2013 | | | | |
| North Haven | Sackett Pt Phase #1 | CON | | $5,200,000 |
| **FY 2013 Totals** | | | **Fed** | **$5,200,000** |
| FY 2014 | | | | |
| Cheshire | Route 42 Realignment | CON | | $1,312,000 |

| | | | | |
|---|---|---|---|---|
| North Haven | Sackett Pt Phase #1 | CON | | $5,200,000 |
| **FY 2014 Totals** | | | **Fed** | **$6,512,000** |

Phase designation
PE – Preliminary Engineering
ROW – Right of Way
CON - Construction

Unfortunately, the limited federal funding allocation, the number of identified projects throughout the Region, and the increasing costs of construction work and the individual projects is reducing the number of projects which can be accomplished and increasing the timeline for the accomplishment of any project. Unless additional funding is provided for this program in the next federal act, the value of this program will continue to decrease as costs increase and funding level remains relatively static.

**Municipal Funding** - The major source of funding for local highway projects remains the annual local budget. This is often supplemented by special bonded appropriations for specific improvements, especially large reconstructions or bridge projects. Statewide surveys have been conducted in the past identifying the unmet needs for infrastructure maintenance and preservation, with very little new funding made available upon completion of the survey. Each municipality prioritizes and funds their maintenance and improvement plans as each budget allows. This results in differing levels of maintenance and improvement, depending upon the relative financial ability and competing needs in each municipality.

Aging infrastructure and increasing traffic volumes throughout the Region compound the funding problem. The challenges must be met at all levels of government to insure a first class transportation system with adequate funding for system maintenance, preservation and improvement as needed.

Municipal needs for local roads have been identified and are prioritized locally. All are beyond the fiscal constraint of the Plan. Representative responses from SCRCOG outreach to municipalities citing improvements on local roads deemed by the municipality to be important for the Plan are noted below.

Town of Branford
- Town Green Project to improve pedestrian and vehicle circulation
- Schoolground Road Bridge Replacement

Town of East Haven
- New arterial crossing over Amtrak to provide additional north-south connection

City of New Haven
- Long Wharf Ring Road
- Several Bridge Replacements
- Waterfront Street Rebuild roadway
- Pavement Rehabilitation program
- Quinnipiac Avenue improvement project

Town of North Haven
- Valley Service Road re-construction and extension

The Plan is a policy level regional plan and, as such, will not list or identify each contemplated local project. The examples are shown to emphasize the diversity and range of local projects which are necessary and to emphasize the need to improve local and regional transportation resources. Local roads are critical to a well functioning regional transportation system. The funding needs remain significantly under-funded and solutions must be found to the funding of local road needs over the timeline of the Plan to address not only the currently identified needs but also those which will be identified during the remainder of the time covered by the Plan. Many portions of the Region are not served by other transportation modes and the maintenance, preservation and improvement of the primary transportation system of local roads in these areas is vital to the residents and regional economic vitality.

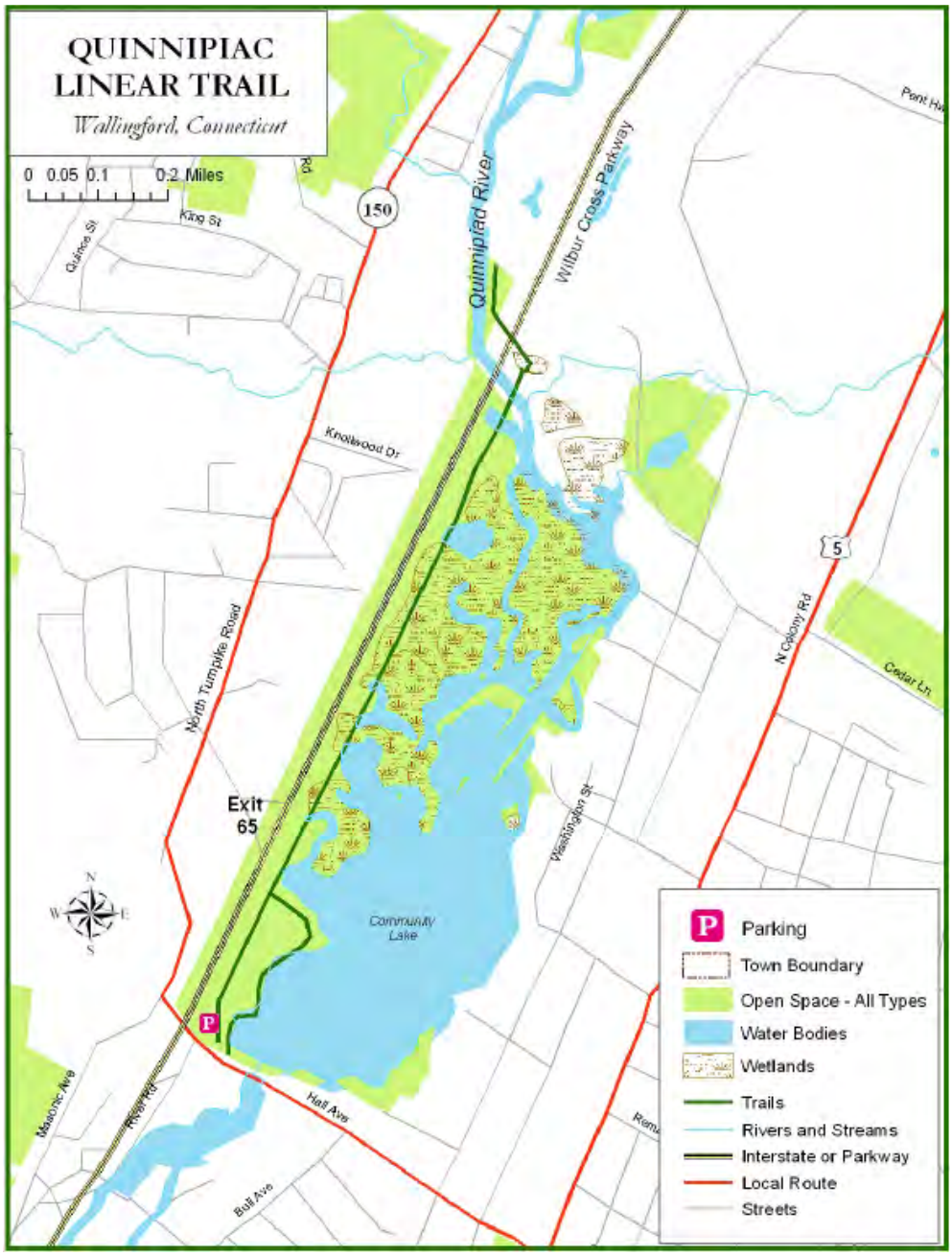
# Transportation Enhancement Projects

SAFETEA-LU provides funding for Transportation Enhancement Projects and continues a federal transportation enhancement commitment established in 1991. The purpose of the program is to strengthen the cultural, aesthetic, and environmental aspects of the Nation's Intermodal transportation system. Each state is required to set aside a portion of their Surface Transportation Program (STP) funds for transportation enhancement activities. Past Connecticut practice followed this provision and solicited proposed projects from each Region.
Eligible projects are:

- Pedestrian Facilities
- Bicycle Facilities
- Scenic Easements or Acquisitions
- Scenic or historical Highway Programs
- Landscape and Scenic Beautification
- Preserve, Rehabilitate and/or Operate Historic Transportation Buildings, Structures or Facilities
- Preserve and/or Reuse Abandoned Railroads
- Control and Remove Outdoor Advertising
- Archaeological Planning and Research
- Offset Pollution due to Highway Runoff
- Tourist and Welcome Centers
- Reduce Vehicle-Induced Wildlife Mortality

The SCRCOG ranked the proposed projects from the municipalities, based upon a recommendation from the Transportation Committee and the Transportation Technical Committee. Projects were then reviewed by CDOT, ranked, and funded. The Region was allocated approximately one or two projects through the duration of each highway act, depending upon the authorization and value of the project. Additional monies are programmed by CDOT for use anywhere in the State.

CDOT has proposed changes to the Transportation Enhancement Program and comments on the initial draft are currently under consideration by CDOT staff. The Region understands CDOT issues, but looks to the ability to have projects which are funded through funds designated specifically to this Region.




*State Project # 0148-0191 Quinnipiac River Linear Trail is an example of past enhancement funding.*

# Bicycle and Pedestrian Regional System

The Region has many opportunities for bicycle and pedestrian use. Significant investment has been made in several areas to construct formal facilities. Many other opportunities have been created through efforts of the municipalities and volunteer organizations, often with minimal investment. These efforts have resulted in diverse and scattered opportunities for bicycle and pedestrian activities. Some efforts have spanned several municipalities while others only utilize a portion of one municipality. The challenge for the Region is to utilize the efforts of many individuals and organizations to provide the basis for a regional system. Once the regional system is planned, then specific efforts can be undertaken to connect and enhance the existing network for better connections, utilization and coverage of all portions of the Region.

**Regional Bicycle and Pedestrian Plan** – As part of the UPWP for FY 2007, the SCRCOG has engaged a consultant to prepare this plan. The consultant built upon the 2006 trail mapping project and provided a conceptual framework for increasing the attractiveness and effectiveness of bicycle and pedestrian transportation on a region-wide basis.

Consistent with SAFETEA-LU, a key area for goal-setting and evaluation was safety, with an emphasis on non-vehicular transportation access to schools, enhanced signage and roadway design for pedestrian and bicycle safety, and the role of education and outreach efforts in promoting safer travel behavior for both younger pedestrians as well as adult drivers and cyclists.

A suggested Regional Bicycle and Pedestrian network was be mapped.

The Regional Bicycle and Pedestrian Plan provides guidance for the enhancement of the regional facilities through actions undertaken by the municipalities and various organizations.

*Multi-use trails can provide transportation and recreational opportunities for pedestrians and cyclists*

**Pedestrian Walkways** – Demand for pedestrian facilities continues to grow throughout the Region. Evolving lifestyles present an expectation of safe, connected and convenient pedestrian facilities. Connection of residential neighborhoods to existing sidewalk systems is desirable and requested by residents. Most municipalities require the provision of sidewalks as an amenity with new developments. This requirement often involves interconnections, not just sidewalks within the complex. While the Regional Bicycle and Pedestrian Plan may have specific local connections, the sense of community and quality of life goals of each municipality should shape the local and neighborhood pedestrian network. The Plan encourages each municipality to undertake a local planning process to provide a framework for constructing pedestrian facilities, promoting safety and better communities.

**Trails** – Numerous organizations have created a vast regional trail system. The trails vary in accessibility, difficulty, size, length and location, providing opportunities for all users throughout the Region. Some trails are part of a system which extends beyond the Region while others start and end within the Region. Local development often impacts the location and connectivity of this trail system. The Plan encourages each municipality to review the impact of development on the trail system and work to maintain connectivity and opportunities for enhancement through the local planning process.
The Region completed a trail mapping project, providing maps to municipalities for distribution to the public showing individual trails. Annual updates are projected to keep the resource current and provide continued mapping availability to encourage and promote trail usage.

**Bikeways** – There are numerous routes utilized for bicycle travel in the Region. Several of them are formally marked and striped, while the most are not. Conflicts between motor vehicles and bicycles on these routes raise significant safety concerns. These safety issues in the past have lead to decisions not to formally mark a number of these routes. Exclusive bike routes on highways are not compatible with on-street parking. The elimination of on-street parking to provide bike routes leads to conflicts with adjoining property owners, who often view on-street parking as essential. In other parts of the country, this conflict has been resolved by the construction of exclusive bikeways off the highway. The adjacent land uses in this Region have made this type of bicycle facility difficult to accomplish.
The Regional Bicycle and Pedestrian Plan provides guidance on the addressing of this issue. The Plan encourages each municipality to review the impact of development on desired bicycle facilities and work to provide connectivity and opportunities for enhancement through the local planning process.

**Shoreline Greenways** – A major pedestrian and bicycle initiative is the proposed Shoreline Greenways Trail which is envisioned from Lighthouse Point in New Haven to Hammonasset State Park in Madison. Volunteer organizations have been established in each town and an overall organization exists to coordinate the planning for this trail. Funding has been authorized through congressional action for three earmarks to accomplish different portions of the Shoreline Greenway. As requested by the four municipalities, SCRCOG administered a preliminary study for the overall project.

Remaining funds will be utilized as determined by each municipality for construction. The complete construction funding is beyond the fiscal constraint of the Plan.

**Bicycle Transportation Facilities** – As part of the intermodal goals of SAFETEA-LU, utilization of various modes of transportation by travelers is encouraged. To that end, provisions are encouraged for travelers utilizing bicycles for a portion of their travel and then utilizing another mode. Accommodations are necessary to allow intermodal utilization. These accommodations could include:

*Bicycle Racks* - Locations to store bicycles for utilization upon the traveler's return are one method of accommodating and encouraging bicycle use. Unfortunately, the value of the bicycle and the relatively poor security afforded by bicycle racks often leads to underutilization and potential undervaluing of the investment. The conditions vary by location. These factors should be studied and discussions undertaken with bicycle riders prior to the installation of these facilities.

*Transit Capabilities* – If bicycle racks are not appropriate or utilized, then provisions must be made for the transporting of bicycles on transit modes. The capability to transport bicycles should exist on both rail and bus. The operators and CDOT are encouraged to include these provisions in both planning and service modifications.

*Bike Lockers* – Bike lockers have proved successful in other areas of the country. Monthly rental insures availability for regular bicycle users. Provision of bike lockers should be considered in appropriate intermodal locations.

# Port of New Haven

The Region has an asset in the Port of New Haven which contributes to the needs and demands of the regional transportation system. As a significant deep water port, it is an important component in the movement of goods and materials to and from the Region. The New Haven Port Authority has overall responsibility for the operation of the Port. The individual operators work with the Port Authority to demonstrate their needs and work toward coordinated efforts for the benefit of port operations.

**Highway Access** – The operations of the Port have been intertwined with the surrounding neighborhoods since the settling of New Haven. The construction of the Connecticut Turnpike in the 1950's provided mixed benefits to the port. Access was improved to and from the south (west), but access to and from the north (east) remained on US Route1. As highway traffic to the port facilities increased and business went through cycles over the ensuing decades, the access became less than ideal.
The reconstruction of the Pearl Harbor Memorial Bridge (Q-Bridge) has provided improved access to the port area. Access and ramps now under construction will allow re-oriented and dedicated access to the port area. These improvements, in conjunction with other planned improvements, will improve the overall viability of the Port.

**Rail Access** – Rail connections were once a key component of the movement of goods to and from the Port. Unfortunately, the long timeline for the planning and reconstruction of the Tomlinson Bridge, which provides the rail link to mainline rail service through New Haven, disrupted those shipping patterns.
Completion of the new Tomlinson Bridge construction project has restored that rail connection to the mainline service in New Haven. Older connections within Waterfront Street, primarily abandoned and paved over during the time when rail connections were not available, were insufficient to accommodate newer locomotives and rail cars. A rail connection project is underway which will provide new rail connections adjacent to Waterfront Street, rather than within the pavement as the former connection. New spurs will be constructed to the piers, reestablishing the direct water to rail connection. Rail construction requires coordination with the property owners and with the planned reconstruction of Waterfront Street. The Plan endorses increased rail utilization for freight movement as a means of addressing regional highway congestion.


*Rail Service across New Haven Harbor has been restored on the Tomlinson Bridge*

**Reconstruction of Waterfront Street** – The former conflicting rail and truck movements in Waterfront Street led to a less than optimal street condition. The reconstruction of Waterfront Street will address these issues by new construction to better address the access needs of the operators.

**Truck Parking and Waiting Areas** – Due to the compact nature of the port area, truck waiting and parking areas are at a premium. The operators and the Port Authority are encouraged to work together to address these issues to insure the optimal and efficient utilization of the resources of the Port for the benefit of the transportation systems and economic vitality of the Region and Connecticut.

**Feeder Barge Service** – There have been numerous discussions over the possibility of a feeder barge service utilizing the Port of New Haven. The Port of New Haven is uniquely situated to have a feeder barge service that would accomplish several regional benefits:

*Removal of truck traffic from I-95 west of New Haven* – Significant truck traffic exists in the corridor west of New Haven. Feeder barge service would remove portions of this truck traffic, thereby reducing congestion and improving interstate efficiency from New Haven to New York.

*Rail connections* – As noted above, the restoration of the rail connections to the Port will provide shippers with rail options for freight movements. The rail operator, Providence and Worcester, has indicated a desire to increase rail movements to the Port. Connections exist in north and east directions for increased rail freight movement.

*Utilization of I-91 North or I-95 east* – The junction of two interstates at New Haven gives shippers highway options for the movement of goods.

*Increased economic activity* – Increased utilization of the Port is good for the economic vitality of the Region. Additional support businesses are anticipated if the Feeder Barge Service is established. Container content breakdown and distribution could be an additional activity for the Region if the service comes to fruition.

**Channel improvements/Dredging** – The viability of the Port depends upon the maintenance of the federally defined and maintained channel. The Army Corps of Engineers is responsible for maintenance and is dependent upon Congressional appropriations for the funding of dredging projects. Funding levels have not been sufficient to meet all needs in a timely fashion in recent years.
Correspondence from the Connecticut Maritime Commission has raised this concern, as well as disposal issues in Long Island Sound, and requested assistance from the Connecticut Congressional Delegation. The SCRCOG endorses the proper maintenance of the New Haven Harbor and channel to maintain the viability of the Port as an important contribution to the regional transportation system, as well as the continued economic viability of the Region.

*Port of New Haven (Courtesy CDOT)*

# Tweed New Haven Airport

Tweed New Haven Airport has served as a regional airport for many years. Commercial carriers and general aviation users provide transportation services for both people and goods. Connections are available for travelers to other portions of the country. Commercial carriers have changed as the industry and passenger demand has evolved. The Tweed New Haven Regional Airport Authority has adopted a Master Plan for the Airport. Implementation of the Master Plan has been limited to the improvement of Runway Safety Areas and Taxiways. Implementation of any further phases of the Master Plan will require additional action by the Authority. The safety improvements are required under Federal Aviation Agency regulations for current commercial passenger service. The existing passenger service provides air travel options for the Region and is an important component of the regional transportation system.

# Freight Movement System

Freight movement in the Region is a vital part of the transportation system and a key component of regional economic health. For most of the twentieth century, rail was the predominant mode of freight transportation. As the interstate system was completed, freight movement transitioned to delivery predominantly by truck. Congestion on the interstates and stabilization of the rail industry is starting to once again make rail a viable option for the movement of freight and goods.

As noted previously, the Region has many modes of freight transportation available. Rail, water, truck, and air all contribute to the vital movement of freight.

*Air* – As Tweed New Haven is a smaller regional airport, freight movements by air account for a small part of the movement of goods in the Region. Nonetheless, options for shippers are important for economic vitality and it is important to maintain existing service.

*Water* – The Port of New Haven provides opportunities for substantial movement of goods. Petroleum products are important to the regional economy. Other freight movements provide world-wide water connections to the global marketplace. Feeder Barge Service would increase the movement of freight by water with minimal infrastructure investment.

*Rail* – As passenger rail traffic increases, the capacity for freight movements on the existing rail network decreases. The positive news is that the existing rail freight network has underutilized capacity which could be utilized with minimal investment, even with some additional passenger service. Many former rail connections have been lost due to the previous instability of the rail industry. Freight movement predominantly by truck has resulted in less operating revenue for infrastructure maintenance, exacerbating prior poor connections to the national rail network. Opportunities exist for increased rail freight movements which require operator and rail bed owner cooperation and marketing. Increased use of existing rail sidings and the construction of new sidings will reduce truck utilization and potentially increase regional economic activity. Feeder Barge Service could also provide additional rail freight. The Plan encourages increased rail freight utilization as a means of reducing congestion on regional highways.

*Truck* – As the predominant method of moving freight, trucks contribute to the regional economy, but also to regional highway congestion. Truck routing can also have adverse impacts on neighborhoods and Environmental Justice (EJ) portions of the Region. State and local legislative changes may be required to address congestion, routing, delivery timing, and truck parking and idling concerns. A balance must be sought which allows for the movement of goods but does not cause congestion which negatively impacts the economic vitality of the Region.

The marketplace governs the selection of the mode of transportation utilized for goods. Infrastructure improvements can help influence these choices and improve the efficiency of the freight transportation systems. Marketing and operator actions can influence the means of goods transportation. The Plan encourages freight movement by underutilized

modes wherever possible to optimize the economic health of the Region by the utilization of all modes of freight transportation.


*Freight movement is a critical component of the regional transportation system. Increased rail utilization will remove trucks from the Region's highways and help reduce highway congestion.*

# Security and Safety

Increased threats to the security and safety of the United States have lead to increased emphasis on the potential threats to regional transportation systems. Planning is underway at all levels of government and in the private sector to address these concerns. SAFETEA-LU requires increased focus on both security and safety.
Transportation Security refers to both personal and homeland security, with the latter reflecting attention to vulnerability to intentional attack or natural disasters, and the associated evacuation procedures.
Safety refers to reducing the number of crashes and accidental deaths or injuries associated with the operation of surface modes.

**Security** – Security issues can be best addressed after a comprehensive review of the vulnerability of regional transportation systems. Each transportation mode has two vulnerable security components – the operating conveyance and the infrastructure on which it operates. Responsibility may rest with two different entities for each component who must exchange information to adequately address the threats. Issues associated with each mode for consideration are as follows:

*Air* – Security on airplanes is under the jurisdiction of the federal government and the operators. Security for the Airport is shared by the operators, Tweed New Haven Regional Airport Authority and the federal government.

*Rail* – Passenger rail security is handled by AMTRAK and Metro North. Infrastructure security is handled by AMTRAK, Metro North, CDOT, and other railbed owners. Freight security is handled by the operators who serve the Region.

*Water* – Security for the Port is handled by the New Haven Port Authority, the port operators and the vessel operators, as well as the United States Coast Guard.

*Highway* – Depending upon the control of the highway, security is handled by Connecticut State Police, CDOT, local police, or municipal government.

For many years, each municipality in the Region has prepared its own emergency plan, normally administered by the Civil Preparedness Director and other municipal staff. Terrorist attacks on targets at home and abroad have focused attention at all levels of government on expanded security planning for homeland security and the threats from both intentional attack and natural disaster. The Connecticut Department of Emergency Management and Homeland Security (DEMHS) is responsible for the coordination of local efforts and those of state agencies to respond to these threats. Several initiatives are underway to address coordination and full and efficient utilization of available resources. One initiative is the preparation of the Statewide Evacuation and Shelter Plan.

*Evacuation and Shelter Plan* – DEMHS has divided the State into regions for homeland security and emergency management. The SCRCOG municipalities have been placed in DEMHS Region 2. Each DEMHS region is staffed by a minimum of a Regional Coordinator, an Emergency Preparedness Program Specialist, and a secretary. These positions are augmented by others when needed to address threats. DEMHS Region 2 has prepared a draft Evacuation and Shelter Plan which guides the evacuation and sheltering of the residents of the DEMHS 2 Region when such measures are necessary.

When fully completed, adopted and implemented, the Evacuation and Shelter Plan will outline the coordinated evacuation procedures, traffic control, utilization of transit resources and other facets necessary to assist and protect the residents of DEMHS Region 2 if evacuation and sheltering are deemed necessary by the Governor of the State of Connecticut.

**Safety** – Reduction in crashes and related injury is the goal of operators of all transportation systems, whether car, bus, truck, ship, or rail. Each operator is responsible for safe operation and prevention of injury. Each mode operates under specific statutory requirements which impose varying requirements.

Safety issues can most be impacted and addressed in highway projects in the Region.

*Highway Safety* – SAFETEA-LU requires the Region to conform to the Connecticut Strategic Highway Safety Plan (SHSP). The SHSP, prepared by CDOT and updated with annual safety plans, lists a number of goals and strategies, all related to improving highway safety and reducing personal injuries and fatalities. The SHSP addresses the following data driven emphasis areas:

- Traffic Reports and Information
- Roadway Departure
- Pedestrians and Bicycles
- Work Zones
- Driver Behavior (Alcohol, Occupant Protection, Speeding)
- Motorcycle Safety
- Commercial Vehicles
- Incident Management

In general, each category outlines the pertinent issues, specific strategies, and goals to enhance CDOT's safety program by ensuring roadway systems are as safe as possible through the 4Es – Education, Engineering, Enforcement, and Emergency Medical Services.

Implementation of the goals and strategies of the SHSP will improve safety of all residents of the Region. The Plan encourages CDOT to work cooperatively with the municipalities and the Region to meet these goals.

**Local Accident Reduction Program** – CDOT provides limited funding for highway improvements which will reduce accidents through this program. The program expenditures are capped for each project and require a local match and a commitment to fund any costs over the cap. This program has provided funding for the correction of numerous safety concerns statewide. Proposals are solicited as funds are available for ranking by CDOT based upon several criteria, including the frequency of accidents at the location.

The continuation of this program is important to the Region. It is suggested, however, that the cap on funds available for each project be raised as increasing costs, with no increase in the cap, limit the work which can be accomplished under the program and therefore reduce the effectiveness of the program in improving the safety of the highway system in the Region.

# Special Policies and Programs

SAFETEA-LU requires several special policies which have been considered in the preparation of the Plan. These special policies address coordination and integration with other initiatives and legislative priorities.

**Metropolitan Planning Organization (MPO) Coordination** – The SCRCOG is one of many MPOs in the State. It is clear that inter-regional cooperation is critical in a State the size of Connecticut. Many projects and issues extend beyond the boundaries of the Region and must be addressed together with other regions. The Plan reaffirms the importance of communication and inter-regional cooperation in improving accessibility, mobility and travel options for the Region and the State of Connecticut.

**Air Quality Conformity** – The Region is part of the New York-New Jersey-Long Island NY-NJ-CT Ozone and PM2.5 (Fine Particular Matter) Nonattainment Area.
Transportation Conformity is the process established by the United States Department of Transportation (USDOT) and United States Environmental Protection Agency (USEPA) to ensure that transportation improvements will contribute to improved air quality in areas where concentrations of certain pollutants exceed national air quality standards. CDOT undertakes the analysis for air quality conformity for Connecticut.
The transportation investments outlined within the fiscal constraint of this Plan have been reviewed by CDOT. The following documents, prepared by CDOT, outline the air quality conformity for the Region:

- Connecticut Department of Transportation - *PM 2.5 Air Quality Conformity Determination of the 2011 Regional Transportation Plans and the FY 2010-2013 Transportation Improvement Programs for the Connecticut portion of the NY-NJ-CT PM 2.5 Nonattainment Area, March, 2011.*
- Connecticut Department of Transportation - *Ozone Air Quality Conformity Determination of the 2011 Regional Transportation Plans and the FY 2010-2013 Transportation Improvement Programs for the Connecticut portion of the NY-NJ-CT Ozone Nonattainment Area and the Greater Connecticut Ozone Nonattainment Area, March 2011.*

Copies of these documents are on file with the Region.
Additional programs established by the Department of Environmental Protection will help improve air quality in the Region. The Anti-idling initiative, which seeks to reduce idling through the enforcement of DEP's 3 minute anti-idling limit regulation, will reduce ozone and particulate matter. DEP's diesel retrofit program seeks to reduce diesel emissions through the retrofitting of emission controls on diesel truck and bus fleets. The utilization of these and other programs to improve air quality will be important to the health of the residents of the Region.

**Congestion Management Process** – Highway congestion impacts many locations within the Region. The numerous negative impacts of congestion noted within the various

components of the Plan and SAFETEA-LU require a process for the management of congestion.

The Congestion Management Process for the regional transportation system must include consideration of congestion issues in each transportation decision made for the Region. Municipal and SCRCOG staff have reviewed the impacts on congestion as part of the normal review process. The Plan endorses this review and suggests that it is a critical for consideration of funding priorities, project timing, project scope, and legislative requests for transportation funding of any mode.

Previous SCRCOG congestion-related documents include *Measuring Congestion 2000 South Central Connecticut, SCRCOG 2004 Congestion Management System Report*. Regional congestion chokepoints were identified and associated morning and afternoon peak hour related average speeds were documented in the 2000 study. Congestion choke points were classified by interstate, arterial and core congestion impacts. Volume and operational impacts are key components of the observed congestion. Goals were noted for minimum speeds in the congested sections based upon the roadway classification. Potential improvements or responses to the congestion were identified and status of solutions was noted when known.

*Congestion adversely impacts the Region's economic vitality*

The *2004 Congestion Management System Report* built upon the previous work with the addition of GPS/GIS aided data collection on travel times and speeds. The data collection change was undertaken in 2002 from manual recording to GPS/GIS aided collection and management. Additional data and observations further defined the congestion-impacted corridors within the Region. Each corridor was analyzed by size, population and population changes over the previous decade, employment and percentage of developed land. This corridor data was then linked with the specific speed information and threshold speed for each defined segment of the congested corridors. The results of the analysis reveal the worst performing portions of the corridors and were compared with the projects within the Transportation Improvement Plan (TIP) and the I-95 New Haven Harbor Corridor Improvement Program. Many segments of the congested corridors within the Region will be addressed by improvements programmed or under construction. Other corridors have been or are programmed for corridor studies under the annual

Unified Planning Work Program (UPWP) undertaken by SCRCOG. The corridor studies will identify opportunities for congestion mitigation within the corridor.
Corridor studies represent the first step of framing potential solutions to congestion. The study process involves public outreach, a key step to a successful and viable study recommendation. Public participation allows input into the planning process which often leads to a recommendation which is more closely aligned with the goals of safety, context-sensitive design, livable communities, and regional economic vitality.
CDOT publishes annually a "Congestion Management System Report" which provides data on congestion for the state highways and provided volume to capacity ratios. SCRCOG staff reviews this document to verify regional conditions and staff observations.
During FY10, SCRCOG sponsored a "SCRCOG Congestion Management Process Report" which updated the 2004 report and analyzed the data provided in the annual CDOT reports to update the congested highway segments. Not surprisingly, update showed additional congestion on certain highway segments in the Region. The I-95 corridor in the New Haven area was not reviewed due to the ongoing construction projects.
Updates of the Congestion Management System Report will be undertaken periodically to provide a current framework for the prioritization of congestion solutions.

**Demand Management Policy** – Regional congestion can be addressed either with supply-side tactics or demand-side tactics. It is important to note that neither of these tactics necessarily envisions reducing the number of trips undertaken in the Region. On a policy level, supply-side tactics include increasing roadway capacity, increasing transit capacity, and better managing highway incidents and accidents. Demand-side tactics are designed to reduce or manage the number of persons or vehicles traveling during peak periods, or change the mode or length of the trip. These include flexible employer work schedules, telecommuting, pricing and market-oriented strategies, land use policies and local growth management policies.
The SCRCOG recognizes that congestion is best addressed through both supply-side and demand-side tactics. Supply-side efforts include additional highway capacity projects programmed through the SCRCOG TIP approval process, the Regional Transit Study, regional planning recommendations, and SCRCOG-led Unified Response Manual (URM) preparation to improve incident and accident response. Demand-side efforts include Rideworks' efforts to reduce dependence upon the single occupant vehicle, the pursuit of housing strategies which reduce trip generation, and the update of the Regional Plan of Conservation and Development, with an emphasis on land use policies which encourage livable communities, control of sprawl, and the preservation of open space.

**Intelligent Transportation System (ITS) Policy and Opportunities** – The Region's *Intelligent Transportation System Strategic Deployment Plan, New Haven Meriden Metropolitan Area (1999)* frames ITS policy. While primarily identified with highways, ITS is a useful tool for the major modes of transit, highway and pedestrian travel. Transit ITS opportunities include:

- *Improved information on available parking* – Monitoring of parking in high demand areas can make available information on currently unoccupied parking.

- *Improved on-time performance* – Additional data collected on operations and adherence to schedule can be utilized to implement adjustments to route, timing or schedules to improve on-time performance, making transit options more reliable for riders.
- *Improved coordination of transit services* – The ability to readily obtain information on various transit options in the Region is limited. Coordinated information would provide options to the traveler in the event of delays and missed connections to other providers.
- *Improved planning of transit services* – Coordination of schedules among the various providers is hampered by the number of operating agencies. Additional coordination would enhance the interconnection of the various transit options.
- *Improved information availability* – Better interchange of information from the operators will enhance the traveler's experience with a goal of increasing ridership and service utilization.
- *Real-time information* – Information available to the traveler could be enhanced with real-time information on each route or service.
- *Cost effective transit* – Through the use of ITS strategies, a review of the various services could be undertaken to optimize service, while minimizing the costs of providing the service.

**Consultation with other agencies** – SAFETEA-LU requires better coordination and communication with other agencies, specifically regarding environmental protection, tribal government, wildlife management, land management, and historic preservation. The Act looks to establish a minimum level of contact with these other agencies. In Connecticut, we are fortunate that the existing permitting process has many of these coordination processes in place. Opportunities for improved coordination and communication always exist and the Plan recognizes the need for a high level of coordination and communication. In cooperation with FHWA, CDOT, FTA, and other necessary agencies, the SCRCOG will seek input from other agencies to provide the Region with better transportation projects.

**Environmental mitigation** – SAFETEA-LU requires review for the restoration and maintenance of environmental functions that could be impacted by the activities in the Plan. The Connecticut Department of Environmental Protection permitting requirements are met as part of the design, review, approval, and construction process. Transportation projects and services must address environmental impacts and mitigation has been utilized in numerous instances to address unavoidable project impacts while reducing or eliminating overall long term adverse environmental impacts.
Opportunities for environmental mitigation could include:

- Inland or tidal wetland restoration
- Wetland creation
- Stormwater control facilities
- Stormwater quality facilities
- Alternate pavement treatments
- Streambed or channel restoration
- Pollution remediation

- Clean fuel for construction equipment improving air quality

Each project is evaluated to address the environmental impacts and assess the opportunities for environmental mitigation, in light of the specifics of the project and proximity to environmental resources. Specific mitigation activities are then proposed or evaluated and, as pertinent, incorporated into the design. The SCRCOG encourages the continuation of this important environmental review.

**Tourist and Visitor Welcome Centers and Information Access** – Tourism is an important component of the economic vitality of the Region. Transportation alternatives and information are vital to the promotion of the Region as a destination, and the reduction of transportation trips through the Region to other destinations. Strategically placed facilities, in locations such as Union Station, New Haven, Tweed –New Haven Airport, and at the I-95-I-91 interchange, can provide regional attraction and travel information which will benefit travelers and regional economic vitality.

# Financial Plan

The Plan is required by federal guidelines to be fiscally constrained. As a long range plan, the fiscal constraint must be based upon the estimates of the available revenue for transportation needs over the timeframe of the Plan.
CDOT has provided estimates of the anticipated highway funding. These estimates have been allocated to major categories of system preservation and system improvements. These allocations are based upon the various planning regions of the state. The allocation of funding for preservation versus improvement is determined by weighting factors which include vehicle miles of travel, congested vehicle miles of travel and lane miles. In addition, CDOT has prepared a list entitled *Major Projects of Statewide Significance.* This list breaks out these projects by planning region and involves the commitment of significant funds for the projects. In the Region, the list, shown below, shows major commitments to the I-95 New Haven Harbor Corridor Improvement Project, replacement of the I-95 bridge over the West River in New Haven and West Haven, improvements along Route 1 in Milford and Orange, improvements to Route 80 in North Branford, and rehabilitation of the West Rock Tunnel on Route 15.
The *Major Projects of Statewide Significance* funding information provided to the Region is shown below:

| | |
|---|---|
| MILFORD | |
| US 1 VARIOUS INTERSECTION IMPROVEMENTS | $ 12,700,000 |
| MILFORD | |
| US 1 INTERSECTION IMRPROVEMENTS FROM EXIT 34 TO SILVER SANDS ROAD | $ 9,191,000 |
| NEW HAVEN | |
| I-91 EXIT 8 N.B. OFF RAMP RECONSTRUCTION | $ 12,870,000 |
| NEW HAVEN | |
| I-95 NEW HAVEN BRIDGE #00163A WEST RIVER | $190,980,000 |
| NEW HAVEN | |
| BOATHOUSE AT LONG WHARF (80%) | $ 27,000,000 |
| NEW HAVEN | |
| I-95 Q BRIDGE CORRIDOR | $777,154,697 |
| NEW HAVEN | |
| I-95 RECONSTRUCTION, LONGWHARF SECTION | $ 27,000,000 |
| NORTH BRANFORD | |
| ROUTE 80 WIDENING TILCON RR BRIDGE TO | |

| | |
|---|---|
| ROUTE 22 | $ 9,600,000 |
| ORANGE | |
| US 1 OPERATIONAL LANE FROM MILFORD TO CT 114 | $ 10,520,000 |
| WEST HAVEN | |
| I-95 SAFETY IMPROVEMENTS AND RESURFACING GRETTA ST. TO WEST RIVER | $ 10,675,641 |
| WOODBRIDGE | |
| ROUTE 15 REHABILITATION OF WEST ROCK TUNNEL | $ 24,000,000 |
| TOTAL | $ 1,105,184,697 |

The Moses Wheeler Bridge on I-95 connecting Milford and Stratford has been programmed by CDOT, though in an adjacent Region, and is detailed below:

| | |
|---|---|
| STRATFORD | |
| I-95 STRATFORD BRIDGE #00135 MOSES WHEELER BRIDGE | $277,268,400 |

CDOT provided the following total anticipated highway funding:

| | |
|---|---|
| System Improvements | $1,286,428,197 |
| System Preservation | $1,365,892,242 |
| Major projects (from above) | $1,105,184,697 |
| Total | $3,757,505,136 |

The aforementioned projects are not a complete list of projects and priorities of concern to the Region. The Region continually reviews the regional priorities for transportation improvements. It is clear that there is not sufficient funding for all identified needs. Regional priorities may not always align with CDOT priorities and the Region will work to advance its priorities from the projects noted in the Plan.

Non-highway revenue for other modes of transportation is required for operating costs, system improvements and system preservation. Funding is available for rail and bus operations and capital is programmed by CDOT and, per CDOT guidance, is sufficient to maintain existing service and for system preservation during the timeline of the Plan. Maintaining existing service and system preservation are the fiscally constrained portions of the Plan.

New sources of funding must be provided for service improvements and related operating costs and are beyond the fiscal constraint of the Plan.

## Near Term (2010-2013) Fiscally Constrained Projects

Near term (2010-2013) projects are currently programmed for both highways and transit. These projects are included within the fiscal constraint of the Plan and are noted in Appendix B.
A favorable bidding climate, due to economic conditions, has helped advance several projects. As the economy recovers, it is expected that costs will again start to increase. CDOT current policy on estimating addresses these increases to the estimated time of construction. While always an inexact method of estimating, this has led to increased confidence that adequate funding is programmed for the projects. Fiscal constraint always requires the adjustment of anticipated project schedules into future funding allocations. The Region responds to the funding adjustments with the appropriate amendments to the TIP and looks forward to reprogramming any available funds to help implement the long list of in progress, but not yet fully funded, projects

## Mid to Long Term Projects

Mid to long term projects (2013-2040) are outlined below. The estimated costs and dates for each phase of the project are shown where identified or noted and are to be determined (TBD) if not stated. Projects will be funded as they are prioritized in the future and may utilize highway system improvement funds noted above or additional revenue provided in the future. As such, these needed improvements can be utilized to program the system improvement funds. Subsequent plans and revisions will frame evolving needs and priorities, while meeting the requirements of fiscal constraint.

**Transit**
Existing service will be funded by existing revenue streams. The Enhanced Service noted below will be accomplished by new funding. Provision of additional funding may adjust certain enhancements to near term projects.

*Bus*

Implement 10 minute headways on major lines to for peak commute
Utilize articulated busses for improved capacity
Extend hours of service for employee needs
Crosstown west service from West Haven to Hamden
High speed to core bus service as per Transit Study
LOCHSTP additional service
Flex Route Implementation to meet needs and reduce congestion

*Rail*

- New Haven/Hartford/Springfield Commuter and Expanded Service
  - Minimum additional 14 one-way trips (7 each direction)
  - New Stations
    - North Haven (2 locations)
- Shore Line East
  - Reverse Commute
  - Additional parking
  - New Station – East Haven
- Metro North
  - Express Service to Grand Central
  - Additional Union Station, New Haven Parking
  - Additional Milford Parking
  - West Haven Station
  - Orange Station
- Feeder Barge Freight Service

**Highways**

To be funded by System Improvement funds or additional future funding as determined by future priority rankings. Costs shown are early estimates.

*Interstates/ Limited access highways*

I-95 Branford Exit 53 improvements – Relocation and four way interchange

I-691 Meriden Exit 5,6,7 interchange improvements

Wilbur Cross interchange improvements

I-95 East of Exit 54 widening

I-95 east of Exit 54 interim exit improvements

*Arterials*

**Candidate Arterials**

| Route | Town | Limits | Distance (feet) | Existing | Option 3 Lanes | Option 4 or 5 Lanes | 2005 ADT |
|---|---|---|---|---|---|---|---|
| Rte 10 | Hamden | Washington Ave to Route 40 | 3500 | 4 | | X | 16,500 |
| Rte 10 | Hamden | Rt 40 to Todd St | 9000 | 4 | | X | 21,900 |
| Rte 10 | Hamden | Todd St so to Shepard Ave | 3600 | 2 | | X | 19,700 |
| Rte 10 | Hamden | River St to Cheshire TL | 6600 | 2 | | X | 17,500 |
| Rte 122 | West Haven | US 1 to Elm St | 7200 | 2 | X | | 18,700 |
| Rte 150 | Wallingford | Rt 71 overpass | 500 | 1 | X | | 14,000 |
| Rte 150 | Wallingford | South of Old Colony Rd to Rt 68 | 2750 | 2 | X | | 14,000 |
| Rte 162 | West Haven | Elm St to Greta St | 2750 | 2 | X | | 15,800 |
| Rte 162 | Orange | West Haven TL to US 1 | 1450 | variable | | X | 14,300 |
| Rte 162 | Milford | West of Old Gate Ln to Gulf St | 4200 | 2 | X | | 15,700 |
| Rte 162 | Milford | Clark St to US 1 | 3100 | 2 | X | | 14,000 |
| Rte 17 | No. Branford | N & S Rte 22 intersection | 2350 | 2 | X | | 17,600 |
| Rte 63 | New Haven/Woodbridge | Dayton St (NH) to Landin St (Wdbg) | 6200 | variable | | X | 15,600 |
| Rte 68 | Wallingford | Hanover St to No. Main St | 5850 | 2 | | X | 16,000 |
| Rte 69 | New Haven/Woodbridge | Rte 63 to Landin St | 3000 | 2 | | X | 18,700 |
| Rte 80 | No. Branford | East Haven TL to Doral Farms Rd | 6750 | 2 to 3 | X | | 17,100 |
| Rte 80 | No. Branford | Rt 22 to Guilford TL | 8500 | 2 | X | | |
| US 1 | Branford | East Haven TL to Echlin Rd | 8000 | 4 | | X | |
| US 1 | Branford | Rt 146 to Cedar St | 3800 | 2 | | X | 17,200 |
| US 1 | Branford | Cedar St to East Main | 4400 | 2 | X | | 14,000 |
| US 1 | Branford | E. Main to I-95 x55 | 5100 | 2 | X | | 19,500 |
| US 1 | Branford | I-95 x55 to Leetes Island Rd | 5500 | 2 | X | | 20,500 |
| US 1 | West Haven | Campbell Ave to Orange TL | 8500 | 4 | | X | 17,900 |
| US 1 | Guilford | State St to Tanner Marsh Rd | 6800 | 2 | X | | 15,700 |
| US 5 | Wallingford | S. Orchard St to Ward St | 2750 | 2 | X | | 12,500 |
| US 5 | Wallingford | Christian St to Meriden City Line | 9800 | variable | | X | 18,900 |
| US 5 | Meriden | Wallingford TL to Olive St | 9400 | variable | | X | 15,400 |
| US 5 | Hamden/No. Haven | Olds St(Hmdn) to Sackett Point Rd | 3700 | variable | | X | 15,100 |

Candidate arterials for lane additions are noted above.

Implementation of Corridor Study Recommendations

- Route 5
- Route 10
- Route 22
- Route 34
- Route 68
- Route 162

*Local Bridges*

New Haven

- Grand Avenue over Quinnipiac River

North Haven
Sackett Point Road over Quinnipiac River $12,000,000

**Port of New Haven**
Feeder Barge Service

**Tweed New Haven Airport**
Runway Safety improvements
Additional passenger service

It is recognized that numerous projects will be included over the timeline of the Plan which have not yet been identified. Future programming will address emerging needs.

Preliminary cost estimates for these highway and port projects, excluding any airport expenditures, total approximately $760,000,000. These estimates, together with near term programmed funding as known to date, approximately equal the estimated allocations provided by CDOT for "system improvements" for the Region. As the needs and costs become clearer later in the timeline of the Plan, fiscal constraint will require priorities to be set and project schedules be adjusted to meet the fiscal constraint requirement or additional funding will need to be allocated. Mid to long term cost estimates and schedules rely on assumptions which provide a high level of uncertainty and variability. The Region recognizes the need for fiscal constraint and will continue to adjust the Plan and transportation planning decisions to meet these requirements.

Transportation issues in Connecticut are under continual review by the highest levels of state government. The January 2007 Transportation Strategy Board (TSB) Report is currently undergoing an update to outline the latest recommendations for Connecticut's transportation system. We anticipate that the updated recommendations will parallel the goals and policies outlined in the Plan. Further legislative review and action will govern the response to the TSB recommendations and guide state policy for the future.

The SCRCOG encourages the consideration of the needs outlined in this Plan for funding to address the regional transportation policies and goals.

# Appendix A

## List of transportation projects by municipality

This compilation includes projects identified by each municipality for inclusion in the Plan. Projects which are important to more than one municipality are listed under each municipality. The list does not include local road projects which would be funded with local revenues.
The estimated cost and schedule is not known for many of the transportation projects noted herein. Notations are entered for projects under CDOT control and schedule and estimated costs should be obtained from CDOT. CDOT information available as of the date of this Plan is shown in Appendix B. Other information provided is subject to further revision as scope and schedule is refined. If no notations are provided, schedule and estimated cost remain to be determined. Projects noted with an asterisk (*) are beyond the fiscal constraint of the Plan.

### Town of Bethany

Arterials
Route 63
Route 69 Intersection/ Area Improvements *CDOT project*

### Town of Branford

Interstate 95
Expansion from Exit 54 east(*)
Exit 53 improvements (*)
Redirection to Commercial Parkway
Provisions for all north and south movements

Arterials
Route 1(*)
Intersection improvements
Jefferson Road
Chestnut Street
Route 139

Route 146(*)
Scenic Highway Gateway Plan
Main Street Roundabout

Route 139(*)
Intersection Improvements at School Ground Road

Brushy Plains Road – SR 740 *CDOT project*
Re-alignment at Snake Hill

Local Roads (*)
Town Green enhancement for pedestrian and parking
Schoolground Road bridge replacement over Branford River
Parish Farm Road intersection with Brushy Plains Road
Gould Lane Intersection with Featherbed Lane

Rail *CDOT projects*
Shore Line East (*)
Service enhancement
Reverse Commute
Station expansion (up and over)

Trails (*)
Shoreline Greenways

## Town of East Haven

I-95(*)
Improvements to Exit 52

Arterials(*)
Route 80
Corridor Study New Haven to Mill Street
Implement recommendations
New arterial crossing over Amtrak to provide additional north-south connection.
Elevate the intersection of Hemingway Avenue and Short Beach Road (Routes and 142) to reduce flooding and improve safety, emergency response, and access to portions of East Haven during storm events.
Route 100 improvements at exit 52

Rail *CDOT project*
Shore Line East (*)
New Station
Service enhancements associated with new station
Possible connection to New Haven Hartford Springfield bypassing Union Station

Trails
Shoreline Greenways (*)

Tweed New Haven Airport (*)
Safety improvements
Service improvements

## Town of Guilford

Interstate 95(*)
Branford to Rhode Island upgrade
Exit 59 Near term improvements
Expansion of incident management/traffic advisory system

| | |
|---|---|
| Arterials | *CDOT project* |
| Route 146 | |
| Pedestrian facilities upgrades at Green | |
| Long Hill Road | |
| Reconstruction from US 1 to Hubbard Road | *$ 750,000* |
| Bullard Road | |
| Extension to Route 77 including bridge over West River | *$2,730,000* |
| Nut Plains Road West | |
| Extension to Route 77 | *$ 750,000* |

| | |
|---|---|
| Rail | *CDOT project* |
| Shore Line East | |
| Parking improvements | |
| Service enhancements (*) | |
| Reverse commute (*) | |

Trails
Shoreline Greenways (*)

## Town of Hamden

STP Urban Projects
Pavement Preservation – Shepard Avenue north of West Todd Street and Sherman Lane / Hamden Hills Drive
Whitney Avenue Traffic Signal Upgrades (Centerville & Mount Carmel)(*)
Implementation Recommendations of East West Study(*)

Federal Local Bridge Program(*)
Tuttle Avenue Bridge over the Mill River
Skiff Street over the Mill River

Willow Street over Willow Brook

Trails *CDOT Project*
Farmington Canal Line Trail

## Town of Madison

Interstate 95(*)
I-95 – Branford to Rhode Island upgrade
Incident Management
I-95 Exit 62 near term improvements

Rail *CDOT projects*
Shore Line East
Station improvements
Parking improvements
Service enhancements (*)
Reverse commute (*)

Trails
Shoreline Greenways (*)

## City of Meriden

Interstates *CDOT project*
I-91
Incident Management/ Traffic Advisory system improvements
I- 691
Exit 5,6,7 interchange improvements(*)

Arterials *CDOT project*
US 5 Drainage improvements

STP Urban Projects *CDOT project*
Gravel Street improvements

Rail *CDOT project*
New Haven Hartford Springfield (*)
Service enhancements
Commuter service

Transportation Enhancement *CDOT project*
Quinnipiac River Trail - north bank west of Oregon St.

## City of Milford

Interstate I-95 *CDOT project*
Improvements/upgrade
Moses Wheeler Bridge replacement

Arterials *CDOT project*
US 1 improvements

STP Urban Projects – Potential (*)
Oronoque and Plains Road Railroad Crossing

Rail
Station Parking Expansion (*)

## City of New Haven

1) Transit Investments
    a. Public Bus
        i. General Service Improvements (*)
        ii. Implement Reduced Headways: 10 Minute Service on major lines for extended peaks (*)
        iii. Extend hours of service to meet employee needs (*)
        iv. Initiate Cross Town West Service from West Haven to Hamden (*)
        v. Initiate U-Pass for Yale, SCSU, Albertus and Gateway Community College Users(*)
        vi. Study cooperative fare agreements for multi-mode commuters (*)
        vii. Bus shelter Upgrades *GNHTD*
        viii. Equipment Upgrades *CDOT*
        ix. Study Articulated bus or reduced headways to increase capacity on routes (*)
        x. Improve coordinated services of CTTransit GNHTD, and shuttle services (public and private)
    b. Rail – passenger
        i. Metro North Railroad Service Improvements
            1. Initiate Express Service to New York City (*)
            2. Add trains to State Street Station Schedule (*)
        ii. New Haven Hartford Springfield Commuter Service (*) *CDOT*
        iii. Shore Line East Service Improvements and Reverse Commute (*) *CDOT*
        iv. AMTRAK
            1. Implement NEC Master Plan

2. Schedule enhancements to Boston and Washington
3. Maintenance to state of good repair

v. Union Station TOD 2008 Plan(*)
vi. Additional Union Station Garage, including a Transit Oriented Development component (*)
vii. Union Station Sustainable Communities Initiative(*)
viii. Yard Improvements with enhanced environmental protections and diesel plug-in systems (*)

c. Tweed New Haven Airport (*)
   i. Safety Improvements
   ii. Service Improvements
   iii. Implementation of Master Plan
   iv. Initiate Regional/ Statewide Funding Approach for General Operations
d. Intermodal Ferry – Initiate Service to Long Island (*)
e. Downtown Streetcar
   i. Alternatives Analysis
   ii. Design and Permitting
   iii. ROW Acquisition
   iv. Construction

2) Freight Systems
   a. Rail Freight
      i. Waterfront Street Rail Completion *CDOT*
      ii. Waterfront Street Spurs to Terminals
      iii. "Northside" Rail Access at Port (*)
      iv. Grand Avenue / East Street safety improvements (*)
   b. Port of New Haven
      i. Initiate Feeder Barge Service/Maritime Highway (*)
      ii. Dredging – Channel Maintenance and Channel Deepening (*)
      iii. Implement Land Use Plan (*)
      iv. Waterfront Street Reconstruction(*)
   c. Implement SCRCOG Truck Study Recommendations (*)

3) Complete Streets Program Implementation
   a. Downtown Bike/Ped Improvements
      i. Union Station Interconnect
      ii. Downtown bike lanes/cycletrack
      iii. Bike parking/amenities at transit centers
      iv. Pedestrian signal upgrades throughout Downtown

4) Non-Motorized Trail System
   a. Farmington Canal Trail *CDOT*

b. Shoreline Greenways (*)
c. Harborside – Savin Rock Trail to Lighthouse Park (*)
d. West River Park to SCSU
e. Fair Haven – Ferry Street, Grand Avenue, Front Street, Criscuolo Park and Mill River (*)

5) Highway Projects
   a. Interstate 95 *CDOT*
      i. Pearl Harbor Memorial Bridge Replacement
      ii. I-91, I-95, and Route 34 Reconfiguration
      iii. Long Wharf
         1. "No build" design solution and complete streets transition to Long Wharf Park
         2. Boathouse Replacement and Shoreline Improvements, In-Water Maintenance and Pier Access
      iv. West River Bridge Replacement
      v. ROW Surplus Land Releases
   b. Interstate 91 *CDOT*
      i. Exit 8 Improvements
      ii. Incident Management System Expansion
6) Roadway Projects
   a. Route 34
      i. West of York Street Urban Boulevard and Development/ Implementation of future Route 34 MDP
      ii. Downtown Crossing - Reconstruction of Route 34 East
      iii. Downtown Crossing – Phase 1 Tiger Grant implementation
   b. Route 63 *CDOT*
      i. Route 69 Intersection / Area Improvements (Amity Project)
   c. Route 10(*)
      i. Implementation of 2008 Corridor Study
   d. Route 80 (*)
      i. Corridor and Complete Streets Study – I-91 to East Haven
      ii. Implement Recommendations
   e. Medical District Street Grid(*)
      i. New roadway and re-alignments to complement Downtown Crossing
   f. Bridge Replacement and/or Reconstruction Projects
      i. State Street over Mill River
      ii. Grand Avenue over Quinnipiac River (*)
      iii. East Rock Road Bridge(*)
      iv. West Rock Bridge(*)
   g. Waterfront Street – Rebuild roadway(*)
   h. STP New Haven-Meriden Urban Program *CDOT*
      i. Pavement Rehabilitation Program
         1. Dixwell Avenue
         2. Davemport Avenue

3. Legion Avenue
4. Grand Avenue
5. Howard Avenue
6. Quinnipiac Avenue – Clifton-Foxon & Ferren to Forbes

7) Safety and Environmental Improvements
    a. Traffic Signal Upgrades(*)
        i. Phases III and IV
        ii. Mast arm replacement as needed
        iii. Traffic Signal progression/timing study and improvements on major city corridors
    b. Enhanced truck inspection(weight, pollution, safety) program – roving and port specific (*)

## Town of North Branford

Arterials *CDOT project*

Route 80 East, Route 139, Route 22, Church Street improvements
Implement Route 22 Corridor Study recommendations
Realign intersection Route 22 and Route 150

## Town of North Haven

Arterials

Implement Route 22 Corridor Study recommendations

STP Urban Project/Local Bridge Project *$12,000,000 / 2010*

Sackett Point Road

Local Roads *$2,500,000 / 2009*

Valley Service Road earmark and construction

Rail *CDOT project*

New Haven Hartford Springfield Service (*)
New station
Commuter service

## Town of Orange

Interstate I-95 *CDOT project*
- Improvements/ upgrade

Arterials *CDOT project*
- US 1 Improvements
- Implement Route 162 Corridor Study recommendations

Rail *CDOT project*
- New station (*)

## Town of Wallingford

Arterials
- US Route 5
  - Implementation of portions of Corridor Study recommendations(*)
  - Tolles Road and Route 702 (I-91 Ramps)
    Improvements *CDOT Project*
- Wilbur Cross Parkway Rte 15
  - Yale Avenue/ US Route 5 interchange #66 improvements(*)
  - River Road Exit 65 improvements
- Route 68
  - Implement Corridor Study recommendations(*)
- Route 150
  - Improvements between Rte 15 and Parker Farms Rd. (*)
  - Improvements to eliminate one lane restriction at Amtrak overpass(*)

Rail *CDOT project*
- New Haven, Hartford, Springfield (*)
  - Commuter service
  - Relocation of Station

Transit
- Service enhancements as per consultant recommendations(*)

Trails
- Quinnipiac River Linear Trail Project(*)
  - Phase IV – Community Lake Park south to North Haven
  - Phase V – Fireworks Island north to Meriden
  - Phase VI – Completion of loop around Community Lake

Transportation Enhancement (*)
Town Downtown Streetscape
Phase IV – Municipal Parking Lot and Cherry Street(Rte 150)
Phase V – US Rte 5 – Prince Street to Church Street
Phase VI – Ct Rte 150 – Fair St to N/s Elm Street

## City of West Haven

Interstates
I-95 *CDOT project*
West River Bridge Replacement
Improvements and upgrades

Arterials
Implement Route 162 Corridor Study recommendations
Route 34 at Route 122 improvements

STP Urban Projects *CDOT project*
Culvert replacements

Rail *CDOT project*
New Station (*)

Trails
Harborside Trail - Savin Rock Trail to Lighthouse Park (*)

## Town of Woodbridge

Arterials
Route 63 *CDOT projects*
Route 69 Intersection/Area Improvements
Route 67 Intersection improvements

STP Urban Project *$1,020,000*
Peck Hill Road

Transit Enhancement/Transit Access *$94,000*
Improve pedestrian transit links by completing major sidewalk gaps along Amity Road and Lucy Street.

# Appendix B

## Near Term Highway and Transit Fiscally Constrained Projects

### Near Term (2010 - 2013) Fiscally Constrained Projects

| *Project Number* | *Project Name* | *Funding* | *Phase* | *Year* | *Federal* | *State* | *Local* |
|---|---|---|---|---|---|---|---|
| **Branford** | | | | | | | |
| **0014-0174** | **Rt 740: Brookwood Dr to Williams Rd Realignment** | STPA | CON | 2011 | $4,640 | $1,160 | |
| **District 1** | | | | | | | |
| **0171-0327** | **Install STC Traffic Signals** | STPA | CON | 2011 | $1,280 | $320 | |
| **0171-0337** | **Install Epoxy Pavement Markings @ Intersections** | RR | CON | 2010 | $276 | | |
| **0171-0350** | **Epoxy Pavement Markings on Interstate Routes** | RR | CON | 2010 | $263 | | |
| **District 3** | | | | | | | |
| **0173-0351** | **I-95: Exit 24 and 47 Sign Upgrade** | NHTSA | CON | 2010 | $2,933 | | |
| **0173-0365** | **Operate Incident Mgmt Sys onI-95 Brnfd- NY St Line** | NHS | CON | 2010 | $5,152 | $1,289 | |
| **0173-0383** | **Install STC Traffic Signals** | STPA | CON | 2010 | $1,650 | | |
| | | RR | CON | 2010 | $500 | | |
| **0173-0399** | **Install Epoxy Pavement Markings @ Intersections** | RR | CON | 2010 | $552 | | |
| **0173-0407** | **BPT Ops Center** | NHS | CON | 2010 | $1,464 | $366 | |
| | | NHS | CON | 2011 | $4,393 | $1,098 | |
| | | NHS | CON | 2012 | $2,929 | $732 | |
| **East Haven** | | | | | | | |
| **0043-0124** | **Main St Signal Replacement Program** | STPNH | ROW | 2009 | $72 | $18 | |
| | | STPNH | CON | 2010 | $840 | $210 | |
| **0043-0126** | **Shoreline Greenway Trail EH, BFD, GLFD** | HPP | ROW | 2011 | $80 | | $20 |
| | | HPP | CON | 2012 | $1,440 | | $160 |
| **Guilford** | | | | | | | |
| **0059-0152** | **RT 146: Drainage / Roadway Modifications** | STPNH | CON | 2010 | $520 | $130 | |
| **0059-0158** | **Guilford Pavement Preservation** | STPRR | CON | 2010 | $635 | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | STPNH | CON | 2010 | $216 | | $54 |
| **0059-0159** | **Replace Br 02481 O/Brook (List 22)** | STPA | ENG | 2011 | $160 | $40 | |

# Near Term (2010 - 2013) Fiscally Constrained Projects

| Project Number | Project Name | Funding | Phase | Year | Federal | State | Local |
|---|---|---|---|---|---|---|---|
| **0059-0159** | **Replace Br 02481 O/Brook (List 22)** | STPA | CON | 2013 | $800 | $200 | |
| **0310-0039** | **Guilford Railroad Station Parking Expansion** | CMAQ | ROW | 2009 | $924 | $231 | |
| | | CMAQ | CON | 2010 | $1,690 | $422 | |
| **Hamden** | | | | | | | |
| **0061-0138** | **Rt 10: Westwoods Rd/Mt Carmel Ave Intersection** | STPA | CON | 2010 | $5,981 | $1,496 | $193 |
| **0061-0148** | **Farmington Canal Greenway Tunnel** | HPP | ENG | 2009 | $80 | | $20 |
| | | HPP | CON | 2011 | $770 | | $193 |
| **0427-T0152** | **Greater New Haven Transit capital improvements** | 5307P | OTH | 2010 | $80 | $20 | |
| **0427-T075** | **Greater New Haven Transit Small Vehicle Aquisition** | 5307P | OTH | 2010 | $784 | $196 | |
| **0CTN-0803** | **CTTRANSIT-Replacement of Buses** | 5307C | OTH | 2012 | $6,400 | $1,600 | |
| **Madison** | | | | | | | |
| **0075-0130** | **Shoreline Greenway Trail in Madison** | HPP | ROW | 2011 | $24 | | $6 |
| | | HPP | CON | 2012 | $560 | | $140 |
| **Meriden** | | | | | | | |
| **0079-0210** | **Gravel St:Reconstruction** | STPNH | ENG | 2009 | $176 | $44 | |
| | | STPNH | CON | 2011 | $4,880 | $1,220 | |
| **0079-0212** | **Harbor Brook Bridges Replacement** | HPP | CON | 2012 | $177 | | $262 |
| **0079-0222** | **Columbus Ave Bridge over Harbor Brook** | HPP | CON | 2011 | $1,004 | | $251 |
| **0079-0226** | **Quinnipiac River Linear Trail Phase 2** | HPP | CON | 2010 | $712 | | $178 |
| **0079-0231** | **Streetscape from Cook Ave. to North Second St.** | TCSP | ENG | 2009 | $72 | | $18 |
| | | TCSP | CON | 2011 | $379 | | $1,196 |
| **0432-0009** | **Meriden Bus Service Operations** | 5307O | OTH | 2010 | | $755 | |
| | | 5307O | OTH | 2011 | | $755 | |
| | | 5307O | OTH | 2012 | | $755 | |
| | | 5307O | OTH | 2013 | | $755 | |
| **0463-0008** | **Meriden TD - Commuter** | 5307O | OTH | 2010 | | $195 | |
| | | 5307O | OTH | 2011 | | $195 | |

# Near Term (2010 - 2013) Fiscally Constrained Projects

| Project Number | Project Name | Funding | Phase | Year | Federal | State | Local |
|---|---|---|---|---|---|---|---|
| **0463-0008** | **Meriden TD - Commuter** | 5307O | OTH | 2012 | | $195 | |
| | | 5307O | OTH | 2013 | | $195 | |
| **Milford** | | | | | | | |
| **0083-0230** | **US 1: Roses Mills -Orange Twn Line Intersection** | STPA | CON | 2014 | $12,700 | $3,175 | |
| **0083-0241** | **Old Gate Lane Reconstruction** | STPA | CON | 2014 | $1,683 | $421 | |
| **0083-0246** | **US 1: I-95 Exit 34 Silver Sands Pkwy Intersection** | STPA | CON | 2014 | $9,200 | $2,300 | |
| | | STPA | ROW | 2014 | $520 | $130 | |
| **0083-0247** | **US 1: Meadow St and High St Intersection** | STPA | ENG | 2009 | $200 | $50 | |
| | | STPA | CON | 2014 | $3,760 | $940 | |
| **0083-0253** | **Rt 796 (Milford Connector) Sign Replacement** | NHTSA | CON | 2011 | $152 | | |
| **0083-0255** | **I-95: Plains Rd to Marsh Hill Rd Resurfacing** | I-M | CON | 2009 | $15,000 | $1,667 | |
| | | I-M | CON | 2010 | $8,347 | $927 | |
| **0424-0027** | **Milford Transit District Operations** | 5307O | OTH | 2010 | | $644 | |
| | | 5307O | OTH | 2011 | | $644 | |
| | | 5307O | OTH | 2012 | | $644 | |
| | | 5307O | OTH | 2013 | | $644 | |
| **0424-0ADA** | **Milford TD ADA Operating** | 5307O | OTH | 2010 | | $217 | |
| | | 5307O | OTH | 2011 | | $217 | |
| | | 5307O | OTH | 2012 | | $217 | |
| | | 5307O | OTH | 2013 | | $217 | |
| **0424-AXXX** | **Milford Transit Administrative Capital Program** | 5307C | OTH | 2010 | $140 | $35 | |
| | | 5307C | OTH | 2011 | $172 | $43 | |
| | | 5307C | OTH | 2012 | $140 | $35 | |
| | | 5307C | OTH | 2013 | $160 | $40 | |
| | | 5307C | OTH | 2014 | $120 | $30 | |
| **0424-PXXX** | **Milford Transit Replace Paratransit Vehicles** | 5307C | OTH | 2010 | $200 | $50 | |
| | | 5307C | OTH | 2012 | $304 | $76 | |

# Near Term (2010 - 2013) Fiscally Constrained Projects

| Project Number | Project Name | Funding | Phase | Year | Federal | State | Local |
|---|---|---|---|---|---|---|---|
| **0424-PXXX** | **Milford Transit Replace Paratransit Vehicles** | 5307C | OTH | 2014 | $160 | $40 | |

## New Haven

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **0092-0456** | **I-91: Rt 80 Interchange Reconstruction** | I-M | CON | 2011 | $6,500 | $722 | |
| | | I-M | CON | 2012 | $6,435 | $715 | |
| **0092-0488** | **COMPUTERIZED SIGNAL SYSTEM (PHASE 3D).** | CMAQ | CON | 2012 | $3,668 | | |
| **0092-0522** | **I-95 West River Bridge BR#00163A** | BRXZ | CON | 2014 | $115,280 | $28,820 | |
| **0092-0531** | **I-95/I-91/Rt 34 Interchange Reconstruction E** | HPP | CON | 2010 | $296 | $74 | |
| | | I-M | CON | 2010 | $2,840 | $424 | |
| | | STPA | CON | 2010 | $48,888 | $5,432 | |
| | | NHS | CON | 2010 | $6,361 | $707 | |
| | | NHS | CON | 2011 | $19,009 | $2,112 | |
| | | I-M | CON | 2011 | $21,521 | $3,216 | |
| | | STPA | CON | 2011 | $4,112 | $457 | |
| | | I-M | CON | 2012 | $8,940 | $993 | |
| | | NHS | CON | 2012 | $12,650 | $1,406 | |
| | | I-M | CON | 2013 | $11,720 | $1,302 | |
| | | NHS | CON | 2013 | $2,470 | $2,749 | |
| | | STPA | CON | 2013 | $39,960 | $4,440 | |
| | | I-M | CON | 2014 | $70,235 | $7,804 | |
| | | STPA | CON | 2014 | $168,540 | $42,135 | |
| **0092-0532** | **I-95: Quinnipiac River Bridge Construction B** | IBR | CON | 2009 | $255 | | |
| | | HPP | CON | 2009 | $9,920 | $2,480 | |
| | | 117 | CON | 2009 | $1,968 | | |
| | | BRXZ | CON | 2009 | | | |
| | | TI | CON | 2009 | $42,735 | $6,386 | |
| | | BRXZ | CON | 2010 | $111,114 | $16,603 | |
| | | BRXZ | CON | 2011 | $29,916 | $4,407 | |

# Near Term (2010 - 2013) Fiscally Constrained Projects

| Project Number | Project Name | Funding | Phase | Year | Federal | State | Local |
|---|---|---|---|---|---|---|---|
| **0092-0532** | **I-95: Quinnipiac River Bridge Construction B** | BRXZ | CON | 2012 | $54,854 | $8,197 | |
| | | BRXZ | CON | 2013 | $58,734 | $8,776 | |
| | | BRXZ | CON | 2014 | $143,648 | $21,465 | |
| **0092-0541** | **Waterfront St: Reconstruction** | STPA | CON | 2014 | $3,900 | $1,000 | |
| **0092-0547** | **RECONSTRUCTION OF RT 63 (WHALLEY AVE)** | GOV | CON | 2009 | | $9,000 | |
| | | STPA | CON | 2010 | $3,552 | $889 | |
| | | STPA | CON | 2014 | $7,200 | $1,800 | |
| **0092-0561** | **State St: Mill River Bridge Replacement** | STPNH | CON | 2008 | $3,000 | $750 | |
| | | STPNH | CON | 2009 | $2,900 | $725 | |
| | | STPNH | CON | 2010 | $1,690 | $422 | |
| **0092-0564** | **Extend NH Centrally Controlled Traffic System** | CMAQ | CON | 2010 | $4,126 | | |
| **0092-0570** | **Long Wharf Boathouse (I-95) Construction** | STPA | ENG | 2010 | $2,100 | $525 | |
| | | STPA | CON | 2014 | $18,400 | $4,600 | |
| **0092-0571** | **Shoreline Restoration along Long Wharf at Parcel G** | STPA | CON | 2011 | $2,560 | $640 | |
| **0092-0583** | **PARCEL G AND H - HARBOR ACCESS** | 330 | CON | 2011 | $1,987 | | |
| **0092-0585** | **Quinnipiac Ave: Reconstruction** | STPRR | CON | 2010 | $7,300 | | |
| **0092-0614** | **Conversion of Rte 34** | HPP | ENG | 2010 | $805 | | $201 |
| | | HPP | ROW | 2011 | $252 | | $63 |
| **0092-0619** | **I-95 Corridor Improvement Project- Contract E2** | I-M | CON | 2009 | $30,000 | $4,483 | |
| | | I-M | CON | 2010 | $43,280 | $6,467 | |
| | | I-M | CON | 2011 | $8,290 | $1,298 | |
| | | I-M | CON | 2012 | $4,179 | $624 | |
| **0092-0621** | **FARMINGTON CANAL GREENWAY.** | HPP | ROW | 2011 | $16 | | $4 |
| | | HPP | CON | 2011 | $6,109 | | $1,527 |
| **0092-0622** | **2 Lane Connection Between I-95 & I-91 -Contract E3** | STPA | CON | 2010 | $15,670 | $1,741 | |
| | | STPA | CON | 2014 | $5,655 | $845 | |
| **0092-0627** | **I-95 Corridor Improvement Project- contract B2** | BRXZ | CON | 2010 | $11,000 | $1,222 | |
| | | BRXZ | CON | 2012 | $29,020 | $3,224 | |

# Near Term (2010 - 2013) Fiscally Constrained Projects

| Project Number | Project Name | Funding | Phase | Year | Federal | State | Local |
|---|---|---|---|---|---|---|---|
| **0092-0627** | **I-95 Corridor Improvement Project- contract B2** | BRXZ | CON | 2013 | $31,320 | $4,680 | |
| | | NHS | CON | 2013 | $3,680 | $409 | |
| | | BRXZ | CON | 2014 | $64,420 | $7,158 | |
| **0092-0629** | **NEW TRAFFIC SIGNALS@N. HAVEN GATEWAY COLLEGE.** | GOV | CON | 2010 | | $4,061 | |
| **0092-0641** | **Quinnipaic Avenue Phase 2** | STPRR | CON | 2010 | $2,700 | | |
| **0092-0642** | **Pavement Rehab Congress Avenue** | STPRR | CON | 2010 | $844 | | |
| **0092-0643** | **Traffic Control Signal Controllers** | STPRR | CON | 2010 | $3,745 | | |
| **0092-0650** | **PED Safety Imprvmt Grand, Exchange, E Pearl, Ferry** | SRSI | ENG | 2010 | $20 | | |
| | | SRSI | CON | 2011 | $500 | | |
| **0092-0651** | **Boathouse Platform (80%)- Phase 1** | STPA | CON | 2011 | $8,400 | $2,100 | |
| **0092-0655** | **ADA-Compliant Sidewalk Improvements** | STPA | ENG | 2011 | $80 | $20 | |
| **0092-XXXX** | **Route 34 East Downtown Crossing** | TIGGER II | ENG | 2011 | $6,400 | $1,600 | |
| | | TIGGER II | ROW | 2011 | $1,600 | $400 | |
| | | TIGGER II | CON | 2011 | $30,000 | $6,000 | |
| **0170-T798** | **Job Access Reverse Commute (JARC)** | 5316G | OTH | 2010 | $245 | | $245 |
| | | 5316G | OTH | 2011 | $260 | | $260 |
| | | 5316G | OTH | 2012 | $273 | | $273 |
| | | 5316G | OTH | 2013 | $287 | | $287 |
| | | 5316G | OTH | 2014 | $301 | | $301 |
| **0300-0149** | **NHL-Positive Train Control-FY2010** | 5307P | ENG | 2011 | $9,600 | $2,400 | |
| **0301-0106** | **NH Rail Yard Component Change out Shop** | 5309A | CON | 2009 | $26,100 | | |
| | | 5307P | CON | 2009 | $50,800 | $12,700 | |
| | | 5309RR | CON | 2009 | $26,536 | | |
| | | 5307RR | CON | 2009 | $3,391 | | |
| | | 5309B | CON | 2009 | $12,000 | $9,525 | |
| | | 5309B | CON | 2011 | $30,000 | $7,500 | |
| **0301-T077** | **New Haven Line Track Program** | 5307P | OTH | 2011 | $16,000 | $4,000 | |
| | | 5307C | OTH | 2011 | $3,600 | $900 | |

# Near Term (2010 - 2013) Fiscally Constrained Projects

| Project Number | Project Name | Funding | Phase | Year | Federal | State | Local |
|---|---|---|---|---|---|---|---|
| **0301-T077** | **New Haven Line Track Program** | 5307C | OTH | 2012 | $9,017 | $2,254 | |
| | | 5307C | OTH | 2014 | $6,400 | $1,600 | |
| **0402-XXXX** | **GNHTD rehab info sales booth on the NH Green** | 5307P | CON | 2010 | $400 | $100 | |
| **North Branford** | | | | | | | |
| **0098-0093** | **Rt 80: Rt 22 to West of Rt 139 Widening** | STPA | CON | 2011 | $9,600 | $2,400 | |
| **North Haven** | | | | | | | |
| **0100-0174** | **Valley Service Road Extension** | HPP | ENG | 2010 | $200 | | $50 |
| | | HPP | ROW | 2011 | $8 | | $2 |
| | | HPP | CON | 2012 | $944 | | $236 |
| **0100-0175** | **Sackett Point Bridge Replacement** | STPNH | ENG | 2010 | $1,560 | $195 | $195 |
| | | STPNH | ROW | 2012 | $320 | $40 | $40 |
| | | STPNH | CON | 2014 | $10,400 | $1,300 | $1,300 |
| **0100-0176** | **Universal Drive Resurfacing** | STPRR | CON | 2010 | $376 | | |
| | | STPNH | CON | 2010 | $271 | | $68 |
| **Orange** | | | | | | | |
| **0106-0108** | **US 1: Milford City Line to Rt 114 Widening** | STPA | ENG | 2009 | $880 | $220 | |
| | | STPA | CON | 2011 | $5,000 | $1,250 | |
| | | STPA | CON | 2012 | $5,520 | $1,380 | |
| **0106-0121** | **Replace BR#02637 O/ Race Brook (U-20)** | STPA | ENG | 2011 | $200 | $50 | |
| **Regional** | | | | | | | |
| **0092-0648** | **DESIGN ACTIVITIES: STPNH: URBAN PROGRAM** | STPNH | ENG | 2010 | $133 | $34 | |
| | | STPNH | ENG | 2011 | $133 | $34 | |
| | | STPNH | ENG | 2012 | $133 | $34 | |
| **0138-0221** | **I-95: Housatonic River Bridge Replacement** | I-M | CON | 2011 | $7,730 | $859 | |
| | | NHS | CON | 2011 | | | |
| | | BRXZ | CON | 2011 | $21,340 | $2,371 | |

# Near Term (2010 - 2013) Fiscally Constrained Projects

| Project Number | Project Name | Funding | Phase | Year | Federal | State | Local |
|---|---|---|---|---|---|---|---|
| **0138-0221** | **I-95: Housatonic River Bridge Replacement** | I-M | CON | 2012 | $930 | $103 | |
| | | NHS | CON | 2012 | $9,280 | $1,031 | |
| | | BRXZ | CON | 2012 | $40,294 | $4,478 | |
| | | BRXZ | CON | 2013 | $42,888 | $4,765 | |
| | | I-M | CON | 2013 | $34,730 | $3,859 | |
| | | I-M | CON | 2014 | $74,410 | $8,268 | |
| | | NHS | CON | 2014 | $26,830 | $2,981 | |
| | | BRXZ | CON | 2014 | $48,410 | $5,379 | |
| **0301-0054** | **NHL Catenary Replacement Sect B including bridges** | 5307P | CON | 2009 | $6,400 | $1,600 | |
| | | 5307P | CON | 2010 | $12,000 | $3,000 | |
| **0301-0070** | **NHL Catenary Replacement Section C1B** | 5309A | CON | 2007 | $18,800 | $4,700 | |
| | | 5307C | CON | 2007 | $13,360 | $3,340 | |
| | | 5309A | CON | 2009 | $20,000 | $5,000 | |
| | | 5309A | CON | 2010 | $16,000 | $4,000 | |
| | | 5307P | CON | 2011 | $34,175 | $8,544 | |
| **0301-T119** | **NH-ML Catenary replacment, Section C1A.** | 5309A | CON | 2011 | $19,200 | $4,800 | |
| | | 5307C | CON | 2011 | $20,800 | $5,200 | |
| | | 5309A | CON | 2012 | $17,200 | $4,300 | |
| **0301-T120** | **NH-ML Catenary replacement – Peck to Devon C2** | 5309A | CON | 2014 | $41,600 | $10,400 | |
| **0400-0001** | **Connecticut Transit Operations** | 5307O | OTH | 2010 | | $24,980 | |
| | | 5307O | OTH | 2011 | | $24,980 | |
| | | 5307O | OTH | 2012 | | $24,980 | |
| | | 5307O | OTH | 2013 | | $24,980 | |
| **0427-0ADA** | **Greater New Haven TD-ADA Operating** | 5307O | OTH | 2010 | | $2,101 | |
| | | 5307O | OTH | 2011 | | $2,101 | |
| | | 5307O | OTH | 2012 | | $2,101 | |
| | | 5307O | OTH | 2013 | | $2,101 | |
| **0427-AXXX** | **GNHTD Administrative Capital Program** | 5307C | OTH | 2010 | $80 | $20 | |

# Near Term (2010 - 2013) Fiscally Constrained Projects

| Project Number | Project Name | Funding | Phase | Year | Federal | State | Local |
|---|---|---|---|---|---|---|---|
| **0427-AXXX** | **GNHTD Administrative Capital Program** | 5307C | OTH | 2011 | $200 | $50 | |
| | | 5307C | OTH | 2012 | $200 | $50 | |
| | | 5307C | OTH | 2013 | $200 | $50 | |
| | | 5307C | OTH | 2014 | $200 | $50 | |
| **0427-NFXX** | **GNHTD - New Bus Admin / Maint Facility** | 5307C | ENG | 2010 | $640 | $160 | |
| | | 5307C | ROW | 2011 | $800 | $200 | |
| | | 5307C | CON | 2013 | $8,000 | $2,000 | |
| **0427-PXXXX** | **GNHTD Replace Paratransit Vehicles** | 5307C | OTH | 2010 | $440 | $110 | |
| | | 5307C | OTH | 2011 | $440 | $110 | |
| | | 5307C | OTH | 2012 | $440 | $110 | |
| | | 5307C | OTH | 2013 | $440 | $110 | |
| | | 5307C | OTH | 2014 | $440 | $110 | |
| **0427-XXXX** | **GNHTD Capital Purchases Carryover** | 5307P | CON | 2010 | $1,351 | $338 | |
| **0432-0007** | **Meriden-Wallingford ADA Operating -NETCO** | 5307O | OTH | 2010 | | $609 | |
| | | 5307O | OTH | 2011 | | $609 | |
| | | 5307O | OTH | 2012 | | $609 | |
| | | 5307O | OTH | 2013 | | $609 | |
| **ENH-TXXX** | **Various Transit Enhancement Improvements** | 5307R | CON | 2010 | $705 | | $176 |

## Statewide

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **0170-0BRX** | **On/Off Federal System Bridges Replacement** | BRXZ | CON | 2010 | $17,646 | $4,412 | |
| | | BRXZ | CON | 2011 | $18,226 | $4,557 | |
| | | BRXZ | CON | 2012 | $52,446 | $13,112 | |
| | | BRXZ | CON | 2013 | $45,576 | $11,394 | |
| | | BRXZ | CON | 2014 | $127,677 | $31,919 | |
| **0170-2758** | **Pavement Management Analysis for NHS Roadways** | NHS | ENG | 2010 | $424 | $106 | |
| **0170-2759** | **Pavement Management Analysis -non NHS routes** | STPA | ENG | 2010 | $376 | $94 | |
| **0170-2770** | **NHS Pavement Management Analysis** | NHS | ENG | 2010 | $1,368 | $342 | |

# Near Term (2010 - 2013) Fiscally Constrained Projects

| Project Number | Project Name | Funding | Phase | Year | Federal | State | Local |
|---|---|---|---|---|---|---|---|
| **0170-2771** | **Non NHS Roadway Pavement Management Analysis** | STPA | ENG | 2011 | $880 | $220 | |
| **0170-2773** | **Replace & /or repair overhead sign supports** | NHS | ENG | 2011 | $1,600 | $400 | |
| **0170-2776** | **STPA Funds for Eng/Scope & Proj development** | STPA | ENG | 2010 | $0 | | |
| **0170-2829** | **Installation of Rumblestrips on NHS Expressways** | NHS | ENG | 2010 | $60 | $15 | |
| **0170-2854** | **Design of Signals for 8 construction projects** | STPA | ENG | 2011 | $800 | | |
| **0170-2868** | **CE Bridge Inspection - Underwater On/Off** | BRXZ | ENG | 2011 | $1,524 | $380 | |
| **0170-2875** | **Rehab 5 Culverts** | I-M | ROW | 2011 | $90 | $10 | |
| **0170-2987** | **Rapid Response Bridge Repairs by State Forces** | STPA | CON | 2011 | $400 | $100 | |
| **0170-2993** | **BR Insp On/Off FAHS by Staff** | BRXZ | ENG | 2011 | $5,120 | $1,280 | |
| | | BRXZ | ENG | 2012 | $5,280 | $1,320 | |
| **0170-3013** | **Inspection of Bridges (on/off System)** | BRXZ | ENG | 2010 | $6,240 | $1,560 | |
| | | BRXZ | ENG | 2011 | $6,400 | $1,600 | |
| | | BRXZ | ENG | 2012 | $6,400 | $1,600 | |
| | | BRXZ | ENG | 2013 | $4,722 | $1,181 | |
| **0170-3014** | **Sign Support Inspection By CE** | NHS | ENG | 2010 | $1,600 | $400 | |
| | | NHS | ENG | 2011 | $1,500 | $375 | |
| | | NHS | ENG | 2012 | $1,500 | $375 | |
| | | NHS | ENG | 2013 | $594 | $148 | |
| **0170-RT*** | **Recreational Trails** | RT | OTH | 2009 | $1,149 | | $287 |
| | | RT | OTH | 2010 | $1,149 | | $287 |
| | | RT | OTH | 2011 | $1,149 | | $287 |
| | | RT | OTH | 2012 | $1,149 | | $287 |
| | | RT | OTH | 2013 | $1,149 | | $287 |
| | | RT | OTH | 2014 | $1,149 | | $287 |
| **0170-SFTY** | **Statewide Safety Improvements** | HSIP | OTH | 2010 | $10,500 | $1,167 | |
| | | HSIP | OTH | 2011 | $10,500 | $1,167 | |
| | | HSIP | OTH | 2012 | $10,500 | $1,167 | |
| | | HSIP | OTH | 2013 | $10,500 | $1,167 | |

# Near Term (2010 - 2013) Fiscally Constrained Projects

| Project Number | Project Name | Funding | Phase | Year | Federal | State | Local |
|---|---|---|---|---|---|---|---|
| **0170-SFTY** | **Statewide Safety Improvements** | HSIP | OTH | 2014 | $10,500 | $1,167 | |
| **0170-T708** | **TRANSIT CAPITAL PLANNING - FY 08** | 5307P | OTH | 2010 | $200 | $50 | |
| **0170-TNF2** | **New Freedom- New Haven** | 5317J | OTH | 2009 | $169 | | $169 |
| | | 5317J | OTH | 2010 | $176 | | $176 |
| | | 5317J | OTH | 2011 | $185 | | $185 |
| | | 5317J | OTH | 2012 | $194 | | $194 |
| | | 5317J | OTH | 2013 | $204 | | $204 |
| | | 5317J | OTH | 2014 | $214 | | $214 |
| **0170-TX01** | **Transit Capital Planning** | 5307C | OTH | 2010 | $280 | $70 | |
| | | 5307C | OTH | 2011 | $280 | $70 | |
| | | 5307C | OTH | 2012 | $280 | $70 | |
| | | 5307C | OTH | 2014 | $280 | $70 | |
| **0170-TX06** | **Statewide Marketing (NY-NJ-CT Moderate)** | CMAQ | OTH | 2010 | $506 | $126 | |
| | | CMAQ | OTH | 2011 | $521 | $130 | |
| | | CMAQ | OTH | 2012 | $537 | $134 | |
| | | CMAQ | OTH | 2013 | $553 | $138 | |
| **0170-TX07** | **Telecommuting Partnership (NY-NJ-CT Moderate)** | CMAQ | OTH | 2010 | $304 | $76 | |
| | | CMAQ | OTH | 2011 | $313 | $78 | |
| | | CMAQ | OTH | 2012 | $323 | $81 | |
| | | CMAQ | OTH | 2013 | $332 | $83 | |
| **0170-TX09** | **CONNECTICUT CLEAN FUELS (NY-NJ-CT Moderate)** | CMAQ | OTH | 2010 | $798 | | $199 |
| | | CMAQ | OTH | 2011 | $821 | | $205 |
| | | CMAQ | OTH | 2012 | $846 | | $211 |
| | | CMAQ | OTH | 2013 | $871 | | $218 |
| **0170-TXX2** | **STATEWIDE TRANSPORTATION DEMAND MGMT (NY-NJ-CT MOD** | CMAQ | OTH | 2010 | $2,192 | $548 | |
| | | CMAQ | OTH | 2011 | $2,258 | $564 | |
| | | CMAQ | OTH | 2012 | $2,325 | $581 | |
| | | CMAQ | OTH | 2013 | $2,395 | $599 | |

# Near Term (2010 - 2013) Fiscally Constrained Projects

| Project Number | Project Name | Funding | Phase | Year | Federal | State | Local |
|---|---|---|---|---|---|---|---|
| **0400-1XXX** | **CTH - REPL 14 1999 BUSES** | 5307C | OTH | 2011 | $5,024 | $1,256 | |
| **0400-2XXX** | **CTTRANSIT-REPLACE 32 BUSES - FY 2013** | 5307C | OTH | 2013 | $13,338 | $3,334 | |
| **0400-3XXX** | **CTTRANSIT-REPLACE 40 BUSES** | 5307C | OTH | 2014 | $17,664 | $4,416 | |
| **0400-4XXX** | **CTTRANSTIT - SYSTEMWIDE IT UPGRADE - FY 09** | 5307P | OTH | 2010 | $394 | $98 | |
| **0400-5XXX** | **CTTRANSIT-SYSTEMWIDE RTS BUSES CRTICL RPLCMNT** | 5307P | OTH | 2010 | $400 | $100 | |
| **0400-AXXX** | **CTRANSIT Systemwide Admin Capt/Scv Replacement** | 5307P | OTH | 2010 | $1,774 | $443 | |
| | | 5307C | OTH | 2010 | $560 | $140 | |
| | | 5307C | OTH | 2011 | $480 | $120 | |
| | | 5307C | OTH | 2012 | $640 | $160 | |
| **0GNH-XXXX** | **GNHTD Areawide Bus Shelter Installation** | 5307P | CON | 2010 | $120 | $30 | |
| **OSXT-0110** | **Statewide Small Vehicle Acquisition** | 5310C | OTH | 2009 | $1,295 | | $324 |
| | | 5310C | OTH | 2010 | $1,686 | | $380 |
| | | 5310C | OTH | 2011 | $1,771 | | $399 |
| | | 5310C | OTH | 2012 | $1,860 | | $418 |
| | | 5310C | OTH | 2014 | $2,050 | | $462 |

## Wallingford

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **0148-0190** | **US 5: Toelles Rd to Rt 702 Widening** | NHTSA | CON | 2010 | $2,080 | | |
| **0148-0198** | **Quinnpiac River Trail Phase 3** | HPP | CON | 2011 | $688 | $172 | |
| | | Sect 125 | CON | 2011 | $1,425 | | |
| **0148-0200** | **CT 15/150, EXIT 64/65 RECONFIGURATION (River Road)** | STPNH | ROW | 2011 | $80 | $20 | |
| | | STPNH | CON | 2012 | $2,420 | $605 | |
| **0148-0203** | **North Plains Industrial Rd Pavement Rehab** | STPNH | ENG | 2011 | $40 | $10 | |
| | | STPNH | CON | 2011 | $637 | | $159 |
| **0433-0145** | **Wallingford Bus Service Operations** | 5307O | OTH | 2010 | | $168 | |
| | | 5307O | OTH | 2011 | | $168 | |
| | | 5307O | OTH | 2012 | | $168 | |
| | | 5307O | OTH | 2013 | | $168 | |

# Near Term (2010 - 2013) Fiscally Constrained Projects

| *Project Number* | *Project Name* | *Funding* | *Phase* | *Year* | *Federal* | *State* | *Local* |
|---|---|---|---|---|---|---|---|
| **West Haven** | | | | | | | |
| **0156-0170** | **Rt 122: US 1 Realignment** | STPA | CON | 2014 | $6,700 | $1,700 | |
| **0156-0171** | **I-95: Greta St to West River Resurfacing** | I-M | CON | 2014 | $12,000 | $1,300 | |
| **0156-0175** | **Campbell Ave Streetscape Improvements** | HPP | CON | 2011 | $3,234 | | $809 |
| **0156-0176** | **Captain Thomas Blvd Resurfacing** | STPNH | CON | 2010 | $1,146 | | $287 |
| **Woodbridge** | | | | | | | |
| **0167-0100** | **Rt 63: Rt 67 Intersection Improvements** | STPR | CON | 2011 | $2,800 | $700 | |
| **0167-0104** | **Peck Hill Road Construction** | STPNH | ROW | 2010 | $80 | $10 | $10 |
| | | STPNH | CON | 2011 | $772 | $96 | $96 |
| **0167-0105** | **Drainage Improvements Bradley Rd to New Haven Line** | STPA | ROW | 2014 | $320 | $80 | |
| | | STPA | ENG | 2014 | $2,000 | $500 | |
| | | STPA | CON | 2014 | $3,820 | $1,080 | |
| **0167-0107** | **Rehab BR 02151 O/ Race Brook (U-20)** | STPA | ENG | 2011 | $140 | $35 | |
| ***Total Funds*** | | | | | **$2,725,194** | **$620,902** | **$14,960** |

# Appendix C

## Public Outreach Process

Staff outreach to the organizations in the Region is noted below:

Meetings for the Long Range Transportation Plan

| **Date** | **Organization** | **Place** |
|---|---|---|
| November 18, 2010 | Woodbridge Economic Development Commission | Woodbridge Country Club |
| December 3, 2010 | Regional Economic Development Forum monthly meeting | SCRCOG offices |
| March 25, 2011 | Regional Economic Development Forum monthly meeting | SCRCOG offices |

The following is a tabulation of comments and response to the outreach from the Region concerning the draft Plan:

John Thompson, P.E. Wallingford Town Engineer – Comments incorporated