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MAJOR POLICY DIRECTIONS

The Capitol Region Transportation Plan outlines a comprehensive program for improving our transportation system to meet travel needs through the year 2035. For the most part, it is a *systems level* plan that provides general policy guidance. It defines the Region's greatest needs, identifies which problems are the Region's highest priority, and outlines how the Region should spend its limited capital funds.

The Plan is also the sum of many specific and detailed studies. The recommendations of those studies, such as the Regional Transit Strategy, the bicycle and pedestrian plans, and several corridor studies, are summarized in this Plan. For details concerning existing and future conditions, alternatives analyzed and recommendation specifics, the actual study documents should be consulted. A list of all the studies that contributed to this Plan is found in Appendix A. The documents themselves can be accessed on the Publications page of the CRCOG website: www.crcog.org/publications/transportation.

**Policies Reaffirmed.** This latest version of the Transportation Plan reaffirms the Council's commitment to policies set in previous editions. It reaffirms the Council's commitment to developing a transportation system that offers more and better travel choices, and continues its emphasis on developing a good regional transit system as an alternative to the automobile. It also reaffirms and strengthens our commitment to developing a bicycle and pedestrian system. It also includes a strong commitment to linking land use and transportation planning, policy support for Bradley International Airport, the beginning of a freight planning program, and a commitment to environmental justice.

**More Travel Choices.** The 2007 Regional Transportation Plan continues to emphasize the desire to provide our Region’s residents with more travel options, and to reduce their need to rely exclusively on the private automobile. While the automobile will continue to dominate most travel in the Region, we need to provide more opportunities for people to use alternate means of transportation. With the earlier adoptions of the Regional Transit Strategy, the Regional Bike and Pedestrian Plans, and the advance of New Britain Busway into final design, we have taken major steps toward achieving that goal. The Transportation Plan continues to be a true multi-modal plan.

**Land Use & Transportation Coordination.** The Plan continues to emphasize the coordination of transportation policies with the Regional Plan of Conservation and Development, or more generally, linking land use planning with transportation planning. The new Plan recognizes that a common goal of both disciplines needs to be promoting more livable communities in the Capitol Region. The policies adopted with the previous Plan committed CRCOG's transportation program to supporting livable community goals and the Regional Plan of Conservation and Development. This Plan expands that commitment to include a coordination effort with State land use plans and policies.

**Continued Emphasis on Environmental Justice.** The Region reaffirms its commitment to address the transportation needs of all its residents including members of minority groups, low-income residents, and transit-dependent residents. The previous plans included a commitment to follow the basic principles of environmental justice. This Plan continues to build on the six years of progress since our initial commitment. It continues to include the environmental justice policies and procedures adopted previously and identifies a list of environmental justice issues of special interest.
Continued Emphasis on Transit. This Plan reaffirms the Council’s commitment to the Regional Transit Strategy, reflects progress made over the last several years, and includes the results of major transit studies and initiatives: the New Britain Busway EIS and ongoing design, the New Haven-Springfield Rail Feasibility Study, the Griffin Busway Feasibility Study, and the Hartford East Busway Feasibility Study.

Continued Emphasis on Pedestrian & Bike Travel. The new Plan incorporates a CRCOG pedestrian policy adopted in June 2001 that calls for integrating pedestrian and bike improvements into roadway projects. This continues our efforts to promote non-motorized travel modes, a policy directive that was embraced as long ago as the adoption of the 1998 Plan, and reinforced with the adoption of the Regional Bicycle Plan in 2000. This Plan also includes the recommendations adopted in the 2005 Regional Pedestrian Plan.

Better Systems Operation & Management. This policy continues the emphasis on transportation solutions that are based on improving the efficiency of the existing infrastructure rather than building new infrastructure. As a result of this policy, the proposed plan includes a substantial financial commitment to system management methods such as freeway incident management, coordinated traffic signal systems, Intelligent Transportation Systems, and access management on arterial roads.

New Recommendations. New to this plan are recommendations from studies that were completed since the previous Plan that was adopted in 2004. They include: recommendations from the Regional Pedestrian Plan, adopted in 2004, and recommendations from the Day Hill Road Study adopted in 2006. A previous recommendation to construct an alternate Route 6 freeway through Bolton and Andover has been modified due to problems with obtaining environmental permits. That project has now been listed as a “non-funded need” and a study to determine replacement actions has been endorsed.

New Federal Requirements. This 2007 Plan has also been modified to respond directly to federal requirements that were made a part of the SAFETEA-LU transportation act. These requirements are briefly described below and are detailed elsewhere in the Plan.

Consult with appropriate State and local agencies. CRCOG staff met with State land use and environmental officials when developing this Plan as well as members of the Regional Planning Commission. Details of this effort are included in Chapter 1: Linking Land Use and Transportation and Chapter 10: Public Outreach.

Promote consistency with State & local development plans. CRCOG staff met with State land use officials to determine consistency between this Plan and the State Plan of Conservation and Development, and to determine areas of mutual interest. CRCOG staff also reviewed this Plan with the Regional Planning Commission and regional land use planners to ensure that the Regional Plan of Conservation and Development and the Regional Transportation Plan were consistent and supportive. The details of these reviews are described in Chapter 1: Linking Land Use and Transportation.
**Address potential environmental mitigation activities.** CRCOG staff also met with State environmental officials to determine if there were any significant environmental issues to consider, or environmentally sensitive areas potentially impacted by the projects proposed in this Plan. The regional land use plan was also reviewed for similar issues. No significant problems were identified, but as projects move forward to design, the potential for environmental impact and the need for mitigation will be addressed. This matter is also addressed in more detail in *Chapter 1: Linking Land Use and Transportation*.

**Place additional emphasis on management and operations.** For many years new, CRCOG has recognized the fact that building new roadways has become not only prohibitively expensive, but also in many cases, unacceptable to our citizens. Our transportation plans have emphasized better management and operation of our existing transportation infrastructure. In addition to recommending improvements to our existing roadway system, our major transit proposals are designed to fit within existing rights-of-way. Proposals for bicycle and pedestrian improvements to existing roadways make our transportation system available to more of our citizens. While CRCOG has previously placed a stronger emphasis on improving existing facilities, we have included in this Plan a more clear description of our efforts in *Chapter 2: Transit Systems* and *Chapter 3: Highway System*.

**Place additional emphasis on congestion management.** CRCOG has made a significant commitment to the management of congestion in the Hartford Metropolitan area through the Hartford Area Congestion Management Program. This program is described in depth in *Chapter 3: Highway System*.

**Place additional emphasis on safety.** Safety for travelers who use our transportation system and its various modes has always been a high priority for CRCOG. A comprehensive statement of how safety fits into our transportation planning efforts is discussed in *Chapter 3: Highway System*.

**Refer to State Strategic Highway Safety Plan.** CRCOG’s commitment to supporting the State Strategic Highway Safety Plan is detailed in *Chapter 3: Highway System*. 
1. Linking Land Use & Transportation

The 2007 Regional Transportation Plan continues an emphasis on coordinating transportation policies with the Regional Plan of Conservation and Development, or more generally linking land use planning with transportation planning. The benefits of a coordinated approach to planning transportation and land use are many, and they can help achieve the goals of both planning processes.

Components of Land Use-Transportation Coordination Policy

In 1994, the Council adopted a policy to encourage more coordination between transportation planning and land use planning. The policy has been enhanced several times, by adding elements that reflect continuing and added efforts by CRCOG. The key components of the policy are discussed below.

Livable Communities & Smart Growth

The Council of Governments has been an active proponent of public policies that promote livable communities. The concept of livable communities is based on sustainable development principles and seeks to build communities that are good places to live and work, where the quality of life is preserved, where economic growth is sustained, and where natural, cultural, and historic resources are protected. Promoting livable communities is a specific goal of CRCOG’s transportation planning program, which highlights the Council’s commitment to enhancing the quality of life in our member communities.

Whether referred to as livable communities, sustainable development, or smart growth, the basic goals are:

- *Sustain prosperity and expand economic growth.* A strong emphasis is placed on encouraging economic growth that builds on past investments and preserves prime farmland and open space.
- *Enhance quality of life.* A key goal is to build or shape communities that provide a high quality of life for residents. Quality of life is affected by numerous factors including safe streets, good schools, choice of travel options, and clean air.
- *Build a stronger sense of community.* A key goal is to build a stronger sense of community through physical design and by bringing residents, businesses, and institutions together to create a common vision for how they want to develop their community.

Recommendation:

1. **Support Livable Community & Smart Growth Goals.** CRCOG will support the goals of livable communities and smart growth. Support will come at all levels of the planning process from systems planning through project development and design. It will include:
   - **Context Sensitive Solutions.** Adhering to context sensitive planning and design principles.
   - **Complete Streets.** Placing an emphasis on developing “Complete Streets” that serve all users of the transportation network: motorists, pedestrians, transit users, and bicyclists.
   - **Land Use Element in Studies.** Continuing to include a strong land use component in CRCOG’s corridor studies, in which the linkages between land use and transportation are considered.
   - **Training & Education.** Providing opportunities for training to municipal, regional, and state officials in policies, techniques, and practices that help achieve these goals.
State Plan of Conservation and Development & State Policies

In 2005, the State legislature adopted an update to the State Plan of Conservation and Development (PODC). This Plan serves as "a statement of the development, resource management and public investment policies for the State." Policies contained in the State PODC give direction to State agencies when developing and implementing their individual plans. Six growth management principals are outlined in the plan, and the one most relevant to transportation planning is: “concentrate development around transportation nodes and along major transportation corridors to support the viability of transportation options.”

The Plan also included eight State policies as stated below:

Development Area Policies

1) **Regional Centers** - Redevelop and revitalize the economic, social, and physical environment of the state's traditional centers of industry and commerce.

2) **Neighborhood Conservations Areas** - Promote infill development and redevelopment in areas that are at least 80% built up and have existing water, sewer, and transportation infrastructure to support such development.

3) **Growth Areas** - Support staged urban-scale expansion in areas suitable for long-term economic growth that are currently less than 80% built up, but have existing or planned infrastructure to support future growth in the region.

4) **Rural Community Centers** - Promote concentration of mixed-use development such as municipal facilities, employment, shopping, and residential uses within a village center setting.

Conservation Area Policies

1) **Existing Preserved Open Space** - Support the permanent protection of public and quasi-public land dedicated for open space purposes.

2) **Preservation Areas** - Protect significant resource, heritage, recreation, and hazard-prone areas by avoiding structural development, except as directly consistent with the preservation value.

3) **Conservation Areas** - Plan for the long-term management of lands that contribute to the state's need for food, water and other resources and environmental quality by ensuring that any changes in use are compatible with the identified conservation value.

4) **Rural Lands** - Protect the rural character of these areas by avoiding development forms and intensities that exceed on-site carrying capacity for water supply and sewage disposal, except where necessary to resolve localized public health concerns.

Policies Regarding State Plans

In 2006, there were two land use policy actions that are relevant to CRCOG’s transportation planning program. Public Act 06-136 made the OPM Secretary responsible for ensuring the coordination of state and regional transportation planning with other state planning efforts, including but not limited to economic development and housing plans. The Act also provided some resources for funding Transit-Oriented Development. The Governor's Executive Order 15 called for a review of transportation policies and projects to increase opportunities to promote mass transit and roadway design that support state and local economic development while preserving and enhancing the character, as well as the “walkability,” of our communities, and that have an impact on growth and development.

Consistency of Plans

Federal guidelines require that CRCOG’s Regional Transportation Plan be consistent with the State Plan of Conservation and Development. In order to determine whether the plans were consistent, CRCOG staff undertook two review efforts: one was to physically compare the two plans and the other was to hold a focus group with State officials to review the plans.

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1 From the Introduction to the State Plan of Conservation and Development, 2005-2010, OPM website.
Physical review. The maps to the right overlay the major physical improvements recommended in this Regional Transportation Plan on the State POCD’s priority development and conservation areas. In both instances, the darker the color, the higher the priority for either development or conservation. In general, the transportation projects serve the areas designated for development and avoid the areas designated for conservation. Obviously, this is a high-level look at the plans. As projects are considered for funding, each will be subjected to a more detailed review for consistency with the State Plan.

Review with State Officials: CRCOG staff met with State land use planning officials in December 2006 to review the State and Regional plans for consistency. Representatives from the CT Office of Policy and Management included staff from the Office of Responsible Growth, and Energy and Transportation departments. Representatives from the CT Department of Environmental Protection included the Deputy Commissioner for Environmental Quality and staff from the Air Management, Planning & Program Development, and Environmental Review departments. CRCOG staff represented both the Transportation and the Community Development departments. There were three primary objectives for this meeting:

- Determine if the Regional Transportation Plan is consistent with state plans and policies
- Identify transportation and environmental-land management issues of common concern
- Identify ways to collaborate on issues of common concern

The participants concluded that there were no concerns about the consistency of RTP recommendations with State plans and policies. In addition, they identified two issues in which there was a strong common interest. Since both issues were currently at critical stages in the project planning or public policy making process, CRCOG, DEP, and OPM agreed to continue to collaborate on efforts to bring these two issues successful outcomes. They are:

- **New Britain Busway:** All parties agreed that improved transit service must be part of the solution to air quality, environmental, and land management problems. The New Britain Busway was seen as the critical first step in the regional transit strategy and worthy of support from the state agencies as well as CRCOG.

- **Transit-Oriented Development:** Participants were very interested in TOD, since it is common to policy goals of all the agencies. For example, it can be a key element of responsible growth policies, and it can also help reduce VMT growth and thereby reduce vehicular exhaust emissions. The discussion of TOD included the need to promote TOD along the New Britain Busway, the need for enabling legislation to authorize existing state or other public agencies to coordinate, conduct, and/or finance transit supportive development proposals, and the need for the state to stimulate or induce other transit supportive development by locating state offices near transit stations.
Conclusion. The Regional Transportation Plan and the State land use plans, including the State Plan for Conservation and Development, and policies are consistent and supportive.

RECOMMENDATION:

1. **Continue to work with State Agencies.** Continue to collaborate with State agencies on efforts to promote programs, projects and policies of common concern, with special focus on:
   - Working together to support efforts to advance the New Britain Busway, including assuring that the project addresses issues such as transit-orient development and energy efficient buses
   - Working to promote transit-oriented development including adoption of enabling legislation

**Regional Plan of Conservation and Development**

A primary tenet of the land use - transportation policy is that the Region's transportation plans and policies should be coordinated with, and supportive of, the Regional Plan of Conservation and Development. The May 2003 adoption of a Regional Plan, entitled ‘Achieving the Balance’, is a significantly revised and strengthened policy document. The Plan recommendations are based on six major goals of which four are most directly related to the issue of linking land use and transportation planning. They are:

1. **Regional growth centers.** Focus new regional development in areas in which existing and planned infrastructure can support that development. (See discussion in the next section.)
2. **Revitalize Hartford & other urban centers.** Support efforts to strengthen and revitalize Hartford, the Capitol Region's central city, and also support the revitalization of older, urbanized areas throughout the region.
3. **Preserve community character & natural resources.** Develop in a manner that respects and preserves community character and key natural resources.
4. **More choices for diverse needs.** Support the creation of new employment and housing opportunities, and transportation choices, to meet the diverse needs of our region's citizens.

**Consistency of Plans.** Federal guidelines require that CRCOG’s Regional Transportation Plan be consistent with the Regional Plan of Conservation and Development. In order to determine whether the plans were consistent, CRCOG staff undertook two review efforts: one was to physically compare the two plans and the other was meet with the Regional Planning Commission to review the plans.

**Physical review.** The maps to the right overlay the major physical improvements recommended in this Regional Transportation Plan on the Regional PODC’s priority development and conservation areas. The PODC identifies its highest priority areas for development as Regional Growth Centers. They are shown as red and yellow circles on the map. The Region’s areas identified for conservation and the protection of natural resources. As with the State PODC, the RTP generally avoids the areas designated for preservation and serves the areas to be promoted for development. Again, this is a high-level look at the plans. As projects are considered for funding, each will be subjected to a more detailed review for consistency with the Regional PODC Plan.

**Review with the Regional Planning Commission.** CRCOG transportation staff attended the January 2007
meeting of the Regional Planning Commission, to
review and discuss the RTP. The CRCOG Director
of Community Development remarked that the
2003 Regional Plan of Conservation and
Development and the earlier 2004 Regional
Transportation Plan were largely consistent due to
the fact that both had been developed with close
consideration and coordination by CRCOG staff.
She also informed the Commissioners that her staff
had reviewed the previous Plan and offered
language to update the new Plan.

The comments made by the regional planning
commissioners and the CRCOG community
development staff were primarily focused on
insuring that the new Plan included recent changes
to State land use policy, incorporated new design
principals for livable communities, and continued to
provide consistency between the regional land use
and transportation plans. These suggestions are detailed in the Public Outreach chapter, and have been
incorporated in this Plan.

Conclusion. The Regional Transportation Plan and the Regional Plan for Conservation and Development are
consistent and mutually supportive.

RECOMMENDATIONS:

1. **Support Plan of Conservation and Development Goals.** CRCOG’s transportation plans and
policies will be supportive of all the major goals of the Regional Plan of Conservation and
Development, but special emphasis will be placed on the first four.

   - Support regional growth centers
   - Support revitalization of Hartford & older urban centers
   - Preserve community character & natural resources
   - Support more choice for diverse needs

2. **Continue Planning Coordination.** The staff of CRCOG’s Transportation and Community
Development departments will continue to work cooperatively on projects in which transportation and
livable communities are an issue.

**Regional Growth Centers**

Of the land goals contained in the Regional PODC, one of special interest to
this Plan is the recommendation to focus development in Regional Growth
Centers. During the writing of the 2004 Plan, participants in an economic
focus group felt that the goal of encouraging economic development within
Regional Growth Centers warranted special attention. This issue is
discussed in more detail here.

The Regional POCD recommended that economic growth be focused in areas that have adequate existing
and planned infrastructure to support the development. The Plan identified four types of areas in priority
order:

   - regional growth centers,
   - proposed rapid transit corridors,
   - existing Interstate highway areas, and
   - water and sewer service areas.
There are six Regional Growth Centers identified in the Regional PODC. (See also Figure 1.1)

- Downtown Hartford
- Bradley Airport area
- Health Center/WestFarms area
- Rentschler Field area
- Griffin area
- Bucklands area

These are major activity centers that have a high concentration of jobs due to locational advantages and a substantial investment in public and private infrastructure that was required to support the activity. For these same reasons, it is expected that much of the Region’s future employment growth will occur in these areas. It is to the Region’s advantage to continue to support economic growth in these areas rather than making major investments in undeveloped areas where the infrastructure is inadequate, and where there is risk of losing valuable farmland, open space, or important natural and historic resources.

**RECOMMENDATION:**

1. **Support Regional Growth Centers.** Economic development should be encouraged in those areas where the public infrastructure already exists to sustain intensive development. Policies should favor investment of transportation resources in projects that serve the Regional Growth Centers, and that assure multi-modal access for all types of users, including motorists, bicyclists, and pedestrians.

**Environmental Mitigation**

In reviewing CRCOG’s proposed transportation projects for consistency with State and regional land use plans (see discussion above), we determined that the proposed projects in this Plan generally avoid areas of environmental concern. Most of the projects proposed in this long-range plan are just that: long-range conceptual proposals, without specific details as to location and design. As projects are funded and move into the design stage, however, a closer look is taken at any potential environmental impacts and necessary mitigating solutions are taken.

To ensure that the environment is considered in our transportation planning process, CRCOG will consult with representatives of appropriate Federal and State agencies to review issues related to land use management, natural resources, environmental protection, conservation, and historic preservation. These issues will be considered within specific planning studies such as corridor studies, mode specific transportation studies, and future editions of the Regional Transportation Plan.

**Conclusion:** The Regional Transportation Plan generally avoids areas of environmental concern.

**RECOMMENDATION:**

1. **Consult with Officials.** Consult with representatives of appropriate Federal and State agencies with regard to issues of land use management, natural resources, environmental protection, conservation, and historic preservation.

2. **Develop Environmental Mitigation Activities When Required.** Work with appropriate Federal and State agencies to determine appropriate environmental mitigation activities for any project that has the potential to impact environmentally sensitive areas.

3. **Avoid Areas of Environmental Concern.** As projects are funded and move into the design stage, take a closer look at environmental impacts and assure that necessary mitigating solutions are taken.

**Station Area Planning & Transit Oriented Development**

As far back as 2001, the Region made a major commitment to giving travelers more choices by improving our existing bus system and developing a new rapid transit system. If these proposals are to realize their full promise, they must be adequately funded and properly designed. Proper station area planning and
Connecticut Capitol Region
Plan of Conservation and Development
Economic Development Areas of Regional Significance

The areas highlighted on the map represent lands that can best support large, regional-scale commercial and industrial development. In order of priority, these areas are:

1) Areas of Regional Significance
2) Transit Corridors
3) Interstate Highway Areas
4) Sewer and Water Service Areas

CROCOG will use this policy map, along with goals and policies from the Regional Plan, to support plans and development proposals that are consistent with these priority areas.

Figure 1.1

Legend
- Interstate 84 and 91
- Other State/Interstate Highways
- Water
- Municipal Boundaries
- Area of Regional Significance
- Buffed Distance from Area of Regional Significance: 0.5 Mile
- 1.0 Mile
- Proposed Busway with 1.2 Mile Buffer Area
- Proposed Springfield-New Haven Commuter Rail with 1.2 Mile Buffer Area
- Public Sewer and Water Service Areas
- Future Transit Connections to Bradley International Airport

Source: CROCOG and Municipal GIS Databases
Approved by CAPCO Regional Council of Governments 5/28/03
encouragement of transit oriented development are needed to assure: (1) that we realize the full economic development potential created by the new transit service, and (2) that the development that does occur is transit supportive.

Transit stations can stimulate economic development in the host community. Rapid transit service improves access to the station area leading to greater human traffic, thereby making the area more desirable to developers. Station area planning is necessary to ensure that development is supportive of the transit system. Transit Oriented Development (TOD) means mixed-use development (houses, shops, and offices) around transit nodes arranged in a pedestrian friendly manner with a higher level of density than may exist today. Supportive uses are activities that are likely to generate additional riders for the transit system because residents, patrons, or employees find it convenient to ride transit rather than drive to their destination. Uses such as automobile sales, warehousing, or ones that are land intensive with low employment densities are not transit supportive.

With the adoption of the Regional Transit Strategy in 2001, CRCOG committed to a policy of encouraging and promoting TOD in major transit corridors. Since then, through the Station Area Planning Project, we have worked intensely with the municipalities along the New Britain/Hartford Busway corridor to assure that transit-supportive land use planning is done in areas around the busway stations. The individual station area plans developed through this project include recommendations for up to one-half mile (the walk distance standard) around stations for walk/bike/ride routes to the station; assessment of market conditions and the physical and regulatory environment; proposals for new regulations; development concept plans; phasing and suggested deal structures; and incentives for development and marketing of sites targeted for transit-oriented development. These plans will serve local decision-makers, citizen groups, ConnDOT, private developers, and property owners.

RECOMMENDATIONS:

1. **General Support for TOD.** Support Transit-Oriented Development along transit lines. The Region, State, and affected municipalities need to undertake a series of actions to encourage TOD:
   - Develop a long-range strategy for the Region that encourages both transit and transit-supportive land use.
   - Make station area planning a part of the general planning process for all rapid transit lines.
   - Work with planners and developers to integrate TOD into their plans and development projects.
   - Build support for transit among community groups, business leaders, and other stakeholders.

2. **TOD for New Britain Busway.** As the New Britain Busway moves forward to implementation, CRCOG will endeavor to insure that the transit-oriented development plans advance toward implementation and steps are taken to secure development opportunities.

**Context Sensitive Solutions**

Traditionally, transportation planners and engineers have not been especially sensitive to non-transportation issues as they developed their plans and designs. Environmental issues were an exception to this practice because plans and designs have to comply with environmental regulations. However, little consideration was given to project impacts on historic, cultural, or community resources. Within the past decade, a new approach has evolved in the transportation field that corrects this single-minded approach. The new approach is called ‘context sensitive design’ or ‘context sensitive solutions.’

The goal of this new context sensitive approach is to develop solutions that are responsive to community concerns and that result in transportation projects that are a better fit to the community. In this approach, traffic improvement is no longer the only objective to be met. Designers and planners are expected to give consideration to other community goals such as preserving community character, and
creating more pedestrian friendly environments. Projects that are designed through this type of process can contribute to the overall goal of creating more ‘livable communities.’

Substantial progress has already been made in developing context sensitive procedures in the Capitol Region and the State, but these efforts need to be continued. The Connecticut Department of Transportation has adopted an agency-wide context sensitive design policy, and has used it with great success on many projects. In addition, the context sensitive design concept must be expanded to include the notion that bicyclists and pedestrians are legitimate users of our roads and that their needs also must be considered.

**RECOMMENDATIONS:**

1. **Context Sensitive Corridor Studies.** CRCOG should continue to use a context sensitive approach in its corridor planning process.

2. **Context Sensitive Design.** CRCOG should encourage Connecticut DOT to continue its context sensitive approach to design, and to work with DOT staff and consultants on individual projects as needed to assure that community concerns are heard and understood.

**Complete Streets**

Future CRCOG corridor and roadway plans will include the elements of Complete Streets where applicable. Complete Streets are “roadways for everyone.” They are designed to assure safety for the pedestrian and walkability as well as safety for all other non-automobile modes of transport. Putting an emphasis on Complete Streets means putting an emphasis on sidewalks and bikeways. Exceptions include roads where bicyclists or pedestrians are prohibited by law, where costs are excessive, and where there is clearly no need.

**RECOMMENDATION:**

1. **Complete Streets Policy.** CRCOG should identify projects where Complete Streets concepts are applicable and assure that all modes of transport are taken into consideration.

**Access Management**

Land use and transportation often come into conflict on arterial roadways where substantial commercial development is occurring or planned. In the past, the lack of coordination between transportation and land use planners has resulted in problems in these areas. The land is often developed as unattractive commercial strips where the proliferation of driveways erodes the safety and capacity of the roadway. These problems can be prevented, and even corrected, if proper access management policies are in place. CRCOG has actively supported better access management practices within the Region and needs to continue to do so.

**RECOMMENDATION:**

1. **Continue Regional Access Management Program.** CRCOG should continue its access management efforts as recommended in the following chapter on the Arterial Road System.

**Regional Land Use Database**

The Council of Governments has completed a regional land use database. The data base, along with a previously completed regional zoning database, is an essential tool for understanding the current land use patterns in the Region, developing tools to project future land use trends, and testing alternative development scenarios. The land use database is also an essential input to the regional travel forecast model. Now that the land use database is complete, it is essential that the Region maintain it and keep it and the zoning layer up to date.
**RECOMMENDATIONS:**

1. **Maintain & Update Land Use and Zoning Data Bases.** Continue to maintain and update the regional land use and zoning databases.

2. **Develop Analytical Tools for Improved Land Use Forecasts.** Develop better land use forecasting tools using the regional land use database and regional geographic information systems.

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**Travel Forecast Model**

The regional travel forecast model (also known as a travel demand model) is an important planning tool that CRCOG uses to help make decisions about major transportation proposals. It is used to forecast future traffic volumes on roads, and to forecast future ridership on transit services. It is used to help us understand how traffic will grow over the next 10-20 years, and it is also used to help us evaluate how different roadway and/or transit improvements might help us cope with traffic growth. The model can also be used to test the travel impacts of various land use scenarios. The CRCOG model has been used to do this type of land use scenario testing in several studies. A travel forecast model is an important planning tool that can not only help us do better transportation planning, but also help us better understand land use - transportation interactions. CRCOG’s model should continue to be refined and improved to increase these analytical capabilities.

**RECOMMENDATIONS:**

1. **Maintain Regional Land Use Database.** CRCOG should continue to maintain and update the regional land use database.

2. **Develop GIS-based Land Use Forecast Model.** Traffic forecasts are dependent on the land use forecast that we enter into the travel model. Therefore, to get good travel forecasts we need good land use forecasts. Land use forecasts can be improved by developing a GIS-based land use forecast model that utilizes the regional land use database discussed above, and data sets in the regional GIS such as the local zoning data and the environmental constraints data.

3. **Sensitivity Test with Alternative Land Use Scenarios.** CRCOG should continue its practice of evaluating specific project proposals using alternative land use scenarios. Such sensitivity testing provides insights into how transit projects might perform if we manage our development differently. (Example: more transit-oriented development)

4. **Other Travel Model Improvements.** CRCOG should continue to improve its travel model to increase its functionality and performance, and to improve its ability to reflect land use - transportation interactions.
2. TRANSIT SYSTEM

The private automobile is not the only way to travel within the Capitol Region. Alternative travel modes include local and express bus service provided primarily by CT Transit, paratransit services provided for the elderly and persons with disabilities through the Greater Hartford Transit District, and rideshare services provided by the Rideshare Company. In addition, transportation services are provided by a variety of human services agencies and programs.

These services play an important role in meeting the travel needs of our residents. They serve the basic mobility needs of our transit-dependent population: the elderly, persons with disabilities, and families that do not own a car. They also serve the commuting needs of a small but significant portion of the Region's workers. About 3.8 percent of all workers in the Region take the bus to work (2000 Census). Of those who work in Hartford, about 7.8 percent commute by bus; and of those who work in the Hartford CBD, about 14.4 percent commute by bus. In total, almost 13.5 million trips a year are served by our transit system (CT Transit ridership data.) The bus system removes a significant portion of cars from the roads during the most congested periods of the day and in some of the most congested areas.

The Council of Governments recognizes that while transit is a small part of a much larger transportation system, it is a critical part nonetheless. In fact, the Council has increasingly sought to place more emphasis on transit improvements as a way to improve mobility for those who rely on transit, to provide viable travel choices for everyone, and to reduce congestion on our streets. Since the mid 1990s, CRCOG has undertaken several initiatives to improve transit options.

Recommended Transit Improvement Program

The Region's recommended transit improvement program is based primarily on the 2001 Regional Transit Strategy (RTS.) But, it also includes recommendations reflecting the Council's work with the Jobs Access Program, its bus stop policy, the locally coordinated human services plan and recommendations from previous Regional Transportation Plans. In addition, the RTS recommendations have been revised for those particular corridors where feasibility studies have been completed.

Rapid Transit Service

In 2001, CRCOG completed an intensive 2-year effort to define a new vision for a transit system that would serve travel needs within the Region, and provide transit links to cities outside the Region as well. The resulting Regional Transit Strategy (RTS) contained a vision for regional transit in the Hartford region that aims to restore balance among modes in our transportation system and provide travelers with more choices.

The RTS recommended that new rapid transit services be developed in five corridors, as summarized below and illustrated in the figure on the following page. Since the RTS was adopted in 2001, planning and/or design activities have been initiated in the four most promising corridors, and the summaries below have been updated to include that information.
**New Britain Busway:** New busway\(^1\) between Hartford and New Britain, located in the Amtrak corridor from Hartford to Newington, and then in the New Britain Secondary corridor for the connection to New Britain. This project is currently in the final design phase, and it is expected that operations could begin as early as 2011.

**Griffin Busway:** Proposed busway located in the Griffin rail corridor from Union Station to Griffin Office Park in Bloomfield, with bus service extended to Bradley Airport via Route 187. A feasibility study of this busway has been completed. The final recommendation is to defer construction of a busway until there is sufficient experience with the New Britain Busway operations to evaluate its success. This recommendation is based on the fact that the cost-effectiveness ratio for the Griffin Busway is not sufficient to meet the minimum federal criteria at this time. The study also recommended that efforts be taken to build the ridership potential of the corridor. The details of this recommendation are being developed in the Northwest Corridor Transit Study, currently underway.

**Manchester Busway:** Recommended busway from Hartford to Manchester and Vernon. A feasibility study of the Manchester (now entitled Hartford East Busway) was completed and recommended a phased approach for implementing a busway in this corridor. Recommendations include:

- **Near term:** Operate in I-84 HOV lanes. Construction of four transit stations (Reservoir, Buckland, Hartford Turnpike and Rockville), and two later (Simmons and Manchester). Expand bus operations to serve those locations and downtown Hartford.
- **Long term:** Construct a second busway and nine stations in the Connecticut Southern Railroad corridor (not including the Manchester Industrial Spur) between Depot Square in Manchester and Governor Street in East Hartford. Expand bus operations to serve those stations.

**Rocky Hill Busway:** Proposed busway located in the Hartford/Middletown rail corridor from Union Station to Rocky Hill, with bus service extended to Middletown. No feasibility study is planned for this corridor at this time since it had the smallest potential ridership of all the corridors.

**New Haven - Hartford - Springfield Commuter Rail Service:** Improve intercity rail service to serve commuter trips, provide better connections with rail service in New Haven, and provide a connection to Bradley Airport. The completed feasibility study of the NHHS commuter rail service recommended:

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\(^1\) Busways are roadways built for the exclusive use of buses. Allowing for rapid service, flexible operation, and a “one-seat ride.” The busways recommended here will be built to allow future conversion to light rail transit if increases in passenger volumes warrant a higher capacity system.
• Commuter rail service between New Haven and Springfield, in the AMTRAK right-of-way
• 30-minute headways (frequency of service)
• 12 stations (including Hartford, Newington, Windsor, Windsor Locks & Enfield in CRCOG)
• Improved or new stations with high-level platforms, grade-separated pedestrians facilities, bicycle
  storage and racks, and additional parking if required
• A minimum of 18 miles of extended double track sections
• Modified local bus service to serve the stations
• Shuttle bus connection from the rail station in Windsor Locks to Bradley International Airport

**Union Station:** Union Station plays an important role in interregional and interstate rail and bus service, and in the future will be an important element of the busway system and the commuter rail system. The station is also an important cultural and historic asset. In its present state, it is expensive to maintain and operate, and it must be upgraded to effectively serve the future transportation needs of the region. The details of the improvements needed at Union Station are being developed in the Northwest Corridor Transit Study, currently underway.

**Recommendations:**

1. **Rapid Transit System.** Develop a new rapid transit system inclusive of services in the five
   corridors, as described above.

2. **Rail Corridor Preservation.** Continue to preserve existing rail rights-of-way for future
   transportation use. The policy includes all existing rail rights-of-way and it allows for the interim
   use of the rights-of-way for other transportation functions such as multi-use trails.

3. **Union Station Enhancement** Continue to support efforts to improve, upgrade and enhance
   Union Station as the major multi-modal transportation center in the Region and as the central
   station for the Region’s rapid transportation system.

Better Bus & Paratransit Service

Even with significant investments in a rapid transit or fixed guideway system, the local bus service and
paratransit services will continue to provide the fabric that ties our transit system together. The following
recommendations, which are based on both the RTS and other regional transit policies, are intended to
assure that the existing services are both properly maintained and improved to meet identified needs.

**Jobs Access Program.** In cooperation with the CT Department of Social Services and a host of
other social service and transit agencies, CRCOG started the Jobs Access Program in 1997. Over the past
10 years, the Federal Transit Administration and the Connecticut
Department of Transportation have also provided funds to help in
the growth of the Jobs Access program. This program provides
rides to work for welfare-to-work clients and other low-income
residents who want to work, but who cannot reach certain job sites due to lack of a car, lack of regular
bus service to the site, or lack of bus service for second or third shift schedules. This innovative program
matches clients to the best available transportation service that meets their commute needs. In the year
2006, the Jobs Access Program provided about 47,000 trips per month for about 3,250 residents who
needed help getting back and forth to work.

**Locally Coordinated Human Services Transportation Plan.** In cooperation with the
Connecticut DOT and various human services agencies and transportation providers, CRCOG is creating a
locally coordinated human services transportation plan. This plan is a separate document, and outlines
how the region will seek to meet the transportation needs of the low-income residents, the elderly, and
persons with disabilities.
**Bus Stop Sign and Shelter Policy.** In the year 2000, CRCOG adopted a bus stop policy that will help improve bus stops throughout the Region by establishing a program to install and replace passenger shelters at important bus stops, establishing a program to install new bus stop signs at all stops in the Region, and better defining town responsibilities for maintaining bus stops. The policy and resultant improvement programs reflect a desire to improve conditions for bus patrons where they wait to board the bus.

**Recommendations:**

1. **Maintain & improve existing levels of service.** It is the policy of the Council of Governments that the bus and paratransit systems in the Region are critical to meeting the mobility needs of the Region’s transit dependent population. Furthermore, the bus system is an important “alternate” mode of travel for many of the Region's other residents. The Council recognizes the importance of both these functions and Council is committed to a policy of maintaining the existing levels of service and to improving those services where appropriate.

2. **Access for Bicyclists.** CRCOG also recognizes that many low-income individuals, who rely on transit for their travel, also rely on bicycle transport. Therefore, the transit system must be adequately integrated with bicycling, with bike racks on buses and bike parking racks at major stops.

3. **Jobs Access Program.** The Region should continue its Jobs Access program. It is important to develop new systems to provide access to jobs for those who are seeking jobs, but who lack personal transportation.

4. **Locally Coordinated Human Services Transportation Plan.** The Region should continue the LOCHSTP planning process.

5. **ITS for Transit.** The operational efficiency of the existing transit and paratransit services should be improved by integrating advanced technologies into current operations, maintenance, and management functions. Specific recommendations such as advanced vehicle location systems are described in “Intelligent Transportation Systems: A Strategic Plan for the Capitol Region.” Using technology to enhance local bus service is a high priority for CRCOG’s EJ Advisory Board. Technology can enhance the transit experience of all transit riders, but especially the transit dependent. Technologies such as GPS, advanced vehicle location systems, electronic next bus arrival signs, and next stop announcement systems can improve service reliability and make it easier for riders to use the bus. These systems should be introduced in the Hartford area as soon as possible.

Major bus stops and transit centers should be equipped with electronic signs that tell how long one must wait until the next bus arrives. These next bus arrival signs use real-time data collected from GPS units on buses that give riders up to the minute information on bus arrival times. Buses can also be equipped to automatically announce the next bus stop, if an AVL system is installed on the CT Transit buses. Transit priority added to traffic signals can help keep buses on schedule. And computer-aided dispatch can improve efficiencies for both fixed route and dial-a-ride services.

- ** Expedite ITS Projects.** Implementation of ITS for transit services in the Hartford area has lagged behind that for highways. CRCOG should work with ConnDOT, CT Transit, the Greater Hartford Transit District, and the Rideshare Company to expedite the implementation of ITS for transit services. A primary objective should be to equip major bus stops and transit centers with electronic signs that tell how long a customer must wait until the next bus arrives.

- **New Britain Busway - ITS elements such as automatic vehicle location (AVL), real time bus arrival information signs, and possibly even vehicle guidance systems should be an integral part of this new rapid transit facility.**
• **Radio System Replacement** - CT Transit’s current radio system is not a digital system, which has made it impractical to install an AVL system. Given that the radio system is over 15 years old, replacement is needed. Any new system should be digital and allow CT Transit to start developing AVL capabilities.

6. **Better Bus Services.** The RTS recommended several improvements to the existing bus system:
   • More hours of service and increased service frequency.
   • More timed transfer centers.
   • New routes: provide circulators within activity centers where appropriate, and provide a circumferential route in the region’s inner ring suburbs.
   • Modifications to existing routes: create more direct service, improve operating efficiency or prevent duplication of route segments.
   • Integration of alternate fueled vehicles in the transit fleet as soon as practicable.

**Better Circulation within Activity Centers**

A downtown circulation system was evaluated as part of the RTS and proved to be integral to the success of the rapid transit facilities. The RTS also identified neighborhood circulators as services that can improve access in an activity center while allowing more efficient operation of regional routes.

The 2004 Regional Transportation Plan recommended the implementation of a downtown circulator in Hartford. A special task force was subsequently formed by the Metro Hartford Alliance to explore ways of bringing this service to a reality. Funding was identified, a route was selected and a marketing program developed. Operating since September 2005 as the *Star Shuttle*, this route successfully serves residents, workers and visitors, especially those visitors who are in town for events at the new Connecticut Convention Center. The success of this service has spawned requests for similar routes elsewhere in the city, and Region.

The Northwest Corridor Transit Study will further examine issues of transit circulation in downtown Hartford, including the evaluation of the feasibility of establishing a transit center, and evaluating the downtown circulation of all bus routes. The Buckland Hills Corridor Study is also investigating opportunities for local circulating bus services.

**Recommendations:**

1. **Downtown Circulator.**
   • Continue to support the Star Shuttle service in downtown Hartford.
   • Explore other opportunities for similar circulator routes in Hartford.

2. **Buckland Hills Circulator.** As part of the Buckland Hills Transportation Study, examine the potential benefits of reorienting service in this area, including the construction of a transit center.

3. **Northwest Corridor Transit Study.** As part of the Northwest Corridor Transit Study, examine the potential benefits of reorienting service in downtown Hartford and recommend improvements.

**Better Portals to the Transit System**

Both the RTS and the regional bus stop policy placed new emphasis on those locations where people gain access to the transit system. More people will be encouraged to use the transit system if these ‘portals’ to the system are improved.
Recommendations:

1. **Major Transfer Centers.** The creation of timed transfer centers, or mini-transit hubs, outside downtown Hartford should be created. A transfer center creates the opportunity for a person to get to other bus routes more directly and more quickly. Furthermore, the transfer center encourages several routes to come together outside of downtown Hartford, resulting in improved mobility at the new hub. Recommended locations include:
   - Copaco Plaza (Bloomfield)
   - West Farms Mall (Farmington)
   - Buckland Hills Mall (Manchester)
   - Wethersfield Shopping Center (Wethersfield)

2. **Transit Stations.** Fixed transit stations are a key element of each of the proposed rapid transit lines. Each major station should include appropriate amenities to make them both attractive and convenient to use. Stations will include covered platforms with enclosed station areas (i.e., buildings) at high ridership locations. Transit-oriented development is also encouraged at and near all stations.

3. **Transit Supportive Uses at Stations.** When individuals travel to and from work, their trip often has several purposes: dropping children at day care, taking care of errands, picking up dinner. For some commuters, these other needs make transit infeasible for the work trip. But if retail facilities, day care, dry cleaning establishments, and other services are made available at transit centers and stations, the transit trip becomes feasible. The development of such services at key transit centers and stations should be encouraged. Buckland Hills and Park Street (on the New Britain Busway) are proposed as prototypes, with others to follow.

4. **Bus Stop Signs.** CRCOG’s Bus Stop policy recommended the creation of a bus stop sign program to install standardized signs at all stops. That program is now well underway. CRCOG will continue to support this effort.

5. **Bus Shelters.** CRCOG is presently working with the towns to develop a cohesive and coordinated regional bus shelter program. CRCOG will continue to support this effort.

**Better Transit-Land Use Connections**

In order for the proposed transit improvements to realize their full promise, they need to be fully integrated into the surrounding land use. Before the advent of the automobile, cities were largely shaped by their transit lines and routes. Today, highways and roadways tend to be a stronger determinant of land use and urban form. But one clear goal of CRCOG has been to use transit as a tool to shape urban form. A more detailed discussion of CRCOG’s support for making this transit-land use connection can be found in Chapter 1.

Recommendation:

1. **Support Transit Oriented Development** along Transit Lines, as described in Chapter 1: Linking Land Use and Transportation.
3. HIGHWAY SYSTEM

The regional highway system consists of a hierarchy of road types: freeways, major non-freeway roadways (arterials), and local and collector roadways. The freeways are limited access, grade-separated facilities whose function is to serve longer distance trips and through traffic. Arterial roadways are not limited access and generally have at-grade intersections. They typically serve a dual purpose of carrying longer distance trips, but also serve shorter trips and provide access to abutting land uses. The primary function of collector and local roads is providing access to abutting property.

Freeways. Freeways are the most important part of the Region’s roadway system. There are 115 miles of freeways in the Capitol Region. These constitute only 3.0 percent of the total road miles (3,804 miles) in the Region, but they carry 46 percent of the total traffic or vehicle miles of travel. The freeways are I-91, I-84, I-291, Route 2, part of Route 20 (the Bradley connector), and part of Route 15 (from I-84 to the Berlin Turnpike.) These roadways are critical to connecting the region to places outside the region, to commuting and other long distance travel within the region, and to the region’s economic health.

Arterials. Arterial roadways are the second most important part of the regional highway network. The arterial network comprises only 14.6 percent (554 miles) of the entire road network, but it carries about 30 percent of the total traffic.

Collectors & Locals. The collector and local roads are the primary means of providing access to property, homes, and businesses. They are like the small capillaries in the body that deliver blood and oxygen to all the tissues in the body. They are numerous and they account for 82.4 percent (3,135 miles) of the total roadway network. While the total number of centerline miles is extensive, they serve a small volume of traffic, or about 24 percent of the total regional travel.

The focus of the Regional Transportation Plan is on the portion of the highway network that is of regional significance – the freeway and arterials roadways. It is the goal of the Plan to manage the system in a manner that the network can continue to function in a safe and efficient manner to serve the growing demand for travel in the future.

Traffic Growth: 2005 - 2035. Traffic is expected to grow by a little more than 30 percent over the next 30 years. In 2005, total travel in the Capitol Region was about 20,600,000 vehicles miles per day (VMT). This is expected to grow to about 27,400,000 vehicles miles per day. This increase in VMT of nearly 33 percent amounts to about one percent per year.

Operations & Management Strategies to Improve Safety & Reduce Congestion

Important goals of the transportation planning program are to improve safety and reduce congestion. While these goals underlie most of the recommendations in this chapter, CRCOG has adopted an approach to achieving those goals that relies heavily on improving the way we manage existing freeway and arterial facilities. This reflects a longstanding policy (first adopted in the 1994 Plan) of first attempting to solve problems by improving the operational efficiency of the existing system, before resorting to building new or wider highways. Therefore, the programs of congestion management and safety management described below emphasize operations and management strategies such as roadway operational improvements, technology enhancements (ITS), incident management, and demand management.

To achieve safety and congestion objectives, the Federal Highway Administration requires that transportation planning organizations like CRCOG put in place special procedures or programs to monitor
and manage congestion and safety. To this end, CRCOG is developing a congestion management program that will provide more current and better monitoring of congestion trends in the region. It will also develop better strategies for managing congestion that is identified. Likewise, CRCOG is developing a safety management program that will monitor safety trends, and develop strategies and actions to correct identified problems and trends. These programs are described below.

**Congestion Management Program (CMP)**

Eliminating all congestion in metropolitan areas is not feasible economically or environmentally. But tolerating some congestion does not mean that we take no action to minimize congestion, or to reduce the impacts congestion has on our quality of life and economic health. It is in our best interest to find cost-effective and environmentally-sound means to manage congestion. Thus, a key goal of the transportation plan is congestion management – correcting our most severe problems, reducing the growth of congestion in the future, and mitigating the impacts of congestion that cannot be eliminated.

The congestion management strategies underlying most of this plan include operational improvements, incident management, and demand management. Operational improvements target some of our most severe congestion hotspots, incident management reduces traffic jams caused by accidents and other incidents on freeways, and demand management attempts to reduce demand at key travel times. Building new capacity is considered only after other options have been exhausted.

This strategy is reflected in the Hartford Area Congestion Management Program (CMP), which is being developed to monitor congestion trends and develop strategies for addressing congestion. The planning program is conducted cooperatively by the three regional planning agencies in the Hartford metropolitan area (including CRCOG, Central CT RPA and Midstate RPA). The program's goal is to promote the safe and efficient operation and management of the highway system in the region in order to better serve the mobility needs of people and freight. The program has three major objectives:

1. To monitor and assess system performance.
2. To identify where improvement is needed & establish priorities for corrective actions.
3. To monitor the effectiveness of corrective actions.

Early data from this system indicates the approximately 28 miles of the freeway in the Hartford metropolitan area are congested on a daily basis. This congestion causes over **3,100 vehicles hours of delay** per day. This congestion is not evenly distributed throughout the freeway network, but is concentrated in certain travel corridors, as shown in the chart to the right. About half of the daily delay occurs in the I-84 corridor west of downtown Hartford. About 25 percent of the delay occurs along I-91 north of downtown. With 75 percent of the region's freeway congestion occurring in just two corridors, most of our congestion management activities will need to be focused on these areas.

**I-84 West Strategies.** The CMP findings support earlier planning analyses that defined I-84 West as the region's most congested corridor. These earlier findings led to several planning studies that recommended construction of the New Britain Busway. This demand management option is very cost-effective at reducing demand and congestion in the I-84 West corridor. Two freeway operational improvements were also recommended to eliminate local bottlenecks on I-84. The recommendations are included in this Plan, but more importantly, funding has already been committed to all three projects,
construction should begin within the next 1-5 years. This is an example of how a program of comprehensive and multi-modal transportation planning can achieve congestion management goals.

**RECOMMENDATION:**

1. **Continue to Develop the Congestion Management Program.** Continue to work with Central CT Regional Planning Agency and Midstate Regional Planning Agency to develop the Hartford Area Congestion Management Program.

**Safety Management Program**

An important objective and primary focus of the Capitol Region transportation planning program is assuring a reasonable level of safety for travelers who use our highways and transit systems, be they drivers, passengers, bicyclists, or pedestrians. As part of 2007 transportation plan, CRCOG is renewing and refocusing its commitment to improving safety for all modes of travel. Safety has always been part of almost all of CRCOG’s planning activities, but we have never developed a comprehensive statement of how all these individual activities fit within a comprehensive and holistic program of safety management. The section describes the major elements of CRCOG’s new safety management program.

**Capitol Region Safety Management Principles**

In order to assure a continuing and comprehensive approach to improving safety of travelers, the safety management program will contain the general components and features listed below. We will continue to re-examine and revise these elements as needed.

1. **Include Safety in All Studies.** Safety will be part of all CRCOG studies.

2. **Improve Safety for All Modes.** Safety is a concern for all modes of travel. This demands that safety be a priority in all CRCOG programs regardless of mode. This has been, and will continue to be, the practice of CRCOG. Mode-specific plans such as the regional bicycle plan contain safety recommendations relevant to that specific mode. More comprehensive efforts, such as corridor studies, address safety issues for all roadway users - motorists, transit users, pedestrians, and bicyclists. CRCOG remains committed to improving safety for all modes of travel.

3. **Monitor Regional Safety Conditions & Trends.** CRCOG will regularly monitor safety conditions and identify emerging trends in the region. Within the highway planning program, this will include regular reviews of accident data compiled by CT DOT and preparing written reports on the findings. Monitoring of transit, bicycle, and pedestrian safety conditions will also be done as data allows.

4. **Support Incident Management as a Safety Tool.** CRCOG will continue to support incident management as a valuable tool for reducing secondary accidents. We will also support the practice of incident management procedures that insure the safety of emergency service staff who respond to incidents on the highway.

5. **Support the CT Strategic Highway Safety Plan.** Some aspects of safety and safety management extend beyond regional boundaries and require a statewide approach to policy development and program. This is why Conn DOT has prepared the CT Strategic Highway Safety Plan, which CRCOG is committed to supporting as explained below.

**RECOMMENDATION:** Improve safety management by practicing the five principles described above.

**CT Strategic Highway Safety Plan**

A major component of our new program is to support the CT Strategic Highway Safety Plan, which was adopted in 2006. The purpose of this plan to identify the State’s critical safety needs and to direct allocated resources to projects and programs designed to achieve significant reductions in fatalities and serious injuries on the State’s roadways. The plan identifies eight safety emphasis areas:
Not all of these functions can be effectively supported at the regional level, but CRCOG is committed to supporting those it that can. These are listed below.

1. Traffic Records and Information Systems. Developing traffic record systems requires state coordination, plus standardized reporting methods and records. To assist in the development of better reporting and recordkeeping systems, CRCOG has participated in several state committees.

   Connecticut Traffic Records Coordinating Committee (TRCC). CRCOG is a member of the TRCC. The TRCC has been working to develop a more comprehensive and effective traffic records system. They are seeking to achieve goals such as more accurate coding of crash location, automated coding of geographic location through GPS, more complete and consistent police reporting of accidents (see PR-1 reporting form below), and integration of local road accident data into state accident data bases.

   Improved Crash Reporting Form (PR-1). CRCOG also participates in a work group that is reviewing the Model Minimum Uniform Crash Criteria and evaluating information found on the Police Report form (PR-1). The work group will be evaluating data elements to collect in the field during an incident as well as discussing options for the data capture.

   Crash Outcome Data Evaluation System (CODES). CRCOG is a member of the CT CODES committee. The CODES program, which is sponsored by the National Traffic Safety Administration, attempts to develop systems for linking crash and accident data to various medical records to allow a more complete assessment of the outcome of crashes.

   **RECOMMENDATION:** Continue to support these activities through active participation in state committees and other activities as appropriate.

2. Roadway Departure. In April 2005, the ConnDOT prepared a report entitled, “Strategic Plan for Reducing Roadway Departure Fatalities and Severe Injuries in Connecticut.” The report was prepared by a task force charged with identifying implementation strategies to reduce roadway departure accidents in Connecticut. The findings from the report were incorporated into the SHSP.

   During a State Safety Summit, in 2006, CRCOG was asked to join the safety planning effort, specifically to serve on a Roadway Departure Emphasis Area Working Group. CRCOG will offer guidance to ConnDOT related to municipal roadways and assist them in implementing the identified strategies.

   **RECOMMENDATION:** Continue to support these activities through active participation in state committees and other activities as appropriate.

3. Pedestrians and Bicycles. CRCOG’s bike and pedestrian planner was involved with the development of the CT Strategic Highway Safety Plan as a member of the stakeholders group. CRCOG currently serves as a member of the SHSP work group on bike and pedestrian safety issues. As a member of the group, CRCOG can insure that our pedestrian and bicycle efforts mesh and coordinate with the state efforts.

   **RECOMMENDATION:** Continue to serve on the Bicycle and Pedestrian Safety Work Group.

4. Incident Management. CRCOG is represented on the Statewide Incident Management Task Force, a subcommittee of the State’s Transportation Strategy Board. The SIMTF provides a forum for the discussion of incident management issues, with the goal of developing projects and policies that will improve the management of incidents on our State highways. See the section entitled “State Incident Management Activities” below for a more complete discussion of the work of this group.

   **RECOMMENDATION:** Continue to support and participate in the work of the Statewide Incident Management Task Force.
Incident Management.

Addresses Congestion Issues. Incident management is the primary tool for reducing highway congestion that occurs when accidents, breakdowns, or other incidents result in a full or partial blockage of the highway. The goals of incident management are to respond sooner to incidents, clear the incidents more quickly, and manage traffic better during the accident. Previous studies have estimated the potential benefits of a full incident management program for the Capitol Region to be a reduction in delay of about 1.7 million vehicle hours per year and a savings of about 1.0 million gallons of fuel per year.¹

Addresses Safety Issues. Incident management programs also address safety concerns for both the emergency responder and the motorist. Personnel responding to an incident in a preplanned manner operate in a safer environment, knowing exactly what is expected of them as well as what is expected of other responders. Further, emergency responders are at risk from the hazards of on-coming traffic when they work an incident scene. Coordinated and cooperative incident management programs greatly reduce time spent on-scene, and thus the time responders are exposed to those on-scene hazards. In the same manner, the sooner motorists involved in the incident are removed from the scene, the sooner they are moved out of harm’s way and the sooner they can receive needed treatment, if any.

In addition, motorists are at risk of involvement in secondary incidents caused by suddenly slowed or stopped traffic, lane closures, and the movement of emergency vehicles. Proper incident management procedures and shorter clearance times can significantly reduce the likelihood of secondary incidents.

Regional Incident Management Activities. In 1998, the Greater Hartford Incident Management Steering Committee (GHIMSC) was established. CRCOG assisted by ConnDOT brought together representatives of local fire and police, emergency medical services, towing services, State agencies, and adjoining regional planning agencies. The purpose of the Steering Committee was to do the advance planning necessary to improve multi-agency responses to highway incidents, and to promote coordination, cooperation and communication.

The Capitol Region Emergency Planning Committee (CREPC) was established in 2001. This committee produced the Regional Emergency Deployment (RED) Plan two years later. The Plan designates several Emergency Support Functions, one of which is ESF-1 Transportation. The purpose of this ESF is to “facilitate communication and coordination among regional jurisdiction and agencies concerning transportation issues and activities during a major disaster.” ESF-1 was established by CREPC and a chair appointed, but the ESF was not staffed.

In 2005, members of GHIMSC agreed to assume subcommittee responsibilities for ESF-1. Working through ESF-1 gives the regional effort new purpose and visibility, and further serves as an opportunity to provide a working group for the ESF. Issues faced during an incident on a highway and during a major disaster are similar, and are being addressed by this “new” committee. The committee has also been expanded to include representatives of public transportation and dial-a-ride services.

State Incident Management Activities. In 2003, the GHIMSC, at the request of the federal government undertook a self-assessment of the incident management program in the greater Hartford area. As a result of that assessment, the GHIMSC determined that many of the issues facing the Region could only be solved at the State level. At about that same time, the Transportation Strategy Board established a Statewide Incident Management Task Force (SIMTF) to address incident management issues. The SIMTF prepared a lengthy white paper recommending several projects and policies that would improve the management of incidents on the State’s highways. Many of these proposals have been or are being implemented through the continuing efforts of this subcommittee.

¹ JHK Associates, "Connecticut Freeway Traffic Mgmt System", 1990
RECOMMENDATIONS:

1. **Support Regional Incident Management Initiatives.** Continue the planning and coordination activities of the Region’s incident management initiatives carried out through the newly constituted Emergency Support Function – 1 (Transportation.) Support programs and projects proposed through these initiatives, such as milepost markers on highways exit and entrance ramps and live video feed from traffic cameras to appropriate emergency responders.

2. **Support State Incident Management Initiatives.** Continue to support and participate in the work of the Statewide Incident Management Task Force, and act as the liaison to local responders thus assuring that they are kept informed of the State activities, have an opportunity to comment on those activities, and receive the benefit of those activities. Support programs and projects proposed through these initiatives, such as the adoption of a Unified Response Manual for response to incidents on the State’s limited access highways and improvements to the State’s the State Traveler Information website.

**Intelligent Transportation Systems.**

Intelligent Transportation Systems (ITS) are the creative application of information and communications technologies to enhance the efficiency of our transportation system. In the most visionary of ITS scenarios, drivers will enter smart highways and relinquish control of their smart cars to onboard auto piloting systems and regional traffic management systems that control speed, steering, and vehicle spacing to achieve fast, safe, and more efficient traffic flow.

While the most advanced aspects of ITS, such as auto-pilot controls for cars, are still years away from being practical, some ITS systems are already being installed. In 1997, CRCOG adopted a strategic plan for the deployment of ITS systems in the Capitol Region. The ITS Plan identified applications for ITS that will benefit freeway operations, arterial road operations, and public transit operations. Most of the basic recommendations in the ITS Plan have already been implemented. The Region’s extensive computer controlled traffic signal system for arterial roadways is being updated with modern equipment that provides more reliable service and offers better traffic flow management capabilities. The Connecticut Department of Transportation is installing an ITS system that will monitor traffic conditions on all the major freeways with video cameras and special traffic flow monitors. When the ITS system is fully installed, operators in DOT’s operations center will be able to check traffic flow on almost every freeway, and instantly report problems to the general public, motorists, transit operators, and other interested parties such as emergency service agencies and trucking businesses. Information will be distributed via variable message signs on the freeway, highway advisory radio, commercial radio and TV stations, and the Internet.

**ITS Architecture.** In 2004, with CRCOG’s assistance, ConnDOT completed the development of an ITS architecture for the Capitol Region. This architecture identified existing and planned ITS systems, and additional needed improvements; information interconnects between and among the existing, planned, and needed ITS systems; and any agreements or ITS-related standards required for ITS project interoperability. The ITS architecture meets the federal ITS architecture requirements for the Region. It will need to be kept current as technology and the needs of the Region change.

**RECOMMENDATIONS:**

1. **Complete Freeway Traffic Management System.** Complete implementation of the regional incident detection, verification, and communication systems as specified in “Intelligent Transportation Systems: A Strategic Plan for the Capitol Region.”

2. **Enhance Incident Management with ITS.** Implement ITS projects to enhance incident management capabilities. Examples include a 511 phone system, live video feed from traffic cameras to appropriate emergency responders, and improvements to the State traveler information website.
3. **Assure Currency of the Regional ITS Architecture.** CRCOG will continue to work with ConnDOT to assure that the Regional ITS Architecture reflects current and planned ITS systems.

4. **Improve Arterial Operations with Signal Systems.** Continue to invest in the Region's computer controlled traffic signal system which has yielded significant benefits through reduced travel times, reduced fuel consumption, reduced vehicle emissions, and improved traffic flow.

**Freeway Operational Improvements**

Operational problems on a freeway such as sharp curves, narrow shoulders, short ramps, and left-hand entrances can both restrict the capacity of the road and create safety problems. The objective of the proposed operational improvement program is to remove these substandard conditions so that the roadway can operate more efficiently and safely.

**RECOMMENDATIONS:**

1. **I-84: Hartford to Farmington.** As a result of the Hartford West Major Investment Study, the following highway improvements are recommended:
   - **I-84 at Rt4/Rt6/Rt9.** Reconstruct the interchanges of I-84 at Route 4, Route 6, and Route 9. Key elements include elimination of eastbound bottleneck near Route 9, elimination of left hand ramps, better access to Route 6, direct access from Route 4 to Route 9 southbound.
   - **Operational lanes at South Main.** Construct operational or auxiliary lanes from the South Main Street interchange (West Hartford) to the Ridgewood Road interchange (exits 40-42). The new lanes should be constructed using the median as much as possible and noise barriers should be constructed as appropriate.
   - **Westside Access Improvements.** Subsequent to the Hartford West MIS, the Westside Access Study was conducted to identify ways to reconfigure and improve the interchanges of I-84 at Prospect, Flatbush, Sisson, and Sigourney. The study focused on safety improvements, improving access to key destinations, and reducing the size of interchanges to reduce their impacts on adjoining neighborhoods.
     - **Flatbush Ave. Access Improvements** – This proposal improves freeway access in the Prospect St., Flatbush Ave., and Parkville areas. It provides full access to Flatbush Ave, and it connects Flatbush Ave. directly to the Parkville neighborhood via a new road under I-84 that connects to Bartholomew Ave. in Parkville.
     - **Sisson Ave. Access Improvements.** This proposal improves access to the Sisson Ave. area and the Sigourney St. area. It replaces the massive ramp system to Sisson Ave. with a smaller amp and road system that improves local circulation and is less intrusive in the neighborhood. It improves the freeway by eliminating some horizontal curvature problems on I-84 and providing standard-width shoulders along both sides of I-84. It also includes reconstruction of the part of the aging I-84 viaduct.

At the conclusion of the study, it was determined that the improvements were too expensive. However, CT DOT re-evaluated the Flatbush Avenue proposal and determined that the proposal could be scaled back and costs reduced. The revised concept provides less direct access to Prospect Ave., but still achieves most of the other objectives of the original concept.

**RECOMMENDATION:** Westside Access: Include the scaled back Flatbush Avenue proposal as part of financially constrained 20-year Plan. Remove the Sisson Avenue proposal from the financially constrained 20-year Plan, but continue to recognize this as a regional need by including it on the Unfunded Needs List.

2. **I-84 at Rentschler Development Area.** Improve access to the Rentschler Field redevelopment area in East Hartford. An interchange improvement at I-84 & Silver Lane was recommended in the
Rentschler Field Access Study. A modified version of the concept was recently evaluated and recommended as part of an environmental assessment of the Rentschler development plan. The CT Department of Economic and Community Development as provided funding for the access improvements.

- **Recommendation** - The proposed flyover connection should be implemented to help facilitate redevelopment of this regional growth center.

4. **I-91 at Day Hill Development Area.** Improve access to the Day Hill-Griffin Development Area in Windsor. Access problems to this area were identified in the Bradley Area Transportation Study and a technical study that was completed in 2005 recommended both short-term and long-term improvements.

- **Recommendation (short-term)** - Construct an additional northbound right-turn lane on Route 75 and an additional left-turn lane onto Route 75 from the I-91 northbound off-ramp.

- **Recommendation (long-term)** - Provide a direct connection to northbound I-91 from Day Hill Road by the construction of spans over Route 75 and I-91; and widening northbound Interstate 91 to provide an additional operational lane from the Rt. 75 interchange to the Kennedy Road interchange or to the Route 20 interchange. This additional northbound lane will require widening the existing bridge carrying Interstate 91 over the Farmington River.

4. **I-91 at Charter Oak Bridge.** The ramp from I-91 northbound to the Charter Oak Bridge and Rt 15 eastbound creates a major traffic bottleneck. High volumes of traffic use this single lane approach to the Connecticut River crossing. Its capacity problem is exacerbated by the curvature and grade of ramp as well as the high volume of truck traffic.

- **Recommendation** - The Connecticut Department of Transportation should conduct a comprehensive study of options for correcting the problem.

5. **I-84 at Buckland Development Area.** Access to and within the Buckland development area has gotten increasingly difficult as this regional growth center has continued to develop. The problem was recognized in the 2004 Plan and a study was subsequently initiated by CT DOT at the request of CRCOG and the affected towns. The study is evaluating operational improvements and demand management alternatives for this area that is considered one of six regional growth centers in the Capitol Region.

- **Recommendation** - Complete the comprehensive study of transportation problems in the Buckland area started by CT DOT in 2006.

5. **Other Problem Areas.** Evaluate operational improvement needs at problem locations. It is recommended that each location listed below be analyzed.

- **I-84/I-91 Interchange**
  - Ramp from I-91 southbound to I-84 westbound (capacity problem)
  - I-84 through lanes (capacity restriction in both directions)

- **Route 2**

**Arterial Improvement Program**

The arterial roadway improvement program is based primarily on recommendations developed through corridor planning studies completed by CRCOG. These studies involve detailed technical analysis and extensive community involvement. The process is explained below in the section entitled “Community-Based & Context-Sensitive Planning Studies.”

*Corridor Improvements.* Corridor-specific recommendations are provided in the sections following the discussion of the community-based planning process. The corridor summaries provided are extremely
brief and intended to illustrate the general nature of the recommended improvements. However, each corridor plan was adopted by the CRCOG Policy Board, and all corridor recommendations are part of this Plan, even if they are not specifically described in this Plan.

COMMUNITY-BASED & CONTEXT-SENSITIVE PLANNING STUDIES

In the 1994 Plan, CRCOG recommended that we conduct comprehensive planning studies on important arterial corridors before initiating any major improvements in those corridors. The recommendation included consideration of land use issues as part of the study. Since 1994, CRCOG has conducted several of these corridor studies and they have evolved to be a comprehensive planning review of roadway needs and land use issues. They also include a major effort to involve the affected communities in the planning process, and an effort to consider community plans and goals when trying to develop solutions to traffic problems. Plans are now developed with a better understanding of the context of the cultural, historic, economic, and environmental context in which the roadway is located. The goal is to develop plans that both improve the traffic conditions and make the community a better place to live.

The corridor study approach to transportation planning is also desirable because it is a comprehensive approach. Many operational improvements are now done as "spot" improvements in response to specific development proposals or traffic problems. When designing spot improvements, there is often little attention given to how the improvement relates to other sections of road, where the next spot improvement might be needed, or what the long-term needs are in the entire travel corridor. Likewise, many communities do not fully recognize how their local zoning can substantially alter traffic on the roadway and therefore the need for roadway improvements. These comprehensive plans will provide an opportunity for transportation and land use planners to reach agreement on the ultimate scale, design features, and general character of the roadway.

RECOMMENDATIONS:

1. Context Sensitive Corridor Studies. It is recommended that CRCOG continue to conduct corridor studies on major arterial roadways in a manner that is context-sensitive and community-based.

BRADLEY AREA TRANSPORTATION STUDY

The Bradley Area Transportation Study evaluated current and future traffic conditions in the vicinity of Bradley International Airport. Recommendations focused on: (1) improving ground access to the Airport, and (2) correcting other traffic problems in the four towns adjacent to the Airport.

Airport Access  (see Airport chapter for details)
- Northside Access Improvements (Route 190 connector)
- Westside Access Improvements (International Drive – Bradley Park Road extension)
- Route 75 Improvements.

Improvements within Each Town.

The study recommended numerous other improvements in the four towns such as traffic and streetscape improvements in Suffield center, similar improvements in East Granby’s town center, and traffic improvements in the Day Hill area of Windsor. See the corridor study for details.
- I-91 at Day Hill Road: long-term improvements (see freeway operational improvements above.)

ROUTE 4: FARMINGTON

The primary problem on Route 4 in Farmington is congestion in Farmington center and to a lesser degree in Unionville. Safety problems exist in both villages. Final recommendations reflect a balance between the desire to address traffic problems, and a desire to preserve the character of the two villages.
Farmington Center Improvements
- Reconstruct Route 4 through Farmington center to a uniform 3-lane cross section (2 eastbound, 1 westbound) to improve traffic flow and safety. This will be achieved with no net increase in road pavement.

Unionville Improvements
- Route 177/New Britain Ave. improvements.
- Further study of Route 4/Route 177 intersection, traffic calming, and shopping center circulation.

**ROUTE 10: GRANBY TO FARMINGTON**

Route 10 is generally adequate to safely and efficiently serve existing and future traffic demand. Safety and congestion problems are limited to a few key locations such as a few busy intersections where east-west routes cross Route 10.

Roadway Improvements
- Retain basic 2-lane configuration of roadway.
- Access management throughout the corridor.
- Improve traffic and safety at critical locations (see Route 10 report.)

**ROUTE 44: HARTFORD TO CANTON**

Route 44 is the primary east-west route linking the Farmington Valley with Hartford and West Hartford. In the commercial areas of Canton and Avon, safety problems related to left turns at driveways are the primary concern. Similar problems exist at Bishops Corner in West Hartford. Safety is a critical problem on Avon Mountain where steep grades, sharp curves, and high speeds result in frequent and severe accidents. In Hartford, problems include a high accident rate, speeding on residential side streets, insufficient parking, and inadequate drainage.

Roadway Improvements
- **Avon Mountain**: Correct safety problems over Avon Mountain.
- **Avon-Canton Commercial Area**: Correct left-turn accident problem by reconstructing Route 44 with a median. A wide median will allow landscaping to create an attractive, "boulevard" type appearance.
- **Bishops Corner, West Hartford**: Correct safety problems by redesigning, relocating, or closing commercial driveways. Install a 4-foot wide raised median to reduce left-turn related accidents.
- **Hartford**: Add streetscaping, drainage improvements, and signal timing improvements along Albany Avenue from Homestead Avenue to Main Street. Add traffic calming on residential streets.

**ROUTE 175: WETHERSFIELD & NEWINGTON**

Congestion is the key problem in the west end of the corridor near Route 9. Speeding and safety are concerns on the remainder of the 4-lane section through Newington. There are major congestion and safety problems where Route 175 crosses under the Berlin Turnpike at the Route 15 interchange. In the largely residential sections through Wethersfield, there are some minor geometric and safety problems.

**Newington**
- Maintain current 4-lane cross section but provide improvements at key locations.
- Route 9 Access: realign SB on-ramp to be opposite Manafort Drive
- Access management & signal coordination.
- Newington Center: No improvements.
- Route 175/Route 15 Interchange: Reconstruct using an urban single-point design.

**Wethersfield**
- Maintain as a two-lane roadway, but provide improvements at key intersections.
**ROUTE 190: ENFIELD & SOMERS**

Route 190 is the primary east-west roadway in Enfield and Somers. Although traffic is expected to increase about 20 percent in this corridor over the next twenty years, no major widening of the roadway will be required. Instead improvements can be limited to intersections and short sections of road. The following projects will address safety and congestion problems, while preserving or enhancing the character of the four villages in the corridor.

**Enfield**
- Commercial area: I-91 to Palomba Dr.: Continue access management, minor improvements to Phoenix Ave. intersection, coordinate traffic signals, add or widen sidewalks, construct multi-use trail.
- Transition area: Palomba to Hazardville: Access management, minor widening to allow a 3-lane cross section between Palomba Dr. & Enfield Professional Park, sidewalks and 5-foot shoulders for bicycles.
- Hazardville: Streetscape improvements, and minor improvements to Maple St. intersection.
- Scitico: Streetscape improvements, operational improvements at Taylor Rd. and Broadbrook Rd.

**Somers**
- Somersville: Operational improvements at Rt 190/Shaker Rd, traffic signal at Rt 190/School St (done), streetscape improvements, traffic calming on School St, other minor improvements.
- Somers center: Streetscape improvements, intersection realignment at Route 83, sidewalks.

**BERLIN TURNPIKE: WETHERSFIELD & NEWINGTON**

The Berlin Turnpike serves a long established, but still growing commercial area. There are major safety and congestion problems at both the Route 175 interchange and the Prospect St. intersection. It is important to address these major problems as well as some minor problems related to commercial driveways, while still maintaining good access to businesses.

**Wethersfield**
- Access management & minor traffic operational improvements.
- Landscaped median.

**Route 175/Route 15 Interchange**
- Reconstruct using an urban single-point design to improve traffic flow and safety.

**Newington**
- Realign the Rt. 15/Prospect/Robbins intersection.
- Close or realign selected median breaks.
- Improve landscaping in the corridor, particularly within the median.
- Promote better access management.

**RENTSCHLER FIELD ACCESS STUDY: EAST HARTFORD**

The former Rentschler Airport is a 650-acre, prime development site located within two miles of downtown Hartford. It offers an excellent opportunity for in-fill development that supports regional ‘smart growth’ goals. The UConn football stadium recently opened on the site. Plans call for most of the rest of the site to be developed as a research and technology park to stimulate additional growth in the high tech sector of the Region’s economy. To fully realize the economic benefits of the potential development, access to the site needs to be improved from I-84 and from Route 2.

**Access from I-84**
- Improve access to Rentschler site from I-84 by grade separating Silver La./Roberts St. intersection.
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Access from Route 2
- Improve access from Route 2 by reconstructing the Route 2/Main Street interchange to allow direct access from Route 2 to the southern end of the site.

Roadway through the Site
- Construct a new town-owned roadway through the site.

Access Management on Arterials
Access management is a critical element of the arterial program. Its objective is to preserve the capacity of existing roads so that we minimize the need for widening or operational improvements. It is also critical to maintaining the effectiveness of the coordinated traffic signal system. Both roadway capacity and signal system effectiveness can be reduced by construction of too many driveways, poorly located driveways, and poorly designed driveways. Access management requires active planning by the towns and the State to help determine how many driveways will be allowed in the future, where they will be allowed, and how they will be designed.

The access management program has two elements. The first is a policy to provide funding for the preparation of access management plans. This includes a review of local planning and zoning regulations as well as preparation of curb cut or driveway plans to guide the location of future driveways and to identify problems with existing driveways. The second element includes changes to the roadway planning and design process to assure that access management issues are fully addressed at all stages in the development of widening and operational improvement projects.

RECOMMENDATIONS:
It is recommended the Region continue to implement access management programs and policies. Key features are:

1. **Access Management Plans.** Provide funding for the preparation of access management plans. In many cases, it is most appropriate to do this as part of one of the proposed arterial corridor studies.

2. **Consider in Design Phase.** Require access management issues to be addressed as part of the design phase of any roadway improvement project.

Municipal Road Management
The Regional Transportation Plan is a systems level plan that addresses problems on the major transportation systems: the regional transit system, the freeway system, and the arterial system. The focus on the higher level systems is necessary but it means that problems on lower level systems, such as collector roads, have not been identified as part of this plan. While the Region has not identified specific problems on collector roads, we recognize that problems do exist and that municipalities sometimes need financial assistance to correct the more serious problems.

Most of the roads in the collector system are the responsibility of municipalities. They are maintained and improved through local operating budgets and capital improvement budgets. In some cases, the cost of major reconstruction or of correcting serious geometric and safety problems can exceed a town’s capacity to finance the improvement. In the past, the Region has recognized these problems and

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2 The problems on the collector and local roads systems are typically structural, geometric, or safety related. Because these roads carry less traffic, congestion is not usually a problem.

3 Geometric problems are those related to poor design features such as bad curves, steep grades, poor sight lines, and narrow lanes.
allowed towns to use federal funds to correct serious problems on town-owned collector roads.\(^4\) This policy of allotting small amounts of federal funds to solve selected problems on town-owned collector (or arterial) roads will continue within the limits of available funding and the competing need to address problems on higher level systems.

**RECOMMENDATIONS:**

1. **Funding for Town Roads.** Continue a policy of allowing the use of federal funds to address serious problems on town-owned roads classified as collector or higher. Funding decisions will consider the limits of available federal funds and the competing need to address problems on higher level systems.

**Special Concern: Route 6**

Construction of Route 6 as a new freeway connecting I-384 in Bolton Notch to the Route 6 bypass around Willimantic had been part of the CRCOG Regional Transportation Plan for many years. In 1994, the Connecticut Department of Transportation released a Draft Environmental Impact Statement for Route 6. Subsequently, CRCOG endorsed a highway alignment north of existing Route 6 and north of the Hop River. That alignment avoided significant impacts to the more densely settled areas on Route 6 or south of Route 6.

In January 2001, the Corps of Engineers announced its intention to issue a decision that would permit a new freeway, but a freeway only on a southern alignment. The Connecticut Department of Environmental Protection then indicated that only a northern alignment would be acceptable. In December 2003, ConnDOT appealed to the US Secretary of Transportation to use his authority under special environmental streamlining legislation to intervene in the dispute between Connecticut and federal environmental agencies. To date, no progress has been made as a result of this request.

The State of Connecticut and the Corps of Engineers have been at an impasse with regard to which alignment should go forward. Progress on the Route 6 freeway is at a standstill.

Based on the reasonable assumption that environmental issues will be not resolved in the foreseeable future, ConnDOT is no longer actively pursuing the necessary environmental permits from the federal regulatory agencies. Subsequent to this decision, ConnDOT also removed Route 6 from the list of projects that they intend to fund as part of their Long Range Transportation Plan.

The change in status of Route 6 at the state level affects its status in the Regional Transportation Plan as well. Since the regional plan must be financially constrained, we must demonstrate that there are adequate funds over the next 20 years to finance the project. In previous plans, we have been able to cite the state's financial commitment to the project as evidence of adequate financial resources. This is no longer the case. Without the state's financial commitment to the Route 6 project, it is no longer feasible to keep Route 6 in a financially constrained Plan.

However, the need to address safety problems in the corridor remains. Route 6 is an undivided arterial roadway serving a major travel corridor where local access needs conflict with the needs of long-distance through traffic. The undivided two-lane roadway with high speeds, high volumes, and mix of through and local traffic create safety problems that cannot be fully addressed even with the types of safety improvements completed over the past ten years. Therefore, while permit and financial problems preclude the new freeway alternative at the current time, the need for this alternative remains and should be recognized in the Regional Transportation Plan as an unfunded need.

It is also important to recognize the special Route 6 corridor planning efforts being conducted by Andover and Bolton in cooperation with the neighboring towns of Columbia, and Coventry. The communities are

\(^4\) These roads must be classified as "collectors" or higher.
investigating opportunities for economic development in the Route 6 corridor. The purpose is to encourage economic growth in the corridor that is compatible with the rural character of the corridor, and that does not degrade environmental, cultural, and transportation resources. CRCOG supports this type of coordinated planning to encourage sustainable development.

**RECOMMENDATIONS:**

1. **List as Unfunded Need.** Include Route 6 relocation in the list of “unfunded needs” until such time as environmental issues can be resolved.

2. **Conduct Study.** Conduct a comprehensive study of the existing Route 6 with an emphasis on:
   - managing traffic growth
   - preserving and enhancing traffic safety
   - promoting good access management
   - accommodating local economic development in a manner that preserves the safety and capacity of Route 6, and that is compatible with the rural character of the corridor.

**Special Concern: Rocky Hill – Glastonbury Ferry**

The Rocky Hill – Glastonbury Ferry is a unique element in the Region’s transportation system. It is the oldest continuously operating ferry in the United States, and it is the only ferry in service within the Region. The ferry serves cars, motorcycles, cyclists, and pedestrians who want to cross the Connecticut River between Glastonbury and Rocky Hill. Functionally, the ferry is part of State Route 160, and it is owned and operated by the State of Connecticut.

The ferry, like the seven bridges across the Connecticut River, plays an important role in linking the towns east of the river to the towns west of the river. The Connecticut River is the most prominent natural feature in the Region, and the one that has the greatest impact on travel patterns within the Region. The river forms a nearly 28-mile long barrier through the middle of Region. There are only 8 opportunities for motorists to cross the river. Due to the difficulty and cost of providing crossings over the river, each crossing acquires a special significance. The significance of the ferry crossing has less to due with the volume of traffic it carries than with the nature of the traffic it carries, and the ferry’s historic significance.

The ferry plays a special role in serving local vehicular traffic between Rocky Hill and Glastonbury, and it plays an important role for bicyclists. Motorists traveling between parts of southern Glastonbury and Rocky Hill can cut nearly 8 miles (one-way) off their trip if they use the ferry. The ferry is even more important for cyclists since bicycle access to the Putnam Bridge is not allowed. The ferry is the only crossing for cyclists in the 13 miles between Hartford and Middletown.

The ferry’s greatest value might derive from its role as a tourist attraction, and its historic significance. As the oldest continually operating ferry in the U.S. and one of the very first river crossings in the Region, it serves to remind both residents and tourists that we have old and strong ties to the Connecticut River.

The Council of Governments supports the continued operation of the ferry for the benefits its provides local motorists, cyclists, and tourists; and for its value as a historic resource.

**Recommendation:**

1. **Continue Operation of Historic Ferry.** Continue the operation of this historic ferry with adequate hours of operation and a reasonable fare structure.
4. **BIKES & PEDESTRIANS**

In April 2000, the Council of Governments adopted the Capitol Region Bicycle Plan that defined a strategy for making the Region a bike friendly environment that supports bicycling as a viable form of travel. In June of 2001, a Policy for Integrating Bicycling and Walking into the Transportation Infrastructure was adopted; in 2003, a series of Walkability Workshops were held throughout the Region; and in 2005, a Capitol Region Pedestrian Plan was adopted. Each of these items is intended to help the Region realize its goal as defined in the following vision statement.

‘That by the Year 2010, residents and visitors of the Region will be able to safely and conveniently walk, bicycle, or take another type of non-motorized vehicle via roads and multi-use trails, to employment centers, shopping areas, bus and train centers, recreation and cultural attractions, and schools. Residential and commercial land use planning and development will incorporate walking and bicycling as legitimate transportation modes, providing people of all ages with efficient and enjoyable transportation options within development clusters and to nearby destinations. It is our intent that such steps will promote a sense of community and friendliness in our communities, while enhancing our appreciation of the natural environment.’

The strategy for achieving this goal is based on the five elements discussed below.

**Facilities for Cyclists & Pedestrians**

Encouraging more people to cycle and walk is dependent to a large extent on the availability of safe convenient facilities. For cyclists, these include making existing roadways safe for cyclists, providing off-road facilities such as paved bikeways or multi-use trails, and making it possible for cyclists to use the regional bus system as part of a combined bike-bus trip. It also includes making sure there are appropriate facilities available at important destinations for cyclists to store and secure their bikes. For pedestrians, safe and convenient facilities include well maintained sidewalks of adequate width, conveniently located crosswalks, traffic signal systems which are safe and convenient for pedestrians, and multi-use trails.

**RECOMMENDATIONS:**

1. **Integrate Biking & Walking into Transportation Infrastructure** In June 2001, CRCOG adopted a policy on ‘Integrating Bicycling and Walking into Transportation Infrastructure.’ The intent of the policy is to encourage roadway designers to develop designs that are more accommodating of pedestrians and cyclists. The policy recognizes that the public right-of-way must serve all users – not just motorists; and that if we truly want to achieve more ‘livable communities,’ roadway designs must accommodate the needs of the community – especially those of pedestrians and cyclists. If these needs are considered early in the design phase of roadway projects, they can be addressed more easily and at a lower cost. While not all conflicts can be resolved in all roadway designs, by making the effort to address pedestrian and cyclists needs, we will succeed in the majority of cases and help create a much more bike and pedestrian friendly environment throughout the Region. The policy closely resembles a national policy adopted by the US Department of Transportation and is very similar to a new nationwide promotion, called Complete Streets. The premise of the Complete Streets movement is that in order for streets to be complete, they must serve pedestrians and bicyclists along with motorists. Key Elements of the CRCOG Policy on Integrating Biking & Walking into Transportation Infrastructure include:

   - Bike and pedestrian needs shall be accommodated in new construction and reconstruction projects in all urbanized areas whenever possible and not cost prohibitive. Engineers and
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planners are encouraged to consider a full range of treatments to achieve the performance goal of providing safe, convenient, and comfortable travel for bicyclists and pedestrians.

- In rural areas, paved shoulders should be included in all new construction or reconstruction on roadways used by greater than 1000 vehicles per day.
- Sidewalks, shared use paths, street crossings, pedestrian signals, signs, street furniture, transit stops and facilities, and connecting pathways shall be designed, constructed, operated and maintained so that all pedestrians (including those with disabilities) can travel safely and independently.

2. **Regional Greenway System**. The bike plan calls for construction of a regional greenway or multi-use trail system. The primary parts of the regional system include:

- **Charter Oak Greenway** - The Charter Oak Coast Greenway is a proposed trail that will stretch from Hartford to Providence, Rhode Island. In our region, it runs east-west through East Hartford, Manchester, Bolton, and Andover. Segments in Manchester, Bolton, and Andover are already in use. Critical gaps remain in East Hartford, Manchester, and through Bolton Notch.\(^1\) This trail remains a regional priority.

- **Farmington Canal Trail** - The Farmington Canal Trail is a proposed multi-use trail from New Haven, CT to Northampton, MA. In our region, it runs directly north through the Farmington valley through the towns of Farmington, Avon, Simsbury, East Granby, and Suffield. The currently designed sections of this trail are expected to be completed in 2007. Feasibility and design work is required to determine how to complete the trail to the border of Farmington and Plainville. In Plainville (outside of our region), the rail corridor supports an active rail operation and the town of Farmington is waiting to proceed with planning for its section until it is clear that Plainville is moving forward. Completion of this trail remains a high priority.

- **Linking the Two Interregional Greenways**. A goal of the Regional Bike Plan is to link the Charter Oak Greenway to the Farmington Canal Trail. Once linked, the two greenways will become part of the even larger network of trails that is known as the East Coast Greenway that will eventually stretch from Maine to Florida. Currently there is no defined route between Hartford and the Farmington Valley. As shown in the Major Interregional Greenways map above, there are at least two potential general alignments that need to be studied. Recently, CRCOG has worked with the towns of Simsbury and Bloomfield and the City of Hartford to develop a concept for linking the trails with a path that follows the corridor of the Griffin rail line (the path might be located outside of the rail right

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\(^1\) Bolton Notch is critical because bicycle passage through the Notch is currently prohibited. The only road through the Notch (Route 6) is an expressway and bikes are not allowed.
of way, but in the general rail corridor.) A feasibility study is needed to determine the actual alignment of the path.

**Connecting Greenways.** The bike plan also supports construction of a secondary set of trails that link to the two primary trails and serve significant sub-areas of the Region. It will be extremely important for the region to continue to build upon the interregional greenways to create a system that can serve all areas of the region. These Connecting Greenways are shown on the map to the right. Some of these are existing facilities, but many are proposed.

### 3. Bike Friendly Roadways

A majority of cycling in the region will continue to take place on the Region’s roads and therefore it is very important to work to improve our roadway systems’ accommodation of cyclists. Earlier, our research had found that the two strategies that have the greatest impact in improving actual bicycle safety and cyclists perception of safety are wide curb lanes and wide shoulders (4 feet or more). More recently, however, we have learned that bicyclists have a clear preference for wide shoulders or designated bike lanes over wide curb lanes. The bike plan did not identify specific strategies for roadway improvements but set as a priority the identification and improvement of good radial routes for commuter cyclists into and out of Hartford. Already, the City of Hartford has adopted a policy of striping bicycle lanes whenever possible when a road is resurfaced. Adoption of this policy throughout the region will improve bicyclist’s safety, and bicyclist’s perception of safety, immeasurably.

### 4. Bike and Pedestrian Friendly Land Use

The main areas of concern with regard to bike friendliness of land use are: can a cyclist access a development by bike, and once at the destination, is there a place to securely park a bike? The bike plan recommended a number of actions to encourage developers, towns, and the state to provide more bike racks and other amenities to support bike use. For pedestrians, land use plays a key role in determining if a pedestrian feels comfortable walking. More compact development, a mix of uses, and careful attention to pedestrian needs in land development will play a large role in encouraging more individuals to walk.

### 5. Bike Friendly Transit

Cycling can be feasible for a greater number of individuals if a cycling trip can be combined with a transit trip. To encourage this, the bike plan recommended secure storage for bicycles at transit stops, and special racks on the exterior of buses so cyclists can take their bike with them while they ride the bus.
Safety Education & Enforcement Programs

Both cyclists and pedestrians experience difficulties due to motorist behavior. There is a general lack of knowledge on the part of the average motorist relative to the bicyclist's right to be on the roadway. In addition to lack of knowledge on the part of motorists, many cyclists are unaware of their rights and responsibilities on the road and some law enforcement officials are unsure of what they should expect of cyclists. For pedestrians, the most glaring problem is the failure of motorists to uniformly recognize the need to yield to pedestrians in crosswalks that are not signalized. In fact, Connecticut State Law requires that motorists yield to pedestrians in marked and unmarked crosswalks, unless traffic control is present. Overall, bicyclists and pedestrians are frequently not expected, or noticed by motorists.

Enforcement of the rules of the road as they apply to cyclists and pedestrians can have the effect of reinforcing proper behavior. If neither cyclists nor motorists are cited for infractions of these rules, many people remain unaware of when they have operated their bicycle or motor vehicle illegally. Regular enforcement reinforces the rules for the uninformed.

RECOMMENDATIONS:

1. **Education Programs.** Education programs for both cyclists/pedestrians and motorists are needed. These include school programs for the young cyclist and pedestrian, efforts to reach and inform adult cyclists and pedestrians, and efforts to reach and inform automobile drivers.

2. **Enforcement Programs.** There are a variety of actions that will result in more effective enforcement of motor vehicle laws that affect bicycle and pedestrian safety. These include training for police, and encouragement of police to enforce the laws.

3. **Pedestrian Safety.** A pedestrian safety study completed by CRCOG has revealed a high incidence of pedestrian accidents in urban areas, and especially in Hartford. CRCOG is committed to addressing the problem of pedestrian and cyclist safety in urban areas and identified the following emphasis areas to improve pedestrian safety:
   - Make crossing safer: 80% of pedestrian crashes involve a pedestrian crossing the road.
   - Educate pedestrians: how to legally cross the street, what pedestrian signals mean, etc.
   - Educate motorist and change driver attitudes: yield to pedestrians, watch for pedestrians.
   - Enforcement for both motorists and pedestrians.
   - Improve the physical environment to enhance pedestrian safety: appropriate signal phasing, safe pedestrian ways and crossings.

Promote a Pro-Cycling & Pro-Walking Culture

A critical part of our strategy to increase the use of bicycles and walking for transportation is to promote a culture that will encourage more people to bicycle and to walk. The goal is to build upon the base of current cyclists and walkers, expand the visibility of cycling and walking, and engage new partners (particularly, the business community) to help promote cycling and walking.

RECOMMENDATIONS:

1. **Promotional Activities.** In cooperation with towns and the CT Bike Coalition, help plan and sponsor a variety of promotional activities that raise the profile of cycling.

2. **Private Sector.** The bike plan identifies a number of activities to involve the private sector in promoting cycling (example – encouraging employees to bike to work) and in developing bike-related tourist opportunities.

3. **Regional Cycling Map.** Produce a regional cycling map.
4. **Develop a New Planning Ethic** that considers the needs of bicyclists and pedestrians in all projects: planning studies, land use decisions, transportation projects, funding priorities, and locating government facilities.

**Planning & Administrative Support**

CRCOG needs to continue to provide planning and administrative support to the regional bike and pedestrian program.

**RECOMMENDATIONS:**

1. **Staff Support.** CRCOG should continue to provide one staff person on at least a half-time basis to support the bike and pedestrian program.

2. **Bicycle & Pedestrian Committee.** CRCOG should continue to support a standing committee to provide a regional forum to discuss bike issues and to help guide CRCOG's bike and pedestrian planning efforts. Membership has been expanded to assure representation of a broader range of members of the cycling community and those interested in issues of pedestrian safety and access.

3. **Transportation Committee:** CRCOG has appointed a representative of the non-motorized community (the Central CT Bicycle Alliance) to the Transportation Committee.

**Funding**

In order for the recommendations of the bicycle and pedestrian plans to be accomplished, funding needs to be secured for continued planning and implementation.

**RECOMMENDATIONS:**

1. **Funding for Staff Support.** CRCOG needs to continue to devote a portion of its budget to support a staff person to work on bike and pedestrian planning activities.

2. **Funding for Improvement Programs.** CRCOG needs to work with the Bike and Pedestrian Committee and other agencies to seek and secure funding to implement the bike and pedestrian recommendations.
5. **BRADLEY AIRPORT**

Previous editions of this Transportation Plan recognized the importance of Bradley International Airport as both a transportation facility and as an engine of economic growth, and the 2004 Plan included a detailed policy supportive of improving the airport, improving access to the airport, or supporting other actions needed to fully realize the economic growth benefits that the Airport can generate. This Plan reaffirms those goals and endorses specific recommendations first identified in the 2004 Plan. While the policies and recommendations are general in nature, they are supportive of further development of the Airport and they are based on work done for the Bradley Area Transportation Study, the Gallis Report, the Transportation Strategy Board, and the ongoing Airport Master Plan and Airport noise study.

Bradley International Airport is both a major transportation facility and an economic resource for the Capitol Region and the State of Connecticut. The Airport is served by fifteen airlines, including two low-fare carriers, operating over 270 daily flights. In 2006, Bradley Airport handled 6,907,042 passengers (enplanements and deplanements) and 162,384 tons of cargo. Compared to other airports nationwide, in 2005 Bradley ranked 53rd in volume of passengers served and 35th in volume of air cargo handled (2006 figures are not yet available.)

**International Service.** Beginning July 1, 2007, Northwest Airlines will begin the first daily, nonstop transatlantic service out of Bradley International Airport to Schiphol Airport in Amsterdam the Netherlands. From Amsterdam, passengers can connect to 80 destinations throughout Europe, the Middle East, Africa and India. In the latest Economic Impact Survey, it was determined that Bradley contributes $4 billion in economic activity to the State of Connecticut and the surrounding region, representing $1.2 billion in wages and 18,000 full-time jobs.¹

From a regional perspective, the Airport provides a critical link to the nation’s air transport system and the nation’s economy. The Airport’s importance as a potential engine of economic development was previously noted in the Gallis Report where its role was defined as providing fast and convenient access to the national and international transportation systems. The presence of good quality air service within the Region that is so easily accessible gives the Region a competitive advantage in those economic sectors and industries that rely on fast and convenient delivery of people and goods. These advantages can help stimulate a substantial amount of economic growth.

If we are to achieve the full benefit that the Airport can offer, we must plan properly -- appropriate land use regulations, good road systems, adequate infrastructure, and full consideration of the potential impacts on adjacent communities. Proper planning is necessary to assure: (1) that we realize the maximum growth potential from the Airport, and (2) that the growth occurs in a manner that provides maximum benefit with minimum disruption to the environment, neighborhoods, towns, and the Region.

¹ Passenger and cargo statistics, air carrier and economic data from Bradley International Airport Marketing Department, 2/2007.
Better Ground Access

The Airport currently enjoys good roadway access, but has limited transit access. Route 20 and I-91 offer good access to most parts of the Airport for most users. However, to support anticipated development on and near the Airport, it will be necessary to improve roadway access and to develop better transit access to the Airport.

**ROADWAY ACCESS.** To help facilitate economic development in the area in and around the Airport, which is designated as a ‘regional growth center’\(^2\), good roadway access is needed. Four roadway improvements were proposed in the Bradley Area Transportation Study and are described below.

**RECOMMENDATIONS.**

1. **Westside Access Improvement.** To address problems of access to cargo facilities on the west side of the Airport, it is recommended that Bradley Park Road be extended on a new section of roadway north to Russell Road.

2. **Northside Access Improvement.** To accommodate future development on the north end of the Airport, it is recommended that a new 2-lane connector road be built (1 lane in each direction) from Route 75 to the Route 190 bridge. This 4.3 mile road provides a more direct route from the north end of the Airport and it will divert about 3000 - 4000 vehicles a day from Suffield center. To minimize environmental and community impacts, this road would be designed as a 2-lane, at grade roadway with a moderate design speed of 35 mph. Before a final commitment is made to this project, an environmental review must be completed.

3. **Route 75 Improvements.** To address existing operational and safety problems on Route 75 from just south of Route 20 to Route 140, it is recommended that a center turn lane for left-turning vehicles be constructed, driveway modifications be made to allow for better access management, that streetscaping and sidewalks be provided, and that a new service road for businesses be constructed.

4. **International Drive – Bradley Park Road.** To improve access to the commercial areas immediately near the Airport, make minor improvements to Bradley Park Road & International Drive. Address operational problems and create attractive gateways to airport-related development areas.

**TRANSIT ACCESS: LINK TO NEW HAVEN–SPRINGFIELD RAIL** The BATS report and the Regional Transit Strategy both called for better transit access to the Airport. Current transit access is limited to taxis and the Bradley Flyer bus route. While improved bus service is needed (see below), the two studies mentioned above also proposed providing a transit connection between the Airport and the proposed New Haven–Hartford-Springfield (NHHS) commuter rail service. A passenger connection of this sort would provide a good reliable link to the Airport from the three major cities in the Knowledge Corridor, and it would provide a link to the New Haven Line rail service.

The State completed its commuter rail feasibility study in 2006, and recommended that a bus shuttle be provided as a connection between the commuter rail station in Windsor Locks and the airport.

**RECOMMENDATION.**

1. **Transit Connection between the Airport & the NHHS Commuter Service.** Provide a good transit connection to the proposed NHHS commuter rail service by instituting a direct shuttle bus service from the Airport to the Windsor Locks rail station.

**TRANSIT ACCESS: BUS SERVICE.** Given the very limited transit service to the Airport today, some bus service improvements are needed. The Bradley Flyer is the only regular bus service between the

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\(^2\) See Chapter 1: Linking Land Use and Transportation.
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Airport and downtown Hartford and it was designed to serve employees at the Airport, not air travelers. The following Airport bus service recommendations were identified in various studies conducted recently.

Recommendations.

1. Service to Hartford for Air Travelers. To be more effective in serving the air traveler market, Bradley Flyer service should be adjusted as follows:
   - More Destinations. Serve more destinations downtown such as hotels, major employers, and the new convention center when it is built.
   - New Direct Service. When feasible, provide direct service between the airport and downtown, in addition to the employee-focused service now provided.
   - More Frequent Service. Provide more frequent service.
   - Better Equipped Buses. Provide buses better suited to serve air travelers. Existing buses do not have luggage racks to accommodate bags and suitcases that most travelers carry.
   - More Marketing. Market bus service directly to air travelers with better signs in the terminal, better information on Airport kiosks and websites, through major downtown employers, and through the Visitors and Convention Bureau.

2. Service via Blue Hills Corridor. For the short term, develop supplemental bus service to the Airport that builds on the recommendations from the Griffin Busway study to enhance service within the Blue Hills corridor. In the long term, develop full service to the Airport via the Griffin Busway.

3. Service to Springfield and other Cities within Bradley's Market area. Support the efforts to develop bus service between the Airport and other key cities such as Springfield and New Haven.

Better Opportunities for Appropriate Economic Development

Bradley International Airport presents a tremendous opportunity for economic growth for the Region as a whole, and for airport-related development within the immediate vicinity of the Airport itself. This fact was recognized in the Gallis Report, the DECD land use study, the Airport Economic Impact Study, and the Bradley Area Transportation Study. However, in order to realize the Airport's full economic potential, sufficient and appropriate planning must be done, and supportive programs must be put in place. The Council of Governments supports planning (state, regional, and local) that helps achieve the Airport's economic development potential in a manner that has minimum impact on the environment and on neighborhoods in the general vicinity of the Airport.

Regional Growth Center. With the adoption of the Regional Plan of Conservation and Development in 2003, the Airport area was designated as one of six ‘regional growth centers’ in the Capitol Region. This designation is intended to encourage economic development within areas that have both the potential for a lot of economic growth and adequate infrastructure to support such growth.

Recommendation. The Council should continue its designation of the Airport area as a Regional Growth Center, and continue to develop policies that support economic growth in these areas.

Roadway Improvements. The roadway improvements recommended under Better Ground Access will help facilitate economic develop on and around the Airport.

Recommendation. The roadway improvements described above should be implemented.

Pre-Approved Sites. The lack of pre-approved or ‘shovel ready’ construction sites at the Airport has hindered efforts to promote development at the Airport. Some prospective businesses chose not to locate at Bradley when confronted with timeframes of 6 - 18 months to get necessary environmental
permits. The Transportation Strategy Board and others have suggested that State officials ‘pre-approve’ selected development areas for construction. The appropriate planning and analysis needs to be done in advance so as to make the sites ‘shovel ready’ when developers express an interest.

**RECOMMENDATION.** Support proposals by the Transportation Strategy Board and others to establish pre-approved development sites at the Airport.

**NOISE-TOLERANT LAND USES.** The State, Region, and towns should encourage only noise-tolerant land uses near the Airport. Noise levels under airport flight paths can be very high and can interfere with residential and many commercial activities. While buildings can be sound insulated to reduce noise levels, certain land uses such as residences, schools, and nursing homes are still inappropriate near flight paths. Town development regulations need to both restrict the types of uses allowed in areas affected by Airport noise, and require the appropriate level of noise insulation for buildings within these areas. Town plans and development regulations should be consistent with the Airport Master Plan, and with recommendations in the Part 150 Noise Exposure and Compatible Land Use Study.

**RECOMMENDATION.** Support policies that discourage noise-sensitive land uses near flight paths, and that encourage construction techniques with adequate noise insulation.

**Better Air Passenger Service**

The Region’s residents and businesses are fortunate to have an easily accessible airport that offers good connections to the national air transportation system. However, the air travel market is volatile and competitive. Bradley’s market area is constantly in flux as competing airports in Providence, RI; Worcester, MA; and Manchester, NH seek to increase their market areas. It is important that Bradley maintain the quantity and quality of service it currently has, and that efforts be undertaken to improve service as well. To that end the Council of Governments supports efforts to improve existing service and expand service into new markets.

We need to do more to improve and expand domestic service from Bradley. In the face of competition from other regional airports, Bradley needs to do more marketing to promote existing services and to attract more passengers and air lines. In addition, while Bradley has facilities to process international travelers, it currently has no regularly scheduled international air service. However, Northwest Airlines will offer scheduled nonstop daily service to Amsterdam in the Netherlands beginning July 1, 2007. The State considers this “the start of the establishment of the region’s transatlantic bridge to . . . the world.” It “is a major economic boost for the State of Connecticut and the surrounding region as it places Bradley squarely on the world stage.”

Direct connections from Bradley Airport to international destinations offer a tremendous advantage to regional businesses that compete in international markets. Continuing to attract scheduled international service should be a high priority for Bradley.

**RECOMMENDATIONS.**

1. **Improve Domestic Service.** Support efforts to improve and promote domestic passenger service.

2. **Develop International Service.** Support efforts to develop scheduled international service.

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3 Bradley International Airport press release, 10/13/06.
Better Air Cargo Service

Bradley has great potential as an air cargo facility because of its easy ground access, uncongested airport facilities, and proximity to New York and Boston. The ease of getting in and out of Bradley, combined with the good regional highway system, make it attractive to air cargo handlers seeking to serve not only the Hartford-Springfield area, but other parts of New England as well. While Bradley's air cargo services cannot compete with New York and Boston on price, they can offer faster delivery times in most parts of New England, and often can offer faster delivery times into New York City and Boston as well. The following two recommendations reflect the Council's support for continued improvement of air cargo capabilities at the Airport.

**RECOMMENDATION.**

1. **Capitalize on Air Cargo Potential.** Continue to improve Bradley's air cargo capabilities and services, and capitalize on problems that New York and Boston airports are experiencing due to increasing ground and air congestion.

2. **Multimodal Cargo Center.** Evaluate making Bradley a true multi-modal freight facility by improving rail freight access to the Airport, and developing support facilities for trucking. The multimodal cargo center at the airport in Charlotte, North Carolina should be evaluated as a possible model for Bradley.

Community Sensitive Planning

The continued development of Bradley International Airport can offer tremendous transportation and economic development benefits to the Region and the State. Development must, however, be done in a manner that is sensitive to the concerns of adjacent communities. Noise and traffic issues need to be addressed, and plans need to be prepared through a cooperative approach with the affected municipalities. The Council of Governments fully supports the development of Bradley International Airport while recognizing that Airport planning must be done in a manner that gives full consideration to the potential impacts the Airport can have on neighboring communities. Airport planners need to work with local officials and residents to minimize impacts, including noise and traffic, from Airport activities.

**RECOMMENDATION.** Planning for Airport improvements must be done in a manner that is sensitive to community concerns, and must involve local officials in the planning process.
6. **Freight Transport System**

The movement of goods plays an important role in economic growth that is often not fully appreciated. This lack of understanding is especially true in Connecticut where primary industries such as agriculture and mining play a small role, and secondary economic activities such as manufacturing play a decreasing role. The importance of freight transport is more obvious in economies dominated by primary and secondary industries that ship massive quantities of heavy and/or bulky materials. But even in economies dominated by the financial, insurance, and service industries, efficient movement of goods is still important. Freight transport is required for the import of the finished products and basic commodities used by both businesses and consumers, and for the export of some of the specialized products produced within the region. While different modes may be better for different types of goods, the need to move these goods in and out of the Region exists regardless of mode.

The Capitol Region Council of Governments (CRCOG), in cooperation with the Central Connecticut Regional Planning Agency (CCRPA), the Midstate Regional Planning Agency (Midstate), and the Pioneer Valley Planning Commission (PVPC), has undertaken a freight planning effort. In 2005, CRCOG, along with its partners, commissioned Global Insight to do a basic analysis of freight movement in and through the Hartford Metropolitan region (a multi-county region which included central and western Connecticut plus western Massachusetts.) The findings of that report have informed this section of the Regional Transportation Plan, which outlines the nature of freight movement in the region. It also identifies issues and opportunities, and possible next steps.

### Key Characteristics of Freight in the Region

There are three primary characteristics of freight flow in the Capitol Region. They are the dominance of trucks, a high volume of through traffic, and an imbalance of flows in and out of the Region.

- **Truck Dominance.** According to the Global Insight study, trucks carry 98 percent of the freight moving in, out and through the region. This is much higher than the national average of 79 percent. This large volume of truck traffic contributes to congestion on the Region’s highways, and increases the cost of maintaining roads and bridges.

- **Large Through Volume.** A very large proportion of truck traffic in the Capitol Region involves trucks that pass through the Region without stopping. About 40 percent of truck traffic is through traffic. This compounds the adverse effects of truck traffic. While through traffic adds to congestion and maintenance costs, it contributes little or nothing to the Region’s economy.

- **In/Out Flow Imbalance.** There is a large imbalance of freight flows between freight flowing into the Region and freight flowing out. Inbound freight exceeds outbound freight by a more than a 2:1 margin. This reflects a consumer economy rather than a producer economy. It also drives up the cost of shipping since trucks and rail cars must be sent back empty.

### CRCOG’s Role in Freight Transport Planning

**Still Developing Freight Planning Program.** In the last 50 years, the public sector, and metropolitan planning organizations in particular, have had little direct role in the development or operation of freight transportation systems. It has been left largely to the private sector to maintain freight railroads, operate truck terminals, develop overnight package delivery systems, build pipelines, and develop the truck fleets and supporting business and logistics systems to manage the complex truck delivery systems that account for most of the goods movement in the nation. However, within the past decade there has been an increasing awareness that the public sector needs to play some role in helping develop more efficient delivery systems if the United States is to stay economically strong in the face of an increasingly competitive world economy. To this end, the US DOT, which funds the transportation planning function
at metropolitan planning organizations like CRCOG, has asked MPOs to begin addressing goods movement issues in their regions. CRCOG started examining freight issues by commissioning the Global Insight report. We are now looking to build on the knowledge gained from that study.

**Limited Ability to Influence Freight Industry.** It should also be understood that CRCOG’s ability to directly influence freight transport systems is much more limited than our ability to shape traditional highway and transit systems. We have no direct authority (regulatory or financial) over most elements of the freight transport system. Rail and air transport systems are regulated by federal agencies (Federal Rail Administration and Federal Aviation Administration) that have no formal or official relationships with MPOs like CRCOG. Therefore, the plans and policies that we develop in this program are likely to be purely advisory in nature. The exception will be in those areas where freight planning and traditional highway and transit planning overlap. Examples include the planning for improved ground access to cargo facilities at Bradley Airport, and the use of ITS (Intelligent Transportation Systems) to improve monitoring of truck safety on highways.

**Truck Freight**

Much of our national economic development and our quality of life have been based upon the ability to move goods by truck safely and efficiently across the country. But, this ability is being threatened by increasing reliance on trucking and increasing congestion on highways. The American Association of State Highway and Transportation Officials (AASHTO) issued a report, Transportation Invest in America - Freight Rail Bottom Line Report, that outlines the potential problem. The report warns that by 2030 our nation’s roads will not be able to handle the increases in truck traffic projected. The projected increase in congestion threatens to stall the nation’s economic growth. This is particularly relevant to the Capitol Region, since we are so dependent on trucking for the movement of goods.

Most of the Region’s freight is delivered by truck. According to the Global Insight study, freight traffic represents 98% of the traffic moving in, out and through the region. This number is decidedly high relative to the national average of 79%. 37,000 freight trucks travel in the region every day. The region’s over-reliance on trucks to move goods has negative effects on the economy and the environment. And while the high percentage of trucks has a role in the existence of congestion, that very congestion threatens the viability of freight movement, especially in satisfying the ‘just in time’ delivery demands of many receivers.

Given the Region’s heavy dependence on truck freight, we will be pursuing two courses of action. First, we need to consider options to reduce our dependence on trucking. Second, we should be pursuing means to better manage our existing resources to assure that trucking can continue to efficiently serve our Region’s economy.

**Diversion from Truck to Rail Intermodal.**

These problems could be reduced if some goods were diverted to other modes of transport. Generally bulky items, such as lumber, paper, and fuel oil, are more likely to be shipped via train, barge, or even pipeline. Rail is also able to capture other markets through intermodal service (trailer on flat car and container on flat car) under certain conditions. Generally, rail intermodal is viable only for freight shipments of 750 miles or longer in trucking corridors with relatively high demand or annual volume. The Global Insight report estimated that the maximum volume of truck traffic we could divert to rail intermodal was about 12 percent or about 96,000 truckloads.

**Improving Truck Operations.**

While some actions can be taken to divert goods to alternative modes, trucking will likely remain the dominant mode of freight transport, and more should be done to improve efficiency and safety for this mode. Actions to improve truck safety and efficiency include better travel information, better truck stops, better locations for freight facilities, and seeking backhaul opportunities.
Travel Information. Much has been done in the way of improving travel information technology in the past few years. ConnDOT’s freeway traffic management system, Regional Traffic Management System (RTMS), is an important tool for travel information and incident management. Coordination with ConnDOT on allowing freight companies access to RTMS information would help trucking companies make better routing decisions and reduce shipping delays.

Truck Stops. There continues to be a shortage of truck stops in the region. We need to create more truck stops, and enhance the functionality at existing stops. Having travel information available at stops and electrification to stop diesel idling through the use of heating and cooling hook-ups/cable hook-ups would improve the efficiency and environmental affect of trucks on our roads.

Locating Freight Facilities. To avoid the negative impacts of trucks once they reach their destinations, thought needs to be given to the location of freight facilities. To the extent possible, freight activities should be separate from non-compatible land uses. In areas where separation is impossible, thought could be given to performance-based zoning which might regulate the time-of-day for deliveries. In concentrated service centers, plans for consolidating frequent pickup and delivery could be made.

Seeking Backhaul Opportunities. Inbound freight into the Capitol Region exceeds outbound freight by more than a 2:1 margin reflecting a consumer economy rather than a producer economy. This increases costs for goods shipped to our area, since trucks must return empty. This provides some opportunities that might be exploited. If a market can be found for backhaul trips, the cost would be very low. Also, rail intermodal might benefit from the imbalance, providing low cost repositioning to motor carriers.

Water Transport

According to the Global Insight report, the largest volume of freight in the region is water/truck movement of petroleum products into the region from New York and Boston Harbors to storage facilities in Southern Connecticut. The water-based portion of these trips is outside of the Hartford region.

While no major ports are located within the Capitol Region, CRCOG recognizes that economic benefits can be realized here when improvements are made at the State’s coastline ports. The cost of shipping goods to and from the Capitol Region might be significantly reduced, if at least a portion of the trip is made by water. The Transportation Strategy Board has recommended that up to $1.5 million in State funds be used to start feeder barge service at the Port of Bridgeport. This feeder barge service will include accommodations for ship-to-truck transfers. In addition, the Port of New Haven has a plan to improve its container shipping capabilities.

There may also be some opportunities to divert freight from truck to water transport. Winter freezing of the Connecticut River prevents river shipments from being a year-round option. But coastal barges may be used to divert through shipments of petroleum relieving truck traffic on I-91, I-95 and I-84.

Pipeline Transport

The highest freight flows in the region are petroleum (inbound and through), non-metallic minerals, and secondary traffic (retail.) Another alternative to divert petroleum shipment is pipeline. Over 7,000 miles of natural gas and hazardous liquid pipelines exist in Connecticut, some of which feed fuel to Bradley Airport; altogether there are 9 privately owned facilities with 12 terminals between Middletown and Enfield. A pipeline owned and operated by different companies runs continuously between the Port of New Haven and into Massachusetts. This pipeline is used to ship various petroleum products. In the winter, it runs at capacity with heating oil shipments, but it does not run at capacity during the warmer months.

While it is possible that more product could be shipped via pipeline, there are limitations as to how much flow can be diverted to pipeline. For example, motor vehicle fuel used in Massachusetts, because it has MTBE, cannot be shipped via pipeline. And while the pipeline has capacity in the summer, capital
investments would be needed to increase winter capacity. The pipeline is privately owned and operated and there are no current plans to expand capacity.

**Rail Freight**

Relieving congestion on highways and improving air quality are significant benefits of rail freight transport. In a recent report (*Freight Bottom Line Report*), the American Association of State Highway and Transportation Officials (AASHTO) stated the importance of examining our nation's freight capacity – particularly our rail freight capacity – to assure that in the coming 20 years the overall system will be able to keep pace with a growing national and global economy. Rail is an important mode of transport for bulky goods that are being shipped over long distances. Since rail freight tends to be a slow method of shipment, the goods being shipped usually are not needed for any time-sensitive business process.

The Hartford region is served by several short line and regional railroads. There are no Class 1 or national railroads in Connecticut. Our link to the national rail network is via the CSX Railroad, which is a Class 1 railroad with a terminal and intermodal facility in West Springfield, MA. The West Springfield intermodal facility has the potential to help the Region by diverting some truck traffic to rail intermodal service.

Rail intermodal services include Trailer on Flat Car (TOFC) and Container on Flat Car (COFC), and they are a steadily growing freight alternative. This form of transport utilizes rail and truck by transporting goods in containers and trailers on flat rail cars to rail yards where the switch is made to truck. Nationally the TOFC/COFC business is the most readily susceptible to traffic diversion from (and to) the highway. The Global freight study found that the Region’s use of intermodal rail is about one-tenth of what might be expected, based upon national averages.

The CSX intermodal terminal in West Springfield is not currently used to its full capacity. This rail yard’s existence reflects an opportunity close to the Capitol Region where the development of TOFC/COFC could help to significantly reduce through traffic. But a shift to greater use of intermodal rail is dependent in large part upon actions taken by private rail companies to expand terminal and train capacity.

**Air Freight**

Bradley International Airport has a significant air cargo business and there is potential for increasing that business. Nationally, Bradley has a higher ranking for the volume of freight moved than for the number of passengers served. Its air cargo business benefits from excellent ground access and uncongested airport facilities. This easy-in/easy-out feature also gives it a competitive advantage over New York and Boston for certain types of goods.

Having fast and convenient air cargo service available within the Region gives the Hartford-Springfield area a competitive advantage in attracting and retaining businesses that use or produce low bulk – high volume goods, or those that are dependent on fast delivery over long distances.

Despite Bradley’s air cargo advantages, most air freight will continue to arrive in the Hartford metropolitan area via truck from New York, Newark, and Boston airports. This is due to the freight capacity offered by wide-body passenger service in New York and Boston. It is also due to the large economies of scale offered by the freight consolidation possible at major international airports like Kennedy Airport in New York. Attracting more freight to Bradley would require targeting specific commodities (creating a niche market) rather than pursuing general freight.
Conclusions

Over the last three years CRCOG has completed a comprehensive study of the nature and extent of goods movements affecting the Capitol Region. The study identified the region’s heavy reliance on truck transport, the high volume of through traffic, and the strong imbalance of flows into the region as compared to flows out of the region.

To be effective at addressing these issues the Region must work with other regional and state agencies, and with private sector groups since the problems tend to be multi-state and national in scale, and often the solutions require private industry participation.

Recommendations:

1. **Develop freight-planning program**. CRCOG should continue to develop its freight-planning program.
   - The program should focus on issues identified in the Global Insight Study.
   - The program should include a strong educational component that highlights the importance that freight plays in keeping the Region’s economy strong and growing.

2. **Collaborate with other organizations on freight issues**. Continue to work with other regional organizations and freight industry representatives on freight issues affecting the Hartford-Springfield area.
   - Partners should include at least the following: Central CT RPA, Midstate RPA, Pioneer Valley Planning Commission, the Bradley Development League, the MetroHartford Alliance, the Hartford-Springfield Economic Partnership, and others.
7. SPECIAL POLICIES

There are several policies and programs the Council has adopted that warrant special discussion. These special programs and policies are described in this section. They are:

- Transportation Security
- MPO Coordination
- Air Quality - Transportation Policy
- Demand Management Policy

Transportation Security

The tragedy of September 11, 2001 brought a new emphasis on transportation security at the federal, State, regional and local level. Our surface transportation systems are important considerations in planning for emergency preparedness because:

- The transportation system conveys people away from the site of an attack and provides access for emergency response teams. Ancillary transportation systems such as variable message signs and highway advisory radio can be used to detour the public around a major event. Transit vehicles can be used as a respite center for responders.
- The transportation system itself is vulnerable to attack, such as the bombing of a bridge or the hijacking of a transit vehicle. Protection of transportation facilities must be a high priority and the response in the event of an attack must be carefully planned and practiced.

The Capitol Region has been proactive in bringing people together to discuss and plan for the security of our regional surface transportation systems, with both security issues, valuable to the response and vulnerable to attack, being considered. These issues are being discussed within the transportation community in the Hartford area, but they are also discussed by the emergency services community in the area. Since CRCOG supports both a transportation planning function and a public safety planning function, we have also been able to coordinate the activities of each. Examples of recent transportation security planning efforts are provided below. CRCOG is committed to continuing to conduct and/or support such efforts in the future.

Capitol Region Emergency Planning Committee. Capitol Region Emergency Planning Committee (CREPC) is part of CRCOG’s Public Safety Council. CREPC developed and continues to update the Regional Emergency Disaster (RED) Plan. One element of that plan, the Regional Emergency Support Function (R-ESF 1), addresses transportation issues and how to incorporate them into the greater emergency response effort. The R-ESF 1 chapter of the RED Plan documents the coordination efforts of federal, State, regional, local and private entities involved in the transportation security effort.

Incident Management. In 2005, the Greater Hartford Incident Management Steering Committee merged with and assumed the role of the R-ESF 1 planning committee. Working through the R-ESF 1 gives the regional incident management effort new purpose and expands the scope of the working group to include emergency issues. Issues faced during an incident on a highway and during a major disaster are similar, and will be addressed by this “new” committee. The committee has also been expanded to include representatives of public transportation and dial-a-ride services.

Transit Security Forum. CT Transit sponsored FTA’s “Connecting Communities: Emergency Preparedness and Security Forum” in Hartford on Jan. 8 and 9, 2003. This forum brought together emergency responders and transit providers in a unique opportunity to learn from each other. The goal of the forum was “to demonstrate the important role that transit plays in crisis situations and the importance of delivering a coordinated regional response to any emergency.”
Transit Emergency Drills. CT Transit was the recipient of Federal Transit Administration funds supplied under the 2001 Emergency Supplemental Appropriations Act for Recovery from and Response to Terrorist Attacks on the United States. Four full scale emergency preparedness drills, two in the Hartford area and two in the New Haven area, took place between January and November 2003, and involved scenarios such as a bomb on a bus, a bus hijacking, a chemical agent in a building and an explosive device in a building. The drills were designed to make sure that “transit systems are well prepared for potential terrorist threats and attacks.” The FBI, State police and other emergency responders participated along with CT Transit personnel.

CT Transit held another drill in January 2007, in conjunction with the Hartford Police Department. The scenario involved an ex-CT Transit operator holding a bus with passengers hostage, after an attempt to blow up the bus failed. In this drill, the negotiation team was successful, and SWAT was only used for stand-by and clean-up.

Evacuation Planning. Following the hurricanes that hit the Gulf Coast in 2005, the federal government directed all states to develop emergency evacuation and sheltering plans. Connecticut had already begun work on evacuation planning, traffic management and mass sheltering, and is continuing that effort. The State is addressing three evacuation-planning scenarios, which essentially occur outside the Capitol Region, but impact the Region by virtue of its role in accepting evacuated persons from other parts of the State. CREPC planners and responders have also begun the process of developing a regional evacuation plan that will build on the State’s efforts.

MPO Coordination

CRCOG is committed to working cooperatively with all its neighboring regional planning agencies in the Hartford metropolitan area, as well as the planning agencies in the Springfield and New Haven areas. Since major transportation projects often extend across multiple regions, or even multiple metropolitan areas, it is important that the affected planning agencies, or metropolitan planning organizations (MPO), work cooperatively. Coordination assures they are addressing inter-regional needs, as well as the needs of individual regions. It also assures that proposed improvements are not duplicative or conflicting.

Hartford MPO Coordination. The Hartford metropolitan area extends beyond the boundaries of the Capitol Region. Since the political boundaries of the regional planning agencies do not coincide with the functional limits of the Hartford metropolitan area, it is important that the regional agencies within the metropolitan area coordinate their planning efforts. In February 2003, the four MPOs that share some portion of the Hartford metropolitan area - CRCOG, the Central CT Regional Planning Agency, the Midstate Regional Planning Agency, and the Council of Governments of the Central Naugatuck Valley signed an agreement to do so. The agreement established a common goal to conduct the four transportation programs in a manner that assures that their plans are mutually supportive of major projects and programs to improve the transportation system in the Hartford urbanized area. The agreement also required agency activities be coordinated in a number of specific planning and programming areas. The specific clause governing planning activities is provided below.

Coordination of Planning Activities. The four primary MPOs in the Hartford urbanized area (CRCOG, CCRPA, COGCV, and MRPA) agree to coordinate their regional transportation plans, transportation improvement programs (TIPs), and annual work programs. The coordination efforts will include the exchange and review of annual work programs, regional transportation plans, and TIPs. Staff of the four MPOs will meet at least annually to review each other’s planning programs and to identify projects or programs of mutual interest or potential conflict.

1 Metropolitan Planning Organization (MPO) is a federal term used to designated the regional planning agency responsible for approving the use of federal transportation funds within a given metropolitan area.
2 COGCV, which is the Waterbury MPO, is included in the agreement, but very little of their region falls within the Hartford metropolitan area boundary, and none of region abuts CRCOG.
This coordination is achieved primarily through periodic meetings of the four agencies to discuss ongoing or scheduled planning activities. In preparation for this Plan update, a list of common issues, problems, activities, and projects was prepared.

<table>
<thead>
<tr>
<th>Issue or Project in Common</th>
<th>Affected MPOs</th>
<th>Comment</th>
</tr>
</thead>
</table>
| ITS & Incident Management | CRCOG, CCRPA, MRPA | • The 3 agencies support a common program for ITS & incident management  
  • The Greater Hartford Incident Management Steering Committee (now called R-ESF-1) is a joint program of all 3 agencies.  
  • All 3 agencies participate in the Capitol Region ITS architecture study.  
  • The Capitol Region ITS Plan extends into MRPA and CCRPA to cover major freeway routes in those regions. |
| Congestion Management Process | CRCOG, CCRPA, MRPA | • The 3 agencies support a common CMP for the Hartford metropolitan area. |
| Jobs Access | CRCOG, CCRPA | • CRCOG and CCRPA support a common jobs access program. They serve on the same taskforce that manages the jobs access program that covers most of the Hartford metro area.  
  • MRPA participates in the New Haven area jobs access program since program boundaries are based on the CT Dept of Social Service regions, which are not based on metro areas. |
| Locally Coordinated Human Services Transportation Plan | CRCOG, CCRPA, MRPA | • The three agencies are supporting the development of a single plan for the entire metro area. The Plan will be completed in 2007. |
| New Britain Busway | CRCOG, CCRPA | • The New Britain Busway is endorsed in the transportation plans of both agencies, and both agencies actively participate in joint planning activities with one another and the state DOT. |
| NHHS Commuter Rail | CRCOG, CCRPA | • CRCOG and CCRPA both support this proposal & both participate in the advisory committee for the NHHS commuter rail EIS. |
| Farmington Canal Multi-Use Trail | CRCOG, CCRPA | • CRCOG and CCRPA both endorse this trail, and both work with their affected towns to advance funding for this trail that will extend from New Haven to Northampton, MA. |
| Hartford - Middletown Rail | CRCOG, MRPA | • There is a potential conflict between the proposed uses for the Hartford - Middletown rail ROW. However, the long term nature of CRCOG's proposal, & the possibility of joint-use, greatly reduce any concern about conflict at this time.  
  • CRCOG proposes a busway in the rail ROW.  
  • MRPA supported the restoration of freight rail service. This service was restored in 2005 and is operating without problems.  
  • CRCOG's proposed busway in this corridor is not scheduled until year 15-20 of the Plan. Joint use will be considered at such time as planning for the busway proposal is started. |

**Coordination with other MPOs.** CRCOG also interacts regularly with both the Springfield MPO and the New Haven MPO. Since the Springfield region abuts the Capitol Region we have many common concerns such as Bradley International Airport, ITS and incident management on I-91, transit services for Enfield, the New Haven – Springfield Commuter Rail proposal, the study of the West Springfield freight rail yard, and the Farmington Canal Trail. We meet at least annually to review the status of our planning programs, and as required for studies such as the West Springfield rail yard study.
Even though the Midstate region lies between CRCOG and the New Haven MPO, we still coordinate with the New Haven MPO as needed for projects such as the New Haven – Springfield Commuter Rail. We also meet regularly with them as part of the I-91 TIA Board. The TIA meetings provide a forum for discussing issues of common concern.

**Air Quality - Transportation Policy**

Many metropolitan areas of the nation, including the Capitol Region, have serious air pollution or smog problems. These smog problems are caused in large part by emissions from automobiles. Because of the automobile's key role in the smog problem, the federal Clean Air Act of 1990 requires metropolitan areas to develop transportation plans that help reduce vehicle emissions that contribute to smog.

Our plans and programs are regularly evaluated through the air quality conformity process conducted by ConnDOT in cooperation with the regions and with CT DEP. These evaluations have always shown that our plans support the state air quality programs and goals.

**Air Quality Supportive Policies & Practices.** In addition to the conformity process that we are required to conduct, CRCOG has conducted several special studies to examine air quality issues and options for reducing emissions. The findings and conclusions of those studies have helped us formulate much of our current transportation plan and programs in a manner that promotes better air quality.

This current transportation plan reflects the Region’s strong desire to reduce our reliance on automobiles by developing travel alternatives such as transit, traveling by bicycle, and walking. The plan also includes demand management (next section) and land use policies (Chapter 2) that support practices to reduce exhaust emissions by reducing travel demand.

**Special Diesel Policy & Program.** The current plan also reflects a strong policy regarding the reduction of diesel exhaust emissions. CRCOG’s Environmental Justice Advisory Board identified diesel emissions as an air quality issue that disproportionately affects low-income urban neighborhoods. The issue was raised because there is a high incidence of asthma in these neighborhoods, and evidence suggests that diesel emissions, especially particulates, are part of the cause of this urban health problem. To address the problem, the Environmental Justice Advisory Board suggested that CRCOG incorporate the goal of reducing diesel emissions into its various transportation plans and policies.

**Transit Buses.** The diesel exhaust reduction goal led CRCOG to propose a special project to retrofit CT Transit buses with diesel particulate filters. CRCOG applied for funding and was able to secure the Congestion Mitigation and Air Quality funds to pay for the retrofitting. CT Transit is currently conducting the retrofits for both its Hartford and New Haven fleets.

**Construction Equipment.** More recently the EJAB recommended that the Plan’s recommendation for clean diesel buses be expanded to include clean diesel construction equipment used on highway projects. While expanding the recommendation to include highway construction equipment is reasonable, it must be focused on policy initiatives rather than project-based or funding initiatives. Highway construction equipment is owned by private companies, so change must be achieved by modifying the construction bidding requirements. Bidders can be required to use clean diesel equipment, and ConnDOT already does so on its largest construction projects.

**Hydrogen Fuel Cell Bus Demonstration.** CRCOG was an important partner in the development of the hydrogen fuel cell bus demonstration. The demonstration project is intended to test the viability of this zero-emission form of transportation. The project started in April 2007, will last at least two years, and will test the fuel cell bus under a variety of weather and operating conditions. The objective is to advance the technology closer to the ultimate goal: making fuel cell buses economically viable to regular transit bus service.
RECOMMENDATIONS:

1. **Support Alternate Travel Modes.** Support alternate travel modes such as the projects recommended in the transit and bicycle sections of this Plan.

2. **Reduce Diesel Emissions.** CRCOG supports the reduction of diesel emissions from all sources, but especially encourages programs to reduce emissions from public transit vehicles. CRCOG further encourages ConnDOT to expand their current bidding requirements, regarding clean diesel equipment use on State transportation construction projects, to include more projects.

3. **Support Fuel Cell Bus Demonstration.** CRCOG should continue to support the hydrogen fuel cell bus demonstration.

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**Demand Management Policy**

Many options for reducing congestion focus on increasing the capacity of the transportation system (or transportation supply). An important alternative approach is to reduce, or otherwise modify, the demand for transportation. This does not necessarily mean getting people to make fewer trips. More often demand management is focused on getting people to use an alternate form of transportation (bus or carpool), or to shift their travel to off-peak periods when there is excess capacity.

Examples include:

- staggered work hours to spread peak demand
- flexible work hours to allow more use of transit or ridesharing
- reduced bus fares to encourage use of transit
- telecommuting to eliminate commuting trips
- elimination of employee parking subsidies to encourage transit use
- 4-day work weeks to eliminate commuting trips

The Council has studied demand management options as part of several previous studies. These include a special analysis of demand management done for the 1994 update of the Transportation Plan, the Major Investment Study for the Griffin corridor in 1995, and the Regional Transit Strategy in 2000. The analyses consistently demonstrate that some techniques such as increasing parking fees, eliminating employee parking subsidies, or providing transportation allowances to employees, can be effective at reducing vehicle miles of travel, increasing transit ridership, and reducing vehicle exhaust emissions. The difficulty with these techniques is that they often rely on voluntary participation of private employers to implement them. Voluntary programs are often not effective, and making them mandatory through legislative action is often politically unpopular.

RECOMMENDATIONS:

1. **Encourage TDM.** The Council should try to integrate demand management into our transportation programs whenever possible. A special effort should be made to introduce some demand management techniques to support the Regional Transit Strategy. We should also promote new federal and state “deduct a ride” programs that use income tax deductions to encourage use of transit and ridesharing instead of driving alone to work. Encourage the State legislature to act as an example to private employers by offering a full transit subsidy to State employees.

1. **Support Rideshare Programs.** The Council should continue to support rideshare programs that encourage alternatives to driving alone to work. While the primary function of the rideshare programs is encouraging commuters to use carpools or vanpools, the various programs in the State also promote public transit as well as transportation demand management initiatives such as deduct-a-ride and telecommuting.
8. Financial Plan

This chapter provides an overview of the cost of projects recommended in the Transportation Plan and an estimate of the revenues that will be used to finance the improvements. Since this is a long-range plan, many of the cost estimates and revenue estimates are inexact. The intent is to prepare an approximate, but realistic, estimate of total program cost; and a similar estimate of total revenues that the Region can expect to receive over the next 20 years. A goal of this process is to prepare a ‘financially constrained plan’ whose costs can be paid from the 20-year revenue stream.

Capital Costs & Revenues

Capital Costs. The estimated capital cost of implementing the Plan is about $1,659,000,000. Most of the cost estimates are based on current design estimates or estimates prepared for other planning studies from which the respective projects were derived. These include the New Britain Busway project, the Griffin Busway Feasibility Study, the NHHS Rail Feasibility Study, the Regional Transit Strategy, and the arterial corridor studies. For studies that are more than a couple of years old, the cost estimate has been adjusted for inflation.

The transit program is estimated to cost $1,082,000,000 and includes all the major new services recommended in the Regional Transit Strategy. The transit program represents 65 percent of the cost for the entire regional transportation plan.

The highway program costs $537,000,000 or 33 percent of the entire transportation plan. This includes $501,000,000 for the primary highway program, plus $36,000,000 for the ground access improvements at Bradley Airport. However, the real highway need exceeds this amount. There are over $715,000,000 in unfunded needs, and there are also two locations (Buckland area and I-91 NB at the Charter Oak Bridge) where costs are still to be determined as part of ongoing or future studies.

Bicycle and pedestrian elements of the plan are estimated to cost $40,000,000 or about two percent of the total cost.

Capital Revenues. The revenue estimate is based on continuation of existing annual revenues and anticipated special discretionary funds that the Region has applied for or already received. The estimated revenues to the Region over the next 20 years will total about $1,685,000,000. This is the total amount of State and federal transportation capital funds that will likely flow to the Region for system improvements and enhancements. (It does not include funding for basic infrastructure maintenance and repair.) The estimate is based on the assumption that current funding levels continue and that the Region continues to get its fair share of both federal and State funds.

Regional Allocation. The regional allocation of $1,041,000,000 is the largest source of anticipated revenues and accounts for over 60 percent. The regional allocation estimate was prepared by the Connecticut Department of Transportation (ConnDOT) for each region in the State. It is each region’s share of ConnDOT’s estimate of all highway funds available for ‘system enhancements’ for the next 20 years. Although it is based on highway funds, it can be allocated to either highway or transit projects within the 20-year plan.

1 Most federal funds are appropriated annually to states or urban areas based on formulas specified in federal legislation. These formulas typically use variables such as population, VMT, and federal gas tax receipts. Some federal programs are ‘discretionary’ programs in which the State or region must apply and compete against other applicants for funds. These funds are awarded at the discretion of the Congress or US Secretary of Transportation.
## Table 8-1 **CAPITAL COST ESTIMATE**

<table>
<thead>
<tr>
<th>Unfunded Needs</th>
<th>Cost</th>
<th>Improvement Program</th>
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</thead>
<tbody>
<tr>
<td>0</td>
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<td>Transit &amp; Ridesharing Program</td>
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<td>0</td>
<td>10,000,000</td>
<td>ITS for bus system</td>
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<tr>
<td>0</td>
<td>459,000,000</td>
<td>New Britain BRT</td>
</tr>
<tr>
<td>0</td>
<td>170,000,000</td>
<td>Griffin BRT</td>
</tr>
<tr>
<td>0</td>
<td>135,000,000</td>
<td>Manchester BRT (phases 1a, 1b, &amp; 1c)</td>
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<tr>
<td>0</td>
<td>158,000,000</td>
<td>New Haven-Springfield Rail (full cost = $350,000,000, regional share = 45%)</td>
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<tr>
<td>0</td>
<td>150,000,000</td>
<td>Rocky Hill BRT</td>
</tr>
<tr>
<td>715,000,000</td>
<td>501,000,000</td>
<td>Highway Program</td>
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<tr>
<td>0</td>
<td>60,000,000</td>
<td>I-84: Rt 6/Rt 9/ Rt 4</td>
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<tr>
<td>0</td>
<td>82,000,000</td>
<td>I-84: Hartford - Flatbush access</td>
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<td>0</td>
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<td>I-84: West Hartford - operational lanes</td>
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<td>0</td>
<td>34,000,000</td>
<td>I-84: access to Rentschler redevelopment area</td>
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<td>0</td>
<td>20,000,000</td>
<td>I-91: access to Day Hill industrial area</td>
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<tr>
<td>0</td>
<td>170,000,000</td>
<td>ARTERIAL improvements (from corridor studies)</td>
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<td>0</td>
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<td>MUNICIPAL roads</td>
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<td>TBD study</td>
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<td>I-84: access to Buckland area area</td>
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<td>TBD study</td>
<td>325,000,000</td>
<td>I-91: NB access to Charter Oak Bridge</td>
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<td>RT 6: new freeway (full cost = $650,000,000, regional share = 50%)</td>
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<td>Bicycle &amp; Pedestrian Program</td>
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<td>Complete major interregional trails</td>
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<td>(A) Better Transit Access</td>
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<tr>
<td>0</td>
<td>(B) Other policy recommendations</td>
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<tr>
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<td>0</td>
<td>Freight policy recommendations</td>
</tr>
<tr>
<td>715,000,000</td>
<td>1,659,000,000</td>
<td>TOTAL CAPITAL COST</td>
</tr>
<tr>
<td>1,685,000,000</td>
<td>TOTAL REVENUES</td>
<td></td>
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### Assumed Sources of Revenue:
- **Regional Allocation:** CRCOG allocation from DOT statewide 20-year estimate
- **Funds for projects of statewide significance:** I-84/Rt 4/Rt 6/Rt 10
- **Funds for projects of statewide significance:** I-84 West Hartford
- **CT DECD funds for Rentschler development:** I-84: access to Rentschler
- **New Britain BRT:** FTA New Start funds
- **New Britain BRT:** FTA - Other funds
- **New Britain BRT:** FHWA - Other funds
- **New Britain BRT:** State funds
- **NHHS Rail:** 2006 CT Transp. Act (full amt = $146,000,000, regional share = 45%) **
- **TOTAL: 1,685,000,000**

### Shortfall:
- **0 Shortfall:** amount ‘over’ the budget limit
- **26,000,000 Reserve:** amount ‘under’ the budget limit

(A) Costs are included in projects listed in the Transit section: NHHS Rail and Griffin Busway.
(B) Recommendations are general policy statements and do not include specific capital improvements.
Projects of Statewide Significance. When ConnDOT prepared the regional allocation estimates, they also reserved some of the future revenue for projects that they deemed to be of ‘statewide significance.’ Two projects in the Capitol Region are on the list of statewide projects. $60,000,000 was reserved for the I-84 improvements at interchanges with routes 4, 6, and 9; and $25,000,000 was reserved for operational improvements on I-84 in West Hartford.

New Britain (BRT) Busway. A financial plan for the New Britain bus rapid transit (BRT) project was prepared and approved by FTA as part of ConnDOT’s application for New Starts funds. The various funding sources and amounts included in the financial plan are listed in Table 8-1. Since there is a reasonable expectation that this funding will be secured, we treat it in this regional plan as committed funds. The combined funds for the busway total to $459,000,000.

NHHS Rail Project. The CT General Assembly passed a major transportation funding act in 2006 that committed $1 billion in special petroleum earnings tax revenues to a new program for major transportation projects. Included in that program of projects was the NHHS commuter rail proposal. The funding allocation assumed for the NHHS rail project was $146 million. It is reasonable to expect that the General Assembly will commit this full amount to the project.

The NHHS rail project is 62 miles in length and crosses 3 regions in Connecticut, plus part of the Springfield region in Massachusetts. Since only 45 percent (28 miles) of the project lies within the Capitol Region, we have apportioned 45 percent of the cost and 45 percent of the committed revenues to the Capitol Region for purposes of this regional plan and budget. The committed funds shown in Table 8-1 amount to $66,000,000.

Rentschler Field Improvements. The State of Connecticut is working with the Town of East Hartford and the developers of the Rentschler Field area (one of CRCOG’s designated regional growth centers) to plan and finance transportation improvements that will improve access to the site and circulation within the site. The State has proposed a financial package to fund the improvements from various funding sources including state bonding and state economic development funds. It is reasonable to expect that the $34,000,000 cost of the improvements will be paid through special state sources plus developer participation.

Operating & Maintenance Costs

The primary focus when assessing the financial viability of the Transportation Plan is on the capital cost of the Plan. However, the costs of operating and maintaining the transportation system are not ignored. In fact, Connecticut Department of Transportation has allocated about 60 percent of the expected 20-year revenue forecast to maintenance and repair of existing infrastructure. The region’s maintenance costs are already accounted for in the financial planning guidelines ConnDOT issued to each region. A summary of the estimated costs for the Capitol Region is provided in Table 8-2.

Highway Maintenance Costs: $2,680,000,000. ConnDOT estimates that it will cost $2,680,000,000 to maintain all State roads in the Region over the next 20 years. Since the State places a high priority on maintenance, the funds to pay for this maintenance work have already been identified in the State’s financial planning guidelines.

Special Infrastructure Repair Needs. While we assume that 60 percent of the Region’s transportation funds over the next 20-year will be dedicated to maintenance, reconstruction, and replacement of existing highway infrastructure, we typically do not identify individual maintenance projects. However, in the next 20-year timeframe there are two major highway structures that warrant special mention. These are the I-84 Viaduct in Hartford and the Putnam Bridge between Wethersfield and Glastonbury. The projects are discussed below, and their costs have been included in the highway maintenance costs listed above. ConnDOT considers these projects to be of statewide significance, and allocated extra funds to the region for these two projects.
I-84 Viaduct:  $450,000,000  About 3,200 feet of I-84 through Hartford is built as an elevated roadway referred to as the I-84 viaduct. This structure was built in 1965 and is in need of major repair or replacement. ConnDOT estimates the full cost of addressing the need to be over $450,000,000. They are currently evaluating an interim repair that could cost about $80,000,000. This interim repair is needed to keep the viaduct functional until a full reconstruction (or replacement) can be planned, designed, and constructed.

Conclusion. We recognize that the I-84 viaduct will require full reconstruction or replacement within the timeframe of the Plan. We also recognize that this will require a massive investment in a critical piece of our Region’s transportation infrastructure. Given that the viaduct passes through the core of our central city, it is important that any decision as to when and how to undertake this project be accompanied by a full community involvement process that includes regional officials, City officials, and the affected neighborhoods.

Putnam Bridge:  $60,000,000  The Putnam Bridge (Route 3) spans the Connecticut River between Glastonbury and Wethersfield. It is one of only eight crossings of the River in the Capital Region. The current structure was built in 1959 and is in need of major repair. ConnDOT estimates the cost of rehabilitating the existing bridge to be over $60,000,000. They are currently evaluating various rehabilitation options.

Conclusion.  We recognize that the Putnam Bridge must be rehabilitated within the next 5-10 years. We are also aware that this is one of the few River crossings left that does not include a sidewalk for pedestrians or bicyclists. It is important that the planning and design for the rehabilitation project give consideration to retrofitting the bridge to accommodate a sidewalk. The planning and design process should also involve the region’s communities, especially the towns of Glastonbury and Wethersfield.

Transit Operating & Replacement Costs.  As with the highway maintenance costs discussed above, ConnDOT has already identified both the costs of operating the existing transit systems, and the revenues to finance them. However, the estimate below does not include any funds to cover the additional operating subsidy for any ‘new’ transit services. For each of the new transit services proposed as part of this Plan, we will have to identify new revenues sources before the service can be implemented. Typically, this funding commitment occurs after a feasibility study is complete, but before the design phase is started. ConnDOT has committed to provide the operating funds needed to operate the New Britain Busway.

Existing Transit Services: Existing transit services subsidized with public funds include CT Transit bus services, a few privately operated commuter bus services, local and regional dial-a-ride services for the elderly and the disabled, and ridesharing services. The annual operating subsidies to these services amount to about $36,600,000. This is a total of $732,000,000 over a 20-year period.

Vehicle replacement costs are also provided below. The estimated replacement cost of $160,000,000 is based on existing fleet size and assumes an average life expectancy of 12 years for regular transit buses and 5 years for special transit (ADA and dial-a-ride) vehicles and rideshare vans.

- CT Transit fleet: about 230 buses.
- Transit District and municipal DAR fleet: about 190 vehicles
- Rideshare Company vanpool fleet: about 100 Easy Street vans in the Hartford metro area
**Table 8-2 Operating & Maintenance Costs (20 years)**

<table>
<thead>
<tr>
<th></th>
<th>Highways</th>
<th>Transit</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maintenance</td>
<td>2,680,000,000</td>
<td>------</td>
<td>2,680,000,000</td>
</tr>
<tr>
<td>Operating</td>
<td>------</td>
<td>919,000,000</td>
<td>919,000,000</td>
</tr>
<tr>
<td>Replacement</td>
<td>------</td>
<td>202,000,000</td>
<td>202,000,000</td>
</tr>
<tr>
<td>Total</td>
<td>2,680,000,000</td>
<td>1,121,000,000</td>
<td>3,801,000,000</td>
</tr>
</tbody>
</table>

*New Transit Services.* The Plan recommends five new rapid transit services plus improvements to existing bus service. Each of the new busways is expected to require $5-7 million per year in state subsidy to operate. The CT Department of Transportation is committed to providing the operating subsidy for the New Britain Busway, which is the first of the busways and is currently under design. At this time, there is no commitment to fund the operating subsidies for the other new services. Operating subsidy decisions will be made after the feasibility studies are completed.

**Timetable for Implementation**

A proposed schedule for implementation is shown in Table 8-3. It is a tentative schedule based on a general assessment of how funding availability might affect implementation dates. While it is possible to design all the projects early in the 20-year period, the annual revenue stream will force the Region to defer many of the projects until the second decade. The schedule is merely a financial planning tool. It is a tentative schedule that can be revised periodically to reflect changing conditions. Factors such as delays in acquiring environmental permits, priorities elsewhere in the State, and availability of special discretionary funds could alter the schedule substantially.
Table 8-3  Preliminary Timetable for Implementation

<table>
<thead>
<tr>
<th>Period 1</th>
<th>Period 2</th>
<th>Period 3</th>
<th>Cost</th>
</tr>
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<tbody>
<tr>
<td>Year 1-5</td>
<td>Year 6-10</td>
<td>Year 11-20</td>
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<tr>
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<td>328,100,000</td>
<td>668,900,000</td>
<td>1,659,000,000</td>
</tr>
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</table>

**Transit & Ridesharing Program**
- ITS for bus system
- New Britain BRT
- Griffin BRT
- Manchester BRT (phases 1a, 1b, & 1c)
- New Haven-Springfield Rail
- Rocky Hill BRT

**Highway Program**
- I-84: Rt 6/Rt 9/ Rt 4
- I-84: Hartford - Flatbush access
- I-84: West Hartford - operational lanes
- I-84: access to Rentschler redevelopment area
- I-91: access to Day Hill industrial area
- ARTERIAL improvements (from corridor studies)
- MUNICIPAL roads
- I-84: access to Buckland area area
- I-91: NB access to Charter Oak Bridge

**Bicycle & Pedestrian Program**
- Complete major interregional trails
- Other bike & pedestrian programs

**Bradley Airport**
- Better Roadway Access
- Better Transit Access
- Other policy recommendations

**Freight Transport System**
- Freight policy recommendations

**TOTAL CAPITAL COST**
662,000,000
9. ENVIRONMENTAL JUSTICE

The Capitol Region Council of Governments is committed to fully integrating the basic principles of environmental justice into all of its transportation planning programs and activities. These principles are:

- Reaching out to involve minority groups and low income groups in the planning process;
- Preventing “disproportionately high and adverse” impacts of transportation decisions on minority groups, low-income, and transit dependent groups; and
- Assuring these same groups receive a proportionate share of benefits.

This commitment was first included in the 2001 Regional Transportation Plan. Since then, CRCOG has made substantial progress in advancing these core principles. We completed a full assessment of our planning process in 2002. An Environmental Justice Action Plan was adopted in June 2002, and incorporated into CRCOG’s Public Involvement Plan in May 2005. Key elements of the plan that have been implemented include:

- **Environmental Justice Advisory Board.** An Environmental Justice Advisory Board was established as a standing CRCOG committee. Its purpose is to provide guidance on how to improve our planning process to achieve environmental justice goals, and to provide input into the development of major planning products such as the Regional Transportation Plan.

- **Transportation Committee Membership.** An EJAB member was appointed to the Transportation Committee to allow direct involvement in our core transportation planning activities.

- **Equity Assessment Methods.** Equity assessment methods were developed to evaluate the distribution of burdens and benefits from projects funded through the transportation program.

- **Bus Users Forum.** A bus users forum was established to provide an opportunity for transit dependent residents to discuss bus service issues directly with transit operators and planners.

These are critical components of CRCOG’s environmental justice action program that we will continue to pursue and improve. We remain committed to involving minority groups and low-income groups in our planning process, and to developing plans and programs that provide an equitable distribution of benefits and burdens. We are also committed to identifying and addressing transportation issues that are of special concern to minority, low-income, and transit dependent households. To begin the latter task, we undertook a special effort to identify issues of special concern. The effort and issues are described below.

**Issues of Special Concern**

There are a number of transportation issues that were identified by the EJ Advisory board as being of particular importance due to their potential to affect minority, low-income, or transit dependent populations. The issues and associated recommendations are provided below.

**CRCOG Committee Structure.**

CRCOG’s revised its Committee structure to include an Environmental Justice Advisory Board, and a representative from that Board on the Transportation Committee. The new structure provides better opportunities for the involvement of environmental justice communities in the transportation planning process, and should be continued.

**Recommendation:** The revised committee structure is satisfactory and should be continued.
ACCESS TO JOBS.

Access to jobs is one of the most critical issues for low-income and transit dependent households in the Region. The growth of employment in suburban areas and the lack of good transit service to these areas often pose a problem for these residents when they search for job opportunities. CRCOG administers a program to provide special transportation services to and from work for welfare-to-work clients and other low-income workers. The program supplements regular CT Transit bus service to serve hours or routes not previously served by CT Transit.

RECOMMENDATION: CRCOG should continue to support the Jobs Access program as a high priority program.

BETTER TRANSIT SERVICE.

The region's regular transit service is not a convenience, but rather a necessity for transit-dependent residents. Whether they live in the City of Hartford or inner ring suburbs served by transit, these residents depend on the service for virtually all their transportation needs. Improvements should continue to be made to the service, including more frequent buses and longer operating hours, as well as at bus stops, including more shelters and better maintenance.

In addition, the bus-riding experience can be vastly improved with the application of advanced technologies, or intelligent transportation systems (ITS), at the bus stop and on the bus. Automated Vehicle Location (AVL) systems can provide information to the bus passenger about next bus arrival times and can allow automated on-board next-stop announcements. Transit priority added to traffic signals can help keep buses on schedule. And computer-aided dispatch can improve efficiencies for both fixed route and dial-a-ride services.

RECOMMENDATIONS:

1. Better Bus Service. CRCOG should continue to support better bus service as part of its environmental justice program. CRCOG should also continue its efforts to give transit users a voice through the bus users forum, and continue its efforts to address bus stop issues.

2. ITS for Transit. CRCOG should continue to support the application of ITS in the Region's transit services. Implementation should be a priority.

RAPID TRANSIT SYSTEM.

Rapid transit proposals form the cornerstone of the Regional Transportation Plan. Bus rapid transit is proposed for several corridors, and a commuter rail service is being evaluated for the New Haven-Hartford-Springfield corridor. These rapid transit services can be designed to meet the needs of transit dependent residents as well as those of suburban residents who have easy access to automobiles.

RECOMMENDATION: Rapid transit services should be designed to serve the needs of transit dependent residents as well as those with access to automobiles.

CLEAN FUEL VEHICLES.

Transit Buses. The current bus fleet is composed almost exclusively of diesel-powered vehicles. The primary bus routes traverse many low-income, minority, and transit-dependent neighborhoods. Diesel emissions can pose a health hazard in these urban neighborhoods where asthma rates are often higher than in suburban neighborhoods. The concern regarding low emission buses and reducing diesel emissions in the region is therefore a priority. To that end, the Environmental Justice Advisory Board proposed a program to retrofit CT Transit buses with diesel particulate filters.

Retrofitting the fleet of buses will significantly reduce diesel exhaust emissions and decrease the adverse impact on Hartford's residential neighborhoods by reducing the particulate emissions from CT Transit buses. As an important part of CRCOG's Environmental Justice Program, CRCOG submitted an
application for CMAQ (Congestion Mitigation and Air Quality Improvement Program) funds to retrofit CT Transit buses with diesel particulate filters. Buses with six years or more of useful life left will receive the modification.

By 2010, all CT Transit bus models from 1999 through 2006 will be retrofitted with EPA emission certified Diesel Particulate Filters and their associated exhaust backpressure and temperature-monitoring equipment. CT Transit will implement the program. All 2007 and later model buses will come equipped with the diesel particulate filter so no retrofit of these vehicles will be necessary. They will also include active control filters that improve operations and require less maintenance.

Construction Equipment. In a similar manner, diesel-powered vehicles used on construction sites add to a reduction in air quality. New federal rules regarding diesel emissions take effect in 2007, but older vehicles are exempt from the law and the requirement that off-road vehicles be as clean as on-road vehicles will not be phased in until the 2011-2012 model year. This coupled with the fact that construction vehicles generally have a much longer useful life than most on-road vehicles creates a need to require the retrofit of existing vehicles wherever possible.

In 2005, the State passed legislation establishing a plan for reducing diesel pollution from the transportation sector. It directed the CT DEP to develop a Clean Diesel Plan “to reduce emissions of diesel fumes and particulates from school buses, transit buses, state-funded construction projects and other sources.” That report was completed and submitted to the legislature in January 2006. With regard to diesel emissions from construction equipment, the State incorporated contract specifications requiring retrofit emission controls or the use of less polluting fuels on construction equipment used on State projects of $5 million or more. The DEP has recommended expanding on this project as part of any future steps to further reduce diesel emissions.1

**Recommendations:**

1. **Reduce diesel emissions from buses.** CRCOG’s transportation plans, policies, and programs should continue to support the goal of reducing diesel emissions, especially diesel emissions from buses.

2. **Reduce diesel emissions from construction vehicles.** CRCOG should continue to support efforts to reduce diesel emissions from vehicles used on State transportation construction projects.

**Pedestrian & Bicycle Safety in Urban Areas.**

Pedestrian and bicycle safety is an important issue that affects minority, low-income households, and especially transit dependent households living in our more urbanized communities. More than ten percent of the residents in the Region do not own an automobile, and for many of them, walking and riding a bike is an important means of travel. However, pedestrians and cyclists face many safety hazards in urban areas where traffic volumes are high. The rate of pedestrian accidents in Hartford, which is nearly four times higher than any other town in the Region, illustrates the serious nature of these urban hazards.

Pedestrian safety is also a special issue for children. As a result, CRCOG will be advancing a Safe Routes To School Program in the city of Hartford. This will supplement the State program that is not targeted to city schools. The safe routes program can improve safety around schools, reduce traffic, reduce school transportation costs, and improve school children’s health.

**Recommendation:** CRCOG’s transportation plans, policies, and programs should continue to work toward the goal of improving pedestrian and bicycle safety in urban areas of the Region.

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Equity Assessment:
Each of the relevant elements of the Regional Transportation Plan were reviewed to determine if there were any disproportionately high and adverse impacts on minority groups, low-income, and transit dependent groups; and to assure that these same groups received a proportionate share of benefits. They are provided below.

Linking Land Use and Transportation
The recommendations for better integrating land use and transportation planning will have no adverse effect on minority, low-income, or transit dependent populations.

Transit Program
The transit program recommended in this Plan is expected to benefit minority and low-income households by increasing transit service available to them and by increasing their access to jobs and other opportunities. As part of the Regional Transit Strategy, an analysis was conducted of the two primary alternatives: low capital or ‘better bus’ alternative, and the high capital or ‘rapid transit’ alternative. As shown in the table below, both alternatives significantly increased the number of jobs available to low-income neighborhoods within 30 minutes travel time.

<table>
<thead>
<tr>
<th>ALTERNATIVE</th>
<th>Jobs within 30 Minutes</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Transit Improvements</td>
<td>132,640</td>
</tr>
<tr>
<td>Low Capital Improvements: Better Bus</td>
<td>145,857</td>
</tr>
<tr>
<td>High Capital Improvements: Rapid Transit</td>
<td>188,602</td>
</tr>
</tbody>
</table>

More recently, special equity assessments were conducted for two of the proposed rapid transit elements of the Regional Transit Strategy: the New Britain Busway and the Griffin Busway. Both analyses found a large share of project benefits going to transit dependent households (0-car households). The results are summarized below.

<table>
<thead>
<tr>
<th></th>
<th>0-car HHs</th>
<th>1-car HHs</th>
<th>Multi-car HHs</th>
<th>Total Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Britain Busway</td>
<td>1,558</td>
<td>943</td>
<td>1,599</td>
<td>4,100</td>
</tr>
<tr>
<td></td>
<td>38.0%</td>
<td>23.0%</td>
<td>39.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Griffin Busway</td>
<td>551</td>
<td>437</td>
<td>912</td>
<td>1,900</td>
</tr>
<tr>
<td></td>
<td>29.0%</td>
<td>23.0%</td>
<td>48.0%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Other transit recommendations in the Plan are specifically intended to improve mobility for low-income households. Our Jobs Access Program is designed to help low-income workers gain access to job sites otherwise unavailable to them. The recommendation to extend hours of service for the bus system is intended to benefit the transit-dependent person who often cannot access certain activities because bus service stops after 6:00 p.m. on many routes.

2 The analysis considered only transit-dependent neighborhoods, which were defined as neighborhoods where 20% or more of households do not own a car. See chapter 5 of RTS report for full discussion.
**Highway Program**

None of the proposed freeway improvements are expected to adversely affect any minority or low-income neighborhoods. The operational and safety improvements will all occur largely within existing rights-of-way and not affect residential neighborhoods.

The arterial roadway recommendations included in the corridor studies are not expected to adversely affect any minority or low-income neighborhoods. In fact, the proposed improvements for Route 44 (Albany Avenue) in Hartford were developed with involvement of the Upper Albany and Clay-Arsenal neighborhoods. In March 2006, CRCOG sponsored a public information meeting at the Artists Collective on Albany Avenue to discuss this reconstruction project. Nearly 100 neighborhood residents and area merchants attended and expressed support for the proposed improvements to Route 44. They are mostly small operational improvements with few adverse impacts. The primary recommendations include reconfiguration of the 3-lane roadway to a 2-lane roadway (with turn lanes at intersections), traffic calming on side streets, and streetscaping along Albany Avenue. While the lane reconfiguration is expected to improve safety, it will be done without any roadway widening and will have no negative impacts on the neighborhoods. The traffic calming and streetscaping proposals will benefit the community and were strongly supported by the neighborhoods.

**Bicycle & Pedestrian Program**

The bicycle and pedestrian program has no negative impacts on low-income or minority neighborhoods. In fact, pedestrian and bicycle safety improvements are likely to significantly benefit low-income individuals. In addition, the bicycle and pedestrian plans include specific recommendations that CRCOG should advance the goal of improving bicycle and pedestrian safety in urban areas, and as a result, CRCOG staff will devote more of its bike and pedestrian planning efforts to safety issues in those areas.

CRCOG’s bike and pedestrian planning program has undertaken specific efforts in the City of Hartford: technology sharing on bike lane design; and facilitation of City bike path efforts, including the South Branch of the Park River Trail and a connection from downtown Hartford to the Farmington Canal trail. CRCOG has had a “Share the Road” brochure printed in both English and Spanish and makes this available throughout the region and the State.

**Bradley Airport**

The proposed program of improvements and policies described in the Airport chapter has no negative impact on environmental justice target communities. The roadway projects do not impact any low-income or minority neighborhood, and the proposed improved transit services will likely benefit low-income residents who live in Hartford and work at the Airport.

**Freight Transportation System**

Several issues have been identified as the focal points for CRCOG’s emerging freight planning program as it develops over the next several years, such as planning for improved ground access to cargo facilities at Bradley Airport, the use of Intelligent Transportation Systems to improve monitoring of truck safety on highways, and the development of intermodal terminals in Hartford, Springfield, and New Haven, which will allow more freight transported by rail. These recommendations will have no adverse effect on environmental justice target communities.
10. PUBLIC INVOLVEMENT

The primary changes to the Capitol Region Transportation Plan that occur with the adoption of this 2007 edition of the Plan are: an update of the status of projects recommended in earlier plans, the re-affirmation of policies adopted in earlier plans, incorporation of recommendations from a technical study that was completed since the adoption of the previous Plan, and some reorganization to better highlight issues required by new federal transportation legislation. Two new items of significance, however, were addressed in this plan: the determination of consistency between this Plan and State and Regional Plans of Conservation and Development and the change in status of the proposal to construct a new Route 6 from a project of “statewide significance” to an “unfunded need.”

Public involvement activities were conducted specifically for this Plan update, as well as for certain components. Efforts that were undertaken for components new to this Plan are described below. A summary of modifications to reflect public input is included at the end of this chapter. 1

Meetings with Special Focus

CONSISTENCY WITH STATE LAND USE PLANS.

CRCOG staff met with State land use planning officials on December 27, 2006. Representatives from the CT Department of Environmental Protection included the Deputy Commissioner for Environmental Quality and staff from the Air Management, Planning & Program Development, Environmental Review departments. Representatives from the CT Office of Policy and Management included staff from the Office of Responsible Growth, and Energy and Transportation departments. CRCOG staff represented both the Transportation department and the Community Development department.

A complete discussion of the outcome of this meeting is described in Chapter 1: Linking Land Use and Transportation, but the conclusion of the meeting participants was that there were no concerns about the consistency of RTP recommendations with state plans and policies and that there were issues of mutual interest that all parties agreed that continued collaboration was important. The issues of mutual interest were the support for the implementation of the New Britain Busway, and a need to promote Transit Oriented Development along the New Britain Busway and elsewhere in the Region.

CONSISTENCY WITH REGIONAL PLAN OF CONSERVATION & DEVELOPMENT

CRCOG transportation staff attended the January 18, 2007 regular meeting the Regional Planning Commission. A presentation on the earlier Plan and some potential changes that might be included in the 2007 Plan was given. A complete discussion of the outcome of this meeting is described in Chapter 1: Linking Land Use and Transportation, but the conclusion was that there were no concerns about consistency between the Regional Transportation Plan and the Regional Plan for Conservation and Development.

1 See earlier Plans for descriptions of outreach efforts taken for components incorporated into the Plan prior to 2007.
The comments made by the regional planning commissioners and the CRCOG community development staff included recommendations to update the Plan incorporating new smart growth principals such as “complete streets,” to add an expanded discussion of Transit Oriented Design, and to continue to provide coordination and consistency between the Regional Plan of Conservation and Development and the Regional Transportation Plan. These suggestions were incorporated in this Plan.

**CHANGE IN STATUS OF ROUTE 6**

The change in the status of the Route 6 relocation proposal was one of the most significant issues to be addressed in the update of the Regional Transportation Plan. Due to the importance of the issue, CRCOG staff prepared a briefing paper to review the project history and explain the environmental permitting issue and its current status. The briefing paper was provided to Transportation Committee members. More importantly, it was shared with the towns of Andover and Bolton. Additionally, CRCOG staff met with town officials in Bolton (December 8, 2006) and Andover (January 8, 2007) to discuss the pending change in status for the Route 6 relocation proposal.

After the meetings, officials of both towns informed CRCOG that they recognized that the environmental issues affecting Route 6 will be not resolved in the foreseeable future. They also understood the need to remove the project from the financially constrained portion of the Plan. However, they wanted the project to be retained as an unfunded need. They also asked for assistance in developing a new strategy managing economic development, traffic growth, traffic safety, and access management in the existing Route 6 corridor.

The Route 6 relocation is included in this Plan as an unfunded need. The Plan also includes a recommendation for a Route 6 corridor study.

**ENVIRONMENTAL JUSTICE**

CRCOG staff met with a representative of the Capitol Regional Environmental Justice on February 21, 2007 to brief review the expected changes to the new Plan, and to determine a convenient time and place for a meeting of the full EJ Advisory Board.

The full EJAB met on April 3, 2007 to discuss the Plan. A presentation was made by CRCOG staff on the whole of the new Plan, with special emphasis on the proposed changes. The Environmental Justice Chapter was reviewed in detail. Following an in-depth discussion, the Board recommended two changes to the Plan:

1. There should be strong support for using technology to enhance transit service for bus riders.
2. The recommendation for clean diesel buses should be expanded to include clean diesel construction equipment used on highway projects.

Both of these recommendations have been included in this final Plan.

**Related Community Involvement Efforts:**

**CAPITOL REGION PEDESTRIAN PLAN**

CRCOG’s Regional Pedestrian Plan, Walking Matters, was adopted on May 25, 2005. Recommendations from the plan are incorporated into the Regional Transportation Plan as part of this update, so the outreach effort for that study is summarized here.

This Plan was subjected to an intense community involvement effort that included guidance by the Bike and Pedestrian Subcommittee, more than 1000 personal notices of opportunities to comment, news releases sent to more than 50 media outlets, contact with town officials and town planners, a meeting with the Hartford School Crossing Guards, as well as the normal outreach efforts of publishing legal notices and holding public information meetings.
Some communities assisted with CRCOG’s outreach effort, including West Hartford’s inclusion of our meeting notice in a message to its list serve subscribers, a news item sent to its own local media outlets, mention in “Council Briefs,” and publication on the Town’s web calendar.

More than 40 comments were received, and modifications were made to the Plan where appropriate. The public assisted in setting priorities for recommendations that were eventually included in the Plan.

In the course of the development of the Plan, it became clear that the Region had a need for education on pedestrian planning and design methods. Staff responded by holding training workshops. In September 2004 and January 2005, seminars on pedestrian topics were held. The first was a session on innovative treatments for pedestrian crossings. The second was on ADA requirements relative to pedestrian infrastructure. Both seminars were advertised to CRCOG committees and to the broader stakeholder community.

**DAY HILL ROAD INTERSECTION STUDY IN WINDSOR CT**

The Day Hill Interchange Plan was adopted by CRCOG in 2006. Recommendations from the plan are incorporated into the Regional Transportation Plan as part of this update, so the outreach effort for that study is summarized here.

Access to the Day Hill Road Corporate Area in Windsor from I-91 was identified as problematic so a study of the interchange was conducted. The study was undertaken with significant coordination among the Town, State, area stakeholders and the community. A formal public meeting was held on August 10, 2005 to discuss the interchange concepts and obtain public comments on the draft plan.

As a result of questions and comments that surfaced during the public meeting, the Day Hill Road Interchange Study was modified to include general information related to pedestrian and bicycle access in the area. The Town also suggested that the item be reviewed during the pedestrian sidewalk plan preparation. Other comments received during the meeting were documented and included in the appendix of the final study.

Following the public meeting and modification of the plan, a presentation was made at the December 19, 2005 Windsor Town Council meeting. At that meeting the Town Council accepted the recommendations of the Study and further recommended that they be added to the Regional Transportation Plan.

**Public Involvement – Outreach to the Community for This Plan**

The Transportation Committee at its March 26, 2007 meeting approved the draft Regional Transportation Plan for public comment. The following day, a legal notice about the draft Plan and about opportunities to comment was published in the Hartford Courant, a daily newspaper with wide circulation in the Region. This was followed on March 28 by publication of the same legal notice in both English and Spanish language in The Hartford News/El Reportero a bi-lingual newspaper. We also held two meetings on the draft Plan. Summaries of the notification process and the comments received are provided below.

**PUBLIC NOTICE & MEETINGS**

*Notices.* The following notices about the draft Plan were provided:
- Legal notices were published in newspapers in both English and Spanish
- A news release was sent to local media
- A notice was sent to town clerks and libraries, and to cable access televisions in the Region
- A notice was emailed to more than 900 persons who are interested in CRCOG activities
- A notice was posted on the CRCOG website

*Meetings.* The draft Plan was presented at the Environmental Justice Advisory Board meeting on April 3, 2007 and at a public information meeting on April 9, 2007.
COMMENTS RECEIVED & MODIFICATIONS MADE

Comments received are listed below with the response taken.

Multi-Use Trails. The Town of Windsor commented that the proposed Hartford–Windsor trail along the Connecticut River was not shown in the Plan, and requested that the Windsor trail as well as other similar trails be recognized in the Plan.

Response. The only individual trails identified in the Plan are the Charter Oak Greenway and the Farmington Canal Trail, which are inter-regional trails serving several regions and states. The map of inter-regional trails has been retained, but a second map has been included in the Bike and Pedestrian chapter to show all trails in the region. CRCOG will also continue to work with member communities and others to help plan and implement proposed trails such as the Windsor-Hartford trail. We have assisted Windsor, Hartford, and Riverfront Recapture in planning the Windsor-Hartford trail, and will continue to do so.

Technology to Improve Transit Service. The Environmental Justice Advisory Board recommended that that there should be a stronger commitment to using technology to enhance transit service for bus riders. It was noted that major bus stops and transit centers could be equipped with electronic signs that tell how long you must wait until the next bus arrives. These next bus arrival signs use real-time data collected from GPS units on buses that give riders up to the minute information on bus arrival times.

Response. The Plan already had a recommendation to implement an automatic vehicle location (AVL) system for Hartford buses. The recommendation also included related technology to improve transit and rideshare service and management. The existing recommendation was amended to make implementation a priority, and CRCOG will work with CT Transit, the Greater Hartford Transit District, Greater Hartford Rideshare, and ConnDOT to advance this proposal.

Diesel Emissions from Construction Equipment. The Environmental Justice Advisory Board recommended that the Plan’s recommendation for clean diesel buses be expanded to include clean diesel construction equipment used on highway projects.

Response. CRCOG was successful in funding a project to retrofit CT Transit diesel buses with particulate filters. While expanding the recommendation to include highway construction equipment is reasonable, it must be focused on policy initiatives rather than project-based or funding initiatives. Highway construction equipment is owned by private companies, so change must be achieved by modifying the construction bidding requirements. Bidders can be required to use clean diesel equipment, and ConnDOT already does so on its largest construction projects. The proposed change is to expand ConnDOT’s bidding requirement to include more projects. The recommendation has been modified to state that we encourage ConnDOT to expand the clean diesel requirement to more projects.

Union Station. The Greater Hartford Transit District commented that the Plan should include some discussion of the importance of Union Station as a regional intermodal center, and as a historically and architecturally significant structure in downtown Hartford. They also noted that the station is expensive to maintain and is in need of major repair and rehabilitation.

Response. The transit chapter has been modified to include this discussion, and also notes the importance of Union Station to the New Britain Busway and the New Haven – Hartford – Springfield Rail project.

Public Comment Period – March 26, 2007 to April 25, 2007

The 30-day public comment period on the Plan commenced on March 26, 2007, when CRCOG’s Transportation Committee members approved the release of the draft Plan for consideration by the public. The comment period ended on April 25, 2007, when CRCOG’s Policy Board voted to approve the Plan with revisions based on comments received, as described above.
Appendix A

Previous & Related Reports

Intelligent Transportation Systems: A Strategic Plan for the Capitol Region
Nov. 1998

Capitol Region Bicycle Plan
April 2000

Capitol Region Pedestrian Plan: Walking Matters
May 2005

Regional Transit Strategy
March 2001

Capitol Region Transportation Plan
Sept. 1994
May 1998
March 1999
March 2001
March 2004