

## 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, CROCOG 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, CROCOG 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)

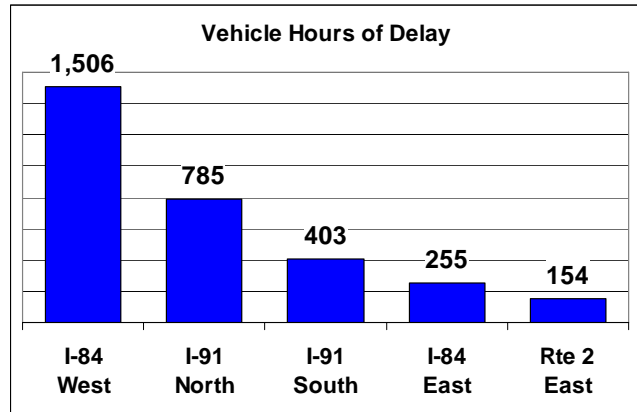
Eliminating all congestion in metropolitan areas is not feasible economically or environmentally. But tolerating some congestion does not mean that we take no action to minimize congestion, or to reduce the impacts congestion has on our quality of life and economic health. It is in our best interest 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 CROCOG, 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, and

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:

- Traffic Record Systems
- Roadway Departure
- Pedestrians & Bicycles
- Driver Behavior
- Motorcycle Safety
- Commercial Vehicles
- Work Zones
- Incident Management

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 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.<sup>1</sup>

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.

**Purpose:**

*GHIMSC: promote coordination, cooperation and communication among all agencies responding to incidents on freeways.*

*ESF-1: facilitate communication and coordination among agencies concerning transportation issues & activities during a major disaster.*

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.

<sup>1</sup> 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.** CROG 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.
    - o **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.
    - o **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.

3. **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.

- o **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.
- o **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.
  - o **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.
- o **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.
- o **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.
- o 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)
  - o 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.

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<sup>2</sup> 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<sup>3</sup> 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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<sup>2</sup> 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.

<sup>3</sup> 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.<sup>4</sup> 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 CROCOG Regional Transportation Plan for many years. In 1994, the Connecticut Department of Transportation released a Draft Environmental Impact Statement for Route 6. Subsequently, CROCOG 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

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<sup>4</sup> 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. CROCOG 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 do 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 it 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.