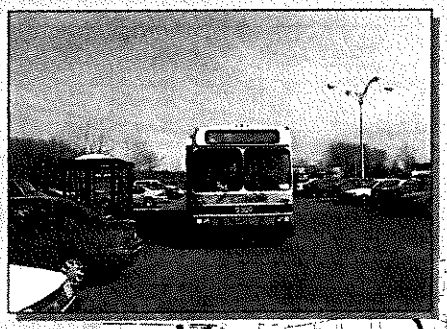
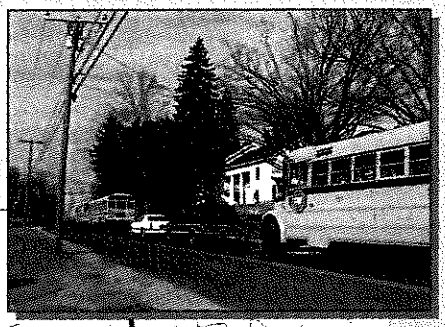
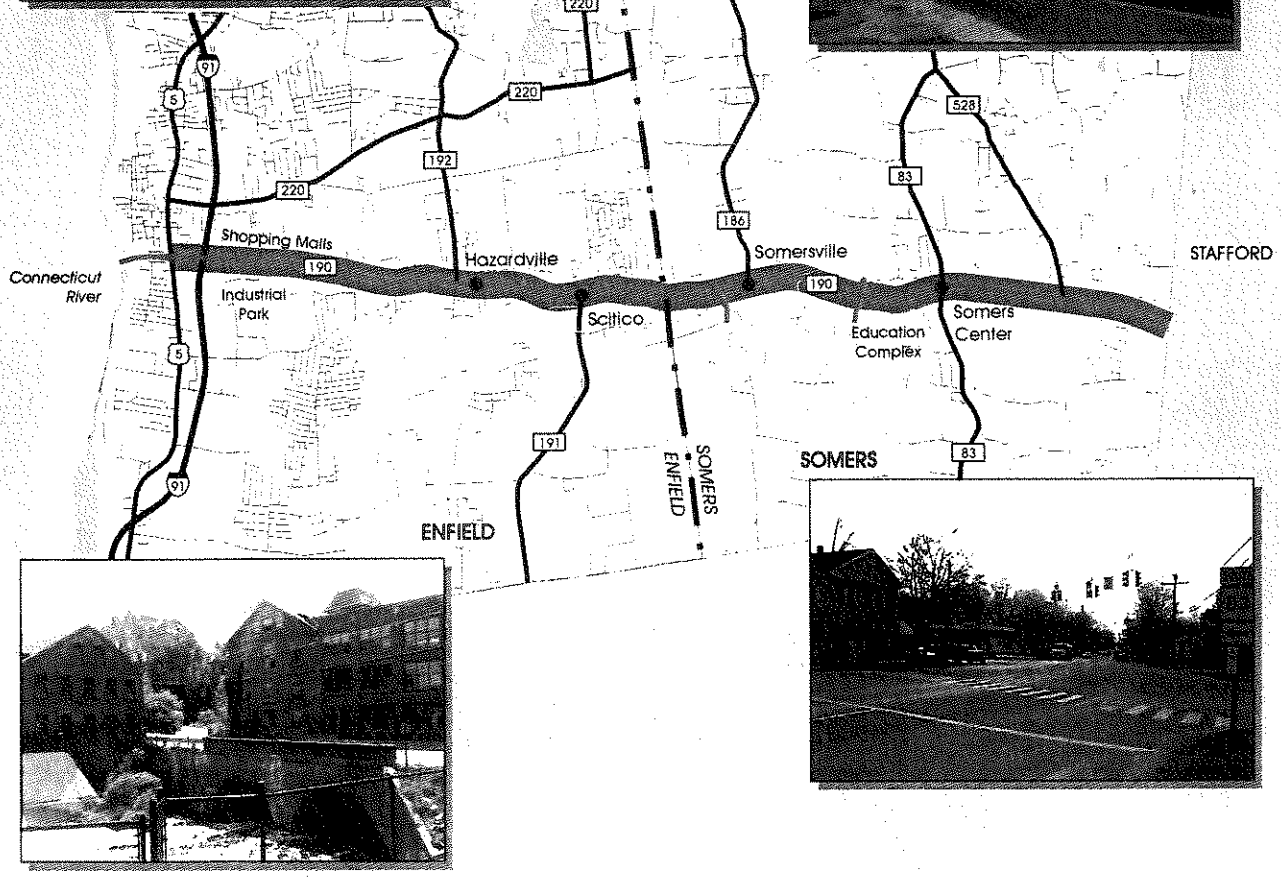
Route 190 Corridor Study

FINAL REPORT







ENGINEERS
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Wilbur Smith Associates

50 Years

CAPITOL REGION COUNCIL OF GOVERNMENTS
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Prepared for

Capitol Region Council of Governments

Prepared by

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50 Years

In Association With

- Planimetrics
- Herbert S. Levinson
- Rumney Associates
- Patel Engineering Associates
- United International Corporation

June 2003

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The Final Plan is the result of a collaborative effort among local residents, local officials and regional and State planners. This effort was guided by two Local Advisory Committees, one for each town. CRCOG would like to express its appreciation to the members of those Committees, who contributed their time and valuable knowledge of local issues to the development of this Plan.

Enfield Local Advisory Committee

William Vayda, Mayor (from 11/01)
Mary Lou Strom, Mayor (through 11/01)
and Town Council (from 11/01)
Alice Egan, Town Council
Carol Hall, Town Council
Scott Shanley, Town Manager
Raymond Aleskwiz
Little John
John W. Kane
Karen LaPlante
Mike Lizee
Tony Secondo
Jeanne Smith

Somers Local Advisory Committee

Richard Jackson, First Selectman (from 11/01)
Gordon Mello, First Selectman (through 11/01)
Patrice Carson, Town Planner
Bill Bouchelle, Fire Department
Elwood Clifford, Planning Commission
Everett Morrill, Public Works
James Ferreira
Katherine Mashiak

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APPENDIX B – DOCUMENTATION OF ALTERNATIVES EXPLORED

Route 190 is the primary roadway serving the villages of Hazardville and Scitico in Enfield, and Somersville and Somers Center in Somers. It passes through developed areas, historic town centers and countryside, linking these areas with I-91 and other key north-south roads.

The corridor study for this ten-mile section of Route 190 in Enfield and Somers was initiated in November 1999. The principal goal was to improve safety and mobility while preserving and/or enhancing the historic character and economic vitality of the communities it serves.

ES.1 Objectives and Approach

The study's main objectives were (1) to evaluate present and future traffic and safety conditions in the two towns and along the study corridor; (2) to develop, assess, and recommend roadway and traffic management improvements; and (3) to identify and recommend pedestrian/bicycle and public transport improvements that will help preserve the character of the historic village centers, improve safety, and reduce congestion.

The study was performed in cooperation with participating public agencies, residents, and businesses in the two towns. The Capitol Region Council of Governments and Connecticut Department of Transportation contributed essential background and technical information, and the Towns of Enfield and Somers provided review and oversight of the study through participation on Local Advisory Committees.

The key steps included:

- Orientation meetings at the start of the study;
- Review of planning documents and previous studies;
- Field reconnaissance investigations;
- Data collection and surveys;
- Analysis of existing and future problems, opportunities, and alternative improvements;

- Review and comment by the Local Advisory Committees;
- Review and comment by the public at information meetings and through phone calls, letters, and emails; and finally
- Development of recommended plans for the two towns.

ES.2 Existing and Future Conditions

Transportation problems and opportunities along the Route 190 corridor reflect the physical setting, history and settlement patterns. Route 190 generally functions well today: overall traffic congestion is not a major problem, and overall peak hour speeds generally exceed 30 mph. However, there are several offset and congested intersections, a lack of dedicated left-turn lanes at key locations, inadequate pedestrian and bicycle facilities, and locations with sight distance restrictions. Consequently, several specific locations have higher than expected accident rates and/or problems with congestion.

Continued population and employment growth in the corridor will result in a 15 to 20 percent increase in average daily traffic volumes by Year 2025. Daily traffic volumes for Year 2000 and projected traffic volumes for Year 2025 at key locations are as follows:

Daily Traffic Volume (000s) Along Route 190		
	Actual - 2000	Anticipated - 2025
Enfield		
▪ West of Phoenix Avenue	36.9	43.6
▪ West of Elm Street	23.9	27.5
▪ West of Somers Town Line	14.6	16.8
Somers		
▪ West of Route 83	12.4	14.3
▪ East of Gulf Road	8.9	10.7

Anticipated, or projected, peak hour volumes at key points are shown below.

Anticipated 2025 Peak Hour Traffic Volumes Along Route 190		
Eastbound	A.M.	P.M.
▪ West of Phoenix Avenue	1,320*	1,645*
▪ East of Palomba Drive	615	1,125**
▪ Enfield/Somers Town Line	375	935
▪ Somers/Stafford Town Line	310	445
Westbound	A.M.	P.M.
▪ Somers/Stafford Town Line	435	405
▪ Enfield/Somers Town Line	705	575
▪ East of Palomba Drive	875	1,015**
▪ West of Phoenix Avenue	1,230*	1,465*

* Multiple lanes.
** Multiple lanes when planned ConnDOT improvements are completed.

These anticipated traffic volumes will result in increased pressure for capacity at several key intersections. Adjustments in traffic signal timing and sequences, provision of left-turn lanes at signalized intersections, and installation of traffic signals at several stop-sign controlled intersections will largely alleviate Year 2025 capacity problems. Major roadway widening along Route 190 is not warranted.

ES.3 Recommended Transportation Plans

The recommended transportation plans for Enfield and Somers reflect three broad objectives:

- They address anticipated mobility, environmental and safety concerns.
- They preserve the rural character of the area and enhance the historic village centers, by making each a more cohesive and pedestrian-friendly environment.
- They emphasize transportation system management actions. These system improvements can be easily implemented with minimum cost and impacts and include improvements to traffic flow, pedestrian and bicycle movements, and streetscape enhancements in the village centers. Widening to provide multi-lane operations throughout the corridor is not recommended.

The recommended improvements do not change the existing Route 190 cross-section except for some minor widening to provide protected turning lanes and suitable shoulders for bicycles. They build upon and incorporate the programmed improvements at the Route 190 intersections with Palomba Drive, and South Road/Elm Street in Hazardville, and the on-going streetscape improvements also in Hazardville.

ES.3.1 Recommended Improvements in Enfield

The transportation improvement plan includes a set of improvements recommended for each of the following four distinct areas in Enfield:

- The regional commercial area between I-91 and Palomba Drive,
- The transitional area between Palomba Drive and the village of Hazardville,
- The village of Hazardville, and
- The Scitico commercial area.

Each area has a different set of land uses, traffic volumes, and roadway conditions. As a result, vehicle traffic and pedestrian concerns vary, as do the types of improvements required. In general, improvements focus on individual intersections or short sections of roadway.

The recommended transportation plan is shown in Figures ES-1 and ES-2. Table ES-1 provides a more detailed description of the individual improvements. The major elements include:

- Modifying traffic signal sequences, coordination and cycle lengths;
- Providing dedicated left-turn lanes at key intersections;
- Improving intersections in the Hazardville and Scitico village centers, and at Phoenix Avenue;
- Modifying the Route 190 cross section in the transition area to provide dedicated or protected left-turn lanes and sidewalks;
- Developing an integrated bicycle and pedestrian plan through the major commercial area and across I-91; and
- Improving the streetscape in the Hazardville and Scitico village centers.

ES.3.2 Recommended Improvements in Somers

The recommended transportation plan for Somers is illustrated in Figure ES-3 and detailed in Table ES-2. It includes:

- Roadway, traffic and streetscape improvements in Somersville, and Somers center;
- Pedestrian and bicycle improvements throughout the town; and
- Other roadway improvements.

The plan's main focus is on the villages of Somersville and Somers center. It includes:

- Installing traffic signals at two intersections (already an approved project at School Street);
- Coordinating adjacent signals;
- Installing left-turn lanes at key intersections;
- Geometric improvements at intersections;
- Enhancing bicycle and pedestrian connections; and
- Improving the Route 190 streetscape in Somersville and Somers center.

ES.4 Making the Plan Happen

The recommended transportation plans for Enfield and Somers represent a pragmatic, context-sensitive approach to transportation and village development issues and opportunities in the two towns and their historic village centers. The plans reflect the preferences of the community in balancing mobility, aesthetics, community and environmental needs. Overall, the improvements are modest in scale, costs and impacts.

The next step is to translate the plans into reality. This calls for obtaining agency and community consensus on plan proposals for each community, establishing priorities for projects, obtaining necessary funds (including federal and state aid), and preparing detailed engineering plans for specific projects.

Table ES-1
RECOMMENDED TRANSPORTATION PLAN – ENFIELD
Route 190 Corridor Study

Location	Improvements	Estimated Cost
Commercial Area	▪ Coordinate traffic signals between I-91 and the Enfield Professional Park on common cycle lengths for peak and off-peak periods.	▪ $ 204,000
	▪ Improve Phoenix Avenue intersection by modifying traffic signal phasing and providing two northbound left-turn lanes.	▪ $ 405,000
	▪ Provide a more direct connection between Enfield Common and Enfield Square.	▪ $ 311,500
	▪ Expand pedestrian and bicycle facilities (including crossing over Interstate-91).	▪ $4,618,000
Transition Area Palomba Drive to Hazardville	▪ Widen Route 190 between Palomba Drive and the Enfield Professional Park to provide left-turn lanes at selected locations.	▪ $1,963,500 -1,977,000
	▪ Provide sidewalks along the north side of the road.	▪ Inc. above
	▪ Install a variable message sign for westbound traffic, describing I-91 traffic conditions.	▪ Inc. above
Hazardville	▪ Improve Maple Street (Route 192) intersection by creating left-turn lanes, extending sidewalks, reevaluating the need for an additional lane on the eastbound approach, providing additional green space, if possible; and relocating the stopbar on the southbound approach.	▪ $ 647,000 -649,000
Scitico	▪ Improve the Taylor Road/Scitico Road intersection by relocating STOP lines and crosswalks; adding left-turn lanes, and eliminating or restricting turns onto Scitico Road from Route 190. There are two alternatives: (a) allow only eastbound right turns into Scitico Road or (b) create a "hammerhead" cul-de-sac south of Route 190.	▪ $1,178,000 -1,199,500
	▪ Provide westbound left-turn lane at the Broad Brook (Route 191) intersection.	▪ Inc. above
	▪ Improve the streetscape by providing additional plantings, trees and sidewalks.	▪ Inc. above
Bicycle and Pedestrian Improvements	▪ Provide five-foot shoulders for bicyclists to Enfield town line (Cost shown is for some minor widening that will be required from Longview Road to Westerly Drive.) Pedestrian improvements are included in individual projects listed above.	▪ $ 221,500

Table ES-2
RECOMMENDED TRANSPORTATION PLAN – SOMERS
Route 190 Corridor Study

Location	Improvements	Estimated Costs
Somersville	▪ Improve Route 190, Maple Street, Shaker Road intersections by providing left-turn lanes along Route 190, realigning Maple Street, connecting Maple Street to Quality Avenue, and limiting access from eastbound Route 190 into Quality Avenue.	▪ $1,464,000
	▪ Improve the Maple-School intersection by realigning School Street.	▪ Inc. above
	▪ Install new traffic signals at the School Street intersection & coordinate with the existing signals at Maple Street.	▪ State proj.
	▪ Add turning lanes at School Street intersection	▪ $ 607,500
	▪ Lower road profile on approach to School Street from east	▪ $ 508,000
	▪ Install sidewalks along the north side of Route 190 between Shaker and Hall Hill Roads.	▪ $ 183,000
	▪ "Calm" traffic along School Street by narrowing the roadway to 28 feet.	▪ $ 76,000 -87,500
	▪ Channelize the Maple Street/Scitico Road/Pinney Street intersection to improve visibility and reduce vehicle conflicts.	▪ $92,000
	▪ Improve the streetscape by extending green areas, adding plants, and expanding sidewalks.	▪ Inc. above
Somers Center	▪ Improve the intersection with Route 83 by eliminating offset, installing left-turn lanes, shortening crosswalks, and providing a new "green". There are two alternatives, which differ only in the exact alignment of Route 83 south of the intersection. The exact alignment will be chosen in connection with redevelopment plans for the southeast corridor.	▪ $1,518,500 -1,541,000
	▪ Improve streetscape by adding plantings, adjusting curb cuts and extending sidewalks.	▪ Inc. above
Bicycle and Pedestrian Improvements	▪ Provide sidewalks from Somersville to Ninth District Road	▪ $1,250,000
	▪ Provide sidewalks from Somers center to Ninth District Road.	▪ $ 590,500
	▪ Provide sidewalks from Somers center to Town Recreation Area on Field Road and on to the School complex.	▪ $ 921,000
	▪ Provide five-foot shoulders along Route 190 for bicyclists (Cost shown is for some minor widening that will be required from the Scantic River to Maple Ridge Road)	▪ $ 873,500
Other Locations	▪ Ninth District Road – improvements already underway	▪ State proj.
	▪ Battle Street – left-turn lane likely needed in the future	▪ N/A
	▪ Turnpike Road – improvements also underway	▪ State proj.

CHAPTER 1
INTRODUCTION

Route 190 is a key east-west highway in northern Connecticut that extends from Route 159 in Suffield to I-84 and Route 171 in Union. It passes through developed areas, historic towns and countryside. Classified as a principal arterial, it is owned and maintained by the Connecticut Department of Transportation (ConnDOT). The roadway, known as Hazard Avenue in Enfield and Main Street in Somers, serves the major commercial area in Enfield, provides access to Interstate Route 91, and is the primary access to the four villages of Hazardville, Scitico, Somersville and Somers Center.

1.1 Study Area Overview

The ten-mile "Route 190 Corridor Study" includes Route 190 in Enfield and Somers and several connecting roads in Somers:

- Maple Street in Somersville from Route 190 south to the intersection with Scitico Road and Pinney Drive;
- School Street from Route 190 to the intersection with Maple Street; and
- Ninth District Road on both sides of Route 190 from Colton Road in the north to the school driveways in the south.

The study area is shown in Figure 1-1.

The village centers in Enfield and Somers have a long and rich history of settlement and architectural development. The U.S. National Park Service has designated three of the four village centers – Hazardville, Somersville and Somers – as National Historic Districts, although none of the villages has a historic designation from the State of Connecticut. The boundaries of the National Historic Districts are shown in Figure 1-2.

Within this context, there is a need to improve mobility and safety in the corridor, while preserving and enhancing the character and vitality of the communities. These goals underlie the Route 190 corridor study.

1.2 Scope and Objectives

The corridor was identified for detailed study in the Long Range Transportation Plan of the Capitol Region Council of Governments (CRCOG), the Metropolitan Planning Organization (MPO) for the greater Hartford area. At the request of the two municipalities, CRCOG sought State funding for the study. The Route 190 Corridor Study was initiated in November 1999.

The study objectives were:

- To define specific present and future vehicular and pedestrian mobility, safety and congestion problems in both towns along the study corridor;
- To inventory adjacent land uses and access points;
- To collect and organize information pertaining to environmental resources;
- To forecast future traffic volumes and conditions in the corridor;
- To develop, evaluate, and recommend roadway operational and physical improvements;
- To recommend pedestrian, bicycle, and transit improvements to preserve and improve safety, comfort level, and mobility along the corridor;
- To reflect community and environmental resources in the four villages; and
- To recommend access management policies, land use changes, and/or zoning revisions.

1.3 Study Approach

The study was approached cooperatively with participating public agencies, and residents and business owners in the two towns. The Capitol Region Council of Governments and the Connecticut Department of Transportation contributed essential background information. The towns of Enfield and Somers exercised review and oversight of the study through participation on Local Advisory Committees. Wilbur Smith Associates was engaged as technical consultant. The public involvement process used throughout the study is detailed in Appendix A.

Early in the study, meetings were held with the two communities to refine goals, identify issues, and assemble available information including population distribution, land use, traffic volumes, roadway geometry, and accident history.

Document Review

A thorough review was made of planning documents and previous studies undertaken by CRCOG and the two towns. These documents included the Capitol Region Transportation Plan, the Capitol Region Transportation Improvement Program, the Enfield Plan of Conservation and Development, and the Somers Plan of Development, along with associated regulations.

The Capitol Region Transportation Plan (adopted March 1999) contains a chapter concerning the Arterial System, in which specific arterial roads were identified as candidates for improvements based on Year 2020 capacity deficiencies. It recommended that the Region implement an Arterial Improvement Program for these areas, with specific improvements to be defined by corridor studies in each specific corridor. The corridor studies were meant to serve two purposes: to identify the type(s) of improvements most appropriate for addressing local problems; and to address transportation-related issues such as all modes of travel, access management and land use impacts. The Route 190 corridor was recommended for detailed study.

There are four projects on Route 190 currently programmed by the State for funding. These projects include:

- Enfield – Elm Street/South Road: realignment of the South Road and Elm Street intersections with Route 190;
- Enfield – Palomba Drive: addition of turning lanes at the intersection of Route 190 and Palomba Drive;
- Somers – Ninth District Road: addition of turning lanes at the intersection of Route 190 and Ninth District Road; and
- Somers – Gulf Road: safety improvement at the intersection of Route 190 and Gulf Road.

In Enfield, traffic impact studies were reviewed for two proposed developments:

- an expansion of Johnson Memorial Medical Park (between Palomba Drive and George Washington Road, opposite Enfield Professional Park); and

- Freshwater Commons, located at the corner of Route 190 and Palomba Drive.

Both studies were prepared for the State Traffic Commission certification process, and both recommended improvements to Route 190. Relevant aspects of these studies were taken into account as the study proceeded.

The Somers Transportation Study prepared by CRCOG in December 1997 was reviewed. This study examined traffic volumes (both recent levels and forecast volumes in the year 2020) and congestion, road safety, transit and ridesharing, pedestrian and bicycle facilities, drainage systems and pavement management. The study made numerous recommendations and prepared eleven conceptual plans for improvements, of which two were in the Route 190 corridor. A package of improvements was recommended for five locations in Somersville, including reconstruction of three intersections - Route 190/Shaker/Quality, Maple and School Streets, and Maple/Pinney/Scitico. Reconstruction of the intersection of Route 190 and Ninth District Road was also recommended, and a conceptual plan was prepared. The information and conclusions were valuable in assessing existing conditions and formulating recommendations for potential improvements.

Field Reconnaissance and Data Collection

A field reconnaissance was made of the Route 190 Corridor to identify operating problems and potential improvements. Information on travel lanes, speed limits and traffic controls were noted. Daily traffic counts were taken by Automatic Traffic Recorder (ATR) machines in 15 locations, and special turning movement counts were conducted in 20 locations. In addition, information on watercourses, wetlands and historic resources was observed and assembled.

Existing Conditions Report

A comprehensive analysis was performed of existing conditions. The analysis covered roadway characteristics, traffic volumes and service levels; accidents; transit; pedestrian and bicycle facilities; environmental resources and constraints; architectural and historic resources; and problems and opportunities. Detailed findings, analyses and results were set forth in the *Existing Conditions Report*, May 2000.

Future Conditions Report

A detailed assessment of future (2025) traffic conditions was set forth in the October 2000, *Future Traffic Conditions Report.* Drawing upon population, development, and travel demand forecasts, the report analyzed the effects of growth on transportation requirements, and outlined possible improvements.

Analysis of Alternatives

Various transportation improvement concepts were developed, and the strengths and weaknesses of each were analyzed. Through an iterative process with CRCOG, town officials, and the community, concepts were refined and/or screened. A description of this effort is described in Appendix B.

Recommended Plan

This document contains the recommended transportation plan. It draws upon the results of the interactive review process between CRCOG and the two towns. Plan components include traffic signal timing and coordination improvements, minor widening to provide turning lanes, realignment of intersections, and specific bicycle and pedestrian improvements. Plan components were developed so as to be sensitive to the scale, character, and history of the village centers.

1.4 Community Involvement and Coordination

This study has been conducted with an extensive community participation program. As noted above, this program is described in detail in Appendix A.

1.5 Report Organization

This report brings together all aspects of the Corridor Study. The following chapters are organized as follows: Chapter 2 describes and analyzes existing conditions, Chapter 3 describes and analyzes anticipated future (2025) conditions, and Chapter 4 contains the recommended corridor transportation plan. Appendix A is a description of the public participation process undertaken throughout the study and Appendix B is a review of the various alternatives considered at different points in the study.

CHAPTER 2
EXISTING CONDITIONS SUMMARY

Transportation facility operations and problems in the Route 190 Corridor reflect the physical setting, history and settlement patterns. This chapter provides an overview of existing conditions. It summarizes key findings from the May 2000 *Existing Conditions Report*, which provides an important background resource.

2.1 Existing Roadway Characteristics

Roadway characteristics along Route 190 are shown in Figures 2-1 and 2-2 for Enfield and Somers respectively. These figures depict locations of major activity centers, park and ride lots, travel lanes, sidewalks, crosswalks, bicycle paths, traffic signals, curb parking regulations, and speed limits.

Number of Lanes and Cross-Section

Route 190 has a four-lane cross section and a grassy median that is wide enough to accommodate left-turn lanes in the vicinity of Route I-91 and the major shopping malls. Route 190 narrows to two lanes just east of Palomba Drive and remains two lanes through the rest of the corridor to the Stafford town line. These two through lanes are supplemented by turning lanes at some signalized intersections, and a few parking lanes in the village centers.

Intersections

Twenty intersections are of primary concern in the study area. These intersections include all state highways that intersect the corridor, major town roads, village areas and driveways to major commercial and professional areas. Fourteen of the 20 intersections are presently signalized with the balance controlled by stop signs on the crossing streets.

Sidewalks and Crosswalks

Sidewalks exist along Route 190 in the western section near Enfield Square to a point just east of Palomba Drive and in the village of Hazardville. In Somers, sidewalks exist in Somersville and Somers center.

A total of ten pedestrian crosswalks are designated by signs and pavement markings in the corridor: (eight are in Enfield and two are in Somers). Two of the crosswalks are located on Route 190 between Enfield Commons and Brookside Plaza near the shopping center driveways and are controlled by traffic signals. Five of the ten crosswalks are at mid-block locations within Hazardville, but none are located near existing traffic signals. Two of the mid-block crosswalks are located west of the intersection of Route 190 and South Road and three are located east of the intersection of Route 190 and Maple Street (Route 192). One crosswalk is located at the intersection of Route 190 and Route 83 in Somers center and another is located at the intersection of Route 190 and Shaker Road/Maple Street in Somersville.

On-Street Parking

On-street parking is prohibited in most of the corridor. Parking on Route 190 is allowed only in a portion of the village of Hazardville (between Maple and School Streets) and in Somers center between Route 83 and Kibbe Drive.

Posted Speed Limits

The posted speed limit for Route 190 within the study area ranges from 30 to 45 miles per hour. The speed limit is 45 mph along the four-lane section adjacent to shopping malls in the western end of the corridor, and where development is sparse in the eastern end of the corridor. In the town centers, the speed limit is either 30 or 35 mph.

Traffic Signals

Traffic signal location, cycle length, and coordination features are shown in Table 2-1. Traffic signals are coordinated during peak use periods between Phoenix Avenue and Palomba Drive (five signals) at the western end of the corridor. They operate on an 80-second cycle during the A.M. peak and a 110-second cycle during the P.M. peak.

Signals in the rest of the corridor are not coordinated, except for closely adjacent pairs of intersections in Hazardville (South Road/Elm Street) and in Scitico (Route 191 and Taylor/Scitico Road).

In Enfield, the traffic signal cycles range between 70 and 110 seconds during the peak use periods, while the three signalized intersections in Somers have 90-second cycles.

Table 2-1

TRAFFIC SIGNAL CYCLE LENGTHS

LOCATION	Cycle Length (Seconds) A.M. PEAK	P.M. PEAK	COORDINATION
Enfield			
Phoenix Avenue	80	110	x
Brookside Plaza (W)	80	110	x
Brookside Plaza (E)	80	110	x
Freshwater Blvd.	80	110	x
Palomba/Middle	80	110	x
Professional Park	95	95	
South Road	70	80	y
Elm Street	70	80	y
Route 192	75	75	
Route 191	110	110	z
Taylor Road	110	110	z
Somers			
Maple-Shaker	90	90	
Ninth District Road	90	90	
Route 83	90	90	

SOURCE: Route 190 Corridor Study, *Existing Traffic Conditions*, May 2000. (From Traffic Signal Plans)

2.2 Traffic Volumes, Capacities and Service Levels

Existing traffic volumes along Route 190 were compared with roadway capacities from which Levels of Service (LOS) were computed.

Traffic Volumes

Daily and peak hour traffic volume patterns in this corridor were derived from counts furnished by the Connecticut Department of Transportation, from automatic traffic recorder counts at 15 locations, and from specially conducted morning and afternoon peak hour turning movement counts conducted at the 20 study area intersections.

Daily Volumes - Average annual daily traffic volumes progressively decrease along Route 190 from west to east. Daily traffic in Enfield varies from about 37,000 vehicles per day (vpd) near the Route I-91 interchange to about 24,000 vpd at Freshwater Boulevard and about 15,000 vpd near the Enfield/Somers town line. Daily traffic in Hazardville is about 24,000 vpd and approximately 19,000 vpd in Scitico. Although the daily traffic is about the same in Hazardville as at Freshwater Boulevard, the roadway capacity is less, and the average daily traffic per lane is twice as high, since there are only two moving lanes. ADT is about 12,800 vpd in Somersville, about 12,400 in Somers center, and drops to less than 9,000 vpd before the Somers/Stafford town line.

Peak Hour Volumes - Peak hour traffic volumes are shown in Figure 2-3. Volumes diminish rapidly as the road proceeds eastward. Flows at the Somers/Stafford line are about 25 to 30 percent of those west of Phoenix Avenue. Peak hour volumes at specific points are listed in Table 2.2.

Capacity and Level of Service Estimates

Intersection traffic volume comparisons were based upon the procedures set forth in the 2000 *Highway Capacity Manual*, using the Highway Capacity (HCS) Software[1]. Levels of service are defined in terms of average delay per vehicle, as shown in Table 2-3.

[1] Highway Capacity Manual, Special Report 209, Transportation Research Board, Washington, D.C. Software: Signalized Intersection, Release 3.1c, 1997.

Table 2-2

PEAK HOUR TRAFFIC VOLUMES

Eastbound	A.M.	P.M.
▪ West of Phoenix Avenue	1,120*	1,390*
▪ East of Palomba Drive	520	910
▪ Enfield/Somers Town Line	330	820
▪ Somers/Stafford Town Line	240	370

Westbound	A.M.	P.M.
▪ Somers/Stafford Town Line	360	340
▪ Enfield/Somers Town Line	509	490
▪ East of Palomba Drive	730	840
▪ West of Phoenix Avenue	1,040*	1,240*

* Multiple lanes

Source: Peak Hour Traffic Counts, Spring 2000

Table 2-3
LEVEL OF SERVICE DEFINITIONS

Signalized Intersections

LOS A	Describes operations with very low delay where most vehicles do not stop. (≤ 10 seconds/vehicle)
LOS B	Slightly higher delays where some vehicles stop but only for a short time. (10-20 seconds/vehicle)
LOS C	At this level, vehicles experience more significant delays but many still pass through without stopping. (20-35 seconds/vehicle)
LOS D	Congestion is more evident at this level. Many vehicles stop and experience greater delays. Short duration back-ups may occur. (35-55 seconds/vehicle)
LOS E	Vehicles experience high delays. Significant congestion is present. (55-80 seconds/vehicle)
LOS F	Excessive delays are experienced by most vehicles. Intersection is over capacity as more vehicles enter the intersection than can be serviced by the intersections. (> 80 seconds/vehicle)

Unsignalized Intersections

LOS A	Little to no conflicting traffic is present for the minor street movement. (≤ 10 seconds/vehicle)
LOS B	A slightly higher volume of conflicting traffic is present and vehicles may have to wait for a gap in traffic. (10-15 seconds/vehicle)
LOS C	At this level, there is an even higher volume of conflicting traffic and vehicles must wait for an appropriate gap. (15-25 seconds/vehicle)
LOS D	Short duration back-ups may occur while vehicles wait for an appropriate gap. (25-35 seconds/vehicle)
LOS E	Vehicles experience high delays with few suitable gaps in traffic. (35-50 seconds/vehicle)
LOS F	At this level, there are insufficient gaps of suitable size to allow side street demand to safely cross the major street. (> 50 seconds/vehicle)

The analyses were performed in several steps. The first step included an analysis of existing traffic volumes at unsignalized intersections, and at signalized intersections using the current signal cycles (timing) at signalized intersections. Second, at two intersections where roadway improvements were underway, the analysis was repeated to represent operating conditions when the improvements are completed. Third, alternative signal cycle scenarios were tested at intersections where one or more approaches operated at an unsatisfactory level of service to determine if re-timing of the signal cycles would improve operations.

Existing Service Levels – Existing (2000) A.M. and P.M. peak hour levels of service (LOS) are detailed in the *Existing Conditions Report*. Signalized intersections generally operate at Level of Service (LOS) B or better, with the following exceptions:

Table 2-4

EXISTING LEVELS OF SERVICE, 2000
Signalized Intersections with Failing Conditions

Signalized Intersection Route 190 with:	Current LOS	Comments
Phoenix Avenue	AM = D PM = E	Failing conditions on eastbound and northbound approaches in the PM.
Middle Road/Palomba Drive	AM = D PM = E	Failing condition on southbound and eastbound approaches in the PM. Will be corrected by committed improvement project
South Road	AM = B PM = C	Failing condition on northbound approach in the PM. Will be corrected by committed improvement project
Elm Street	AM = D PM = D	Failing condition on southbound approach in both AM and PM. Will be corrected by committed improvement project
Route 191	AM = B PM = D	LOS E on eastbound approach in the PM.
Scitico Road/Taylor Road	AM = C PM = F	Failing condition on eastbound approach in the PM.
Route 83	AM = C PM = D	Failing condition on eastbound approach in the PM.

SOURCE: *Existing Conditions Report*, May 2000.

Levels of Service at unsignalized intersections are reported by approach only, without an overall intersection value. The five intersections with stop sign control in Somers operate satisfactorily (LOS D or better), with two exceptions.

Table 2-5

EXISTING LEVELS OF SERVICE
Unsignalized Intersections with Failing Conditions

Unsignalized Intersection	Current LOS (best approach/ worst approach)	Comments
Route 190/Hall Hill Road	AM = A/E PM = A/F	Failing conditions on northbound and southbound approaches in AM and PM.
Ninth District Road and School Complex Driveway	AM = A/E PM = A/A	LOS E on westbound approach in the AM due to school traffic.

SOURCE: *Existing Conditions Report*, May 2000.

Effects of Committed Improvements - Two roadway projects will be completed along Route 190 in Enfield within the near future.

- The intersection of Route 190 with Palomba Drive and Middle Road is being widened to provide turn lanes on the eastbound, westbound and southbound approaches, thereby increasing capacity and allowing adjustments in the signal operation. This project is illustrated in Figure 2-4.
- The offset intersections of Route 190 with South Road and Elm Streets are being consolidated into a single four-way intersection. There will be three lanes on the westbound and southbound approaches and two lanes on the eastbound and northbound approaches. A schematic drawing of this project (ConnDOT Project No. 48-172) is shown in Figure 2-5. This project is also under design and anticipated to start construction soon.

Traffic conditions at these two locations were analyzed with these improvements in place. Signal timings were taken from project plans and optimized with HCS software. Both intersections are expected to operate at LOS D or better in peak hours after the improvements. The levels of service before and after improvements are compared in Table 2-6.

Table 2-6

CHANGES IN LEVELS OF SERVICE WITH SIGNAL TIMING ADJUSTMENTS AND COMMITTED ROADWAY IMPROVEMENTS

		A.M. Peak Hour		P.M. Peak Hour .	
Intersection	**Type of Change**	**Existing LOS**	**LOS With Change**	**Existing LOS**	**LOS With Change**
Enfield					
Rt. 190/Middle /Palomba	Layout and signal plans from ConnDOT Project 48-173	D	C	E	D
Rt. 190/Elm	Layout and signal plans from ConnDOT Project 48-172	D	B	D	C
Rt. 190/Phoenix	Separate NB and SB Phases (proposed)	D	C	E	E
Rt. 190/Rt. 191	Increase green time for East/West Phase	B	B	D	C
Rt. 190/Scitico /Taylor	Add EB Lead Phase	C	C	F	D
Somers					
Rt. 190/Rt. 83	Change WB Lead Phase to EB Lead Phase	C	C	D	C

SOURCE: Section 2, *Existing Conditions Report*, May 2000.

Effects of Signal Timing Adjustments – A review of signal timing at other signalized intersections with failing movements and for which no improvements are currently proposed was undertaken to see if revised timings would improve traffic operations. It was found that revised signal timings would bring all approaches into operation at LOS D or better in both peak hours. These improvements generally involve reallocating time between signal phases. In some cases, the LOS on some approaches might be lower, but all approaches would operate at LOS D or better. These improvements can be made in a way that maintains the signal coordination.

The resulting overall intersection levels of service are also shown in Table 2-6. Detailed existing and proposed capacities by intersection approach are given in the *Existing Conditions Report*, May 2000.

Speeds and Travel Times

The results of speed and delay runs made along the corridor in March 2000 are summarized in Table 2-7. The average speed over the length of the corridor was about 36 mph westbound in the morning peak hour and 33 mph eastbound in the evening peak. However, the average speed on specific sections of the corridor varied from 20 mph to 48 mph. A 20-mph average was measured on the western section of the corridor, between Phoenix Avenue and Freshwater Boulevard, and a 48-mph average was measured on the eastern section near the Stafford town line. The average speed measured through the village of Hazardville was 24 mph in the morning peak hour and 25 mph in the afternoon peak hour.

A computerized traffic simulation model was used to estimate the effects of committed roadway improvements on travel speeds along Route 190 in Enfield. The simulation model results indicated that with the committed improvements in place, average A.M. peak hour travel speeds would increase by 3.1 mph eastbound and by 4.7 mph westbound. In the P.M. peak hour, average travel speeds would increase by 3.3 mph eastbound and by 2.9 mph westbound.

Table 2-7

SPEED AND TRAVEL TIMES

Checkpoint	Milepost	Speed (Miles Per Hour)		
		A.M. Peak Westbound	P.M. Peak Eastbound	Off-Peak Westbound (3:00 P.M.)
Enfield				
Enfield Square/Phoenix Ave	0.00			
Freshwater Boulevard	0.35	19.95	20.49	40.6
Palomba Drive	0.65	28.79	20.68	33.8
Enfield Professional Park	1.25	27.86	38.89	32.3
South Road	1.95	40.94	31.15	34.5
Maple Street (Route 192)	2.35	23.76	24.91	26.2
Park Street (no signal)	3.00	31.86	39.80	34.9
Broad Brook (Route 191)	3.60	38.72	31.30	34.8
Enfield/Somers Town Line	4.50	44.55	42.08	43.8
Somers				
Enfield/Somers Town Line	4.50			
Shaker/Maple Roads	5.00	43.38	32.82	43.9
Hall Hill/School (Route 186)	5.35	29.17	26.23	35.0
Ninth District/Sokol Roads	6.50	37.89	40.10	40.2
South (Route 83 signal)	7.30	40.31	28.46	31.0
Turnpike/Gulf Roads	8.55	45.21	42.30	40.5
Stafford Town Line	9.65	48.32	45.52	47.1
Average Speed		35.76 mph	33.20 mph	37.0 mph
Travel Time		16 minutes, 19 seconds	19 minutes, 44 seconds	15 minutes, 29 seconds

SOURCE: Capitol Region Council of Governments.

2.3 Traffic Safety

Traffic safety conditions along Route 190 were assessed based upon a detailed review of 1993-1998 accident (crash) experience. Ten locations were selected for detailed evaluation, largely based on accident frequency. Collision diagrams for each location are provided in the May 2000 *Existing Conditions Report.*

Accident records for Route 190 from the most recent six-year period, 1993-1998, were obtained from ConnDOT. Each record shows the date of the accident and includes information about the location, accident type, light, pavement and weather conditions, vehicles involved, direction of travel, severity of injuries for each vehicle and reason for the collision. The ConnDOT database is useful because it contains accident data for the entire State-maintained roadway network. This allows grouping of data for similar types of facilities and calculations of average accident rates for comparison. Accident rates are based on the number of reported accidents per million vehicle-miles traveled. Accident experience at any particular location can be compared to statewide averages and high-accident locations can be identified.

Critical Roadway Segments

Six road segments along Route 190 had accident rates high enough to be listed on ConnDOT's 1995-1997 SLOSS (Suggested List of Surveillance Sites), which is a list of high accident sites for which improvements are desired. Locations are listed on the SLOSS when the ratio of the actual accident rate to the critical accident rate is greater than 1.0 and the number of accidents is greater than 15. The critical accident rate is determined by ConnDOT based on average accident rates for similar facilities statewide. The categories for which averages are prepared are defined in terms of the number of lanes, rural or urban characteristics, and whether the intersection is signalized or unsignalized. The segments of Route 190 appearing on the SLOSS list are shown in Table 2-8.

Specific locations were chosen for detailed study based on accident rates, number of accidents, and interviews conducted by CRCOG with the Enfield and Somers police. These locations contain both intersections and nearby road segments, and cover almost 70 percent of all accidents that occurred on Route 190. In addition to the six segments on the SLOSS List, four

Table 2-8
SLOSS LOCATIONS

	Location	From Milepoint	To Milepoint	Number of Accidents	Actual Accident Rate (RA)	Critical Accident Rate (RA)	RA/RC
1	Rte. 190 between Phoenix Ave. & Enfield Commons East Drive	3.86	4.06	76	13.36	3.012	4.44
2	Rte. 190 at Freshwater Blvd.	4.19	4.20	37	1.01	1.009	1.00
3	Rte. 190 between end of divided hwy & beginning of two-lane road	4.37	4.46	20	0.74	0.512	1.44
4	Rte. 190 between Middle Rd. & George Washington Rd.	4.49	5.44	71	3.6	3.246	1.11
5	Rte. 190 between Southview & Cedar St.	5.90	6.06	19	5.39	4.351	1.24
6	Rte. 190 between Route 192 & School St.	6.16	6.34	19	5.52	4.374	1.26

SOURCE: ConnDOT

other segments were chosen for further analysis. For the purposes of this study, two segments defined by ConnDOT were adjacent and thus combined for purposes of analysis. This resulted in nine segments designated for detailed evaluation. They are illustrated in Figure 2-6.

Safety Analyses

Key summaries of accident characteristics are shown in Tables 2-9 through 2-12 for the 1,461 accidents in the corridor.

Accident Overview – Table 2-9 presents an overview of the six-year accident experience by type, severity, light conditions and pavement surface:

- Most accidents (70 percent) involved property damage only and 30 percent involved personal injuries (three fatal accidents were recorded).
- Forty-five (45 percent) of the accidents involved rear-end collisions, 14 percent turning vehicles, and 12 percent head-on collisions.
- Seventy-four (74 percent) of the accidents occurred under daylight conditions and 26 percent when the pavement surface was dry.

Accidents by Location and Year – Accidents by location and year are shown in Table 2-10. The nine study locations accounted for about 70 percent of all accidents in the corridor over the six-year period. Three locations accounted for more than 40 percent of the total. These were the sections near Phoenix Avenue (divided intersection, heavy volume), Palomba Drive (eastbound lane drop) and Route 192 (offset intersection). The greatest number of accidents (275) occurred in 1993.

Accidents by Location and Severity – Table 2-11 shows accident severity by location. Injury accidents were concentrated in three segments – near Phoenix Avenue, Palomba Drive and Route 192 – collectively about 38 percent of all injury accidents experienced. There were eight fatalities in the corridor, of which five occurred outside any of the nine study sections.

A detailed description of fatal accidents proceeding from west to east follows:

- The first fatality, occurring 0.15 mile east of the intersection at Phoenix Avenue, was a pedestrian accident. Under dark, dry conditions, an eastbound automobile struck a

Table 2-9

SUMMARY OF ACCIDENT EXPERIENCE
1993-1998

Severity	
Property Damage	70%
Injury	29%
Fatality	1%
	100%
Type	
Right Angle	6%
Fixed/Moving Object	12%
Head-on	12%
Pedestrian	0%
Rear End	45%
Sideswipe	9%
Turning	14%
Other	2%
	100%
Light Condition	
Daylight	74%
Dusk	23%
Dusk/Dawn	2%
Unknown	1%
	100%
Surface Condition	
Dry	66%
Snow/Ice	10%
Wet	23%
Unknown	1%
	100%

SOURCE: *Existing Conditions Report*, Chapter 3.
ConnDOT Accident Data

Table 2-10

ACCIDENTS BY YEAR, 1993-1998

		YEAR						
		1993	1994	1995	1996	1997	1998	Total
	Segment	No.	No.	No.	No.	No.	No.	No.
1	Rt. 190 near Phoenix	42	34	43	32	23	33	207
2	Rt. 190 near Freshwater	12	17	20	19	21	26	115
3	Rt. 190 between end of div hwy & beginning of two-lane road	6	8	6	5	9	19	53
4	Rt. 190 near Palomba	26	24	33	37	27	35	182
5	Rt. 190 near Rt. 192	42	37	23	28	25	23	178
6	Rt. 190 near Rt. 191	11	13	11	11	13	11	70
7	Rt. 190 near Rt. 186	19	13	14	20	14	11	91
8	Rt. 190 near Sokol/9th District	6	7	7	14	8	6	48
9	Rt. 190 near Rt. 83	15	12	10	9	9	14	69
	Subtotal	179	165	167	175	149	178	1,013
	Other Locations	96	70	68	82	70	62	448
	Total Corridor	275	235	235	257	219	240	1,461

SOURCE: ConnDOT

Table 2-11

ACCIDENTS BY SEVERITY

	Segment	Property Damage Only		Injury		Fatality		Total	
		No.	%	No.	%	No	%	No	%
1	Rt. 190 near Phoenix	143	69%	63	30%	1	1%	207	100%
2	Rt. 190 near Freshwater	80	70%	34	30%	1	1%	115	100%
3	Rt. 190 between end of div hwy & beginning of two-lane road	37	70%	16	30%	0	0%	53	100%
4	Rt. 190 near Palomba	128	70%	54	30%	0	0%	182	100%
5	Rt. 190 near Rt. 192	119	67%	59	33%	0	0%	178	100%
6	Rt. 190 near Rt. 191	51	73%	19	27%	0	0%	70	100%
7	Rt. 190 near Rt. 186	66	73%	24	26%	1	1%	91	100%
8	Rt. 190 near Sokol/9th District	30	62%	18	38%	0	0%	48	100%
9	Rt. 190 near Rt. 83	49	71%	20	29%	0	0%	69	100%
	Subtotal	703	69%	307	30%	3	*	1,013	100%
	Rest of Corridor	313	70%	130	29%	5	1%	448	100%
	Total Corridor	1,016	70%	437	30%	8	*	1,461	100%

* Less than one percent.

SOURCE: ConnDOT

northbound pedestrian. The cause of the accident was that the pedestrian was under the influence of alcohol or drugs.

- The fatality at the Freshwater Boulevard intersection occurred under daylight, dry conditions. It was a head-on turning accident in which a westbound automobile turning left was struck by a truck going eastbound through the intersection. The reason for the accident was that the car driver failed to grant right-of-way.
- About 0.1 mile east of Middle Road, under dark, dry conditions, an eastbound bicycle was struck by an eastbound automobile. The car driver being under the influence of alcohol or drugs caused this fatal sideswipe accident.
- Just west of Randolph Street, a westbound automobile struck a northbound pedestrian. This fatal pedestrian accident occurred under dark, dry conditions and the cause was stated as the driver driving too fast for conditions.
- About 300 feet west of Glen Arden Lane, a fixed-object accident resulted in a fatality. An eastbound truck struck a utility pole after driving off the road. The cause of this accident, which occurred under dark, dry conditions, was driving under the influence of alcohol or drugs.
- Just east of Route 186, a pedestrian accident occurred under dark, wet conditions. An eastbound automobile struck a southbound pedestrian. The reason for the accident was that the pedestrian was crossing in between intersections.
- West of Kibbe Drive another fatal accident occurred. This turning accident occurred when a left-turning eastbound vehicle turned in front of a westbound automobile. The accident occurred under dry, daylight conditions and the cause was failure to grant right-of-way.
- About 1.0 mile west of the Stafford town line, a westbound automobile struck a tree. This fatal fixed-object accident occurred under dark, dry conditions. The reason was stated as driving under the influence of alcohol.

Out of the eight fatal accidents, four involved the influence of alcohol or drugs, including one pedestrian under the influence. Two of the remaining four fatal accidents involved pedestrians.

Both accidents occurred under dark conditions where the pedestrian was not crossing at a designated crosswalk. The remaining two fatal accidents occurred under dry, daylight conditions. The fatality at the Freshwater Boulevard intersection was a head-on turning accident caused by a driver failing to grant right-of-way. The final fatal accident, west of Kibbe Drive, involved a turning accident also caused by failure to grant right-of-way.

Accidents by Location and Type – Accidents by location and type are shown in Table 2-12. Rear-end accidents accounted for 45 percent of the total; they dominated both the nine road segments and the rest of the corridor. Vehicles hitting fixed or moving objects were most common in locations outside of the nine road segments.

2.4 Bicycle and Pedestrian Facilities

Schools, parks and other recreational areas in the corridor are the principal generators of bicycle trips. Pedestrian movements are mainly concentrated in the various village centers, and to and from schools.

Sidewalks are provided along Route 190 in the four village areas and by the shopping malls in Enfield. There are currently no off-road pedestrian trails, bicycle paths or multi-use trails in Enfield or Somers. There are no bicycle storage facilities in the corridor.

Route 190 in Suffield, Enfield, Somers and Stafford has been designated as a "Cross-State Route" in the *Connecticut Statewide Bicycle and Pedestrian Transportation Plan*, and is so indicated as a bicycle route on the Connecticut Bicycle facility map. However, Route 190 is not identified as a bicycle route by any signs in the corridor, and no bicycle lanes are marked on the pavement.

Route 186 in Somers from Route 190 to the Massachusetts line is designated as a "Recommended" Route in the *Connecticut Statewide Bicycle and Pedestrian Transportation Plan*. The distinction between "Recommended" and "Cross-State Routes" is that "Cross-State Routes" form a continuous network throughout the state, while "Recommended" routes are individual road segments that are more scenic and less heavily traveled.

Although several bicycle plans have been prepared and ridership surveys have been conducted, quantitative estimates of bicycle traffic demand do not exist. Discussions with the Connecticut

Table 2-12

ACCIDENTS BY LOCATION AND TYPE

	Segment	Angle		Fixed/Moving Object		Head-On		Pedestrian		Rear End		Sideswipe		Turning		Other		Total	
1	Rt. 190 near Phoenix	13	6%	5	2%	16	8%	2	1%	126	61%	22	11%	22	11%	1	1%	207	100%
2	Rt. 190 near Freshwater	19	17%	4	3%	30	26%	0	0%	39	34%	7	6%	14	12%	2	2%	115	100%
3	Rt. 190 between end of div. hwy & beginning of two-lane road	0	0%	0	0%	5	9%	0	0%	15	28%	4	8%	29	55%	0	0%	53	100%
4	Rt. 190 near Palomba	15	8%	26	14%	27	15%	0	0%	69	38%	19	10%	23	13%	3	2%	182	100%
5	Rt. 190 near Rt. 192	6	3%	10	6%	19	11%	1	1%	96	54%	15	8%	23	13%	8	5%	178	100%
6	Rt. 190 near Rt. 191	3	4%	1	1%	11	16%	0	0%	42	60%	2	3%	10	14%	1	1%	70	100%
7	Rt. 190 near Rt. 186	8	9%	9	10%	13	14%	1	1%	39	43%	4	4%	15	16%	2	2%	91	100%
8	Rt. 190 near Sokol/9th District	9	19%	7	15%	6	13%	0	0%	18	38%	3	6%	4	8%	1	2%	48	100%
9	Rt. 190 near Rt. 83	0	0%	2	3%	14	20%	0	0%	38	55%	4	6%	8	12%	3	4%	69	100%
	Subtotal	73	7%	64	6%	141	14%	4	0%	482	48%	80	8%	148	15%	21	2%	1,013	100%
	Rest of Corridor	16	4%	108	24%	28	6%	3	1%	172	38%	54	12%	56	13%	11	2%	448	100%
	Total Corridor	89	6%	172	12%	169	12%	7	0%	654	45%	134	9%	204	14%	32	2%	1,461	100%

SOURCE: ConnDOT

Note: "Other" includes backing, overturn, parking and unknown.

Bicycle Coalition, a major user group, and town officials concerning bicycle and pedestrian issues identified the following problems and conditions on roads in the Route 190 corridor that act as deterrents to bicycling activities:

- Lack of adequate space due to narrow roads or shoulders;
- Condition of the road or shoulder;
- Obstructions such as storm grates;
- High traffic speeds and volumes;
- Motorist behavior;
- On street parking;
- Lack of bicycle storage facilities; and
- Prohibition of bicycles on certain roads or segments of road.

The shoulders on Route 190 vary in width from about one foot to four feet and are narrow for most of the section through Somers. According to the American Association of State Highway and Transportation Official's "Guide for the Development of Bicycle Facilities", roadway shoulders should be at least four feet for comfortable bicycle accommodation, and under some conditions (such when motor vehicle speeds are greater than 35 mph or when the percentage of trucks is high) additional width is desirable.

Traffic volumes are high at the western end of the corridor and speeds exceed 40 mph in some sections, particularly in Somers. Sight distance problems also make bicyclists and motorists less aware of each other's presence on the road. On-street parking is permitted in the village centers, and frequent driveways exist in Hazardville and Somerville. Each of these conditions poses a special challenge to cyclists.

Bicycles are currently prohibited from using Route 190 from Route I-91 to the Connecticut River. The prohibition is due to high traffic volumes and lack of shoulders. Bicyclists, responding to a survey conducted by CRCOG in the development of its Capitol Region Bike Plan, pointed out that there was a need for bicyclists to use Route 190 through this area. Indeed,

bicyclists and pedestrians have been observed using the Route 5 ramps as an alternative route, and there have been several accidents involving vehicles and pedestrians or cyclists in this area.

The Connecticut River bridge structure includes a sidewalk on the north side, but no approaches to this walk have been built to date. However, ConnDOT project No. 48-H027 will eventually provide access ramps leading to the sidewalk on both ends of the bridge. These new ramps will also provide a connection to the Windsor Locks Canal Trail on the east side of the river.

2.5 Transit Facilities and Services

Transit and ridesharing services in the Route 190 corridor mainly operate in Enfield, with only limited service in Somers. They include:

- Fixed-route bus services provided by CT Transit and the Pioneer Valley Transportation Authority (PVTA);
- Paratransit services operated by the Towns of Enfield and Somers;
- Vanpools operated by The Rideshare Company;
- A commuter Park and Ride Lot located on Route 190 at Enfield Commons; and
- A commuter Park and Ride Lot in Somers located at the new Fire and Ambulance Building on the corner of Route 190 and Ninth District Road.

Fixed-Route Bus Service

Fixed route service in Enfield is provided by the Pioneer Valley Transit Authority (PVTA). There are no public bus services operating in Somers.

The Enfield route provides service between the Thompsonville section of Enfield and Springfield, MA. The route also provides access to the Enfield shopping malls. The route is shown in Figure 2-7.

CT Transit bus at Enfield PNR lot

At the time this study was initiated, Connecticut Transit provided local bus service between Enfield and Hartford, with service to Bradley International Airport. That service, funded by a Job Access program and also shown in Figure 2-7, has been discontinued due to a lack of riders.

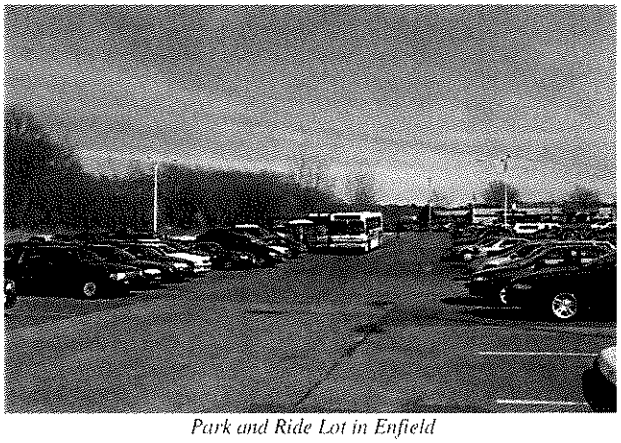
Route 5 - Enfield Express - This commuter express route, operated by CT Transit, runs between downtown Hartford and the Enfield Park and Ride Lot during the morning and afternoon peak periods on weekdays. There are ten inbound and six outbound trips in the morning peak, while in the afternoon peak there are seven inbound and 13 outbound trips. One of the morning inbound trips begins in the Thompsonville section of Enfield and three of the afternoon outbound trips terminate in Thompsonville. Daily ridership from Enfield averages about 470 people. The route is served with a 44-passenger coach.

Red 16 Route – This route is operated by PVTA. The Red 16 route originates in downtown Springfield and travels to Enfield via Route 5. It passes the Enfield Town Hall and circulates through the Enfield Park and Ride lot and the Enfield Commons and Enfield Square shopping centers. Service operates on 90-minute headways from 6:00 A.M. to 8:30 P.M. on weekdays and from 9:00 A.M. to 7:00 P.M. on Saturdays.

The PVTA Red 16 Route is served with an 18-passenger shuttle bus. Monthly ridership varies from 1,000 to nearly 1,400. This corresponds to daily averages of between 38 and 54 passengers.

Park and Ride Commuter Parking Lot and Vanpooling

Park and Ride Lots - The Connecticut Department of Transportation has officially designated a Park and Ride lot in the Route 190 corridor near Enfield Commons. The lot has a capacity of 400 vehicles and is accessed from Freshwater Boulevard. It is served by both the Hartford-based Route 5 and the Springfield-based Route Red 16, and also serves as a transfer point between them, thus enabling a trip by bus between these two cities.



Park and Ride Lot in Enfield

The lot also serves as a point of origin for vanpools and carpools. The parking lot was observed to be about two-thirds full on two occasions.

The Park and Ride lot in Somers is a new facility, located at the new Fire and Ambulance Building on the corner of Route 190 and Ninth District Road. This lot has 27 spaces plus two spaces for handicapped drivers. There is no bus service from this lot, but it is used by carpools and vanpools.

Vanpooling – Several vanpools organized by the Rideshare Company operate from the Park and Ride lot in Enfield. In 2000, five vans carrying 52 people each day operated from this lot.

Amenities – The Enfield Park and Ride lot contains one bus shelter and is illuminated at night. There are three parking spaces designated for handicapped persons near the shelter. Two nearby fast food outlets, Dunkin Donuts and McDonalds, open at 4:30 and 6:00 A.M. respectively and are available at commuting hours. These outlets also have restrooms.

Bus shelter in Enfield PNR lot

The State Department of Transportation recently approved a park and ride amenity project which will add internal lighting and a barrel roof to the shelter, an information kiosk and a bike rack.

Potential additional amenities at this location include a public telephone and newspaper vending machine(s). Consideration might be given to a second or larger bus shelter. The present shelter is estimated to have a capacity of about 20 people (ten seated and ten standing). Morning peak hour bus boardings sometimes exceed the capacity of this shelter.

Security – Although the Enfield Park and Ride Lot is separate and distinct from nearby parking areas, it is not secured by fencing nor is access restricted in any way. There are no guards or other personnel on the site. Lighting is provided by six large lighting fixtures placed in a grid pattern. The lot is well illuminated at night, except for the row of parking spaces next to Freshwater Boulevard, which is furthest from the light fixtures. This area is lit well enough for people to find their vehicles, but not well enough to see if small objects like bottles or rubbish

have been left on the pavement. The lot has an open layout and does not provide any "hiding places" for loiterers or vandals.

The Enfield police were consulted about security problems at the lot and asked about occurrences of break-ins, car theft and other reportable incidents. Records of incidents are not kept separately for the Park and Ride Lot; information is reported collectively for the entire Enfield Commons and nearby parking areas. On this basis, there were approximately 20 incidents in all of the calendar year 2001. The police department does not perceive a security problem at this location.

Paratransit Services

Both Enfield and Somers provide paratransit services for elderly and handicapped.

Enfield – The Town of Enfield operates a dial-a-ride service for elderly (60+) and handicapped persons who are town residents. The service operates from 8:00 A.M. to 4:00 P.M. Monday through Friday, and requires 24 hours notice to book a trip. Trips may be made for any purpose, but only medical trips may be made to destinations out of town. Residents pay $60 per year for unlimited service. The service maintains six vehicles, all of which are wheelchair accessible. The service provides about 200 trips per week and receives funding from FTA Section 5310, as well as support from the Connecticut DOT and the Town.

Discussions with the service operators and town officials indicate there is capacity to serve additional trips by eligible riders beyond the current level of demand, except when vehicles are down for maintenance. Vehicles are replaced about every three years. The service is considered stable and provides benefits commensurate with the level of investment by the Town; no major problems were reported. Service operators believe there are unmet needs by transit-dependent, low-income persons, who are not eligible for the dial-a-ride service.

A separate service is provided by Allied Rehabilitation Centers, inc., a private non-profit organization. ARC provides service for disabled and mentally retarded persons to several job sites. The service is operated with five vehicles received from ConnDOT through the Section 5310 program. Operating costs for the service are paid by a grant from the Connecticut Department of Mental Retardation.

Somers – The Town of Somers operates a dial-a-ride service, although a smaller program. The service operates from 8:00 A.M. to 4:00 P.M. and is available to senior citizens and handicapped persons. Passengers must reserve 48 hours in advance and pay $1.00 per round trip. Trips can be made to locations in Somers, Stafford and Enfield.

The service has one 12-passenger vehicle that is wheelchair accessible. Usage varies from 3 to 16 persons per day, and from 40 to 55 persons per month. The service is funded by the Town, but receives vehicles from ConnDOT.

According to town officials, the service has adequate capacity to meet present demand from eligible riders. The chief constraint is limited operating funds. Operating hours may have to be reduced for budgetary reasons.

2.6 Existing Problems Synthesis

The analysis of existing transportation in the Route 190 corridor indicates that the roadway is generally functioning adequately. Traffic congestion is not a major problem, with overall peak hour speeds exceeding 30 mph. There are, however, concerns regarding safety, non-standard design features, access arrangements and pedestrian/bicycle movements. Figure 2-8 provides a graphic summary of principal problem locations. Identified problems include offset or congested intersections, frequent accidents, inadequate pedestrian and bicycle facilities, and poor sight distances.

Offset Intersection at Route 190 and Route 83

Traffic Operations and Congestion

Most intersections operate at acceptable levels of service, and several existing problem locations are being improved.

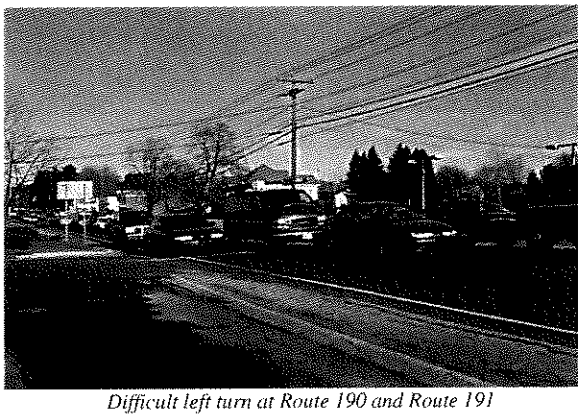
- The existing eastbound lane drop between Freshwater and Palomba Drive that contributes to accidents and congestion will be improved by the committed Route 190/Palomba Drive/Middle Road intersection improvements.

- Similarly, the existing offset intersection of Elm and South Streets will be realigned, thereby simplifying movements and traffic signal controls. This improvement will also allow the consolidated signals at this location to be coordinated with the existing signal at Route 190 and Maple Street (Route 192) in Hazardville.

There are, however, a few places where congestion remains an issue. They include:

- There are several offset intersection locations on Route 190 where certain movements become congested during the peak hour. These include the intersection of Route 190 with Taylor/Scitico Roads in Enfield, and the intersections of Route 190 with Maple Street/Shaker Road and with Route 83 in Somers.

- A major problem along Route 190 is the absence of protected left-turn lanes at intersections, including those with Route 191, Route 192, and Taylor Road in Enfield, and Maple Street/Shaker Road, Route 186, Route 83, Battle Street (eastbound) and Gulf/Turnpike Roads in Somers.



Difficult left turn at Route 190 and Route 191

- Traffic signals are coordinated in the Enfield Plaza environs, but are generally not coordinated elsewhere in the corridor.

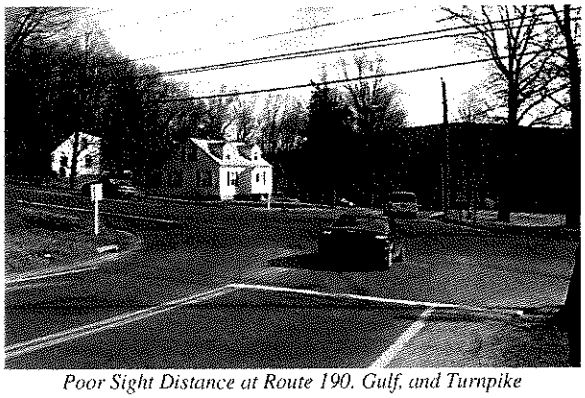
Safety

Safety is a problem in the corridor. Six locations in Enfield have been identified on a statewide priority list of high-accident areas, and several other areas in the corridor have accident rates higher than state averages for comparable facilities. The most serious problem areas are:

- The commercial areas near Route I-91;
- The intersection with Palomba Drive and Middle Road (being improved); and
- The intersection with Sokol and Ninth District Roads.

Safety problems can be a result of many factors, including:

- Limited sight distance;
- Inconsistent road geometry;
- Poor lane alignment;
- Frequent or poorly located driveways;
- Misalignment of intersection approaches;
- Absence of left-turn lanes;
- Drivers' responses to signals;
- Excessive speeds; and
- Pavement conditions.



Poor Sight Distance at Route 190, Gulf, and Turnpike

Sub-standard Design

Several locations have sub-standard design features, such as poor sight distance, misaligned intersections, and lack of turn lanes. These are a legacy of the former rural nature of the area; the road was not initially expected to carry current traffic levels.

Poor sight distance is a problem at the intersections of Route 190 with Gulf and Turnpike Roads, and with Sokol and Ninth District Roads.

Driveways and Access

Frequent or wide driveways can be a problem, particularly near Enfield Professional Park and in the villages of Hazardville and Somersville.

Pedestrian and Bicycle Travel

Route 190 does not have sufficiently wide shoulders throughout its length to permit safe bicycle travel. There are also gaps in sidewalks throughout the corridor. In addition, there is presently no satisfactory way for bicyclists or pedestrians to get from the Enfield commercial area west to the Connecticut River.

Improvement Opportunities

Many existing operational and safety problems can be alleviated by relatively simple and straightforward traffic engineering and transportation system management solutions. These are addressed in Chapter 4.

CHAPTER 3
FUTURE TRAFFIC CONDITIONS SUMMARY

This chapter describes future Year 2025 traffic conditions. Population and employment trends were projected, as well as anticipated Year 2025 traffic volumes. Future traffic operations along Route 190 were based upon detailed volume to capacity comparisons, assuming implementation of committed road improvements.

3.1 Travel Forecasts

Future travel forecasts on Route 190 and intersecting roads were developed based upon anticipated changes in land use, population and employment. Low to moderate increases in households and employment are expected in both Enfield and Somers. Detailed growth forecasts were presented in the October 2000 *Future Traffic Conditions Report.* These anticipated changes were incorporated into a computerized travel forecast model from which estimated Year 2025 average daily and peak hour traffic volumes were obtained.

The CRCOG Model

The Capitol Region Council of Governments (CCROG) maintains a regional travel forecast model for use in regional planning studies. Beginning with population and employment and ending with future traffic volumes, the forecasting occurs in a standard four-step process that includes trip generation, trip distribution, modal split and trip assignment. These four steps are discussed in more detail in the *Future Traffic Conditions Report.*

3.2 Anticipated Traffic

Anticipated Year 2025 traffic volumes were derived for both daily and peak hour conditions. The estimated growth in Route 190 daily traffic flows by corridor section is shown in Table 3-1.

Table 3-1

ESTIMATED GROWTH IN TRAFFIC, 2000 – 2025

Corridor Section	Percent Increase
Route I-91 to Brookside Plaza East Drive	18 percent
Brookside Plaza East Drive to Middle Road (East Intersection)	20 percent
Middle Road to Route 83 (Somers)	15 percent
Route 83 to Stafford Town Line	20 percent

Cross street traffic volumes were estimated to grow between 15 and 50 percent although the volumes, both existing and future, are significantly lower than volumes on Route 190. In the built-up western part of the corridor, cross street volumes were estimated to increase 15-20 percent, while anticipated increases in the eastern part of the corridor ranged from 25 to 50 percent. A 50 percent growth rate was estimated for cross streets leading to several village centers (Elm Street in Hazardville, Taylor Road in Scitico and Route 83 in Somers).

Daily Traffic

Past trends in daily traffic are shown in Table 3-2 for Route 190 and key cross roads. Figure 3-1 graphically portrays the expected changes in daily traffic between 2000 and 2025.

Estimated Year 2025 average daily traffic in Enfield varies from about 44,000 vehicles per day (vpd) near Interstate 91 to approximately 28,500 vpd at Freshwater Boulevard. Daily traffic drops by about one-third east of the major shopping malls. Average daily traffic is expected to be about 27,500 vpd in Hazardville and approximately 22,000 vpd in Scitico. Average daily traffic along Route 190 at the Somers town line is expected to be 17,000 vpd.

Estimated average daily traffic in Somers ranges from about 15,000 vpd near the Enfield town line to about 10,700 vpd east of Gulf Road. Traffic on Maple Street is forecast at about 5,700 vehicles per day in the Year 2025.

Table 3-2

DAILY TRAFFIC VOLUME TRENDS

(Thousands)

	YEAR				
	counted				projected
LOCATION	**1992**	**1994**	**1996**	**2000**	**2025**
Enfield Route 190					
West of Phoenix Avenue	38.9	36.0	34.0	36.9	43.6
East of Freshwater Boulevard	25.8	25.9	24.6	23.8	28.5
West of Elm Street	20.6	20.7	18.7	23.9	27.5
West of Maple Street	18.4	18.5	18.8	19.6	22.6
West of Railroad Tracks	16.4	16.5	16.5	17.0	19.5
West of Taylor Road	17.8	17.8	18.5	19.3	22.3
West of Somers Town Line	15.5	15.1	13.9	14.6	16.8
Somers Route 190					
East of Maple Street	14.2	13.1	N/A	12.8	14.7
East of Hurlburt	12.8	13.4	N/A	12.7	14.6
West of Route 83	14.1	12.4	N/A	12.4	14.3
East of Battle Street	N/A	10.0	N/A	9.4	11.3
West of Gulf Road	9.7	8.9	N/A	8.9	10.7
East of Gulf Road	N/A	9.0	N/A	8.9	10.7
Maple South of Route 190	4.5	3.8	N/A	3.8	4.3
School South of Maple Street	5.6	5.0	N/A	4.9	5.7

SOURCE: *Future Traffic Conditions Report*, October 2000.

Peak Hour Intersection Turning Movements

Peak hour turning movements were forecast for Year 2025 at each of the 20 intersections in the corridor. The computer model's procedure for forecasting peak hour turning movements is based on adding the projected percentage increase in average daily volumes on each approach to the intersection to the current turning movements. A "Fratar" method was used to balance flows at each intersection (a discussion of the Fratar Method is included in the *Future Traffic Conditions Report*). The forecasted turning movements are shown in Figure 3-2. The individual intersections are discussed in the following section.

Peak hour volumes, by direction, at key points along Route 190 are as shown in Table 3-3 below.

Table 3-3

ANTICIPATED YEAR 2025 PEAK HOUR TRAFFIC VOLUMES

Eastbound	A.M.	P.M.
▪ West of Phoenix Avenue	1,320*	1,645*
▪ East of Palomba Drive	615	1,125**
▪ Enfield/Somers Town Line	375	935
▪ Somers/Stafford Town Line	310	445
Westbound	A.M.	P.M.
▪ Somers/Stafford Town Line	435	405
▪ Enfield/Somers Town Line	705	575
▪ East of Palomba Drive	875	1,015**
▪ West of Phoenix Avenue	1,230*	1,465*

* Multiple lanes.

** Multiple lanes when planned ConnDOT improvements are completed.

3.3 Service Levels and Operating Conditions

Traffic analyses were performed based on the *Highway Capacity Manual*[1] to determine the Year 2025 level of service at each of these intersections. *First*, the forecast Year 2025 traffic at signalized and unsignalized intersections was analyzed. At signalized intersections, the existing signal timings were used. The Year 2025 analysis assumed completion of the committed improvements underway at the intersections of Palomba Drive and South Road/Elm Street.

Second, for any intersection approach indicating an unsatisfactory operation, signal timings and phasing were examined to determine whether re-timing of the signals would improve operations.

Third, at intersections that were forecast to operate unsatisfactorily even with optimum signal timing and phasing, consideration was given to adding exclusive turning lanes. In addition, unsignalized intersections were analyzed to determine the improvement in LOS if signals were installed.

Existing Conditions Plus Committed Improvements

The results of the first step of the analyses for all intersections, expected LOS if existing conditions are maintained or if committed improvements are made, are shown in Table 3-4.

Signalized Intersections – Of the thirteen signalized intersections in the corridor, nine will still fail, unless additional measures are taken. Phoenix Avenue, Freshwater Boulevard, Enfield Professional Park, Route 191, and Scitico/Taylor in Enfield, and Route 83 in Somers will fail overall in at least one peak hour. In addition, although the intersections with Middle/Palomba in Enfield and Shaker/Maple and Sokol/Ninth District in Somers will operate *overall* above the failing point, at least one approach at those intersections will fail during a peak hour.

Unsignalized Intersections - At one of the six intersections with stop sign control, Route 190 and Battle Street in Somers, all approaches are expected to operate at LOS D or better, which is considered satisfactory. The other five intersections have one or more approaches expected to operate at unsatisfactory levels or failing conditions. This reflects the lack of suitable gaps for left turns and crossing traffic.

[1] Highway Capacity Manual, Special Report 209, Transportation Research Board, Washington, D.C. Software: Signalized Intersection, Release 3.1c, 1997.

Table 3-4

INTERSECTION LEVELS OF SERVICE, 2025
With Committed Improvements

Intersection	Type of Traffic Control	A.M. Peak Hour	P.M. Peak Hour
Enfield along Route 190			
Phoenix	Signal	F	F
West Entrance to Enfield Commons & Brookside Plaza	Signal	C	C
East Entrance to Enfield Commons & Brookside Plaza	Signal	C	C
Freshwater Boulevard	Signal	E	D
Middle/Paloma *	Signal	C	D
Enfield Professional Park	Signal	C	E
Elm/South *	Signal	C	D
Route 192/South Maple	Signal	C	C
Route 191	Signal	C	E
Scitico/Taylor	Signal	D	F
Somers along Route 190			
Shaker/Maple	Signal	C	D
Sokol/Ninth District *	Signal	C	C
Route 83	Signal	C	F
Hall Hill/Route 186	Stop Sign	A-F	A-F
Battle	Stop Sign	A-C	A-D
Turnpike/Gulf	Stop Sign	A-E	A-F
Somers – Other Locations			
Maple/School	Stop Sign	A-E	A-D
Maple/Scitico/Pinney	Stop Sign	A-D	A-F
Ninth District/School Driveway	Stop Sign	A-F	A-C

SOURCE: *Future Traffic Conditions Report*, October 2000
Notes:
* Indicates intersection with committed improvement.
Ranges are given for specific movements at unsignalized intersections.

Signal Timing Adjustments

At all signalized intersections with failing movements under Year 2025 traffic conditions, a review of signal timing was undertaken to determine if revised timings would result in improved traffic operations. At seven of these intersections, modification of signal timing would bring all approaches to an acceptable level of service (LOS D or better) in both the morning and afternoon peak hours. The improved operations are a result of reallocating time between signal phases. In some cases, the LOS on some individual approaches might be lower, but when combined, the intersection as a whole would operate at LOS D or better (with one exception: the northbound approach in the afternoon peak hour at Route 190 and Phoenix Avenue would operate at LOS D/E). These improvements can also be made in a way that does not disrupt the traffic signal coordination. The changes in LOS are summarized in Table 3-5.

Additional Travel Lanes

At the intersections of Route 190 with Scitico/Taylor Roads in Enfield and Route 83 in Somers, it was not possible to achieve LOS D on all approaches by modifying traffic signal timing alone. Achieving acceptable levels of service at these two intersections will require additional travel lanes.

The two intersections were analyzed to see how provision of left-turn lanes and increased capacity would affect operations. The Levels of Service at these two intersections are shown in Table 3-6. Provision of left-turn lanes results in overall intersection levels of service C in the morning peak and D in the afternoon peak at both intersections.

Unsignalized Intersections

Traffic analysis for the Year 2025 has shown that most of the unsignalized intersections on Route 190 will have failing approaches during peak hours. This occurs because the increasing volume of traffic on Route 190 results in longer waits for suitable gaps by traffic on side streets. Some of these intersections may be candidates for signalization. This is discussed further in Chapter 4.

Table 3-5

2025 LEVELS OF SERVICE
With Potential Signal Timing Improvements

Intersection of Route 190 and Phoenix Avenue (1)					
		LOS on Approaches			
Existing Conditions	**LOS Overall**	**NB**	**SB**	**EB**	**WB**
Morning Peak Hour	F	D	C	F	F
Afternoon Peak Hour	F	F	C	F	E
With Improvement					
Morning Peak Hour	C	D	C	B	D
Afternoon Peak Hour	D	D	D	C	D
Intersection of Route 190 and Freshwater Boulevard (2)					
		LOS on Approaches			
Existing Conditions	**LOS Overall**	**NB**	**SB**	**EB**	**WB**
Morning Peak Hour	F	C	C	D	F
Afternoon Peak Hour	D	D	D	E	D
With Improvement					
Morning Peak Hour	C	C	C	C	C
Afternoon Peak Hour	D	D	D	D	C
Intersection of Route 190 and Middle Road/Palomba Drive (3)					
		LOS on Approaches			
Existing Conditions	**LOS Overall**	**NB**	**SB**	**EB**	**WB**
Morning Peak Hour	C	C	D	C	C
Afternoon Peak Hour	D	E	E	D	C
With Improvement					
Morning Peak Hour	C	C	C	C	C
Afternoon Peak Hour	D	D	D	D	C
Intersection of Route 190 and Enfield Professional Park (4)					
		LOS on Approaches			
Existing Conditions	**LOS Overall**	**NB**	**SB**	**EB**	**WB**
Morning Peak Hour	C	C	C	B	E
Afternoon Peak Hour	E	D	D	E	D
With Improvement					
Morning Peak Hour	C	C	C	B	C
Afternoon Peak Hour	D	D	D	D	C

Table 3-5 (continued)

2025 LEVELS OF SERVICE
With Potential Signal Timing Improvements

Intersection of Route 190 and Route 191 (5)					
		LOS on Approaches			
Existing Conditions	**LOS Overall**	**NB**	**SB**	**EB**	**WB**
Morning Peak Hour	C	C	--	C	C
Afternoon Peak Hour	E	C	--	F	C
With Improvement					
Morning Peak Hour	C	C	--	C	C
Afternoon Peak Hour	C	D	--	D	B
Intersection of Route 190 and Shaker Road/Maple Street (6)					
		LOS on Approaches			
Existing Conditions	**LOS Overall**	**NB**	**SB**	**EB**	**WB**
Morning Peak Hour	C	D	C	B	C
Afternoon Peak Hour	D	C	D	E	C
With Improvement					
Morning Peak Hour	C	D	C	B	C
Afternoon Peak Hour	C	D	D	C	B
Intersection of Route 190 and Sokol/Ninth District Roads (7)					
		LOS on Approaches			
Existing Conditions	**LOS Overall**	**NB**	**SB**	**EB**	**WB**
Morning Peak Hour	C	C	E	B	B
Afternoon Peak Hour	C	C	C	C	B
With Improvement					
Morning Peak Hour	C	C	D	B	B
Afternoon Peak Hour	C	C	C	C	B

(1) Improvement: Run NB and SB on separate phases and extend EBL to run with EB through.
(2) Improvement: Add time to eastbound and westbound approaches.
(3) Improvement: Provide SB right turn with EBLT phase. Slightly increase N-S green time.
(4) Improvement: Add time to eastbound and westbound approaches.
(5) Improvement: Add time to eastbound and westbound approaches.
(6) Improvement: Add time to eastbound and westbound approaches.
(7) Improvement: Add time to northbound and southbound approaches.

SOURCE: Wilbur Smith Associates, Based on 2025 Forecast Traffic and HCS Analysis.
Note: Assumes committed improvements

Table 3-6

2025 LEVELS OF SERVICE
With Additional Left-Turn Lanes

Intersection of Route 190 and South Scitico/Taylor Roads (1)					
		LOS on Approaches			
Without Improvement	**LOS Overall**	**NB**	SB	EB	WB
Morning Peak Hour	D	C	D	F	C
Afternoon Peak Hour	F	C	D	F	B
With Improvement					
Morning Peak Hour	D	C	D	B	D
Afternoon Peak Hour	C	C	D	B	D
Intersection of Route 190 and Route 83 (2)					
		LOS on Approaches			
Without Improvement	**LOS Overall**	**NB**	SB	EB	WB
Morning Peak Hour	C	D	D	C	C
Afternoon Peak Hour	F	F	F	F	C
With Improvement					
Morning Peak Hour	C	D	D	C	C
Afternoon Peak Hour	C	C	D	C	B

(1) Improvement: Add EB left-turn lane, add leading EB signal phase.
(2) Improvement: Add left turn-lanes on EB, NB and SB approaches.
SOURCE: Wilbur Smith Associates, Based on 2025 Forecast Traffic and HCS Analysis.

3.4 Summary

Currently, there is relatively little traffic congestion in the Route 190 corridor during the morning and afternoon peak periods. However, the anticipated growth in traffic volumes by the Year 2025 will place increasing pressure on several key intersections unless improvements are made. Adjustments in traffic signal timing and sequences, the provision of left-turn lanes at signalized intersections, and installation of traffic signals at several intersections that currently operate under stop sign control would alleviate the potential Year 2025 capacity problems. These improvements and the resulting Levels of Service are summarized in Table 3-7.

These simple operational improvements will provide sufficient capacity through the corridor and have the potential to address safety issues. Therefore, it has been determined that it is not necessary to widen Route 190 to accommodate additional travel lanes throughout the corridor. The historic character of the village centers and the communities' desire to keep the roadway in scale with its surroundings are additional reasons why a major road widening effort is neither necessary nor desirable.

The basic strategy, therefore, in developing improvement options and preparing a recommended plan of action focuses on straightforward operational improvements. These will increase vehicular and pedestrian access and safety, and at the same time, protect and possibly enhance the character of the historic village centers.

Table 3.7

INTERSECTION LEVELS OF SERVICE
Summary

Signalized Intersection Route 190 with	Current LOS 2000	Future LOS 2025	Proposed Changes	LOS with Changes 2025
Phoenix Avenue	AM = D PM = E	AM = F PM = F	NB double left-turn lanes. Signal phasing changes	AM = C PM = D
West Drive – Brookside Plaza	AM = C PM = C	AM = C PM = C	None	
East Drive – Brookside Plaza	AM = C PM = C	AM = C PM = C	None	
Freshwater Boulevard	AM = D PM = D	AM = E PM = D	Signal timing changes	AM = C PM = D
Middle Road /Palomba Drive	AM = D PM = E	AM = C PM = D	Committed improvement Signal timing changes	
Enfield Professional Park	AM = B PM = C	AM = C PM = E	Signal timing changes	AM = C PM = D
South Road	AM = B PM = C	NA	Realigned intersection	
Elm Street	AM = D PM = D	NA	Realigned intersection	
South Road /Elm Street	NA	AM = C PM = D	Committed improvement	
Route 192/South Maple Street	AM = B PM = B	AM = C PM = C	Redesignate turning lanes from exclusive right to exclusive left	AM = C PM = C
Route 191 (Broad Brook Road)	AM = B PM = D	AM = C PM = E	Add westbound left-turn lane Signal timing changes	AM = C PM = C
Scitico Road /Taylor Road	AM = C PM = F	AM = D PM = F	Close Scitico Road Add EB left-turn lane	AM = D PM = C
Shaker Road /Maple Street	AM = B PM = C	AM = C PM = D	Close Quality Avenue Add EB and WB left-turn lanes	AM = C PM = C
Sokol Road /Ninth District Road	AM = B PM = B	AM = C PM = C	Committed improvement Signal timing changes	
Route 83 (South Road)	AM = C PM = D	AM = C PM = F	Eliminate offset intersection and provide left-turn lanes on all four approaches	AM = C PM = C

SOURCE: *Future Traffic Conditions Report*, October 2000.

Table 3-7 (continued)

INTERSECTION LEVELS OF SERVICE
Summary

Unsignalized Intersection	Current LOS 2000	Future LOS 2025	Proposed Changes	LOS with Changes
Route 190/Hall Hill Road	AM = A-E PM = A-F	AM = A-F PM = A-F	Signalize intersection EB and WB left turn lanes	AM = B PM = B
Route 190/Battle Street	AM = A-B PM = A-C	AM = A-C PM = A-D	None	
Route 190/Gulf and Turnpike Roads	AM = A-C PM = A-C	AM = A-E PM = A-F	Committed improvement Signalize intersection	AM = B PM = B
Maple and School Streets	AM = A-C PM = A-C	AM = A-E PM = A-D	Reconstruct intersection STOP control on all approaches	AM = B PM = B
Maple and Pinney Streets/Scitico Road	AM = A-C PM = A-D	AM = A-D PM = A-F	Reconstruct intersection STOP control on all approaches	AM = B PM = B
Ninth District Road and School Complex Driveway	AM = A-E PM = A-A	AM = A-F PM = A-C	Committed improvement only – SB bypass lane	

SOURCE: *Future Traffic Conditions Report*, October 2000.

NOTE:
Figures given are ranges for specific movements at unsignalized intersections.

CHAPTER 4
RECOMMENDED IMPROVEMENT PLAN FOR ROUTE 190

This chapter outlines the recommended transportation improvement plan for the Route 190 corridor in Enfield and Somers. The plan is based on an extensive review of existing and future transportation conditions in the corridor, a detailed analysis of various improvement opportunities and alternatives, and a continued and open dialogue with public agencies and citizens. Plans are presented by town. These improvement plans were developed with a focus on identifying appropriate context-sensitive solutions.

The technical review process and public involvement process worked in parallel to complement each other. The public involvement process is described in Appendix A. The various alternative improvements that were considered and the development process of recommended alternatives are presented in Appendix B.

4.1 Plan Objectives

The transportation improvement plan reflects the following broad objectives:

- They address anticipated mobility, environmental, and safety problems.
- They focus on preserving the character and enhancing the amenities of the historic village centers, making each a more cohesive and pedestrian-friendly environment.
- They emphasize transportation system management actions that can be easily implemented with minimum cost and impacts. Within this context, they include methods for improving traffic, pedestrian, and bicycle movements.
- They are also consistent with good access management principles.

For the most part, the plan retains the existing Route 190 roadway cross-section. The recommendations do include some minor widening where necessary to provide protected turning lanes and enhanced roadway shoulders that will accommodate bicycle traffic. However, there is no recommendation to widen the roadway throughout the corridor.

4.2 Recommended Transportation Improvement Plan for Route 190 in Enfield

The recommended improvements for Route 190 in Enfield are presented and discussed with respect to the four distinct sections of town traversed by Route 190 (from west to east):

- The regional commercial area between I-91 and Palomba Drive;
- The transitional area between Palomba Drive and the village of Hazardville;
- The village of Hazardville; and
- The Scitico section of town.

Each of these areas has a distinctly different set of land uses, traffic volumes, and roadway conditions. As a result, traffic and pedestrian problems differ, as do the types of improvements required. In general, however, the problems in the corridor are mostly limited to individual intersections or short sections of roadway, which do not require a wholesale widening effort.

4.2.1 Enfield Plan Overview

The Recommended Transportation Improvement Plan for Enfield is shown in Figure 4-1. The major plan elements include modifying traffic signal timing and phasing sequences, coordination and cycle lengths; installing exclusive left-turn lanes at key intersections; improving intersections at Phoenix Avenue and in the Hazardville and Scitico village centers; modifying the Route 190 cross section east of the commercial area to provide left-turn lanes into commercial/office developments; improving the streetscape in the Hazardville and Scitico village centers; and designing an integrated bicycle and pedestrian plan for the Enfield Shopping area and across I-91. Detailed descriptions of these plan features appear in the following sections.

4.2.2 Commercial Area: I-91 to Palomba Drive

This is the busiest section of the entire Route 190 corridor. Currently, it carries between 26,000 and 34,000 vehicles per day and serves several major regional shopping centers. The existing roadway consists of four through lanes, a narrow raised median, and turn lanes at signalized intersections.

Despite the high volume of traffic and significant retail activity in this area, traffic through this section flows relatively well. This is in large part due to establishing good access management practices adopted by the town and state in this area. Enfield's regional business zoning regulations have assured that the number of business driveways will be kept to a manageable number, and the state's inclusion of a raised median has prevented many of the safety problems typically associated with left-turning vehicles at commercial driveways. However, this section is not without problems. Recommendations have been developed to address the following concerns and issues:

- Traffic signal coordination;
- Poor level of service at key intersections (primarily Phoenix Avenue);
- Lack of pedestrian facilities (especially over I-91); and
- Need for full study of I-91 interchanges at both Route 190 and Route 220.

Traffic Signal Coordination

The improvement plan calls for improving and extending the traffic signal coordination system in the corridor. Traffic signals along Route 190 between the I-91 northbound off ramp and Palomba Drive are currently coordinated on a 110-second cycle during the afternoon peak period and an 80-second cycle in the morning peak period. The traffic signal coordination should extend to other times of the day with various timing patterns for weekday morning and afternoon peaks, and for Saturday peak and off-peak periods. In addition, traffic signals on Freshwater Boulevard to the immediate north and south of Route 190 should be coordinated with the signals along Route 190, which are already part of a coordinated system. The signals on Freshwater Boulevard are located at the entrance to Enfield Common/Cranbrook Drive and entrances to Brookside Plaza/Stop & Shop respectively.

The coordination system should extend eastward to include the signal at the Enfield Professional Park about 0.6 mile east of Palomba Drive. The signal cycle length should be increased from 80 to 90 seconds during the morning peak period (and possibly midday as well). The longer cycle lengths would reduce the waiting time at key intersections such as Freshwater Boulevard and Phoenix Avenue.

Intersection Improvements

Based on the Year 2025 traffic forecast, capacity problems are anticipated at only two signalized intersections in this segment of Route 190. The intersection of Route 190 and Phoenix Avenue is expected to operate at LOS F during the morning and afternoon peak use periods. The intersection with Palomba Drive and Middle Road will as a whole operate at LOS D; however, one or more approaches will operate at LOS E.

Future operating conditions at these two intersections were detailed in the *Future Traffic Conditions Report* and are summarized in the previous Chapter. The proposed improvements address these conditions.

Route 190 and Phoenix Avenue - The intersection of Route 190 with Phoenix Avenue serves as the gateway to the corridor. It serves the industrial park and provides access to Enfield Square from the south. It carries the heaviest traffic volumes of any in the corridor. The capacity limitations occur primarily on the northbound approach – Phoenix Avenue.

The recommended improvement plan for this intersection is shown in Figure 4-2. Key features of this plan are as follows:

- Dual northbound left-turn lanes should be provided on Phoenix Avenue to better serve the heavy northbound left-turning volumes (300 vph in 2025). The existing three approach lanes can be more effectively used if they are re-striped to provide two left-turn lanes instead of the existing single left-turn lane. Several alternative solutions were examined, but this solution is easiest and least costly.
- The dual left-turn lanes will require separate phases for north-south traffic. In addition, a "lead-lag" phasing sequence for east-west traffic would reduce the likelihood of through traffic blocking access into the left-turn lanes and improve safety.

Route 190 and Palomba Drive - This intersection will be reconstructed under a committed improvement project (ConnDOT Project No. 48-173) that will add turning lanes and upgrade the traffic signals. Expected to be under construction in the autumn of 2002 and completed in the spring of 2003, this project will provide additional traffic capacity at this intersection, and will allow redistribution of green time among signal phases to provide LOS D or better on all

approaches. No further improvements are required to accommodate Year 2025 traffic at acceptable levels of service.

Pedestrian Improvements

The commercial area poses some special difficulties for pedestrians and bicyclists. East of Palomba Drive, the cross-section of Route 190 has adequate roadway shoulders on both sides of the road to accommodate bicyclists. Although the adequate shoulder widths for bicycle travel terminates at Palomba Drive, there are sidewalks for pedestrians on the north side of Route 190 westward from Palomba Drive to Phoenix Avenue.

As reported in the *Existing Conditions Report*, bicycles are currently prohibited from Route 190 between I-91 and the Connecticut River. The prohibition is due to high traffic volumes and weaving conditions as well as a lack of adequate roadway shoulders. Bicyclists and pedestrians have been observed using the Route 5 access ramps as an alternative route, and there have been several reported accidents involving bicyclists or pedestrians in this area.

Accordingly, a special set of recommendations has been developed for this part of the corridor, with the following objectives:

- Provide safe access across I-91 to Route 5 and the Connecticut River;
- Support the Town of Enfield's goal to link key areas with bicycle/pedestrian facilities; and
- Encourage walking and bicycling to and through the commercial area.

Principal features of the recommended plan at the western end of the corridor are shown in Figure 4-3. Improvements include the following:

- ConnDOT Project 48-H027 will provide approaches to the Route 190 bridge over the Connecticut River and link to the Windsor Locks Canal Trail on the west side. The eastern terminus of this project is at Route 5 in Enfield.
- A multi-use bicycle and pedestrian trail along Freshwater Brook from a point west of Route 5 to Palomba Drive. This trail could follow the State right-of-way for the access ramps from I-91 to Route 190 westbound. It will also require a crossing of Route I-91.

The study team looked into joint use of the culvert at Freshwater Brook, but found this to be impractical. Another culvert or an overpass will be required.

- An additional branch of the multi-use trail could follow Freshwater Brook northeast from the I-91 crossing to Freshwater Pond. It could join an existing walkway that leads from the Pond to Route 5. This walkway links to the town hall and the village of Thompsonville.
- New or widened sidewalks along Phoenix Avenue, Freshwater Boulevard, and Route 190 would connect with the multi-use trail.

This plan is conceptual in nature and will require further development. But it will allow for safe and convenient pedestrian and bicycle connections from the commercial area on Route 190 all the way to the Windsor Locks Canal Trail on the western side of the river.

Enfield Common-Enfield Square Connection

The primary access to Enfield Square from Route 190 is made via an access road that continues north from the Route 190/Phoenix Avenue intersection. Currently, there is no direct access route between Enfield Common and Enfield Square – traffic traveling between these locations must use Route 190 and pass through at least two signalized intersections. Citizens commented on this situation at the first Public Information Meeting and requested that the study team examine the possibility of a more direct connection. In addition to addressing the convenience of motorists and shoppers, the benefits of such a link would include reduced traffic on Route 190 and fewer turning conflicts.

The study team identified two possible ways to make this connection: a direct north-south link from Enfield Common to the Enfield Square Parking Lot; and an east-west connection from Enfield Common to the Enfield Square Access Road. The north-south link has two significant disadvantages:

- It would require a crossing of Freshwater Brook and associated wetlands.
- It would connect to the loading dock side of Enfield Common.

Enfield Common does not directly abut the access road; the intervening properties include a Motel 6 and a restaurant. Based on field review, it appears possible to provide a two-way link

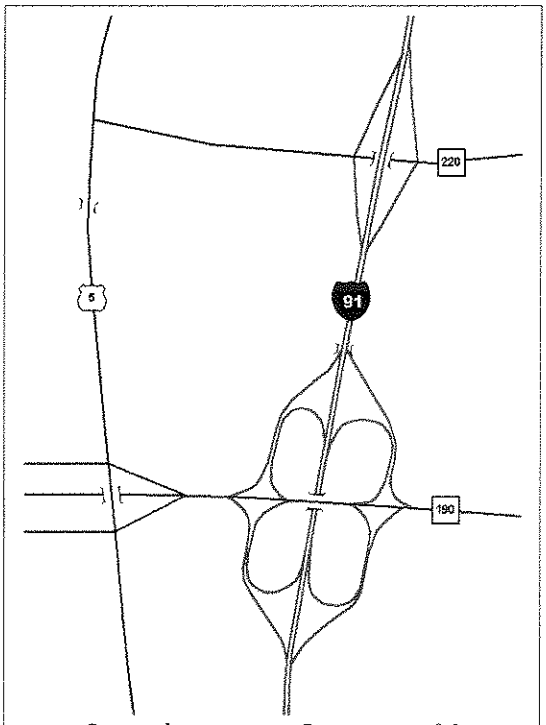
from the Enfield Square access road to Enfield Common in a location just north of the Motel 6. The general location of this link is shown in Figure 4-4.

Further study and discussion with the affected property owners will be required to develop plans for this link.

Study of I-91 Interchange Complex

The interchanges on I-91 were not included as part of the Route 190 Study scope of work. However, issues involving the interchanges did arise during the Study and warrant discussion here. The key issues are:

- Pedestrian Access. Because the I-91 / Route 190 interchange is a full cloverleaf interchange, Route 190 in the vicinity of the interchange functions as a limited access highway with no stop control and long merging areas where the ramps enter or exit. This makes it extremely dangerous for pedestrians or cyclists to use this section of Route 190, and makes it extremely difficult for pedestrians to travel from the residential areas on the west side of I-91 to the shopping areas on the east side. If the interchange could be reconfigured as a more conventional diamond or similar interchange with stop control, it would then be possible to provide safe pedestrian facilities across I-91 at surface level.



Interchanges on Interstate 91

- Weaving Problems. During the early part of the Route 190 Study, several members of the Enfield Local Advisory Committee and attendees at the first Public Information Meeting identified problems related to weaving sections in the interchange. In particular, they mentioned conflicts between cars traveling westbound on Route 190 that attempt to exit to Route 5. These exiting cars often come into conflict with cars entering Route 190

on the ramp from I-91 southbound. These ramps are only 300 feet apart and share the same operational lane. A quick review of the interchanges shows that a total of eight such common merge/diverge areas exist. Four are on I-91 and four are on Route 190.

- Alternate Access to Route 190 Corridor. A third, but less significant reason for reassessing the interchange configuration is that a reconfigured interchange might offer some opportunities to divert some traffic from the Route 190/Phoenix Avenue intersection, which is the primary congestion problem in the Route 190 corridor.

Recommendation - It is recommended that the Connecticut Department of Transportation conduct a study of the complex of interchanges on I-91 in the vicinity of Route 190 (Exits 47E and 47W) and Route 220 (Exit 48) to evaluate alternative configurations that might resolve the problems identified above.

4.2.3 Transition Area – Palomba Drive to Hazardville

This section of Route 190 is transitional in terms of both land use and roadway characteristics. The commercial development west of Palomba Drive continues into this area, while the village of Hazardville lies at the eastern end. Although many parcels are vacant, commercial zoning continues eastward to George Washington Road, at the edge of the Hazardville residential area. The roadway tapers down from four lanes at Palomba Drive (six lanes after completion of the committed improvement project) to one lane in each direction with left-turn lanes at Enfield Professional Park. This section of Route 190 carries about 24,000 vehicles per day, forecast to increase to 27,500 vpd by 2025.

Since this area is relatively undeveloped, there are now only a few parcel access driveways. But as development occurs, new driveways and their associated left-turning vehicles have the potential to create traffic operation and safety problems. There are currently no sidewalks along this section, except in front of a few isolated properties.

The recommended plan for the transition area between Palomba Drive and the Enfield Professional Park is shown in Figures 4-5, 4.5a and 4.5b. This proposal calls for a slight roadway widening to accommodate a three-lane cross section. The "third lane" is a painted center median area that allows left turns at selected developments. This alternative was clearly

preferred by Enfield's Local Advisory Committee. The committee understood that the new turn lanes should be implemented in conjunction with local decisions concerning good access management. Development patterns on this largely vacant land will influence the demand for left-turn lanes, and the permitted locations of left-turn lanes can influence development.

An example of access management in this area is provided in Figure 4-5a. In one alternative, separate left-turn lanes are provided for two adjacent properties. In the other, illustrating the use of access management principles, one property is limited to right turns in and out. Left turns are accomplished by linking the parking lots of the two properties and using a single full-access driveway. This figure is included for illustrative purposes only. The single full-access driveway might be provided at either property, or even at the property line. Decisions about choosing one site or another would necessarily take into consideration the circulation needs of the properties, as well as the actual or potential land use of the property across the street. Nor is this figure meant to imply the requirement to implement any access management improvement immediately or even at the time of road reconstruction. Access management improvements can be delayed until the land is (re)developed at some future time.

The three-lane configuration extends only as far as the entrance to Enfield Professional Park, to serve areas zoned for commercial development. East of this point, the cross section transitions back to the existing two-lane cross section through Hazardville.

The recommended cross-section also includes five-foot roadway shoulders to accommodate bicyclists (in both the three-lane and two-lane areas), and a sidewalk on the north side of Route 190. It was determined that the north side is the best location for sidewalks for several reasons: sidewalks through the commercial area are already complete on the north side; some sidewalk sections in this transition area already exist on the north side as a result of individual property developments; and northside sidewalks would tie into sidewalks constructed as part of the Elm Street intersection project.

Many of the residences east of Middle Road have small and limited front yards. Careful design of sidewalks and sensitivity to concerns of property owners will be required. Placing sidewalks on the south side of Route 190 between South Road and Middle Road is also an option, since the

town library is located on Middle Road south of Route 190. However, placing of sidewalks along the north side is considered a higher priority.

Traffic signals at the consolidated Elm Street / South Road intersection should be coordinated with the signal at Maple Street about a half mile to the east. This coordination will occur as part of the committed improvement at South Road and Elm Street.

A variable message sign should be installed for westbound traffic along Route 190 at a point near Palomba Drive. This sign would advise approaching motorists of possible congestion and incidents on I-91 and allow them to consider alternative routes. It would, in effect, be an application of Intelligent Transportation System (ITS) technology in the Route 190 corridor. This variable message sign would be linked to a regional ITS program.

4.2.4 Hazardville

Hazardville Center is a traditional village and town center with a mix of small businesses and residences. The unique character of this area has been recognized through designation as the Hazardville Historic District, as discussed in Chapter 1. The town recognizes the importance of Hazardville as a traditional community center and is trying to preserve and enhance this function through a streetscape project that began construction in 2001. In developing recommendations for Hazardville, the study team sought to propose roadway plans that would enhance the special character of the village. The recommended improvements are consistent with the committed streetscape plan.

Route 190 in Hazardville is a two-lane undivided arterial road, with turning lanes at the Maple Street intersection. On-street parking is currently permitted on the south side of Route 190 between Maple Street and School Street. Route 190 in Hazardville is currently carrying 18,000 to 20,000 vehicles per day, forecast to rise to 23,000 vehicles per day by 2025.

Traffic problems along Route 190 in Enfield are limited to two locations: the South Road / Elm Street intersection and the Maple Street intersection. Problems at the South Road / Elm Street intersection are being corrected by the State project discussed in Chapter 2. Therefore, this study limited its recommendations to the Maple Street intersection.

Maple Street Intersection

Two alternative plans, shown in Figures 4-6 and 4-6a, are presented for intersection improvements at the Maple Street (Route 192) / Route 190 intersection in the center of Hazardville. Key features common to both plans include:

- Reassign use of the existing approach lanes to eliminate exclusive right-turn lanes in favor of exclusive left-turn lanes. This modified roadway configuration is more consistent with standard roadway geometry that drivers expect, and should therefore reduce driver frustration and still retain a good level of service.
- Adjust the southbound approach on North Maple Street to correct problems associated with truck-turning movements. The stop bar is moved back (northward) by 15 feet to make it easier and safer for trucks to turn into North Maple from Route 190. It is also recommended that a "No Right Turn on Red" sign be posted on this approach due to limited sight distance and to discourage cars from crossing the stop bar in an attempt to make a right turn on red.
- Adjust on-street parking. Parking spaces in front of the Hazardville Hotel need to be eliminated because parked vehicles in this location pose a safety hazard. They interfere with turning movements for trucks and eastbound through traffic and pose a safety hazard.
- Create a protected parking pocket to address other reported conflicts between moving vehicles and cars parked immediately east of the auto repair shop. This concept involves moving the curb toward the centerline to create a small buffer area in advance of the parking area, which helps to define and protect the parking area. Because this new area can be landscaped, it is also consistent with the town's streetscape plan.

The difference between the two recommended alternatives involves the treatment of the southwest corner. Alternative 1, illustrated in Figure 4-6, provides for two-lanes of traffic on the eastbound approach of Route 190: one exclusive left-turn lane and one shared through and right-turn lane. This allows the pavement on the southwest corner to be narrowed by approximately 12 feet and provides additional green space in the village center, enhancing the sense of place and ambiance.

Some Local Advisory Committee members expressed a concern that the provision of only two lanes on this approach would create a significant delay for traffic sharing the through and right-turn lane. This question was raised since the town has closed the western end of Southview Road, which connected Route 190 and South Maple Street in the southwest quadrant of the intersection and in the past served as an alternate route for some drivers trying to avoid the signal at Maple Street.

The study team evaluated the potential need to add an exclusive right-turn lane on this eastbound approach to the intersection, and determined that such a lane is not warranted at this time. Even when considering the additional volume of turning traffic that might pass through this intersection due to the closure of of the western end of Southview Road, the analysis indicated an adequate level of service without the exclusive right-turn lane through the forecast Year 2025.

However, some members of the LAC expressed strong concern about this turning traffic, and recommended inclusion of an additional alternative with an exclusive right-turn lane for eastbound traffic. This lane is shown as Alternative 2 and is illustrated in Figure 4-6a. This third lane precludes the addition of green space made possible in Alternative 1.

The LAC endorsed this two-alternative approach with the recommendation that the need for the exclusive right-turn lane should be reassessed when a design project for this intersection is initiated. At that time, additional information will be available from:

- Actual experience of traffic volumes and patterns resulting from the closure of the western end of Southview Road; and
- Completion of the Hazardville streetscape plan and resulting changes in development, pedestrian and traffic activity.

Streetscape Plan

The streetscape plan for Hazardville was completed by the town prior to this study and is being implemented. This summary is for reference only. A representative section of the recommended streetscape plan is shown in Figure 4-7. The existing spatial proportions between buildings, streetscape and roads are retained. Pedestrian amenities are proposed to enhance the village character. Street furnishings such as light poles, benches, planters and trash receptacles will

make the pedestrian feel welcome, and remind passing motorists that this is a neighborhood that is cared for by residents and business-owners.

Amenities. Conversations with residents and business-owners in the area revealed that a major concern was the aesthetics of the area. Therefore, matching furnishings are proposed as pedestrian amenities along the sidewalks. The streetscape plan also includes:

- Pedestrian Lighting. Light poles are proposed for the "entrances" to the village. They should be 18' high with arms for banners or seasonal wreaths and decorations. Light poles in the residential area east of School Street are proposed to be 14' in height without the banner arms. The intent is to continue the design theme, but at a residential scale.
- Street Furniture. Benches are proposed as additional visual cues to approaching motorists that they are entering a pedestrian area. Planters are proposed at some locations where they will not become a maintenance concern for homeowners, specifically at the village entrances, in front of the churches and the fire house (where hopefully some volunteers may be found to maintain them), and at the four corners of Route 190 and Maple Street (where the business owners may be willing to maintain them.) Matching ash urns are proposed in front of the Tobacco Shop and the Smoke and Leather Shop.
- Street Trees. A new variety of American Elm, the "Liberty" Elm, is proposed as a shade tree for the village; the "Aristocrat" variety of flowering pear is proposed as an accent tree. The lower-growing flowering trees are proposed in front of residences to provide some privacy and separation from the street.
- Traffic Signal Poles. The Enfield Local Advisory Committee has suggested that traffic signal poles installed in Hazardville in the future be designed to complement the street lighting fixtures installed as part of town streetscaping plans.

Parking. On-street parking has been allowed in some sections of Route 190 in Hazardville; however, the spaces are not well defined. This plan would create parking pockets or parallel parking spaces with curbed "bump outs" that would make on-street parking safer and enhance the village appearance. On-street parking is only provided in the commercial areas of the village.

Gateways. In Hazardville, the village "entrances" were determined from visual cues. The western entrance (eastbound into the village) is just to the west of the South Road intersection where commercial development begins. On the east side (westbound into town), the entrance is near the crest of the hill east of the Park Street intersection.

4.2.5 Scitico

This section is primarily a strip commercial area that has lost most of its village character. Route 190 is a two-lane undivided arterial road through this area carrying daily traffic volumes of between 16,000 and 18,000 vehicles per day. This is forecast to increase to 22,000 vpd by 2025.

As discussed in Chapter 3, traffic problems are limited to the two central, closely spaced intersections: Taylor Road and Broad Brook Road (Route 191). Recommendations are presented for these two intersections.

Taylor Road – Scitico Road Intersection

The intersection is slightly offset and is forecast to operate at Level of Service F. In addition, residents of Scitico Road complained about high volumes of traffic cutting through their neighborhood. A survey of traffic documented that a high proportion of traffic on Scitico Road during peak periods is cut through. At the public meeting, residents supported the concept of functionally eliminating Scitico Road from the intersection by either making it one-way south bound (only from Route 190 to the first residential driveway) or closing off access to Route 190 entirely.

While many options were evaluated, it is recommended that either of the two alternatives shown in Figure 4-8 be implemented. Both alternatives call for adding exclusive turn lanes on Route 190, eliminating the offset geometry of the intersection, eliminating cut-through traffic on Scitico Road, and providing improved and acceptable levels of service (LOS D in morning peak hour; LOS C in afternoon peak).

The choice between one-way operation (Alternative 1) and full closure (Alternative 2) is best made if and when the project goes to a design phase. This will allow more detailed technical evaluation and more neighborhood involvement. As part of that evaluation, it needs to be determined how to best accommodate school buses if Scitico Road is completely closed.

Alternatives for this accommodation include a cul de sac at the closure point or a roundabout to allow a U-turn at Scitico and Leary Roads.

Selection of the closure Alternative will also require maintenance of emergency vehicle access to Scitico Road. This can probably be provided in a manner similar to that proposed by the town for the closure of Southview Road. In that case, a mountable curb on Route 190 will block access to Southview. Behind the curb, the town will install a strip of hollow block pavers that allow grass to be planted, but can support a fire truck or police vehicle if emergency access is needed.

Implementation of either Alternative will require some improvements to Leary Road. Currently, Leary Road is constructed as an 18- to 20-foot roadway. Minor improvements to Leary Road are recommended despite the fact that traffic volumes are expected to decrease due to the fact that cut through traffic will be eliminated. As the primary access route for the neighborhood, Leary should be capable of easily accommodating any large vehicles that need to serve the neighborhood such as emergency vehicles, oil delivery trucks, snowplows, and school buses.

Broad Brook Road (Route 191) Intersection

This intersection is a three-legged T-type intersection with a good level of service today. However, the level of service is expected to decline to LOS E in the future with projected increases in traffic.

The recommended solution to address the problem is relatively simple for this location – provide an exclusive left-turn lane on the westbound approach. This additional turn lane will improve the LOS to C in both peak hours.

Streetscape Plan

A streetscape plan is included in this recommended plan, with the focus on creating better pedestrian connections and a more attractive roadside appearance. The primary purpose is to create more of a sense of place, rather than trying to preserve a historic village character as in Hazardville.

Recent commercial development along Route 190 in Scitico has tended toward a more "suburban" model: one-story buildings with shallow-pitched roofs, deep setbacks, wide

separations between buildings, big parking lots, and no sidewalks. Scitico has no historic district designation; indeed, the oldest buildings remaining in Scitico are well south of Route 190 along Scitico Road and among the old factory buildings. However, this neighborhood and the more recent residential neighborhood on the north side of Route 190 along Taylor Road may be key to enlivening the village atmosphere of Scitico. The recommended streetscape plan is illustrated in Figure 4-9 and described below.

Amenities. Pedestrians should feel invited from the nearby neighborhoods to walk to the stores and offices in the center, and therefore, good visibility, sufficient lighting, selective traffic calming, and safe crosswalks are crucial. The proposed plantings along Route 190 include new flowering trees to help enclose the streetscape and to soften views of commercial land uses.

Gateways. The village entrances to Scitico were determined by both topography and density of commercial uses, specifically at the railroad crossing on the west side, and at approximately the lawnmower dealership on the east side.

4.3 Recommended Transportation Plan for Route 190 in Somers

The recommended transportation improvements for Route 190 in Somers have been presented as follows:

- The village of Somersville;
- The village of Somers Center;
- Pedestrian and bicycle improvements in the corridor; and
- Other roadway improvements outside the villages.

Somers is still a relatively rural community with two villages located on Route 190. Previous studies indicated that congestion is not likely to be a major problem in Somers in the near future. As in Enfield, wholesale widening of Route 190 through Somers will not, therefore, be necessary. There are, however, several intersections, which are or will become problematic over the next 25 years, either because of congestion or because of safety issues. All but two of these intersections are located in the two villages. Again as in Enfield, the challenge became one of solving the traffic problems, while maintaining or enhancing the village environment.

4.3.1 Somers Plan Overview

The Recommended Transportation Plan for Somers is shown in Figure 4-10. The plan includes installing traffic signals at two intersections along with selective traffic signal coordination, installing left-turn lanes, improving intersections, adding streetscapes, and enhancing pedestrian and bicycle access. A description of key features follows in the sections below.

4.3.2 Somersville

The village of Somersville includes a small commercial district on Route 190 and a mixed-use area to the south. The old mill, a millpond now used for recreation, and an historic blacksmith shop are all sensitive assets. Two churches, a school, and the local post office are also located in the village. Single- and multi-family homes complete the community.

Route 190 through Somersville is one lane in each direction. This section is currently carrying 13,000 vehicles per day. Traffic is forecast to increase to 15,000 vpd in 2025. Traffic and safety issues are a problem in Somersville, particularly at four intersections:

- Route 190 at Maple/Shaker/Quality
- Route 190 at School/Hall Hill
- School and Maple
- Maple, Scitico, and Pinney

Route 190 at Maple/Shaker/Quality

This intersection is protected by a traffic signal. It currently operates at LOS B in the A.M. peak hour and LOS C in the P.M. peak hour. By 2025, this is expected to change to LOS C and D respectively. However, as congestion increases, signal retiming can be expected to maintain a LOS C for both the A.M. and P.M. peak hours.

Of more concern is correction of safety problems at this location. The intersecting side streets, (Maple Street and Shaker Road) are slightly offset and both intersect Route 190 at a skewed angle, which creates some difficult turning movements. Furthermore, the Shaker Road approach includes a sharp curve that limits a driver's view of the intersection and of pedestrians walking on the side of the road. Another problem is caused by the close proximity of Quality Avenue to the intersection. Quality Avenue creates conflicts with other movements at the intersection. Additional concerns expressed by residents include illegal parking on Maple Street and excessive speeds by motorists on Maple Street and Quality Avenue.

Improvements for this intersection and related roadways are shown in Figure 4-11. Specific features include:

- Limiting access to Quality Avenue to eastbound right turns in from Route 190. This will preserve access for local residents and emergency vehicles and allow the overall intersection plan to be simplified.
- Realigning the Shaker Road and Maple Street approaches to give the intersection a standard four-leg configuration.

- Providing left-turn lanes on Route 190 – thereby improving safety and mobility.
- Providing crosswalks on the south and west legs of the intersection to complement the existing crosswalk on the east leg.
- Providing a connector road between Quality Avenue and Maple Street to maintain convenient access for residents and businesses. This road, located south of the Post Office, will be controlled by stop signs at both ends, including a three-way stop control at the Quality Avenue end, designed to deter speeders. There will be a landscaped buffer at Quality Avenue to minimize noise and visual impacts on the neighborhood. Also, off-street parking is proposed near the post office to provide an alternative to illegal parking on Maple Street.

Route 190 at School/Hall Hill

The intersection of Route 190 and Hall Hill Road is not signalized, but is served by a flashing beacon. If left unsignalized, the intersection is forecast to operate at LOS F during peak hours in 2025 due to excessively long waits on side streets. Safety issues are of concern due to poor visibility and sight distance on the westbound approach to the Hall Hill Road intersection. The sight restriction is due to the hill located to the east of Hall Hill Road (vertical crest curve on Route 190). Issues raised by local residents included excessive speed by motorists on School Street.

The main features of the proposed improvements at the intersection of Route 190 with School Street and Hall Hill Road (Route 186), also shown in Figure 4-11, are:

- Installing a full traffic signal to replace the present flashing beacon, and coordination of this signal with the existing signal at the Route 190/Maple/Shaker intersection (operating on a 70 to 90-second background cycle).
    - In the short term: installing a flashing message "traffic signal ahead" sign to notify westbound traffic at about Hurlburt Road. These signs are used throughout the State where traffic signal visibility is limited.[1]

[1] ConnDOT has recently committed to installation of the traffic signal and flashing warning sign. These improvements were postponed due to lack of funding, and they are now expected to be installed in 2005.

- In the longer term: lowering the crest of the hill east of School Street / Hall Hill Road to improve visibility for westbound traffic.

- Providing left-turn lanes on Route 190 for eastbound and westbound traffic.
- Providing crosswalks on the east, west and south legs of the intersection.
- Adding traffic calming elements to School Street:
  - Narrowing the pavement to 28 feet by moving the curb line on the north side of the road. This has the associated benefit of effectively relocating five telephone poles that are currently in the roadway to the side of the road, but would eliminate parking on School Street.
  - Or alternatively, bumping out the curb to surround the telephone poles and preserve some of the existing on-street parking.
  - Installing a distinctive pavement with about a four-inch elevation at the present crosswalks. The crosswalks would be about 12 feet wide and slope to and from the existing pavement. They would not pose problems for snowplowing.

School and Maple

The intersection of School Street and Maple Street is a nonstandard 3-way intersection. It is probably best described as a trumpet-shaped intersection with a triangular island in the middle. Due to the curve in Maple Street, and the presence of the old mill building immediately adjacent to the sidewalk, there is a sight line restriction for drivers on Maple Street. The proposed improvement at this intersection involves adding stop controls to address the sight line problem and to reconstruct the intersection as a more standard T-type intersection. The proposed improvements are shown in Figure 4-12 and explained below.

- Bringing School Street into a right angle junction;
- Placing stop signs on all approaches, to interrupt traffic flow and slow traffic (note: a stop sign was installed on the northbound approach during the course of this study in response to a preliminary study recommendation);

- Filling in or reconstructing the sluiceway by the old mill. The sluiceway runs under the road from the dam to the mill building and is no longer in use; and
- Providing landscaped areas, as a village amenity.

Maple, Scitico and Pinney

This is a 4-legged intersection where it is not always apparent which driver has the right of way. Three of the approaches are controlled by stop signs: the eastbound Scitico Road approach, the westbound Pinney Road approach, and the northbound Maple Street approach. Only the southbound Maple Street approach is not stop controlled. The 3-way stop control at a 4-legged intersection causes some driver confusion that is added to by the odd angle of the intersecting streets, and the awkward placement of the stop bar on Scitico Road.

The location of the historic blacksmith shop here requires sensitive design work to minimize the impact of any geometric changes proposed for this intersection. This was kept in mind when improvements were proposed. These improvements are also shown in Figure 4-12. They include:

- Installing stop signs on all approaches, to eliminate confusion about which driver has the right of way and to slow traffic through the intersection; and
- Realigning Scitico Road to allow the stop bar to be moved forward to a position where it is apparent to all drivers that Scitico Road is part of the intersection.

Streetscape Plan

A streetscape plan was developed for Somersville to reclaim a sense of place in the community, to slow traffic through the village, and to add a more pedestrian-friendly atmosphere to the area. The village streetscape plan is shown in Figure 4-13. This plan, as well as the one described later for Somers Center, has been coordinated with the streetscape plans proposed in Enfield. This will serve to present the same visual clues to motorists that they are entering a community and that they should take extra care through these areas.

Traffic Calming. Route 190 through Somersville is a long, straight, flat stretch of roadway on which traffic speeds are inappropriate to the village character of the adjacent land use. Recognizing the fact that this is also a State arterial used by inter-town traffic, traffic-calming

measures need to be carefully selected. One appropriate measure which can help slow traffic is to plant shade and flowering trees to visually narrow the roadway, and to vary these plantings from side to side to reduce the straight, elongated "tunnel" effect. With traffic calming and properly located and identified crosswalks in place, pedestrian amenities such as benches and planters are suggested to complete the sense of place and pedestrian comfort.

Build-To Line. Another suggestion designed to improve the village atmosphere of Somersville is to establish a "build-to / parking setback" line. In suburban settings, zoning regulations typically include "setback" requirements – i.e. that the building must be constructed a certain minimum distance away from the road. This requirement often results in layouts that place parking areas next to the street and buildings are placed even further back than required. Thus, the parking areas are the most prominent visual feature to travelers on the road. The recommended streetscape plan for Somersville includes an alternative approach, called a "build-to" line. In this concept, buildings throughout the village, both residential and commercial, are constructed a similar distance back from the roadway edge on both sides of Route 190. This line can be seen in Figure 4-13. The result is generally that parking is at the rear of the buildings and the visual village concept is maintained.

Zoning regulations could be adopted that would require that all new buildings be built closer to the street. This would help maintain the spatial relationship of the pedestrian to the streetscape. By locating parking behind the front building facades, automobiles and the vacant space of unused parking lots would be hidden, or at least not as prominent visually. This parking setback will eliminate the view of rows of car bumpers and place more emphasis on the architecture.

Gateways. A third proposal would be to install a special paving strip and welcome sign at the entrances to the village. This would give drivers a visual (and tactile) clue that they are entering a community and that they need to slow down and drive more alertly. The entrances to Somersville were determined by topography and the density of commercial development: at the church green on the west side and at the crest of the hill before Hall Hill Road on the east side.

4.3.3 Somers Center

Somers center is a designated historic village with a unique character.[2] There is a strong desire on the part of Somers citizens to protect the streetscape and village character of Somers. In recognition of this, efforts were made during this study to develop recommendations that would preserve and enhance the streetscape.

Route 190 through Somers center is currently one lane in each direction with a turning lane for westbound traffic at the Route 83 intersection. On-street parking is permitted in front of the Town Hall. This section of Route 190 is currently carrying about 12,500 vehicles per day, forecast to increase to over 14,000 vpd by 2025.

The primary traffic problem in Somers center is the intersection of Route 190 and Route 83. The north and south legs (Route 83) of the intersection are offset. The offset leads to some confusion for northbound and southbound drivers as to who has the right of way. It also creates a conflict for eastbound and westbound drivers who are attempting to turn left. In a standard intersection, the left turns are executed in front of the opposing left-turning vehicle, but with the offset at this intersection the drivers must turn left after they pass the opposing left-turning vehicle. A goal of this project is to eliminate this condition of interlocking left turns.

A second problem at the intersection is the level of service (LOS), or congestion. While congestion is only moderate today (LOS D), congestion is expected to become serious (LOS F) with anticipated increases in traffic. The offset geometry of the intersection contributes to the congestion problem, since it limits the options available to develop an efficient signal-timing plan.

In addition to the traffic problem at the intersection, there are also problems related to pedestrian travel in the village area. There is a lack of sidewalks on Route 83 south of the intersection, which makes pedestrian travel along this commercial area difficult. Furthermore, the town's major recreational complex is located about one-half mile south of the center on Field Road. Town officials and residents expressed a strong interest in providing a pedestrian connection to the recreational complex.

[2] Somers Center is listed on the National Historic Register.

Route 190/Route 83 Intersection

The recommended improvement plan includes two alternatives for this heavily traveled intersection in the village center, both shown in Figure 4-14. Both alternatives include a realignment of Route 83, south of Route 190, to eliminate the existing offset geometry. The alternatives differ in the degree of roadway realignment and their impact on the adjacent land parcels. Alternative 1 shows a more curved alignment, while Alternative 2 is a more direct alignment. The choice between these alternatives is not being made at this time, because the final design will be dependent upon development options pursued by the owners of the adjacent land. The provision of two alternatives at this time, and in reality any alignment in between, allows maximum flexibility in the future use of this land.

Both improvement alternatives include the following additional features:

- Turn Lanes. Add left-turn lanes on all four approaches to the intersection and related changes to traffic signal operations.
- Village Green. Provide for the possibility of gaining a small village "green" on the west side of the realigned segment of Route 83. (The green in Alternative 1 is larger.)
- Crosswalks. New marked crosswalks at all four quadrants of the intersection.
- Somers Inn Snow Shelf. Realign Route 83 north of Route 190 to provide a larger snow shelf and more pedestrian buffer between the roadway and the Somers Inn (This might not be possible in Alternative 2. Further review in design is needed.).
- Stop Bar Moved Forward. Relocate the stop bar on Route 83 north of Route 190 to improve visibility of cross traffic and pedestrians for southbound traffic.
- New Sidewalks. Build new sidewalks on both sides of Route 83 south of the intersection. The new sidewalks will ultimately connect with Field Road and provide a continuous pedestrian connection from the town center to the town's recreation complex.

Woodward House. A key factor in the development of the two alternatives is the treatment of the Woodward House. This building sits on the southeast corner of the intersection and is recognized in the National Historic Register as contributing to the historic streetscape. Since the Woodward House sits so close to Route 83, it is virtually impossible to realign the intersection

without removing the House. In fact, both alternatives of the improvement plan will require the removal of the Woodward House, but stipulate that the House should not be demolished. The recommended treatment for the Woodward House is relocation of the House so that it will remain part of the Somers streetscape. The new location will depend on the status of the development of the property on the southeast corner at the time of the realignment project.[3]

Service Road. During the earlier phases of this study a service road from Route 83 to the town hall was presented as a way to provide safer access to the town hall and any businesses on Route 190. Residents of Kibbe Drive expressed concern that the proposed service road would result in increased traffic on Kibbe Drive if the new road were connected to Kibbe Drive (drivers cutting through from Route 83 to Route 190). Due to this concern as well as concerns about how the service road would impact the existing building and Little League fields, no specific service road is proposed at this time. However, a service road could make access to the town hall easier and should be reconsidered by the town if and when changes to the buildings on Route 83 allow sufficient room for a driveway from Route 83 to the town hall. If a driveway to Route 83 were provided, the town hall connection to Kibbe Drive would no longer be needed.

Streetscape Plan

In Somers Center, the historic village fabric remains largely intact. It appears that with a few minor exceptions, new development has been designed to fit into this theme. For instance, the bank building on the northeast corner of Routes 190 and 83 has been specifically located as a visual complement to the historic buildings on opposite corners.

Build-To Line. A significant element of the historic and architectural value of the streetscape, shown in Figure 4-15, is the respect for a "build-to" or "parking setback" line, similar to that described in the Somersville Steetscape Plan above. Throughout the village, many of the

[3] The issue of the relocation of the Woodward House was discussed with representatives of the State Historic Commission. The representatives cited the ruling by the full Commission that prohibited the demolition of the House for a proposed development at the corner. (A copy of the letter providing notice of the SHC ruling is included in the appendix.) The representatives indicated that the primary concern was not the historic or architectural significance of the House itself, but rather how the House contributed to the fabric of the village streetscape. The representatives also provided guidance on the issue of possible relocation of the House. They stated that while demolition was not acceptable, it would be acceptable to relocate the House so long as it could still be contribute to the village streetscape in a meaningful way. It was further determined that the one story addition off the rear of the ell portion of the House was not historically significant and did not contribute to the streetscape. As such, removal of the rear additional would not harm the streetscape and would be allowed.

buildings, both residential and commercial, are constructed at a similar distance back from the roadway edge along both sides of the Route 190. The result is a visual village concept that should be maintained into the future. It is recommended that the Town adopt a 'build-to line' as part of its development regulations affecting the village. New buildings would be required to be placed no further back from the road than this line, and no parking would be allowed in front of the building.

Visual Emphasis. In a village setting, the visual emphasis should be on the significant architectural features and on the pedestrians. These features assist in de-emphasizing the presence of automobiles. Recent development such as the service station and hardware store are examples of "suburban" style developments including large expanses of pavement. In the village environment, it is essential to minimize the visual impact of the pavement from the road. While most businesses need to be visible to passing motorists, the town should require that they continue to place visual emphasis on their buildings. Attractive signage, entrance plantings (to create an inviting atmosphere), and other aesthetically pleasing features should be encouraged rather than large typical suburban parking lots. The streetscape plan also includes the addition of shade and flowering trees to soften the visual impact of pavement and complement existing trees.

Gateways. A final recommendation of the streetscape plan for Somers Center is to create village "gateways" at either end of the village. The gateway should include an entrance sign, an attractive landscaping element, and a band of alternative pavement material across the roadway. As mentioned earlier, the re-alignment of the Route 190 and Route 83 intersection can include a new "town green" area to help visually soften the impact of recent highway-oriented businesses while solving the traffic congestion and safety problems at this intersection.

4.3.4 Pedestrian and Bicycle Improvements

During the course of the study, residents expressed a strong interest in improving opportunities for bike and pedestrian travel in town. Based on input from advisory committee members and participants at public meetings, several potential improvements were identified and are described below. They are also depicted in Figure 4-16. It is recommended that these be implemented as opportunities and funding allow.

Construct Sidewalks in Somersville – The construction of sidewalks along the north side of Route 190 in Somersville (between Shaker and Hall Hill Roads) will complement the existing sidewalks on the south side, and are part of the overall streetscape plan for Somersville.

Construct Sidewalks in Somers Center – The construction of sidewalks along the both sides of Route 83 south of Route 190 are needed to provide a complete pedestrian network in Somers center. They are also needed to provide a pedestrian link to the recreational and school complexes as discussed below. There are no sidewalks in this section today.

Provide Pedestrian Connections between Villages and Schools - A pedestrian connection between the two villages, and between each village and the school complex on Ninth District Road is recommended.[5] Figure 4-16 illustrates the general location of the proposed sidewalk network. Residents asked for sidewalks along Route 190 for the full distance between Somers and Somersville. A sidewalk from Route 190 to the school complex already exists, so this provides one means of access from the villages to the complex. Additionally, it is recommended that the town provide a separate connection from Somers center to the school complex via Route 83, Field Road, and the recreational complex on Field Road.

Move Guiderails on Route 190 near Cemetery - The guiderails on one of the curves on Route 190 make it difficult for pedestrians or cyclists traveling at the side of the road. The curve is located between Ninth District Road and Somers center. It is immediately east of West Cemetery. Due to the curve and the sharp drop off on either side of the road, the guide rails are set immediately at the edge of pavement and there is only moderate shoulder width on either side. A potential solution is to fill the area to the south side of the road to allow the guide rails to be moved back. Based on a brief field visit, it appears that the area to the south is not a wetland, and filling should be possible. This could be done at the time the village-to-village pedestrian connection (discussed above) is constructed. The option of filling should also be considered the next time the Connecticut Department of Transportation replaces guiderails in the area, or does a major roadway repaving job.

[5] A separate project to reconstruct Ninth District road is already funded, and that project will allow for reconstruction of the sidewalks in this area.

Maintain and Improve Route 190 as a Bike Route - In one the initial public meeting in Somers, residents suggested that Route 190 was an important route for on-road cyclists in town. This is because it is the main east-west route in town, but also because there are adequate shoulders along most sections of Route 190. They asked that every effort be made to maintain 4-5 foot shoulders where they already exist, and to provide the wider shoulders where they are currently too narrow. Shoulder width can typically be addressed by the Connecticut Department of Transportation during routine repaving projects.

4.3.5 Roadway Improvements at Other Locations

There are three other intersections on Route 190 at which improvements were considered. These are: Ninth District Road, Battle Street, and Turnpike Road. Each is discussed briefly below.

Ninth District Road - This location was evaluated more fully in a previous study, and a recommendation was made to add turn lanes on all approaches, reduce the grade on the westbound approach, and reconstruct Ninth District Road from the intersection to the school complex driveway. Funding to implement the recommendations was secured through the federal STP-Urban program and the Department of Transportation has initiated a project. Improvements should be completed in 4-5 years.

Battle Street - At some future point in time, it is likely that a left-turn lane on the Route 190 eastbound approach will be warranted.

Turnpike Road - As was the case with Ninth District Road, this location was evaluated in more detail in a previous study. A plan to address safety problems at this location was developed and funded. The project is currently being designed by the Connecticut Department of Transportation. Improvements should be completed within two years.

4.4 Project Cost Estimates

Project costs for transportation improvements in Enfield and Somers were estimated using 2002 dollars, and based on standard unit costs established by the Connecticut Department of Transportation and established guidelines for engineering and contingency costs. Costs for each project are shown in Tables 4-1 and 4-2 for Enfield and Somers respectively.

Table 4-1

Estimated Costs of Recommended Projects
Route 190 Corridor Study

ENFIELD

LOCATION AND PROJECT	ESTIMATED COST[6]
Commercial Area	
• Extend Traffic Signal Coordination	$ 204,000
• Improvement to Phoenix Avenue intersection	$ 405,000
• Enfield Common – Enfield Square Connection	$ 311,500
• Pedestrian and Bicycle Improvements (Including a crossing over Route I-91)	$4,618,000
Transition Area – Palomba Drive to Hazardville	
• Revise roadway cross-section, add sidewalks on north side and ITS advisory sign	
o Alternative 1	$1,963,500
o Alternative 2 – Access Management	$1,977,000
Hazardville	
• Improvement to Maple Street Intersection (Route 192) (Including Streetscape Elements)	
o Alternative 1	$ 649,000
o Alternative 2 – Eastbound Right-Turn Lane	$ 647,000
Scitico	
• Improvement to Scitico/Taylor Road Intersection (Including Improvement to Broad Brook intersection (Route 191) and Streetscape Improvements)	
o Alternative 1 – Right-in Only	$1,178,000
o Alternative 2 – Hammerhead Cul-de-Sac	$1,199,500
Bicycle and Pedestrian Improvements[7]	
• Minor widening of Route 190 to 36 feet from Longview Road to Westerly Drive to accommodate a 5-foot shoulder for bicyclists[8]	$ 221,500

[6] Includes design, contingencies and right-of-way where applicable.
[7] Costs for sidewalks where needed have been included in the individual projects cited above.
[8] Provision of 5-foot shoulder for bicyclists can be accommodated in the existing right-of-way except for this short section. The cost would be incorporated into a regular road resurfacing project.

Table 4-2
Estimated Costs of Recommended Projects
Route 190 Corridor Study

SOMERS

LOCATION AND PROJECT	ESTIMATED COST[9]
Somersville	
• West End Improvements	$1,464,000
o Improvement to Route 190/Maple Street/Shaker Road Intersection	
o Connector Road – Quality Avenue to Maple Street (Including Post Office Parking Lot)	
o Improvements to Maple/School Street Intersection (Including filling in old sluiceway)	
o Streetscape improvements	
• Sidewalks on North Side of Route 190 (Shaker to Hall Hill Roads)	$ 183,000
• Improvements to Route 190/School Street/Hall Hill Road Intersection	
o Turning lanes on east and west approaches	$ 607,500
o Lowering road profile	$ 508,000
• Improvements to Maple Street/Pinney/Scitico Roads Intersection	$ 92,000
• Traffic Calming Improvements on School Street	
o Narrowing to 28 foot cross-section	$ 76,000
o Narrowing with "bump-ins"	$ 87,500
Somers Center	
• Improvement to Route 190/Route 83 intersection (Including Streetscape Improvements)	
o Alternative 1 – Curved Alignment	$1,541,000
o Alternative 2 – Straight Alignment	$1,518,500

[9] Includes design, contingencies and right-of-way where applicable.

Table 2 (Continued)
Estimated Costs of Recommended Projects

SOMERS

LOCATION AND PROJECT	ESTIMATED COST[10]
Bicycle & Pedestrian Improvements	
• Sidewalks on Route 190 – Somersville Center to Ninth District Road	$1,250,000
• Sidewalks on Route 190 – Somers Center to Ninth District Road	$ 590,500
• Sidewalks on Route 83 and Field Road – Somers Center to Town Recreation Area & School Complex	$ 921,000
• Minor widening of Route 190 to 36 feet from the Scantic River to Maple Ridge Road to accommodate a 5-foot shoulder for bicyclists[11]	$ 873,500

[10] Includes design, contingencies and right-of-way where applicable.
[11] Provision of 5-foot shoulder for bicyclists can be accommodated in the existing right-of-way except for this section. This cost would be incorporated into a regular road-resurfacing project.

APPENDIX A
COMMUNITY INVOLVEMENT AND COORDINATION

A.1 Introduction

This study has been conducted with an extensive community participation program. Elements of this program include:

- A Steering Committee composed of representatives of both Enfield and Somers;
- A Local Advisory Committee in Enfield and another in Somers to provide guidance, review study reports and proposals and provide feedback;
- A series of Public Information meetings to share information with and receive comments and suggestions from the public; and
- A series of Newsletters to update the public on the progress of the study and to alert them to upcoming meetings.

These elements were supplemented by informal meetings between the study team and town government officials, as well as meetings with concerned citizens and property owners. This Appendix describes the community involvement process in detail, reporting on activities in each community.

A.2 Summary of Technical Process and Relationship to Community Involvement

The technical aspects of the study ran in parallel with the public process. These efforts were complementary, in that the technical analyses provided a basis for public discussion and consensus-building, while comments and suggestions at Advisory Committee and Public Information Meetings gave rise to additional options to examine.

The first major product of the Study, the **Existing Conditions Report,** documented traffic conditions and problems in the base year (2000). This report was presented to the Local Advisory Committees in May and June of 2000.

The second major product of the Study was the **Future Traffic Conditions Report**. This report was presented to the Local Advisory Committees in November of 2000.

Public Information Meetings were held in Enfield and Somers in December of 2000 to present the findings of these reports to the public, discuss transportation problems and opportunities, and listen to comments and suggestions from the public. Comments were received, recorded, and considered in developing and analyzing potential improvements.

Alternatives for improvements were developed and screened in the first half of 2001. Several alternative traffic improvement concepts were developed for specific locations, particularly the village centers of Scitico, Somersville, and Somers center. The potential improvements in the Towns of Somers and Enfield were presented to each Local Advisory Committee in June and August 2001 respectively. Concerns raised at the LAC meetings were addressed through subsequent meetings with town officials, property owners, and neighborhood groups. Refined alternatives evolved during these discussions and, in the case of Somers, two further meetings of the Local Advisory Committee. This process resulted in a consensus about the alternatives that should be presented to the public.

Public Information Meetings were held in Somers in September 2001 and in Enfield in October 2001. The study team presented the process by which the alternatives were developed and the alternatives themselves. Citizens in both towns made several comments and offered suggestions for improving the alternatives presented.

The study team reviewed and evaluated all of the comments and suggestions received from the public. Local Advisory Committee meetings were held in both communities in late November and early December to review these items and decide on changes to the recommended program. These changes were taken into account in developing the draft Final Plans, which were again presented to the public in early April 2002. The only change to the plan recommended at those meetings was for the intersection of Route 190 and Maple Street in Enfield. Those changes have been incorporated into this Plan.

The **Recommended Improvement Plan for Route 190** is the result of a detailed iterative process, which we believe responds to concerns expressed by the public while at the same time solving the transportation problems in the Corridor.

A.3 Steering Committee

A Steering Committee, made up of representatives from both towns in the corridor, met at the beginning of the project (March 23, 2000) to discuss the study objectives, schedule and public participation process. Recommendations for forming Local Advisory Committees in each town were also discussed.

A.4 Community Involvement in Enfield

This section summarizes the community involvement activities in Enfield during the course of the project.

A.4.1 Members of the Local Advisory Committee

The following persons have served on and contributed to the Enfield Local Advisory Committee (LAC) for this project:

William Vayda	Mayor (from November 2001)
Mary Lou Strom	Mayor (through November 2001) Town Council (from November 2001)
Alice Egan	Town Council
Carol Hall	Town Council – at Large
Scott Shanley	Town Manager
Raymond Aleskwiz	Citizen
Little John	Citizen
John W. Kane	Citizen
Karen LaPlante	Citizen
Mike Lizee	Citizen
Tony Secondo	Citizen
Jeanne Smith	Citizen

A.4.2 Local Advisory Committee Meetings

The Enfield LAC met on several occasions to review and discuss the project. These meetings and the main issues discussed are summarized below.

First Meeting – June 26, 2000

This meeting served as an introduction to the study. The study team presented the scope of the study (eight tasks), summarized existing conditions as presented in the Existing Conditions Report, and led discussions of transportation problems and opportunities, goals and objectives, and initial ideas for improvements.

Second Meeting – November 14, 2000

This meeting was held in advance of the first public meeting. The study team presented updates of the previous discussions of problems and opportunities and goals and objectives, as well as the findings of the Future Conditions Report. This report suggested that Route 190 did not need to be widened throughout the corridor, but traffic congestion is forecast to occur by the year 2025 in some locations. The committee made a number of comments and suggestions, and agreed on the agenda for presenting information gathered to date in the study to the public at the first public information meeting.

Third Meeting – August 21, 2001

The purpose of this meeting was for the LAC to review improvement alternatives and reach consensus about the specific options to be presented to the public. Five alternatives were reviewed for Scitico; the LAC eliminated two of them. Two alternatives were reviewed for Hazardville Center; the LAC decided that both should be considered. The study team presented three alternative cross-sections for the transitional area of Route 190 between Palomba Drive and Hazardville. These were also carried forward to the public meeting. The LAC also reviewed potential improvements in the commercial area near the Route I-91 interchange and bicycle and pedestrian improvements. The LAC also decided that possible changes to the I-91 interchange would not be presented to the public due to the complexity of the issues and need for a separate study. The LAC also set the date for the second public information meeting.

Fourth Meeting – November 27, 2001

The purpose of the meeting was to review comments received at the second public information meeting and the subsequent analysis, and to develop consensus on improvements to be included in the Draft Final Report. As discussed below, the public suggested two alternative improvements in Scitico, a right-turn in arrangement and closure of Scitico Road via a cul-de-sac. The study team had subsequently looked at diverted traffic resulting from closure and the width of Leary Street for service vehicles. In Hazardville, the public had indicated a clear preference for one of the alternatives – without a median. This alternative will be carried forward into the draft plan. One alternative – a three-lane configuration with painted median and left turn lanes – was the preferred alternative in the transitional area. It is anticipated that implementation of this alternative would be coordinated with continued access management practices. An example of access management was illustrated. Improvements at Phoenix Avenue and bicycle/pedestrian improvements will also be included.

Fifth Meeting – May 29, 2002

Concerns expressed at the third Public Information Meeting about the improvements proposed for the intersection of Route 190 and North Maple/South Maple were discussed at this meeting. A proposal to widen North Maple and shift it about five feet to the west to accommodate turning truck traffic was opposed by a member of the public who owns a trucking company in the area. He suggested instead that the stop bar be moved north and that a No Turn on Red sign be installed. This proposal would allow trucks to make the turn from westbound on Route 190 to northbound on North Maple with little trouble and would be more cost effective.

In addition, an earlier proposal to make the eastbound approach to the intersection a two-lane facility with an exclusive left-turn lane and a shared through and right-turn lane was opposed by some members of the public at the Public Information Meeting and at this Local Advisory Committee meeting. Some residents thought that an exclusive right-turn lane was warranted. The committee decided to show two options with the choice between them to be made when the project goes to design.

A.4.3 Public Meetings

The study scope provided for three public meetings in each community. The meetings were held at key stages of the study where public input and support were required in order to proceed to the next stage.

First Public Information Meeting – December 11, 2000

More than 30 citizens attended this first Public Information Meeting. The study team presented summaries of existing conditions, forecast future traffic and potential congestion problems, and transportation problems and opportunities. Initial ideas for potential improvements were discussed and comments from the public were invited. Some key comments were:

- Interest in a alternative route along Route 220;
- Concern about the volume of truck traffic;
- Concern about traffic in Hazardville Center, in terms of truck traffic, protected left turns, and traffic calming;
- Sidewalks and pedestrian facilities;
- Access management; and
- More direct access between shopping plazas in the commercial area.

Second Public Information Meeting – October 2, 2001

More than 40 citizens attended the second Public Information Meeting. The study team presented the recommended improvements, and in locations where there was more than one alternative, the main features and advantages/disadvantages of each. Plans for streetscape improvements were also presented for the Villages of Hazardville and Scitico.

The study team then responded to questions and listened to comments.

As part of the discussion, the citizens present were asked to express a preference between/among alternatives. In Hazardville, the chief difference between the two alternatives was whether or not a pedestrian island would be included on Route 190 at the intersection of Route 192 (Maple Street). The citizens present expressed a preference for the alternative without the medians.

In Scitico, three alternatives were presented: the differences among these were whether or not Scitico Road would be made one-way southbound and whether or not a park/green space would be included at the intersection. The citizens present suggested two additional concepts – a right-turn in only arrangement for eastbound traffic on Route 190 to Scitico Road, and closing Scitico Road to Route 190 entirely by means of a cul-de-sac.

Many comments were made at the meeting, and a full record of them is on file at CRCOG. The key points that led to further analysis by the study team, in addition to the Scitico suggestions above, were concerned sidewalks in the transitional area.

Third Public Information Meeting – April 11, 2002

The purpose of this meeting, attended by about 23 residents, was to present the Draft Final Report to the public, respond to questions and note any comments before finalizing the report. The only issue brought up at the meeting was the provision for turning movements at Route 190 and Maple Street in Hazardville. The study team has addressed that issue in the Final Plan.

A.4.4 Special Contacts Made

The study team met with a key property owner to discuss impacts of proposed improvements in Scitico. Discussions were held with the package store owner at the southeastern corner of the intersection of Scitico Road with Route 190.

A.4.5 Newsletters

Three newsletters were prepared and distributed in the course of this project. The newsletters were distributed prior to the public meetings in order to provide information and encourage the public to come to the meetings. The newsletters were sent to local officials, abutting property owners, interested residents, and business owners in the corridor, as well as to the local media. In addition, copies of the newsletters were made available at the town hall, and at the Enfield Central Public Library.

The **first newsletter** was mailed to more than 400 Enfield residents and business owners in December 2000, approximately two weeks before the first public meeting. It reported on existing conditions in the corridor in terms of traffic volumes and capacity, traffic accidents and

safety, bicycle and pedestrian transportation. It also indicated that traffic congestion would be likely to occur in some locations in the corridor without improvements. The newsletter contained a discussion of transportation problems and opportunities and a preliminary list of improvement strategies for consideration in both Enfield and Somers.

The **second newsletter** was focused on potential improvement strategies. It was mailed to about 525 Enfield residents and business owners in September 2001, and presented recommendations for improvements in several locations along the corridor: the commercial area at the western end of the corridor (with a focus on bicycle and pedestrian improvements), the transitional area from Palomba Drive to Hazardville, Hazardville Center, and Scitico. Alternative versions of improvements were included for Hazardville and Scitico. The newsletter, which was also made available at the town hall and the public library and mailed to the local media, contained an invitation to attend the public meeting.

The **third newsletter** was distributed in late March, 2002: again mailed to more than 400 abutting property owners, interested citizens and business owners and made available at the town hall, at the public library and to the local media. This newsletter summarized the draft corridor improvement plan and focused on describing the changes made in response to public input since the last newsletter was issued. It also informed the public about the third public information meeting. The newsletter was distributed to both Enfield and Somers.

A.5 Community Involvement in Somers

This section summarizes the community involvement activities in Somers during the course of the project.

A.5.1 Members of the Local Advisory Committee

The following persons have served on and contributed to the Local Advisory Committee for this project:

Richard Jackson	First Selectman (from November 2001)
Gordon Mello	First Selectman (through November 2001)
Patrice Carson	Town Planner
Bill Bouchelle	Fire Department
Elwood Clifford	Planning Commission Chairman
Everett Morrill	Dept. of Public Works
James Ferreira	Citizen
Katherine Mashiak	Citizen

A.5.2. Local Advisory Committee Meetings

The Somers LAC met on several occasions to review and discuss the project. These meetings and the main issues discussed are summarized below.

First Meeting – May 25, 2000

This meeting served as an introduction to the study. The study team presented the scope of the study (eight tasks), summarized existing conditions as presented in the Existing Conditions Report, and led discussions of transportation problems and opportunities, goals and objectives, and initial ideas for improvements.

Second Meeting – November 13, 2000

This meeting was held in advance of the first public meeting. The study team presented updates of the previous discussions of problems and opportunities and goals and objectives, as well as the findings of the Future Conditions Report. This report suggested that Route 190 did not need to be widened throughout the corridor, but traffic congestion is forecast to occur by the year 2025 in some locations. The committee made a number of comments and suggestions, and agreed on the agenda for presenting information gathered to date in the study to the public at the first public information meeting. Several comments were made by committee members concerning truck traffic, traffic signals and traffic calming.

Third Meeting – June 11, 2001

The purpose of this meeting was to review various alternative improvements to address problem sites identified previously. The study team reviewed proposals for installation of traffic signals, coordination of signals, left turn lanes, intersection alignments, a bypass lane and speed limit modifications. It was also reported that the study team had evaluated two potential bypasses of Route 190 and found that they generated insufficient traffic to warrant further consideration.

Much of the meeting was devoted to a discussion of the potential improvements at the intersection of Route 83 and Route 190 in Somers Center. Five alternative options were reviewed and discussed. The primary improvement at this intersection would be realignment of the south approach to eliminate the present off-set configuration. A village treatment/streetscape plan was also presented. Matters to be resolved concerned addition of sidewalks on Route 83 south of the intersection, the nature and extent of a possible green area created by the realignment, and a possible service road and access to Town Hall parallel to Route 190.

Fourth Meeting – June 26, 2001

The purpose of this meeting was to review proposals for improvements in Somersville, which had been deferred from the previous meeting, as well as to resolve issues arising from discussion at the previous meeting. The study team reviewed alternatives for traffic signals, turning lanes, and one-way streets. There were two major alternatives for the intersection of Maple Street and

Shaker Roads with Route 190. These generated considerable discussion and a third alternative. A village and streetscape plan for Somersville was also presented.

Several changes to the Route 83/190 intersection were reviewed based on the discussion at the previous meeting and subsequent analysis. The owner of the Mobil gas station on the corner raised objections to the layout. A direct meeting with him was arranged for the near future.

Fifth Meeting – July 25, 2001

The purpose of the meeting was to review changes to the plans presented at the two previous meetings based on comments and meetings with property owners, and to confirm the alternatives to be presented at the second public meeting. The changes concerned Route 190 in Somersville, the intersections along Maple Street in the southern portion of Somersville Center, and the intersection of Routes 83/190.

Sixth Meeting – December 11, 2001

The purpose of the meeting was to review and address issues brought up at the second public meeting in September, and develop consensus on the plans to be included in the Draft Final Report. Changes were made to the Somersville improvements in terms of eliminating on-street parking on Route 190 and instituting traffic calming measures on School Street. In Somers Center, the study team presented an interim improvement in addition to the long-term improvement presented previously. This alternative would involve reserving some land for future right of way, and generated considerable discussion from the property owners and citizens present. The status of the interim improvement was not resolved at the meeting and was to be the subject of further discussions.

Seventh Meeting – February 14, 2002

The purpose of this meeting was to arrive at consensus concerning the improvement proposed for the intersection of Route 190 and 83. The proposed interim project was dropped as no longer necessary, given that issues surrounding a house within the right-of-way of the proposed realignment has been resolved with the State historic commission, town officials, and the owners of the adjacent property. Two realignment options were presented, and are continued as options in the Final Plan. The choice between them will be made during design, or if and when the adjacent property is redeveloped.

A.5.3 Public Meetings

The study scope provided for three public meetings in each community. The meetings were held at key stages of the study where public input and support were required in order to proceed to the next stage.

First Public Information Meeting – December 12, 2000

The study team presented summaries of existing conditions, forecast future traffic and potential congestion problems, and transportation problems and opportunities to the more than 50 residents who attended this meeting. Initial ideas for potential improvements were discussed and comments from the public were invited. Some key comments were:

- Desire for sidewalks on Route 83 south of Somers Center;
- Alternative Route for Route 190 – via extension of Route 220;
- Volume and behavior of truck traffic;
- Need for pedestrian connections between the villages of Somersville and Somers Center and the Town School and recreation complex off Ninth District Road; and
- Possible one-way designation of School Street in Somersville.

Second Public Information Meeting – September 12, 2001

Again, more than 50 residents attended this Public Information Meeting. The study team presented the recommended improvements, and in locations where there was more than one alternative, the main features and advantages/disadvantages of each. Plans for streetscape improvements were also presented for the Villages of Somersville and Somers Center. The study team then responded to questions and listened to comments.

Comments offered by the public included:

- Opposition to access from the proposed service road to Kibbe Drive;
- Impacts of Somers Center improvement on the ballfields and Woodward House;
- Speeding and cut-through traffic on School Street;

- Support for sidewalks to the Town recreation complex; and
- Sidewalks and on-street parking in Somersville.

Third Public Information Meeting – April 9, 2002

About 42 residents attended the third Public Information Meeting. The study team presented the Draft Final Report with the recommended improvement plan, and also summarized the investigations that had taken place since the previous meeting. The team responded to questions and listened to comments and suggestions from the public.

A.5.4 Special Contacts Made

Several meetings were held with concerned citizens and property owners at various times in the study to discuss special issues and impacts of proposed improvements. These have included:

Somersville Neighorhood Meeting

The study team met with Somersville residents to discuss alternative improvements, particularly ones proposed at the intersection of Maple Street/Shaker Road and Route 190, and along Maple Street. The two key issues were:

- Reconstruction of the intersection. The study team had presented two alternatives to convert the current awkward five-leg intersection into a four-leg configuration, by closing either Maple Street or Quality Avenue.
- Location of a proposed connector road between Quality Avenue and Maple Street. Closure of either street would require a connector road in order to preserve access for the homes and business on Quality Avenue. The study team had presented two alternative locations for this connector road: 1) along the south edge of the existing green, north of the Congregational Church of Somersville, and 2) approximately 300 feet south of this location, emerging on Maple Street just south of the Post Office.

The neighborhood meetings aided in forming consensus in favor of:

- Retaining Maple Street and making Quality Avenue right turn in only;
- The southern location for the connector road; and

- Associated parking and landscaping improvements.

Somers Center Meetings

The study team met with the property owners on the south side of the Route 83 intersection to discuss the layout of the proposed improvement at the intersection. Dialogue with the owners of the Woodward House/Somers Center and the Mobil Station on the southeast and southwest corners respectively aided in development of a layout for the interchange that was acceptable to the community. The study team also contacted the State Historic Commission to clarify the status of the Woodward House.

A.5.5 Newsletters

Three newsletters were prepared over the course of this project. They were mailed to local officials, abutting landowners, local business owners, and other interested persons. In addition, copies were made available at the town hall and at the Somers Public Library. The newsletters were distributed prior to the public meetings in order to provide information and encourage the public to come to the meetings. Copies of the newsletters were also sent to the local media in an effort to reach the widest audience possible.

The **first newsletter** was mailed to more than 300 Somers residents and business owners in December 2000, approximately two weeks before the first public meeting. Another 100 copies of the newsletter was distributed throughout the town, at the town hall, the library and other local gathering places. As discussed previously, this newsletter discussed issues in both Enfield and Somers. It described existing conditions in the corridor in terms of traffic volumes and capacity, traffic accidents and safety, bicycle and pedestrian transportation. It also indicated that traffic congestion would be likely to occur in some locations in the corridor without improvements. The newsletter contained a discussion of transportation problems and opportunities and a preliminary list of improvement strategies for consideration.

The **second newsletter** was mailed to about 450 Somers residents and business owners in August 2001, prior to the second Public Information Meeting. An additional 150 copies of the newsletter were placed in various locations around town. This newsletter discussed and

illustrated proposed improvements in Somersville and Somers Center, selected traffic improvements in other locations, and bicycle/pedestrian improvements throughout the corridor.

The **third newsletter** was distributed in late March, 2002: mailed to more than 400 residents and business owners and made available at the town hall and local library. It summarized the draft corridor improvement plan and focused on describing the changes made in response to public input and since the last newsletter was issued. It also informed the public about the third public information meeting. The newsletter was distributed to both Enfield and Somers.

APPENDIX B
DOCUMENTATION OF ALTERNATIVES EXPLORED

B.1 Introduction

This appendix sets forth improvement concepts and alternatives for the Route 190 corridor in Enfield and Somers that were considered in the planning process. The various concepts were designed to alleviate existing and likely future problems and to reinforce community-planning objectives. They reflect suggestions obtained from citizens and town officials and technical analyses performed by the study team. They are described here to illustrate the variety of alternatives considered during the study.

The concept development and screening was an iterative process with three steps: (1) initial concepts were developed based upon field observations and analysis of existing and future transportation conditions in the corridor; (2) these concepts were reviewed with town officials and the Local Advisory Committees. These meetings led to additional concepts and an initial screening of concepts that posed problems or had serious flaws; (3) the refined concepts were presented to citizens of the two towns at public meetings. Again, further refinements emerged, some options eliminated, and additional concepts added.

Each concept is briefly described below, and sketch plans included for concepts that involve roadway changes. Each concept is assessed in terms of strengths and weaknesses, responsiveness to environmental and mobility requirements, and how well it reflects community goals and objectives established by each Local Advisory Committee. Improvements approved through this process were incorporated into the Route 190 Corridor Recommended Transportation Plan, as detailed in Chapter 4.

B.2 Improvement Context

At the onset of the study, a major question facing the two towns, CRCOG, and the Connecticut Department of Transportation was the future function and cross-section of Route 190 – more specifically, should it be widened to provide four through travel lanes? Field observations and

an analysis of future traffic conditions indicated that, with minor operational improvements, this widening is not necessary.

Therefore, widening of Route 190 throughout the corridor was screened from further consideration. Because the corridor is growing slowly and has limited congestion today, emphasis is placed on improving existing transportation facilities rather than on major capital investments such as new roadways or major widening of existing roadways.

Various improvement concepts, therefore, emphasize transportation systems management actions, such as improved signal operations, additional left-turn lanes, improved road geometry, and pedestrian – bicycle enhancements. They also focus on improvements in the village centers of Hazardville, Scitico, Somersville and Somers center. In addition, alternatives for new road links or extensions are assessed. Finally, applicable TDM and land use actions are presented.

The broad range of corridor improvement concepts reflect the following considerations:

- Observed and anticipated environmental, mobility and safety problems.
- Concerns and suggestions from Enfield and Somers officials and citizens.
- ConnDOT's desire for congestion mitigation actions.
- An emphasis on short-term (i.e., TSM) actions that can be easily implemented with minimum costs and impacts.
- A focus on preserving the character of the village centers, and making each a more cohesive and pedestrian-friendly environment.
- Actions that improve pedestrian and bicycle movements.

Each of the four villages in the study area (Hazardville, Scitico, Somersville and Somers) was analyzed for historic resources and village character. The different improvement alternatives were developed with potential impacts on the villages in mind. The goals were to improve safety and mobility, and at the same time, enhance the village character. Pedestrian safety and selective traffic calming actions were incorporated into the concepts as appropriate, and pedestrian crosswalks were clearly identified. Plans for the village centers include entrance signs, special pavement strips and decorative plantings to alert drivers that they are entering a village.

Streetscape plantings of shade trees and flowering plants visually narrow Route 190 and help present the image of a street as a place.

Sections B.3 and B.4 set forth improvement alternatives separately for Enfield and Somers. Section B.5 presents alternatives that were considered outside the study corridor, and section B.6 presents an overall summary.

B.3 Improvement Alternatives – Enfield

The Route 190 and village center improvement opportunities for the Town of Enfield are shown in Figure B-1. These "Transportation System Management Options" include modifying traffic signal coordination and cycle lengths, installing left-turn lanes, selectively expanding the Route 190 cross section, intersection and streetscape improvements at Phoenix Avenue and in the Hazardville and Scitico village centers, and enhancing pedestrian/bicycle access in the shopping center environs.

B.3.1 Traffic Signals

The five traffic signals in the section of Route 190 between Route I-91 and Palomba Drive are coordinated on a 110-second cycle during the P.M. peak period and an 80-second cycle in the morning peak. This coordination could extend to other times of the day with various timing patterns for weekday A.M. and P.M. peaks, and for Saturday peak and off-peak periods. In addition, traffic signals along Freshwater Boulevard between the State Line Plaza and Rosario T. Vella Avenue could be coordinated with those along Route 190.

The coordination could extend to signals at the Enfield Professional Park about ¾ mile east of Palomba Drive. The cycle lengths during the morning peak period (and possible midday as well) could be increased from 80 to 90 seconds; the longer cycle lengths would reduce the "lost time" and thereby benefit movements at key intersections along Route 190 such as Freshwater Boulevard and Phoenix Avenue.

In addition, signals at the consolidated Elm-South intersection will be coordinated with those at Maple Street about a half-mile to the east as part of the pending ConnDOT reconstruction project. The coordination will produce important benefits by reducing unnecessary stops and

delays and encouraging traffic to drive at the "progressive" speeds, which allow clearance of both signals without stopping.

These signal improvements have been incorporated in the recommended improvement plan.

B.3.2 Left-Turn Storage Lanes

Left-turn lanes are currently provided at signalized intersections between Phoenix Avenue and South Road in Hazardville.

They will also be incorporated in the programmed intersection improvements at the Elm-South intersection to provide a consistent pattern for motorists and to reduce delays to through traffic. Left-turn lanes could also be provided at Middle Road (westbound), Maple Street and at the Taylor/Scitico intersection.

Left-turn lanes have both safety and capacity advantages. The removal of left turns from through traffic lanes has resulted in accident rate reductions generally ranging from 25 to 50 percent reduction. There is a substantial gain in through lane capacity where left-turn lanes are provided, typically about 35 to 40 percent more capacity than a shared through/left turn lane.

Accordingly, left-turn lanes have been included in the recommended plan.

B.3.3 Commercial Area Improvements

Several options were considered for improving traffic flow in the commercial area at the western end of the Route 190 corridor. These include:

- improving operating conditions at the Phoenix-Route 190 intersection,
- improving northbound access from I-91 to Phoenix Avenue and Rosario T. Vella Avenue, and
- better linking Enfield Commons and Enfield Square Shopping Centers.

These improvement opportunities are shown schematically in Figure B-2.

Phoenix Avenue Intersection – This intersection is forecast to operate at LOS D in 2025 with LOS E on the northbound approach. This is largely due to traffic on the northbound approach, as discussed in Chapter 3. The northbound approach presently consists of three lanes: one each for

through movements, left turns, and right turns. Improvements that might be considered at this location include:

- The traffic signal phasing could be revised to provide a "lead-lag" sequence for east-west traffic and separate phases for north-south traffic. The phasing would reduce the incident of through traffic backups blocking access to left-turn lanes and improve safety.
- Provision of dual northbound left-turn lanes would better serve turning volumes (300 vph in P.M. peak).
- Some additional northbound capacity could be achieved by providing an additional lane for northbound right turns.

The traffic signal phasing change is considered a low cost improvement with significant benefit to traffic operations at this intersection. It has been included in the recommended plan.

The benefits of redesignating the existing lane configuration vs. the benefits obtained by adding an additional lane were examined using Highway Capacity Software (HCS). The results were as shown in Table B.1.

Table B.1

IMPROVEMENTS IN TRAFFIC OPERATIONS

	2025 P.M. PEAK HOUR			
	Overall Intersection		Northbound Approach	
	LOS	Delay (Sec.)	LOS	Delay (Sec.)
Redesignate exiting lanes	D	38.4	D	47.1
Add a fourth lane for left turns	D	38.2	D	45.9

The additional lane does not improve delays significantly, based on forecast 2025 traffic. Accordingly, it was determined that the cost of adding an additional lane plus its negligible benefit did not warrant pursuing this option.

The dual northbound left-turn lanes, however, and the modified traffic signal sequencing at Phoenix Avenue are essential to avoid future capacity and congestion problems and have been included in the recommended plan.

Improving Northbound Access from I-91 – Comments received at the public information meetings indicated that travel from I-91 northbound to Route 190 eastbound was impeded by traffic wishing to access southbound Phoenix Avenue. Two alternatives were considered to address this problem.

- A "U-turn" steady flow ramp could be provided from northbound I-91 to southbound Phoenix Avenue; this improvement was suggested by a citizen at a public meeting. A 15-foot lane would be separated from the existing roadway system by about 10 feet. It would leave and enter roadways at sufficient distances from existing intersections to allow for safe traffic movements. A review of 2025 peak-hour volume patterns suggests that about 100 vph would likely use this lane during each peak hour in 2025. The "U-turn" ramp would accommodate traffic traveling north bound on Route I-91 and destined for the industrial park.
- A new northbound exit ramp could be provided from I-91 into Rosario T. Vella Avenue at Phoenix Avenue, with a new traffic signal at the intersection. This connection would provide a direct route to Brookside Plaza and Freshwater Boulevard for traffic now using Route 190. The ramp design would require a single northbound exit from I-91 that would serve both Rosario T. Vella and Route 190.

Neither of these recommendations was addressed further, once it was determined that the development of any improvements relative to the I-91 interchanges (47 and 48) would be a significant undertaking. A comprehensive study of access at Interchanges 47 and 48 should be undertaken by the State at a later time and the plan makes this recommendation.

Mall Connections – Citizens attending the public information meetings also suggested that the study team investigate a better connection between Enfield Commons and Enfield Square. A new internal connection between these two commenrcial properties would make movements between the two centers more direct and convenient by avoiding access through Route 190. A connection to the north of Enfield Commons would affect wetlands and require a bridge over Freshwater Brook and enter Enfield Square's south parking lot. Hence, construction would be

problematic. It does appear possible, however, to provide a direct connection from the west side of Enfield Commons to the Enfield Square Connector Road. This connection would be near the Motel 6 property.. This additional access has been included in the recommended plan. The exact location of this connection will require further study.

B.3.4 Transitional Area

East of Palomba Drive, Route 190 narrows to a two-lane road as it traverses an area with vacant land available for development. A better transition treatment between Palomba Drive would improve safety and better manage access. Alternative cross section arrangements that would fit within a 55-foot right-of-way are shown in Figure B-3.

Alternative 1 provides five-foot shoulders, a four-foot snow shelf and a sidewalk on the north side of the road, without any additional traffic lanes. The slightly widened shoulders are more than adequate for bicycles, and the sidewalk would improve pedestrian flow. However, there would be no benefit to general traffic flow.

Alternative 2 provides a 10-foot median in addition to the sidewalk, snow shelf, and widened shoulders. It would limit left-turn access to and from abutting properties except where the median is replaced by a left-turn lane.

Alternative 3 provides a 10-foot alternating left-turn lane and a painted median that would remove left turns from moving traffic lanes. While not as desirable as Alternative 2 from an access management perspective, it does provide somewhat better operating flexibility.

Review of the alternatives by the Enfield Local Advisory Committee indicated that Alternative 3 offered the best combination of traffic capacity, operating flexibility and access management. This concept therefore has been included in the recommended plan. Two sub-alternatives are presented in Chapter 4, one of which illustrates application of access management to existing developments.

B.3.5 Village Center Improvements

A broad range of roadway, pedestrian, bicycle and streetscape improvement concepts were developed for the village centers of Hazardville and Scitico. These concepts were designed to

improve safety and mobility along Route 190 and on key intersecting roads. They also include design treatments that make the centers more pleasant, attractive and pedestrian-friendly.

In Hazardville, the roadway plans focus on improving corner curb radii, and minor adjustments of existing curbs to improve alignment. These changes will improve safety, facilitate truck turning and enhance capacity while retaining the existing spatial proportions between building, landscaped area and street.

In Scitico, commercial development is more "suburban" in nature. Here improvement options focus on balancing traffic improvements with pedestrian and design considerations.

Hazardville – The realignment of Elm and South Streets into a single intersection is a committed project, already under construction. In addition, several options were developed to improve the Maple Street – Route 190 intersection in the center of Hazardville. All options involve provision of left-turn lanes along Route 190 without widening the roadway.

Two initial options were developed for review by the Local Advisory Committee. Option 1 consisted of re-designating the present two-lane east and west approaches from right turn only and shared through-left lanes to exclusive left-turn and shared through-right lanes. Option 2 included this reassignment of lanes and also separated opposing traffic streams with landscaped eight-foot traffic islands on either side of the intersection. These options are illustrated in Figure B-4a.

Both alternatives would result in LOS D or better on all approaches at peak hours. Both alternatives included a radius change on the northwestern corner of the intersection to accommodate truck turns. Both alternatives were generally consistent with the Hazard Avenue Streetscape Plan developed separately for the Town. The alternatives differed only in that inclusion of a median would make it necessary to restrict parking and reduce the swale in front of the Hazardville Hotel.

The Town of Enfield is in the process of closing Southview Avenue, which presently runs between Hazard Avenue (Route 190) and South Maple Street in the southwest quadrant of the intersection. Based on traffic counts undertaken by CRCOG, the closure would add about 45-60 vehicles to the Route 190/192 intersection in the peak hour. Traffic operations at the intersection

were analyzed with this additional traffic, and it was determined that the overall intersection Level of Service would remain at C even with the closure of Southview Avenue.

Review of the initial two options by the Enfield Local Advisory Committee in August 2001 led to a decision to present both options at a public meeting. The citizens at the public information meeting held in October 2001 expressed a clear preference for Option 1, without medians, and this alternative was carried forward into the Draft Improvement Plan.

Improvements in this intersection were further discussed at the third Public Information Meeting in April 2002, at which the Draft Improvement Plan was presented. Citizens expressed concerns about two issues:

- The impacts of westbound trucks turning right onto North Maple Street; and,
- The volume of eastbound traffic turning right onto South Maple Street.

In response to these concerns, the study team undertook several actions. Potential improvements to address truck turns at the northeast corner were considered further. The extent to which the curbing would have to be cut back to accommodate truck turns was determined. This would leave only a narrow sidewalk and no snow shelf in front of the Hazardville Institute. As an alternative, an Option 3 was developed that would relocate North Maple Street five feet to the west. This would facilitate truck turns and provide additional space between the Hazardville Institute and North Maple Street. This would be implemented in conjunction with relocation of the stop bar for southbound traffic on North Maple Street approximately 15 feet to the north and posting of a "No Right Turn on Red" sign due to limited sight distance at this location.

The traffic forecasts and calculations pertaining to closure of Southview Avenue were rechecked and it was confirmed that the intersection would be expected to operate at LOS C in the 2025 peak hours, even without an exclusive right turn lane. Implementation of the eastbound right-turn lane would eliminate the additional green space on the southwest corner that was proposed in the earlier alternatives. Nevertheless, responding to comments from the third Public Information meeting, the study team prepared an Option 4 to illustrate the concept of adding a third lane on this approach. Options 3 and 4 are illustrated in Figure B-4b.

These two options were presented to the Enfield Local Advisory Committee on May 29, 2002. The discussion and points of view expressed by the LAC members at the meeting can be summarized as follows:

- The benefits of relocating North Maple Street did not appear to justify the costs and impacts;
- The radius change at the northwestern corner shown in Option 1 might reduce safety, in that it would encourage cars to pass turning trucks on the right; and
- Some members believed that the current and future eastbound traffic volumes turning right onto South Maple Street are and will be substantial, irrespective of traffic counts or forecasts.

The LAC decided to:

- Eliminate the radius change at the northwestern corner, but retain the relocation of the stop bar and "No Red Turn on Red" sign; and,
- Include two alternatives in the Draft Final Report, differing only in the presence or absence of the exclusive eastbound right turn lane. It was stipulated that the need for this lane would be reviewed when the prospect reaches the design stage.

The two alternatives in the recommended plan are, therefore, modified versions of Option 1 and Option 4. These are presented and illustrated in Chapter 4

Scitico – a series of improvement options, along with a landscaping plan were developed for Scitico village, which includes the Route 190 intersections with Broad Brook and Taylor/Scitico Roads.

Alternatives developed for Scitico have taken into account the following issues:

- The need for additional traffic capacity in the form of additional turning lanes.
- The substandard design of the present intersection of Route 190 and Taylor/Scitico Roads, where the north and south approaches are offset.
- The possibility that the village character of Scitico would be enhanced by addition of a "village green".

- The concern of neighborhood residents that Scitico Road is being used for "cut through" traffic.

All options eliminate the existing jog between Scitico and Taylor Roads, and provide eastbound, southbound and westbound turning lanes. They vary in how they treat Scitico Road (one-way, two-way or cut-off), whether or not plazas are created along Route 190, and whether or not Broad Brook Road is connected to a realigned Scitico Road. In all but one option, a westbound left-turn lane is provided along Route 190 at Broad Brook Road.

- Two-way Options – The two-way options are shown in Figure B-5.
  - Option 1 calls for a realigned Scitico/Taylor north-south movement with left-turn lanes in both northbound and southbound approaches. The northbound approach, designed for about 500 vph one-way would only be used by less than 50 vph in each peak, suggesting an "overdesign."
  - Option 2 – This option also links Scitico and Taylor Road by means of a simple right-angle intersection. In this option, the realigned Scitico Road is located east of a new Plaza. Taking of several properties is required, including the liquor store on the corner.
  - Option 3 – This option provides a direct connection between Taylor Road and Broad Brook Road. It allows Broad Brook Road to be converted to a one-way southbound roadway between Route 190 and the new connection; right-turn only access from Route 190 eastbound would allow the existing traffic signal to be removed. Some property would have to be acquired, although no buildings are taken. This option reduces left-turn movement along Route 190 and significantly improves north-south traffic flow. However, more traffic would traverse an environmentally sensitive area, and substantial development costs would be incurred. There would also be a significant impact on residential properties in the area.
- One-way Options – One-way options for this Scitico/Taylor intersection are shown in Figure B-6. Each of the four options improves the pedestrian environment along the south side of Route 190.

- Option 4 provides a direct crossing of Route 190 for southbound traffic.
- Options 5 and 6 provide access to Scitico Road via eastbound right turns only. The difference between these two is that Option 5 includes a small green area along with a greater taking of adjacent property and Option 6 does not.
- Option 7 provides a "hammerhead" cul-de-sac; this option was originally suggested by citizens at a public meeting. In Options 5-7, one-way movements occur only for access onto Scitico Road from Route 190. Two-way traffic is maintained along Scitico Road to the south of the access point, thereby maintaining accessibility for local residents.

Several activities were involved in the evaluation and consideration of these alternatives.

- The Enfield Local Advisory Committee (LAC) decided that Option 3 was too disruptive in terms of property taking relative to any anticipated traffic benefits.
- Eliminating the jog at this intersection was not favored by the public, as it was felt that this would encourage increased cut-through traffic.
- Most support was expressed for arrangements that limit access to Scitico Road: either by providing right turns in only, or by closing the road and providing a cul-de-sac.

A traffic survey was conducted to identify the portion of cut-through traffic on Scitico Road. The survey found that this type of traffic accounted for about 70 percent of traffic in the afternoon peak hour. Restricting access to Scitico Road would require these vehicles to travel via Route 190 and Broad Brook Road. It was found that the options developed can accommodate this additional traffic.

Discussion and review by the Enfield LAC resulted in a consensus that Options 6 and 7 should be carried forward into the recommended plan. The ultimate decision between the options will occur in further public review or in the design stage.

B.3.6 Pedestrian and Bicycle Opportunities

Several factors were taken into consideration when pedestrian and bicycle improvements for Enfield were developed. These include the following:

- ConnDOT Project 48-H027 is implementing pedestrian bicycle improvements along Route 190 west of Route 5.
- An opportunity exists for a multi-use bicycle-pedestrian trail along Freshwater Brook from a point west of Route 5 to Palomba Drive. This trail would connect with a trail from Route 190 and Enfield Square. This would require a new crossing of Route I-91, as the existing Freshwater Brook culvert does not have sufficient clearance.
- New or widened sidewalks along Phoenix Avenue, Freshwater Boulevard and Route 190 would connect with the multi-use trail.

These conceptual plans for pedestrian/bicycle improvements were included in the recommended plan.

In addition, the following pedestrian and bicycle improvements are proposed as part of the Plan:

- New sidewalks on the north side of Route 190 from Palomba Drive to Hazardville.
- Shoulders of five feet for bicyclists on Route 190 through to the Somers Town Line. In locations where this is not possible, such as the commercial area west of Palomba Drive, bicycle movements can be accommodated on wide sidewalks and the proposed new trail.

B.3.7 Intelligent Transportation System (ITS) Opportunities

A variable message sign could be installed along westbound Route 190 at a point east of Palomba Drive. This sign would advise approaching motorists of possible congestion and traffic accidents along Route I-91. Field observations indicate little recurrent peak period congestion along Route I-91 north of the Bradley Field Connector. Congestion occurs as a result of roadway incidents (accidents and breakdowns). Notification of motorists would allow them to use alternative paths such as Route 5.

As peak traffic volumes grow along the expressway, frequency of incidents will increase and the extent of congestion will spread. Thus, this concept will be increasingly applicable in future years. Accordingly, it was included in the recommended plan.

B.4 Improvement Options – Somers

The Route 190 and village center improvement opportunities are shown in Figure B-7. These options, include installing additional traffic signals, and selective traffic signal coordination; installing left turn lanes; intersection and streetscape improvements in the village centers; and enhancing pedestrian and bicycle access.

B.4.1 Traffic Signals

Traffic signals should be installed at the intersection of Route 190 with Hall Hill Road (Route 186) and Turnpike/Gulf Road (Route 528). Both roads have peak hour volumes of about 900 to 1,000 vph entering the intersection. Signalization (semi-actuated controls operating on background cycles) would improve levels of service and safety. The recommendation for signals is based on traffic volumes, safety concerns, and the need for side streets to have adequate access.

Traffic signals at Hall Hill Road should be coordinated with the existing signal at Maple Street, operating on a 70 to 90 second background cycle. These signal improvements were included in the recommended plan.

B.4.2 Left-Turn Lanes

Provision of left-turn lanes along Route 190 and key intersecting roads would improve both safety and capacity. Left-turn lanes can be provided along Route 190 at (1) Maple/Shaker, Hall Hill Road, Battle Street (EB), Gulf Road (eastbound) and Ninth District Road, and Route 83 (all approaches) and at Ninth District Road at the high school entrance. The improvements at Ninth District Road have been committed under a separate project.

Provision of left-turn lanes is common practice in Connecticut as well as other states. Many sections of Route 190 have adequate width to install turning lanes. In other locations, reduced shoulder width and/or shoulder widening may be necessary. Left-turn lanes in the village areas are discussed as part of the village area plans.

B.4.3 Village Center Opportunities

A broad range of roadway, pedestrian, bicycle improvement concepts were developed for the village centers of Somersville, and Somers. These concepts identify ways to improve safety and mobility, not only along Route 190, but on intersecting roads as well. More importantly, they incorporate urban design features to help make the centers more attractive and help preserve their character.

Somersville – The village center area is defined for the purposes of this study as the triangular area bounded by Route 190, Maple Road and School Street, plus the area bordered by Maple Road south to the four-way intersection of Maple with Scitico Road and Pinney Street.

The main problems in Somersville are the multi-leg skewed intersection of Route 190, Maple Street, Shaker Road and Quality Avenue, the oblique-angled unsignalized intersection of School Street with Route 190 and Hall Hill Road, the lack of left-turn lanes along Route 190, and poor geometry at the Maple-School intersection.

Several improvement concepts were prepared for these locations, including provision of left-turn lanes along Route 190, signalization of the School/Hall Hill/190 intersection, and better geometry along the Maple-School intersection. The concepts vary in street closures and alignments.

- Route 190, Shaker Road, Maple Street and Quality Avenue - This five-leg signalized intersection is forecast to require left turn lanes on the east and west approaches in order to operate satisfactorily in 2025. Two basic concepts were explored to rationalize the five-way intersection into a more standard configuration by closing one of the approaches.

  Figure B-8 shows the two basic concepts examined for the intersections of Route 190 with Maple-Shaker Roads and Hall Hill Road-School Street. Both concepts provide a connector road between Maple Street and Quality Avenue, just south of the Post Office.

  Option 1 closes the northbound movement from Quality to Maple and provides right turn access from 190 to Quality. Option 2 closes Maple Street on the approach to Route 190

by means of a cul-de-sac. Quality Avenue is extended directly to Shaker Road, resulting in a single right-angle junction.

Both concepts provide viable traffic service. However, Option 1 is preferable since it does not require bending the major Maple Street flows (150 to 200 vph each way during the peak hours); this option was also favored by the LAC and local residents. Therefore, it was incorporated into the recommended plan.

- Route 190, School Street and Hall Hill Road (Route 186) - This intersection is presently controlled by a flashing beacon. Recommended traffic improvements consist of left-turn lanes on the east and west approaches and installation of a traffic signal. This signal should be coordinated with the existing signal at Route 190 and Maple/Shaker. These improvements are also shown in Figure B-8.

  Two options were explored for improving westbound sight distance along Route 190 between Hurlburt Street and Route 186

  - the roadway could be regraded to improve the vertical alignment, thereby increasing sight distance; and
  - a "traffic signal ahead" sign could be installed near the intersection with Hurlburt Street. This sign would flash when the (future) signal for Route 190 at Route 186 is red for westbound movements, thus warning drivers to slow down as they crest the hill.

  A preliminary analysis suggested that the crest of the roadway would have to be lowered by as much as six feet to meet standards. A lesser lowering of Route 190 might still be beneficial to the intersections of School Street and Goodwin Drive.

  The new traffic signal and message sign are included in the recommended plan.

- School Street - Traffic calming measures could be implemented along School Street. This would include raised crosswalks with alternative paving treatment at the sites of the existing crosswalks. The roadway could be narrowed to 28 feet by adjusting the curb line on the north side. A minor variation on this concept would be to install curbing "bumpouts" at the locations of the utility poles. Some areas in between the poles would

be used for on-street parking. A suggestion that School Street be made one-way northbound was considered by the study team but not recommended because of its potential impacts on Maple Street.

- Southern Intersections – Maple/School and Maple-Scitico-Pinney Streets - Several potential layouts were examined for traffic operations and impacts on the historic blacksmith shop. The options shown in Figure B-9 were explored in greater detail.

  Option 1 provides improved roadway geometry including a widening of Maple Street along a curve. Option 2 replaces the intersections with two roundabouts; some property would have to be acquired for optimum roundabout design. Traffic signals are not recommended for these locations.

  Although both concepts are workable from a traffic point of view, the difficulty with the roundabouts is their impacts on adjacent historic properties. Option 1 improves sight distance and traffic controls, and does not impact the historic blacksmith shop. Therefore, it has been carried forward into the recommended plan.

Somers Center – Somers Center is clustered around the off-set intersection of Route 190 with Route 83. The lack of left-turn lanes and the offset north-south alignment will result in 2025 failing peak hour congestion unless improvements are made. There is also a safety concern at this intersection because eastbound and westbound left turns "interlock", i.e., cross each other's path. The other safety problem is that north-south movements occur simultaneously, resulting in conflicts between left-turn movements and opposing through traffic. The three general options explored for this intersection shown in Figure B-10 attempt to address these problems.

- Option 1 retains the current layout of the intersection, but widens the eastbound, northbound and southbound approaches to provide left-turn lanes. The lane designations on the westbound approach are changed from right and through-left to left and through-right.

  This option would result in improved traffic operations at the intersection, but it will not be possible to resolve all safety problems and operate the intersection at an acceptable level of service. In addition, widening of the south leg of the intersection would be

necessary to accommodate truck-turning movements as well as turn lanes. This widening would have impacts on the Mobil Gas Station and the Woodward House.

- Option 2 replaces the signalized intersection with a traffic circle or roundabout of 70 foot diameter. The roundabout would have single lane approaches and exits.

  This option would not serve the full volume of car and truck traffic forecast for this intersection. Roundabouts have not yet been fully accepted by ConnDOT for use on State highways.

- Option 3 eliminates the offset by realigning the south leg (South Road) to be opposite the north leg (Springfield Road), as well as providing left-turn lanes on all approaches. This alternative would require removal of the Woodward House, but provide for a town green on the southwest corner of the relocated intersection.

  This option resolves safety problems and allows for acceptable levels of traffic service. The layout accommodates truck-turning movements and provides a green area for pedestrians and also allows rationalized sidewalk and crosswalk locations. It is the preferred option in terms of traffic operations, urban design and pedestrian circulation.

Extensive discussion and review of alternatives with the Somers LAC, citizens at public meetings and affected property owners resulted in a consensus in favor of Option 3. Consultation with the State Historic Preservation Office has indicated that the Woodward House may be relocated but not, with the exception of the rear addition, demolished. This alternative has therefore been included in the recommended plan. Two sub-alternatives are presented with slightly different alignments for South Road. Aspects of these two alternatives are discussed in more detail in Chapter 4.

B.4.4 Pedestrian/Bicycle Opportunities

The approach to bicycle and pedestrian improvements was guided by the following considerations:

- A sense of local needs was developed from review of municipal Master Plans, discussions with local officials and with citizens at public meetings.

- The village center plans were developed in a pedestrian and bicycle-friendly way, including installation, extension or refurbishment of sidewalks.
- Missing links – locations that should be connected by pedestrian facilities were identified.
- Roadway improvements were developed with pedestrians and bicyclists in mind.

In this context, several opportunities for improved pedestrian and bicycle facilities were identified. These include:

- New sidewalks along the north side of Route 190 in Somersville.
- Extension of sidewalks in Somers center.
- Inclusion of pedestrian crosswalks in intersection improvements.
- Connection of both villages to the town recreation area at the school complex on Ninth District road. The connection from Somersville follows Route 190 to Ninth District Road, while the connection from Somers center takes two paths – along Route 190 and via South Road and Field Road.
- Providing five-foot shoulders for bicyclists on both sides of Route 190 from the Enfield Town Line to Gulf Road. The right-of-way is sufficient for this in most locations.

These proposals were reviewed with and supported by the Local Advisory Committee and the citizens to public meetings. They have been incorporated into the recommended plan.

B.5 Considerations Outside the Study Corridor

Additional proposals for improvements outside the Route 190 corridor were considered:

- Diversion of traffic from Route 190 by constructing other road links.
- Safety considerations at the Route 190 and I-91 interchange.

B.5.1 Possible Diversionary Routes

Two new road links to relieve traffic on Route 190 through Enfield and Somers were identified at various meetings with community groups and town officials. These concepts are shown in

Figure B-11 and include the Moody Road Extension from Elm Street to Route 190, and an extension of Route 220 to Route 186 and ultimately to Route 83.

Moody Road Extension – Extension of Moody Road from its present terminus at Elm Street to Route 190 via the Enfield Professional Park Access Road has been suggested in earlier Enfield Plans. It would provide an alternative relief route for Route 190, with potential for reducing traffic through village centers. However, it would require a sensitive alignment to minimize impacts on wetlands in its environs.

Estimated traffic volumes on this extension forecast by CRCOG with the transportation model reported 2025 usage of about 2,000 vehicles per day. Most of the vehicles would be diverted from Route 220, and therefore offer only minor relief to Route 190. Accordingly, this option was screened from further consideration.

Route 220 Extension – An easterly extension of Route 220 from the point where it turns north to Massachusetts to Route 186 and possibly to Route 83 in Somers was suggested by some citizens, as a possible way of reducing traffic on Route 190. The road would improve access through a sparsely developed area, but would provide minimum relief to Route 190. In addition, there would be considerable property acquisition. Forecast traffic on this link in the year 2025 was also provided by CRCOG. Traffic volumes were relatively low, and very little diversion away from Route 190 was forecast to occur. This option was also dropped from further consideration.

B.5.2 I-91 Interchange Modifications

The existing cloverleaf configuration at the interchange of I-91 and Route 190 necessitates short weaving sections on the freeway's travel lanes. In addition, the Route 190 (No. 47) and Route 220 (No. 48) interchanges are spaced less than a mile apart, also resulting in difficult weaving patterns.

Several interchange modifications were suggested at community meetings, and examined by the study team. Although improvements are a desirable part of long range plans to upgrade I-91, they would attend little overall benefits to the Route 190 corridor and are beyond the scope of the Route 190 corridor study.

It became clear in the course of examining potential modifications to Interchange 47 that a more detailed study of the impacts of such changes on Routes 190, 220 and Interchange 48 will be necessary. It is recommended that such a study be undertaken by the Connecticut Department of Transportation. This study should examine concepts such as replacing or modifying the current cloverleaf configuration and providing service roads parallel to Route I-91 between Interchanges 47 and 48.

B.6 Summary

This appendix has set forth the various improvement opportunities and options for the Route 190 corridor. It has identified options that were analyzed and then screened from further consideration, and ones that were developed further as part of the Recommended Transportation Plan. The preferred options focus on modest intersection improvements that improve safety and mobility, are acceptable to Enfield and Somers, and reinforce the character of the village centers. They also entail pedestrian, bicycle, and urban design treatments that would preserve the character of the village centers.

The Recommended Transportation Plan is detailed in the Chapter 4 of this report.