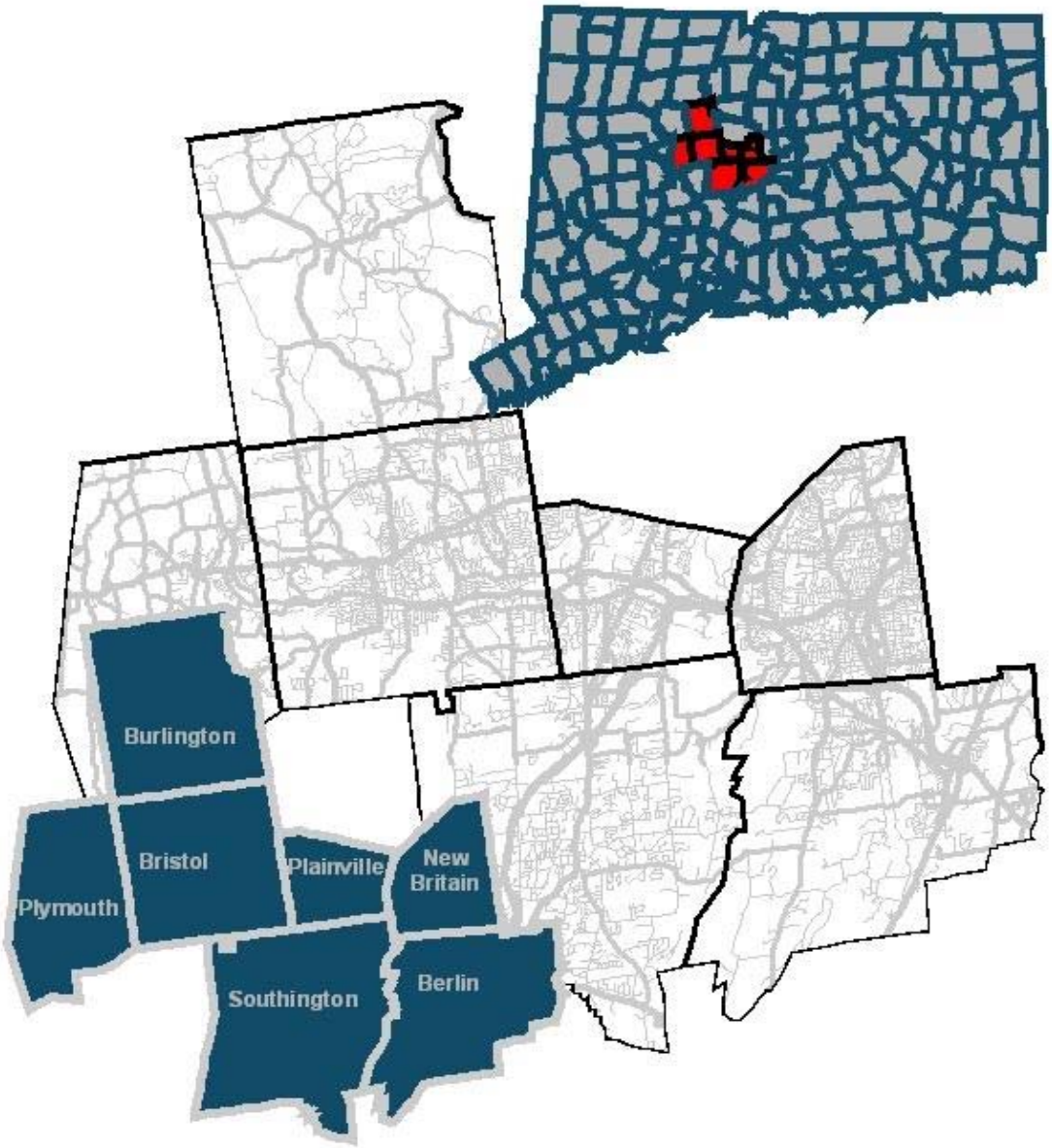
LONG RANGE TRANSPORTATION PLAN

2007- 2037



Prepared by the Central Connecticut Regional Planning Agency

MPO

Final Report: May 2007 Amended: September 2008

PREFACE AND ACKNOWLEDGEMENTS

The Long Range Transportation Plan lays out a broad vision of the form and functions of the Central Connecticut Region's transportation network as it is now and will be for several years to come. However, this vision is not static. The Plan is flexible and able to adapt to changes in regional needs over time. Reevaluation and revisions of the Plan over time reflect the purpose of the framers to keep the Plan relevant.

The Long Range Transportation Plan provides the reader with a snapshot of the overall transportation network throughout the Central Connecticut region with an eye toward the future. Projecting future need and determining how that need can be fulfilled is a collaborative process. Special thanks must be extended to the entire staff at CCRPA, past and present, and the vital guidance of the Bureau of Policy and Planning at the Connecticut Department of Transportation, FHWA and FTA. Input from the CCRPA Board, member municipality public works directors and the people of the region is much appreciated.

Respectfully Submitted,

Ken Shooshan-Stoller
Deputy Director

May 2007

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Bristol	William Stortz, Mayor	Plymouth	Jan Krampitz, Mayor
Burlington	Theodore C. Scheidel, Jr., First Selectman	Southington	John Weichsel, Town Manager
New Britain	Timothy Stewart, Mayor		

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Town of Burlington	Joseph Julian, Secretary Amy Harris.	Charles Kirchofer Joseph Julian.
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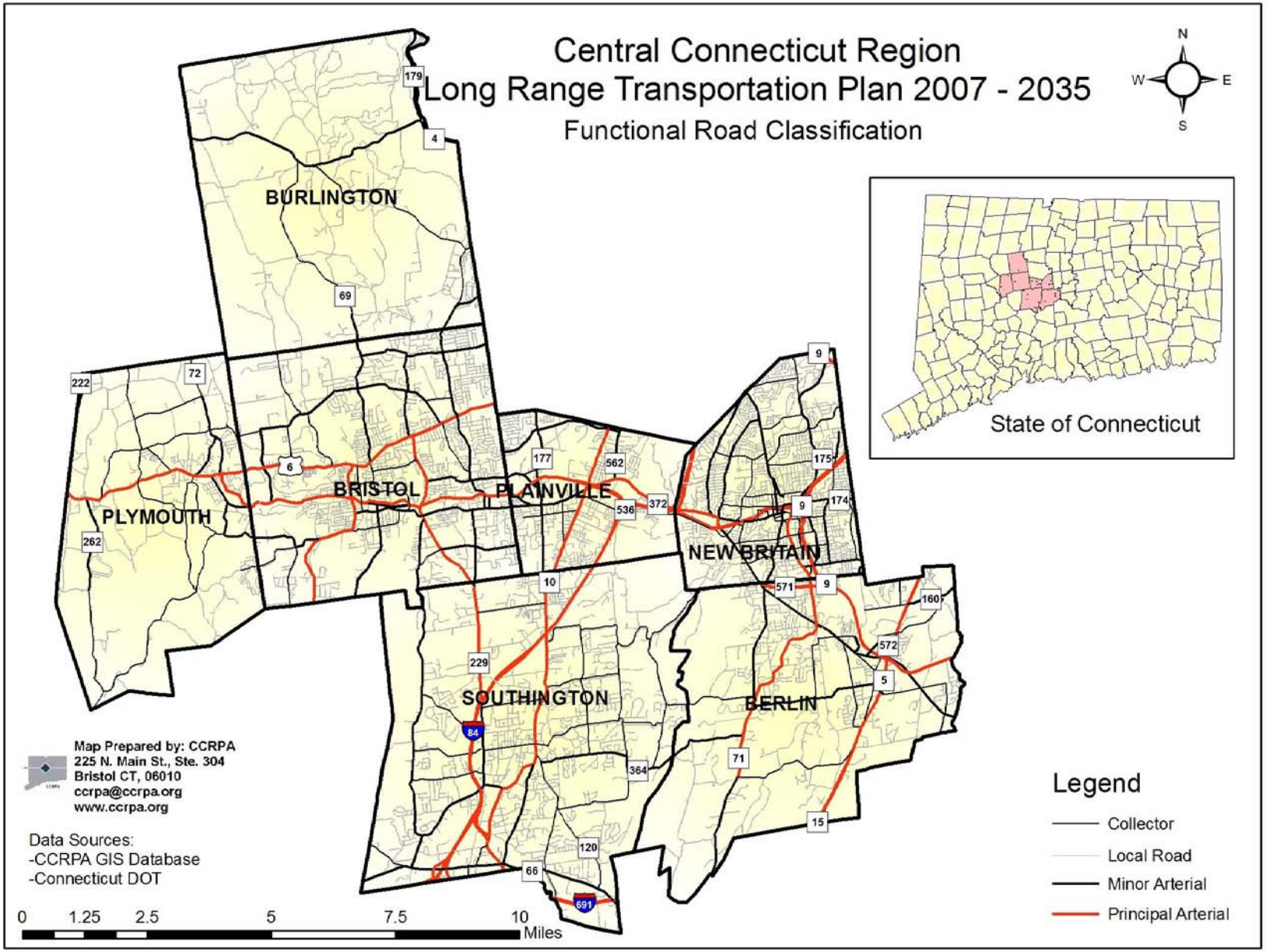
This report has been prepared by the Central Connecticut Regional Planning Agency in cooperation with the U.S. Department of Transportation (including its participating agencies) and the Connecticut Department of Transportation. The opinions, findings, and conclusions expressed in this publication are those of the Central Connecticut Regional Planning Agency and do not necessarily reflect the official views or policies of the Connecticut Department of Transportation.


Central Connecticut Region
Long Range Transportation Plan 2007 - 2035
Functional Road Classification
N
W
E
S
BURLINGTON
PLYMOUTH
BRISTOL
PLAINVILLE
NEW BRITAIN
SOUTHINGTON
BERLIN
179
4
69
222
72
6
262
177
562
536
372
9
175
174
571
160
572
5
10
229
84
364
71
15
120
66
691
State of Connecticut
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Data Sources:
-CCRPA GIS Database
-Connecticut DOT
0
1.25
2.5
5
7.5
10
Miles
Legend
Collector
Local Road
Minor Arterial
Principal Arterial

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I. VISION STATEMENT

As the Metropolitan Planning Organization for Berlin, Bristol, Burlington, New Britain, Plainville, Plymouth and Southington, the Central Connecticut Regional Planning Agency will work with its communities to achieve a transportation system with the equality, efficiency and modal choice that will help the region reach its potential as a quality place to live, work, play and shop.

AGENCY MISSION STATEMENT

To plan and promote regional policies and programs to enhance the vitality and quality of life in our communities

ACTION PLAN

GOALS, OBJECTIVES AND ACTIONS

A. Overall Goals

Goal: Maintain the transportation system. System expansion should not occur until the existing system is maintained. Because resources are limited, it becomes necessary to prioritize transportation options. Expanding on the system at the expense of maintaining what already exists will cause decreased mobility in established areas.

- Objective: To promote a protocol that considers preservation before expansion.
    - Action: Consider amending STP-Urban project selection criteria that rewards preservation activity.

Goal: Promote system efficiency. Work toward the efficient movement of people and goods through the use of multiple modes. Integrate modes to create a seamless system for multi-modal transportation.

- Objective: To identify opportunities for establishing multimodal nodes in the region.
    - Action: Utilize recommendations from Busway West study to improve efficiency of current and future nodes of multimodal convergence.

Goal: Protect the environment. Transportation decisions must carefully consider the potential environmental impacts, before, during and after construction.

- Objective: To review transportation proposals with more focus toward environmental effects.
    - Action: Analyze mitigation activities for effectiveness.
    - Action: Propose alternative Best Management Practices that promote natural solutions.
    - Action: Capitalize on opportunities to combine transportation and environmental improvement projects.

Goal: Promote improved safety. Transportation projects should be aimed at increasing safety for all users, including bicyclists, pedestrians and motorists. Safety should focus on preventing fatalities and injuries more than general collision prevention.

- Objective: To emphasize safety in all elements of transportation planning and incorporate the consideration of the context in which a project is proposed for safety enhancements for all funding programs.
    - Action: Conduct “safety audits” for areas of high pedestrian activity.
    - Action: Enact recommendations of CCRPA plans (CCPATH, Busway West, Transit Development Plan) that address safety concerns.
    - Action: Endorse a policy which considers safety of persons over property damage.
    - Acton: Initiate a vigorous “safe routes to schools” program.

Goal: Promote equity. Transportation projects should be aimed at assuring that all residents have adequate mobility options. Particular focus should be placed on the mobility of those unable to access an automobile for economic, physical or cognitive reasons.

- Objective: To seek opportunities to expand mobility options.
    - Action: Introduce innovative programs such as Independent Transportation Network to the region increase mobility and safety for elderly citizens.
    - Action: Use the Locally Coordinated Human Services Transportation Plan as a tool to identify gaps in service to elderly, disabled and low-income citizens in the region.
    - Action: Continue to advocate for bus service to Plymouth and Southington.
    - Action: Continue to administer the ADA Paratransit service for the region.

Goal: Protect neighborhoods. Transportation facilities should not diminish neighborhood character and safety; roads should be viewed as **places**, part of the neighborhood, not a separate entity.

- Objective: To establish transportation systems in scale with the surrounding land uses.
    - Action: Consider the context of land uses and human activity in review and development of transportation project proposals and planning products.

Goal: Enhance economic development. Transportation should be used to spur economic development, particularly in the downtown areas of the region's seven towns. Efficient transportation systems that are aesthetically pleasing can help spur economic development.

- Objective: To consider impacts on and opportunities for economic development in plans and projects.
    - Action: Evaluate the economic development implications of plans, policies and projects.
    - Action: Create a "tool box" of economic enhancement techniques for transportation facilities.

Goal: Encourage Sensible Land Use. Transportation and land use should remain compatible.

- Objective: To encourage pedestrian-oriented land use in downtown areas and discourage extending roadways to areas underserved by water and sewer.
    - Action: Create a Regional Plan of Conservation and Development that is conscious of "smart growth" philosophies.
    - Action: Collaborate with the communities of the region to enact policies and projects that do not induce sprawl development and that are context-sensitive.

B. Roads and Highways

Goal: Achieve equity and efficiency in maintaining and improving the transportation system.

- Objective: To implement Intelligent Transportation Systems (ITS).
    - Action: Establish a regular traffic count and reporting system for the region.

- Objective: To address safety and efficiency issues at intersections.
    - Action: Establish a regular intersection analyses and reporting system for the region.
    - Action: Establish a regular review of intersection and midblock crosswalk operations for the region.

Goal: Analyze corridors and sub-areas as needed.

- Objective: To conduct a corridor study if necessary,
    - Action: Discuss and determine need for corridor study with local leaders and other interested parties on Route 10 in Plainville and Southington; or Route 229 in Bristol and Southington, and work toward their initiation and completion.

Goal: Give full consideration to the use of roundabout intersections. While roundabouts are not widely used in Connecticut, they can be a preferred alternative to signalization due to motor vehicle traffic calming, safety and efficiency.

- Objective: To institute regular consideration of roundabouts in discussions and review of roadway alternatives.
    - Action: Amend the STP-urban project selection process to include consideration of roundabouts.
    - Action: Recommend review by ConnDOT's roundabout review committee of all intersection improvement proposals on state roads.

Goal: Assure that any cul-de-sac development maximizes non-motorized transportation linkage. Any cul-de-sac development should provide bicycle and pedestrian connectivity to schools, recreation, retail and adjoining neighborhoods and transportation networks, in order to foster healthy lifestyles and reduce automobile dependency and longer automobile trips.

- Objective: To institute regular consideration of pedestrian network connectivity in the region's review of subdivision proposals and regulations.
    - Action: Initiate a regional review of subdivision regulations to encourage pedestrian network connectivity.
    - Action: Incorporate review of pedestrian network connectivity in all subdivision site plan reviews by the CCRPA.

Goal: Monitor and address highly congested areas.

- Objective: To continue to monitor and analyze congested parts of the region and act to relieve congestion in a way that is sensitive to the surrounding neighborhoods and the environment.
    - Action: Continue periodic and regularly scheduled travel time analyses for known and suspected congested routes for the Congestion Management Process (CMP).

C. Bridges

Goal: Ensure safe and efficient bridges

- Objective: To establish the ability to monitor bridge conditions in the region.
    - Action: Create a bridge conditions database utilizing state information and local reports, housed in the CCRPA GIS.

Goal: Ensure the integrity and preservation of the region's historic bridges

- Objective: To monitor conditions and promote recognition of historic bridges.
    - Action: Monitor and report conditions of the railway tunnel (#4139, 1910) under Sylvan Hill in Plymouth, the Stanley Park Road "C" bridge (#5218, 1936) and the Stanley Quarter Park Road Bridge (#5217, 1925).
    - Action: Alert state DOT and State Historic Preservation Office (SHPO) of candidate bridges for historic recognition.

D. Fixed Route Public Transportation

Goal: Improve the current standard and increase use of local public transportation service

- Objective: To use marketing to media sources as tools for increasing and improving service.
    - Action: Publish bus route maps in weekly newspapers such as Plainville Citizen, Berlin Citizen, and Bristol Observer.

- Objective: To expand service to those areas in need.
    - Action: Produce staff paper based on mapping of those particular areas in the region including densely populated areas, schools and large employment areas and high concentrations of people lacking automobile access.

- Objective: To expand the service span. Because jobs now commonly are performed during non-traditional hours, service should run as early in the morning and late into the night as possible as well as on Sundays. This is of particular importance for Commuter Express routes, which only run during weekday peak hours.
    - Action: Propose demonstration project with adjusted times.

- Objective: To utilize the New-Britain to Hartford Busway as the focal point of the region's public transportation system.
    - Action: Install enhancements such as parking, crosswalk upgrades, and disabled pedestrian curb ramps to help increase Busway ridership.
    - Action: Follow recommendations of Busway West study for adjustment of bus routes and schedules, and establishment of mini-hubs.
    - Action: Promote Transit-Oriented Design (TOD) land use and zoning elements be established for stations and their immediate vicinity.

- Objective: To optimize safety for all public transportation users.
    - Action: Review safety threat record and potential of the current flag-down system versus regular station stops, especially in downtowns.
    - Action: Identify inadequate and ADA noncompliant bus shelters for replacement.
    - Action: Identify inadequate or nonexistent sidewalk networks along transit routes.

E. Transportation Services for the Elderly and Disabled (Paratransit)

Goal: Maintain and, if necessary, improve the current standard of paratransit and elderly transportation.

- Objective: To propose recommendations for improving the system.
    - Action: Within the Locally Coordinated Human Services Transportation Plan devise strategies to identify paratransit service area expansion to fund with New Freedom funds.
    - Action: Continue to coordinate dial-a-ride services through the ADA Advisory Committee and local providers to provide better service with less overlap.
    - Action: Encourage development of a regional Independent Transportation Network (ITN) based on the Portland model as supplementary to elderly transportation.
    - Action: Advocate for better coordination between paratransit providers to provide interregional one-seat trips.

F. Rail Service

Goal: Utilize existing infrastructure to maximize the ability to move people by rail.

- Objective: To become a link on the New Haven-Hartford-Springfield commuter rail line:
    - Action: Work for implementation of the New Haven-Hartford-Springfield commuter rail line with a revitalized Berlin Depot.
    - Action: Promote Transit-Oriented Design (TOD) land use and zoning elements be established for stations and their immediate vicinity.

- Objective: To consider the possibility of establishing additional commuter rail service.
    - Action: Propose to ConnDOT to conduct a new feasibility study to investigate passenger rail service between Waterbury and Hartford along existing infrastructure.

Goal: Utilize existing infrastructure to maximize the ability to move goods through the region by rail.

- Objective: To develop a regional rail freight assessment, coordinated with ConnDOT, providers and Freight Advisory Committee of the Hartford Urbanized Area.
    - Action: Request a formal feasibility study about the opportunities and obstacles presented by the east/west rail line in the region

G. Air Transportation

Goal: Retain and preserve facilities for air transportation as important components of the region's transportation mix

- Objective: To encourage the viability of airports and helipads in the region.
    - Action: Regularly maintain current airports and helipads and upgrade as necessary to encourage growth and ensure viability.
    - Action: Work with Plainville and other interested parties to preserve and enhance the operations at Robertson Airport.
    - Action: Request a feasibility study for upgrades to the Plymouth-Waterbury Airport.

H. Alternative Movement

Goal: Increase the use of alternative transportation modes such as vanpooling, carpooling and Commuter Express bus routes to ease congestion in the region.

- Objective: To create incentives for alternative modes for commuters.
    - Action: Establish a regional clearinghouse for commuter resources.

I. Bicycle Movement

Goal: Establish cycling as a viable, safe and healthy alternative transportation option in the region.

- Objective: To provide safe and convenient facilities.
    - Action: Promote inclusion of bicycle racks and lockers at bus stops and employers, since they encourage ridership by providing a secure place for users to store bicycles.
    - Action: Create bicycle lanes in all developed areas. Bicycle lanes should be prevalent throughout the region so people have the option to use their bicycles for transportation to work and recreation. Whenever possible, bicycle lanes should be included in roadway projects as well as along the New Britain-to-Hartford Busway.
    - Action: Develop the transportation network in a way that is bicycle friendly. A grid network is much easier for bicycle travelers to navigate than a network of disjointed cul-de-sacs.
    - Action: Reduce the amount of roadside debris through improved road maintenance.
    - Action: Educate the driving public about the rights of bicyclists and educate bicyclists about the responsibilities of cycling.
    - Action: Provide feeder bicycle road routes into all multi-use trails. Include a multi-use path on the Busway, complete with feeder routes.
    - Action: Coordinate regional actions with the Statewide Highway Safety Plan.

J. Pedestrian Movement

Goal: Elevate pedestrian activity levels as a healthy alternative to driving

- Objective: To promote pedestrian mobility and safety.
    - Action: Create and maintain an interconnected sidewalk network.
    - Action: Review candidate sites for traffic calming measures or studies.
    - Action: Study intersection and midblock crosswalks and signal/signage for safety and accessibility.
    - Action: Add curb ramps to those crosswalks that lack them and move curb ramps where they are not placed safely. Many disabled individuals rely on curb ramps when crossing the street. Some ramps may be placed right on the corner (as opposed to slightly off the corner) causing the need for a disabled user to move into the line of motor vehicle traffic in order to finish crossing the street.

- Objective: To create a more comfortable, less intimidating pedestrian environment.
    - Action: Add streetscaping, traffic calming and place amenities such as trash cans and lighting to make walking more enjoyable and safer. Install "No Turn on Red" signs to assist pedestrians at busier intersections.
- Objective: To support the creation of pedestrian-oriented businesses that can be walked to by public transportation users.
    - Action: Discourage development of automobile-oriented retail through establishment of Pedestrian Districts in zoning regulations in places such as downtown New Britain, downtown Bristol and Downtown Plainville, Terryville, Kensington and along with the New Britain-to-Hartford Busway corridor.

K. Freight

Goal: Incorporate freight movement issues and stakeholders in transportation planning and projects.

- Objective: To collaborate with freight stakeholders to address transportation system concerns.
    - Action: Work with CRCOG and MRPA to support the Freight Advisory Committee as a communications line to the freight sector.
    - Action: Continue to collaborate with CRCOG and MRPA on freight transportation planning activities for the Hartford Urbanized Area.

L. Travel Demand Management (TDM)

Goal: Incorporate demand management strategies into the transportation planning process.

- Objective: To provide demand management strategies as alternatives or supplements to projects that are oriented to supply-side.
    - Action: Amend STP-Urban project selection process to include suggestions for travel demand management strategies.
    - Action: Offer TDM strategies for local road projects.
    - Action: Consider TDM in all CCRPA planning products.

M. Congestion Management

Goal: Continue program to regularly monitor and report on details of congestion in the region.

- Objective: To build a strong database of detailed elements of congestion on selected routes utilizing Geographic Positioning System (GPS) and Geographic Information System (GIS).
    - Action: Continue travel time studies of Route 6, Route 10, and Route 229 to compile quantitative data to support recommendations.
    - Action: Expand data coverage to Route 372 and consider other routes.
    - Action: Augment travel time studies with intersection analyses for more complete dataset on roadway operations.
    - Action: Support congestion mitigation alternatives such as telecommuting.

N. Environment and Historic Preservation

Goal: Develop awareness of impacts to the region's natural environment and historic heritage resulting from the CCRPA's transportation planning processes, projects and programs.

- Objective: To review regional planning processes, projects and programs for positive and negative impacts on the natural environment and historic heritage.
    - Action: Consult with local, state and national agencies in the areas of environmental protection and historic preservation, in terms of transportation elements.
    - Action: Address the transportation component of current planning initiatives, such as watershed management, agricultural viability, and historic preservation.
    - Action: Support new technologies that save energy and reduce pollution such as fuel cell vehicles and green design for transportation facilities.

O. Title VI of the 1964 Civil Rights Act and Environmental Justice

Goal: Uphold the tenets of Title VI of Environmental Justice and the 1964 Civil Rights Act in CCPRA decision-making procedures and planning processes.

- Objective: To base transportation decisions upon regional need across a wide spectrum of the population, addressing mobility issues of low-income and minority groups.
    - Action: Support the timely implementation of the New Britain-to-Hartford Busway.
    - Action: Expand the EJ/Title VI criteria in the STP-Urban project selection process to include justification for inclusion or exclusion by the applicant (current policy requires only a staff review for EJ/Title VI elements).

- Objective: To establish communication with social service agencies.
    - Action: Establish closer working relationships with these agencies to work toward a regional EJ/Title VI committee to help establish a system to quantify the benefits and burdens of transportation projects.

- Objective: To regularly monitor the needs of low-income and minority populations.
    - Action: Establish a more visible and recognizable image in targeted neighborhoods in the region through direct communications and attendance at neighborhood organization meetings.

- Objective: Minimize adverse impacts upon the above-mentioned populations.
    - Action: Assure an inclusive approach to the public process and communication with affected groups throughout the transportation adjustment process.
    - Action: Develop effective measures of positive and negative impacts.

P. Safety

Goal: Safety must be a foremost concern in all facets of transportation planning.

- Objective: To consider safety as a permanent element to all transportation planning, projects and programs.
    - Action: Expand the safety section of the STP-Urban project selection process to include justification for project proposals which address safety.
    - Action: Include safety discussions in all planning products of the CCRPA.
    - Action: Initiate and coordinate the Safe Routes to Schools program in the region.
    - Action: Conduct pedestrian and bicycle safety audits in the region.
    - Action: Evaluate the feasibility of roundabouts for all intersection project proposals.
    - Action: Collaborate with transit providers in addressing safety concerns of the fixed route bus system.

Q. Security

Goal: The security of the transportation system must be integrated into planning processes.

- Objective: To include consideration of security threats in review of project development and planning recommendations.
    - Action: Consider mitigation strategies to all perceived security threats within project proposals.

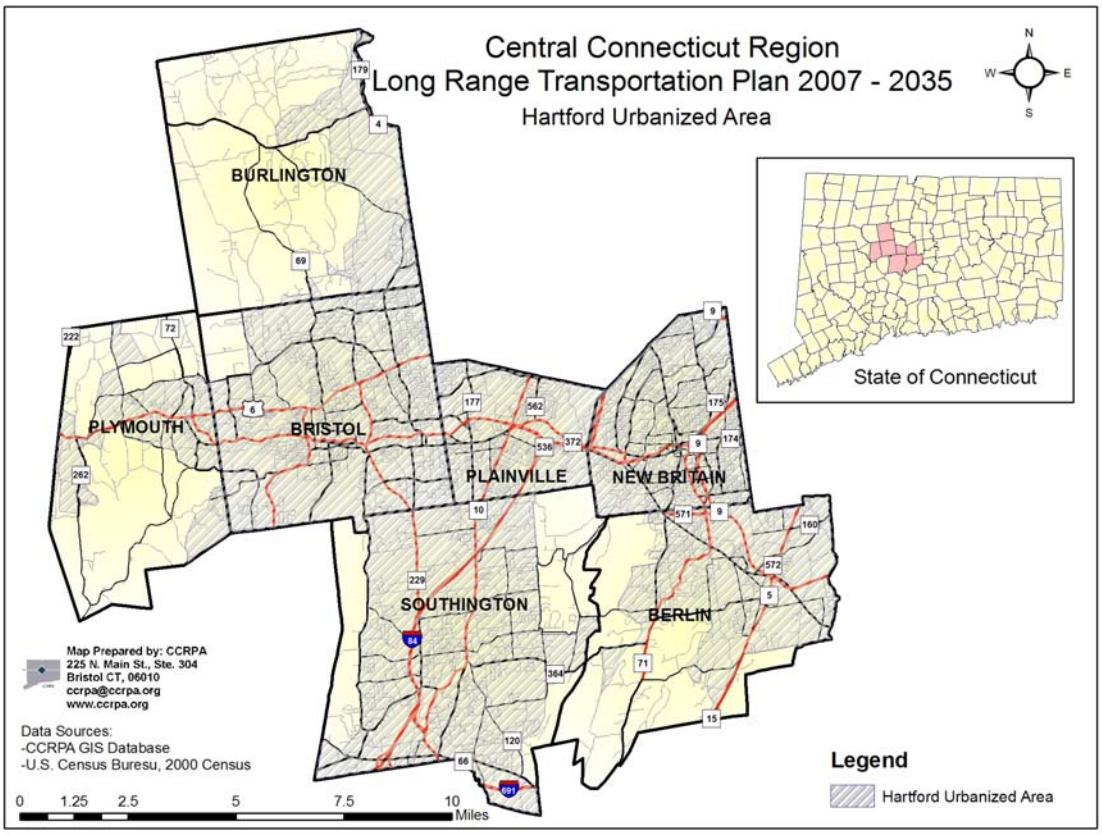
II. INTRODUCTION

A. What is a Metropolitan Planning Organization?

In every urbanized area with a population of at least 50,000 in the United States, at least one metropolitan planning organization (MPO) is designated to conduct regional transportation planning and to select federally-funded projects. Every federally-funded surface transportation project must be approved by an MPO. An MPO programs federal funds for projects that appear in this document - the Long-Range Transportation Plan (LRTP). The specific projects programmed for funding are the culmination of planning processes that originate locally, regionally or from the State of Connecticut. A planning process is required to define the best solution, or solutions, to a transportation problem. The Safe, Accountable, Flexible and Efficient Transportation Equity Act – A Legacy for Users (SAFETEA-LU) is the current federal legislation that has established and continued the rules for metropolitan transportation planning. MPO definitions and acronyms are shown in Appendix II-A.

B. The Hartford Urbanized Area and the Central Connecticut Planning Region

Due to the 2000 Census findings, the former New Britain-Bristol Urbanized Area is now a part of the Hartford Urbanized Area. CCRPA is the designated MPO for a portion of the Hartford Urbanized Area and is still responsible for transportation planning in Berlin, Bristol, Burlington, New Britain, Plainville, Plymouth and Southington.



Along with CCPRA, the Capitol Region Council of Governments, the Midstate Regional Planning Agency and the Central Naugatuck Valley Council of Governments are part of the Hartford Urbanized Area. Since the expansion of the urbanized area, these MPOs have convened to discuss such items as funding coordination, joint planning initiatives and issues of common concern. The issues that some of these agencies have in common include the New Britain-to-Hartford Busway; Interstate 84 congestion; Jobs Access and Reverse Commuting; and the New Haven to Springfield (MA) commuter rail line, and coordination in the areas of freight planning and the congestion management process.

C. About the Long Range Transportation Plan

The last Long Range Transportation Plan (LRTP) Update was adopted in February of 2004. The LRTP for Central Connecticut represents a cooperative effort by the Central Connecticut Regional Planning Agency (CCRPA) and its seven member municipalities to define the short-term and long-term future transportation needs of the Central Connecticut Region. This effort is part of the comprehensive, continuing and coordinated transportation planning program underway in the Region.

Plan Compatibility – The LRTP is part of the overall planning program of the CCRPA. The LRTP must be compatible with other plans of the CCRPA, those which are transportation-related or otherwise. Foremost, the LRTP must be compatible with the Regional Plan of Conservation and Development (POCD). Likewise, state and local plans from various agencies must be considered in the construction of this plan. Details of nonconformity with other plans must be disclosed. Finally, there are certain federal requirements and considerations to be addressed by the LRTP.
SAFETEA-LU contains eight planning factors which are designed to guide the direction of MPOs in terms of components of transportation that should be considered in every planning activity. Plans should:

1) **Support the economic vitality of the United States, the States, nonmetropolitan areas and metropolitan areas, especially by enabling global competitiveness, productivity, and efficiency.** A sound transportation system is vital for the region's economic health. Roads, public transportation, rail, alternative transportation and air transportation all work to increase efficiency in bringing goods and workers into and out of the region.
2) **Increase the safety of the transportation system for motorized and non-motorized users.** Every year, many deaths and injuries occur on the transportation network. It is important that transportation funding and project prioritization include measures to reduce injuries and fatalities, which may occur on routes that do not have the highest accident numbers. It is equally important to examine and plan for the safety of non-motorized transportation users as they coexist with the automobile.
3) **Increase the security of the transportation system for motorized and non-motorized users.** In the light of the events of 9/11/01 and subsequent transit-based terrorism in London and Madrid, the transportation system needs to secure from domestic and international terrorism. The disabling of transportation systems is a well-worn tactic in any war. Increased vigilance by providers and users of all modes of transportation is essential to a secure system.
4) **Increase the accessibility and mobility options available to people and freight.** It is important to increase mobility in order to improve personal mobility. As human mobility increases, so does access to jobs, shopping and recreation. As freight mobility increases, so does economic viability. It is important to recognize that many residents do not have

automobile access and that public transportation, bicycle and pedestrian projects can increase mobility.

5) **Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns.** While transportation systems get people to where they want to go and provide for economic development, it is important to remember that they also can cause pollution, over-consumption of energy and other negative externalities. Transportation systems can be planned in a way that minimizes environmental damage and the negative effects on quality of life.
6) **Enhance the integration and connectivity of the transportation system, across and between modes throughout the State, for people and freight.** Many trips involve more than one transportation mode. It is important to connect all modes safely and efficiently. Examples include: improved automobile access to an airport, improved truck access to a railroad and the inclusion of bicycle racks on public transportation vehicles.
7) **Promote efficient system management and operation.** Efficient system management and operation increases the system's overall safety and efficiency.
8) **Emphasize the preservation of the existing transportation system.** In the name of achieving enhanced mobility, it is natural to want to expand upon the current transportation system. However, limited resources can cause the need to weigh system expansion against maintenance of the current system. Without maintenance of the existing system, the system can not perform optimally.

The LRTP is intended to be the focal point for addressing transportation issues through the presentation of general and specific recommendations for changes to the transportation system. Discussions among government officials and citizens have provided valuable input for updating the Plan. CCRPA sponsored public informational meetings and surveys to gather input from the citizens of the Region. Accounts of these meetings and surveys can be seen in Appendix II-B.

D. Transportation Planning Process

The transportation planning process includes several interrelated phases that produce various planning documents, one of which is the LRTP.

The LRTP describes the region's short-range, mid-range and long-range transportation needs in terms of general goals and specific changes to the transportation system. This LRTP covers a 28-year time span and the system changes scheduled within the first five years of the plan are considered short range.

The types of transportation system changes and actions designed to satisfy short-range needs include ensuring the efficient use of existing road space, improving public transportation service and reducing vehicle use in congested areas, to name a few. The mid- and long-range elements address transportation needs over a longer time period and include construction of major new transportation facilities.

The LRTP is the basis for many other MPO efforts. Perhaps most important among them is the Transportation Improvement Program (TIP). This is the schedule for the spending of federal funding on transportation in the region over a five-year period. Each year's TIP should reflect the goals and objectives in this Plan.

E. Environmental Concerns

1. Air Quality

The requirement that local transportation plans and programs be consistent with statewide air quality plans was implemented by means of a Memorandum of Understanding (MOU) from 1979 to 1982. The MOU was a temporary arrangement pending the 1982 revision of the State Implementation Plan (SIP) for Air Quality. The CCRPA submitted an Air Quality Conformity Statement as required in April, 1985 and received approval from the Connecticut Department of Environmental Protection. Under the 1990 Clean Air Act Amendment (CAAA), a new conformity statement will be developed for the next TIP and for the final version of this Plan. This Conformity Statement will be developed using ConnDOT data that indicates whether the projects in this Region's TIP would further diminish air quality in the Region. The Conformity Statement will, when available, be attached as Appendix II-C. Furthermore, the MPO must do a qualitative analysis of the regional transportation plan based on the State Implementation Plan (SIP). This analysis will also be placed in Appendix II-C when available. Since the inception of this program the Central Connecticut TIP and long range plans have been found to be in conformity with the Clean Air Act.

A high percentage of the nation's air quality problems relate directly to various pollutants produced by transportation sources. Increasing national concern over this problem resulted in the Federal Clean Air Act of 1970, which established national ambient air quality standards for the transportation-related pollutants carbon monoxide (CO), oxides of nitrogen (NOX) and others. NOX, along with various other hydrocarbons (HC), is a cause for great concern due to its reaction in the presence of sunlight to form photochemical oxidant, otherwise known as "smog".

The Act has undergone amendments, most recently in 1990. The amendments established a process of designation and classification for areas around the country with regard to non-attainment of the national ambient air quality standards including ozone, carbon monoxide, and particulate matter. There are four levels of non-attainment: marginal, serious, severe and extreme. The Hartford Urbanized Area is classified as a moderate non-attainment area for ozone and is designated as Limited Maintenance Plan status area for carbon monoxide.[1]

The 1990 amendments represent the most aggressive effort in more than a decade to curb vehicle emissions at the source. These efforts include the pressure to develop alternative fuels and new restrictions on a wider range of conventionally fueled vehicles.

Bicycle and pedestrian projects can play a major role in reducing air pollution because they enable people to transport themselves through means that do not emit pollutants into the air. Transit projects also can cut down on emissions by consolidating travelers who might otherwise travel by single occupancy vehicles (SOVs). Transit usage can reduce congestion which produces more air pollution through increased idling time of vehicles and increased commuting times.

2. Wetlands and Waterways

In their natural state, wetlands produce numerous benefits for society that are either irreplaceable or can only be replaced at immense expense. Broadly, wetlands regulate water flows, store water and buffer the effects of storms; filter and help to purify water; and provide essential habitat for flora and fauna. When wetlands are seriously altered or destroyed, rivers, lakes and streams are

[1] ConnDOT. Air Quality Conformity Report. February 2006.

subjected to more agricultural and urban runoff. This runoff can flow into sensitive estuaries, harming fisheries. It can also impair drinking water supplies.

Mitigation reduces the adverse environmental impacts of development projects. As defined by the Council on Environmental Quality in NEPA regulations (40 CFR 1508.20), mitigation means:

- Avoiding the impact altogether by not taking a certain action or parts of an action.
- Minimizing impacts by limiting the degree or magnitude of the action and its implication.
- Rectifying the impact by repairing, rehabilitating, or restoring the affected environment.
- Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action.
- Compensating for the impact by replacing or providing substitute resources or environments.

A low wall of stone rip rap before the entrance to a detention basin was built to slow and contain runoff associated with the roadways in this subdivision.

Best Management Practices (BMPs) as they relate to roadway construction and stormwater management can be found in the Connecticut Guidelines for Soil Erosion and Sediment Control (DEP, 2002), municipal stormwater management plans, and the Pequabuck River Management Plan (CCRPA, 2005). The Pequabuck River Management Plan also contains references to more nontraditional methods of stormwater management.

Roadways and roadway construction have environmental impacts upon waterways. Impervious surfaces, such as roads, change the dynamics of stormwater runoff. Roadways most often have drainage components that convey stormwater to surface waters such as rivers and streams. Conversely, impervious surfaces also interfere with stormwater infiltration into the soil. Such infiltration recharges subsurface aquifers and groundwater. However, the combination of artificial conveyance and blockage of infiltration results in surface pollutants being washed into rivers, extreme changes in water volume and temperature that damage fish species, and increases in flooding episodes. Solutions to transportation problems must include careful consideration of impact and implementation of environmental mitigation efforts, both natural and man-made. Please see Appendix II-E for Environmental Mitigation Measures for Transportation Projects, as well as a "Review of Green Parking Lots."

F. Funding Sources-Federal Highway Administration

SAFETEA-LU contains a variety of federal funding programs designed for specific uses, which occasionally overlap and are flexible to some extent. Some of these federal funding programs include:

Federal Highway Administration Programs

- **Congestion Mitigation and Air Quality (CMAQ):** This program directs funds toward transportation projects in non-attainment areas. CMAQ-funded projects contribute to meeting the attainments of national ambient air quality standards. In determining project eligibility, priority should be given to projects and programs that are included in

an approved State Implementation Plan (SIP) as a transportation control measure (TCM) and will have air quality benefits. In most cases, the government funds projects at 80 percent, with 20 percent coming from the State, though some projects may be 100 percent federally funded.

- **Interstate Maintenance (IM):** This program finances projects to rehabilitate, restore and resurface the interstate system. Reconstruction is also eligible if it does not add capacity. Some examples of eligible reconstruction projects are high occupancy vehicle (HOV) lanes, bridges, interchanges and overpasses along existing interstate routes, including the acquisition of right-of-way. Funding for these projects is 90 percent federal and 10 percent state.
- **The National Highway System (NHS):** This program consists of all interstate routes, some urban and rural principal arterials, the defense strategic highway network, the strategic highway connectors and intermodal connectors. Funds in this category can be used for any type of change on roadways designated as part of the NHS. The eligibility guidelines for this program are more flexible than the IM program. Funds can be used for transit projects, ridesharing projects or any other type of project in the travel corridor served by a NHS road as long as it improves travel in the corridor. Eighty percent of the funding for NHS projects is federal, with 20 percent coming from the State. The region's NHS roads are Interstate 84 and Routes 5/15, 6, 9, 10 and 72.
- **Surface Transportation Program (STP):** This program is intended to benefit collector and minor arterial roads rather than the principal arterials funded by the IM and NHS programs. In order to be eligible for funding, a road must be classified by the Federal Highway Administration (FHWA) as a collector or arterial. Local roads are not eligible. Half of all STP funds are reserved for the STP-Urban Program (STP-U), 30 percent for the STP-Anywhere Program (STP-A), 10 percent for STP-Safety Program (STP-XZ) and 10 percent for STP-Enhancement Program (STP-E). Each of these programs is discussed below.
    - **STP-U -** The eligibility guidelines for STP-U funds are flexible. Funds can be used for roadway widening, roadway reconstruction, transit, ridesharing and enhancements (STP-E). The funding ratio for this program is 80 percent federal, 10 percent state and 10 percent local.
    - **STP-A -** These funds can be used for any type of transportation project in an urban or rural area. Since these funds are not allocated to a specific urban area or region, ConnDOT determines where they are spent. These projects are funded with 80 percent federal funds and 20 percent state funds. STP-Rural (STP-R), a subcategory of STP-A, is earmarked for rural areas.
    - **STP-XZ -** ConnDOT uses a list of high collision rate locations to select and develop candidate projects for this program. Projects are also selected from ConnDOT's program to improve railroad at-grade crossings. The funding ratio is 80 percent federal and 20 percent state.
    - **STP-T—The Transportation Enhancement Program:** Transportation Enhancement (TE) projects serve to enhance the transportation network. The funding ratio for this program is 80 percent federal and 20 percent local. States do not usually provide matching funds for this program. Under TEA-21 legislation, funds are set aside for TE projects. Projects must relate to the intermodal transportation system by reason of function, proximity or impact and must fit into one of the specified eligible enhancement areas. The following project types can be funded with TE money[2]:
        - Provision of facilities for pedestrians and bicycles.

[2] http://www.fhwa.dot.gov/environment/te_def.htm. Accessed 9-5-03.

- Provision of safety and educational activities for pedestrians and bicyclists.
- Acquisition of scenic easements and scenic or historic sites.
- Scenic or historic highway programs (including the provision of tourist and welcome center facilities).
- Landscaping and other scenic beautification.
- Historic preservation.
- Rehabilitation and operation of historic transportation buildings, structures, or facilities (including historic railroad facilities and canals).
- Preservation of abandoned railway corridors (including the conversion and use thereof for pedestrian or bicycle trails).
- Control and removal of outdoor advertising.
- Archaeological planning and research.
- Environmental mitigation to address water pollution due to highway runoff or reduce vehicle-caused wildlife mortality while maintaining habitat connectivity.
- Establishment of transportation museums.

Towns submit applications for projects and the TIC prioritizes them based on the following criteria: relationship to the transportation system, readiness for construction, encouragement of economic development, encouragement of environmental protection, service of a congested link in the transportation system and regional significance. ConnDOT selects TE projects from the MPO priorities across the State.

- **Bridge Replacement and Rehabilitation Program:** This program is divided into two sub-programs, the Bridge On System and the Bridge Off System. The primary federal program is the Bridge On System, which provides funds to replace or rehabilitate bridges on roads classified as a collector or higher. Candidate projects are selected from the ConnDOT list of bridges with poor or fair condition ratings. Typically, municipal bridges are not considered in the selection process. The Bridge Off System program provides funds to replace or rehabilitate bridges that are not on the Federal-aid System. Projects are selected from ConnDOT's list of local and State bridges with poor or fair condition ratings. Since most State roads are on the federal-aid road system, they do not qualify for this funding. Many of the projects funded are municipal bridges. The funding ration for this program is 80 percent federal and 20 percent state.
- **High Priority Projects:** This program made available to Connecticut approximately $240 million in federal funding over the six-year life of SAFETEA-LU. The funds are for specific projects identified by Congress. These projects are commonly referred to as demonstration projects. The funding ratio is 80 percent federal and 20 percent state.
- **Section 115:** This program is dedicated for those projects that are established by congressional designation. The funding ratio is 100 percent federal and is available until expended.
- **Highway Safety Improvement Program (HSIP)**: This new program authorizes a core Federal-aid funding program to achieve a significant reduction in traffic fatalities and serious injuries on all public roads.
- **Safe Routes to School (SRS)**: This program is designed to enable and encourage children, including those with disabilities, to walk and bicycle to school; to make waling and bicycling to school safe and more appealing; and to facilitate the planning, development and implementation of projects that will improve safety, and reduce traffic, fuel consumption, and air pollution in the vicinity of schools. Funds are to be administered by ConnDOT to provide financial assistance to State, local, and regional agencies, including non-profit organizations, which demonstrate the ability to meet the requirements of the program.

- **Recreational Trails (RT):** This program provides funding to the Department of Environmental Protection (DEP) to develop and maintain recreational trails for motorized and nonmotorized recreational trail users. The DEP will forward applications to the Park and Recreation Directors or the Chief Elected Official of each municipality and the appropriate Regional Planning Organization (RPO) for consideration. Funding ratios are 80 percent federal and 20 percent local.
- **Scenic Byways Program (SB):** This program provides funds for the designation by the Secretary of Transportation of roads that have outstanding scenic, historic, cultural, natural, recreational and archaeological qualities as All-American Roads or National Scenic Byways. This program also provides funds for projects on existing Scenic Roads and for planning, designing, and developing State scenic byway programs. The funding levels are 80 percent federal and 20 percent state.

G. Funding Sources-Federal Transit Administration

There are several programs administered by the Federal Transit Administration. All of these programs have a funding ratio of 80 percent federal and 20 percent state. Transit enhancement funds, under Sec. 5307, require a local match.

- **Section 5309-Capital Funding Program:** This program provides capital funding for the establishment of new rail projects, the improvement and maintenance of existing rail and other fixed guideway systems and the rehabilitation of bus systems. Proposed new rail services must compete against proposals from other areas of the country.
- **Section 5307- Capital and Subsidy (Operating) Program:** These funds are primarily used to purchase new buses. However, a small portion of the funding is reserved to help defray transit-operating expenses. The primary distinction of this program is that the funds are allocated to individual urbanized areas according to a formula based on the size of the population. In Connecticut the funds are pooled and then first applied to the highest priority bus needs. This allows for the purchase of new buses in a timely manner. Enhancements to the transit system, such as shelters and route signage, are fundable under this FTA section.
- **Section 5310-Capital Program:** This program provides capital assistance to nonprofit organizations that provide specialized transportation services to elderly persons and persons with disabilities. In 1992, the program was expanded to make grants available to public agencies approved by the state to coordinate services for the elderly and disabled.
- **Section 5311 – Capital and Operating Program**: This program provides funds to assist in the development, improvement and use of public transportation systems in non-urbanized and small urban areas.
- **Section 5316 – Jobs Access and Reverse Commute Program**: This program provides funds for transportation services designed to transport welfare recipients to and from jobs and activities related to their employment.
- **Section 5317 – New Freedoms Initiative**: This program provides funds that assist individuals with disabilities with transportation. Eligible activities include new public transportation services and public transportation alternatives beyond those required by ADA.

CCRPA is represented on the Capitol Region Council of Governments Jobs Access Task Force, which oversees the Jobs Access and Reverse Commute program. Monthly meetings are conducted and the Jobs Access Program is updated as transportation needs change. Within the

CCRPA region, the program is served by New Britain Transportation with extended service to the Berlin Turnpike, Meriden Square, and the Middle Street Industrial Park in Bristol.

H. Public Involvement

It is important that the public be given an opportunity for involvement in the construction of the LRTP. Input from the users of the transportation system is vital to the relevance of the LRTP in presenting deficiencies and alternatives to improve the operation of all modes of transportation. Appendix II-B shows public involvement activities.

I. Transportation, Public Health and Safety

The modes of transportation that are selected by the users of the network have impacts on public health and safety. Emissions from single-occupancy vehicles (SOVs) are responsible for air pollution sources that increase risks for many types of diseases such as lung cancer, emphysema, and asthma, to name a few. Additionally, over reliance on SOVs for all trip types increases risk of diseases whose sources include the consequences of sedentary lifestyles which preclude cardiovascular exercise. Such lifestyles, along with dietary choices, can lead to obesity or excess weight which can increase risks for diseases such as heart disease and high blood pressure. Although recent technologies have increased the safety of automobiles, traffic accidents still accounted for 1,985 injuries and 22 deaths in the central Connecticut region for 2004.[3] The fatal accidents total represents 7.8% of fatal accidents for all of Connecticut in 2004.

The CCRPA produced the Central Connecticut Plan for Alternative Transportation and Health (CCPATH) in 2005. CCPATH contained recommendations for improvements in the pedestrian environment that enhanced safety (especially where the roadway interfaces with the pedestrian network) and public health (opportunities for walking and bicycling that improve the extensiveness of the network for pedestrians and cyclists for cardio-vascular and general health).

J. Project Selection Process

Certain federal funding programs allow for the MPO to select projects for funding on a priority basis. In order to determine eligibility and priorities, CCRPA developed criteria and weighted scoring procedures for eligible candidate projects.

STP-Enhancement Program – states must devote at least 10 percent of their STU funds to projects that serve to enhance the transportation system (See eligible projects below). These projects must relate to the intermodal transportation system by reason of function, proximity or impact and must fit into one of the ten eligible enhancement areas listed below. ConnDOT selects the STP-Enhancement (TEP) projects in consultation with all of the Regional Planning Organizations. Each region submits its highest priority projects to ConnDOT, which selects from among the submittals. The funding ratio for this program is 80 percent Federal and 20 percent local. The State does not usually provide matching funds for this program.

CCRPA's enhancement priorities are determined by the TIC. In order to be considered for TEP funding, a project must meet the following test for eligibility:

1. Project must be eligible to receive TEP funds.
2. Project sponsor must be eligible to receive TEP funds.
3. A public informational meeting must have been held for the project.

[3] Connecticut Traffic Accident Facts, 2004, ConnDOT

4. Project sponsor must make a commitment to maintain the project after construction.
5. Project sponsor must be committed to pay the local match.
6. Project cost must be over $200,000.

From the submitted projects that meet each of the above criteria, the TIC creates a priority list. This list is meant to be based on the following 100 point scoring criteria:

1. Project Relationship to the Transportation System (20 points).
2. Project Readiness for Construction (20 points).
3. Encouragement of Economic Development (20 points).
4. Project Encourages Protection of the Environment (20 points).
5. Regionally Significant Project (20 points).

List of eligible enhancement areas: (1) Provision of facilities for pedestrians and bicycles,(2) Acquisition of scenic easements and scenic or historic sites, (3) Scenic or historic highway programs, (4) Landscaping and other scenic beautification, (5) Historic preservation, (6) Rehabilitation and operation of historic transportation buildings, structures or facilities, (7) Preservation of abandoned railway corridors, (8) Control and removal of outdoor advertising. (9) Archaeological planning and research, and (10) Mitigation of water pollution due to highway runoff.

Three projects were submitted to CCRPA by the region's towns at the TIC meeting on March 13, 2003. The TIC prioritized these projects based on the following factors: relationship to the transportation system, project readiness for construction, potential economic development benefit, encouragement of environmental protection, service of congested areas and regional significance. The TIC funding priorities are as follows:

Priority	Town	Title	Cost
1	BN	Berlin Depot Improvements	$655,000
The improvements will include the addition of retaining walls; sidewalks; planting strips; shrub screen planting; "Berlin Depot" signs; ornamental trees; lawn; a canopy outside of the Depot building; and steps, wheelchair ramps and a platform at the pick up point.			
2	SG	Southington Linear Park	$2,045,000
Phase II of the Southington Linear Park—to connect to Phase I (Hart St. to W. Main St.). Plantsville Center to the Cheshire town line (2 miles). There it will connect to Cheshire's linear park. Phase III is planned to run forth from Hart St. to Lazy Lane, which would make the trail approximately five miles long. The project includes developing a 12-foot wide paved trail within the abandoned Guilford Industries/B&M RR right-of-way.			
3	BR	Bristol Greenway Phase I: Pequabuck River Link	$2,620,200
The Pequabuck River Link will begin at the Western end of Rockwell Park, connect with the existing trails in Rockwell Park, pass through the West End neighborhood, traverse the downtown core and Veterans Memorial Blvd., move south along a short portion of Middle St. and the full length of Lake Av., and end at the existing Lake Compounce northern employee parking lot. Small parking lots will be created at appropriate access points to the Greenway and City owned land along the pathway will be landscaped and provided with pedestrian amenities. Additionally, accessible bathrooms and a footbridge across the Pequabuck River and into Veterans Memorial Blvd. Park will be created at 296 Riverside Avenue. At 15 Downs St., a small pocket park with river access and parking will be created. This phase of the Bristol Greenway will be approximately 4.13 miles in length. In conjunction with the existing 1.27 miles of trail in Rockwell Park, Phase I will total approximately 5.4 miles in length.			

STP-U represents the only funds programmed by CCRPA. For each fiscal year, CCRPA is allotted approximately $2.5 million in STP-U funding. According to Title 23, Chapter 1,

Subchapter I, Section 133 of the United States Code, the following types of projects are eligible to receive STP funding:[4]

1. Construction, reconstruction, rehabilitation, resurfacing, restoration, and operational improvements for highways and bridges.
2. Capital Costs for public transportation projects.
3. Carpool projects, fringe and corridor parking facilities and programs, bicycle transportation and pedestrian walkways and the modification of public sidewalks to comply with the Americans with Disabilities Act of 1990.
4. Highway and transit safety infrastructure improvements and programs, hazard eliminations, projects to mitigate hazards caused by wildlife, and railway-highway grade crossings.
5. Highway and transit research and development and technology transfer programs.
6. Capital and operating costs for traffic monitoring, management, and control facilities and programs.
7. Surface transportation planning programs.
8. Transportation enhancement activities.
9. Transportation control measures.
10. Development and establishment of management systems.
11. Participation in natural habitat and wetlands mitigation efforts, not including participation in natural habitat and wetlands mitigation banks; contributions to statewide and regional efforts to conserve, restore, enhance, and create natural habitats and wetlands; and development of statewide and regional natural habitat and wetlands conservation and mitigation plans, including any such banks, efforts, and plans authorized pursuant to the Water Resources Development Act of 1990 (including crediting provisions).
13. Infrastructure-based intelligent transportation systems capital improvements.
14. Environmental restoration and pollution abatement projects.

The TIC selects projects based on the following 50 point scoring system. Factors to be considered include: structural improvement, traffic volume, traffic improvement, regional significance and other benefits (environment, historical preservation, economic development, environmental justice, support of transit).

From the eligible submitted projects, the TIC creates a priority list. This list is meant to be based on the following 50 point scoring criteria:

1. Structural Improvement (10 Points)
2. Traffic Volume (10 Points)
3. Traffic Improvement (10 Points)
4. Regional Significance (10 Points)
5. Other Benefits (10 Points)
   Environmental Protection
   Historic Preservation
   Economic Development
   Environmental Justice
   Transit Supportive

On September 9, 2004, the TIC created the following priority list of projects that were proposed to CCRPA for STP-U funding.

[4] http://assembler.law.cornell.edu/uscode/. Accessed 10/26/2004.

Priority	Town	Title	Estimated Cost
1	NB	Beaver Street Reconstruction	$2,500,000

Beaver St. and Washington St. serve as the arterial connection between the Abroad St./Beaver St./Main St./North St. intersection improvements project area (under construction) and Farmington Avenue. Beaver St. is currently one-way northbound and Washington St. is one-way southbound. Washington St. is classified as a minor arterial traversing a residential neighborhood, with a 50' right-of-way. Present roadway width is 26'—classified as a minor arterial, has a 50'-60' right-of-way and has fewer residences. The existing pavement of Beaver St. is badly deteriorated; sidewalks and curbing are constructed of miscellaneous materials, which are in poor condition. The proposed improvements will allow Beaver St. to serve the arterial traffic, while Washington St. will be reclassified as a local street. To accomplish this, Beaver St. will be reconstructed to 36' in width. One lane with shoulder will be provided in each direction, with a parking lane along the easterly side. Granite curbing will be provided and both sidewalks will be reconstructed in accordance with local standards. The reconstruction of Beaver St. will begin 200 feet north of the Broad St./North St. intersection and continue to 1,500 feet to Farmington Av. The existing storm drainage system in Beaver St. will be replaced due to age and inadequacy. The proposed improvements also include the realignment of the north end of Washington St. to meet Beaver St. opposite LaSalle St. The modified intersection will be signalized. Tow parcels of land must be acquired to allow the Washington St. modifications. Taking strips of property will be required from two parcels to allow the uniform widening of Beaver St. to 36'.

2	BR	Roadway Improvements, Riverside Avenue	$4,300,000

This section of roadway currently experiences capacity problems. These will be exacerbated with the completion of the Route 72 relocation project, which will terminate immediately to the east. The project components are as follows:

- Pavement widening on Riverside Av., east of Blakeslee St., to provide additional through and turning lanes.
- Replacement of Memorial Blvd. Bridge with a wider structure to accommodate additional through lanes. Recent DOT inspection indicates that the bridge's structural condition is marginal.
- Minor pavement widening and lane redesignations on Blakeslee St. and Riverside Av. northwest of Memorial Blvd.
- Redesignation of Downs St. as one way northbound.
- Replacement of existing traffic signal.

There is one anticipated taking of a strip of land on the north side of Riverside Av. east of Blakeslee St. (Yankee Gas property). 700 ft. of new sidewalk. Memorial Blvd. Park will experience minor impacts related to the bridge replacement, which will also involve temporary impacts to the Pequabuck River.

3	BN	Reconstruction of the Farmington Avenue Bridge	$512,666

Bridge 04774, Farmington Av. over Sebethe River, consists of a reinforced concrete T-beam superstructure set on a reinforced concrete substructure constructed around 1928 and to date has had no major modifications or rehabilitation. The bridge has been inspected by DOT and determined to be in poor condition. The Town would like to replace the superstructure and make repairs as necessary to the substructure.

4	PN	Improvement to New Britain Av (Cooke to Hooker)	$550,000

Improvements would eliminate lane drops associated with traffic signals located at Cooke and Hooker Streets. Currently the approaches to these intersections have two through lanes that merge into one through lane as a vehicle travels away form the intersections. These lane drops cause congestion, driver confusion and safety concerns. The Town of Plainville proposes to extend two through lanes in each direction between these two intersections. This would link and eliminate the existing merges and diverges, creating a smooth transition between intersections. The Town believes that congestion and driver confusion will be alleviated as a result of the proposed improvements. Possible minor land takings.

B List	NB	Reconstruction of Corbin Avenue—Section I	$3,100,000

Corbin Av. lacks a subbase throughout its length. Bituminous overlays provide only a temporary repair. Groundwater remains within the pavement structure causing extensive damage during freeze-thaw cycles. The existing pavement shows many areas of severe cracking, rutting and spalling. A new overlay was placed last year from Somerset Dr. to Belmont St. Corbin Av. is in need of full depth reconstruction throughout its length to Minor Urban Arterial standards. The new roadway will be 40 feet wide with one 12-foot lane and 8-foot shoulder in each direction. Left turn lanes will be provided as necessary at existing signalized intersections. The typical roadway section will include granite curbing with a snow shelf and concrete sidewalk on each side. The proposed reconstruction will begin 100 feet south of Somerset Dr. and extend northerly to Osgood Av., a length of 6,000 feet. Correction of inadequate horizontal curvature in the vicinity of Pinehurst Av. will require the acquisition of a strip of land. 4,560 feet of sidewalk will be added.

B List	NB	Reconstruction of Chestnut Street	$2,400,000

The existing roadway pavement is in generally poor condition with numerous cracks and raveling. There are many utility trenches where the pavement replacement if failing and sealed joints have separated. The reconstruction of Chestnut St. will provide full depth replacement of the pavement structure, new granite curbing and concrete sidewalks. Reconstruction will begin at Main Street and extend to 100' east of Columbus Blvd. Length of reconstruction: 1,800 feet.

B List	BR	LED Lens Replacement Program	$300,000

The City of Bristol has surveyed the traffic light locations to develop a listing of lights proposed for modification using LED lens. LED Lenses are much more energy efficient than conventional lenses and are in less frequent need of replacement.

K. Modeling

A travel demand model is a tool used in transportation planning to help determine future investments in the regional system where projected demand spikes may occur. The building blocks for the travel demand model for the central Connecticut region are being developed through the Regional Build-Out Analysis (RBOA), a project of the CCRPA currently in process. RBOA, which utilizes CommunityViz modeling software combined with the Agency's Geographic Information System (GIS), will produce forecasts of population, where the population lives, and how the working segment of that population travels to work from home and back. The RBOA will also produce forecasts of economic development as destinations for some trips. Such land use forecasts have profound impacts of where and what kind of transportation facilities would be most effective. The interrelationship between land use and transportation is the keystone for the purpose of modeling.

The CCRPA has transportation modeling software, QRSII, which utilizes the traditional four-step method to analyze zones for projected trips based on local generators. The program has value as a localized traffic impact tool. The CCRPA will also cooperate and coordinate with the CRCOG in the construction of CRCOG's travel model which covers the Hartford Urbanized Area.

III. REGIONAL CHARACTERISTICS

Census block groups are used to portray the demographic characteristics described below. This can provide more detail than data broken down by municipality. The Connecticut Department of Transportation (ConnDOT) uses transportation analysis zones (TAZs) to forecast future growth. Data for this chapter come from the 2000 U.S. Census.

A. Population Distribution

The largest population concentration is in New Britain. The region had a moderate population loss in the 1990s (Table III-1). Projections show an increase in all municipalities through 2010. Projections beyond 2010 assume a growth factor which increases regional population by 8.5% for 2025.

Table III-1: Population Projections

Municipality	1990	2000	2010	2020	2025
Berlin	16,787	18,215	19,100	20,340	20,910
Bristol	60,640	60,062	61,110	62,180	62,750
Burlington	7,026	8,190	9,050	10,130	10,790
New Britain	75,491	71,538	73,220	76,620	78,260
Plainville	17,392	17,328	17,880	18,470	18,770
Plymouth	11,822	11,634	12,410	12,960	13,230
Southington	38,518	39,728	40,190	40,960	41,350
TOTAL	227,676	226,695	232,950	241,660	246,060

Connecticut Department of Transportation, December 2001.

Population by Municipality, 1980-2010

	1980*	1990*	2000*	2005**	2010***	2010****
Berlin	15,121	16,787	18,215	19,032	19,100	19,825
Bristol	57,370	60,640	60,062	60,875	61,100	61,174
Burlington	5,660	7,026	8,190	8,688	9,050	9,170
New Britain	73,840	75,491	71,538	72,395	73,220	73,168
Plainville	16,401	17,392	17,328	17,786	17,880	18,232
Plymouth	10,732	11,822	11,634	12,223	12,410	12,775
Southington	36,879	38,518	39,728	41,367	40,190	42,947
Region	216,003	227,676	226,695	232,366	232,950	237,291

* US Census, **CERC (2005), ***ConnDOT (2003), ****CERC (2005)

The elderly (aged 65 and over) and disabled populations are in need of reliable and efficient transportation systems because many cannot drive a personal automobile and are dependent on other means of transportation, such as public transportation. Just less than 15 percent (14.9%) of the region's population is age 65 or over. About one third (32.6%) of the mobility impaired population is age 65 and over. Just over one third of the entire population (36.1%) is elderly and/or disabled. The elderly and disabled population distributions show high concentrations of each population in New Britain and Bristol.

B. Income Characteristics

In 1989, the median income for the region was $38,244. It has gone up to $48,457. In order to keep up with inflation from 1989 to 1998, a household earning $38,244 would need to be earning

$52,673 in 1999[5]. Therefore, in terms of earning power, the median household income fell. The area is, overall, doing adequately well economically, as it is not far behind the statewide median household income of $53,935. The highest median incomes are primarily located in Burlington, Berlin and Southington. Those with the lowest median incomes are located in central New Britain.

Automobiles per Household - When evaluating transportation systems, especially transit systems, it is important to identify the location of households with lower incomes and those without automobile availability. These households are most likely to have a need for public transportation. The mapping shows the distribution of zero car households in the Central Connecticut Region. Households without automobiles are at a tremendous disadvantage in terms of mobility. This can reduce opportunities for employment and recreation.

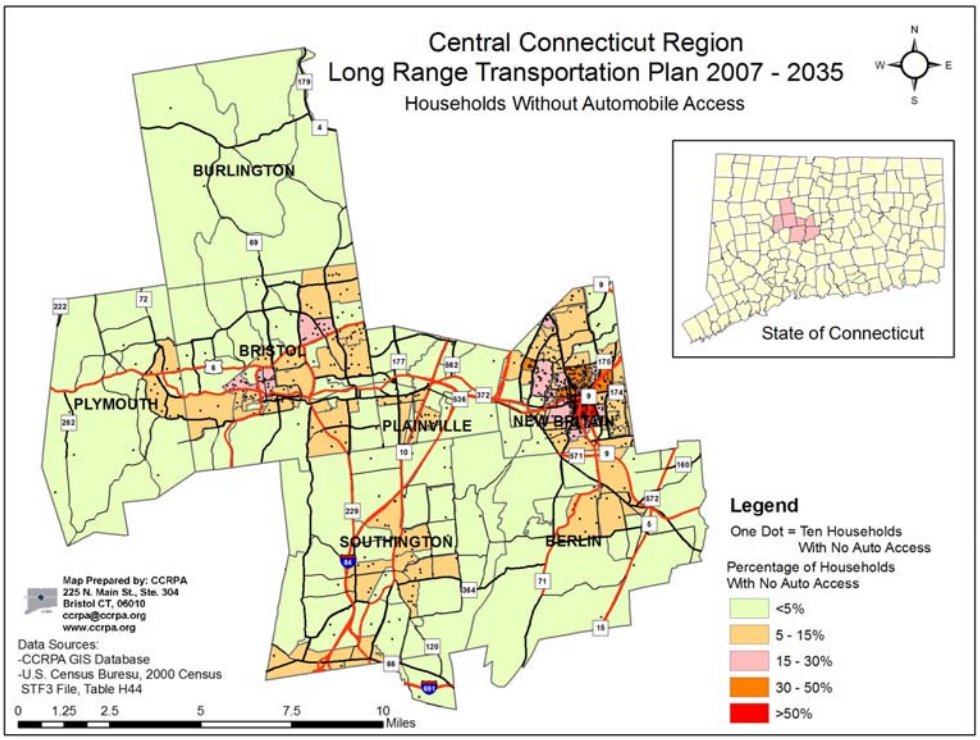


Table III-2: Municipal Population and Income Data

Municipality	Population	Elderly Pop.	Elderly Pop. Estimated 2005*	Disabled Pop.	Med. Household Inc.
Berlin	18,215	3,029	3,040	4,614 (2,165 > 65)	$68,068 ($49,004 in 1989)
Bristol	60,062	8,925	8,880	19,757 (6,177)	$47,422 ($38,261)
Burlington	8,190	598	682	1,229 (282)	$82,711 ($56,937)
New Britain	71,538	11,282	11,124	28,961 (9,032)	$34,185 ($30,121)
Plainville	17,328	2,635	2,629	4,071 (1,390)	$48,136 ($38,432)
Plymouth	11,634	1,473	1,576	2,984 (855)	$53,750 ($41,235)
Southington	39,728	5,837	5,958	9,658 (3,339)	$60,538 ($47,106)
TOTAL	226,695	33,779	33,889	71,274 (23,240)	$48,457 ($38,244)

2000 U.S. Census. Income is 1999. *Estimate, CERC. Note: Disabled population is the number of disabled individuals in the civilian non-institutionalized population at least 5 years of age.

[5] Annual U.S. inflation information from Economic History Services. http://www.eh.net. Accessed 4/11/03.

C. Racial and Ethnic Characteristics

The majority of the region's minority and Hispanic/Latino populations are located in New Britain.

Table III-3: Racial and Ethnic Data

Year 2000	Berlin	Bristol	Burlington	New Britain.	Plainville	Plymouth	Southington	TOTAL
White	17,674	55,014		49,634	16,205	11,325	38,317	196,149
	(97.0%)	(91.6%)	7,980 (97.4%)	(69.4%)	(93.5%)	(97.3%)	(96.4%)	(86.5%)
Black	65	1,612	48	7,794	390	91	341	10,341
	(0.4%)	(2.7%)	(0.6%)	(10.9%)	(2.3%)	(0.8%)	(0.9%)	(4.6%)
AI/AN	9	132	4	264	29	18	35	491
	(0.0%)	(0.2%)	(0.0%)	(0.4%)	(0.2%)	(0.2%)	(0.1%)	(0.2%)
Asian	300	884	60	1,687	289	49	414	3,683
	(1.6%)	(1.5%)	(0.7%)	(2.4%)	(1.7%)	(0.4%)	(1.0%)	(1.6%)
NH/PI	2	18	5	43	2	1	3	74
	(0.0%)	(0.0%)	(0.1%)	(0.1%)	(0.0%)	(0.0%)	(0.0%)	(0.0%)
Other	32	1,443	19	9,388	206	37	228	11,353
	(0.2%)	(2.4%)	(0.2%)	(13.1%)	(1.2%)	(0.3%)	(0.6%)	(5.0%)
Multi Race	133	959	74	2,728	207	113	390	4,604
	(0.7%)	(1.6%)	(0.9%)	(3.8%)	(1.2%)	(1.0%)	(1.0%)	(2.0%)
Population	18,215	60,062	8,190	71,538	17,328	11,634	39,728	226,695
Hisp./Lat.	267	3,166	110	19,138	618	801	147	24,247
	(1.5%)	(5.3%)	(1.3%)	(26.8%)	(3.6%)	(6.9%)	(0.4%)	(10.7%)

Source: 2000 U.S. Census
Note: AI/AN = American Indian/Alaska Native. NH/PI = Hawaiian/Pacific Islander.
Bold percentages are higher than that of the region in that category.

Year 2005	Berlin	Bristol	Burlington	New Britain.	Plainville	Plymouth	Southington	TOTAL
White	18,180	55,069	8,357	50,200	16,396	11,893	39,369	191,964
Black	155	1,823	92	7,746	458	95	543	10,912
AI/AN	16	214	8	417	48	32	59	794
Asian	454	1,314	106	2,456	430	54	648	5,462
NH/PI*								
Other*			Not compiled for 2005, but combined into Multi Race					
Multi Race	227	2,455	125	11,576	454	149	748	15,734
Population	19,032	60,875	8,688	72,395	17,786	12,223	41,367	232,366
Hisp./Lat.	330	3,529	139	20,969	712	189	956	26,824

D. Land Use and Housing

The important relationship between transportation and land use is often under-recognized. Not only does transportation planning respond to land use, but it can also help to direct how development occurs. The Central Connecticut Region has a mix of uses and density. The densest development is in New Britain and parts of Bristol. There many areas that are not very densely developed.

While a vast majority of the region is zoned for single-family housing, nearly half (45.7%) of the region's dwelling units are part of multi-family structures, as shown in Table III-4. This figure is primarily elevated by the cities of New Britain and Bristol. New Britain is the only municipality in which a majority (70%) of units is not single-family.

It is important to understand the region's land use and housing patterns. Each land use has differing transportation needs and affects the transportation system in different ways. In terms of motor vehicle traffic projections, the knowledge of land uses in a particular geographic area

enables the transportation professional to estimate the number of trips generated. This information can be used to predict future motor vehicle auto traffic volumes and possible problem areas.

Commercial and industrial uses generate various amounts of motor vehicle traffic based on size and the type of activity that occurs. It is not as difficult to estimate motor vehicle traffic generation for residential uses. ConnDOT uses the following figures:

- Single-Family Housing (Per Unit)—10 trips per day, one trip at peak hour
- Multi-Family Housing (Per Unit)—5.4 trips per day, .6 trips at peak hour

Using the figures listed for housing in each census block group, the residential trip production can be estimated. The information can then be supplemented with a careful evaluation of commercial and industrial uses and their associated motor vehicle traffic volumes to give background motor vehicle traffic counts.

Table III-4: Single Family vs. Multi Family Housing

	SF Detached/Mobile	MF/1 attached	Boat, RV, Van, etc.	Units
Berlin	5,866 (84.3%)	1089 (15.7%)	0	6,955
Bristol	13,965 (53.5%)	12,143 (46.5%)	17 (0.1%)	26,125
Burlington	2,742 (94.5%)	159 (5.5%)	0	2,901
New Britain	9,343 (30.0%)	21,821 (70.0%)	0	31,164
Plainville	4,689 (60.8%)	3018 (39.2)	0	7,707
Plymouth	3,484 (75.0%)	1162 (25.0%)	0	4,646
Southington	11,497 (73.9%)	4060 (26.1%)	0	15,557
TOTAL	51,586 (54.3%)	43,452 (45.7%)	17	95,055

2000 United States Census

E. Commuter Behavior

Commuter behavior includes important data that supports transportation improvement decisions that are aimed at curbing congestion, which is composed of mostly single-occupancy vehicles. The vast majority of drive-alone commuters are symptomatic of sprawl development that produces the dispersion of job sites out from the urban core and into suburban employments centers. It should be noted in Table III-5 that shorter transit times for commuting translate into greater shares of transit use among commuters (see New Britain, where the most extensive transit network in the region exists).

Table III-5: Census Transportation Data

		Means of Transportation to Work					Transit
	Pop	Drive Alone	Pub Transp	Bike/Walk	Carpool	Commute Time*	Commute Time#
Berlin	18,215	92.2%	0.4%	1.4%	5.6%	18.21 min	24.39 min
Bristol	60,062	87.1%	0.6%	2.0%	9.9%	19.73 min	37.10 min
Burlington	8,190	90.5%	0.5%	0.7%	8.3%	25.87 min	32.68 min
New Britain	71,538	78.2%	3.5%	4.8%	12.4%	18.54 min	24.28 min
Plainville	17,328	87.7%	0.8%	2.2%	9.0%	18.77 min	42.35 min
Plymouth	11,634	90.2%	0.3%	1.6%	7.6%	23.52 min	38.57 min
Southington	39,728	90.6%	0.4%	1.6%	6.7%	19.91 min	60 + min
TOTAL	226,695	86.0%	1.4%	2.6%	9.4%	19.60 min	35.67 min

Note: Those who worked at home have been removed from transportation to work data.
*Median commute time inferred from the ranges provided by the 2000 U.S. Census. Data for workers 16 years and over.
#Median commute time inferred from the ranges provided by the 2000 U.S. Census. Data for workers 16 years and over. These median times may be inaccurate due to the large ranges (Under 30 minutes. 30 to 44 minutes, 45 to 59 minutes and 60 or more minutes) provided by the Census and the relatively small number of transit riders in most cities and towns. Because the median time in Southington is in the "60 or more minutes" range, it is not possible to infer the number of minutes for the median commute time.

F. Travel Patterns and Congestion

Since commuting patterns have transitioned to more scattered job sites, rather than sites in the urban core, the number of commuting routes with lower capacities has increased. While urban cores are still attracting the majority of workers, the increased volume of commuters on major or minor arterials is changing the face of congestion. The CCRPA has identified certain arterials (U.S. Route 6, State Routes 10, 372, 177 and 229) for more in-depth study of the nature of congestion on those routes. Regular screening activities on those arterials have commenced and are now a regular part of the CCRPA's function as the region's MPO.

G. Employment

Data related to employment and place of employment are important in the production of travel models and the compilation of trends in employee/employer locations. Transportation planning requires such data to locate areas of need.

Table III-6: Employment and Unemployment Data

	Berlin	Bristol	Burlington	New Britain	Plainville	Plymouth	Southington
Employed	10,131	31,245	4,834	31,445	9,393	6,251	22,091
Unemployed	434	1,807	167	2,618	507	354	1,041
Unemployment Rate	4.1%	5.5%	3.9%	7.7%	5.1%	5.4%	4.5%

Source: CERC, 2004

Journey-to-work data (1990 compared to 2000 figures) appears in the Appendices to the LRTP. Journey-to-work information supplies a means to extrapolate expected impacts to certain routes most logically used in the work/home trips.

IV. LAND USE, ECONOMIC DEVELOPMENT AND TRANSPORTATION

"Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns." (Planning Factor No. 5)

Although this document is titled "Long-Range Transportation Plan", there are elements within the fabric of every community that affect transportation and are affected by transportation. Therefore, all planning processes are by necessity integrated and interdependent. Understanding the trends and interrelationships of land use, economic development and transportation in the central Connecticut region are key to developing strategies that enhance each element.

Summary Findings of the Regional Build-Out Analysis (RBOA)

Background and Process - The Regional Build-Out Analysis (RBOA) is a CCRPA project that analyzed land use projections to form a forecast of the future shape of development in the region under several scenarios. The project was funded through the Connecticut Department of Environmental Protection, by the Clean Water Act, Section 604b, Water Quality Planning Grant.

The RBOA utilized updated current land use information by community and applied natural and manmade constraints (slope, wetlands, regulatory buffers, floodplains) to development of land susceptible to development, including agricultural land. Current zoning regulations were applied to the net developable land to produce maps and tables of build-out yields in terms of residential, commercial and industrial parcels. The project assumes three build-out scenarios: 25, 50, and 70%. The process results in theoretical growth scenarios for each community and the region based on developmental constraints and zoning in effect. The RBOA represents one of the building blocks necessary for constructing an in-house traffic modeling system.

Findings – The net developable land (NDL) in the region totaled approximately 17,000 acres, of which the vast majority is zoned for residential use (approximately 15,000 acres). This total represents approximately 16% of the total land in the region, indicative of the fact that people have been developing the region for hundreds of years. Within the region, there is wide variation of the amounts of land available for development, from urban New Britain (3.4%of the City's land is considered developable) to rural Plymouth (27.7% of the town's total acreage is considered developable land). Although Burlington is decidedly more rural than Plymouth, it has only 17.5% of its land that could be considered developable, due to a high percentage of acreage dedicated to state forest and water company land, and more land overall.

In total area of land considered developable, Southington leads the region with 5,224 acres of net developable land. Thus, in terms of impact, Southington can be expected to sustain greater impacts that are associated with this share of available land.

Table IV-1: Net Developable Land by Municipality

Municipality	Net Developable Land (NDL) in Acres	NDL as a Percentage of Municipality's Total Land	NDL as a Percentage of Total NDL for Region
Berlin	1,754	10.5%	10.2%
Bristol	1,759	10.2%	10.2%
Burlington	3,358	17.5%	19.5%
New Britain	280	3.4%	1.6%
Plainville	940	14.1%	5.4%
Plymouth	3,907	27.7%	22.6%
Southington	5,224	22.7%	30.3%

A much higher rate of land consumption than that of population increases is symptomatic of sprawl conditions. For the communities that experienced increases in population in the ten years between 1990 and 2000, the table below contrasts population increase during the period against acres developed.

Table IV-2:			
	1990-2000		Acres Developed per Additional Resident over the Period
Municipality	Population Increase*	Land Developed (Acres)**	
Berlin	1,428	261	5.5
Burlington	1,164	154	7.5
Southington	1,210	455	2.6

**University of Conn. Center for Land Use Education and Research (CLEAR), **Conn. Economic Research Center (CERC)*

Impacts – There are positive and negative impacts that are sustained by growth. These impacts affect land use, natural resources, transportation and economic development. Cumulatively, such impacts affect the quality of life in the communities of the region. The following data are summarized from the CCRPA Regional Build-Out Analysis report.

Population Impact of RBOA – Variables affecting changes in population include actual developable land available, residential zoning requirements and historical household sizes for estimates. The build-out process calculates estimated population increases based on historical data on household size. Calculations were made at 25%, 50% and 70% build-out. The percentages in the following table represent increases above the base of land already developed.

Municipality	Additional Residents per Build-Out Scenario		
	25%	50%	70%
Berlin	1,005	1,635	2,198
Bristol	3,236	4,648	5,931
Burlington	2,794	4,763	6,409
New Britain	1,147	1,439	1,720
Plainville	1,051	1,813	2,383
Plymouth	3,051	5,392	7,374
Southington	5,967	7,895	9,690
Central Connecticut Region	18,251	27,585	35,705

Traffic Impact – Traffic impacts result from population increases. Single-occupancy vehicles per household are based on average number of vehicles for that community from Census 2000 data multiplied by the household increases produced in each build-out scenario. In a general sense, trip generation can be estimated by applying the values utilized by the ConnDOT (10 trips daily for single-family homes). The RBOA does not assign trips to specific routes.

Municipality	Additional Vehicles per Build-Out Scenario		
	25%	50%	70%
Berlin	693	1,129	1,516
Bristol	2,341	3,363	4,291
Burlington	1,996	3,402	4,578
New Britain	661	829	991
Plainville	738	1,272	1,672
Plymouth	2,162	3,821	5,225
Southington	4,196	5,551	6,813
Central Connecticut Region	12,787	19,367	25,086

Environmental Impact – Human development impacts the quality of natural resources such as water and air. Mitigating those environmental impacts can lessen the severity of the impacts. As land goes from a natural state to a developed state, the amount of pervious surface is altered. Structures and infrastructure such as roads and utilities often involve covering soil with nonporous materials. If rainfall and snowmelt cannot percolate through the soil, it becomes runoff, in search of a pervious surface or a waterway, often picking up pollutants on its way. It follows logically then that a build-out scenario can affect the environment based on the increase of impervious surface. The build-out assumes no mitigation for stormwater, which has no bearing on increases in impervious surface alone.

Municipal Plans of Conservation and Development - It is important for the MPO to give consideration to the transportation plans of its local municipalities. The following paragraphs discuss key transportation aspects contained in the plans of conservation and development of the region's seven towns.

A. Berlin

In its Plan of Conservation and Development, the Town of Berlin calls for the following policies and strategies: 1) encourage the use of buses, railroads, mass transit and alternative transportation. Include the use of satellite/commuter parking areas; 2) encourage increased utilization of an enhanced Berlin Railroad Station; 3) provide for adequate motor vehicle traffic flow to and through all sections of the Town. Dead-end roads or cul-de-sacs in new development should not preclude strategically located through streets to serve the overall neighborhood; 4) maintain close liaison with all outside agencies having jurisdiction over transportation in the Town in order to coordinate improvements in transportation, 5) Link parks and open space with trail systems, 6) improve pedestrian systems including access to open space, parks and town center, 6) protect scenic roads and byways, 7) encourage streetscapes and gateways, 8) ensure that roads in rural subdivisions are constructed within the context of their setting, 9) promote non-automotive and alternative modes of transportation, 10) encourage the establishment of commuter rail between New Haven and Springfield, MA, with a Berlin station.[6]

B. Bristol

The Bristol Plan of Conservation and Development calls for promotion of a balanced transportation system that includes adequate and safe roads, public transportation and a safe and effective sidewalk network. Some more specific recommendations include the requirement that sidewalks be provided in medium- and high-density residential areas; encouragement of bicycle amenities; exploration of the potential for commuter rail service; support for the new boulevard-style Route 72 from Plainville to Route 229; preservation of the motor vehicle traffic-carrying capacity and character or Route 229; provision of adequate circulation—not to be precluded by cul-de-sacs, minimization of congestion, improvement of substandard streets and intersections; limiting of non-residential curb cuts; provision of an exclusive right and left turn lanes on Route 229 northbound at the intersection of Louisiana Avenue and Moody Street; and various Route 6 intersection improvements.[7]

C. Burlington

The Burlington Plan of Conservation and Development calls for the improvement of unsafe areas and collision concentrations, review of the Town's road standards, development of a cohesive overall circulation pattern for the Town's eventual growth, encouragement of pedestrian and

[6] Town of Berlin. Plan of Conservation and Development. 2003.
[7] City of Bristol. Plan of Conservation and Development. 2000.

bicycle travel and encouragement of other modes. These goals can be met in part through encouragement of the completion of unimproved roads that will link outlying areas to the Town Center and improve overall circulation; placing a high priority on neighborhood preservation when changes to roads are made; ensuring provision for future road connections to adjacent undeveloped properties; ensuring that standards for such things as lighting, guiderails and walkways are compatible with the Town's rural character; requiring the provision of sidewalks in the Town Center area; encouragement of the completion of rail-to-trail projects along the Farmington River along with walkways, bikeways and trails in other areas; development of transportation services such as dial-a-ride or other public transportation; and recognition of Mountain Meadows Airport as an important resource.[8]

D. New Britain

The New Britain Master Plan calls for improved movement of people and goods, reduction in travel time and costs, maximized safety and avoidance of incompatible land uses and unnecessary motor vehicle through traffic in neighborhoods. Other recommendations are in specific geographic areas. Those include: provision of off-street parking in congested residential areas including the Smalley Neighborhood Strategy Area and the Willow, Talcott, Union, Winter, Beaver and Sexton Street areas and street and sidewalk improvements in such places as the Arch-Rockwell corridor. Recommendations in the Core Area and Central Business District (CBD) Plans include: promotion of increased pedestrian traffic, creation of more short-term parking, improvement of motor vehicle traffic flow through the CBD without major construction, relocation of the bus well to Bank Street, creation of a pedestrian plaza and improvement of motor vehicle traffic flow on Main Street, motor vehicle traffic signal coordination and development of a multi-modal transportation center in the vicinity of Washington Street and Columbus Boulevard.[9]

E. Plainville

The Plainville Plan of Conservation and Development points to increased safety, alternatives to the single occupant vehicle (SOV), improvement and maintenance of the Town's road system, promotion of rail and aviation facilities as an incentive for business and industry, continued operation of transportation services for the elderly and disabled, reduced air pollution, provision for adequate circulation—not to be precluded by dead-end roads and cul-de-sacs, provision of facilities for bicycles and pedestrians and design of transportation facilities to be as compatible with nearby land use as possible. Specific recommendations include: improved access to the expressway network from the central areas of town, improvement of the I-84/Route 72 overlap area, improvement of Town Line Road to collector standards, improvement of high-collision intersections, placement of sidewalks on both sides of collectors and arterials when feasible, continuance of the requirement of installation of sidewalks for development and redevelopment, location of a station on the Waterbury-to-Hartford commuter rail line, construction of additional bikeways in conjunction with recreational facilities and using public streets, use of commuter parking lots and encouragement of employers to provide incentives for employees to commute in ways other than using SOVs.[10]

F. Plymouth

The Plymouth Plan of Conservation and Development delineated seven recommended actions: 1) advocate for a Route 6 bypass with DOT, to include consideration of Greystone Road as the Route 8 connector, 2) implement recommendations of the Route 6 & 72 study with an emphasis

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[8] Burlington Planning and Zoning Commission. Burlington 1997 Plan of Conservation and Development. August, 1997,

[9] New Britain, CT. Master Plan. March, 1984.

[10] Town of Plainville. Plan of Conservation and Development. Effective: February 20, 1997.

on alternative improvements for the intersection of Route 6 and 72, 3) explore feasibility of expanding regional fixed-route bus systems from Bristol and Waterbury, 4) optimize rail infrastructure and facilities, 5) identify service gaps, safety needs, and areas to accommodate pedestrian and bicycle routes to key destinations, 6) identify and provide for transportation needs, as necessary, to address traffic issues associated with all educational facilities, and 7) explore feasibility of creating road connections between North Street and Harwinton Avenue.[11]

G. Southington

The Town of Southington Plan of Conservation and Development states that the Town should "create clear and specific design standards and performance criteria" to allow for "pedestrian connections to desirable destinations or properties." Furthermore, these standards should highlight "functional characteristics of internal traffic circulation, interconnections with adjacent properties and ingress/egress from major streets." There should be standards for "parking, traffic and circulation for commercial developments on a single parcel or multiple parcels which exceed an aggregate of 45,000 SF." Transportation and parking patterns should be monitored to address issues related to land use with recommendations such as: applying for scenic road designations in areas of historic, agricultural, or natural features that add to Town character. Other suggestions in the land use/transportation interreliance focus on context-sensitive design of road standards, STC activity monitoring, fee-in-lieu of parking regulations for redevelopment that increase parking demand, and engaging a traffic planner/engineer to advise on traffic related issues and solutions.[12]

H. Regional and State

The Central Connecticut Regional Conservation and Development Plan[13] calls for, among other things, protecting open space; making social services more accessible; promoting projects that meet diverse human needs; promoting business retention, job retraining and job creation; encouraging the revitalization of central business districts; monitoring strip development; promoting the development of bike paths along abandoned rail corridors; and promotion of in-fill redevelopment and development of residential subdivision clusters to reduce negative environmental impacts and control suburban sprawl. The Plan's transportation recommendations include the following:

- ✓ Support projects that increase the safety and security of the transportation system.
- ✓ Improve accessibility and mobility options available to elderly and disabled people of the region.
- ✓ Promote projects that consider all users of a transportation facility, such as bicyclists and pedestrians.
- ✓ Advance projects that consider the context and scale of their setting.
- ✓ Encourage development projects that support and enhance transit corridors.
- ✓ Promote efforts to establish cleaner fuel burning vehicles.

[11] Plymouth. Plan of Conservation and Development. 2005.
[12] Town of Southington, Connecticut. Plan of Conservation and Development. 2006.
[13] Central Connecticut Regional Planning Agency. Central Connecticut Regional Plan of Conservation and Development. Draft 11/06.

The Conservation and Development Policies Plan for Connecticut[14] contains six growth management principles:

1) Redevelop and revitalize regional centers and areas with existing or currently planned physical infrastructure

2) Expand housing opportunities and design choices to accommodate a variety of household types and needs

3) Concentrate development around transportation nodes and along major transportation corridors to support the viability of transportation options

4) Conserve and restore the natural environment, cultural and historical resources, and traditional rural lands

5) Protect and ensure the integrity of environmental assets critical to public health and safety

6) Promote integrated planning across all levels of government to address issues on a statewide, regional and local basis

Transportation policies espoused in the State Plan include:

- Cluster freight and passenger facilities and other supportive development in appropriate locations near seaports, airports, and rail terminals to promote a broader range of safe and competitive transportation options and to reduce the amount of long haul truck traffic through the state.
- Promote compact, transit accessible, pedestrian-oriented mixed use development patterns around public transportation stations and along public transportation corridors.
- Maintain and maximize the efficiency and safety of the existing transportation system and improve the coordination of air, land, and water-based transportation operations to provide adequate mobility for its users.
- Ensure that transportation projects conform to applicable air quality, water quality, and energy planning standards.

The growth principles and the transportation policies are compatible with the goals of this Long-Range Transportation Plan and the Regional Plan of Conservation and Development of the Central Connecticut Regional Planning Agency.

[14] State of Connecticut Office of Policy and Management. Conservation and Development Policies Plan for Connecticut 2005-2010.

V. PUBLIC TRANSPORTATION

"Increase the accessibility and mobility options available to people and freight". (Planning Factor No. 4)

Delivery of public transportation in the central Connecticut region takes several forms. Fixed route public transportation is provided by New Britain Transportation (NBT) and DATTCO, both based in New Britain and operating under the banner of CTTransit. Routes extend to four of the region's seven communities. ADA paratransit service for disabled travelers is provided up to ¾ of a mile from the fixed routes. Commuter buses travel into Hartford from several municipalities in the region. Municipal and nonprofit organizations also provide transportation for disabled, elderly and low-income populations in varying service areas.

The CCRPA acts as a *de facto* transit district for the region, since no formal arrangements to provide a separate district are in place. The CCRPA provides transit information and marketing for the fixed route system and administers the ADA paratransit program for the region by qualifying applicants. The CCRPA has an ADA advisory committee, composed of nonprofit providers, paratransit riders, and social service agencies. The committee reviews issues relative to the program. The committee is now central to the development of the Locally Coordinated Public Transit-Human Services Transportation Plan (LOCHSTP) for the region in cooperation with the ConnDOT. The LOCHSTP will coordinate funding in the region for the Jobs Access program, Section 5310 capital program, and New Freedom program (a new funding source for enhancing paratransit).

A. Fixed Route Public Transportation

1. Local Service

Two providers bring local public transportation service to Central Connecticut. The New Britain Transportation Company (NBT) is responsible for the provision of most local Bristol and New Britain service. Two other local New Britain routes are provided by DATTCO, which also provides a New Britain to Hartford route, via Newington. Local routes serve almost the entire City of New Britain; most of Bristol's population base; much of Plainville; and portions of Berlin. There are three Farmington destinations served: Westfarms Mall (near the Farmington/West Hartford boarder), University of Connecticut Health Center and Tunxis Community College. One route stops at Meriden Square in Meriden. Public transportation routes are shown on the map on the next page.

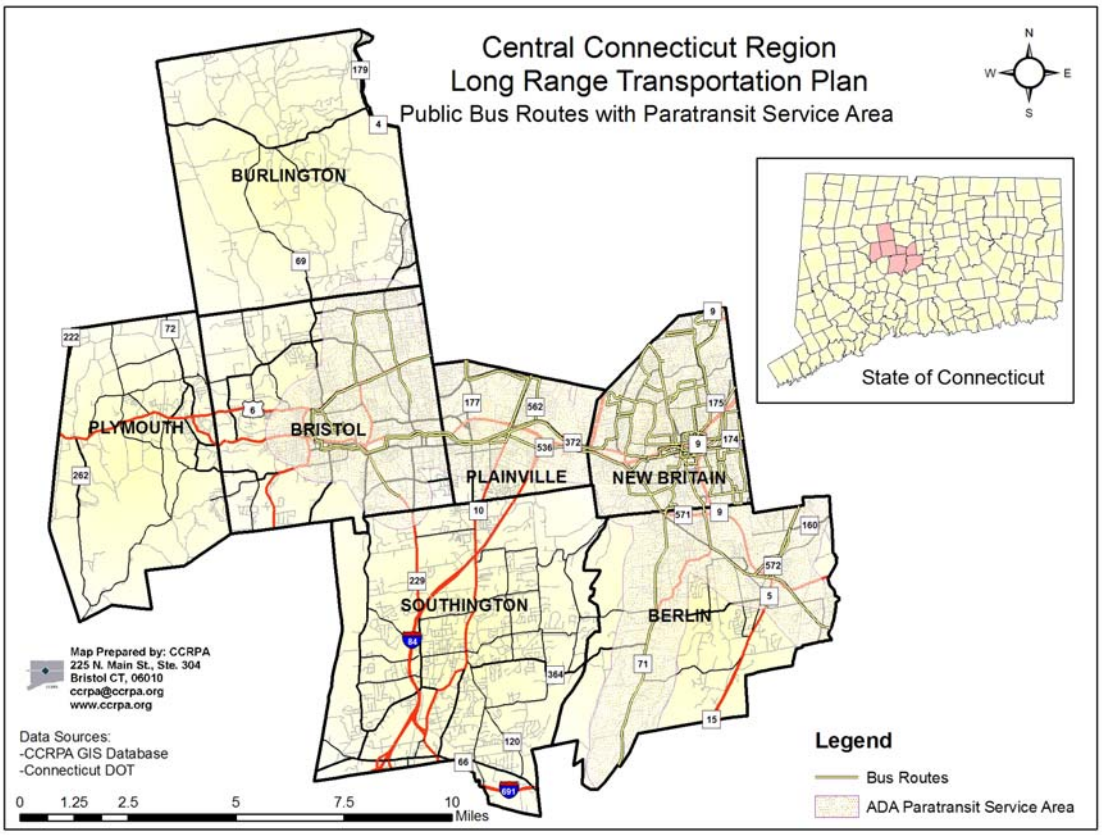
> **Deficiency: Mobility for those without auto access.** Public transportation service covers a limited area. Some areas that have a need may not be covered. A 1993 (updated 1999) study* in Plymouth showed potential ridership. The changing employment market has caused jobs to spread to many areas and often have nontraditional hours that require late-night, early morning or weekend transportation. The region's service ends in the early evening for many routes. Saturday service is limited and there is no Sunday service. See Chapter VI, Section C and Chapter VII, Section B. * Bus Route Expansion, Plymouth, CT. 1999.

Routes typically run from early morning until early-to-mid evening with 30 minute to one hour headways. Most routes run shorter Saturday hours. There is no Sunday service.

2. Commuter Express Service

Commuter Express routes provide transportation at the AM and PM peaks from remote areas into downtown

> **Deficiency: Commuter Express Service.** Commuter Express Service only runs at the am and pm peak on weekdays. See Chapter VI, Section C and Chapter VII, Section B.



Hartford. These routes typically have few stops and utilize I-84 to get to Hartford. They utilize state-designated park-and-ride lots that allow many commuters to access the bus at one stop. The routes in this region are:

- Bristol/Plainville: This route starts in Plainville at Grace Lutheran Church on Route 10 in Plainville. It moves on to Todd Street in Bristol before going to downtown Hartford. It stops twice a day at Tunxis Community College in Farmington. This service is provided by DATTCO. (The Todd Street lot will be relocated to Lake Avenue upon completion of the Route 72 Extension).
- Southington/Cheshire: This route serves commuter lots in Cheshire and Southington at three park and ride lots near I-84 and State Route 10. The service is provided by DATTCO.
- Corbins (New Britain): This route runs between a park-and ride lot near the intersection of Routes 71 and 9 with limited stops at Fleet Bank/Batterson Park, Royal Sunalliance/Farm Springs Rd. The service is provided by CT Transit.

The Busway West Study (2004) recommends commuter route feeds to the New Britain to Hartford Busway via Route 72, upon completion of the Busway. Table IV-2 below shows the hours that each route operates. The Busway will have a beneficial impact to the region in terms of enhancing public transportation options. The CCRPA supports the implementation of Transit-Oriented Development (TOD) around Busway stations in New Britain. TOD will optimize utilization of the Busway and positively impact economic development.

Table IV-2: Public Transportation Route Timing

Route	Ridership (Sat)	Approx Length	Weekday Start	Weekday Finish	Weekday Headway	Saturday Start	Saturday Finish	Saturday Headway
Bristol Local	New Rte.	14.5	7:15	5:50	1 hour	9:00	5:00	1 hour
Runs within Bristol and provides connectivity with Tunxis Community College								
Arch/Mer.	155 (110)	7.1/5.43	5:45	10:30	1 hour	6:15	10:30	1 hour
Serves southern New. Britain Neighborhoods and Meriden. Major stop is at Grove Hill Clinic.								
Burritt	410 (240)	7.17	5:30	10:30	40 min	5:45	10:30	40 min
Serves western New Britain neighborhoods.								
Berlin/Kens.	195 (40)	8.95	5:45	6:00	1 hour	5:30	6:50	1-2 hours
Serves Kensington. Stops at Webster Square Plaza and Willow Brook Park.								
Corbin	220 (60)	19.0	6:15	10:30	1 hour#	6:15	10:30	45-60 min
Serves Tunxis CC, Paderewski Park in Plainville, N. B. General Hospital and Grove Hill Clinic.								
Farmington	260 (140)	10.4	5:30	10:30	40 min	5:45	10:30	1 hour
Serves northern New Britain neighborhoods. Limited service to Farmington (Bonanza Bus and UConn Health)								
Plainville@	Changed Rte.	8.6/8.8	5:30^	5:30	1 hour	6:15	6:40	1 hour
Serves downtown Plainville and downtown Bristol on weekdays. Runs only as far as Plainville on Saturdays.								
Oak	360 (245)	14.5	6:00	10:30	1 hour	9:00	10:30	1 hour
Serves Westfarms Mall and Central Connecticut State University.								
Stanley	330 (230)	20.0	5:45	7:25	1 hour	7:40	6:30	1 hour
Serves Westfarms Mall and Central Connecticut State University.								
NB-Hartford	805 (no Sat)	12.1	5:30	7:20	30-40 min	7:00	6:56	30-40 min
Serves Newington and Hartford. Stops at Batchelder School, Trinity College and Hartford Hospital								
East	111 (43 Sat)	6.0	6:10	6:10	30 min	9:00	5:10	1 hour
Serves eastern New Britain neighborhoods.								
South	150 (5)	11.5	6:30	6:10	30 min*	9:30	5:45	1 hour
Serves southeastern New Britain neighborhoods, including John Downey Drive and the N. B. Senior Center.								
Br/Pl Exp	278 (no Sat)		6:00/7:5	4:10/6:2	-	-	-	-
South Exp.	177 (no Sat)		6:50/7:4	5:00/5:3	-	-	-	-
Corbins Exp.	72 (no Sat)		6:35/8:2	4:05/5:5	-	-	-	-

Approximately. Route only goes to Tunxis Community College at 8:00, 10:00, 1:00 and 4:00.
*Typically
^The route starts at 5:30am with two runs to downtown Plainville. The runs to Bristol begin at 7:00 am.
@The Plainville route runs from downtown New Britain, through downtown Plainville, en route to downtown Bristol during the week. On Saturdays, however, the route only runs between New Britain and Plainville.

The 2002-2003 one year cost to run the Bristol fixed route service was about $228,500. The passenger fares collected totaled approximately $44,000, leaving a deficit of around $184,500, which was subsidized by ConnDOT.

The 2002-2003 one year cost to run the New Britain fixed route service (excluding P-New Britain, South Street, and East Street) was $1,279,625. The passenger fares collected totaled around $475,000, leaving a deficit of about $804,625, which was subsidized by ConnDOT.

The Bristol-New Britain transit service consists of 15 vehicles purchased within the last 10 years. The buses are expected to be in service through 2008, at which time new buses will be needed. New Britain has been granted transit enhancement funds (FTA Sec. 5307) for new bus shelters and signage. Future similar efforts are anticipated for Bristol.

Transfers between the Bristol bus service and the New Britain bus service is available to riders free of charge. The primary transfer points for the Bristol and New Britain service are located at

City Hall in Plainville, Downtown Bristol McDonald's and Tunxis Community College in Farmington.

3. Future Ridership

Projecting future transit ridership is difficult due the New Britain to Hartford Busway, a bus rapid transit line that is slated for operation in 2010. The Busway will most likely have a dramatic effect on local and commuter express service.

B. Transportation Services for the Elderly and Disabled

1. The Americans with Disabilities Act and the Central Connecticut Paratransit Service

On July 26, 1990, President Bush signed the Americans with Disabilities Act (ADA). This legislation was designed to bring disabled Americans into the economic mainstream by giving them equal access to jobs, transportation, public facilities, and services.

A short definition of disability as defined in the ADA is: "In reference to an individual, a physical or mental impairment that substantially limits one or more of the major life activities of such individual; a record of such an impairment; or being regarded as having an impairment." Major life activities include: caring for one's self, performing manual tasks, walking, seeing, hearing, speaking, breathing, learning and working.

The three categories of ADA paratransit eligibility are:

- Any individual with a disability who is unable to board, ride, or disembark from vehicles on the fixed-route system.
- Any individual with a disability who needs the assistance of a wheelchair lift or other boarding device and is able to board, ride, and disembark from any vehicle which is readily accessible to and usable by individuals with disabilities.
- Any individual with a disability who has a specific impairment-related condition which prevents such individual from traveling to a boarding location or from a disembarking location on such system.

Complementary paratransit programs must provide a level of service that is comparable to the service provided on the fixed route system. There are six criteria for determining comparability. The paratransit service must:

- The basic service area must be centered on the fixed bus route and extend ¾ of a mile to either side of the route.
- Have a response time (defined as the elapsed time between a request for service and the provision of service) of 24 hours or less.
- Have fares that are no more than double those of fixed-route buses.
- Have comparable days and hours of service.
- Meet requests for any trip purpose.
- Not limit service availability because of capacity constraints.

ADA paratransit eligible individuals do not need to live in the service area to be eligible for service. However, they must make their own arrangements to get to and from the service area. CCRPA, acting as the Central Connecticut Paratransit Service (CCPS) is the administrator of ADA service in the Central Connecticut Region. Currently, the CCPS is under contract with DATTCO, Inc. to provide rides to eligible ADA patrons. Eligibility is determined by the CCPS,

and rides are arranged through DATTCO. Table IV-3, summarizes the performance measures for the Central Connecticut Paratransit Service.

Table IV-3: Average Monthly ADA Service Performance Measures, July 2005 – June 2006

Passenger Trips	2,630	State Subsidy Needed	$53,884
Vehicle Miles	17,197	Subsidy Per Trip Without	$20.51
Vehicle Hours	1,579	Administration	
Passenger Trips Per Hour	1.66	Administration Charges	$73,451
Percentage of Subscription Trips	26.50%	Subsidy Per Trip With Administration	$48.41

2. Other Non-Profit Organizations and Private-for-Profit Organizations

Transportation for the elderly and disabled is also available through a number of non-profit organizations and private-for-profit organizations. These organizations ensure that some type of transportation service geared toward the elderly and/or disabled covers all seven municipalities in the Central Connecticut Region. There are many organizations that provide these services. Some own vehicles and others do not. The LOCHSTP process, described above, endeavors to increase the level of coordination between demand/responsive transportation providers for elderly, disabled and low-income populations with the Region and the State. The Region's ADA Advisory Committee coordinates with staff on all issues facing providers and clients.

VI. VEHICULAR TRANSPORTATION

Most of the Central Connecticut Region is part of the Hartford Urbanized Area, and serves as part of Hartford's suburban base, as evidenced by the thousands of residents that commute east toward Hartford on a daily basis. However, the area is also its own region. Residents work and live here and need to transport themselves within the region. Because the region is its own vibrant area that also identifies with Hartford, residents have a wide array of, and need for, transportation options.

When many people think of transportation systems, they think of the vast network of roads and highways that surrounds them. While the road network is an integral part of the transportation system, it is not the only part. Goods and people can be transported though the use of any of a variety of modes, such as public transportation, air, water, bicycle and pedestrian. It is the integration of these modes and the maximization of transportation choice that helps create the safest and healthiest transportation system possible.

A. Roads and Highways

1. Road Service

As of the end of 2004, there were 1,050 miles of roadway in the region. A total of 143 (13.6%) miles were State-maintained, while the rest were locally maintained. These roads are placed into functional classifications based on the character of the service they are intended to provide. The six basic classifications and a brief description of each are listed below.

- Freeway: These routes serve as cross-state routes and have the highest volumes and speeds. Service on these routes is exclusively for through movement and all have limited access that is not at grade.
- Expressway: These routes serve as cross-state routes and have high volumes and speeds. Service on these routes is exclusively for through movement and access is limited and at-grade.
- Principal Arterial: These routes serve major centers of activity and have high motor vehicle traffic volumes. Service to abutting land is secondary to the provision of travel service to major motor vehicle traffic movements.
- Minor Arterial: These routes interconnect and augment the principal arterial system. The routes provide service for trips of moderate length, and speeds are slower than the principal arterials. Local bus routes may travel these roadways, but the routes should not penetrate identifiable neighborhoods.
- Collector: These routes collect motor vehicle traffic from local streets and channel it into the arterials.
- Local: These routes provide direct access to abutting land, have the lowest level of mobility and usually contain no bus routes. Motor vehicle through traffic movement is deliberately discouraged.

2. Motor Vehicle Traffic Volumes

The number of vehicles traveling on a section of road during a twenty-four hour period is referred to as the Average Daily Traffic (ADT) or motor vehicle traffic volume. Analysis of motor vehicle volumes can help to determine the relationship between transportation and land use, employment, or population. Therefore, the assessment of the impact of proposed developments is possible.

ADT is also used to determine the motor vehicle volume to capacity ratio (vv/c ratio) on a given route. Dividing volume by capacity gives an indication of how crowded a route is. A vv/c ratio

of 1.0 indicates that a route is at its capacity. Those routes with ratios over 1.0 are operating above capacity, while those under 1.0 have excess capacity. Capacity is the maximum number of vehicles that have a reasonable expectation of passing over a given roadway in a given time period under the prevailing roadway and motor vehicle traffic conditions. Typically vv/c ratios are higher at peak travel times than at off-peak times. Below is a list of eight items that contribute to capacity determination.

- Number of lanes.
- Width of lanes.
- Lateral clearance to obstructions on either side of the roadway from the outside of the motor vehicle traffic lanes.
- Percentage of trucks and city buses in the motor vehicle traffic stream.
- Percentage of intercity buses in the motor vehicle traffic stream.
- Length of grade.
- Percent of grade.
- Interruptions from sources external to the motor vehicle traffic stream.

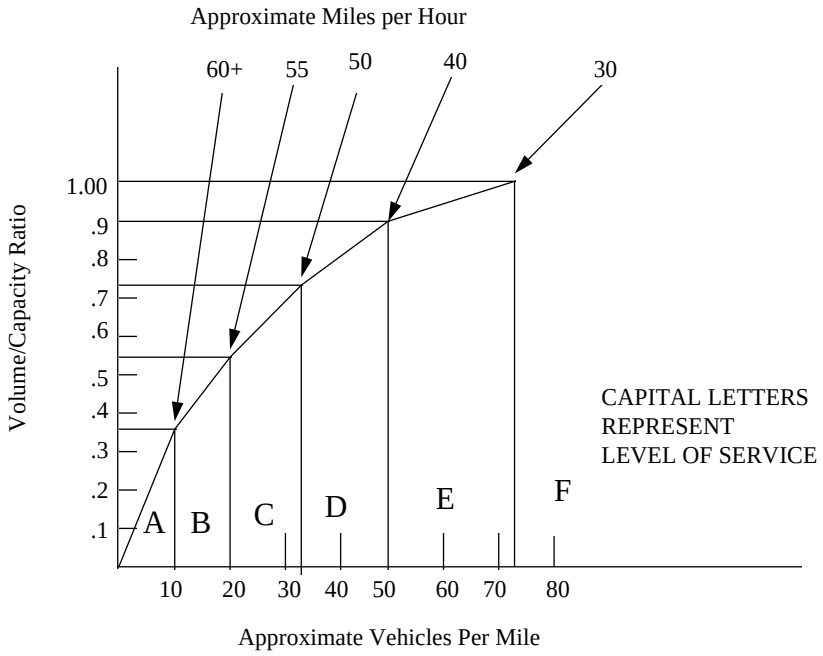
The Connecticut Department of Transportation (ConnDOT) has calculated the vv/c ratio for all State-numbered routes**.** Vehicle volume to capacity ratio projections indicate increased crowding on the region's state-maintained routes. Many of the road segments with a vv/c ratio of less than .8 will remain in that range. However, the majority of segments with ratios between .8 and 1.0 are projected to climb to over 1.0.

Determining vv/c ratio also helps to determine the expectant vehicle level of service (VLOS) of the road segment. VLOS on road segments is related to the comfort level of a driver when maneuvering through motor vehicle traffic, as opposed to VLOS of an intersection, which is tied directly to the amount of time a driver must wait at the intersection. VLOS is quantified using an A through F system as follows.

- VLOS A is the highest quality of service. It is a condition of free flow in which there is little or no restriction on movement or speed by other motor vehicle traffic.
- VLOS B is a zone of stable flow. Operating speed is beginning to be restricted by other motor vehicle traffic.
- VLOS C is still a zone of stable flow but at this volume and density level most drivers are becoming restricted in their freedom to select speed, change lanes, or pass. Speed is at two-thirds or three-fourths of maximum.
- VLOS D is approaching unstable flow. Speeds are tolerable but subject to sudden decreases.
- VLOS E. The facility is at capacity and unstable. Speeds are reduced. Driving comfort is low.
- VLOS F, "forced-flow operations". Speed may drop to zero for periods of time. Density reaches "traffic jam density".

Figure IV-1, shows the relationship between vv/c ratios and vehicle level of service for interstate highways. While the speed is lower on lower-classified roads, the concept remains the same. Note that as vv/c ratios reach 1, vehicle level of service approaches F.

Figure IV-1: Vehicle Volume to Capacity Ratio and its Affect on Vehicle Level of Service



Source: Transportation and Traffic Engineering Handbook, 2nd edition, Institute of Traffic Engineers.

3. Intersections and Road Segments with Safety Concerns

ConnDOT maintains a statewide highway collision file, from which a listing of high frequency collision locations is developed. The list is developed using a procedure that combines collision statistics, motor vehicle traffic volumes and roadway characteristics to determine where abnormally high collision rates occur. A complete list of all sites (State Routes, U.S. Routes, and Interstate Freeways only) in the Central Connecticut Region can be found in Appendix IV-A (1998–2000 State List of Suggested Surveillance Sites, SLOSSS.)

There are 101 identified high collision sites in the Central Connecticut Region. Forty-two (41.6%) of these are at intersections, while 59 (58.4%) are located along road segments of at least .01 miles in length. Routes 10 (22) and Route 6 (15) have more locations listed than any other route, perhaps indicating that having many curb cuts on a commercial strip leads to both rear end collisions and side swipe type collisions. With 37, Bristol has the most sites listed. New Britain follows with 20. Plymouth has none.

It is important to remember that the highest collision locations may not be the sites of many deaths and severe injuries. Appendix IV-A shows that of the 101 high collision locations listed in the SLOSSS, only 52 (51.5%) had any severe injuries between 1998 and 2000 and only 2 had fatalities. Of the 31 state-maintained sites with four or more severe injuries and/or fatalities, only eight (25.8%) are listed on the SLOSSS. The approximate locations of these sites are shown on Map IV-4. None of the four locations with multiple deaths is listed.

4. Motor Vehicle Traffic Patterns

An understanding of travel patterns is crucial to planning investments in the transportation system.

Regional

One way to evaluate travel patterns at the regional level is by using Census Journey to Work data. Journey to Work data is an aggregate of commuters' places of residence and employment and mode of travel to work. The data allows for the identification of intermunicipal trips, which can be assigned to particular routes. Here some assumption comes into play; for example, higher classified roads carry more motor vehicle traffic than lower classified routes. It is important to note that most trips are not work-related. Therefore, travel patterns can not be determined on the basis of work-related trips alone.

A. Work Force Origin

In 2000, 114,188 Central Connecticut Residents were employed. This constitutes a decline of 6,438 (5.3%) from 1990. At 48.8 percent, just under half of the region's commuting residents commute within the region. Bristol has the highest proportion of commuters commuting within the region at 55.98 percent, while Burlington has the lowest proportion at 41.15 percent.

B. Work Force Destination

In 2000, 92,291 persons commuted to employment in the Central Connecticut Region, according to Census worker flow data. The majority of these jobs (52.55%) were in Bristol or New Britain.[15]

There were 37,636 non-region residents that commuted to the Region for employment in 2000[16], an increase of 32 percent over the previous decade. The Connecticut towns from which the largest numbers of workers came were Hartford (2819), West Hartford (2487), Newington (1990), Farmington (1703), Waterbury (1697), Meriden (1661), Middletown (1256), Manchester (1039), East Hartford (1026) and Wolcott (904).

See Appendix IV-B for a workforce origin and destination map.

Table IV-1. Municipalities with High Inter-Travel Trips

Towns	No. of Workers	Possible Routes	Towns	No. of Workers	Possible Routes
BN/BN	2,407	-	NB/PN	1,878	72, 84, 372
BN/Hartford	1,677	5/15, 9 / 84, 9 / 91	NB/SG	1,971	71A, 84, 364
BN/NB	3,648	9, 71, 71A, 372	NB/W. Hartford	2,274	71, I-84
BN/W. Hartford	1,140	71, 9 to 84	NB/Middletown	1,096	9
BR/BR	11,111	-	PN/Farmington	1,144	177, 10
BR/Farmington	3,106	6, 72 / 84	PN/PN	1,847	-
BR/Hartford	2,502	6, 72 / 84	PN/SG	1,445	10, 84
BR/NB	2,197	72, 372	SG/Farmington	1,103	10, 84
BR/PN	2,226	6, 72	SG/Hartford	1,998	I-84
BR/SG	2,974	229, 72 / 84	SG/SG	6,111	-
BR/W. Hartford	1,196	6, 72 / 84	SG/Cheshire	1,108	10, 691, 84
NB/Farmington	2,861	71, 84, Farmington	SG/Meriden	1,745	10, 120, 322, 691
NB/Hartford	4,061	71, 84	SG/Waterbury	1,289	84
NB/NB	9,052	-	PY/BR	1,619	6, 72
NB/Newington	2,920	9, 71, 174, 175			

Note: "High inter-travel trips" refers to pairs of municipalities with over 1,000 workers traveling between them. Intra-town trips (trips within the same town) are included as well. Source: 2000 U.S. Census—MCD/County to MCD/County Worker Flow Files: http://www.census.gov/population/www/cen2000/mcdworkerflow.html.

[15] Census worker flow data (MCD to MCD)
[16] Census worker flow data (MCD to MCD)

A. Bridges

The Connecticut Department of Transportation is responsible for monitoring all bridges over 20 feet in length. These Bridges are shown in Appendix IV-B. Within the region are three historic bridges:

1. New Britain: 1925—A concrete arch bridge on Stanley Quarter Park Road.
2. New Britain: 1936—A concrete arch bridge on Stanley Park Road "C".
3. Plymouth: 1910—A concrete arch Bridge on Tunnel Road, Allen Street and South Main Street.[17]

B. Travel Demand Management

Simply put, travel demand management (TDM) is a general term for various strategies that will result in a more efficient use of transportation resources.[18] This strategy is based on the belief that supply (building roads, etc.) is not the only solution to transportation problems. TDM techniques can be used when trying to achieve cost effectiveness, multiple transportation benefits, flexibility, consumer benefits, social equity, and transportation sustainability.[19]

C. Congestion Management

Congestion is becoming an increasing problem on Connecticut's roadways. CCRPA's Unified Planning Work Program (UPWP) states that CCRPA will be monitoring a congestion management process (CMP) in coordination with CRCOG and Midstate RPA, in compilation of a TMA-wide management tool. CCRPA will conduct analyses and inventories of arterials identified in ConnDOT's Congestion Screening and Monitoring Report, comparing them to current projects in the TIP and projects recommended in the LRTP. CCRPA will continue conducting travel time studies on selected arterials in coordination with a TMA-wide effort at CMP product development.

A summary of screenings from selected regional corridors follows.

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[17] Connecticut Historic Bridge Inventory, Final Report: Inventory Phase. State of CT, Department of Transportation. December, 1990.
[18] Victoria Transportation Policy Institute. http://www.vtpi.org/tdm. Accessed 6/24/03.
[19] Ibid.

Corridor: Route 10, Northbound, Southington to Farmington, PM Peak							
Segment	Offpeak Average Time (min:sec)	Average Time (min:sec)	Average Speed (MPH)	Offpeak Average Speed (MPH)	Delay per Vehicle (min:sec)	PM Peak Traffic Volume	Total Delay (Hours)
Main St, Plantsville to SG Town Center	3:36	4:15	19	23	00:39	1518	16.4
SG Town Center to Rt. 84, Queen St. exit	5:00	5:18	24	26	00:18	2409	12.0
Rt. 84, Queen St. exit, to River St. SG	1:47	1:58	24	26	00:12	2504	8.3
River St. SG to Rt. 177, PN	1:58	2:04	32	34	00:06	1803	3.0
Rt. 177, PN, to Rt. 372	3:51	3:34	20	19	00:00	2090	0.0
Rt. 372 to Rt. 6, Farmington	3:35	4:19	31	37	00:44	1596	0.0

Corridor: Route 6, Eastbound, Bristol, AM Peak							
Segment	Offpeak Average Time (min:sec)	Average Time (min:sec)	Average Speed (MPH)	Offpeak Average Speed (MPH)	Delay per Vehicle (min:sec)	PM Peak Traffic Volume	Total Delay (Hours)
N. Main St. to Rt. 69	:40	1:01	17	27	:21	2203	12.8
Rt. 69 to Oakland St.	1:07	1:03	23	22	0:00	2025	0.0
Oakland St. to Rt. 229	1:21	1:42	23	29	:21	1902	11.1
Rt. 229 to Stafford Avenue	3:59	3:20	18	15	0:00	2244	0.0
Stafford Avenue to Rt. 177, Farmington	3:38	4:06	25	28	:28	2828	22.0

Corridor: Route 6, Westbound, Bristol, AM Peak							
Segment	Offpeak Average Time (min:sec)	Average Time (min:sec)	Average Speed (MPH)	Offpeak Average Speed (MPH)	Delay per Vehicle (min:sec)	PM Peak Traffic Volume	Total Delay (Hours)
Rt. 177, Farmington to Stafford Avenue, Bristol	2:54	3:13	32	35	:19	1121	5.9
Stafford Avenue to Rt. 229	1:52	1:56	30	32	:04	1461	1.6
Rt. 229 to Oakland St.	1:09	1:28	27	34	:18	1564	7.8
Oakland St. to Rt. 69	:52	1:13	20	28	:21	1372	8.0
Rt. 69 to N. Main St.	:49	:58	18	22	:08	1481	3.3

Corridor: Route 6, Westbound, Bristol, AM Peak							
Segment	Offpeak Average Time (min:sec)	Average Time (min:sec)	Average Speed (MPH)	Offpeak Average Speed (MPH)	Delay per Vehicle (min:sec)	PM Peak Traffic Volume	Total Delay (Hours)
Rt. 177, Farmington to Stafford Avenue, Bristol	2:54	3:13	32	35	:19	1121	5.9
Stafford Avenue to Rt. 229	1:52	1:56	30	32	:04	1461	1.6
Rt. 229 to Oakland St.	1:09	1:28	27	34	:18	1564	7.8
Oakland St. to Rt. 69	:52	1:13	20	28	:21	1372	8.0
Rt. 69 to N. Main St.	:49	:58	18	22	:08	1481	3.3

Corridor: Route 6, Westbound, Bristol, PM Peak							
Segment	Offpeak Average Time (min:sec)	Average Time (min:sec)	Average Speed (MPH)	Offpeak Average Speed (MPH)	Delay per Vehicle (min:sec)	PM Peak Traffic Volume	Total Delay (Hours)
Rt. 177, Farmington to Stafford Avenue, Bristol	2:54	5:28	19	35	2:34	3351	143.3
Stafford Avenue to Rt. 229	1:52	1:59	30	32	:07	2990	5.8
Rt. 229 to Oakland St.	1:09	1:25	28	34	:15	3155	13.1
Oakland St. to Rt. 69	:52	2:07	12	28	1:15	2451	51.1
Rt. 69 to N. Main St.	:49	1:12	15	22	:22	2636	16.1

D. Intelligent Transportation Systems

Intelligent Transportation Systems (ITS) involve the application of advanced technologies to address public safety, reduce motor vehicle traffic congestion and provide better public service. Of key importance are telecommunications and information technologies that allow information on transportation systems to be collected, processed and disseminated. The information is valuable to transportation agencies that are responsible for operating and managing systems, as well as the private and commercial users of those systems who must make informed decisions on what mode to use, what route to take and what time of day to travel.

CCRPA has participated in the compilation of a regional ITS architecture with other Hartford Urbanized Area MPOs and stakeholders with guidance from its FHWA state division office.

ITS is an important cost-effective tool for managing transportation systems, as national emphasis shifts from expansion of the transportation network to more efficient operations and maintenance of existing facilities.

Listed below are a few advantages of ITS elements deployed by ConnDOT over the past 15 years:

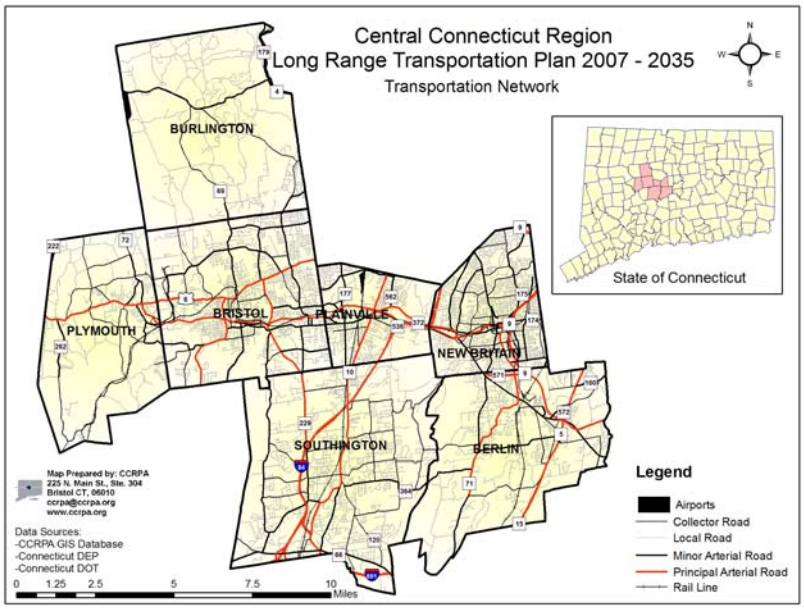
- Motor vehicle traffic management systems that provide ConnDOT staff with the ability to monitor freeway travel conditions, detect incidents and notify appropriate response personnel.
- Highway service patrol vehicles that quickly attend to disabled or broken-down vehicles.
- Traveler information systems to inform people while they are traveling, or before they begin their trip.
- Incident management efforts that stress coordinated interagency response to traffic incidents.
- Computerized signal systems that manage motor vehicle traffic flow along congested state arterial roadways and allow ConnDOT staff to monitor signal performance or modify signal timings when needed.
- Systems that enhance public transportation fleet operations and rider convenience.
- Coordinated with Capital Region Council of Governments, Midstate Regional Planning Agency and CCRPA on Highway Incident Management.

ConnDOT has completed design of a large-scale freeway motor vehicle traffic management system in the greater Hartford area and has new motor vehicle traffic management projects in design for I-84 between Plainville and Waterbury. There will also be ITS features involved with the New Britain-to-Hartford Busway.

VII. RAIL AND AIR TRANSPORTATION

A. Rail Transportation

In the Central Connecticut Region, the Springfield Terminal Company operates freight lines. The location of rail service in the Region can be seen on the following map.



Railroad cars can move material much faster than trucks using less fuel and emitting far less pollutants. The Central Connecticut Region is served by three rail corridors: 1) the Boston and Maine-owned east-west branch line, operated by the Springfield Terminal Company. It provides freight service through Plymouth, Bristol, Plainville, New Britain and Berlin; 2) A short north-south branch with the same owner and operator, which provides freight service between Southington and Plainville; and 3) the Springfield-Hartford-New Haven main line, which provides north-south passenger access through Berlin Station. This track is owned by Amtrak.

Passenger service is provided by Amtrak with freight service provided by CSX and CSO. This is the only passenger railroad service in the Region. The New Britain-Kensington bus route serves the station.

The CCRPA supports the establishment of commuter rail from New Haven to Hartford to Springfield. The CCRPA participated in the feasibility study for this route, and supports the final plan which calls for utilizing the Berlin Station as one of the stops.

There are also a number of inactive lines. One is the southern part of the aforementioned north-south line, which comes from Hamden into Southington. The entire Southington portion is owned by the Connecticut Department of Environmental Protection. Another segment is from downtown New Britain into Newington. ConnDOT owns this landbanked portion and intends to use it for the New Britain-to-Hartford Busway.

B. Air Transportation

The region is served by 2 privately owned commercial airports that are open to the public: Robertson Field in Plainville and the Waterbury-Plymouth Airport in Plymouth. Waterbury-Plymouth Airports is categorized as general aviation airport by the Federal Aviation Administration while Robertson Field is categorized as a reliever airport. A third airport, Green Acres Airstrip in Bristol, is not open to the public. Since the last update of the LRTP in 2004, Mountain Meadows Airport (Johnnycake Field) in Burlington has closed operations.

A reliever airport, as defined by the FAA, is a metropolitan general aviation airport that serves to reduce air carrier congestion by providing facilities and service for attracting and diverting general aviation away from major air carrier airports.

The FAA classifies these facilities as basic utility airports based on their operational roles. Generally, basic utility airports handle aircraft with a gross weight maximum of 12,500 pounds.

There are also several areas that have been identified as available for helicopter landing.

VIII. ALTERNATIVE TRANSPORTATION

A. Vanpool, Carpool and Rideshare

Providing commuter services can help to reduce congestion, improve access and reduce fuel consumption.

The need for the provision of rideshare programs has become more evident with the passage of the federal Clean Air Act. Such service is provided by the Rideshare Company, which can help people find out how to share the ride to work by providing vanpool service and helping commuters to coordinate carpools.[20] Carpoolers can use the state's park-and-ride lots as meeting places.

In the Central Connecticut region, there are eight park-and-ride lots at seven locations.[21] There are also other lots very near the region. Three such lots are listed below. (see **Map IV-7**.) Of the 11 listed, six serve at least one public transportation route.

Table IV-4: Existing State Park-and Ride-Facilities

Municipality	Location	Cap.	Use#	Unused Cap.	Express	Local
Berlin	Berlin Train Station	60	21	39	N	Y
Bristol	Mix St. –Barnes Field Lot	57	2	55	N	N
Bristol	Todd St. Lots 1&2 – S. of Rt. 72	412	147	265		
	--Todd St./Pine	--212	--76	--136	--Y	--N
	--Mid Block	--200	--71	--129	--Y	--Y
New Britain	Rt. 71 / Rt. 9, south of Westfarms Mall	227	98	129	Y	Y
Plainville	Grace Lutheran Church	25	4	21	Y	N
Southington	I-84 at Exit 29 on Rt. 10	102	50	52	Y	N
Southington	Rt. 322 at I-84	105	23	82	N	N
Cheshire	Rt. 322—Former Maintenance Garage	75	4	71	N	N
Thomaston	Exit 39 on Route 8	46	35	11	N	N
Farmington	Batterson Park—Fienemann Rd.	70	38	32	N	N

Daily use data was obtained from ConnDOT's Park and Ride lot database. Capacity data was obtained from ConnDOT and CCRPA Master Transportation Plan, 2001. Some data unavailable for some lots.
Use is based on the average of 2000-2002. Some lots do not have data for all three years. In those cases, use is based on one or two of the three years. Averages are rounded to nearest whole integer.

B. Bicycle and Pedestrian Movement

The provision of a safe and adequate system for the general circulation of bicycle and pedestrian traffic should be encouraged. While it is common to discuss walking and bicycling as recreational, they are also viable transportation options. This is particularly important to remember in bicycling. There is a need for many road transportation routes for bicyclists, in addition to segregated recreational trails. The CCRPA is actively participating in the construction of the bicycle/pedestrian section of the state Strategic Highway Safety Plan. Safety is a vital element to the success of bicycle systems as part of the transportation mix. Additionally, the Central Connecticut Plan for Alternative Transportation and Health (CCPATH) contained several recommendations, such as:

- ✓ Placement of bicycle racks at key public and private locations
- ✓ Placement of bicycle racks on CT Transit buses
- ✓ Adherence to federal laws and regulations

[20] www.rideshare.com. Accessed 6/17/03.
[21] ConnDOT's park-and-ride lot database. http://www.dot.state.ct.us/geninfo/parkride/.

- ✓ Revise the State Sidewalk Policy and consider the needs of bicycles and pedestrians in the permitting process
- ✓ Spend Surface Transportation Program (STP) funds on improving non-motorized transportation
- ✓ Secure other funding sources for bicycle and pedestrian infrastructure
- ✓ Provide education and outreach to citizens and towns
- ✓ Assess pedestrian and bicycle facility needs
- ✓ Promote bicycling and walking
- ✓ Create a regional bicycle map
- ✓ Make public transportation accessible to pedestrians
- ✓ Make sidewalks user-friendly
- ✓ Place sidewalks in areas lacking in sidewalk coverage
- ✓ Crosswalks should be utilized
- ✓ Place bus stops at the far side of intersections
- ✓ Place curb ramps at all intersections
- ✓ Complete the Southington and Plainville portions of the Farmington Canal Heritage Rail Trail
- ✓ Bristol Recreational Trail
- ✓ New Britain-to-Hartford Busway Multi-Use Trail
- ✓ Plymouth trails
- ✓ Allow for mixed uses and greater density in zoning codes and plans of conservation and development
- ✓ Place parking lots behind businesses
- ✓ Reduce amount of land required for schools
- ✓ Establish a grid street network
- ✓ Design roadways for lower speeds
- ✓ Spend safety funds on areas with high incidents of injury and fatality
- ✓ Utilize a strong “Safe Routes to School” program
- ✓ Allow MPOs to program safety construction funds for traffic calming and pedestrian safety
- ✓ Participate in statewide pedestrian and bicycle safety campaigns

C. Jobs Access and Reverse Commute

The Jobs Access and Reverse Commute (JARC) program is coordinated by CRCOG in partnership with CCRPA and Midstate RPA, an administered by the ConnDOT. The need for JARC arose when Welfare-to-Work participants needed access to job transportation. Funding for the JARC has been provided by the State of Connecticut. Under the latest federal transportation bill, funding will provided if there is a Locally Coordinated Human Services Transportation Plan (LOCHSTP) in place for the MPO.

The Hartford Urbanized Area portion of the LOCHSTP will be completed by spring of 2007 and folded into the overall state plan. The CCRPA is coordinating with the ConnDOT, CRCOG, and Midstate RPA, with the participation of area dial-a-ride services, paratransit and fixed route operators to optimize access to the public transportation systems to elderly, disabled and low-income travelers.

D. Transportation Network Safety

"Increase the safety of the transportation system for motorized and non-motorized users." (Planning Factor No. 2)

The CCRPA is dedicated to strengthening the emphasis on network safety for all modes. Safety is a common element in all of the CCRPA's planning processes and products. For example, a large measure of prioritizing STP-urban projects is the consideration of how the project identifies and offers remedies to safety deficiencies in the roadway.

Of particular safety emphasis are the travelers' transition points between transportation modes and the intersection of two or more modes. For instance, a transition point would be that moment and location at which a pedestrian becomes a transit user (e.g., bus stops), or when a vehicle operator becomes a pedestrian (e.g., parking lots). The intersections of two or more modes would include crosswalks, bus routes on the road, train stations, etc. The safety of disabled travelers as it relates to the above discussion is a major concern.

A new feature for this LRTP is consideration of the State Highway Safety Plan which contains the following Emphasis Areas and goals:

- Traffic Records and Information Systems - Develop a delivery system to provide timely, complete, accurate, uniform, integrated, and accessible traffic records (safety data) to manage highway and traffic safety programs.
- Roadway Departure - To institute a systematic program of lane departure accident countermeasures appropriate for Connecticut with the objective of lowering its lane departure rate to a point at or below the national average and thus to contribute to a reduction in the nation's overall traffic related fatality rate.
- Pedestrians and Bicycles (CCRPA participates directly in the subcommittee) - To provide a safe environment for pedestrians and bicyclists. To reduce pedestrian and bicycle fatalities and serious injuries. To continue to examine the causes of bicycle and pedestrian accidents and to utilize available resources efficiently to develop and implement effective counter measures.
- Work Zones – No specific goal to cite at this writing.
- Driver Behavior (Alcohol, Occupant Protection and Speeding) - To significantly reduce the number of alcohol-related crashes, injuries and fatalities. To increase safety belt use rates and remain at a level that is consistently above the national average.
- Motorcycle Safety - To reduce the number of speed related crashes.
- Commercial Vehicles - To reduce the number and severity of crashes involving commercial motor vehicles and hazardous materials incidents.
- Incident Management - Continually improve traffic incident response and recovery time by all responding agencies, and support the goal with policies, programs, projects, and funding.

IX. FREIGHT TRANSPORTATION

"Increase the accessibility and mobility options available to people and freight." (Planning Factor No. 6)

The traffic of freight, over the road and by rail, has not been a large component of the overall transportation planning program at CCRPA. In collaboration with CRCOG and Midstate RPA, the CCRPA contracted the services of Global Insights to compile freight flow data for study area including the Hartford Urbanized Area. This initial step added freight planning to the overall transportation planning program at the CCRPA. Freight is an important component to traffic patterns, and it is one of the bonds that ties the transportation system to the economic system.

> 98% of all freight going into, out of, and through the study area was on a truck. (*Freight Movement in the Hartford Metropolitan Area*, 2005)

The findings of the *Freight Movement in the Hartford Metropolitan Area* noted that the position of the study area is closely tied to New York and Boston markets. The proximity of those markets lends themselves to short-haul freight movements. The study noted that the majority of freight traffic distribution is through traffic (40%), evidence of the economic pull of New York and Boston markets. Inbound freight traffic was double the outbound traffic, indicative of a consumer versus producer type of economy.

Initial contacts were made with private carriers and shippers and rail companies during the freight planning process. Future activity might involve organization of a state freight planning committee. Freight movement data at the scale of several counties in central and western Connecticut and Massachusetts portrays much usable data; however, at scales of at least statewide, more relevant data will become apparent. Solutions to freight movement issues must also emanate from the state. Regionally, impediments to freight movement have been identified in several areas:

- ✓ Route 72 in Plymouth is spanned by a rail bridge with inadequate clearance for tractor trailers to clear.
- ✓ The condition of the Sylvan Hill rail tunnel in Plymouth must be monitored to maintain uninterrupted rail service between Waterbury and the region.
- ✓ The state's Rest Area Study has noted that there are inadequate parking spaces available at the Southington truck rest stop along Interstate 84.
- ✓ The private truck stop in Southington near Interstates 691 and 84 has seen a need to expand, due to increased traffic of carriers in the region.
- ✓ The active east/west freight rail system in the region is underutilized, and the CCRPA is calling for a study to recommend the optimal uses for the line.

X. TITLE VI AND ENVIRONMENTAL JUSTICE

A. Title VI of the 1964 Civil Rights Act

Title VI of the 1964 Civil Rights Act *prohibits discrimination on the basis of race, color, and national origin in programs and activities receiving federal financial assistance.*[22] This indicates that it is important to make sure that federally-sponsored projects do not serve certain groups and ignore or negatively affect others. Transportation projects are meant to increase mobility and

[22] United States Department of Justice. http://www.usdoj.gov/crt/cor/coord/titlevi.htm. Accessed 6-18-03.

safety for the traveling public. If funding only helps (or disproportionately hurts) people of a particular group or groups, Title VI has been violated.

B. Environmental Justice

A 1994 Presidential Executive Order directed every federal agency to make environmental justice part of its mission by identifying and addressing the effects of all programs, policies and activities on minority and low-income populations. Effective transportation decision making depends upon understanding and properly addressing the unique needs of different socioeconomic groups. There are three principles of environmental justice that must be addressed.[23]

- Avoid, minimize or mitigate disproportionately high and adverse human health and environmental effects on minority and low-income populations. In transportation planning this means evaluating the amount of disturbance caused by various transportation projects to determine whether a disproportionate share of this disturbance is occurring in minority and/or low-income population clusters.
- Prevent the denial of, reduction in or significant delay in the receipt of benefits by minority and low-income populations. Here the existence of public transportation in minority and low-income population clusters can be evaluated.
- Ensure the full and fair participation by all potentially affected communities in the transportation decision-making process. The intent is to enhance the public-involvement process, strengthen community-based partnerships and provide minority and low-income populations with opportunities to learn about and improve the quality and usefulness of transportation in their lives.

CCRPA has incorporated a social element into the STP-Urban program selection criteria.

CCRPA will establish a Title VI/Environmental Justice Committee, which will help quantify the benefits and burdens of the region's transportation projects.

Social Impact Report

The Social Impact Report produced by the CCRPA, reviewed projects in the 2007 Transportation Improvement Program (TIP) and their relation to population clusters identified as low-income and minority groups. The report divided transportation impacts into three types: implementation, investment and operation. Excerpts of the report, which was adopted by the CCRPA in June 2006, appear on the following two pages:

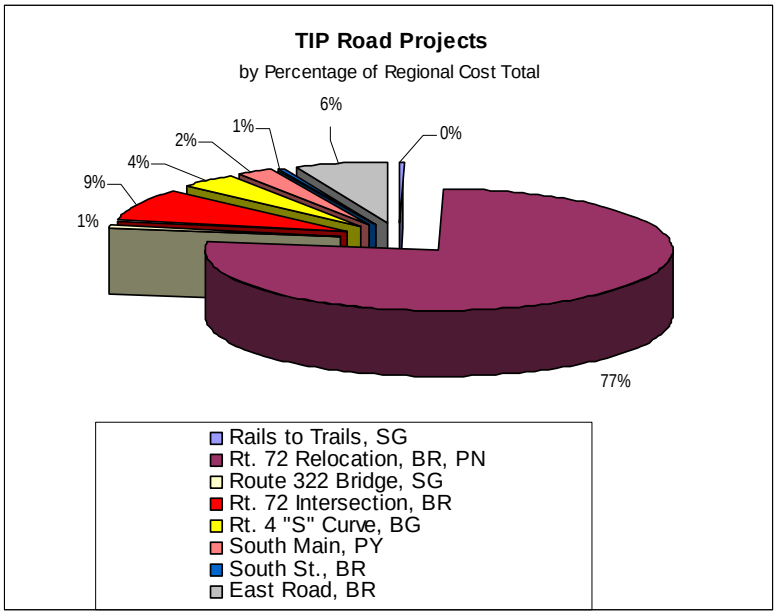
[23] US Department of Transportation's Environmental Justice Website. http://www.fhwa.dot.gov/environment/ej2000.htm

BG=Burlington, BN=Berlin, BR=Bristol, NB=New Britain, PN=Plainville, PY=Plymouth, SG=Southington

Table 1: Impact Analysis Summary						
TIP Project*	***Map Key***	***Federal Cost***	***Percent of Project in Target Area***	***Target Area***		
				Implementation Impact**	***Overall Operational Impact*****	***Investment Impact*****
Fixed Bus Route, BR, PN, NB, BN	*1*	*$4,419,000*	*38.24%*	*Positive*	*Positive*	*$1,689,826*
Busway, NB	*2*	*$21,680,000*	*23.40%*	*Positive*	*Positive*	*$5,074,043*
Rails to Trails, SG	*3*	*$120,000*	*0%*	*N/A*	*N/A*	*$0*
Route 72 Relocation, BR	*4*	*$28,662,000*	*27.30%*	*Negative*	*Positive*	*$7,824,726*
Route 322 Bridge, SG	*5*	*$287,000*	*0%*	*N/A*	*N/A*	*$0*
Rt. 72/Memorial Blvd., BR	*6*	*$3,260,000*	*0%*	*N/A*	*N/A*	*$0*
Rt. 4, "S" Curve, BG	*7*	*$1,488,000*	*0%*	*N/A*	*N/A*	*$0*
South Main, PY	*8*	*$920,000*	*50%*	*Positive*	*Positive*	*$460,000*
South St., BR	*9*	*$248,000*	*100%*	*Negative*	*Positive*	*$248,000*
East Rd, BR	*10*	*$2,348,000*	*100%*	*Negative*	*Positive*	*$2,348,000*

**Statewide and elderly van service projects excluded due to nonspecific locations.*
***See text for impact discussion.*

<u>Investment Impact</u> - It should be noted in the review of road projects, that one project, the Route 72 Relocation in Bristol, accounts for 77% of total project costs, as illustrated on the right. Such disparities in project costs can skew results for the investment impact.



For the road projects, approximately 29.15% of projects by federal cost fall inside the target areas as described earlier. This exceeds the 26% threshold of assumed investment in the target

areas. The combined percentage of transit project investment in the target areas totals 25.92%, which essentially meets the 26% threshold.

<u>Implementation Impact</u> – This impact, as described earlier, refers to those activities which relate to the process of completing the project. For those projects within the target areas, three projects were believed to contain elements that had negative impacts to the neighborhoods where the project is to be developed. It should be pointed out again that implementation impacts are, for the most part, temporary. The South Street and East Road projects will involve construction activities in and around the roadway that will necessitate vehicle diversions and daytime construction noise.

The Route 72 Relocation project in Bristol will experience similar impacts, but for a longer period of time. This project involves construction of a new roadway through a residential neighborhood, in which the right-of-way phase included a number of relocations and demolitions. The project also involves the creation of a few dead end streets, which could inconvenience local residents.

<u>Overall Operational Impact</u> – While most of the projects located in the target areas were deemed to ultimately be positive for the neighborhood as a whole, certain pockets of the target area population may encounter a negative net effect, while most people in the same general neighborhood experience a positive impact. For example, while the Busway project will have major benefits for the vast majority of target area residents in New Britain, the Cottage Street neighborhood might perceive some negative impacts, regardless of mitigation strategies developed as part of the project.

Similarly, the Route 72 Relocation, while it will ease congestion in that corridor in Bristol, it will also limit mobility in some parts of some neighborhoods, due to additional dead ends and controlled roadway access. However, such negative impacts are concentrated in certain pockets in the neighborhood, while other pockets in the same neighborhood will experience little or no negative impacts. In theory, while this facility was originally developed to expedite traffic through the east end of Bristol, it will have a positive effect on local traffic by diverting vehicles from previously congested routes (Broad and East Main Streets).

One example of a project that should benefit minorities and low-income individuals is the New Britain-to-Hartford Busway, which is discussed at length in Chapter VII.

XIII. KEY TRANSPORTATION PROJECTS

A. Major Road Projects

1. Route 72 Extension—Bristol

Due to financial issues, the extension of the Route 72 Expressway from the Plainville/Bristol town line to Route 8 in Thomaston has been reduced in scope to the addition of a limited access boulevard between the Plainville/Bristol town line and Route 229 in Bristol. The extension consists of a four-lane urban arterial highway and the widening of a Pine Street. This project is scheduled to cost $29.099 million.

2. Broad Street Reconstruction—New Britain

Reconstruction of Broad Street from Beaver to Burritt Street. The currently funded portion of this project will cost about $3.4 million. New drainage patterns will require a section of Washington Street from Lafayette Street to Broad Street to also be reconstructed.

3. Hart Street Extension—New Britain

The extension of Hart Street from Arch Street to South Main Street will establish an east-west corridor directly south of the central business district that will connect Route 372 (Corbin Ave.) to Route 71 (S. Main St.). This project should cost just over $2.5 million in addition to $3 million spent on right-of-way acquisition.

B. Public Transportation Projects

1. The New Britain to Hartford Busway

The New Britain to Hartford Busway is a bus rapid transit (BRT) line that is planned as a response to current and escalating motor vehicle traffic between the two cities. The Busway will run along approximately 9.5 miles of active and inactive railroad right-of-way from downtown New Britain to downtown Hartford. Over that 9.5 miles will be12 stops located in New Britain, Newington, West Hartford and Hartford. The tentative cost is about $160 million.

The project's goals include reducing congestion, increasing mode choice, improving public health and safety, enriching the area's quality of life and encouraging economic and transit-oriented development.

Two key features of BRT are: 1) that it operates on its own dedicated right-of-way, separating buses from the regular flow of motor vehicle traffic, and 2) that a rider can take a trip from various parts of the region and, because any bus can utilize the Busway, get to downtown Hartford without the need to transfer to another bus or a rail car. This applies to Commuter Express routes as well as local routes.

CCRPA created the Busway West Plan, an effort that will help ensure the best possible utilization of the New Britain-to-Hartford Busway. The purpose of the Busway West Plan is to, with the New Britain to Hartford Busway as the centerpiece, plan for a transportation system that will provide as much transportation choice, service and efficiency as possible. Some of the key recommendations are bus stations, park and ride facilities, accommodation of pedestrians and bicycles, community/economic development and land use. The recommendations are included in the Transit Development Plan (2006) and the Action Plan printed at the beginning of this document.

C. Transportation Enhancement Projects

1. Berlin Depot Improvements

During the MPO's most recent TE prioritization, the Berlin Depot Improvement Project was ranked as first priority. The improvements will include the addition of retaining walls; sidewalks; planting strips; shrub screen planting; "Berlin Depot" signs; ornamental trees; lawn; a canopy outside of the Depot building; and steps, wheelchair ramps and a platform at the pick up point. At this time, design is proceeding.

2. Southington Linear Park Extension

This project is ranked as the second Enhancement priority. The project will extend the Southington Linear Park south from Plantsville Center to the Cheshire town line. Phase I, which is complete, runs from Plantsville Center north to Hart Street. The second phase extends it north from Hart Street to Lazy Lane, which extends the trail's length to five miles Phase III has design costs obligated through the HPP program for the life of SAFETEA-LU for the aforementioned extension from Plantsville to Cheshire. The project includes development a 12-foot wide paved trail within the right-of-way of the abandoned Guilford Industries and Boston and Maine Railroad. The initial phase of the project has proved successful and has provided the opportunity for bicycling and hiking for transportation and recreational purposes.

3. Bristol Greenway, Phase I: Pequabuck River Link

This project is ranked as the third Enhancement priority. The project will create bicycle and pedestrian access from Rockwell Park to the Lake Compounce area, utilizing land adjacent to the Pequabuck River in parts. Other areas use sidewalks and roads. Some streets the route will run on or near are: Barnes Street, School Street, Riverside Avenue, Memorial Boulevard, Middle Street and Lake Avenue. Project components include: several parking lots that will provide access; a paved bicycle trail; a dedicated, striped bicycle lane; and accompanying gravel walking path (where possible); pedestrian bridges across the Pequabuck River (where necessary); access for the disabled; rights-of-way/property acquisition; repaving and repair of rights-of-way; security fencing along portions of rights-of-way; and signage. This project is expected to cost approximately $2.2 million. Future phases will connect to downtown, Forestville, southeastern Bristol and Northwestern Bristol.

Transportation Enhancement projects are submitted and prioritized by the Transportation Improvement Committee (TIC) based on a competitive scoring system. This system ranks projects based on their relationship to the transportation system, readiness for construction, encouragement of economic development, encouragement of environmental protection and regional significance. Transportation Enhancement projects will continue to be competitive and prioritized by the TIC. The current scoring system could be refined in the future.

XIV. FINANCIAL PLAN

A. Resources

1. Road Network

a. System Preservation
These funds are used to perform work that maintains or preserves the existing transportation network including paving roadways, repair or replacement of bridges and in-place reconstruction. The total highway funding available over the 28 year planning horizon is $740,018,904. The planning horizon is divided into short (2007-2011) and medium (2011-2015)-term allotments of $185,004,726. Long term (2015-2035) will be $555,014,178. This funding will be used for maintenance projects as needed.

As the MPO for this region, CCRPA is supportive of using system preservation funding towards the following efforts, as needed: fixed route public transportation; paratransit for the elderly and disabled; commuter express public transportation routes; bridge replacements and repairs; the Jobs Access and Reverse Commute Program; public transportation capital planning; purchase public transportation vehicles; the vehicle emissions inspections program; installation of bus shelters; motor vehicle traffic signal installation and adjustment; and safety projects.

b. System Improvements
These funds are used to enhance safety, increase mobility, increase system productivity, and promote economic growth. For the 28 year horizon of this plan, the total highway funding available for these activities is $228,058,977. Projects likely to be funded from this pool of funds include the Route 72 expansion in Bristol and some recommendations from the Route 72/6 and Route 5/15 Studies, or future studies. Short and medium-term allotments will be $57,014,744. Long term will be $171,044,233.

The STP-Other Urban program will have available approximately $65,000,000 over the next 28 years (in 2006 dollars). This breaks down to $32,500,000 in the short and medium terms and $37,500,000 for the long term. The STP-U table shows $15,190,000 in short term projects programmed, leaving $17,310,000, which will only be able to cover a portion of the unfunded projects shown on the next table, many of which have unknown costs. Potential medium- and long-term projects are shown on the final table. While there are many conceptual projects with unknown costs, there is approximately $19,169,000 worth of project cost estimates, which would leave roughly $18,331,000 that could be spent on a selection of the other medium-and long-term projects along with the short-term projects unable to be funded in the short-term. Some of these projects may find other funding sources.

c. Projects of Statewide Significance
These funds are spent on projects that are considered to be important to the entire State. There are two such projects, totaling $32,451,474, planned for this region over the 28 year planning period. The first is Route 72 extension from the current western terminus of the freeway portion of Route 72 to Route 229. This project will cost approximately $28.7 million. The second project is the New Britain to Hartford Busway, which is partially funded through this funding mechanism at approximately

$3.8 million for the central Connecticut region. The majority of the project is located in the capitol region.

2. Public Transportation

a. Operating Costs

The yearly cost of operating the local bus service in the Central Connecticut Region is around $1,460,000. The State of Connecticut Department of Transportation (ConnDOT) provides the funding for the operation of bus service. Funding of operations and administration for the provision of paratransit services is also provided by the ConnDOT.

Central Connecticut ADA Paratransit Service provides paratransit service for persons with disabilities in Bristol, Kensington, New Britain and Plainville, the communities that have fixed bus routes. DATTCO Bus Company has provided the service under contract to CCRPA. At present there are approximately 2,000 clients on record. Budget constraints limit the service to 6 buses. There may be a need for additional ConnDOT funding to support paratransit service in the coming years as the age of the population increases.

b. Capital Costs

The local bus companies that provide service to the Central Connecticut Region purchased new buses using funds provided by ConnDOT in 1996. Buses should be replaced every twelve years, meaning that new buses should be purchased in 2008. Funds for the purchase will come from the ConnDOT.

B. Unfunded Needs and Future Studies

Besides earmarking transportation projects with established funding sources, the LRTP identifies future transportation projects that as of now have no fixed pool of money from which to draw. Projects will likely be identified through the Region Wide Pedestrian and Bicycle Transportation System Study (CCPATH), Busway West Study and the Transit Improvement Plan update. Other requests for specific area studies around the region will generate more potential projects in the future.

Short Term Projects (2007-2011)—System Preservation

Program	Town	Project Number	Route/Activity	Federal	State	Local	Total Cost
				$ x 1,000			
STP-Urban	Southington	131-XXX	Mount Vernon Road Reconstruction	2,458	307	307	3,072
Reconstruction of Mount Vernon Road between West Center St. and just south of Jude Lane to remedy poor pavement condition and drainage.							
STP-Urban	New Britain	88-XXX	Beaver Street Reconstruction	2,000	250	250	2,500
Project will replace poor pavement, curbing and sidewalks and realign angled intersection with Washington Street. (Cost estimated with 2004 dollars).							
STP-A	Southington	131-187	Rehabilitation of BR 3231, Rt. 322 over unnamed brook.	328	82	0	410
NHS	Bristol	17-148	Drainage Improvements on Route 6, near N. Main to Oakland	6,200	1,550	0	7,750
I-M	Southington	131-H021	I-84, New Rest Area building, improvements & demo. old bldg	270	30	0	300
STP-E	Berlin	7-XXX	Berlin Train Depot Rehabilitation	1,476	0	369	1,845
This transportation enhancement project will rehabilitate the site and train station, which currently services AMTRAK and, in the future, commuter rail.							
STP-R	Burlington	20-102	Rt. 4: 489 (Belden Rd) to Mountain Springs	1,488	372	0	1,860
Reconfigure the horizontal and vertical curves by realigning this section of Route 4.							
TOTALS				**14,220**	**2,591**	**926**	**17,737**

Short Term Projects (2007-2011)—System Improvements

Program	Town	Project Number	Route/Activity	Federal	State	Local	Total Cost
				$ x 1,000			
STP-Urban	Bristol	17-161	East Road Realignment	2,348	587	0	2,935
The project corrects a dangerous intersection of East, Union and Wolcott Roads							
STP-Urban	Plymouth	110-H019	South Main Street Realignment	1,478	185	185	1,848
The project corrects a dangerous curve that constricts two lanes down to one.							
STP-Urban	Bristol	17-H027	South/Church/Union Sts Intersection Improvement	1,558	195	195	1,948
Realignment of dangerous offset intersection with poor turning radii.							
STP-Urban	Bristol	17-171	Rt. 72 at Memorial Blvd, Intersection Improvement	3,240	810	0	4,050
Major intersection improvement to improve congested flow includes replacing deficient bridge over Pequabuck River.							
HPP	Southington	131-XXX	Rails to Trails Linear Park: Plantsville to Cheshire	200	0	50	250
Earmark to cover preliminary engineering for this multiuse path which continues previously completed trail north of the proposed trail.							
TOTALS				**8,824**	**1,777**	**430**	**11,031**

Projects of Statewide Significance

Program	Town	Route/Activity	Federal	State	Local	Total Cost
					$ x 1,000	
Various	New Britain	New Britain to Hartford Busway	3,789		0	3,789
Dollar amounts pertain only to the portion of the Busway in New Britain, not the entire line. Funds are from various programs.						
NHS	Bristol, Plainville	Route 72—Relocation of Route 72.	28,662	7,166	0	35,828
This project will be funded over a period of several years.						

TOTAL Federa ***32,451***

Medium-Term Projects (2012-2020)—System Improvements

Program	Town	Project Number	Route/Activity	Federal	State	Local	Total Cost
					$ x 1,000		
STP-U	New Britain	88-XXX	East Main Street (Rt. 174) Realignment (CONCEPTUAL)	1,780	222	222	2,225
This project will address realigning 2 acute angle intersections near the at-grade crossing of the New Britain Hartford Busway							
Various	Berlin	170-XXX	New Haven-Hartford-Springfield Commuter Rail	28,000	7,000	0	35,000
This project provides commuter alternative to Route 91 and will significantly reduce congestion in the corridor, cost is estimate of region's share, include Berlin Station							
STP-U	Plainville	109-XXX	New Britain Ave. (Rt. 372) Travel Lane Improvement (CONCEPTUAL)	440	55	55	550
This project will add travel lanes to a section of Rt. 372 to alleviate congestion and confusion, as well as enhance safety, eliminating merge (2004 dollars).							
STP-U	New Britain	88-XXX	Glen Street Pedestrian Improvements (CONCEPTUAL)	554	69	69	692
This project will add sidewalk sections to Glen Street approaching the high school; safe route to school plan recommendation							
TOTALS				**2,774**	**346**	**346**	**3,467**

Medium-Term Projects (2012-2020)—System Preservation

Program	Town	Project Number	Route/Activity	Federal	State	Local	Total Cost
				$ x 1,000			
STP-U	New Britain	88-XXX	Broad Street Reconstruction – Burritt to Horace Sts (CONCEPTUAL)	4,160	520	520	5,200
This project proposes to improve pavement, sidewalks and drainage in vital ethnic neighborhood.							
STP-U	New Britain	88-XXX	Shuttle Meadow Ave. Reconst. , Reservoir Rd. to Berlin T.L. (CONCEPTUAL)	1,560	195	195	1,950
This project proposes to improve pavement, sidewalks and drainage on heavily traveled road to Berlin and Southington.							
STP-U	Berlin	7-XXX	Farmington Ave. Bridge Reconstruction (CONCEPTUAL)	410	51	51	513
This project repairs Bridge #04474, over the Sebethe River, which was rated poor by ConnDOT.(cost in 2004 dollars)							
TOTALS				**6,130**	**766**	**766**	**7,663**

Short-Term (2007-2011) Transit Projects – FTA Granted Projects in the Central Connecticut Region

Program	Town	Project Number	Route/Activity	Federal	State	Local	Total Cost
				$ x 1,000			
Various FTA	New Britain	0171-0305	New Britain to Hartford Busway	179,443	62,862	0	242,305
A buses-only roadway between New Britain and Hartford. Amounts shown are for total project, the majority of which is in the Capitol Region.							
5307 Enhance.	New Britain	88-XXX	Transit Enhancements for New Britain bus system	159	0	40	199
Funding for new bus shelters and bus route signage within the City of New Britain. First Phase.							
5307 Enhance.	New Britain	88-XXX	Transit Enhancements for New Britain bus system	No estimated costs available			
Funding for route map signs and informational kiosks within the City of New Britain. Second Phase.							
5307 Enhance.	Bristol	17-XXX	Transit Enhancements for Bristol bus system	No estimated costs available			
Funding for bus shelters and informational kiosks within the City of Bristol.							

Unfunded Potential Projects – Medium (2012-2020) and Long-Term (2021-2035)

Town	Route	Estimated Cost	Phase
Bristol	Greenway, Bicycle/Pedestrian Path—First Phase	$2.2 million	Conceptual
Bike/ped. path from Rockwell Park to Lake Compounce. Pass through downtown and connect to bus service and employment/residential centers. .			
Plainville	Neal Ct,/W. Main/Municipal Ctr.	Unknown	Conceptual
Intersection adjustments: Relocation of motor vehicle traffic signal and main Municipal Center driveway westerly to Neal Ct.			
Plainville	Reconstruction of W. Main St. bus shelter	Unknown	Conceptual
Plainville	Construction of CT Commons bus shelter	Unknown	Conceptual
Plymouth	Sidewalk from Terryville Center to Plymouth Center	Unknown	Conceptual
Southington	Plantsville Center to Cheshire—Extension of linear park	$2,045,000	Conceptual

Plymouth	Intersection Improvement – Route 6 & 72	Unknown	Conceptual
Plymouth	Rt. 6/Harwinton Av.—Intersection realignment	Unknown	Conceptual
Plymouth	Realignment of the S. Main St./N. Main St./Agney Ave. area in Terryville.	Unknown	Conceptual
Bristol	Intermodal Transp. Ctr: Local/intercity pub transp central access point.	$750,000	Conceptual
Bristol	Route 72 – Downtown	$2.3 million	Conceptual
Provide easier and faster movement passenger and commercial motor vehicle traffic to downtown Bristol and on to Route 8 and I-84.			
Bristol	Wolcott Street Reconstruction	$850,000	Conceptual
Realignment, pavement and drainage adjustments to eliminate substandard geometry and icing problems on important route to parts of Wolcott and Plymouth.			
Bristol	South St. Widen-relieve congestion on major corridor on dwtn edge.	$2.2 million	Conceptual
Bristol	Woodland/King. Adjust hazardous intersection w/ poor sight & geo	$2.42 million	PE
Plainville	Rt. 10/Townline Rd. Intersection adjustments.	Unknown	Conceptual
Plainville	Rt. 177/Townline Rd. Intersection adjustments.	Unknown	Conceptual
Plainville	Farmington Canal Heritage Trail. Continuation from Farmington to Southington.	Unknown	Conceptual
New Britain	Intermodal Transportation Center.	Unknown	Conceptual
This facility will enhance the downtown station for the Hartford-New Britain Busway and offer a central location for regional and inter-state transportation.			
Bristol	Greenway, Bicycle/Pedestrian Path-Downtown	Unknown	Conceptual
Continuation of first phase north through the downtown area.			
Bristol	Greenway, Bicycle/Pedestrian Path-Forestville	Unknown	Conceptual
Bristol	Greenway, Bicycle/Pedestrian Path-Southeast	Unknown	Conceptual
Bristol	Commuter Rail Service—Waterbury/Hartford	Unknown	Conceptual
Plainville	Town Ctr. Road adjustments. Whiting St.: W Main St. to Whiting St.	Unknown	Conceptual
Plainville	Creation of downtown municipal parking	Unknown	Conceptual
Plainville	Downtown: motor vehicle traffic calming	Unknown	Conceptual
Bristol	Greenway, Bicycle/Pedestrian Path-Northwest	Unknown	Conceptual
Berlin	Main Street Reconstruction, Mill to Berlin Street	Unknown	Conceptual
Berlin	Orchard Road Reconstruction, Chamberlain Hwy to Tollgate Road	Unknown	Conceptual
Berlin	Kensington Road Reconstruction, Camel Back to Main St	Unknown	Conceptual
Berlin	Hart Street Reconstruction	Unknown	Conceptual
Berlin	Reservoir Road Reconstruction	Unknown	Conceptual
Berlin	Episcopal Road Reconstruction, Deming Rd to Newington Town Line	Unknown	Conceptual
Berlin	Four Rod Road Reconstruction, Burnham to Norton Rd	Unknown	Conceptual

XVI. IMPLEMENTATION

It is important that the LRTP continue to function as a guide for transportation development throughout the region and that the MPO continue to evaluate the, social, environmental and financial impacts of our transportation system. Therefore, CCRPA must continue to:

- Monitor the transportation system to determine what its greatest needs are.
- Prioritize projects and transportation needs.
- Work toward the next LRTP update. The Plan is updated every four years and should continue to evolve with the region.
- Coordinate with the Connecticut Department of Transportation, other state agencies, the Federal Highway Administration, the Federal Transit Administration, the region's seven municipalities, providers of public transportation and citizens of the region.

XVII. LRTP AMENDMENT POLICY AND PROCEDURES

1) **30-day MPO public comment period on Long-Range Transportation Plan revisions** [23.CFR 450.322(i)]

a) Simultaneous Air Quality Conformity determination by ConnDOT (if believed to be exempt, ConnDOT would submit notice indicating as much with a request for FHWA/FTA concurrence) [23 CFR 450.322 (l)]

2) **MPO resolution to the Governor** (in this case, the resolution would be submitted to ConnDOT, who represents the governor on this matter); [23 CFR 450.322 (c)]

3) **Revised copy of Transportation Plan** submitted to FHWA/FTA. [23 CFR 450.322 (c)]

Appendix II-A

MPO Definitions and Acronyms

Definitions

3-C Process: The Comprehensive, Coordinated and Continuing Planning Process establishes effective regional transportation planning at the MPO level.

Average Daily Traffic (ADT): ADT is the average number of motor vehicles that run on a particular section of roadway in a day.

Capital Expense: In public transportation, a capital expense is made toward a tangible item such as a bus or a computer.

Enhancement: Under TEA-21, states are required to devote at least 10 percent of their Surface Transportation Program allotment to projects that serve to enhance the transportation system. Examples include: bicycle projects, scenic highway projects, landscaping, historic preservation, rehabilitation of historic transportation buildings, preservation of abandoned railway corridors, control of outdoor advertising and establishment of transportation museums.

Environmental Justice: Practicing environmental justice means ensuring that the effects of transportation planning are appropriately spread amongst racial and income groups across the region. Minorities and those in poverty should not bear the brunt of the negative externalities associated with many transportation projects and should receive their fair share of the benefits.

Federal Highway Administration (FHWA): The FHWA is part of the United States Department of Transportation and is responsible for administering federal highway funds. The majority of federal transportation funding that comes into the region comes through FHWA.

Federal Transit Administration (FTA): The FTA is part of the United States Department of Transportation and is responsible for administering federal public transportation funds.

Fiscal Year (FY): The CCRPA fiscal year runs from July 1 to June 30th.

High Occupancy Vehicle (HOV): A high occupancy vehicle is any vehicle occupied by more than one person. Most work-related automobile trips are made via single occupancy vehicles (SOV). In the Hartford Urbanized Area (though not in the Central Connecticut Planning Region), there are some HOV lanes. These lanes are exclusive to users of HOVs and enable passing of the general, SOV-dominated traffic.

Intelligent Transportation Systems (ITS): ITS is the utilization of Technology to provide safety and efficiency in transportation. Some objectives of ITS include: freeway management, emergency response, incident management, traveler information and motor vehicle traffic signal control. The most common example is variable message signs placed along roadways.

Intermodal Surface Transportation Efficiency Act (ISTEA): Approximately every five years, the federal government enacts a federal transportation bill. Historically these bills had been referred to as "the highway bill." ISTEA, however, saw major changes as the federal government wished to create a transportation system with many choices beyond the personal automobile. The requirement that significant funds be used toward enhancement was perhaps the bill's most progressive feature.

Vehicle Level of Service (VLOS): VLOS refers to the ability of an intersection or stretch of roadway to move motor vehicles. Those with VLOS grades of A and B have low congestion and delay. Those with VLOS of E and F have high levels of congestion and delay.

Long Range Transportation Plan (LRTP): The LRTP is required of all MPOs. This Plan discusses a vision for the Central Connecticut Region 27 years into the future (2007-2035).

Master Transportation Plan: Prior to this edition, the Long Range Transportation Plan was referred to as the Master Transportation Plan.

Metropolitan Planning Organization (MPO): A MPO is a regional transportation decision-making body required to exist in all urbanized areas with populations greater than 50,000. MPOs are responsible for determining how federal transportation funds are used. Every transportation project to receive federal funds must be approved by the MPO. There are four MPOs that serve the Hartford Urbanized Area: The Capital Region Council of Governments (Hartford), Midstate Regional Planning Agency (Middletown), Central Connecticut Regional Planning Agency (New Britain/Bristol) and the Council of Governments of the Central Naugatuck Valley (located in Waterbury, but has a very small portion of the Hartford Urbanized area). Each presides over a portion of the Hartford Urbanized Area. Before the 2000 Census, CCRPA was the lone MPO for the New Britain/Bristol Urbanized Area. However, that urbanized area has merged with the Hartford Urbanized area.

Mode: A transportation mode is the medium used to get from one place to another. Examples of modes include: bicycles, walking, the automobile, public transportation and airplanes.

Operating Expense: In public transportation, an operating expense is made toward items such as fuel and salaries.

Paratransit: The Americans with Disabilities Act (ADA) requires that providers of public transportation provide service to those physically or cognitively unable to utilize fixed-route public transportation. These services are referred to as paratransit services.

Right of Way (ROW): Right of way refers to the publicly owned portion of a road corridor. It is usual for there to be additional publicly owned land just outside of a road, which enables the placement of sidewalks or bike lanes and can make future widening easier.

Transportation Improvement Committee (TIC): The TIC is an advisory board to CCRPA. The Committee, made of municipal representatives, advises CCRPA on such matters as the TIP, the LRTP and STP-U funding.

Transportation Improvement Program (TIP): The TIP is not just a document or a listing of projects, but the result of a process of determining how millions of federal transportation dollars are to be spent. It is the mechanism that allows implementation of transportation projects. The TIP is programmed annually for a period of five years. All projects within the urbanized area that receive federal transportation funding are to be in the TIP.

Title VI of the 1964 Civil Rights Act: Title VI of the 1964 Civil Rights Act (42 U.S.C. 2000d-1) states that "no person in the United States shall, on the grounds of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance". It is vital that this be kept in mind during transportation planning activities.

Transportation Equity Act for the 21st Century (TEA-21): TEA-21 is the federal transportation bill that followed ISTEA. The bill, signed into law in 1998, continued the major themes of ISTEA, with some minor differences. TEA-21 will be up for reauthorization in 2003.

Urbanized Area: The urbanized area is the federally-designated area that is considered to be in the metropolitan area.

Vehicle Volume to Capacity (VV/C) Ratio: vv/c Ratio is a way to determine whether a roadway or intersection is congested. A vv/c ratio below "1" means that there is excess capacity. A vv/c ratio over "1" indicates that a roadway or intersection is handling more vehicles than it is designed for.

Thanks to the Tri-County Regional Planning Commission: http://www.tricountyrpc.org/transportation/ppuats/acro/index.htm Accessed 6-27-03.

Acronyms

ADA	Americans with Disabilities Act
BMS	Bridge Management System
CAA	Clean Air Act
CAAA	Clean Air Act Amendments
CIP	Capital Improvement Program
CMAQ	Congestion Mitigation and Air Quality Program
CMS	Congestion Management System
ConnDOT	Connecticut Dept. of Transportation
DOT	Department of Transportation
DEIS	Draft Environment Impact Statement
EIS	Environmental Impact Statement
EJ	Environmental Justice
EPA	Environmental Protection Agency
FAA	Federal Aviation Administration
FEIS	Final Environmental Impact Statement
GIS	Geographic Information Systems
GPS	Global Positioning Systems
ITS	Intelligent Transportation Systems
LRTP	Long Range Transportation Plan
NAA	Non Attainment Area
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act of 1969
NHS	National Highway System
PE	Preliminary Engineering
PL	Planning Funds
RR	Railroad
SIP	State Implementation Plan
STIP	State Transportation Improvement Program
STP	Surface Transportation Program
TAZ	Traffic Analysis Zone
TCM	Transportation Control Measure
TDM	Travel Demand Measure
TIP	Transportation Improvement Program
TMA	Transportation Management Area
TOD	Transit Oriented Development
UPWP	Unified Planning Work Program
VMT	Vehicle Miles Traveled

Thanks to the FHWA. http://mcb.fhwa.dot.gov/acronyms.htm Accessed 6-27-03.

<u>Appendix II-B</u>

Long Range Transportation Plan

Public Participation

CENTRAL CONNECTICUT REGIONAL PLANNING AGENCY

225 North Main St. • Suite 304 • Bristol, CT 06010-4993 (860) 589-7820 (860) 224-9888
FAX or TDD (860) 589-6950 E-Mail:ccrpa@ccrpa.org Web Site: www.ccrpa.org

1) Do You Have an Opinion on Transportation in Central Connecticut?
2) Would You Like to Help Shape Transportation Policy in the Region?

If the answer is "yes" to both questions, please fill out this short survey. The Central Connecticut Regional Planning Agency (CCRPA) is updating its Long-Range Transportation Plan 2007-2037 and is seeking public input. The CCRPA does regional transportation planning and programs millions of federal dollars for improvements for the Region. Your opinions will be part of the Plan. Whether you live or work in the communities of Berlin, Bristol, Burlington, New Britain, Plainville, Plymouth or Southington, you have a chance to have your voice heard. Mail, fax or e-mail responses to CCRPA using the contact information on letterhead above. Please send responses by 9/1/06. Thank you.

	Choose only one per question			
	Strongly Disagree	Disagree	Agree	Strongly Agree
1. I would like to see more roundabouts and less traffic signals.	☐	☐	☐	☐
2. Generally, traffic congestion is not an issue in this Region.	☐	☐	☐	☐
3. I would use transit if it were more convenient.	☐	☐	☐	☐

4. The most critical transportation problem in the Region is: (Please number from 1 [most critical] to 5 [least critical]				
Lack of highway access	Not enough transit service	Unsafe roads	Bad drivers	Other (specify)
☐	☐	☐	☐	☐ _____

5. In general, what transportation facility is in the most critical need of attention: (Please number from 1 (most critical) to 6					
Bus Transit	Sidewalks	State Roads	Bicycle Trails	Railroads	Other (specify)
☐	☐	☐	☐	☐	☐ _____

Check one box for each statement below.	Yes	No
6. I would definitely take the bus if gas prices climb to over four dollars per gallon.		
7. I would support electronic tolling on freeways in the Region to fund transportation projects.		
8. I believe that traffic safety decreases as traffic congestion increases.		
9. I believe that there are no dangerous roads, only dangerous drivers.		
10. I believe that more money should be spend to improve pedestrian facilities.		

List Specific Problem Sites in the Region	Reason for Problem and Possible Solution

SERVING: BERLIN, BRISTOL, BURLINGTON, NEW BRITAIN, PLAINVILLE, PLYMOUTH, SOUTHINGTON

Comments Received and Responses Forwarded

The following e-mails were received during draft preparation of the LRTP and outreach efforts utilizing an MPO e-mail distribution list maintained by the CCRPA.

Ken Shooshan-Stoller

From: Pramod Pandey [ppandey@ccrpa.org]
Sent: Monday, January 08, 2007 9:08 AM
To: Ken Shooshan-Stoller
Subject: request posted on our website.

```
-----Original Message-----
From:
Sent: Saturday, January 06, 2007 9:33 PM
To: ppandey@ccrpa.org
Subject: WWW Form Submission

Below is the result of your feedback form.  It was submitted by
 () on Saturday, January 6, 2007 at 21:33:02
--------------------------------------------------------------------------

MessageType: Suggestion

Subject: (Other)

SubjectOther: lrtp

Comments: PLEASE TELL US A NEW WAY HOW WE CAN GET A BUS LINE THROUGH SOUTHINGTON, CT

Username: mike ruzzi II

UserEmail: mikestretch2004@cs.com

ContactRequested: ContactRequested

--------------------------------------------------------------------------

HTTP_USER_AGENT: Mozilla/5.0 (Windows; U; Windows NT 5.1; en-US; rv:0.9.4.2)
Gecko/20021112 CS 2000 7.0/7.0
REMOTE_ADDR: 152.163.100.204
```

1

Ken Shooshan-Stoller

From: Ken Shooshan-Stoller
Sent: Monday, January 08, 2007 1:03 PM
To: 'mikestretch2004@cs.com'
Subject: bus route in Southington
Attachments: CPTC.JPG

Mike,
Thanks for the time to email and call. Our agency has been advocating for a bus route in Southington for many years. We testify at public hearings of the Connecticut Public Transportation Commission for such a route from Plainville along Route 10 to the Stop and Shop (see attached). ConnDOT knows of this request, but are reluctant to initiate new service, partly because of expense. We may be able to convince DOT to try a demonstration project there, but they can still withhold continuing operations funding, even if the demonstration is successful. We are meeting in the near future with the new commissioner of DOT, and we will bring up this matter. Thank you for your interest, and I wish I could be more definitive about how and when service could start, but we will keep plugging away.

Please keep in touch and check our website for more information. I will let you know how our meeting with the commissioner goes.

Ken Shooshan-Stoller
Deputy Director
Central Connecticut Regional Planning Agency
225 North Main Street, Suite 304
Bristol, Connecticut 06010
860-589-7820
FAX 860-589-6950
ken@ccrpa.org
www.ccrpa.org

Ken Shooshan-Stoller

From: Ken Shoohan-Stoller [ken@ccrpa.org]
Sent: Thursday, January 25, 2007 2:22 PM
To: 'Snyder, Sally'
Cc: 'barbara.breslin@fhwa.dot.gov'; Carl Stephani; 'Mark F. Phillips (mark.phillips@po.state.ct.us)'
Subject: RE: Comments on draft Transportation Plan

Sally,
Thank you for your input into the Long-Range Transportation Plan. In fact, such comments are, I believe, very much in line with FHWA's requirements for consultation with environmental agencies under SAFETEA-LU for inclusion into a Long-Range Transportation Plan (LRTP).

Furthermore, your comments and their disposition, as well as our responses shall be memorialized within the plan's public comment section.

Adding the objectives you mention for page 7 (within the action plan) are logical extensions of the mitigation discussion on pages 18 and 19 of the LRTP. Use of retrofits, consideration of minimum road widths, and adherence to local stormwater management plans shall appear as actions under the additional objective subject to agency approval, which I think is very probable.

Reference to rail service goals on page 11 do not interfere with plans or concepts in the region for multiuse trails. The agency supports the completion of the East Coast Greenway, which includes rails-with-trails concepts for the Town of Plainville and Southington. Additionally, the agency supports the plans for a multiuse trail to accompany the New Britain to Hartford Busway.

I believe the agency would support the recommendation for grass strips separating sidewalks from roadway edges to accomplish additional opportunities for infiltration. Such design would also create increased safety buffers for pedestrians and adequate snow shelf.

Your question under Bicycle Movement goals on page 12, could be handled under page 53, Section B (Bicycle Movement). Cyclists prefer a smooth surface for comfortable and safe ride, which may preclude pavers. Consideration of alternative pavements is a recommendation in our Pequabuck River Watershed Management Plan. I believe that such pavements would not be one of the standards for state road surfaces. However, most recommendations for bicycle lane striping would target roads with existing supplementary width, and we would not advocate for additional pavement within the right-of-way.

On page 17, under 5), we shall reference the environmental concerns discussion on pages 18 and 19 and elaborate on techniques for environmental mitigation.

On page 15, paragraph A, we are using the word "programs" as a verb.

Thank you again for your review,

Ken Shooshan-Stoller
Deputy Director
Central Connecticut Regional Planning Agency
225 North Main Street, Suite 304
Bristol, Connecticut 06010
860-589-7820
FAX 860-589-6950
ken@ccrpa.org
www.ccrpa.org

-----Original Message-----
From: Snyder, Sally [mailto:Sally.Snyder@po.state.ct.us]
Sent: Thursday, January 25, 2007 10:58 AM
To: Ken Shooshan-Stoller
Subject: Comments on draft Transportation Plan

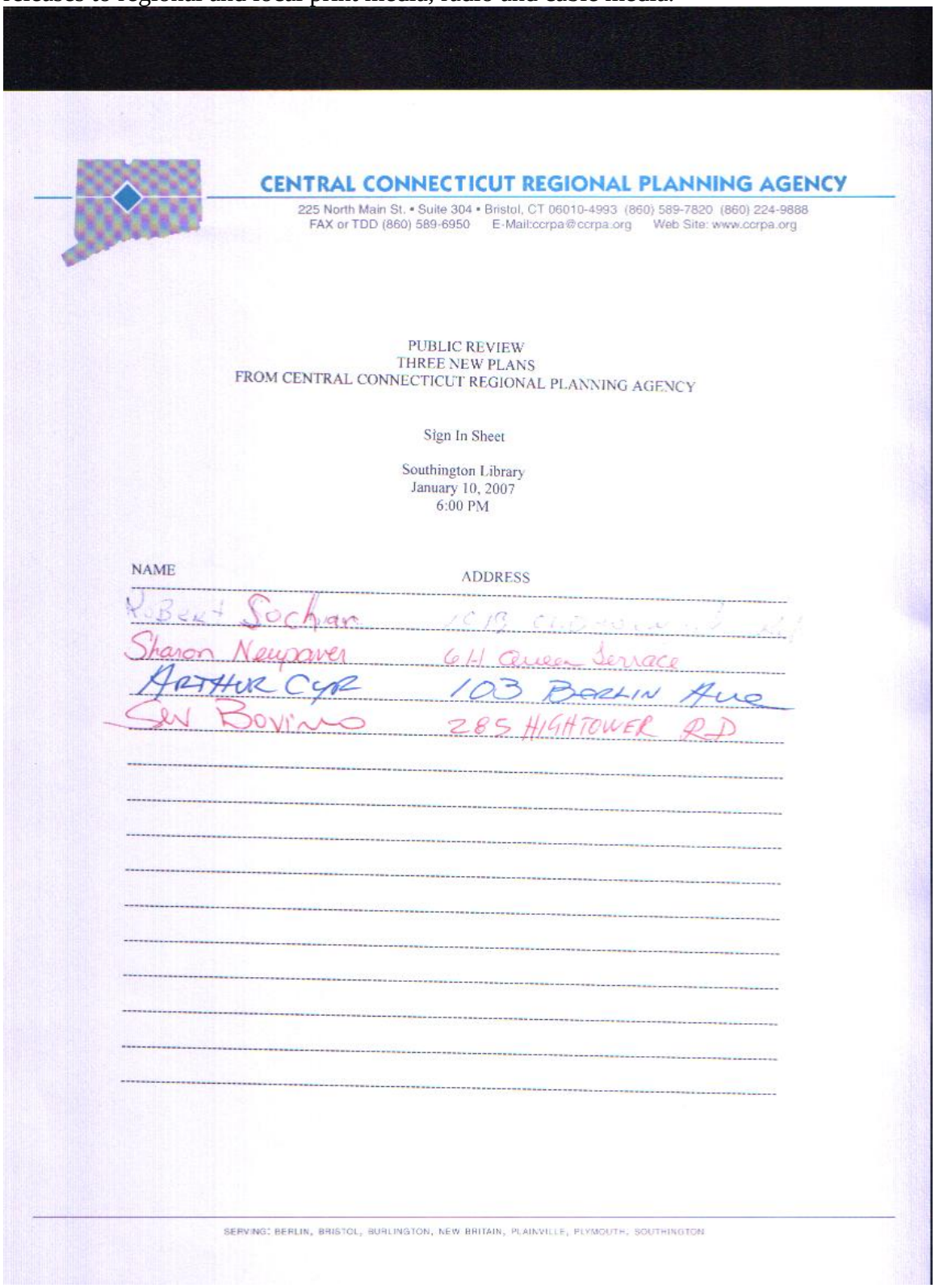
Hi, Ken. Just to follow-up, I was thinking of adding either another Objective or Goal on page 7 that would promote infiltration and reduction in impervious surfaces for new and rehabilitation of existing roadways, including retrofits, to decrease NPS pollution and stormwater runoff and increase stormwater quality renovation, where appropriate, as opportunities arise. I'll leave the exact wording up to you. I understand that state roads must subscribe to state and federal standards for safety; I just want to ensure that the minimum acceptable roadway widths and shoulders are considered and that local roadway designs (if you have control over these) also consider minimum widths and layouts, which is dependent on various factors such as the road's setting on the landscape (steep vs. flat) and level of vehicular use.
And in accordance with the Stormwater Phase II General Permit of MS4s, stormwater runoff should be minimized, managed and treated.

Other thoughts:
P. 11 I hope that proposals to increase rail do not jeopardize proposed rails to trails or other greenway plans.
P. 12 Under Pedestrian Movement, I understand the desire for sidewalks, but if possible, they should be separated from roadway pavement by a grassed strip which can improve stormwater infiltration and treatment.
P. 12 Under Bicycle Movement, if designated bicycle lanes are incorporated into roadway designs (what is the typical bicycle lane width requirement?), can these be constructed with pavers which would promote infiltration, thereby reducing stormwater runoff while providing a visual segregation of the bike lane? Perhaps this is too much detail for consideration here.
P. 15 Paragraph A. lines 4-5 The sentence containing "MPO program federal funds" seems awkward - could it be missing a verb?
P. 17 Under 5), perhaps expand on ways to "minimize environmental damage"?

Thanks for the information and including so many of our concerns in this and the RBOA report. Sally

Informational Meetings

Meetings were scheduled in three different locations in the Region and noticed via press releases to regional and local print media, radio and cable media.



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FAX or TDD (860) 589-6950 E-Mail:ccrpa@ccrpa.org Web Site: www.ccrpa.org

PUBLIC REVIEW
THREE NEW PLANS
FROM CENTRAL CONNECTICUT REGIONAL PLANNING AGENCY

Sign In Sheet

Southington Library
January 10, 2007
6:00 PM

NAME	ADDRESS
Robert Sochian	[illegible]
Sharon Neupaver	611 Queen Terrace
Arthur Cyr	103 Berlin Ave
Sev Bovino	285 Hightower Rd

SERVING: BERLIN, BRISTOL, BURLINGTON, NEW BRITAIN, PLAINVILLE, PLYMOUTH, SOUTHINGTON

INDIVIDUAL MEETING – PUBLIC PARTICIPATION PLAN EVALUATION

MEETING SUMMARY

Planning Document:	Regional Build-Out Analysis	adopted 2/1/07
	Long-Range Transportation Plan	adopted5/3/07
	Regional Plan of Conservation and Development	adopted 5/3/07

Public Informational Meeting Date: January 10, 2007

Meeting Location: Southington Public Library

Summary of Comments Made: Initial discussion focused on functions of the agency. Comments on RBOA centered on net land available in Southington as inflated. Questions arose on residential versus industrial land and use of constraints. Comments on transportation centered on Route 10 needs around Flanders Road, rails to trails in Southington with extensions north and south, the feasibility of rail, both commuter and freight. Concerns about the Mount Vernon Road project as a widening project to take through traffic off of Route 10. It was explained that the widening is not planned to be extensive and is designed as a safety measure to coincide with the reconstruction of the road. Discussion of Mill Street at North Main Street intersection was raised, and how to make turning easier. It was expressed by participant that the current configuration had negative effects on economy of center. The RPOCD was introduced as influenced by the RBOA. Policies stated in the plan are supported by RBOA and are compatible with the State POCD.

Visualization Techniques Employed: Wall maps were displayed of bus routes, paratransit service areas, build-out yields, and future land uses. Handouts were distributed which outlined main findings and policies of each report. Additional information was distributed such as Annual Reports and MPO brochures.

INDIVIDUAL MEETING – PUBLIC PARTICIPATION PLAN EVALUATION

MEETING SUMMARY

Planning Document:	Regional Build-Out Analysis	adopted 2/1/07
	Long-Range Transportation Plan	adopted 5/3/07
	Regional Plan of Conservation and Development	adopted 5/3/07

Public Informational Meeting Date: January 16, 2007

Meeting Location: New Britain Public Library

Summary of Comments Made

Comments centered on the downtown New Britain station for the Busway and how buses would access the station. Interest was displayed when it was explained how Route 72 would have a dedicated ramp for buses to enter the station area. Questions arose concerning how riders would access the station as well. There was a discussion of parking available downtown that could be used to access the station. It was explained that the station site itself could not support a parking structure for riders, but other structures were in close proximity.

Visualization Techniques Employed: Wall maps were displayed of bus routes, paratransit service areas, build-out yields, and future land uses. Handouts were distributed which outlined main findings and policies of each report. Additional information was distributed such as Annual Reports and MPO brochures.

INDIVIDUAL MEETING – PUBLIC PARTICIPATION PLAN EVALUATION

MEETING SUMMARY

Planning Document:	Regional Build-Out Analysis	adopted 2/1/07
	Long-Range Transportation Plan	adopted 5/3/07
	Regional Plan of Conservation and Development	adopted 5/3/07

Public Informational Meeting Date: January 9, 2007 (As part of the regular meeting of the East Side NRZ), fifteen residents of the area attended.

Meeting Location: Stanley Memorial Church

Summary of Comments Made
The majority of comments centered on details of the New Britain Hartford Busway. There were questions and comments regarding the cost of the project, the operational schedule, and the realism of projected ridership. Other questions centered on how buses would access the Busway.

Visualization Techniques Employed: Wall maps were displayed of bus routes, paratransit service areas, build-out yields, and future land uses. Handouts were distributed which outlined main findings and policies of each report. Additional information was distributed such as Annual Reports and MPO brochures.

INDIVIDUAL MEETING – PUBLIC PARTICIPATION PLAN EVALUATION

MEETING SUMMARY

Planning Document:	Regional Build-Out Analysis	adopted 2/1/07
	Long-Range Transportation Plan	adopted 5/3/07
	Regional Plan of Conservation and Development	adopted 5/3/07

Public Informational Meeting Date: January 18, 2007

Meeting Location: Bristol Public Library – Manross Branch

Summary of Comments Made
Comments and questions were received concerning the extension of Route 72 and bus routes in Bristol, and suggestion to extend bus routes into Plymouth.

Visualization Techniques Employed: Wall maps were displayed of bus routes, paratransit service areas, build-out yields, and future land uses. Handouts were distributed which outlined main findings and policies of each report. Additional information was distributed such as Annual Reports and MPO brochures.

INDIVIDUAL MEETING – PUBLIC PARTICIPATION PLAN EVALUATION

MEETING SUMMARY

Planning Document:	Regional Build-Out Analysis	adopted 2/1/07
	Long-Range Transportation Plan	adopted 5/3/07
	Regional Plan of Conservation and Development	adopted 5/3/07

Public Informational Meeting Date: March 12, 2007

Meeting Location: Central Connecticut Regional Planning Agency – Conference Room, Regular meeting of the Central Connecticut Economic Development Alliance (five members in attendance)

Summary of Comments Made
Discussion centered on economic impact of transportation projects. Members were informed that economic impacts are considered in the criteria to rate STP-urban proposals. Some discussion also concerned the traffic impacts of build out analysis in terms of the dispersed nature of buildable sites in the region.

Visualization Techniques Employed: Wall maps were displayed of bus routes, paratransit service areas, build-out yields, and future land uses. Handouts were distributed which outlined main findings and policies of each report. Additional information was distributed such as Annual Reports and MPO brochures.

Public Hearing for the Long-Range Transportation Plan was noticed to newspapers, the CCRPA web site and town and city halls. The public comment period lasted 35 days. No correspondence was received in regards to the plan from the public. The public hearing was held on April 23, 2007, and there were no attendees.

The Hartford Courant.

A TRIBUNE PUBLISHING COMPANY

Affidavit of Publication

State of Connecticut

Wednesday, March 21, 2007

County of Hartford

I, Joy Shroyer, do solemnly swear that I am Financial Operations Assistant of the Hartford Courant, printed and published daily, in the state of Connecticut and that from my own personal knowledge and reference to the files of said publication the advertisement of Public Notice was inserted in the regular edition.

On dates as follows: 03/20/2007

In the amount of $50.68
CENTRAL CT REG PLAN AGENC
061409
ZONE 5

LEGAL NOTICE

The Central Connecticut Regional Planning Agency (CCRPA) will hold a public hearing on April 23, 2007, at 6:30 PM at the CCRPA office, 225 N. Main St., Suite 304, Bristol, CT. The purpose of the public hearing is to hear citizen comments on the Long-Range Transportation Plan, 2007-2037 (LRP), the List of 2006 Obligated and Grant Projects (List) and the Air Quality Conformity Report. Those unable to attend the public hearing can arrange to provide oral testimony by contacting CCRPA at 860-589-7820.

The LRP and the List will be available for review until April 23, 2007. Written comments can be mailed to CCRPA, 225 N. Main St., Suite 304, Bristol, CT 06010 or emailed to kem@ccrpa.org. Written comments must arrive prior to 4:00 PM on April 23, 2007. During the 35-day comment period, copies of the LRP, the List and the Air Quality Conformity Report will be available at the CCRPA office. The LRP and the List will also be available at www.ccrpa.org, municipal clerk offices of Berlin, Bristol, Burlington, New Britain, Plainville, Plymouth and Southington as well as the main libraries of each community listed.

Financial Operations Assistant
Joy Shroyer

Subscribed and sworn to before me on March 21, 2007

Notary Public

LISA CARDINI
NOTARY PUBLIC
MY COMMISSION EXPIRES JUNE 30, 2011

The Hartford Courant.

A TRIBUNE PUBLISHING COMPANY

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Financial Operations Assistant
Joy Shroyer

Subscribed and sworn to before me on March 21, 2007

Notary Public

LISA CARDINI
NOTARY PUBLIC
COMMISSION EXPIRES JUNE 30, 2011

<u>Appendix II-C</u>

Air Quality Conformity Statement

And

Long Range Transportation Plan Adopting Resolution

CENTRAL CONNECTICUT REGIONAL PLANNING AGENCY
225 North Main St. • Suite 304 • Bristol, CT 06010-4993 (860) 589-7820 (860) 224-9888
FAX or TDD (860) 589-6950 E-Mail:ccrpa@ccrpa.org Web Site: www.ccrpa.org

RESOLUTION ON CONFORMITY WITH THE CLEAN AIR ACT
OZONE

Resolution No.: 421

WHEREAS,
the Central Connecticut Regional Planning Agency is required to submit an Air Quality Conformity Statement to the US Federal Highway Administration (FHWA) and to the US Environmental Protection Agency (EPA) in accordance with the final conformity rule promulgated by EPA (40 CFR 51 and 93) when adopting an annual Transportation Improvement Program or when effecting a significant revision of the Regions Transportation Plan; and

WHEREAS,
Title 42, Section 7506 (3) (A) states that conformity of transportation plans and programs will be demonstrated if:

1. the plans and programs are consistent with recent estimates of mobile source emissions;
2. the plans and programs provide for the expeditious implementation of certain transportation control measures;
3. the plans and programs contribute to annual emissions reductions consistent with the Clean Air Act of 1977, as amended; and

WHEREAS,
it is the opinion of the Central Connecticut Regional Planning Agency that the plans and programs approved on May 3, 2007 and submitted to FHWA and EPA conform to the requirements of Title 42, Section 7506 (3) (A) as interpreted by EPA (40 CFR 51 and 93); and

WHEREAS,
The State of Connecticut has elected to assess conformity in the Connecticut portion of the New York-Northern New Jersey-Long Island, NY-NJ-CT Ozone Moderate Nonattainment area (Fairfield, New Haven and Middlesex Counties) and the Greater Connecticut Ozone Moderate Nonattainment Area (Hartford, New London, Tolland, Windham and Litchfield counties), and the Connecticut Department of Transportation has jointly assessed the impact of all transportation plans and programs in these Nonattainment areas (Ozone Air Quality Conformity Report March 2007); and

WHEREAS,
The Connecticut Department of Transportation's assessment (above) has found that plans and programs jointly meet mobile source emission's guidelines advanced by EPA pursuant to Section 7506 (3) (A).

Now, THEREFORE BE IT RESOLVED,

That the Central Connecticut Regional Planning Agency finds that the Long-Range Transportation Plan and the FFY 2007-2011 Transportation Improvement Plan conform to air quality requirements of the U.S. Environmental Protection Administration (40 CFR 51 and 93), related U.S. Department if Transportation guidelines (23 CFR 450) and with Title 42, Section 7506 (3) (A) and hereby approves the Ozone Air Quality Conformity Determination.

CERTIFICATE

The undersigned duly qualified and acting Secretary of the Central Connecticut Regional Planning Agency certifies that the foregoing is a true and correct copy of a resolution adopted at a legally convened meeting of the Central Connecticut Regional Planning Agency on May 3, 2007

DATE: 5-3-07 BY: Joseph Julian

CENTRAL CONNECTICUT REGIONAL PLANNING AGENCY

225 North Main St. • Suite 304 • Bristol, CT 06010-4993 (860) 589-7820 (860) 224-9888
FAX or TDD (860) 589-6950 E-Mail:ccrpa@ccrpa.org Web Site: www.ccrpa.org

Resolution No. 422

Major Update to the Long-Range Transportation Plan
For the Central Connecticut Region 2007-2037

Bristol, Connecticut

I certify that the following is a true copy of the vote of the Central Connecticut Regional Planning Agency at its meeting of May 3, 2007.

RESOLVED:
To approve the major update to the Long-Range Transportation Plan for the Central Connecticut Region 2007-2037. This endorsement by the Central Connecticut Regional Planning Agency constitutes the Metropolitan Planning Organization adoption of this Plan for use in compilation of the Transportation Improvement Program.

Joseph Sulian

Secretary
Central Connecticut Regional Planning Agency
May 3, 2007

Appendix II-E

Environmental Mitigation in Transportation

Environmental Mitigation in Transportation

Jillian Harris
Regional Planner
Central Connecticut Regional Planning Agency

Introduction

Transportation projects are vital to circulation and mobility for our communities. Roads and highways are also constantly in need of maintenance, upkeep, development and redevelopment to keep things running as they need to. Along with this, their impact on the environment must have careful consideration. Not only is it Federal and State Law that environmental impacts must be minimized and/or mitigated, it is in the best interest for the health of our communities as well.

As defined by the Council on Environmental Quality in NEPA regulations (40 CFR 1508.20), mitigation means:

- Avoiding the impact altogether by not taking a certain action or parts of an action.

- Minimizing impacts by limiting the degree or magnitude of the action and its implication.

- Rectifying the impact by repairing, rehabilitating, or restoring the affected environment.

- Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action.

- Compensating for the impact by replacing or providing substitute resources or environments.

The Safe, Accountable, Flexible, Efficient Transportation Act: a Legacy for Users (SAFETEA-LU), which was passed by Congress and signed by the President in August of 2005, established new requirements for the preparation of long range transportation plans (LRPs), which included the requirement of a discussion of potential environmental mitigation activities and potential areas to carry out these activities. This report is meant to supplement the Central Connecticut Regional Planning Agencies Long-Range Transportation Report 2007 – 2035, with an in-depth discussion of those mitigation activities.

This report is also meant to serve as a guide for municipalities and those undertaking transportation projects. It describes environmental mitigation measures that can be taken in accordance with the above definition for those projects. It is not meant to be a comprehensive guide, but an overview of possible measures that can be taken. This report is divided into the three phases of all transportation projects:

- Planning and Design

- Construction

- Post-Construction or Operational

Planning and Design

Environmental Mitigation is rooted in the planning and design phase because it requires forethought and extensive research on the site characteristics to be able to plan for necessary mitigation steps.

Measures must be implemented as appropriate for each specific situation and project. Therefore the following measures are meant as suggestions and must be tailored according to the specifics within individual projects.

Air Quality

Source: ElTodo, http://www.eltodo.cz

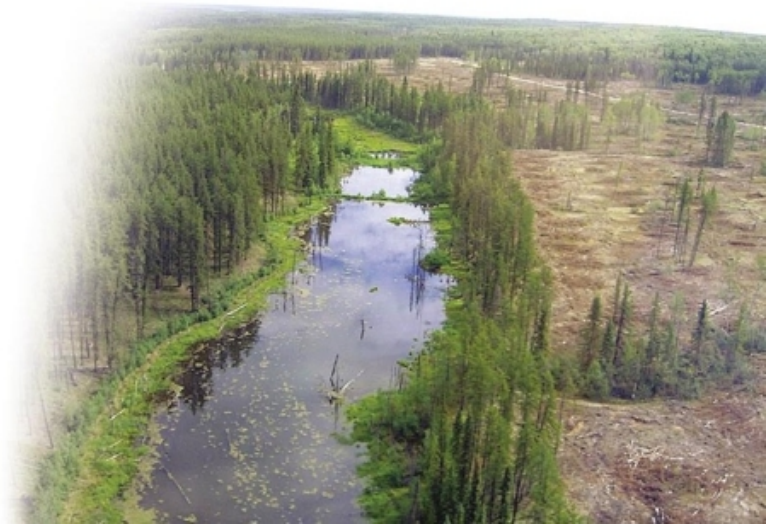
Measure: Increase intersection capacity by adding traffic lanes[i]
Description: Increasing intersection capacity will reduce vehicle idling time and thereby reduce emissions from a proposed intersection. Adding traffic lanes should increase the flow of traffic to aid in this increase of intersection capacity.
Implementation: Requires adequate right-of-way area and design in planning stages of project
Necessary Maintenance: Air Quality testing can be done to determine how well the model's estimated air quality is in comparison to actual.

Measure: Optimize signal timing for air quality purposes (i above)
Description: Optimizing signal timing will increase the flow of traffic and reduce vehicle idling time, thereby reducing emissions.
Implementation: A traffic engineer will need to be employed to determine signal timing for specific intersections. This measure will also need to be taken into account in the planning and design phase.
Necessary Maintenance: Monitoring should be done to make sure signal timing is working, and then necessary adjustments should be made.

Measure: Divert traffic to other locations (i above)
Description: This measure will also affect the flow of traffic and decrease idling time and emissions.
Implementation: Implementation of this measure will be determined by specific location characteristics and availability of alternative routes. Signage will also be necessary to divert traffic to other routes.
Necessary Maintenance: Monitoring to determine the effectiveness of any diversion and for adjustments to the diversion.

Water

Measure: Establish a 150-300 foot riparian buffer zone around waterways[ii]
Description: Waterways with healthy riparian buffers are much less vulnerable to runoff pollution. Buffers help to maintain healthy water quality and create aesthetic landscapes.
Implementation: Establishment of a buffer zone ordinance
Necessary Maintenance: Depends on location, type of buffer, size of buffer, etc…but will ultimately include monitoring and possible vegetation upkeep in buffer zone.
Other: Model ordinance at www.stormwatercenter.net
More information available at
http://www.eightmileriver.org/resources/digital_library/appendicies/09c3_Riparian%20Buffer%20Science_YALE.pdf



Example of a riparian buffer – Source: Environment Canada, http://www.mb.ec.gc.ca/index.en.html

Measure: Install Permeable Pavement[iii]
Description: Permeable Pavement allows water infiltration and mimics the natural infiltration of water into the soil before pavement is put down. This allows for better filtration of pollutants and less pollutant reaching nearby waterways. This also allows for runoff temperatures that are closer to what they naturally would be. Permeable pavement allows for less drainage infrastructure to be built, reducing costs and maintenance in the future.
Implementation: Use of permeable pavement during the transportation construction phase
Necessary Maintenance: Will require monitoring to make sure drainage is sufficient.
Other: See pg.11 "Review of Green Parking Lots" for more information on permeable pavement.

Landscape

Measure: Preserve existing vegetation and trees wherever possible[iv]
Description: Preserving existing vegetation and trees should be a part of the planning phase, to reduce the impact on the landscape and aid in the establishment of a buffer for the project.
Implementation: Will require preservation and replanting of trees and replanting of disturbed existing vegetation during construction phase
Necessary Maintenance: Monitoring to determine health and establishment of replanted vegetation

Measure: Plan to install permanent and temporary erosion control structures[v]
Description: Permanent structures should be installed to control potential erosion resulting from the project over the long-term. Temporary erosion control structures should be installed during construction to control erosion resulting from construction and in the interim while vegetation is being established.
Implementation: Will require project specific erosion control measures to be implemented during construction
Necessary Maintenance: Monitoring to determine effectiveness of structures and if there is a need to implement stronger measures

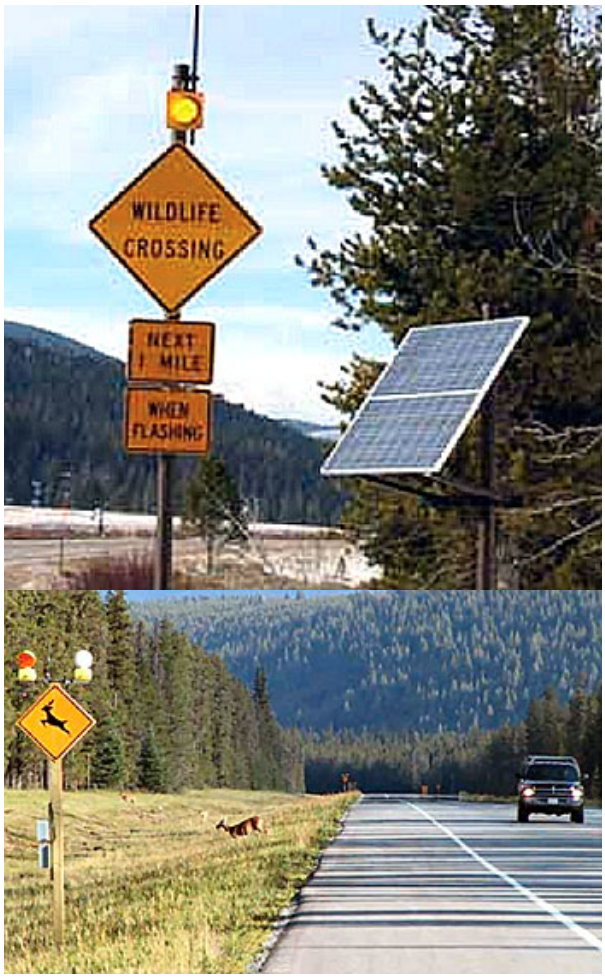
Wildlife

Problem: Transportation corridors not only destroy habitat but create barriers that isolate wildlife populations and impede migration[vi]
Measure: Include wildlife crossings in transportation project design
Description: A wildlife crossing is any measure that allows for the safe passage of wildlife across a transportation corridor. The crossings can range from small culverts to allow for salamanders to cross to a nearby wetland up to large underpasses for deer and other large animal movement across a corridor.
Implementation: Will require crossings to be installed during project construction.
Necessary Maintenance: Monitoring of effectiveness of crossings will be necessary to make sure they are serving their intended purpose and to determine if other measures are necessary to facilitate wildlife movement across a corridor.

Example of a Wildlife crossing – Source: Byron Environment Centre, http://www.byronenvironmentcentre.asn.au

Measure: Require the purchase of preservation lands to mitigate the loss of habitat
Description: It is inevitable that transportation projects will lead to the destruction of habitat for wildlife. To mitigate this, lands equal in size and characteristics can be purchased for preservation. Although no two pieces of land will ever be exactly the same, this is one way to ensure that land is preserved where it will not be disturbed and maintain habitat for wildlife.
Implementation: Requires that local and state agencies incorporate habitat preservation and mitigation banking into their requirements for transportation plans

Problem: Vehicle Collisions with large species of wildlife resulting in wildlife mortality and/or decreased public safety[vii]
Measure: Plan to install wildlife crossing signage
Description: Signage can help warn drivers of areas with high volumes of wildlife crossings and create public awareness of the increased risk of wildlife collisions in a certain area.
Implementation: Signs will be installed during construction phase
Necessary Maintenance: Studies done on statistics of wildlife collisions can help to deduce effectiveness of signage and other measures taken to reduce collisions.
Other: In some areas fatality signs have been installed to further increase driver's awareness of wildlife vehicle collisions.



Source: Better Roads, http://www.betterroads.com

Problem: Endangered Species
Measure: Mitigation measures include redesign of projects to minimize impacts, compensation for impacts to listed species, restoration, and hiring of biological monitors for the duration of the project.[viii]
Description: Besides complying with State and Federal regulations for threatened and endangered species there are a number of mitigation techniques that can be employed to

minimize impacts to these species and their habitat.
Implementation: Mitigation techniques should be implemented before and during construction phase.
Necessary Maintenance: Ongoing biological monitoring should be done to ensure there aren't residual impacts to species in the area.

Construction Phase

During the construction phase of a project mitigation will be implemented. The process of construction as well as the project being implemented must be considered for its impacts on the environment. Altering the landscape has impacts when it's being done as well as after it is done. Mitigation measures for the construction process should be planned into a project during the Planning and Design phase and implemented during the construction phase. Besides those listed in the Planning and Design Phase of this report, the following are measures that can be taken for mitigating the actual process of construction.

Again, it is important to point out that the following measures are suggestions that must be implemented according to specific situations, projects and site characteristics.

Air Quality

Measure: Wind Erosion Control[ix]
Description: Mitigation controls for wind erosion should address disturbed soils and may include watering, chemical treatment, covering and preservation and installation of vegetation for stabilization.
Implementation: Wind Erosion controls must be a part of the planning process and installed at the beginning of construction to be effective. Permanent wind erosion controls must be considered and installed during construction as well for the post-construction period of the project.
Necessary Maintenance: Ongoing monitoring must be done to be sure controls are effective during and after construction.

Water

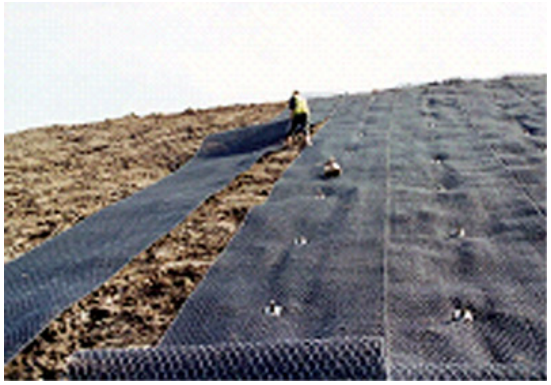
Measure: Silt Fence[x]
Description: A Silt Fence is a temporary sediment barrier made of woven, synthetic filtration fabric supported by steel or wood posts. The purpose of a silt fence is to prevent sediment carried by sheet flow from leaving a site and entering natural drainage ways or storm drainage systems by slowing storm water runoff and causing the deposition of

sediment at the structure. Silt fencing encourages sheet flow and reduces the potential for development of rills and gullies.[xi]
Implementation: Installed at the beginning of the construction phase and for the duration.
Necessary Maintenance: Sediment should be removed once it has accumulated to one half the original height of the barrier. Filter fabric should be replaced whenever it has deteriorated to such an extent that the effectiveness of the fabric is reduced (approximately 6 months). Silt fence should remain in place until disturbed areas have been permanently stabilized. All sediment accumulated at the fence should be removed and properly disposed of before the fence is removed. [xii]

Example of a Silt Fence – Source: CatalogClearance.com , http://www.catalogclearance.com/itm_img/Silt_Fence.jpg

Landscape

Measure: Install temporary and permanent erosion control structures[xiii]
Description: Please see Appendix II-AA for a list of possible erosion control measures that can be installed during construction. Refer to the Caltrans Construction Site Best Management Practices Manual for details on each.
Implementation: Implementation of each of the possible measures is included in documentation from Caltrans.



Source: RoadTrafficTechnology.com, http://www.roadtraffic-technology.com

Source: Land and Water Magazine, http://www.landandwater.com

Wildlife

Measure: Flag or Fence-in sensitive areas
Description: Sensitive Areas should be determined and flagged or fenced during the planning phase, so that they are not disturbed by construction activities. During construction these areas should be off-limits to any construction-related activities.

Post-Construction or Operational Phase

Mitigation measures must be monitored after they are implemented for an indefinite amount of time to make sure they are working as they were originally designed to. Monitoring these measures is one of the most important steps of the process because it is the only way to gauge whether the negative effects of a certain project have been successfully mitigated. Most mitigation measures need to be designed and implemented into the Pre-construction and Construction phases; the Post-construction measures mainly involve monitoring of measures that have already been installed or implemented.

Air Quality

Measure: Air Quality monitoring[xiv]
Description: Determine effectiveness of air quality mitigation measures, and whether it is necessary to adjust measures or take another approach to mitigating high levels of pollutants.
Implementation: Will require a transportation/environmental engineer or professional who can undertake monitoring, determine effectiveness of measures and make suggestions for improvements.
Necessary Maintenance: Ongoing monitoring should be done as area characteristics, such as population and development change.

Water

Measure: Monitoring of waterways and watershed
Description: Ongoing monitoring of the nearby waterways and in turn the watershed in which a project is located is necessary to ensure their health and to determine if the project is having any long-term effects that were not mitigated, or thought of, in the Planning/Pre-construction phase.
Implementation: Will require a Hydrologist to monitor waterways and watershed in the area and determine what effects a project is having, or will have, on water quality.

Measure: Bioretention for infiltration
Description: "A bioretention device is an *infiltration device* consisting of an excavated area that is back-filled with an engineered soil, covered with a mulch layer and planted with a diversity of woody and herbaceous vegetation. Storm water directed to the device percolates through the mulch and engineered soil, where it is treated by a variety of physical, chemical and biological processes before infiltrating into the *native soil*."[xv]
Implementation: Device should be constructed during construction phase.
Necessary Maintenance: "Bioretention devices are not suitable for controlling construction site erosion. These devices will not treat chlorides, and will be damaged by heavy loading of salt-based deicers."xv
Other: http://www.dnr.state.wi.us/runoff/stormwater/techstds.htm

Measure: Vegetated Swale
Description: "Vegetated infiltration swales are stormwater conveyance systems designed to enhance infiltration runoff. A vegetated infiltration swale can be a natural elongated depression or a constructed channel. A vegetated infiltration swale differs from a conventional drainage channel or ditch in that it is constructed specifically to promote infiltration."[xvi]
Implementation: Device should be constructed during construction phase.
Necessary Maintenance: **"**As with other infiltration devices, vegetated infiltration swales require pretreatment of stormwater to remove sediment from source areas listed in NR 151.12 (5)(c)(4). Pretreatment can be accomplished through the use of practices such as grassed swales, detention basins, and vegetated filter strips."xvi
Other: http://www.dnr.state.wi.us/runoff/stormwater/techstds.htm

Measure: Develop a Post Construction Stormwater management ordinance
Description: Defining guidelines for Post Construction stormwater management can benefit a municipality for any development project. This will provide developers with a guide to stormwater management for any project, including transportation projects undertaken within their jurisdiction.
Implementation: Requires developing and approving a Stormwater Management ordinance by a municipality
Necessary Maintenance: Municipality should assess the effectiveness of the ordinance at regular intervals and make changes as necessary
Other: A model ordinance is available at: http://www.riversalliance.org

Landscape

Measure: Monitoring of preserved and replanted vegetation, as well as renewal of vegetation surrounding project.
Description: Health and establishment of vegetation should be assessed and monitored post-construction, and measures should be taken if it is not growing as planned in the design/pre-construction phase
Implementation: Will require a professional to monitor health and vitality of revegetated areas
Necessary Maintenance: Ongoing monitoring should be done to ensure the health of vegetation into the future

Measure: Monitoring of erosion control structures
Description: Once in place, monitoring of erosion control structures is necessary to determine their effectiveness and to ensure healthy waterways afterwards.
Implementation: Will require a specialist to monitor structures and water quality in the area
Necessary Maintenance: structures will require maintenance and upkeep to continue providing erosion control

Wildlife

Measure: Monitoring of effectiveness of wildlife crossings and other wildlife conservation measures
Description: Ongoing monitoring of wildlife crossings and other wildlife conservation measures is necessary to determine their effectiveness in the long run and to make sure they are serving their purpose.
Implementation: Will require a wildlife specialist to monitor wildlife measures and to make necessary suggestions/improvements to them as necessary

Review of "Green Parking Lots"

"Green Parking Lots" are those that reduce runoff by allowing for more infiltration and drainage into the landscape than traditional asphalt parking lots. Through the use of permeable pavement and natural drainage landscaping, more infiltration can occur onsite, reducing the amount of runoff and discharge into stormwater drainage systems.

Permeable Pavement

Porous Asphalt

First developed in the 1970s at the Franklin Institute in Philadelphia, PA, porous asphalt pavement consists of standard bituminous asphalt in which the aggregate fines (particles smaller than 600 µm, or the No. 30 sieve) have been screened and reduced, allowing water to pass through the asphalt (Figure 1). Underneath the pavement is placed a bed of uniformly graded and clean-washed aggregate with a void space of 40%. Stormwater drains through the asphalt, is held in the stone bed, and infiltrates slowly into the underlying soil mantle. A layer of geotextile filter fabric separates the stone bed from the underlying soil, preventing the movement of fines into the bed (Figure 2).[xvii]

Figure 1. Rainfall runs off traditional impervious asphalt (center drive) but drains through porous asphalt parking spaces.

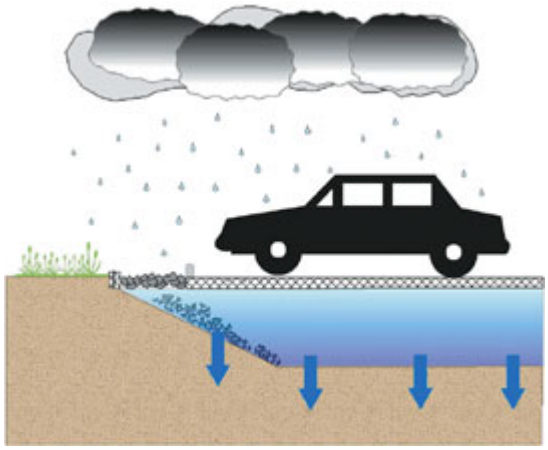


Figure 2. Cross-section through porous asphalt showing subsurface infiltration bed beneath

Pervious Concrete

Pervious concrete was also developed around 1970. It is created by mixing water and cement-like materials into a paste that forms a thick coating around the aggregate particles, according to *Pervious Concrete Pavements*, published in 2004 by the Portland Cement Association in Skokie, IL. This mixture contains little or no sand and forms a system of "highly permeable, interconnected voids that drain quickly." According to the association, 15% to 25% voids are achieved in the hardened concrete, and flow rates average around 480 in/hr. Pervious concrete is advocated as a best management practice (BMP) by the EPA. It has been used in residential streets and in a solid waste transfer station.[xviii]

Plastic Grid Systems

A Plastic grid system is composed of plastic lattice structure. They are filled with medium to large aggregates and other organic matter.[xix]

Block Pavers

Block pavers- an interlocking system: brick, stone, and concrete block.[xx] Block pavers allow for infiltration in between the spaces that are left between them.

Natural Drainage Systems

Bioswales

A bioswale is a shallow depression created in the earth to accept and convey stormwater runoff. A bioswale uses natural means, including vegetation and soil, to treat stormwater by filtering out contaminants being conveyed in the water.[xxi]

Rain Gardens

A "rain garden" is a man-made depression in the ground that is used as a landscape tool to improve water quality. The rain garden forms a "bioretention area" by collecting water runoff and storing it, permitting it be filtered and slowly absorbed by the soil. The bioretention concept is based on the hydrologic function of forest habitat, in which the forest produces a spongy litter layer that soaks up water and allows it to slowly penetrate the soil layer. The site for the rain garden should be placed strategically to intercept water runoff.

A nutrient removal or "filtering" process takes place as the water comes in contact with the soil and the roots of the trees, shrubs and vegetation. This process accounts for the improved water quality. The first flush of rain water is ponded in the depression of the rain garden, and contains the highest concentration of materials washed off impervious surfaces such as roofs, roads, and parking lots.[xxii]

Overflow Systems

All natural drainage systems should contain an overflow system to convey excess runoff to another system or discharge point.

Shared Parking

"Shared Parking means that parking spaces are shared by more than one user, which allows parking facilities to be used more efficiently. It is a type of Parking Management. Shared Parking takes advantage of the fact that most parking spaces are only used part time by a particular motorist or group, and many parking facilities have a significant

portion of unused spaces, with utilization patterns that follow predictable daily, weekly and annual cycles.

There are various degrees of shared parking. A parking space assigned to a specific user is not shared at all. On-street parking spaces located in a busy, mixed use urban area tends to be the most shared. In between are parking spaces that are shared among various employees at a particular worksite, parking that is shared by customers at a variety of businesses located in a mall, or arrangements by one facility to use another facilities parking at certain times, such as a tavern that allows its parking spaces to be used on Sunday mornings by attendees at a nearby church. An assigned employee parking space is typically used about 2,000 hours per year, while an on-street parking space in a busy area often gets three times as much use. Efficient sharing of spaces can allow parking requirements to be reduced significantly."[xxiii]

Structured Parking

Structured parking reduces land requirements (a 3-story parking structure requires a third of the land used by a surface lot), and underground parking can be considered to use no additional land. [xxiv]

Appendix II-AA

TABLE 1-1

CONSTRUCTION SITE BMPs				
ID	**BMP NAME**	**APPROVED FOR STATEWIDE USE ON ALL PROJECTS [1]**	**APPROVED FOR USE ON A PROJECT-BY-PROJECT BASIS**	**MINIMUM REQUIREMENT**
TEMPORARY SOIL STABILIZATION				
SS-1	Scheduling	X		✓
SS-2	Preservation of Existing Vegetation	X		✓
SS-3	Hydraulic Mulch	X		✓[2]
SS-4	Hydroseeding	X		✓[2]
SS-5	Soil Binders	X		✓[2]
SS-6	Straw Mulch	X		✓[2]
SS-7	Geotextiles, Plastic Covers, & Erosion Control Blankets/Mats	X		✓[2]
SS-8	Wood Mulching	X		
SS-9	Earth Dikes/Drainage Swales & Lined Ditches		X	
SS-10	Outlet Protection/Velocity Dissipation Devices		X	
SS-11	Slope Drains		X	
SS-12	Streambank Stabilization	X		
TEMPORARY SEDIMENT CONTROL				
SC-1	Silt Fence	X		✓[3]
SC-2	Sediment/Desilting Basin		X	
SC-3	Sediment Trap		X	
SC-4	Check Dam		X	
SC-5	Fiber Rolls		X	✓[3]
SC-6	Gravel Bag Berm		X	
SC-7	Street Sweeping and Vacuuming	X		✓
SC-8	Sandbag Barrier		X	
SC-9	Straw Bale Barrier		X	
SC-10	Storm Drain Inlet Protection		X	✓
WIND EROSION CONTROL				
WE-1	Wind Erosion Control	X		✓
TRACKING CONTROL				
TC-1	Stabilized Construction Entrance/Exit		X	
TC-2	Stabilized Construction Roadway		X	
TC-3	Entrance/Outlet Tire Wash		X	

[1] Implementation depends on applicability to a project

[2] The Contractor shall select one of the five measures listed or a combination thereof to achieve and maintain the contract's rainy season disturbed soil area (DSA) requirements

[3] The Contractor shall select one of the two measures listed or a combination thereof to achieve and maintain the contract's rainy season disturbed soil area (DSA) requirements"

Appendix IV-A

1998-2000

State List of Suggested Surveillance Sites

(SLOSSS)

Route	Town	Location	No. of Collisions	RA Rate	RC Rate	RA/ RC	Death	Severe Injury	Miles
4	Burlington	Between Beg of 3 LA & End of 3 LA Sec	39	12.97	3.101	4.18	0	4	.28
4	Burlington	Between Mountain Spring and Vineyard	24	4.73	2.754	1.72	0	0	.48
4	Burlington	At Barnes Hill and Punch Bk	16	1.54	.469	3.29	0	0	0
4	Burlington	At Rt. 179	23	1.86	1.025	1.81	0	0	0
6	Bristol	Between West St. Rt 69 & N. Main St.	44	2.44	.409	5.97	0	0	.08
6	Bristol	At North Main Street	43	1.62	1.003	1.61	0	3	0
6	Bristol	Between Federal St & Rt 69	41	8.00	4.017	1.99	0	1	.23
6	Bristol	Between Maple and Stewart Streets	35	1.44	.380	3.78	0	0	.08
6	Bristol	Between Rustic Ter. & Oakland, Lewis	40	8.20	4.056	2.02	0	1	.19
6	Bristol	Between Mercier Ave & Jerome Ave	27	1.11	.380	2.91	0	1	.06
6	Bristol	At Jerome Ave	41	1.25	.966	1.29	0	5	0
6	Bristol	Between Jerome Ave & King Pl	18	.74	.524	1.41	0	1	.01
6	Bristol	At King Pl	29	1.19	.536	2.22	0	1	0
6	Bristol	Between King Pl & Rt 229 (King St)	24	.98	.524	1.88	0	0	.05
6	Bristol	At Rt 229 (King St) & Hepbern Rd	47	2.05	1.313	1.56	0	1	.04
6	Bristol	Between Dallas Ave & Columbus Ave	15	.70	.539	1.29	0	0	.04
6	Bristol	At Columbus Ave & CDR to SC	37	1.27	.999	1.27	0	2	.01
6	Bristol	At John Ave	17	.79	.489	1.61	0	1	0
6	Bristol	Between John Ave & Mix St	47	2.18	.391	5.57	0	1	.04
6	Bristol	At Mix St & Brook St	29	1.00	.987	1.01	0	0	.03
6	Bristol	At Carol Dr & Collins Rd	19	.88	.489	1.80	0	0	.01
6	Bristol	Between Boardman Rd & Stafford Ave	43	9.49	4.115	2.31	0	0	.20
6	Bristol	Between Stafford Ave & Auto Bus	39	1.85	.393	4.70	0	0	.08
6	Bristol	At CDR to Auto Business	30	1.05	.991	1.06	0	0	0
6	Bristol	Between CDRS to Auto Bus & SC	25	7.90	4.433	1.78	0	0	.14
6	Bristol	Between Sheila Court & Camp St	39	5.14	3.736	1.38	0	1	.35
9	New Britain	At SR Rt 71 Interchange	119	3.25	2.945	1.10	0	0	.91
10	Southington	At Mill St	15	.81	.507	1.61	0	1	0
10	Southington	Between CDR Caldore &CDR Queen B	43	10.81	4.225	2.56	0	3	.19
10	Southington	Between CDR Queen B SC & Lopper St	31	1.56	.399	3.90	0	0	.06
10	Southington	Between Ramps 96 & (95&94)	24	5.30	3.195	1.66	0	0	.15
10	Southington	Between I-84 Ramp 94 & Spring St	17	.66	.519	1.28	0	0	.05
10	Southington	Between Spring&CDR Edwards SC Ent	21	7.45	6.947	1.07	0	0	.10
10	Southington	At Aircraft Rd #1 & CDR to SC	36	1.04	.970	1.07	0	1	.01
10	Southington	Between Aircraft Rd & Queen St	18	.70	.519	1.35	0	0	.05
10	Southington	Between SR 532 (Birch St) & Rte 17	29	4.01	3.769	1.06	0	3	.48
10	Plainville	At Shuttle Meadow Rd & Whiting	29	1.46	1.058	1.38	0	0	.03
10	Plainville	Between Broad St & Maple St	17	6.58	4.635	1.42	0	1	.14
10	Plainville	Between Maple St & SR 536	29	12.02	4.708	2.55	0	0	.13
10	Plainville	At SR 536 & Railroad X-ing	23	1.38	1.263	1.09	0	0	.04
10	Plainville	@ Rt 372 (New Britain Ave & E Main)	30	2.02	1.292	1.56	0	0	0
10	Plainville	Between Rte 372 & SR 511 (Hooker St)	39	2.87	.439	6.54	0	2	.07
15	Berlin	At Middletown Rd	41	.98	.970	1.01	0	4	0
15	Berlin	At Ramps 175, 177 &052	54	1.84	.914	2.01	0	4	.01
15	Berlin	At NB-Rte 160 & SB-Deming Rd	47	1.44	.897	1.61	0	4	0
15	Berlin	Between Rt 160 & Rowley St	31	3.09	2.735	1.13	0	5	.30
15	Berlin	At Rowley St & Selden St	46	1.05	.964	1.09	0	4	0

Route	Town	Location	No. of Collisions	RA Rate	RC Rate	RA/ RC	Death	Severe Injury	Miles
69	Bristol	At East Rd & Union St	20	1.80	.574	3.14	0	0	0
69	Bristol	At South St & South St Ext	30	2.44	1.166	2.09	0	1	0
69	Bristol	At Rte 72 (School St & Park St)	17	1.97	1.376	1.43	0	0	0
69	Burlington	Between Bradley & Reservoir Rd	17	5.62	3.096	1.82	0	0	.73
71	Berlin	Between Langdon Court & Newton St	28	5.97	4.087	1.46	0	2	.43
71	New Britain	At Ellis St	26	1.84	1.133	1.62	0	3	0
71	New Britain	At Rt 174 (E Main) & East Main	30	2.01	1.042	1.93	0	0	0
71	New Britain	At North St & Stanley St #1	36	2.25	1.105	2.04	0	1	0
71	New Britain	At Blake & Stanley QTR Pk *A#	20	1.33	1.118	1.19	0	2	0
71	New Britain	At Rt 9 Ramps 072 & 074	30	1.64	1.242	1.32	0	3	0
71	New Britain	At Rt 9 Ramps 073 & 075	32	1.46	1.201	1.22	0	3	0
71	New Britain	Betwn Rt 9 Ramps 073, 075 & McDonald	80	22.72	4.334	5.24	0	4	.14
72	Plainville	At Rt 177 (N Washington St) Int	62	5.89	3.471	1.70	0	0	.30
72	Plainville	At Rt 372 (Forestville) & Bohemia	27	1.39	1.228	1.13	0	2	0
72	Bristol	Bet Lincoln Ave & Central St	36	19.04	4.981	3.82	0	0	0
72	Bristol	At Rte 229 (King & Middle St)	40	1.84	1.203	1.53	0	0	.06
72	Bristol	At Mellen St	19	1.47	1.155	1.27	0	2	0
72	Bristol	At Main, Riverside & Memorial	52	2.47	1.047	2.36	0	7	.05
72	Bristol	At Church St & N Main St	20	1.14	1.085	1.05	0	2	0
72	Bristol	Between Divinity St & Tulip St	23	6.39	4.313	1.48	0	0	.32
160	Berlin	At Rt 15 (Berlin Tpk) & Deming Rd	16	2.39	1.534	1.56	0	0	0
174	New Britain	At Rt 71 & East Main St	15	1.90	1.477	1.28	0	0	0
174	New Britain	At Stanley St No 1	39	2.31	1.093	2.12	0	6	0
174	New Britain	At East St 2 & East St 1	27	1.29	1.048	1.23	1	2	.06
177	Plainville	At Bradley St	16	.69	.481	1.44	0	0	0
177	Plainville	At Northwest Dr	14	1.46	1.027	1.42	0	0	0
229	Southington	Between I84 Rmps & Exec Blvd So	19	6.80	4.555	1.49	0	1	.10
229	Bristol	Between Cross St & Vincent P Kelly	19	7.42	4.644	1.60	0	0	.10
229	Bristol	At Pine St & Mountain Av	65	1.77	.961	1.84	0	1	0
229	Bristol	Bet Pine St & Rt 72	36	9.23	6.533	1.41	0	2	.15
229	Bristol	At Woodland St	31	1.73	.510	3.39	0	0	0
229	Bristol	At Moody St & Louisiana Ave	27	1.16	1.027	1.13	0	1	0
229	Bristol	At King Pl	16	.98	.521	1.87	0	0	0
322	Southington	At Marion Ave	16	1.15	.672	1.71	1	1	0
322	Southington	At Rt 10 Con & Old Turnpike Rd	20	1.77	1.367	1.30	0	0	0
322	Southington	Between Ent Bus's & South End Rd	15	6.40	4.738	1.35	0	2	.18
372	Plainville	Between Whiting St & Neal Ct	22	12.51	5.067	2.47	0	2	.10
372	Plainville	At Rt 10 (East St & Farmington)	29	2.02	1.302	1.55	0	0	0
372	Plainville	At SR 511 (Hooker St)	24	1.60	1.290	1.24	0	8	0
372	New Britain	Between Stanwood Dr & Slater Rd	22	5.86	4.275	1.37	0	1	.29
372	New Britain	At Slater Rd	21	1.57	.548	2.87	0	2	0
372	New Britain	Between Russwin Rd & Corbin Ave	20	1.41	.434	3.25	0	0	.06
372	New Britain	At Corbin Ave & SR 555 (W Main)	33	1.90	1.380	1.38	0	2	0
372	New Britain	Between W Main St & Rt 72 Ramps	25	10.12	7.132	1.42	0	2	.11
372	New Britain	At Black Rock Ave	31	1.11	1.007	1.11	0	2	0
372	Berlin	Between Main St #1 & Burnham St	38	7.33	4.007	1.83	0	0	.34

Route	Town	Location	No. of Collisions	RA Rate	RC Rate	RA/ RC	Death	Severe Injury	Miles
372	Berlin	Between Lower La & Massirio Dr	19	5.44	4.341	1.25	0	0	.22
372	Berlin	At Savage Beckley, Berlin, Middle	29	1.64	1.082	1.51	0	0	.06
536	Plainville	At White Oak Ave	18	1.52	1.096	1.39	0	0	0
555	New Britain	Bet Newfield Ave & Burritt St	15	1.26	.454	2.78	0	0	.04
555	New Britain	At Burritt St	17	1.12	1.117	1.01	0	1	0
555	New Britain	At Vine St & Curtis St	17	1.20	1.132	1.06	0	0	.03
572	Plainville	At Rt 9 NB Ramps 069 & 053	33	5.09	1.546	3.29	0	0	.01
691	Southington	At Rt 322 Interchange (U East)	126	3.22	2.925	1.10	0	0	.74

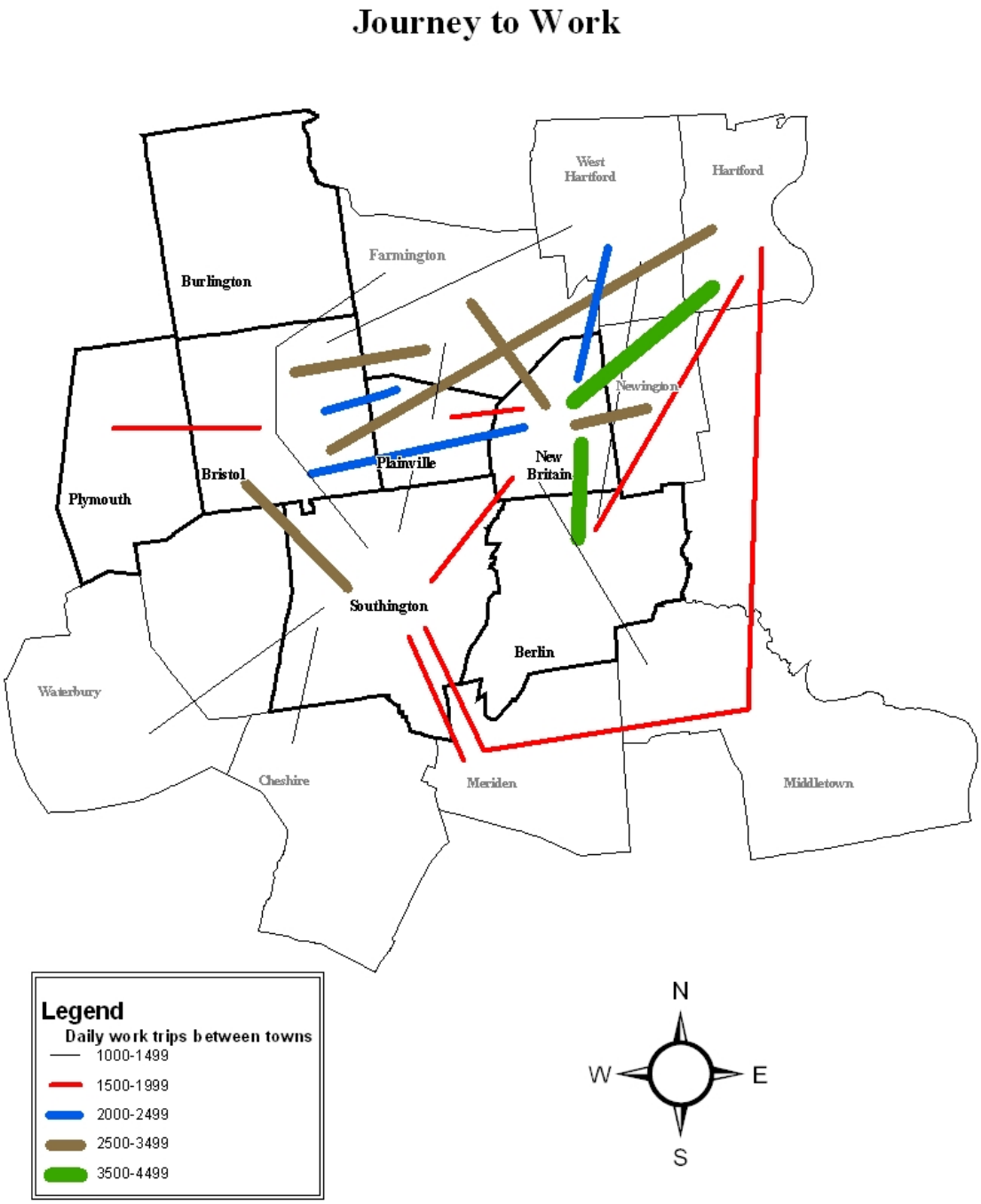
Locations with the highest number of severe injuries and deaths, 1998-2000

Rank	Rte	Town	Location	Death	Severe Injury	Total	Listed on The SLOSSS?
1	84	N.B.	At Route 72 Interchange	3	7	10	No
2	372	Pln	At SR 511 (Hooker St.)	0	8	8	Yes
3	72	Bri	At Main, Riverside and Memorial	0	7	7	Yes
4	174	N.B.	At Stanley St. #1	0	6	6	No
5	71	Ber	Between Orchard Rd. #1 and Rt. 364	2	3	5	No
6	6	Ply	At Rte 262 (South St.) and North St.	0	5	5	No
6	6	Bri	At Jerome Avenue	0	5	5	Yes
6	15	Ber	At Toll Gate Road	0	5	5	No
6	15	Ber	Between Route 160 and Rowley Street	0	5	5	No
6	71	N.B.	At Chestnut Street	0	5	5	No
6	372	Ber	Bet Farmington Con and Seymour Rd.	0	5	5	No
12	691	Sou	At I-84 interchange	3	1	4	No
13	229	Sou	At West Queen St.	2	2	4	No
14	15	Ber	At North Colony St. South Leg	1	3	4	No
14	175	N.B.	At Willis St. and Rt. 9 Ramp 068	1	3	4	No
14	69	Bri	Between Race and Pound St.	1	3	4	No
14	4	Bur	Mountain Spring Rd. to Vineyard Rd.	1	3	4	No
18	6	Ply	At Town Hill Rd. and Holt St.	0	4	4	No
18	4	Bur	Bet Beg of 3 LA & End of 3 LA Sec	0	4	4	Yes
18	15	Ber	At Bishops Curve Road	0	4	4	No
18	15	Ber	At Middletown Road	0	4	4	Yes
18	15	Ber	At Woodlawn Road and Wethersfield	0	4	4	No
18	15	Ber	At Ramps 175, 177, and 052	0	4	4	Yes
18	15	Ber	At NB 160 and SB Deming Rd.	0	4	4	Yes
18	15	Ber	At Rowley St. and Selden St.	0	4	4	No
18	71	N.B.	At Commonwealth Avenue 2	0	4	4	No
18	71	N.B.	Between Firehouse and Village Square	0	4	4	No
18	71	N.B.	Bet Rt 9 Ramps 073, 075 & McDonald	0	4	4	Yes
18	71	N.B.	Between Talcott St. and Peck St.	0	4	4	No
18	229	Bri	At Redstone Hill Rd. and Cross St.	0	4	4	No
18	372	N.B.	Between Slater Rd. and Norton Rd.	0	4	4	No

Severe injuries indicate injuries are incapacitating injuries as defined by the Connecticut Department of Transportation "(i.e., severe lacerations, broken or distorted limbs, skull or chest injures, abdominal injuries, unconsciousness at or when taken from the accident scene, unable to leave the accident scene without assistance)".

Appendix IV-B

Journey to Work Map



Appendix IV-C State-Owned Bridges Over 20 Feet in

Length

Bridges with State Rating of Poor (0-4)

Rating	Municipality	Road Name	Water Body/ Roadway
3	Berlin	Farmington Av	Mattabassett River
3	Burlington	Belden Rd. #2	Burlington Brook
4	Bristol	B&M Terryville	Route 72
4	Bristol	W Washington St	Copper Mine Brook
4	Bristol	Artisan Street	Copper Mine Brook
4	Burlington	Reservoir Hill Rd	Whigville Brook
4	Burlington	Vineyard Road	Burlington Brook
4	New Britain	I-84 TR 816	Rt 37, B&M RR, Quinni.
4	Plainville	Stillwell Drive	Quinnipiac River
4	Plymouth	Route 72	Poland River
4	Plymouth	Bemis Street	Pequabuck River
4	Southington	Route 10	Route 322
4	Southington	Interstate 84 WB	Route 10
4	Southington	W. Queen St.	Quinnipiac River

Bridges with State Rating of Fair (5-6)

Rating	Municipality	Road Name	Water Body or Roadway
5	Berlin	Route 15	Sebethe River
5	Berlin	B&M Berlin Sect.	SR571
5	Berlin	Amtrak Springfield	Route 372
5	Bristol	B&M Terryville	Route 6
5	Bristol	Jerome Avenue	Negro Hill Brook
5	Bristol	Downs St.	Pequabuck River
5	Bristol	Memorial Blvd	Pequabuck River
5	Bristol	Louisiana Ave	Copper Mine Brook
5	Bristol	Frederick Street	Copper Mine Brook
5	Bristol	East Street	Pequabuck River
5	Bristol	Lake Avenue	Entrance Lake Compounce
5	New Britain	SR555 W Main St	B&M Railroad
5	New Britain	Curtis Street	Route 72
5	New Britain	I-84 TR 815	I-84EB, Rte 72, 372, B&M RR
5	New Britain	Route 71	Herald Sq., Columbus Bl, RR`
5	New Britain	Route 71	Route 72 & Ramps

Rating	Municipality	Road Name	Water Body/ Roadway
5	New Britain	Washington St	Route 72
5	Plainville	Route 177	B&M Railroad
5	Plainville	SR 536	B&M Railroad
5	Plainville	Interstate 84 WB	Route 72 Southbound
5	Plainville	SR36 – Crooked St	Interstate 84 & Route 72
5	Plainville	Route 72	B&M Railroad
5	Plainville	Tomlinson Avenue	Quinnipiac River
5	Plymouth	Route 72	Marsh Brook
5	Plymouth	North Main Street	Poland River
5	Southington	Route 322	Interstate 84 & Ramps
5	Southington	Route 322	Quinnipiac River
5	Southington	Route 10	Ten Mile River
5	Southington	SR 597	I-84 EB
5	Southington	I-84 EB	Marion Avenue
5	Southington	I-84 WB	Marion Avenue
5	Southington	Prospect Street	I-84
5	Southington	Route 229	I-84
5	Southington	I-84 WB	Abandoned B&M RR
5	Southington	Route 322	I-691
5	Southington	Atwater Street	Quinnipiac River
5	Southington	Newell Street	Quinnipiac River
5	Southington	South End Road	Misery Brook
5	Southington	Prospect Street	Eight Mile River
5	Southington	Interstate-691 WB	I-84,Tr 834,Exit 28 Ramp
5	Southington	I-691 Tr 804	I-84 Ramps & Rte 322
6	Berlin	Route 71	SR 571
6	Berlin	Route 372	Sebethe River
6	Berlin	Route 9 SB	Webster Square Road
6	Berlin	Route 9	Sebethe River
6	Berlin	Christian Lane	Route 9
6	Berlin	Route 9	Willow Brook
6	Berlin	Route 9 NB	Amtrak Railroad
6	Berlin	SR 571	Willow Brook

Rating	Municipality	Road Name	Water Body or Roadway
6	Berlin	Route 9 Northbound	Private Road
6	Berlin	Route 9 Southbound	Private Road
6	Berlin	Camels Back Road	Amtrak Railroad
6	Berlin	Orchard Road	Belcher Brook
6	Berlin	Burnham Street	Mattabassett River
6	Berlin	Route 9 And Ramp	Spruce Brook
6	Bristol	Route 69	Pequabuck River
6	Bristol	Route 72	Brook
6	Bristol	Route 72 (Main St)	Pequabuck River
6	Bristol	B&M RR Terryville	Route 72
6	Bristol	Maple Avenue	Polkville Brook
6	Bristol	Stevens Street	Copper Mine Brook
6	Bristol	N Main & Riverside	Pequabuck River
6	Bristol	Central Street #2	Pequabuck River
6	Bristol	Maltby Street	Copper Mine Brook
6	Bristol	Jacobs Street	Pequabuck River
6	Bristol	Mellen Street	Pequabuck River
6	Burlington	Route 179	Burlington Brook
6	Burlington	Foote Road	Burlington Brook
6	Burlington	South Main Street	Copper Mine Brook
6	New Britain	Route 71	Bass Brook
6	New Britain	Route 72 WB	SR 555 (West Main St.)
6	New Britain	Route 72 Eastbound	SR 555 (West Main St.)
6	New Britain	Grove Hill Road	Route 72
6	New Britain	North Mountain Rd	I-84 EB And Tr 816
6	New Britain	No. Mountain Road	I-84 WB & I-84 Ramps
6	New Britain	I-84 Ramps 181-184	Interstate-84
6	New Britain	Long Swamp Road	Interstate-84
6	New Britain	Route 72 NB	Wooster Street
6	New Britain	Route 72 SB	Wooster Street
6	New Britain	Route 72 NB	Hartford Square
6	New Britain	Route 372	SR 72
6	New Britain	Route 9	Boston & Maine Railroad
6	New Britain	Route 9 Southbound	South Street

Rating	Municipality	Road Name	Water Body or Roadway
6	New Britain	Ellis Street	Route 9 E Rte 9 Ramps
6	New Britain	Whiting Street	Route 9 & Route 9 Ramp
6	New Britain	B&M Berlin Sec	Route 9
6	New Britain	Railroad & High St	Route 72
6	New Britain	Rt 9 NB Tr	SR 174 & Route 9sb
6	New Britain	Route 9 SB	ConnDOT RR Abandoned
6	New Britain	Route 9 NB	East Street #2
6	New Britain	Route 9 SB	East Street #2
6	New Britain	Route 9 SB	Saint Mary’s Cemetery
6	New Britain	South Street	Amtrak Railroad
6	New Britain	Stanley Park Road	Bass Brook Spillway
6	New Britain	Route 175	Bass Brook
6	New Britain	Route 9 Ramp 058	Bass Brook
6	New Britain	Route 71	Willow Brook
6	New Britain	Paul Manafort Dr	Stream
6	Plainville	Route 177	Pequabuck River
6	Plainville	Route 72	Boston & Maine Railroad
6	Plainville	Interstate-84 EB	Sunset Avenue #1
6	Plainville	Interstate-84 WB	Sunset Avenue #1
6	Plainville	Interstate-84 WB	SR 536 (Woodford Av)
6	Plainville	Interstate-84 EB	SR 536 (Woodford Av)
6	Plainville	Interstate-84 WB	72 NB, B&M RR, 372
6	Plainville	Interstate-84 EB	2,Quinn Rv ,B&M RR, Rt
6	Plainville	I-84 Tr 814	SR 536 Woodford Avenue
6	Plainville	I-84 Tr 813	I-84 WB & SR 536
6	Plainville	I-84 Tr 813	Route 72 Eastbound
6	Plainville	Route 72 & Ramps	Quinnipiac River
6	Plainville	Shuttle Meadow Rd	Quinnipiac River
6	Plymouth	Us Route 6	Pequabuck River
6	Plymouth	Us Route 6	Pequabuck River
6	Plymouth	B & M Terryville	Route 72
6	Plymouth	Route 72	Poland River
6	Plymouth	Route 72	Poland River
6	Plymouth	Judd Road	Poland River

Rating	Municipality	Road Name	Water Body or Roadway
6	Plymouth	Greystone Road #1	Boston & Maine Railroad
6	Plymouth	Greystone Road #1	Greystone Pond
6	Plymouth	Marsh Road	Bristol Reservoir Spl
6	Southington	Abndned B&M RR	Route 322
6	Southington	Interstate-84 EB	Route 10
6	Southington	Burritt Street	Interstate-84
6	Southington	Interstate-84 WB	West Center Street
6	Southington	Interstate-84	Eight Mile River
6	Southington	Jude Lane	Interstate-84
6	Southington	Curtis Street	Interstate-84
6	Southington	SR 597 Southbound	Quinnipiac River
6	Southington	SR 597 Northbound	Quinnipiac River
6	Southington	SR 597 Southbound	Canal St & Abandoned RR
6	Southington	SR 597 Northbound	Canal St & Abandoned RR
6	Southington	Shuttle Meadow Rd	Interstate-84
6	Southington	Old Turnpike Road	Quinnipiac River
6	Southington	Marion Avenue	Eight Mile River
6	Southington	Curtiss Street	Quinnipiac River
6	Southington	Lazy Lane Road	Quinnipiac River
6	Southington	Interstate-691 EB	South End Road
6	Southington	Interstate-691 WB	Quinnipiac River
6	Southington	West Center St Ext	Eight Mile River

Bridges with State Rating of Good (7-9)

Rating	Municipality	Road Name	Water Body or Roadway
7	Berlin	Route 71a	Matabasset River
7	Berlin	Route 372	Spruce Brook
7	Berlin	Route 9 Northbound	Route 372
7	Berlin	Route 9 Southbound	Route 372
7	Berlin	Route 9 Northbound	Webster Square Road
7	Berlin	Route 9 Southbound	Amtrak Railroad
7	Berlin	Route 372	Sebethe River
7	Berlin	Route 9 Southbound	SR 571
7	Berlin	Kensington Road	Mattabassett River

Rating	Municipality	Road Name	Water Body or Roadway
7	Berlin	Route 71	Sebethe River
7	Berlin	Lower Lane Road	Mattabassett River
7	Berlin	Orchard Road	Amtrak Railroad
7	Berlin	Norton Road	Amtrak Railroad
7	Berlin	Worthington Rd #1	Mattabassett River
7	Berlin	Wethersfield Road	Mattabassett River
7	Berlin	Berlin Street	Mattabassett River
7	Berlin	Route 9 SB	Route 15 Route 5
7	Berlin	Beckley Road	Route 9
7	Berlin	Route 9 NB	Route 372
7	Berlin	Route 9 SB	Route 372
7	Berlin	Route 9 NB	Route 15
7	Berlin	Route 372	Route 15
7	Berlin	Deming Road	Willow Brook
7	Berlin	Wildermere Road	Belcher Brook
7	Berlin	Heritage Drive	Stocking Brook
7	Bristol	Us Route 6	Copper Mine Brook
7	Bristol	Route 229	Pequabuck River
7	Bristol	Blakeslee Street	Boston & Maine Railroad
7	Bristol	North Pond Street	Boston & Maine Railroad
7	Bristol	Andrews Street	Pequabuck River
7	Bristol	Jerome Avenue	Copper Mine Brook
7	Bristol	Curtiss Street	Boston & Maine Railroad
7	Bristol	Route 69	Boston & Maine Railroad
7	Burlington	Route 4	So Branch Bunnell Brook
7	Burlington	Barnes Hill Road	Burlington Brook
7	New Britain	Lake Street	Route 72
7	New Britain	I-84 Ramp 182	Interstate-84 EB
7	New Britain	Route 72 SB	Hartford Square
7	New Britain	Route 9 NB	South Street
7	New Britain	Chestnut Street	Route 9 Northbound
7	New Britain	Chestnut Street	Route 9 Southbound
7	New Britain	Conrail N. Britain	Route 9
7	New Britain	Route 72 WB	Route 9 SB & Ramp 055

Rating	Municipality	Road Name	Water Body or Roadway
7	New Britain	Route 9 Tr 813	Route 72 Northbound
7	New Britain	Main Street #1	Route 72 & 72 Ramps
7	New Britain	Stanley Street #1	Route 9 & Ramps
7	New Britain	Rte 174 E Main St	Route 9 Tr 813
7	New Britain	Rt 174 E. Main St	Route 9 Northbound
7	New Britain	Route 174	Route 9
7	New Britain	Route 9 Northbound	ConnDOT RR Abandoned
7	New Britain	Route 9 Northbound	Fair View Cemetery Road
7	New Britain	Biltmore Street	Sandy Brook
7	New Britain	Rte 372(Corbin Av)	Boston & Maine Railroad
7	New Britain	Ellis Street	Boston & Maine Railroad
7	New Britain	Rte 71 Hartford Rd	Route 9
7	New Britain	Oakwood Drive # 1	Stream
7	New Britain	Kensington & Arch	Willow Brook Culvert
7	New Britain	Lincoln Street #2	Willow Brook
7	Plainville	536 Woodford Av	Quinnipiac River
7	Plainville	Route 72 SB	Route 10
7	Plainville	Route 72 NB	Route 10
7	Plainville	Route 72 SB	Route 372
7	Plainville	Rte 72 Northbound	Route 372
7	Plainville	Route 72	Pequabuck River
7	Plainville	Route 72	Camp Street
7	Plainville	Route 72	Route 177
7	Plainville	Route 72	Cronk Rd, B&M RR, Peq R.
7	Plainville	Northwest Drive	Pequabuck River
7	Plainville	SR 536	Quinnipiac River
7	Plymouth	Wilton Rd At Dam	Wilton Pond
7	Plymouth	Us Route 6	Pequabuck River
7	Plymouth	Canal Street	Pequabuck River
7	Plymouth	South Eagle Road	Boston & Maine Railroad
7	Plymouth	Napco Drive	Pequabuck River
7	Plymouth	Preston Road	Poland River
7	Southington	I-84 & Ramp Ext 27	Judd Brook

Rating	Municipality	Road Name	Water Body or Roadway
7	Southington	Interstate-84 EB	West Center Street
7	Southington	Interstate-84 WB	Quinnipiac River
7	Southington	Interstate-84 EB	Quinnipiac River
7	Southington	Interstate-84 EB	Abnd Boston & Maine RR
7	Southington	Route 120	Misery Brook
7	Southington	Route 10	Quinnipiac River
7	Southington	Old Turnpike Road	Ten Mile River
7	Southington	West Main Street	Quinnipiac River
7	Southington	Mill Street	Quinnipiac River
7	Southington	Spring Street	Quinnipiac River
7	Southington	Center Street	Quinnipiac River
7	Southington	Interstate-691 EB	Pratt Street
7	Southington	Interstate-691 WB	Pratt Street
7	Southington	Interstate-691 WB	South End Road
7	Southington	Interstate-691 EB	Quinnipiac River
7	Southington	Hart Street	Quinnipiac River
7	Southington	I-84 Tr 834	I84 & I84 Ramps 295-296
7	Southington	I-84 Tr 834	Route 322
7	Southington	West Center St Ext	Dayton Brook
7	Southington	Route 322	Ten Mile River
7	Southington	Jude Lane	Eight Mile River
7	Southington	Route 10	Quinnipiac River
8	Berlin	Middletown Road	Spruce Brook
8	Bristol	Route 72	Pequabuck River
8	Plymouth	Greystone Rd Ext	Todd-Hollow & Hancock
8	Southington	West Center Street	Quinnipiac River
8	Southington	Route 322	Misery Brook

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