CITY OF DANBURY
TRANSPORTATION PLAN
2005

MARK D. BOUGHTON
Mayor

CITY OF DANBURY
TRANSPORTATION PLAN
2005

MARK D. BOUGHTON
Mayor

COMMON COUNCIL

Vincent P. Nolan, Jr.
President

Kevin N. Barry	**Robert T. Riley**
Pauline R. Basso	**Thomas J. Saadi**
Michael J. Calandrino	**Mary G. Saracino**
Joseph M. Cavo	**Gregg W. Seabury**
Theodore A. Cutsumpas	**Colleen A. Stanley**
N. Jane Diggs	**Michael J. Steinerd**
John J. Esposito	**Mary E. Teicholz**
James H. Johnson	**Charles J. Trombetta**
Louise P. McMahon	**Joel B. Urice**
Shailesh P. Nagarsheth	**Fred L. Visconti**

City of Danbury
Department of Planning and Zoning
155 Deer Hill Avenue · Danbury · Connecticut

CITY OF DANBURY
OFFICE OF THE MAYOR
DANBURY, CONNECTICUT 06810

(203) 797-4511

October 2005

As Mayor of the City of Danbury, I am pleased to present the *City of Danbury Transportation Plan* to guide public officials and citizens in addressing present and future transportation issues facing Danbury.

Transportation is one of the most important services municipal government can provide and one that presents a great challenge as Danbury continues to grow and change. I share your concerns over increased congestion on our streets and the desire to ensure that continued development contributes to our quality of life without sacrificing safety and convenience.

The City and the State of Connecticut have not ignored transportation problems in the past. The construction of new roads, numerous intersection improvements, continued maintenance, and the development of the HART bus system have all had a positive impact on Danbury. Imagine the conditions we would have to endure without Interstate 84, or new streets like Patriot Drive, or the widening of Newtown Road. Each year, HART provides service to thousands of City and regional residents, reducing the number of vehicles on the streets and roads.

But, the continued prosperity of the City requires an enhanced effort to improve all modes of transportation. The City has never prepared its own comprehensive transportation plan to focus on the needs of all municipal streets, to address modes of travel that go beyond road and transit improvements, or to discuss state and regional issues that affect Danbury. This *Plan* provides a complete inventory and analysis of major transportation needs in the City and a framework for future action.

The 2002 *Plan of Conservation and Development*, the City's master plan for guiding future change, presented the goal of providing for a safe and efficient transportation system that offers choice in travel from place to place. The *City of Danbury Transportation Plan* provides a studied approach for meeting that goal.

Mark D. Boughton
Mayor

TABLE OF CONTENTS

FIGURES

TABLES

ACKNOWLEDGEMENTS

This *City of Danbury Transportation Plan* was prepared by the Department of Planning and Zoning in cooperation with the City Engineering Department and the Housatonic Valley Council of Elected Officials. The Department especially wishes to express its appreciation to Abdul Mohamed, City Traffic Engineer, and Jonathan Chew, HVCEO Executive Director, for their assistance in the preparation of this *Plan*. Maps were prepared by Planimetrics, LLC. – *D.E.*

City of Danbury Transportation Plan 2005

EXECUTIVE SUMMARY

Danbury has undergone remarkable changes over the past several decades, evolving from a small industrial city into an important employment and retail center. Rapid rates of population growth and increased mobility have resulted in the expansion of the City from a compact urban center into one marked by conventional patterns of suburban development which later spread into neighboring towns. All of these changes had a marked affect on transportation in the City and region as public improvements struggled to keep pace with soaring demands.

The Danbury transportation system is dominated by two major regional highways, Interstate 84 and U.S. Route 7, and several major arterial roads that also play important regional roles: Federal Road, Newtown Road and White Street, Main Street and South Street, Mill Plain Road, Padanaram Road/Pembroke Road, and Clapboard Ridge Road. The highway network is complemented by public transit service, including the Housatonic Area Regional Transit (HART) bus system and the Danbury Branch Line of Metro-North.

However, the transportation system is far from balanced. Among City residents, over 90% traveled to work by car in 2000 while only 3.8% took public transportation. Largely because of urban sprawl throughout the Housatonic Valley, only 2.9% of the Region's employed residents utilized public transit for their work trips.

Much of the transportation planning for the City has historically been provided by the Connecticut Department of Transportation (ConnDOT) and the Housatonic Valley Council of Elected Officials (HVCEO). In most cases, emphasis has been placed on improvements to state highway corridors and local intersections. Until now, the City has never adopted its own local comprehensive transportation plan to address the needs of all municipal streets and to address other issues that go beyond road and transit improvements.

Critical Issues

This *Transportation Plan* is an effort to provide local officials and the public with a complete inventory and analysis of transportation needs in the City. Although the *Plan of Conservation and Development (PCD)*, adopted in 2002, included goals and policies for transportation, this *Plan* is more than a recitation of the *PCD*. It greatly expands the content of the *PCD* by providing a more detailed and inclusive needs assessment and by updating previous recommendations in view of changing conditions. The *Plan* addresses a number of critical issues relating to the movement of people and goods from place to place.

- How can traffic *congestion* be decreased and *safety* enhanced on City streets?
- What should be done to continue to provide people with *choices* in transportation modes, especially for those who cannot or choose not to rely on automobiles as their sole source of transportation?
- How can we better regulate the increase in traffic generated by new *land development* to mitigate congestion on major roads providing access into and throughout the City?
- In what ways can we ensure that transportation continues to support the *economic vitality* of the City?
- How should we address the impact of *regional growth* outside the City on a state and regional level?
- And, how can we meet the demand to improve transportation efficiencies without sacrificing other *quality of life* factors in the City, recognizing that for much of our daily needs, transportation is a means to an end, the road taken and not the destination?

The *Plan* is divided into four major sections: (1) streets and highways, (2) public transportation, (3) pedestrian, bicycle and air travel, and (4) state and regional transportation planning issues. Customary maintenance, minor improvements and law enforcement issues are not included.

I. Streets and Highways

The first section begins by categorizing all streets and highways in the City by their functional classification, the character of service for which they are intended to provide. Interstate 84 provides no direct land access and is designed to accommodate heavy traffic flows through the City at relatively high speeds. Arterial streets are high traffic volume corridors that travel through the City and often provide access to abutting properties. Examples include Clapboard Ridge Road, Federal Road, Main Street and South Street, Mill Plain Road, Newtown Road and White Street, Padanaram Road and Pembroke Road, and U.S. Route 7.

Collector streets penetrate residential neighborhoods, collecting traffic from local streets and channeling it onto the arterial system. Major examples include, among others, Franklin Street, Osborne Street, Southern Boulevard, Triangle Street and Wooster Heights Road. Other streets that are not classified as arterials or collectors are designated as local streets. Most neighborhood streets fit into this last category.

This section then provides data on traffic volumes and major accident sites followed by a needs assessment of streets and highways which require improvement. Over thirty streets and highways are included in the needs assessment, with brief descriptions of each and proposed actions.

The section then discusses extending computerized signal systems and the employment of closed circuit television cameras to better monitor traffic conditions at intersections as part of an intelligent transportation system. The highest priority for such a system would be along the emergency traffic diversion route used when accidents block traffic along I-84.

The section then includes a number of design considerations relating to roadway design, traffic calming, scenic roads, and private roads. The need for bridge improvements is also noted, with the most immediate focus on bridges at Rose Hill Avenue, Backus Avenue, Padanaram Road, Crosby Street and Segar Street.

The relationship between land use and transportation is then discussed, beginning with the potential benefits of improved traffic impact analyses to better assess the impact of proposed development on zoning decisions, and then followed by recommended implementation of driveway controls on U.S. Route 7, Padanaram Road and Federal Road, and improved parking lot design.

The first section ends with a discussion of alternative work arrangements (i.e. flex-time, staggered work hours, and compressed work weeks) and ridesharing.

II. Public Transportation

The second section addresses HART bus service and commuter rail service. HART provides bus service to ten Connecticut and three New York towns and includes fifteen fixed routes, ADA paratransit services, senior/disabled dial-a-ride services, interstate commuter rail shuttles, job access services, and the downtown Danbury trolley circulator. The section provides a summary of the proposals included in the 2003 *Bus Service Improvement Plan* which are designed to improve the frequency of service and routes served by the HART bus system.

Commuter rail service to Danbury is provided by the Metro-North Commuter Railroad, a subsidiary of the Metropolitan Transportation Authority in New York. Approximately 2,400 passengers a day use Metro-North from Danbury to South Norwalk and from South Norwalk to Grand Central Station in New York City. The *Transportation Plan* includes several recommendations to improve and expand service, including (1) conversion of the manually operated train control and signal system to an electronic system that could improve the frequency of train service, (2) extension of service to New Milford, and (3) continuation of the *Electrification Study* that may result in reduced travel times and more frequent service to Norwalk.

III. Other Transportation Modes

The third section explores three other modes of transportation, including sidewalk and streetscape improvements, bicycle circulation and air service.

The *Plan* includes a list of downtown sidewalks that experience high pedestrian use and are in need of extensive repair or replacement. Perhaps of greater importance is the need to construct sidewalks along major commercial corridors, especially as part of road improvement programs. This would greatly improve pedestrian safety, encourage walking, and improve the visual quality of the commercial corridor when combined with appropriate landscaping. Roadways which combine major commercial destinations with high traffic volumes ought to include continuous sidewalks along one or both sides of the road, including the following:

- Newtown Road from Triangle Street to Eagle Road;
- Federal Road from White Street to Nabby Road;
- Park Avenue/Backus Avenue to Kenosia Avenue; and,
- Lake Avenue/Mill Plain Road to I-84 Exit 2.

The *Plan* also includes recommended regulatory changes to require sidewalks adjacent to new development on municipal roads and provides a list of streets for which streetscape improvements are proposed.

Following sidewalks and streetscape improvements is a discussion of bikeways, including several suggested recreational bikeway routes for the City.

The section concludes with a discussion of the Danbury Municipal Airport. The *Transportation Plan* supports recommendations of the 1995 *Airport Master Plan* pertaining to land use and zoning: (1) acquisition of land or easements to control the height of vegetation; (2) development restrictions around the airport to avoid new land use conflicts; and, (3) updating the Airport Protection Zone regulations to conform to current airspace standards. The acquisition of land to control vegetation is proceeding at this time.

A noise study working group is currently considering methods of mitigating airport noise on surrounding residential land.

IV. State and Regional Transportation Planning

The fourth section provides an overview of state and regional transportation projects affecting the City. The section includes a status report on current projects planned by ConnDOT for Danbury and the surrounding region. It also provides an overview of the State's *2004-2030 Long-Range Transportation Plan* and efforts of the Connecticut Transportation Strategy Board. The section concludes with a forward looking list of recommendations to improve transportation within the New York Metropolitan Area to ensure that Connecticut and all of New England will not find themselves isolated from the emerging global economy. But, although this *Transportation Plan* concludes that "…much can be done locally to improve traffic safety, decrease congestion, provide choice in transportation modes, and address the impact of new development on traffic in the City," it cautions that

> *…much of our future will also be shaped by state and regional forces that will not only affect our transportation system but will also determine the degree to which Danbury succeeds in sustaining growth, containing sprawl, creating jobs, and protecting our quality of life. Local planning will be among the first casualties of globalization unless we assume our rightful place in a far more interconnected world.*

Major Recommendations

In sum, the *Transportation Plan* provides a multi-modal analysis of key elements of the City's transportation system and the development of recommendations for its improvement. Although all of the recommendations contained within the *Plan* are important, the following highlight those that are crucial to achieving a balanced system.

1. To reduce congestion and improve safety on ***Interstate 84,*** additional east and west bound travel lanes are needed within five years between Exit 3 and the Bethel line and an eastbound travel lane is needed between Exits 1 and 2; major improvements to interchanges at Exits 2-8 are also needed.

2. To relieve rush hour queuing at I-84 Exit 5, ***Downs Street*** should be considered for conversion to a one-way eastbound street with intersection improvements at Main Street; improvements to I-84 Exit 6 should include an additional lane on ***North Street*** from Second Avenue to the North Street Shopping Center.

3. To improve traffic efficiencies, ***Federal Road*** should be widened to maintain a consistent four-lane cross section from White Turkey Road Extension to just south of Starr Road, with a left turn lane added at Starr Road. Alternate cross town access can be enhanced by widening ***Starr Road/Sand Pit Road/Germantown Road*** with additional lanes and intersection improvements as necessary.

4. To promote economic development, ***Kenosia Avenue*** should be widened with additional lanes as feasible from the vicinity of St. Peter Cemetery south to Backus Avenue; traffic signals should be coordinated between Kenosia and Backus Avenues.

5. To reduce traffic congestion along ***Main Street***, turning lanes should be added at Franklin Street, Garamella Boulevard and Wooster Street and the roadway increased to four lanes from Wooster Street to South Street; intersection improvements should be made at South Street and streetscape improvements extended to Memorial Drive.

6. Plans by ConnDOT to widen ***Mill Plain Road*** to Kenosia Avenue should be extended west to Exit 2 of I-84 to relieve congestion.

7. To reduce congestion, ***Newtown Road*** should be widened with additional lanes, as feasible, from Plumtrees Road to Triangle Street, including turning lanes where warranted; the Triangle Street intersection should be redesigned.

8. ***Osborne Street*** and ***Tamarack Avenue*** need to be improved to provide enhanced access to WCSU and the Danbury Hospital, including widening, as feasible, and turning lanes at Locust Avenue, Fifth Avenue and Hospital Avenue.

9. To relieve traffic congestion, ***Padanaram Road*** should be widened with additional lanes, as feasible, north to Jeanette Street with the addition of turning lanes and other improvements at the Padanaram Road/Pembroke Road intersection and at the intersection of ***Pembroke Road*** with Stacey Road and Barnum Road.

10. ConnDOT should be urged to proceed with all speed to widen ***U.S. Rt. 7*** to four lanes to Ridgefield to relieve heavy congestion.

11. ***West Street*** should be widened as feasible from Terrace Place to Division Street, with a left turn lane added into New Street and streetscape improvements added, all for the purpose of relieving congestion, improving safety and enhancing pedestrian travel.

12. Streetscape improvements should be made to ***White Street*** from Main Street to Fifth Avenue, with consideration given to widening with additional lanes, as feasible, from Balmforth Avenue to Triangle Street to improve access to the downtown.

13. Traffic flow along the existing roadway network should be optimized through the employment of closed circuit television cameras at selected intersections as part of a broader ***intelligent transportation system***.

14. The City needs to gain State funding for the timely improvement of ***bridges*** in poor condition.

15. A variety of means should be employed to better coordinate ***land use and transportation*** needs, including improved traffic impact analysis, driveway controls, parking lot design and traffic calming devices.

16. The private sector should be encouraged to use ***alternative work arrangements*** (flex-time, staggered work hours, and compressed work weeks) and ***ridesharing*** wherever feasible to ease peak hour traffic.

17. ***HART bus service*** should be enhanced to improve convenience and extend choice in transportation modes.

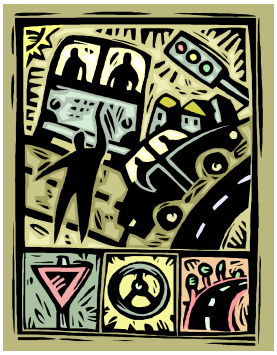
18. Improvements need to be made to enhance commuter rail service by ***Metro-North***, including centralized traffic control, electrification of the Danbury Branch, and the extension of service to New Milford.

19. ***Sidewalks*** should be extended along major arteries and throughout the urban core to improve pedestrian safety; ***streetscape improvements*** should be provided along south Main Street and portions of West Street and White Street to enhance the downtown and pedestrian travel.

20. And, the City should urge increased state transportation ***funding*** and enhanced ***regional planning*** efforts to keep pace with demands for transportation improvements that promote principles of smart growth.

These twenty recommendations do not constitute the full range of improvements included in this *Transportation Plan*, but they are essential for the City to claim to have a balanced system, one that is efficient as well as safe, one that includes alternatives to private vehicular travel, and one that coordinates local, regional and state-wide transportation planning.

However, successful implementation of all the recommended actions contained in this *Plan* will not completely eliminate traffic congestion or abate all safety concerns. Nor will it achieve ideal levels of service for bus or rail transportation. What successful implementation *will* achieve is a dramatic improvement to our transportation system. Nevertheless, problems will persist as the City continues to grow and change. Only through a continuous process of planning, funding, and implementation can the City hope to address evolving challenges facing our transportation system. The cost of addressing these issues will not be cheap. But, the cost of neglecting them will be much greater. ☙



INTRODUCTION

Danbury has undergone remarkable changes over the past several decades, evolving from a small industrial city into an important employment and retail center. Rapid rates of population growth and increased mobility have resulted in the expansion of the City from a compact urban center into one marked by conventional patterns of suburban development which later spread into neighboring towns.

From 1990 to 2000 alone, Danbury's population increased from 65,585 to 74,848, a 14% rate of growth that exceeded all other cities in the state. Retail stores expanded to such an extent that today Danbury can boast the greatest volume of gross retail sales of any city or town in the state. Travel for employment also grew considerably, with those traveling into the City for jobs increasing by 10% during the decade.

All of these changes have had a marked affect on transportation in the City and region as public improvements struggle to keep pace with soaring demands.

The Danbury transportation system is dominated by two major regional highways, Interstate 84 and U.S. Route 7, and several major arterial roads that also play important regional roles: Federal Road, Newtown Road and White Street, Main Street and South Street, Mill Plain Road, Padanaram Road/Pembroke Road, and Clapboard Ridge Road. The highway network is complemented by public transit service, including the Housatonic Area Regional Transit (HART) bus system and the Danbury Branch Line of Metro-North.

However, the transportation system is far from balanced. Among City residents, over 90% traveled to work by car in 2000 while only 3.8% took public transportation. Largely because of urban sprawl throughout the Housatonic Valley, only 2.9% of the region's employed residents utilized public transit for their work trips. In Danbury, however, three-quarters of all daily vehicle trips traveled from one point in the City to another. The concentration of vehicular travel on major roads during peak hours of the day is largely responsible for the traffic congestion facing the City.

TRANSPORTATION ISSUES

These socio-economic changes and travel patterns have raised a number of critical issues that must be addressed to facilitate the movement of people and goods from place to place.

- How can traffic *congestion* be decreased and *safety* enhanced on City streets?
- What should be done to continue to provide people with *choices* in transportation modes, especially for those who cannot or choose not to rely on automobiles as their sole source of transportation?
- How can we better regulate the increase in traffic generated by new *land development* to mitigate congestion on major roads providing access into and throughout the City?
- In what ways can we ensure that transportation continues to support the *economic vitality* of the City?
- How should we address the impact of *regional growth* outside the City on a state and regional level?
- And, how can we meet the demand to improve transportation efficiencies without sacrificing other *quality of life* factors in the City, recognizing that for much of our daily needs, transportation is a means to an end, the road taken and not the destination?

PUBLIC ATTITUDES

These transportation issues have not been lost on the public. The Community Attitude Survey undertaken in 1997 as a prelude to preparation of the City's *Plan of Conservation and Development (PCD)* found widespread concern about the state of transportation in Danbury. While 88% of residents felt that improving traffic circulation and safety was an important objective for the City, their evaluation of City roads was less than positive. Over half of the respondents found traffic congestion to be serious or very serious on Federal Road, Mill Plain Road/Lake Avenue, Padanaram Road, Newtown Road and Interstate 84. Only Main Street was found to be attractive by a majority, while Mill Plain Road/Lake Avenue, White Street, Newtown Road, and Federal Road were all cited for being particularly unattractive. As a result, almost two-thirds favored more regulations to improve the appearance of commercial areas along highways.

In an open-ended question, traffic congestion emerged as the one thing people disliked most about living in Danbury.

TRANSPORTATION PLANNING

Much of the transportation planning for the City has historically been provided by the Connecticut Department of Transportation (ConnDOT) and the Housatonic Valley Council of Elected Officials (HVCEO). Their efforts have been largely focused on improvements to state highway corridors and local intersections.

Until now, the City has never adopted its own local comprehensive transportation plan to address the needs of all municipal streets and to address other issues that go beyond road and transit improvements. This *Transportation Plan* is an effort to provide local officials and the public with a complete inventory and analysis of transportation needs in the City.

Nevertheless, transportation planning was not ignored in the *Plan of Conservation and Development* adopted by the Planning Commission in 2002. The *PCD* included an analysis of transportation concerns and the following goal and policies for transportation.

GOAL: A SAFE AND EFFICIENT TRANSPORTATION SYSTEM THAT PROVIDES CHOICE IN TRAVEL FROM PLACE TO PLACE.

Transportation systems should provide for safe and uncongested travel throughout the City and access to neighboring communities. This requires not only improvements to existing traffic corridors but also efforts to meet future needs. Policies must address means of preventing new problems from occurring and to improve the visual appeal of traffic corridors. But, a balanced transportation system also requires support for public transportation and other modes of travel, including air travel, bicycling, and walking.

POLICIES:

1. *Reduce congestion and improve safety on City highways and roads.*

2. *Coordinate land development and transportation demands to prevent future traffic problems.*

3. *Improve the aesthetic quality of transportation corridors.*

4. *Improve public transportation and other modes of travel.*

The transportation goal and policies of the *PCD* provided guidance in the preparation of the *City of Danbury Transportation Plan* to ensure consistency with overall planning efforts of the City. But, this *Transportation Plan* is more than a recitation of the *PCD*. It greatly expands the content of the *PCD* by providing a more detailed and inclusive needs assessment and by updating previous recommendations in view of changing conditions. The *Transportation Plan* is divided into four major sections: (1) streets and highways, (2) public transportation, (3) pedestrian, bicycle and air travel, and (4) state and regional transportation planning issues. Customary maintenance, minor improvements and law enforcement issues are not included.

The multi-modal scope of this *Transportation Plan* seeks to promote a balanced transportation system for the City, one that is efficient as well as safe, one that includes alternatives to private vehicular travel, and one that coordinates local, regional and state-wide transportation planning.

However, successful implementation of all the recommended actions contained in this *Plan* will not completely eliminate traffic congestion or abate all safety concerns. Nor will it achieve ideal levels of service for bus or rail transportation. What successful implementation *will* achieve is a dramatic improvement to our transportation system. Nevertheless, problems will persist as the City continues to grow and change. Only through a continuous process of planning, funding, and implementation can the City hope to address evolving challenges facing our transportation system. The cost of addressing these issues will not be cheap. But, the cost of neglecting them will be much greater. ☙

I. STREETS AND HIGHWAYS

ROADWAY NETWORK BY FUNCTIONAL CLASSIFICATION

Streets and roads are classified by the character of service they are intended to provide and to aid in the planning of major road improvements. Design criteria are established for each classification to encourage the use of road networks as intended. These design features include the number of lanes, road alignment, spacing between intersections and driveways, width of lanes and shoulders, grade restrictions and traffic controls. For local planning purposes, the roadway network is divided into four classifications: expressways, arterials, collectors, and local streets (see Figure 1).

Expressways. As part of the federal interstate system, I-84 is a limited access expressway characterized by divided lanes, elevated street crossings, and controlled access. It provides no direct land access and is designed to accommodate heavy traffic flows at relatively high speeds.

Arterials. Arterial streets are often divided into principal and minor arterials, depending largely on the amount of traffic volume. Principal arterials, along with expressways, are high traffic volume corridors that carry a high proportion of total vehicle travel on a minimum of roadway mileage. They serve as the major network for moving traffic through the City and region. Because the primary function of these roads is to serve through traffic, they should not provide for the access needs of abutting property, though they typically do, resulting in considerable congestion as the demands of through traffic and land access conflict with one another.

Minor arterials interconnect with and augment the principal network, providing for trips of moderate length at somewhat lower levels of travel mobility. This system distributes travel to geographic areas smaller than those identified with the higher systems. The minor arterial street system contains facilities that place more emphasis on land access than the higher system and offer a lower level of traffic mobility.

Because arterials carry large volumes of traffic, they should be located adjacent to, but not through, residential neighborhoods.

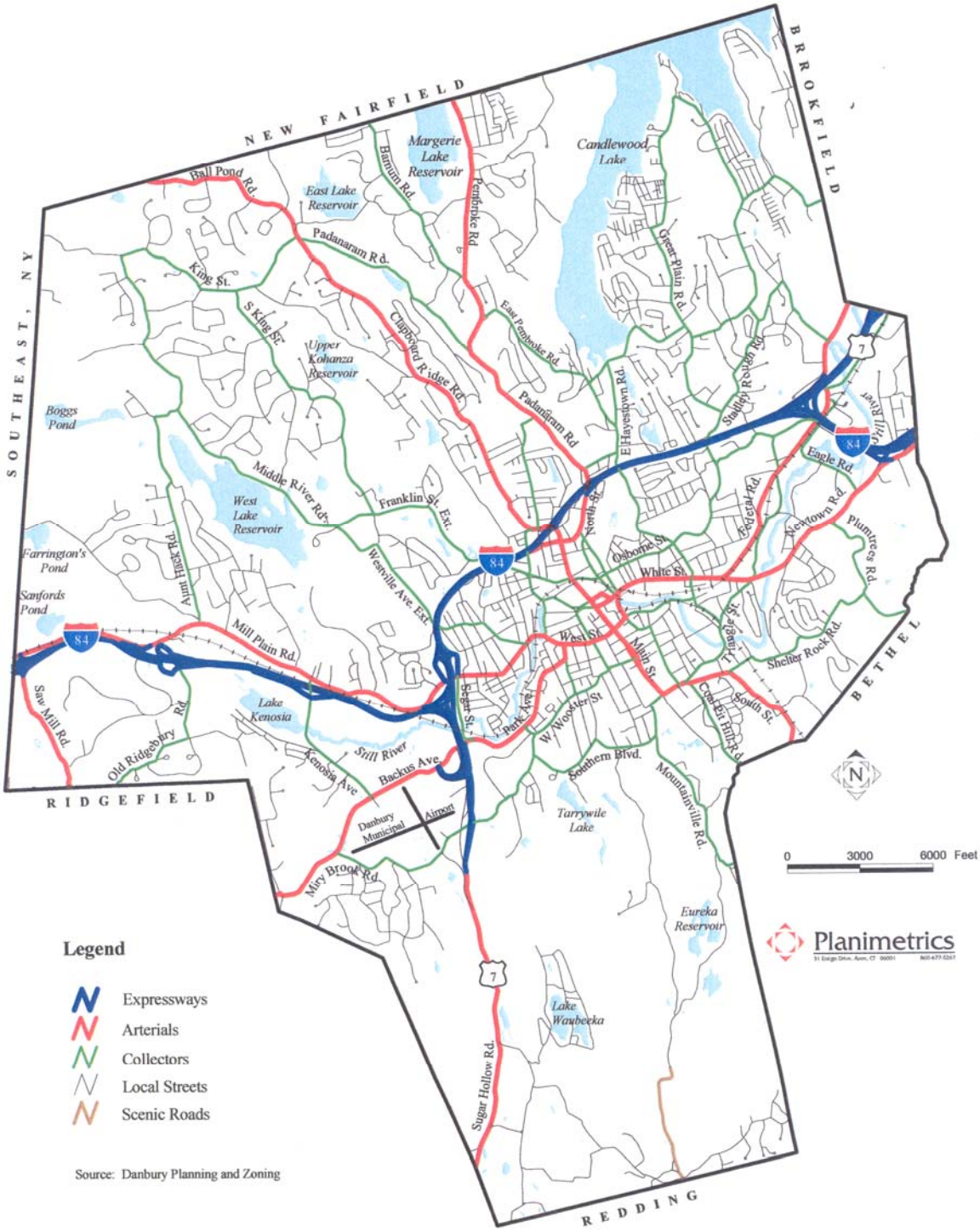


FIGURE 1
FUNCTIONAL CLASSIFICATION OF STREETS

Collectors. Collector streets differ from the arterial system in that facilities on the collector system may penetrate residential neighborhoods, collecting traffic from local streets and channeling it into the arterial system. Though collectors provide both land access and traffic circulation within residential neighborhoods, they should be designed to discourage through traffic.

Locals. Local streets offer the lowest level of mobility and primarily serve to provide direct access to abutting land development and to higher order street systems. Through traffic movement on local streets within neighborhoods is usually discouraged.

CONGESTION AND SAFETY

Traffic Volumes and Capacity

The major causes of traffic congestion are peak hour commuter traffic, through traffic, land development patterns, and substandard roadway design. There are several traditional ways of addressing congestion issues.

Additional Capacity. Methods to increase the capacity of existing roadways are perhaps the most frequently suggested means of relieving congestion. This strategy includes the addition of travel lanes, new roadways, improved intersection design and expanded public transit.

Demand Management. These strategies are intended to redistribute trips from peak hours through methods such as ridesharing, transit use, telecommunications, or the use of flex-time. One of the best ways to control demand is through more sensitive land use decisions that evaluate the impact of new development on traffic generation prior to the establishment of land use policies and regulations.

Improved Efficiency. These are relatively affordable improvements that are designed to improve the efficiency of the existing system, including intersection improvements, turning lanes or restrictions, traffic signal coordination, driveway controls and special event management.

Project Management. These strategies are aimed at reducing congestion during road construction and maintenance activities, and include methods of shortening the duration of construction or scheduling such activities during periods of relatively low traffic volumes.

Other options frequently mentioned for reducing congestion (e.g. toll roads, entrance ramp metering, high occupancy vehicle lanes) are more appropriate for expressways than local arterial or collector streets. And while bike lanes and sidewalks may have an impact on vehicular travel, they are seldom considered to be an effective way of significantly relieving peak hour travel.

Efforts to reduce congestion on major traffic corridors will frequently rely on instituting a variety of methods appropriate to the conditions and needs of a particular corridor.

The most recent traffic counts at selected sites are shown in Figure 2, Existing Traffic Volumes. Road corridors which are experiencing capacity problems or are projected to face

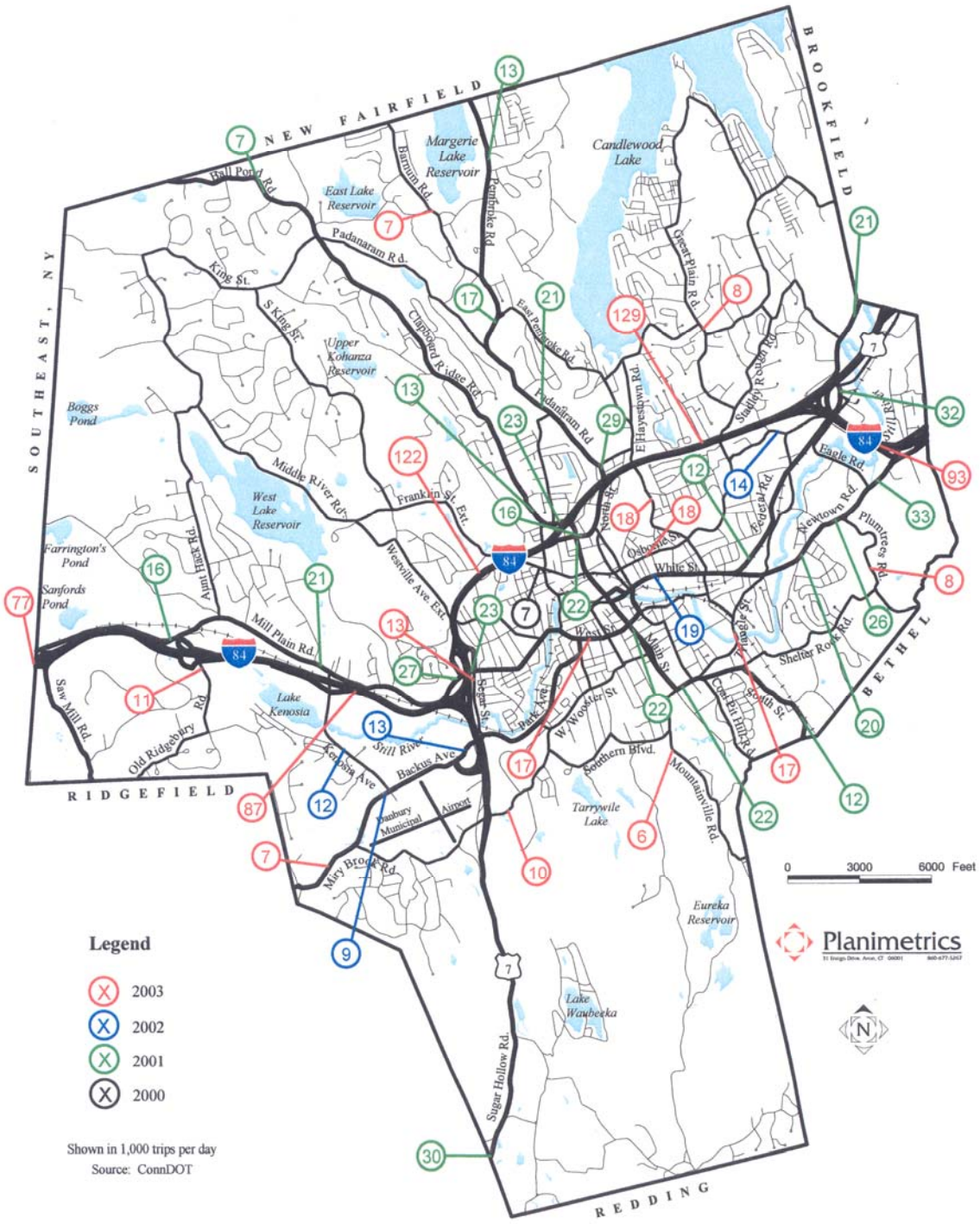


FIGURE 2
EXISTING TRAFFIC VOLUMES 2000-2003

critical congestion problems by 2010 are listed below in Table 1, Existing and Projected Traffic Volumes.

TABLE 1
EXISTING AND PROJECTED TRAFFIC VOLUMES 2003-2010
Streets with Potential Capacity Problems

Street Name	City / State	Count Station	No. Lanes	2003 ADT	2010 ADT
Clapboard Ridge (Rt. 39)	State	North of Golden Hill Road	2	19,000	22,000
Downs Street (Rt. 841)	State	West of Main Street	3	14,000	15,000
Federal Road (Rt. 805)	State	South of White Turkey Rd. Ext.	4	31,500	34,000
Mill Plain Road (Rt. 6)	State	West of Kenosia Avenue	2	20,800	23,000
Mill Plain Road (Rt. 6)	State	West of Mill Ridge Road	2	22,100	25,000
Newtown Road (Rt. 806)	State	West of Old Shelter Rock Rd.	2	21,800	25,000
North Street (Rt. 37)	State	North of Balmforth Avenue	2	20,600	24,000
North Street (Rt. 37)	State	North of Hayestown Avenue	2	23,200	25,000
Osborne Street	City	West of Hospital Avenue	2	20,000	23,000
Padanaram Road (Rt. 37)	State	South of Padanaram Road	2	18,500	21,000
Padanaram Road (Rt. 37)	State	North of Golden Hill Road	2	21,300	24,000
Sugar Hollow Road (Rt. 7)	State	North of Old Sugar Hollow Road	2	31,800	35,000
Tamarack Avenue	City	South of Virginia Avenue	2	19,650	22,000
Triangle Street	City	West of Wildman Street	2	19,300	21,000
West Street	City	East of Orchard Street	2	18,500	21,000
White Street	City	East of Meadow Street	2	24,400	28,000

Source: City of Danbury, 2004

Major Accident Sites

As the Institute of Transportation Engineers (ITE) has pointed out in their *Transportation and Traffic Engineering Handbook* (1982), traffic accidents are caused by three major factors: human error, vehicular failure and roadway deficiencies. Improvements in each of these factors can be expected to enhance traffic safety and reduce the potential for accidents.

However, ITE has found that few accidents can be solely attributed to vehicular failures or, for that matter, roadway deficiencies except for impediments such as potholes or defective traffic control devices. But, that is not to suggest that no relationship exists between accidents and poor or substandard roadway design or control measures. Poor roadway alignment, inadequate signage and lighting, turning lanes, intersection deficiencies, blind driveways, and a lack of traffic control devices, among others, can all contribute to accidents.

A variety of strategies have been employed over the years to improve traffic safety, including vehicle safety features, enforcement of motor vehicle laws, education and driver training, and engineering improvements. This *Plan* will focus on the latter through analysis of locations with high accident rates. Pedestrian safety will be addressed later in the *Plan*.

Arterial roadway corridors that have experienced higher than normal accidents are included below in Table 2, Safety Performance of State Arterial Roadways.

TABLE 2
SAFETY PERFORMANCE OF STATE ARTERIAL ROADWAYS

Rank	Street Name	Length Miles	Accidents Per Mile
1.	North Main Street (Rt. 39)	0.03	223
2.	Main Street (Rt. 53)	1.50	215
3.	North Street (Rt. 37)	0.70	172
4.	Downs Street (Rt. 841)	0.15	150
5.	Newtown Road (Rt. 806)	1.50	136
6.	Newtown Road (Rt. 6)	0.30	129
7.	Lake Avenue Extension (Rt. 6)	1.00	96
8.	Federal Road (Rt. 805)	2.50	72
9.	Padanaram Road (Rt. 37)	1.30	71
10.	South Street (Rt. 53)	1.40	61
11.	Mill Plain Road (Rt. 6)	2.50	29
12.	Pembroke Road (Rt. 37)	2.00	18
13.	Clapboard Ridge Road (Rt. 39)	3.00	18
14.	Sugar Hollow Road (Rt. 7)	2.30	18
15.	White Turkey Road Extension (Rt. 840)	1.00	18

Source: ConnDOT Traffic Accident Data, 2002-2003

NEEDS ASSESSMENT

Interstate 84

Interstate 84 is the major traffic corridor through Danbury and is part of the federal interstate system. Traffic volumes are heaviest between Exits 3 and 7, the overlap section of I-84 and U.S. Route 7, with daily traffic ranging from 75,000 to over 129,000 trips per day. The continuing growth in traffic has led to a general consensus that, unless capacity and safety improvements are made, I-84 will become an unsafe bottleneck in what should be a relatively free flowing segment of the interstate system.

In 1999, ConnDOT commissioned the engineering firm of Vanasse Hangen Brustlin, Inc. to conduct a study of the entire I-84 corridor as it passes through the Housatonic Valley Region. The purpose of the study was four-fold: (1) to preserve the capacity of I-84, (2) to address the needs of each interchange, (3) to enhance access from intersecting arterial streets, and (4) to provide for future growth. Their final report, *I-84 Corridor Deficiencies/Needs Study*, issued in 2000, provided an analysis and recommendations for future improvements to the expressway. The report found that

> *Projected traffic volumes indicate that much of the study corridor will reach or exceed capacity within the next five years. By 2025, absent of any action, projected demands would exceed the highway's capacity by as much as 50 percent.*

To meet projected demands, the study included the following findings for the Danbury portion of I-84:

- A general purpose travel lane should be added in each direction between Exit 3 and the Bethel town line and an eastbound travel lane added between Exits 1 and 2;

- Exits 2 through 8 require major redesigns as they face pressing interchange needs due to high traffic demands, weaving conditions, and left-hand exits/entrances from the interstate.
- The most significant investment in interchanges in the Region is needed in the I-84/Route 7 overlap area between Exits 3 and 7.

Most intersection improvements have both short-term and long-term components. Short term improvements have been identified for Exits 1, 2, 4, 5, 6 and 8 and are limited to minor modifications to existing geometry. Of these, Exits 5 and 6 have received the highest priority. Improvements to Exit 6 would include an additional travel lane on North Street from Second Avenue to the North Street Shopping Center.

Long term improvements call for the major redesign of intersections at Exits 2 to 8 and the addition of travel lanes in each direction between Exits 3 and 8 and eastbound between Exits 1 and 2. Neither long term intersection improvements nor the addition of travel lanes have yet to be placed in priority order.

The *I-84 Corridor Deficiencies/Needs Study* was followed by a similar study in 2001 for the remainder of the highway to Waterbury. The study recommended major intersection improvements along the corridor and the widening of I-84 to six-lanes to Waterbury. The next step is for ConnDOT to undertake an environmental impact assessment from the New York State line to Waterbury in conformance with FHWA guidelines, anticipated to commence in 2006.

Maps showing all proposed improvements are on the "I-84 Upgrade" page of the HVCEO web site [www.hvceo.org.].

Proposed Actions (short term): (1) make minor modifications to existing geometry at Exits 1, 2, 4, 5, 6 and 8 and (2) add a travel lane on North Street from Second Avenue to the North Street Shopping Center as part of Exit 6 improvements. *Justification:* to reduce congestion and improve safety. Status: under study and/or design by ConnDOT.

Proposed Actions (long term): (1) undertake major redesign of intersections at Exits 2-8, (2) add an east and west bound travel lane between Exits 3 and 8, (3) add an eastbound travel lane between Exit 1 and 2, and (3) undertake intersection improvements and widen I-84 to six lanes from Danbury to Waterbury. *Justifications*: (1) to reduce congestion and improve safety and (2) improve inter-City travel from Danbury to Waterbury. Status: under study by ConnDOT.

Arterial Streets

Backus Avenue

Backus Avenue is an arterial street extending from Segar Street west to its intersection with Miry Brook Road in the vicinity of Wooster School. Traffic volumes in 2002 ranged from 13,000 trips per day at the Danbury Fair Mall to 9,000 trips just beyond Kenosia Avenue.

Proposed Action: coordinate traffic signals along the corridor in accordance with recommendations of the 2004 HVCEO report *Evaluation of Traffic Signal Coordination*

for the Greater Danbury, CT Area, prepared by Wilbur Smith Associates. *Justifications*: (1) to minimize traffic delays and (2) to provide efficient access for development in the area.

Proposed Actions: (1) widen the westerly leg to 30 feet from Kenosia Avenue to Miry Brook Road while maintaining the two-lane cross section to the Miry Brook Road intersection and (2) make intersection improvements at Kenosia Avenue. *Justifications*: (1) to increase safety, (2) to support economic development, and (3) to improve access to shopping centers and Wooster School.

Clapboard Ridge Road/Ball Pond Road (Rt. 39)

Clapboard Ridge Road is an arterial street extending north from Exit 5 of I-84 where it becomes Ball Pond Road after intersecting with Padanaram Road. Daily traffic volumes in 2001 ranged from 13,000 trips just beyond Cowperthwaite Street and then gradually diminishing to 7,000 trips on Ball Pond Road just south of the New Fairfield line.

Proposed Actions: (1) widen Clapboard Ridge Road with additional lanes as feasible between Cowperthwaite Street and East Gate Road and (2) add southbound turning lanes and geometric improvements as needed at East Gate Road and Beckerle Street and traffic signal at Beckerle Street. *Justification*: to reduce congestion and accidents.

Proposed Action: undertake geometric realignment as feasible at the King Street/Padanaram Road and East Lake Road intersections. *Justification*: to improve traffic safety.

Downs Street (Rt. 841)/North Street (Rt. 37)

Downs and North Street are arterial streets which extend from Exit 5 of I-84 to Padanaram Road. Daily traffic volumes in 2001 ranged from 13,000 trips on Downs Street to 16,000 trips on North Street. To reduce queuing onto I-84 at Exit 5, ConnDOT is considering converting Downs Street into a one-way street from the exit to Main Street with additional lanes at the intersection extending to Barnum Court. North Street would be widened by an additional lane from Second Avenue to the North Street Shopping Center as part of improvements to Exit 6 of I-84.

Proposed Action: consider converting Downs Street to a one-way street and add lanes at the Main Street intersection. *Justification*: (1) to reduce congestion at Exit 5 of I-84. Status: under study by ConnDOT.

Federal Road (Rt. 805)

Federal Road is a principal arterial road extending through commercial areas from its intersection with White Street to the Brookfield town line. Traffic volumes in 2001 ranged from 12,000 trips per day near White Street, then increasing to 32,000 trips at White Turkey Road Extension before declining to 26,000 trips at Nabby Road and 21,000 trips approaching the Brookfield town line.

Proposed Actions: (1) widen Federal Road where necessary to maintain a consistent four-lane cross section from White Turkey Road Extension to just south of Starr Road,

(2) add a left turn lane at Starr Road, and (3) add a right turn lane onto Federal Road from Starr Road. *Justification*: to improve traffic safety and relieve congestion. Status: initial improvement plan by City under study by ConnDOT.

Main Street (Rt. 53)

Main Street is a principal arterial road extending through the downtown from near the Exit 5 intersection of I-84 to South Street. Traffic volumes in 2001 ranged from 23,000 trips per day near the I-84 overpass to 22,000 trips near North Street to 20,000 trips near South Street. Counts in 2003 revealed 18,000 trips per day in the 200 block between White Street and Liberty Street.

Proposed Actions: (1) consider converting Patch Street into a one-way eastbound street, (2) provide turning lanes at Franklin Street and Garamella Boulevard, (3) provide four lanes from Wooster Street to South Street by either widening the roadway or removing parking, (4) reduce sidewalk width as necessary from Boughton Street to Wooster Street to allow for a southbound left turn lane at Wooster Street, (5) consider intersection improvements at South Street, and (6) extend streetscape improvements to South Street. *Justifications*: (1) to maintain lane continuity throughout Main Street, (2) to reduce congestion, (3) to facilitate left turns, and (4) to improve pedestrian safety and mobility. Status: South Main Street traffic improvements sent to ConnDOT for response.

Mill Plain Road/Lake Avenue Extension (U.S. Rt. 6)

Mill Plain/Lake Avenue Extension is an arterial road extending through commercial areas from Exit 4 of I-84 west to the New York State line. Traffic volumes in 2001 ranged from 27,000 trips at Mill Ridge Road to 7,000 trips near the New York State line. Current plans are for ConnDOT to widen Route 6 from two to four lanes from the Mill Ridge Road intersection to Driftway Road. Turning lanes will be added at appropriate intersecting roadways and major driveways.

Proposed Actions: (1) widen to four lanes from Mill Ridge Road to Driftway Road, (2) add sidewalks, (3) add traffic signal at Westwood Drive, and (4) widen to four lanes from Driftway Road to Exit 2 of I-84. *Justification*: to improve traffic safety and relieve congestion. Status: initial ConnDOT widening design to Driftway Road completed.

Newtown Road (Rt. 806)

Newtown Road is an arterial road extending through commercial areas from White Street at the Triangle Street intersection east to the Bethel town line. Traffic volumes in 2001 ranged from 20,000 trips per day east of Triangle Street to 33,000 trips east of the Berkshire Shopping Center.

Proposed Actions: (1) widen with additional lanes, as feasible, from Plumtrees Road to Old Newtown Road, then from Old Newtown Road to Triangle Street, (2) reconfigure the intersection at Triangle Street/Beaver Brook Road, (3) add turning lanes and geometric improvements at Old Newtown Road, Old Shelter Rock Road and at other intersections as warranted, and (4) add a traffic signal at the Old Shelter Rock Road intersection. *Justification*: to improve traffic safety and relieve congestion. Status:

concept plan for improvements at Old Newtown Road completed and submitted to ConnDOT for response; traffic signal plan at Old Shelter Rock Road completed.

Padanaram Road/Pembroke Road (Rt. 37)

Padanaram Road/Pembroke Road is an arterial roadway corridor extending through commercial and residential areas from Hayestown Avenue north to the New Fairfield town line. Traffic volumes in 2001 ranged from 29,000 trips per day near the Hayestown Avenue intersection and then gradually diminished to 13,000 trips near the New Fairfield town line.

Proposed Actions: (1) widen with additional lanes, as feasible, north to Jeanette Street, (2) add turning lanes and other geometric improvements at the Padanaram Road/Pembroke Road intersection and at Stacey Road and Barnum Road, and (3) add a traffic signal at Stacey Road. *Justification*: to improve traffic safety and relieve congestion. Status: concept plan for widening completed in 1996 by Wilbur Smith; Stacey Road intersection plan, including traffic signal, under design by ConnDOT.

South Street (Rt. 53)

South Street is an arterial road extending through commercial, industrial and residential areas from Main Street to the Bethel town line. Traffic volumes in 2001 ranged from 22,000 trips per day at the Main Street intersection to 12,000 trips near the Bethel town line.

Proposed Actions: (1) make intersection improvements at Triangle Street/Coal Pit Hill Road, (2) add a westbound left turn lane onto Memorial Drive, and (3) add a southbound turning lane onto Shelter Rock Road. *Justification*: to improve traffic safety and relieve congestion and delays. Status: conceptual plan completed by HVCEO, sent to ConnDOT for review.

Sugar Hollow Road (U.S. Rt. 7)

Sugar Hollow Road is a principal arterial road extending south through residential areas from Exit 3 of I-84 to the Ridgefield town line. Traffic volumes in 2001 were 29,000 to 30,000 trips per day. The State plans to widen and upgrade Route 7 to four lanes from Miry Brook Road/Wooster Heights Road to one-half mile north of Route 35 in Ridgefield to match the four lane cross section already in place.

Proposed Actions: (1) widen the road to four lanes from Ridgefield to the current four lane configuration near the Miry Brook Road/Wooster Heights Road intersection, (2) improve horizontal and vertical geometry, (3) increase the shoulder and clear zone widths, (4) improve intersections, (5) reconstruct and realign Bennetts Farm Road, West Starrs Plain Road, and Starrs Plain Road, and (6) construct a cul-de-sac at Old Sugar Hollow Road. *Justifications*: (1) to increase capacity, (2) to enhance stopping distances and intersection sightlines, and (3) to improve traffic safety. Status: design completed by ConnDOT.

The project has been divided into two phases by ConnDOT. The first will widen the road from two to four lanes from one-half mile north of Rt. 35 in Ridgefield to 1.2 miles

north of West Starrs Plain Road at a projected cost of $ 8.9M. This phase has been designed and construction has begun and is expected to be completed in 2007. The second phase will extend the widening north to the existing four-lane portion near the intersection of Miry Brook Road/Wooster Heights Road at a projected cost of $ 20.6M. This latter phase may begin construction by 2007 and be completed in 2010.

West Street

West Street is a principal arterial road extending through commercial areas from Main Street to Westville Avenue where it becomes Lake Avenue. Traffic volumes in 2003 were 17,000 trips per day.

Proposed Actions: (1) widen with additional lanes, as feasible, from Terrace Place to Division Street, (2) add an eastbound turning lane onto New Street and (3) provide streetscape improvements from Main Street to Division Street. *Justifications*: (1) to reduce traffic congestion and improve safety and (2) to facilitate safe pedestrian mobility.

White Street

White Street is a principal arterial road extending through commercial areas from Main Street to its intersection with Triangle Street. Traffic volumes ranged from 19,000 trips per day (2002 count) at Western Connecticut State University (WCSU) to 22,000 trips (2003 count) near the Federal Road intersection.

Proposed Actions: (1) widen with additional lanes, as feasible, from Balmforth Avenue to Triangle Street, (2) install turning lanes at Federal Road, Locust Avenue, Moss Avenue and Fifth Avenue, (3) install a traffic signal at Fifth Avenue, (4) improve the railroad crossing surface, and (5) install streetscape improvements from Fifth Avenue to Main Street. *Justifications*: (1) to improve vehicular and pedestrian access to the downtown, (2) to improve intersection safety and minimize delays and (3) to improve travel comfort and safety at the railroad crossing.

Collector Streets

Aunt Hack Road

Aunt Hack Road is a collector street serving a residential area from Mill Plain Road north to Richter Park.

Proposed Action: elevate low shoulders in the southern portion of the road. *Justification*: to improve traffic safety.

Beaver Brook Road

Beaver Brook Road is a collector street extending through industrial areas from Newtown Road to Starr Road. Traffic volumes in 2002 were 9,000 trips per day just south of the Starr Road intersection.

Proposed Action: widen the "mouse hole" at the railroad overpass to two lanes. *Justification*: to improve traffic safety and relieve congestion.

Franklin Street

Franklin Street is a collector street extending through residential areas from Main Street to the I-84 overpass, where it becomes Franklin Street Extension. Traffic volumes in 2000 were 5,000 to 7,000 trips per day.

Proposed Action: install a traffic signal and crosswalks at the Rose Hill/Starr Avenue intersection. *Justifications*: (1) to improve intersection safety, (2) to facilitate efficient traffic flow to I-84, and (3) to improve pedestrian safety.

Garamella Boulevard

Garamella Boulevard is a collector street extending through residential areas from Main Street to Balmforth Avenue.

Proposed Action: add a fifth lane between Maple Avenue and Balmforth Avenue. *Justification*: to facilitate utilization of existing travel lanes for through traffic.

Kenosia Avenue

Kenosia Avenue is a collector street extending through industrial and residential areas from Backus Avenue to Mill Plain Road. Traffic volumes in 2002 ranged from 11,000 to 12,000 trips per day.

Proposed Actions: (1) widen with additional lanes, as feasible, from the vicinity of St. Peter's Cemetery to Backus Avenue and (2) coordinate traffic signals along Kenosia and Backus Avenues. *Justifications*: (1) to relieve traffic congestion, (2) to provide an efficient alternative to Mill Plain Road/Lake Avenue Extension as a by-pass road, and (3) to promote economic development.

Miry Brook Road

Miry Brook Road is a collector street extending through industrial and residential areas from Sugar Hollow Road to Backus Avenue where it becomes an arterial road that runs west to the Ridgefield town line. Traffic volumes in 2003 were 7,000 trips per day near the Ridgefield line.

Proposed Action: realign the intersection at Backus Avenue into a T-intersection with turning lanes as necessary. *Justification*: to improve traffic safety.

Mountainville Road

Mountainville Road is a collector street extending through residential areas from Southern Boulevard south to the Long Ridge Road/Reservoir Street intersection. Traffic volumes in 2003 were 6,000 trips per day just south of the Southern Boulevard intersection.

Proposed Actions: (1) realign the intersection at Long Ridge Road into a T-intersection and (2) add a left turn lane onto Southern Boulevard. *Justifications*: (1) to improve safety and (2) to minimize delays.

Old Ridgebury Road

Old Ridgebury Road is a collector street extending through commercial and residential areas from Mill Plain Road south to the Ridgefield town line. Traffic volumes in 2003 ranged from 8,000 to 11,000 trips per day.

Proposed Action: widen the road from two to four lanes from Reserve Road to Benson Drive. *Justification*: to facilitate traffic movement to growth areas, including Boehringer Ingelheim Corporation and the Reserve.

Osborne Street

Osborne Street is a collector street extending through residential and commercial areas from Balmforth Avenue to Germantown Road. Traffic volumes in 2003 ranged from 14,000 to 18,000 trips per day.

Proposed Actions: (1) widen, as feasible, from Balmforth Avenue to Germantown Road, (2) install a traffic signal and left turn lane at Fifth Avenue, and (3) add an eastbound left turn lane onto Locust Avenue, a northbound left turn lane from Locust Avenue onto Osborne Street, and improve turning radii. *Justifications*: (1) to improve access to Danbury Hospital and the WCSU campus, (2) to improve safety and capacity along the roadway and at critical intersections, and (3) to provide alternative cross town access.

Pahquioque Avenue

Pahquioque Avenue is a collector street providing access through industrial and residential areas from Patriot Drive to East Liberty and Chestnut Streets.

Proposed Action: provide geometric improvements to vertical alignments and minor widening where feasible. *Justification*: to improve traffic safety.

Plumtrees Road

Plumtrees Road is a collector street providing access to the sewer treatment plant and other industrial uses from Newtown Road to Shelter Rock Road. Traffic volumes in 2003 were 8,000 trips per day.

Proposed Action: improve horizontal alignment near the Fire Training School. *Justification*: to improve traffic safety and efficiency.

Reservoir Street

Reservoir Street is a collector street providing access from Mountainville Road in Danbury into Bethel.

Proposed Actions: (1) widen and reduce the severity of the 'S' curve in an environmentally sensitive manner and (2) replace the bridge. *Justification:* to improve traffic safety.

Rose Hill Avenue

Rose Hill Avenue is a collector street extending through residential areas from Franklin Street south to its intersection with Beaver Street and Rose Street. It provides alternative access to I-84 via Starr Avenue and to northern and western parts of the City via Clapboard Ridge Road and Franklin Street, respectively. Traffic volumes in 2000 were 5,000 trips per day near the Franklin Street intersection.

Proposed Action: increase the southeast corner turning radius at Hoyt Street. *Justification*: to ease turning by school buses and trucks.

Segar Street

Segar Street is a collector street running parallel to I-84 from Lake Avenue to Park Avenue. Traffic volumes in 2003 were 13,000 trips per day. A new exit of I-84 has been proposed to improve the safety of eastbound Exit 4.

Proposed Actions: (1) improve vertical and horizontal alignments, (2) provide minor widening where necessary, and (3) improve the railroad crossing surface. *Justifications*: (1) to provide a safe and efficient truck access to the west side of Danbury and to I-84, (2) to provide an efficient access to the Route 7 southbound interchange, and (3) to improve travel comfort and safety at the railroad crossing. Status: the northern portion *may* be improved as part of I-84 Exit 3 improvements.

Southern Boulevard

Southern Boulevard is a collector street extending through residential areas from Wooster Heights Road to Mountainville Road.

Proposed Actions at Brushy Hill Road, Deer Hill Avenue, Mountainville Road and Lincoln Avenue: realign the intersections into T-intersections. *Justifications*: (1) to improve intersection safety and efficiency and (2) to minimize delays.

Starr Road/Sand Pit Road/Germantown Road

Starr Road/Sand Pit Road/Germantown Road are all part of a collector street system that provides cross town access to commercial and residential areas from Federal Road to its connection with Osborne Street. Traffic volumes in 2002 ranged from 13,000 to 14,000 trips per day.

Proposed Action: widen with additional lanes and intersection improvements from Federal Road to Osborne Street, as necessary. *Justification*: to provide enhanced peak hour alternate cross town access from Federal Road to Main Street.

Tamarack Avenue/Hospital Avenue

Tamarack Avenue/Hospital Avenue (and a short portion of East Hayestown Road) are collector streets extending through commercial and residential areas from Osborne Street to Hayestown Avenue. Traffic volumes in 2003 ranged from 7,000 trips per day on Hospital Avenue to 18,000 trips per day on Tamarack Avenue.

Proposed Actions: (1) widen with additional lanes from Hayestown Avenue to Locust Avenue, as feasible, (2) add a southbound turning lane onto Hospital Avenue and (3) make geometric improvements and install a traffic signal at Virginia Avenue. *Justifications*: (1) to provide an efficient northern access for Danbury Hospital and (2) to improve sightlines at the Virginia Avenue intersection.

Triangle Street/Lee Mac Avenue

Triangle Street is a collector street extending through industrial and residential areas from South Street to Newtown Road. Traffic volumes in 2003 ranged from 8,000 trips per day south of the Lee Mac Avenue intersection to 17,000 trips just north of the intersection and then dropping to 10,000 trips just south of the Newtown Road intersection.

Proposed Actions: (1) install a traffic signal at Triangle Street and Lee Mac Avenue, (2) add an eastbound turning lane from Triangle Street onto Lee Mac Avenue, and (3) add a southbound turning lane from Lee Mac Avenue onto Shelter Rock Road. *Justifications*: (1) to minimize delays and improve traffic safety and (2) to promote economic development.

Wildman Street

Wildman Street is a collector street extending through commercial and industrial areas from White Street to Triangle Street.

Proposed Action: improve the railroad crossing surface. *Justification*: to improve travel comfort and safety.

Wooster Heights Road

Wooster Heights Road is a collector street extending through residential areas from the Sugar Hollow Road (U.S. Rte. 7) overpass east to Fry's Corner. Traffic volumes in 2003 ranged from 9,000 to 10,000 trips per day.

Proposed Actions at Harvard Road and Terre Haute Road intersections: (1) improve geometric alignment and (2) improve roadway side slopes to increase sightlines. *Justifications*: (1) to improve traffic and intersection safety and (2) to facilitate mobility to/from Route 7 south.

Proposed Action at Southern Boulevard: increase southwest corner turning radius and add a three-way stop. *Justifications*: (1) to improve intersection safety, (2) to minimize intersection delays, (3) to ease turning by school buses, and (4) to facilitate mobility to/from Route 7 south.

Local Streets

Old Sherman Turnpike

Old Sherman Turnpike is a dead-end local street extending through industrial areas south from Newtown Road.

Proposed Action: extend the two-lane roadway from its current terminus south to Payne Road in consultation with the Town of Bethel. *Justifications*: (1) to provide alternative safe emergency access to businesses and (2) to promote economic development.

SIGNAL COORDINATION

Computerized Signal Systems

The *Danbury Central Area Traffic Improvement Plan*, completed in 1995, provided a comprehensive analysis of traffic conditions in the urban core and examined the opportunities for expanding the City's computerized signal system as a means to increase capacities of existing intersections. Of the forty-eight intersections included in that *Plan*, the recommendations included new signals and fiber-optic cable improvements for four intersections, two phases of intersection improvements (e.g. geometric improvements, signal upgrades, signal changes) and upgrades to the computerized signal control system. The City is now in the process of implementing these improvements. Recommendations for future actions include the installation of computerized signal systems at North Street, Old Ridgebury Road and Lake Avenue Extension.

Intelligent Transportation Systems

The main focus of intelligent transportation systems (ITS) is to optimize the current roadway network through the use of advanced technologies and new institutional arrangements. Several methods can be employed to better manage traffic congestion, including: (1) monitoring traffic using closed circuit television (CCTV) and traffic detector displays; (2) informing motorists about roadway conditions using dynamic message signs and land control signals; and, (3) intervening rapidly when there are accidents and disabled vehicles blocking traffic. USDOT studies have shown, for example, that advanced traffic surveillance and signal control systems that automatically adjust to optimize traffic flow have resulted in travel time improvements ranging from 8 to 25 percent.

Within the state, Hartford, Stamford and Norwalk have instituted CCTV systems and Bridgeport and New Haven are currently implementing such a program. In Danbury, CCTV is considered essential for urban arterial corridors, especially on roads located adjacent to or feeding I-84 for the improvement of Emergency Traffic Diversion operations where the feasibility of road widening is quite limited. Application to Danbury would have three objectives: (1) to monitor and implement appropriate traffic control measures along the I-84 Expressway Emergency Diversion Route; (2) to monitor and implement appropriate control measures at critical intersections; and, (3) to provide information to motorists regarding roadway traffic conditions.

Potential CCTV locations along the I-84 Expressway Diversion Route would include:

- Mill Plain Road at Old Ridgebury Road,
- Lake Avenue at Segar Street,
- Main Street at West Street,
- White Street at Locust Avenue, and,
- White Street at Triangle Street.

Potential CCTV locations at other critical intersections could include: Main Street at South Street, North Street and Golden Hill Road; Federal Road at White Turkey Road Extension; and, White Street at Patriot Drive.

DESIGN CONSIDERATIONS

Roadway Design

Street Layout

Residential streets should be laid out to discourage through traffic but to allow for emergency vehicles. The arrangement should provide for the continuation of existing streets or recorded street rights-of-way, be related appropriately to topography, and allow for usable building sites with as many sites as possible located at or above street grade. Grades should conform as closely as possible to the original topography and a combination of steep grades and curves should be avoided.

Access to Arterial Streets

To help maintain the free flow of traffic on arterial streets, the City ought to require that access be limited to such streets by one of several means: (1) require that corner lots adjoining local or collector streets locate driveways off the adjoining streets so that they do not access directly onto the arterial; (2) use a series of cul-de-sacs or loop streets off the arterial with the rear lines of their terminal lots abutting the arterial; or, (3) require a marginal access road to be constructed parallel to the arterial street.

Street Names

Proposed streets which are in alignment with existing streets should continue the name of the existing street. New street names should require approval by the City. In no case should the proposed name duplicate or phonetically approximate existing or recorded street names in the City or approximate such names by the use of suffixes such as “lane,” “way,” “drive,” “court,” or “avenue.”

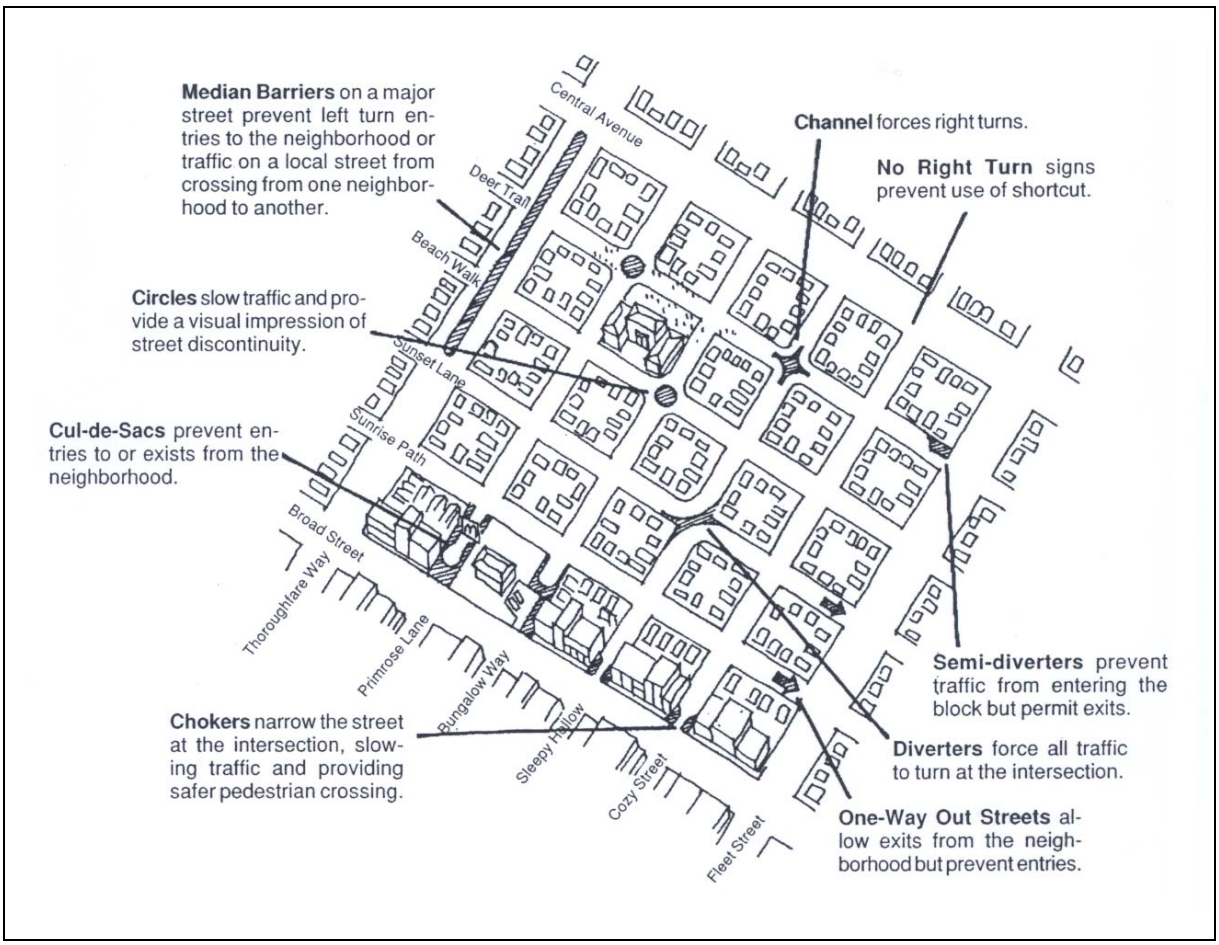
Traffic Calming

Traffic calming devices are physical improvements that divert or slow traffic on a given street. Many of Danbury’s collector and local streets suffer from the intrusion of through and speeding traffic, often caused by the efforts of motorists to avoid congested streets. Strategies should be considered to protect neighborhood streets from the negative impact of traffic intrusions. With proposed subdivisions, the Planning Commission may wish to ensure that new or reconstructed local roads are not designed with long sections of wide, straight roadways as this often encourages speeding. Congested arterials and collectors

should first be considered for roadway improvements (e.g. widening and turning lanes). Traffic calming devices may be added as traffic continues to increase, although each application should be carefully studied to ensure that the device does not simply transfer congestion and safety problems to adjacent streets.

As part of an overall traffic calming initiative, the roadway design standards and requirements in City regulations should be examined for potential negative impacts. It is possible that these standards unintentionally encourage speeding, especially in residential areas, by requiring the construction of roads that are over-designed for their function.

Examples of these devices are illustrated in Figure 3 below, several of which have been used in Danbury.



Source: Daniel T. Smith, Jr. *et al., State of the Art Report: Residential Traffic Management* (Washington, D.C.: U.S. Department of Transportation, Federal Highway Administration, December 1980).

FIGURE 3
TYPICAL NEIGHBORHOOD TRAFFIC CALMING DEVICES

Scenic Roads

Common Council may designate certain roads, or portions of roads, as scenic roads pursuant to Article V of the Code of Ordinances. To become eligible for designation as a scenic road, Council must find that the road meets at least one of the following criteria: (1) it is unpaved, (2) it is bordered by mature trees or stone walls, (3) the travel width is no more than 20 feet, (4) it offers scenic views, (5) it blends naturally into the surrounding terrain, and/or (6) it parallels or crosses brooks, streams, lakes or ponds. Designation requires consent of the owners of a majority of the lots with frontage on the road.

Only routine maintenance is permitted on scenic roads, while intrinsic values inherent to the road must be preserved, including curves, grades, widths, vegetation and stonewalls.

To date, only a portion of Long Ridge Road has been designated as a scenic road. Additional roads, or portions thereof, that may merit consideration include, among others, Boyce Road, Brushy Hill Road, East Lake Road, Forty Acre Mountain Road, Joe's Hill Road, Middle River Road, Starrs Plain Road, West King Street, and West Redding Road.

Private Roads

Abutting property owners or developers are responsible for maintaining private roads. However, as the expense of maintenance escalates beyond the means or inclination of the owners, they frequently look to the City to assume responsibilities and ownership of these roads. Section 17-34 of the Code of Ordinances provides a mechanism for accepting certain existing private roads that often must be brought up to City standards prior to acceptance. Any offer to dedicate the private road should be made only for the road as a whole. New private roads typically are not encouraged by the City.

BRIDGES

The Connecticut Department of Transportation maintains a program to improve local bridges throughout the state. To qualify, a local bridge must be on a certified public road and be structurally deficient. The Connecticut General Statutes require ConnDOT to maintain a list of eligible bridges in priority order for their improvement. The priority ranking process employs a "sufficiency rating" that evaluates the overall structural character of the bridge. The City is eligible each year to apply to ConnDOT for partial funding of bridge repair costs.

There are seventy-five City-owned bridges and thirteen state-owned bridges in Danbury. Of the City-owned bridges, eleven are ranked as poor, five as poor to fair, seventeen as fair, twenty-four as good, nine as new or excellent, and nine with openings of less than six feet. Thirty-two are over twenty feet in length.

The following is a list of bridges ranked "poor." The State of Connecticut recommends that the City engage the services of a structural engineer to review and investigate load restrictions and to prepare any plans for repair or replacement of these bridges. Structures rated "poor" or with "load restriction" may qualify for the State Local Bridge Program.

1. Backus Avenue near the Post Office, posted for 5 tons
2. Padanaram Road north end of reservoir, posted for 3 tons

3. Padanaram Road between Capitola Road and Pembroke Road
4. Miry Brook Road near Harwood Drive
5. Washington Avenue
6. West Starrs Plain Road
7. West Street over Blind Brook
8. William Street
9. Reservoir Street
10. George Street
11. Crosby Street

There are five bridges ranked "poor to fair":

1. Franklin Street Extension
2. Jefferson Avenue
3. Kenosia Avenue over Still River
4. Old Mill Plain Road
5. Shelter Rock Road

It is also recommended that the City establish a complete report for nine bridges shown on the State list but missing from City listings:

1. Great Plain Road and Hawley Avenue over brook
2. Hawley Road over brook
3. Middle River Road over brook
4. Old Sherman Turnpike over Stony Hill Brook
5. Overlook Road over brook
6. Rocky Glen Road over brook
7. Rockwell Road over brook
8. South King Street over brook
9. Wooster Heights Road over Lee's Pond Brook

It is recommended that all bridges be inspected at least once every two years.

Action has been initiated for the improvement of the following local bridges.

- Rose Hill Avenue

  This bridge is located just north of the train track overpass. Bridge replacement plans are currently under design with the commencement of construction projected for 2006 under the State Local Bridge Program.

- Backus Avenue

  This bridge is located near the Post Office. A preliminary application for funding has been submitted to the State for evaluation. A complete bridge replacement is necessary.

- Padanaram Road

  Located at the north end of the Padanaram Reservoir, this bridge has been posted for a weight limitation of three tons per axle. A preliminary application for funding has been submitted to the State for evaluation. A complete bridge replacement is necessary.

- Crosby Street

  This bridge crosses Padanaram Brook. A preliminary application for funding has been submitted to the State for evaluation. The bridge requires rehabilitation.

- Segar Street

  This bridge crosses the Still River and requires repair. Work is expected to take place in 2005 and will be financed entirely with City and private funds.

LAND USE AND TRANSPORTATION

Much has been written about the relationship between land use development and transportation as planners seek ways of addressing increased traffic congestion that go beyond simply building bigger and better highways. New policies include such considerations as (1) improving the quantity and quality of infrastructure to serve pedestrians, bicyclists, and high-occupancy vehicles, (2) increasing the price of auto travel, (3) regulating the design of development, (4) curbing urban sprawl, (5) encouraging higher density development in urban centers, and (6) creating centers of new high-intensity development close to transportation facilities (i.e. transit-oriented development).

Many of these new approaches require state, federal, or regional actions that go beyond the jurisdiction of the City, though local actions are mentioned elsewhere in this *Plan.* Several other customary actions are discussed below.

Traffic Impact Analysis

The congestion found on major arterial roads in the City demonstrates the linkage between the land uses found along a commercial corridor and its level of traffic. In many cases, land service may generate fully half of all the traffic on the road. Once severe congestion occurs, corrective actions are often limited to expensive road widenings and other improvements. It is clear that a preventive approach is preferred. There needs to be greater appreciation of the effect of land use decisions on traffic volumes.

First, zoning along congested corridors ought to be evaluated to determine the full impact of additional traffic generation should the road be developed to its maximum potential. The Trip Multiplier Table in the Danbury Zoning Regulations should be reviewed and updated as necessary to better reflect current studies.

Moreover, the threshold at which an applicant is required to submit a Traffic Impact Analysis should also be reviewed. Currently, the Zoning Regulations stipulate that a threshold of more than 500 daily trips, regardless of the proposed site or use, converts all permitted uses into special exception uses. Proposed rezoning requests along road corridors which will result in a Level of Service (LOS) of D or lower should be rejected unless there is a plan and funding in place to mitigate the impact. A traffic study should be required as part of the rezoning application to determine the likely impact such a rezoning would have on traffic congestion.

Driveway Controls

Another approach to mitigating congestion and safety concerns is to control the location of new driveways, especially along major arterial roads experiencing high traffic volumes. The proliferation of driveways installed on a parcel-by-parcel basis often leads to an excessive number of conflict points with other driveways or road intersections. Multiple left hand turns not only clog highways but can lead to traffic accidents as well.

Curb cut controls can help reduce these problems along congested roads. Various techniques include the following:

1. consolidation of the driveways of two adjacent parcels;
2. limiting the number and controlling the separation and width of driveways on a parcel;
3. requiring commercial properties on corner lots to provide access off intersecting local or collector streets rather than directly off arterial streets; and,
4. requiring subdivisions to refrain from using major streets for direct access to housing lots.

HVCEO has prepared a series of plans that recommend specific changes to the driveway design of parcels on the following roads.

- Route 6 (Mill Plain Road/Lake Avenue Ext.) from New York to Exit 4 of I-84.
- Route 7 from Ridgefield to Wooster Heights Road.
- Route 37 (Padanaram Road) from Hayestown Avenue to New Fairfield.
- Route 805 (Federal Road) from White Street to Brookfield.

Only the Route 6 plan has been implemented through the Zoning Regulations.

Parking Lot Design

Development adjacent to major roads often contributes to visual blight on commercial corridors leading into the City. Although unattractive buildings sometimes play a role, the condition is usually caused by uninspired site design, ugly parking lots, a conspicuous lack of landscaping, and numerous signs.

Parking lots are usually the worst offenders of aesthetic design, for not only are they often little more than asphalt wastelands, they typically consume over two-thirds of the lot. Conventional site design places buildings back from the road with “acres of free parking” in front. A more pleasing arrangement would be to move buildings closer to the road with at least some of the parking located to the rear. Some communities require that no more than half of all parking may be placed between the main building and the road.

Existing Requirements

The Danbury Zoning Regulations include extensive requirements governing parking lot design, including dimensions of parking spaces, landscaping, the amount of parking required for different land uses, off-street loading, lighting, and provisions to allow shared parking. But, the requirements can be improved.

Proposed Revisions

Setbacks. Parking lots should be no closer than twenty feet (or the front yard setback, whichever is greater) from the street right-of-way, with the space fully landscaped with trees and shrubs. Contoured mounds of two-to-three feet in height can screen the lot from the adjacent roadway and prevent headlights from shining into oncoming vehicles. A minimum side and rear setback of five feet in width will break up the procession of asphalt fields extending from lot to lot.

The placement of parking to the side or rear of buildings should be encouraged. Indeed, the City could amend the Zoning Regulations to provide developers with one of two options in parking lot design: either place at least half the parking behind the building or create a wide landscaped mound to visually screen parking from passing motorists.

Regardless, parking lots on downtown streets should not be allowed to be located between the street and building, especially where the predominant streetwall lies tight to the sidewalk. In such cases, parking lots create vacant gaps in what should be an interesting walking experience for pedestrians.

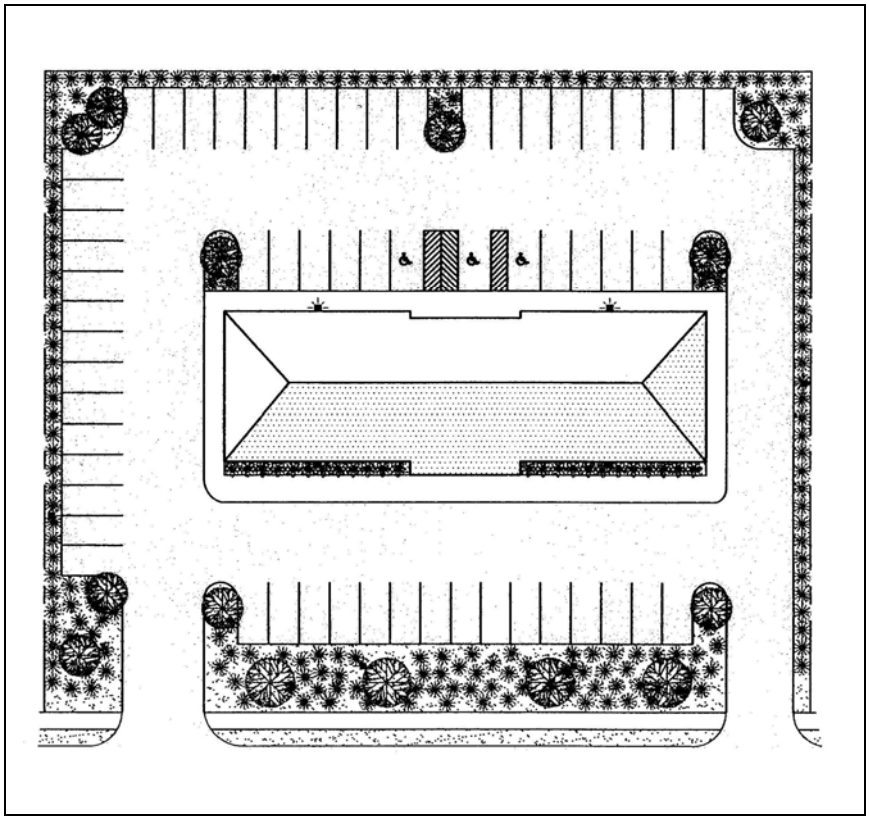


FIGURE 4
SAMPLE PARKING LOT DESIGN

Landscaping. The landscaped islands required at the ends of parking bays should be wider than currently required and a professionally prepared landscape plan should be submitted

with new site plans to ensure that the entire island is covered with plant material. In far too many cases, the islands are mostly covered with mulch, a few scattered junipers and one forlorn tree. An example of improved parking lot design is illustrated in Figure 4 above.

Compact Spaces. The existing Zoning Regulations allow for up to one-third of required parking spaces to be smaller in width and length to accommodate compact vehicles (i.e. 8'x15' instead of 9'x18'). This easing of the dimension requirements made sense when enacted, but the growth in popularity of SUVs, light trucks and vans, coupled with a general lack of policing by property owners to ensure compliance, suggests that this provision should be eliminated to ensure that parking spaces are adequate in size for all vehicles.

ALTERNATIVE WORK ARRANGEMENTS

Various means of reducing traffic congestion through the implementation of alternative work arrangements by employers have gained favor in recent years. It is estimated that over a third of all daily traffic occurs during just four hours a day, including the early morning rush hour (7:00 a.m. to 9:00 a.m.) and the evening rush hour (5:00 p.m. to 7:00 p.m.). Allowing employees to arrive earlier or leave later not only saves time and reduces stress, but also relieves peak hour traffic congestion and air pollution. An alternative work hour program is an option to the standard eight-hour, five-day work week whereby employees can either change the length of the work day or the way work hours are allocated.

Flex-Time Programs

With flex-time, fixed company-wide arrival and departure times are replaced with varying schedules within designated zones of arrival and departure times. For example, a core work day may be designated as 9:00 a.m. to 3:00 p.m. Leniency in scheduling work hours may only occur in those hours before 9:00 a.m. and after 3:00 p.m. All employees must be present during the core day and still must work the required number of hours each day (e.g. eight hours).

Employers may find that flex-time reduces overtime costs, expands the use of workspace and equipment, extends hours of customer service, and concentrates meetings and conference calls into the core hours of the day.

Flex-time is most useful in offices and may not be as applicable for companies where employees often have to work hours that are not during peak hours (e.g. retail) or because the work requires continuous communication among workers. It may also be difficult to implement for small employers.

Staggered Work Hours

Though similar to flex-time arrangements, staggered work hours typically apply to entire groups or departments. For example, a department may have work hours from 7:00 a.m. to 4:00 p.m. or from 9:00 a.m. to 6:00 p.m. within a five-day work schedule. Even a thirty minute shift in work schedules may have an affect on local traffic congestion.

Compressed Work Week

Compressed work weeks require employees to work fewer days but more hours per day than under the conventional work week. For example, rather than working five 8-hour days in a week, the employee works four 10-hour days, allowing for three-day weekends. An alternative is for the employee to work nine days for a total of 80 hours over a two-week period. With the first alternative, the employee gets one business day off each week; with the 9/80 schedule, the employee gets one business day off each two weeks.

As with the other alternatives, compressed work weeks may not be advantageous to companies that require close face-to-face contact among employees or which provide regular customer service hours.

RIDESHARING

Publicly subsidized ridesharing services are provided by Metropool, Inc., an organization sponsored by the Connecticut and New York departments of transportation. The mission of Metropool is to deliver transportation demand management solutions to improve mobility and ease the movement of people for greater workforce effectiveness, economic well-being, and improved quality of life. Metropool provides free commuter services to employers and commuters traveling to destinations in Fairfield County and nearby counties in New York State.

For more than two decades, Metropool has helped area companies by providing computer mobility program consulting services and comprehensive implementation support. Services include (1) customized commute mobility plans, (2) ride matching, (3) carpool formation, (4) vanpool formation, (5) shuttle information, (6) guaranteed ride programs, (7) commuter information centers, (8) promotional efforts, (9) custom promotional materials, (10) company relocation services, and (11) direct commuter services. For more information, contact Metropool at 1-800-FIND-RIDE (1-800-346-3743) or at their website [info@metropool.com].

Commuter Parking Lots

ConnDOT has created six commuter parking lots in Danbury for the purpose of encouraging carpooling to reduce the expense of daily commuting and to serve as pick-up points for commuter van and bus service. The lots are located on state-owned land adjacent to major roadways, as follows: (1) Rt. 6 near I-84 Exit 1, 160 spaces; (2) Rt. 6 near I-84 Exit 2, 112 spaces; (3) Segar Street near I-84 Exit 4, 50 spaces; (4) Miry Brook Road at U.S. Rt. 7, 171 spaces; (5) Federal Road, 115 spaces; and, (6) White Turkey Road Extension, 75 spaces.

Expansion of the program to other locales, though a goal of ConnDOT, is constrained by the lack of other state-owned lands in suitable locations. Leasing of private properties would be necessary, an effort which would prove to be more expensive than efforts to date. Consequently, there are no active plans to expand the inventory of commuter parking lots at this time. ☙

II. PUBLIC TRANSPORTATION

HART BUS SERVICE

The Housatonic Area Regional Transit (HART) District was founded in 1972 to regulate transportation resources in the Housatonic Region and began providing transit service in 1982. The HART District operates fifteen urban fixed routes, ADA paratransit services, senior/disabled dial-a-ride services, interstate commuter rail shuttles, job access services and a downtown Danbury trolley circulator. The system has historically served transit-dependent populations, but new interregional and interstate rail feeder services have attracted a growing number of riders by choice. The District carries nearly 900,000 passenger trips annually.

HART provides bus service to ten Connecticut towns (Bethel, Brookfield, Danbury, New Fairfield, New Milford, Newtown, Norwalk, Redding, Ridgefield and Wilton) and three New York towns (Bedford, Brewster and Lewisboro). HART operates a pulse system where most fixed routes meet at the same time at the Kennedy Avenue Pulse Point in Danbury on the hour or half-hour, facilitating transfers to other routes.

During the 2002 fiscal year, the district underwent a significant service expansion. HART began operation of a commuter shuttle service from Ridgefield to the Metro-North station in Katonah, New York. A Danbury-Norwalk Route 7 LINK was initiated between the Danbury and Norwalk central business districts. The LINK service is operated jointly with the Norwalk Transit District.

In 2003, an evening/Sunday/holiday job access service was initiated to serve Danbury and Bethel. This is the fourth job access route in the Housatonic Region. HART will conduct a federally-funded feasibility study of a Danbury-Bridgeport bus route in the coming year.

Existing Service

HART operates fifteen fixed bus routes, as follows:

1. Hospital
2. Stony Hill
3. Mill Plain/Brewster

4. Brookfield
5. Bethel Center
6. Lake Avenue/Danbury Mall
7. New Milford
8. CityCenter Danbury Trolley
9. Mall/Hospital LOOP
10. Newtown Road/South Street LOOP
11. New Milford LOOP
12. Ridgefield LOOP
13. Danbury-Brewster Shuttle
14. Ridgefield-Katonah Shuttle
15. Danbury-Norwalk Route 7 LINK

The Ridgefield LOOP, Ridgefield-Katonah Shuttle and Danbury-Norwalk Route 7 LINK are all at risk after the end of the current fiscal year.

SweetHART ADA paratransit service is provided in Bethel, Brookfield, Danbury, New Milford and Ridgefield. SweetHART senior/disabled dial-a ride service is provided in Bethel, Brookfield, Danbury, New Fairfield, New Milford, Newtown and Ridgefield.

Bus Service Improvement Plan

Proposed improvements to local bus service were included in the 2003 *Bus Service Improvement Plan* prepared for HVCEO by HART. The following provides a summary of proposed improvements.

Fixed Route Service Goals

Danbury Fixed Route

- Extend weekday service span from 6:00 pm to 9:00 pm.
- Extend Saturday service span from 5:00 pm to 9:00 pm.
- Implement Sunday service hourly between 9:00 am and 4:00 pm.
- Provide service with 30 minute headways during the midday period.
- To simplify routes, remove Danbury Hospital from the 1 Medical Center route.
- Split the Stony Hill Route into two routes to improve Danbury-Bethel service and allow for new Danbury-Newtown service.
- Modify the Brookfield route to operate between Danbury and DATAHR hourly via Danbury Hospital. Extend the service span to match other routes.
- Operate the Danbury Fair Mall route with 30 minute headways throughout the day or create a second route with more direct service to the Mall.

Other Fixed Routes

- Expand evening and Sunday service programs to cover the entire urban fixed route service area.
- Conduct a feasibility study for expansion of trolley services.
- Develop more employer-based bus transit service.
- Extend fixed route service to Newtown, Bridgeport and New Fairfield.
- Develop new rail feeder express bus services.

SweetHART Service Goals

- Establish a new regional SweetHART service that would serve all towns in a more efficient manner than the town by town approach at present.
- Operate a fifth bus in Danbury and service after 6:00 pm weekdays.
- Develop new business contracts with private, non-profit paratransit providers in the areas of service provision, vehicle maintenance and vehicle fueling.
- Re-certify SweetHART clients.
- Continue compliance with all requirements related to complementary paratransit service as associated with the Americans with Disabilities Act.
- Secure additional funding for the operation of existing services and their expansion.

Multi-Modal Coordination Goals

- Improve the multi-modal connectivity of HART services with other transportation services in the Region.
- Install bicycle racks on all HART fixed route buses.
- Improve bus stop signage and inter-modal transportation information dissemination.

The *Bus Service Improvement Plan* also includes a five-year capital improvement program. Further information can be obtained by referring to the complete Plan available on the HVCEO web site [www.hvceo.org].

COMMUTER RAIL SERVICE

Commuter rail service to Danbury is provided by the Metro-North Commuter Railroad, a subsidiary of the Metropolitan Transportation Authority (MTA) in New York. ConnDOT contracts with the MTA to operate commuter rail service on the Danbury Branch and the New Haven Line. Metro-North provides commuter rail service to about 2,400 passengers a day from Danbury to South Norwalk and from South Norwalk to Grand Central Station in New York City.

Travel time to Grand Central Station from Danbury is about 30 minutes longer than from Brewster, New York. The HVCEO *Rail Transit Development Program Final Report* (1992) noted that, regionally, a larger number of Connecticut commuters (395) use the Metro-North Harlem Line stations in New York than the Danbury Branch Line stations (286). Changing the travel preferences of these commuters would require "…better train frequencies, more return train trips in the afternoon and evening,...faster train travel times, and in some cases better access." The HVCEO study found that 40% of morning peak trips from the Region were intra-state trips to Norwalk, Stamford, and Greenwich.

Centralized Traffic Control

The existing train control and signal system on the Danbury Branch is manually operated, an outdated system that limits the frequency of train service to basically one train at a time on the Branch and requires train personnel to manually throw switches. Plans to convert the system to a modern electronic system have been discussed for over two decades. Funds are now available to use wood poles to carry communications along the entire 24.5 mile length of the Branch.

New Milford Service

Past rail studies have recommended extending the Danbury Branch Line further north to New Milford. As part of the extension of service, a new "Danbury North" railroad station would be constructed near the existing ConnDOT "Park and Ride" lot on White Turkey Road Extension. The site is easily accessible from I-84 and U.S. Route 7. HVCEO's 1996 *Action Plan for Restoring Passenger Rail Service to New Milford* projected 483 inbound boardings at the downtown Danbury station and 390 at Danbury North by 2015. If these figures prove to be accurate, the downtown station parking lot will need to be expanded to meet demand.

The proposed rail service concept for Danbury North has the following characteristics:

1. the existing service of 20 trains per day to downtown Danbury would be extended to Danbury North;
2. all existing branch stations, including Danbury North, would be served by all trains;
3. peak-hour service would be improved, while off-peak service would remain the same; and
4. no changes would be required in the present Metro-North main line service.

ConnDOT has initiated a study of passenger service potential and upgrading options on the Danbury Branch from Norwalk to New Milford.

Danbury Branch Electrification

Finally, we should note continued participation by the City in the ConnDOT sponsored *Danbury Branch Electrification Study.* The objectives of the study are four-fold: (1) to explore ways of increasing the utility of the branch by allowing for reduced travel times and more frequent service to Norwalk; (2) to explore the feasibility of extending passenger service from Danbury to New Milford; (3) to determine the impact of improved service on reducing congestion on the U.S. Route 7 corridor and other north/south corridors; and, (4) to improve the attractiveness of the branch as an alternative to the Harlem Line in New York for Connecticut rail commuters. Evaluations include the needed improvements and cost of reducing travel times by 5, 10, and 15 minutes, the feasibility and impact of a double track, an assessment of benefits of adding passing sidings, and the feasibility of electrification. The final draft report by the consultant, Washington Group International, should be competed in the winter of 2005 for presentation to the study advisory committee and the general public.

III. OTHER TRANSPORTATION MODES

SIDEWALK AND STREETSCAPE IMPROVEMENTS

Sidewalks

The greatest concentration of sidewalks, found within the older sections of the City, were originally built before vehicular travel reduced the demand for sidewalks. Unfortunately, that has left the City with many sidewalks in fair to poor condition. Although the City systematically repairs and replaces sidewalks, cost is an inhibiting factor. Proposed replacement of downtown sidewalks that experience especially high pedestrian use were listed in the *Plan of Conservation and Development.*

- Keeler Street from Main Street to Liberty Street
- State Street from Main Street to Town Hill Avenue
- Library Place from Main Street to Terrace Place
- Chapel Place from Main Street to Terrace Place
- White Street from Main Street to Fifth Avenue (see 'Streetscape' below)
- West Street from Main Street to Division Street (see 'Streetscape' below)
- Main Street from Boughton Street to South Street (see 'Streetscape' below)

In addition, gaps in sidewalks located along streets in the urban core need to be interconnected to ensure a continuous sidewalk network within these high density areas.

There is no comparable network of sidewalks outside the urban core. While new developments are often required to install sidewalks on property frontages, such improvements frequently result in numerous unlinked sidewalk segments. The completion and connection of sidewalks on key streets should be a long-term goal for the City.

Of greater importance is the need to construct sidewalks along major corridors, especially as part of road improvement programs. This would greatly improve pedestrian safety, encourage walking, and improve the visual quality of the commercial corridor when combined with landscaping. Roadways which combine major commercial destinations with high traffic volumes ought to include continuous sidewalks or multi-use paths along one or both sides of the road, as feasible, including the following:

- Newtown Road, Triangle Street to Eagle Road;
- Federal Road, White Street to Nabby Road;
- Park Avenue/Backus Avenue, Greenfield Avenue to Kenosia Avenue; and,
- Lake Avenue/Mill Plain Road, Abbot Avenue to I-84 Exit 2.

The legislative requirement for the installation of sidewalks for new development is mixed. The Subdivision Regulations require sidewalks along all primary (i.e. major thoroughfares) and secondary high-density roads (i.e. lots of less than 20,000 sq. ft. permitted) but not along industrial or secondary low-density roads (i.e. lots of 20,000 sq. ft. or greater required) unless within designated walking distances to schools.

But in the Zoning Regulations, the Planning Department may, in conjunction with ConnDOT, only require sidewalks on lots with frontage on State highways, although the Planning Commission often requires sidewalks as part of special exception site plan approvals.

The Zoning Regulations ought to be amended to require sidewalks along the entire street frontage of all lots proposed for new development or major expansions thereto, as follows: (1) for RA-80, RA-40 and LCI-40 Zoning Districts, along arterial streets only; and, (2) for all other Zoning Districts, along all arterial, collector and local streets.

The Regulations should also require sidewalks where necessary to provide safe and convenient access to schools. All differences in requirements between the Zoning Regulations and Subdivision Regulations must be reconciled.

Streetscape Improvements

While there are many engineering solutions to address traffic safety and congestion concerns, road enhancements should also be considered to make them more attractive and safer for pedestrians. Streetscape improvements can improve the appearance of City streets within their rights-of-way, and typically include one or more of the following embellishments:

- the repair and replacement of curbs and sidewalks, often with decorative pavers and paving patterns;
- landscaping, including the planting of street trees;
- the addition of street furniture, including attractive benches, waste receptacles and ornamental lighting;
- landscaped medians;
- the relocation of overhead utility lines underground;
- enhanced pedestrian crossings, neckdowns or chokers, and other devices to improve safety; and,
- ramps for the handicapped.

A sample detail of a streetscape improvement plan is shown in Figure 5 below.

Previously completed street improvements for Main Street incorporated many of these concepts in an effort to beautify the downtown. Similar treatment was recently completed for the northern end of Main Street from Crosby Street to North Street. Other areas of the

downtown were recommended in the *Plan of Conservation and Development* for streetscape improvements, including:

1. Main Street from Boughton Street to South Street;
2. West Street from Main Street to Division Street; and,
3. White Street from Main Street to Fifth Avenue.

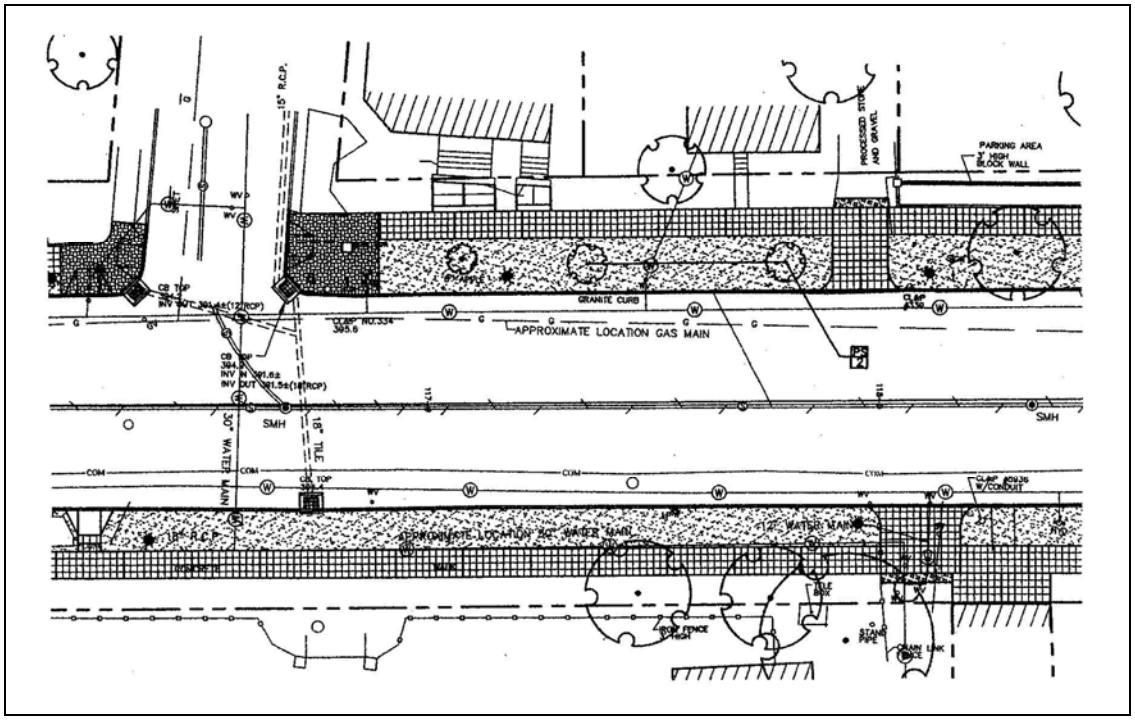


FIGURE 5
SAMPLE STREETSCAPE IMPROVEMENT PLAN (DETAIL)

BICYCLE CIRCULATION

The City of Danbury does not have designated bikeways, even though national trends suggest that the interest and use of bicycles for recreational purposes is growing. The designation of bikeways is often constrained, however, by topography, narrow rights-of-way, traffic conflicts on major roads, and the cost of undertaking such improvements to satisfy a largely unknown demand.

There are five basic types of bikeways that can be employed to meet varying needs under varying conditions.

1. *Shared Roadways* are where bicyclists compete with motor vehicles for the same road; improvements are usually limited to "bikeway" signs.
2. *Wide Curb Lanes* are where bicyclists travel within an outside lane wide enough to enable vehicles to pass without crossing into another lane.
3. *Shoulder Bikeways* are where bicyclists travel on a paved shoulder.

4. *Bike Lanes* are designated by striped lines along the paved edge of the road.
5. *Multi-Use Paths* are bike trails separated from the road by a grass strip or other barrier; multi-use paths can also be used by pedestrians ("hike-bikeways").

The location and design of bikeways is determined by their intended function. Heavily traveled commercial corridors can be expected to attract a limited number of work and shopping trips. In such cases, bike lanes or multi-use paths may sometimes be incorporated into plans to widen existing roads. A variety of such routes were recommended along major corridors of the City in the *Housatonic Valley Regional Bicycle Plan* prepared for HVCEO by Wilber Smith Associates in 1995.

Recreational bikeways usually place a premium on the attractiveness of the route, low motor vehicle travel, and attractive outdoor destinations (e.g. lake or park). Two recreational bikeways are suggested for further consideration.

- Two Lakes Bikeway. This bikeway, recommended in the *Plan of Conservation and Development*, would connect passive recreational facilities at the East Lake and Margerie Reservoirs provided water sources can be protected and State approvals are granted.

- Candlewood Lake Bikeway. As proposed by ConnDOT, this bikeway would be a 44 mile 'loop route' around Candlewood Lake and would require cooperative planning with Brookfield, New Fairfield, New Milford and Sherman. In Danbury, it would connect with the Two Lakes Bikeway.

Additional recreational bikeways may always be considered at a future date.

AIR SERVICE

The Danbury Municipal Airport is the base for corporate air fleets, flight schools, and a number of aviation services, and consists of two intersecting runways and the control tower. The airport is used exclusively for private flights and is protected from land use intrusions by the Airport Protection Zone in the Zoning Regulations. This overlay zone is intended to reduce hazards in the approach and transition zones by controlling building area and height.

The 1995 *Airport Master Plan* offers three land use and zoning recommendations to further the protective envelope: (1) the City should acquire land or easements along the residentially zoned portion of Miry Brook Road to control the height of vegetation; (2) permitted land uses around the airport should be restricted to avoid new land use conflicts; and, (3) the Airport Protection Zone regulations should be updated as necessary to conform to current airspace standards. The acquisition of land has been funded.

The airport's greatest negative impact on the surrounding community is the noise associated primarily with take-offs and landings. A noise study working group was created in 2003 to prepare a Part 150 Noise Study Update in consultation with the Louis Berger Group, Inc. to establish baseline noise conditions, prepare noise abatement alternatives, select noise and land use compatibility actions, and develop implementation tools. Final recommendations have yet to be made. ☙

IV. STATE AND REGIONAL TRANSPORTATION PLANNING

HVCEO 2004-2030 REGIONAL TRANSPORTATION PLAN

The Housatonic Valley Council of Elected Officials has long served as the regional transportation planning agency for Danbury and the surrounding nine towns of Bethel, Bridgewater, Brookfield, New Fairfield, New Milford, Newtown, Redding, Ridgefield and Sherman. Among its many responsibilities is the preparation and periodic updating of a regional transportation plan. Any project which requires federal transportation funding must first appear among the "future projects" listed in the plan and then advance to the "current projects" listing. Although this provides no guarantee of ultimate construction funding, it does indicate recognition by ConnDOT. To be fully viable, it must also appear on the Transportation Improvement Program (TIP).

HVCEO recently updated its *Regional Transportation Plan* in 2004. It includes current and future transportation projects for each municipality, strategic plans for HART and Metro-North, and other elements. Projects for Danbury have been included in the discussions above.

Status of Current Transportation Projects in Danbury

The following "current projects" for Danbury are at various stages of review, design or construction.

I-84 Exit 5 Interchange

Project No. 34-308 includes extending the length of both the east and west bound deceleration lanes for Exit 5. This will require widening the bridge over Kohanza Street. Design is expected to be completed in 2005. Estimated cost: $ 1,470,000.

I-84 Exit 6 Interchange and North Street Improvements

Project No. 34-313 includes lengthening and widening I-84 Exit 6 ramps. The North Street eastbound on-ramp will be signalized and Route 37 widened to five lanes between the Exit 6

interchange and Hayestown Avenue. Route 37 will be widened to four lanes north of Hayestown Avenue to the bridge over Padanaram Brook. A concept design has been completed. Construction is scheduled to begin in 2007. Estimated cost: $ 12,500,000.

Main Street North Streetscape

Project No. 34-302 is a streetscape project extending from Crosby Street north to North Street. The project was recently completed in 2005. Estimated cost: $ 1,200,000.

Mill Plain Road Widening

Project No. 34-288 includes widening Mill Plain Road to four lanes with turning lanes and the upgrading of traffic signals from Mill Ridge Road to Driftway Road. Final design is scheduled for completion in 2005 and construction is estimated to commence in 2009. Estimated cost: $ 8,100,000.

Newtown Road

Project No. 34-309 will provide for a westbound left turn lane from Newtown Road onto Old Shelter Rock Road and installation of a traffic signal. Final design is scheduled for completion in 2008 with construction to commence in 2009. Estimated cost: $ 644,000.

North Street and Downs Street

This potential project is only on the ConnDOT "Future Needs List" and would include widening and limited improvements from Downs Street to the I-84 Exit 6 overpass. Estimated cost: $ 8,500,000.

Pembroke Road and Stacey Road Intersection

Project No. 34-305 is a redesign and signalization of the Pembroke Road and Stacey Road intersection. Preliminary design was completed in 2004 and construction is anticipated to begin in 2009. Estimated cost: $ 1,200,000.

U.S. Route 7 Widening

This project is divided into two phases.

1. Project No. 34-315 includes widening U.S. Route 7 to four lanes from 1.2 miles north of West Starrs Plain Road to 0.9 miles south of West Starrs Plain Road in Ridgefield. Final designs have been completed. Construction is scheduled for 2005-2007. Estimated cost: $ 8,912,000.

2. Project No. 34-260 continues the widening from 1.2 miles north of West Starrs Plain Road to the existing four lane cross section just south of Wooster Heights Road. Final designs have been completed. Construction is scheduled for 2007-2010. Estimated cost: $ 20,573,000.

Traffic Flow Improvement Projects

The City has submitted five projects to ConnDOT for review: (1) intersection improvements at Newtown Road and Old Newtown Road; (2) improvements to Federal Road from Starr Road to Eagle Road; (3) intersection improvements to South Street at Coal Pit Hill Road and Triangle Street; (4) streetscape improvements to Main Street from Boughton Street to South Street; and (5) traffic signal coordination on Backus Avenue.

Future Transportation Projects in Danbury

Future projects identified in the plan include improvements to Federal Road, Interstate 84, Main Street, Mill Plain Road, Newtown Road and Padanaram Road and other improvements to municipally maintained roads, including Backus Avenue, Kenosia Avenue and various transit projects. These projects are described in previous sections of this *Transportation Plan*.

Major Regional Projects Outside Danbury

Current Projects

Major "current projects" outside of Danbury with significant regional impact include the following.

Brookfield

U.S. Route 7 Bypass around the "Four Corners" from the present end of the expressway northward to New Milford. The anticipated date of project completion is 2007.

U.S. Route 202 (Federal Road) safety improvements, including lane widening and lane continuity from White Turkey Road to Route 133. Construction is scheduled to begin in 2009.

New Milford

U.S. Route 7 widening from Still River Drive to Brookfield to continue related projects to the north and to include traffic signal interconnections. Construction is scheduled to begin in 2005.

Ridgefield

U.S. Route 7 widening to four lanes from the Danbury project to Route 35 (see above).

Future Projects

Major "future projects" outside of Danbury with significant regional impact should include the following.

- I-84 widening from four to six lanes from Bethel to Southbury.
- Extension of rail passenger service to New Milford.
- Implementation of HART service improvements in participating towns.

- Increased stacking on the eastbound exit ramp off U.S. Route 7 onto White Turkey Road Extension.

CONNECTICUT TRANSPORTATION PLANNING

2004-2030 Long-Range Transportation Plan

The Connecticut Department of Transportation updates its statewide *Long-Range Transportation Plan* every three to five years to comply with federal requirements. The *Plan* serves as a guide for transportation policies, programs and investments through the year 2030. It is the federally recognized transportation plan for the State of Connecticut.

The ConnDOT *Plan* identifies mandated federal factors that must be addressed, discusses major transportation related issues facing the state, and outlines general strategies and actions to address them. It serves as a framework for preparing more project oriented plans.

Major strategies included in the ConnDOT *Plan* address the following principles.

- Emphasize the preservation of the existing transportation system.
- Promote efficient system management and operation.
- Support the economic vitality of the United States, Connecticut and metropolitan areas, especially by enabling global competitiveness, productivity, and efficiency.
- Increase the safety and security of transportation for users of motorized and non-motorized modes.
- Increase the accessibility and mobility options available to people and for freight.
- Enhance the integration and connectivity of the transportation system, across and between modes throughout the state, for people and freight.
- Protect and enhance the environment, promote energy conservation, and improve the quality of life.

Each strategy is accompanied by a host of recommended actions. The *Plan* also includes a list of specific projects and studies included in the State's *Master Transportation Plan.* As of April 2004, the *Master Transportation Plan* included twenty-eight major projects and twelve major corridor studies that the Department intends to pursue during the next ten years. Of particular impact to Danbury residents are the following projects and studies.

- Route 7 bypass of Brookfield commercial district and widening in New Milford.
- I-84 lane addition from Waterbury to Southington.
- I-84 Operational and Safety Improvements in Farmington and West Hartford.
- Route 7 corridor improvements, including completion of the Merritt Parkway interchange in Norwalk, widening of Route 7 from Grist Mill to Route 33, and widening of existing Route 7 from Danbury to Ridgefield.
- Installation of centralized traffic control on the New Haven Line-Danbury Branch.
- Danbury Electrification Feasibility Study.
- I-84/Route 8 interchange in Waterbury study.
- I-84 Waterbury-NY State Line Federal Environmental Impact Statement.

The next update of the ConnDOT *Master Transportation Plan* is due to be published in 2005.

Connecticut Transportation Strategy Board

In 2000, the State created a fifteen-member Transportation Strategy Board to devise ways and means of achieving the following overarching objectives.

> *Strengthen and expand the State's transportation system over the next 20 years to enhance Connecticut's prospects for sustainable economic growth and a premier quality of life in a manner consistent with environmental standards; use evaluation techniques and metrics to support major capital investments and operating in the system; and ensure the proper integration of land use planning with transportation planning and investment decisions to support the intelligent management of the State's projected growth in population densities, commercial development, automobile usage, and freight shipments.*

Transportation investment areas were created to prepare plans for the five major transportation corridors of Connecticut, including the coastal corridor plan, I-84 corridor plan, I-91 corridor plan, I-395 corridor plan, and the southeast corridor plan. Existing regional planning organizations and metropolitan planning organizations provided input into the final recommendations of the Transportation Strategy Board.

The final report, entitled *Transportation: A Strategic Investment*, was issued in 2003 and included an extensive array of recommended strategic actions and tactics to be undertaken from 2004 to 2013. Those of particular importance to the Danbury area included the following specific recommendations.

- Support and fund the capacity expansion of I-84 from Danbury to Waterbury consistent with DOT's planned environmental study of the corridor.
- Support and fund the feasibility and environmental studies and the construction of safety and operational improvements to the interchange of Route 8 and I-84 in Waterbury.
- Support DOT's planned widening and reconstruction of existing Route 7.
- Expand incident management technologies to congested areas of the State's highway system not currently planned for such techniques, with an initial focus on several corridors, including I-84 west of Southbury.
- Support the continuation of funds for the feeder bus service to the Harlem Line.
- Endorse and fund a study to determine whether the Danbury and Waterbury railroad branches can serve as effective feeders to the main Metro-North line by electrifying (and by constructing adequate parking) segments of those branch lines which have the most demand for service with a specific focus on locations between the main line and the area of the Merritt Parkway.

The report included financial projections and funding recommendations.

A NEW GATEWAY TO NEW ENGLAND

What has been called the "new global age" is now upon us, creating major economic changes, dislocations, and new linkages among metropolitan areas and nations. New trading blocs have emerged, replacing the duality of the Cold War and underscoring the growth in global corporations with international identities. On this continent, NAFTA is itself both a symbol and a symptom of the new order.

Whether or not Connecticut can compete in the global age will depend in large measure on whether it can develop a strategic framework to guide statewide economic development. According to a 1999 study prepared by Michael Gallis & Associates for the Connecticut Regional Institute for the 21st Century, much of the state's success will ultimately depend upon its ability to coordinate statewide planning and improve its institutions and quality of life.

But, the key is to develop new ways for the movement of people, goods, and information, connecting the state with major transportation routes that will form new "continental grids" across the United States and Canada. Otherwise, Connecticut and all of New England risk finding themselves increasingly isolated from the New York Metropolitan Area and separated from the global economy. The study recommended a number of measures designed to strengthen the "New Atlantic Triangle," an area bounded by New York City, Boston, and Albany.

One such recommendation is improving the "Coastal Corridor" from New York City to New Haven, although the study recognizes its limitations.

> *As congestion increases in this corridor and the major global connections move west of the Hudson, this corridor will not offer the level of access to the economic activities and hubs necessary to support Connecticut's institutions, businesses and people. Congestion effectively blocks economic activity from extending farther than Stamford in the Coastal Corridor.*

Few would argue the need to widen I-95, but one ought to be realistic about the utility of such an effort. Improvements to I-95 can offer short-term relief from congestion, but as new development is attracted to the Gold Coast, congestion will return once again. For sustainable economic development, a long-term strategy is needed. We need new ideas for the new age.

- To strengthen the continental grid from Boston down the Eastern seaboard, improvements need to be made to the existing "inland corridor" from Boston through Worchester, Hartford, Waterbury, Danbury, and White Plains to New York City. This requires widening the I-84 corridor to a minimum of six lanes within urban areas from New York State to Hartford and developing other plans that attack targeted points of congestion along the way. Recent proposals to improve I-84 from Danbury to Newtown cannot wait twenty years to be built.

- A number of methods to improve the efficiency of I-84 should at least be explored, including intelligent transportation systems technologies, the creation of HOV (high occupancy vehicle) lanes, and ramp metering.

- Improvements in connections with other components of the continental grid are also necessary. For example, the I-84/I-684 interchange needs to be improved to end peak-hour congestion, while other road improvements should be extended, as needed, west to Newburgh to connect with the New York-Albany-Montreal grid.

- Concurrently, expanded air service at Stewart International Airport in Newburgh and Westchester County Airport in White Plains may be necessary to relieve increasingly congested New York City airports (e.g. La Guardia) and to provide enhanced service to upstate New York and western Connecticut.

- While it is clear that the frequency of passenger rail service needs to be increased to improve convenience, rail service must also be fast to get significant numbers of people out of their cars and onto trains. A high-speed rail system linking the Tri-State Metropolitan Region to other major centers in the nation should be constructed.

- And, as one of the fastest growing regions of the state, Danbury needs to be linked to that system by a much improved rail line. To be competitive, rail service must provide a much faster way to get from Danbury to Midtown Manhattan than by car.

- The development of a regional telecommuting center designed to meet multiple employer needs should be a high priority.

> *Computer and telecommunications technologies have become critical components to the success of manufacturing and service businesses, both large and small…Startup and small businesses, however, are often unable to afford the technology they need to be competitive. Along with under-capitalization, lack of adequate technology is believed to be one of the leading causes of the high failure rate among startups...In urban areas, telecommuting is seen as a strategy to improve air quality by reducing highway traffic.* (Mt. Auburn, p. 5-18)

- Finally, urban sprawl needs to be contained through the employment of smart growth techniques, including urban growth boundaries, infill strategies, higher density development, and transit oriented development. Low density development on the fringe of urban areas not only contributes greatly to traffic congestion but is difficult, if not impossible, to serve by local transit systems.

To succeed, these and other recommendations must be more than a patchwork of proposals and receive more than lip service by state officials. They require a coordinated planning effort at all levels of government and the development of regional and inter-state strategies within the Tri-State Metropolitan Area. But, as Gallis points out

> *…metro regions are inherently fragmented, composed of a multitude of governmental jurisdictions, business and corporate entities and institutional bodies, each of which traditionally acts and operates as a separate and independent entity. The new competitive global context places new demands on the public, private and institutional sectors to be strategically involved in the new competition.*

One initial step in promoting greater metropolitan cooperation in transportation planning would be the creation of a Tri-State transportation commission among the three states that comprise the region.

These recommendations should not be viewed as an effort to weaken municipal prerogatives but rather as one that proposes cooperative ways and means of addressing future challenges that are increasingly state and regional in scope. As this *Plan* has demonstrated, much can be done locally to improve traffic safety, decrease congestion, provide choice in transportation modes, and address the impact of new development on traffic in the City. But, much of our future will also be shaped by state and regional forces that will not only affect our transportation system but will also determine the degree to which Danbury succeeds in sustaining growth, containing sprawl, creating jobs, and protecting our quality of life. Local planning will be among the first casualties of globalization unless we assume our rightful place in a far more interconnected world. ☙

V. RECOMMENDED PROGRAM of TRANSPORTATION IMPROVEMENTS

SUMMARY OF PLAN RECOMMENDATIONS

The following constitutes a summation of recommendations in the *City of Danbury Transportation Plan.*

I. STREETS AND HIGHWAYS

State and Federal Streets and Highways

Interstate 84

- *Proposed Improvements:* undertake short term intersection improvements to Exits 1, 2, 4, 5, 6 and 8, including an additional travel lane on North St. from Second Ave. to the North St. Shopping Center.
- *Proposed Improvements:* undertake major redesign of Exits 2 through 8 to address high traffic demands, weaving conditions, and left-hand exits/entrances from the expressway.
- *Proposed Improvements:* add travel lanes between Exits 3 and 8.
- *Proposed Improvement:* add an eastbound travel lane between Exits 1 and 2.
- *Proposed Improvement: s*upport the widening of I-84 from Danbury to Waterbury, consistent with findings of the required federal Environmental Impact Statement.
- *Proposed Improvement:* widen the I-84 corridor to a minimum of six lanes within urban areas from New York to Hartford and develop other plans that attack targeted points of congestion and safety along the way.
- *Proposed Improvements:* (1) urge improvement to the I-684/I-84 interchange to end peak-hour congestion and (2) make other necessary road improvements west to Newburgh to connect with the New York-Albany-Montreal grid.

Clapboard Ridge/Ball Pond Road (Rt. 39)

- *Proposed Improvements*: (1) widen Clapboard Ridge Road between Cowperthwaite Street and East Gate Road with additional lanes, as feasible and (2) add southbound turning lanes and geometric improvements, as needed, at East Gate Road and Beckerle Street and a traffic signal at Beckerle Street.
- *Proposed Improvement*: undertake geometric realignments, as feasible, at the King Street/Padanaram Road and East Lake Road intersections.

Downs Street/North Street (Rt. 37)

- *Proposed Improvement*: consider converting Downs Street to a one-way street and add lanes at the Main Street intersection and on North Street to Barnum Court.

Federal Road (Rt. 805)

- *Proposed Improvements*: (1) widen Federal Road where necessary to maintain a consistent four-lane cross section from White Turkey Road Extension to just south of Starr Road, (2) add a left turn lane at Starr Road, and (3) add a right turn lane onto Federal Road from Starr Road.

Main Street (Rt. 53)

- *Proposed Improvements*: (1) consider converting Patch Street into a one-way eastbound street, (2) provide turning lanes at Franklin Street and Garamella Boulevard, (3) provide four lanes from Wooster Street to South Street, (4) reduce sidewalk width, as necessary, from Boughton Street to Wooster Street to allow for a southbound left turn lane at Wooster Street, (5) consider intersection improvements at South Street, and (6) extend streetscape improvements to Memorial Drive.

Mill Plain Road/Lake Avenue Ext. (U.S. Rt. 6)

- *Proposed Improvements*: (1) widen from two to four lanes from Mill Ridge Road west to Driftway Road, (2) add sidewalks, (3) add traffic signal at Westwood Drive, and (4) continue widening to four lanes from Driftway Road to Exit 2 of I-84.

Newtown Road (Rt. 806)

- *Proposed Improvements*: (1) widen with additional lanes, as feasible, from Plumtrees Road to Triangle Street, (2) reconfigure the intersection at Triangle Street/Beaver Brook Road, (3) add turning lanes and geometric improvements at Old Newtown Road, Old Shelter Rock Road and at other intersections as warranted, and (4) add a traffic signal at Old Shelter Rock Road.

Padanaram Road/Pembroke Road (Rt. 37)

- *Proposed Improvements*: (1) widen with additional lanes north to Jeanette Street, as feasible, (2) add turning lanes and other geometric improvements at the Padanaram Road/Pembroke Road intersection and at Stacey Road and Barnum Road, and (3) add a traffic signal at Stacey Road.

South Street (Rt. 53)

- *Proposed Improvements*: (1) make intersection improvements at Triangle Street/Coal Pit Hill Road, (2) add a westbound left turn lane onto Memorial Drive, and (3) add a southbound turning lane onto Shelter Rock Road.

Sugar Hollow Road (U.S. Rt. 7)

- *Proposed Improvements*: (1) widen the road to four lanes from Ridgefield north to the current four lane configuration near the Miry Brook Road/Wooster Heights Road intersection, (2) improve horizontal and vertical geometry, (3) increase the shoulder and clear zone widths, (4) improve intersections, (5) reconstruct and realign Bennetts Farm Road, West Starrs Plain Road, and Starrs Plain Road, and (6) construct a cul-de-sac at Old Sugar Hollow Road.

Municipal Streets

Aunt Hack Road

- *Proposed Improvement*: elevate low shoulders along the southern portion of the road.

Backus Avenue

- *Proposed Improvement*: coordinate traffic signals along the corridor in accordance with recommendations of the 2004 HVCEO report *Evaluation of Traffic Signal Coordination for the Greater Danbury, CT Area*, prepared by Wilbur Smith Associates.
- *Proposed Improvements*: (1) widen the westerly leg to 30 feet from Kenosia Avenue to Miry Brook Road while maintaining the two-lane cross section to the Miry Brook Road intersection and (2) make intersection improvements at Kenosia Avenue.
- *Proposed Improvement*: replace the bridge just to the east of the Post Office.

Beaver Brook Road

- *Proposed Improvement*: widen the "mouse hole" at the railroad overpass to two lanes.

Franklin Street

- *Proposed Improvement*: install a traffic signal and crosswalks at the Rose Hill/Starr Avenue intersection.

Garamella Boulevard

- *Proposed Improvement*: add a fifth lane between Maple Avenue and Balmforth Avenue.

Kenosia Avenue

- *Proposed Improvements*: (1) widen with additional lanes from the vicinity of St. Peter's Cemetery south to Backus Avenue, as feasible, and (2) coordinate traffic signals along Kenosia and Backus Avenues.

Miry Brook Road

- *Proposed Improvement*: Realign the intersection at Backus Avenue into a T-intersection with turning lanes, as necessary.

Mountainville Road

- *Proposed Improvements*: (1) realign the intersection at Long Ridge Road into a T-intersection and (2) add a left turn lane onto Southern Boulevard.

Old Ridgebury Road

- *Proposed Improvement*: widen the road from two to four lanes from Reserve Road to Benson Drive.

Old Sherman Turnpike

- *Proposed Improvement*: extend the two-lane roadway from its current terminus south to Payne Road in consultation with the Town of Bethel.

Osborne Street

- *Proposed Improvements*: (1) widen as feasible from Balmforth Avenue to Germantown Road, (2) install a traffic signal and left turn lane at Fifth Avenue, and (3) add an eastbound left turn lane onto Locust Avenue, a northbound left turn lane from Locust Avenue onto Osborne Street, and improve turning radii.

Pahquioque Avenue

- *Proposed Improvement*: provide geometric improvements to vertical alignments and minor widening where feasible.

Plumtrees Road

- *Proposed Improvement*: improve horizontal alignment near the Fire Training School.

Reservoir Street

- *Proposed Improvements:* (1) widen and reduce the severity of the 'S' curve in an environmentally sensitive manner and (2) replace the bridge.

Rose Hill Avenue

- *Proposed Improvement*: increase the southeast corner turning radius at Hoyt Street.

Segar Street

- *Proposed Improvements*: (1) improve vertical and horizontal alignments, (2) provide minor widening where necessary, (3) replace the bridge and (4) replace surface materials at the railroad crossing.

Southern Boulevard

- *Proposed Improvements*: realign the intersections into T-intersections at Brushy Hill Road, Deer Hill Avenue, Mountainville Road and Lincoln Avenue.

Starr Road/Sand Pit Road/Germantown Road

- *Proposed Improvement*: widen with additional lanes and intersection improvements from Federal Road to Osborne Street, as necessary.

Tamarack Avenue/Hospital Avenue

- *Proposed Improvements*: (1) widen with additional lanes from Hayestown Avenue to Locust Avenue, as feasible, (2) add a southbound turning lane at Hospital Avenue and (3) install a traffic signal at Virginia Avenue.

Triangle Street/Lee Mac Avenue

- *Proposed Improvements*: (1) install a traffic signal at Triangle Street and Lee Mac Avenue, (2) add an eastbound turning lane from Triangle Street onto Lee Mac Avenue, and (3) add a southbound turning lane from Lee Mac Avenue onto Shelter Rock Road.

West Street

- *Proposed Improvements*: (1) widen with additional lanes as feasible from Terrace Place to Division Street, (2) add an eastbound turning lane onto New Street and (3) provide streetscape improvements from Main Street to Division Street.

White Street

- *Proposed Improvements*: (1) widen with additional lanes from Balmforth Avenue to Triangle Street, as feasible, (2) install turning lanes at Federal Road, Locust Avenue, Moss Avenue and Fifth Avenue, (3) install a traffic signal at Fifth Avenue, (4) replace surface materials at the railroad crossing, and (5) install streetscape improvements from Fifth Avenue to Main Street.

Wildman Street

- *Proposed Improvement*: replace surface materials at the railroad crossing.

Wooster Heights Road

- *Proposed Improvements* at Harvard Road and Terre Haute Road intersections: (1) improve geometric alignment and (2) improve roadway side slopes to increase sightlines.
- *Proposed Improvement* at Southern Boulevard: increase southwest corner turning radius and add a three-way stop.

Signal Coordination

Computerized Signal Systems

- Install computerized signal systems at North Street, Old Ridgebury Road and Lake Avenue Extension.

Intelligent Transportation Systems

- Install CCTV along the I-84 Expressway Diversion Route on Mill Plain Road at Old Ridgebury Road, Lake Avenue at Segar Street, Main Street at West Street, White Street at Locust Avenue, and White Street at Triangle Street.
- Consider additional CCTV at other locations (e.g. on Main Street at South Street, North Street, and Golden Hill Road; on Federal Road at White Turkey Road Extension; and, on White Street at Patriot Drive).

Design Considerations

Street Layout

- Residential streets should be laid out to discourage through traffic but to allow for emergency vehicles, provide for the continuation of existing or recorded streets, be related appropriately to topography, and allow for usable building sites with as many sites as possible located at or above street grade. A combination of steep grades and curves should be avoided.

Access to Arterial Streets

- Require that access be limited to arterial streets by one of several means: (1) design so that corner lots adjoining local or collector streets locate driveways off the adjoining streets so that they do not access directly onto the arterial; (2) use a series of cul-de-sacs or loop streets off the arterial with the rear lines of their terminal lots abutting the arterial; or, (3) require a marginal access road to be constructed parallel to the arterial street.

Street Names

- Proposed streets which are in alignment with existing streets should continue the name of the existing street. New street names should require approval by the City. In no case should the proposed name duplicate or phonetically approximate existing or recorded street names in the City or approximate such names by the use of suffixes such as “lane,” “way,” “drive,” “court,” or “avenue.”

Traffic Calming

- Consider the use of traffic calming devices to divert or slow traffic on neighborhood streets.

Scenic Roads

- Consider expanding the number of streets designated as scenic roads.

Private Roads

- Any offer to dedicate the private road should be made only for the road as a whole. New private roads should be discouraged.

Bridges

- Undertake bridge improvements at Rose Hill Avenue, Backus Avenue, Padanaram Road, Crosby Street and Segar Street.
- Review and prepare plans for the improvement of all bridges with a “poor” ranking.
- Inspect all bridges at least once every two years.

Land Use and Transportation

Traffic Impact Analysis

- Reject rezoning requests along road corridors which will result in a LOS of D or lower unless a plan and funding is in place to mitigate traffic impacts.
- Review and update the Trip Multiplier Table, as necessary.

Driveway Controls

- Amend the Zoning Regulations to implement curb cut controls prepared by HVCEO for (1) Sugar Hollow Road (US Rt. 7) from Ridgefield to Wooster Heights Road, (2) Padanaram Road (Rt. 37) from Hayestown Avenue to New Fairfield, and (3) Federal Road (Rt. 805) from White Street to Brookfield.

Parking Lot Design

- Improve parking lot design requirements relating to setbacks and landscaping. Eliminate the provision for compact spaces.

Alternative Work Arrangements and Ridesharing

- Encourage area businesses to consider adopting alternative work arrangements (e.g. flex-time programs, staggered work hours, compressed work weeks) and ridesharing, as feasible.

II. PUBLIC TRANSPORTATION

HART Bus Service

- Support HART Bus Service goals as financially feasible.

Commuter Rail Service

Centralized Traffic Control

- Support conversion of the system from a manually operated one to an electronic system.

New Milford Service

- Support the HVCEO proposal to extend rail service to New Milford.

Danbury Branch Electrification

- Consider recommendations of the *Danbury Branch Electrification Study* when completed.

III. OTHER TRANSPORTATION MODES

Sidewalk and Streetscape Improvements

- Replace the following downtown sidewalks: (1) Keeler Street from Main Street to Liberty Street, (2) State Street from Main Street to Town Hill Avenue, (3) Library Place from Main Street to Terrace Place, (4) Chapel Place from Main Street to Terrace Place, and (5) as part of streetscape improvements.
- Interconnect gaps along sidewalks to ensure a continuous sidewalk system along streets in the urban core.
- Construct new sidewalks or multi-use paths along the following major corridors, as feasible: (1) Newtown Road to Eagle Road, (2) Federal Road to Nabby Road, (3) Park Avenue/Backus Avenue to Kenosia Avenue, and (4) Lake Avenue/Mill Plain Road to I-84 Exit 2.

- Revise land use regulations to require sidewalks for new development or major expansions thereto, as follows: for RA-80, RA-40 and LCI-40 Zoning Districts, along arterial streets only; for all other Zoning Districts, along all arterial, collector and local streets. Sidewalks should also be required where necessary to provide safe and convenient access to schools.
- Add streetscape improvements for (1) Main Street from Boughton Street to South Street, (2) West Street from Main Street to Division Street, and (3) White Street from Main Street to Fifth Avenue.

Bicycle Circulation

- Consider the feasibility of designating the following bikeways: Two Lakes Bikeway and the Candlewood Lake Bikeway.

Air Service

Airport Protection Zone

- Update regulations as necessary pertaining to the Airport Protection Zone.

IV. STATE AND REGIONAL TRANSPORTATION PLANNING

HousatonicValley Region

- Continue support for all "current projects" by ConnDOT for Danbury.
- Urge ConnDOT to advance improvements for the following "future projects": Federal Road, Interstate 84, Main Street, Mill Plain Road, Newtown Road, Padanaram Road and other improvements to municipally maintained roads, including Backus Avenue, Kenosia Avenue and various transit projects.

State of Connecticut

- Support local improvements recommended in the Connecticut 2004-2030 Long-Range Transportation Plan.
- Support recommendations of the Connecticut Transportation Strategy Board that are pertinent to Danbury.

A New Gateway to New England

- Support improvements to I-684/I-84 from New York State to Massachusetts.
- Support improvement of the I-684/I-84 interchange.
- Support expanded air service at Stewart International Airport and Westchester County Airport as needed to relieve congested New York City airports and to provide enhanced service to upstate New York and western Connecticut.
- Support high-speed rail service linking the Tri-State Metropolitan Region to other major centers in the nation and faster rail service from the Danbury region to New York City.
- Support smart growth techniques to combat urban sprawl.
- Encourage the creation of a Tri-State transportation commission to promote greater metropolitan cooperation.

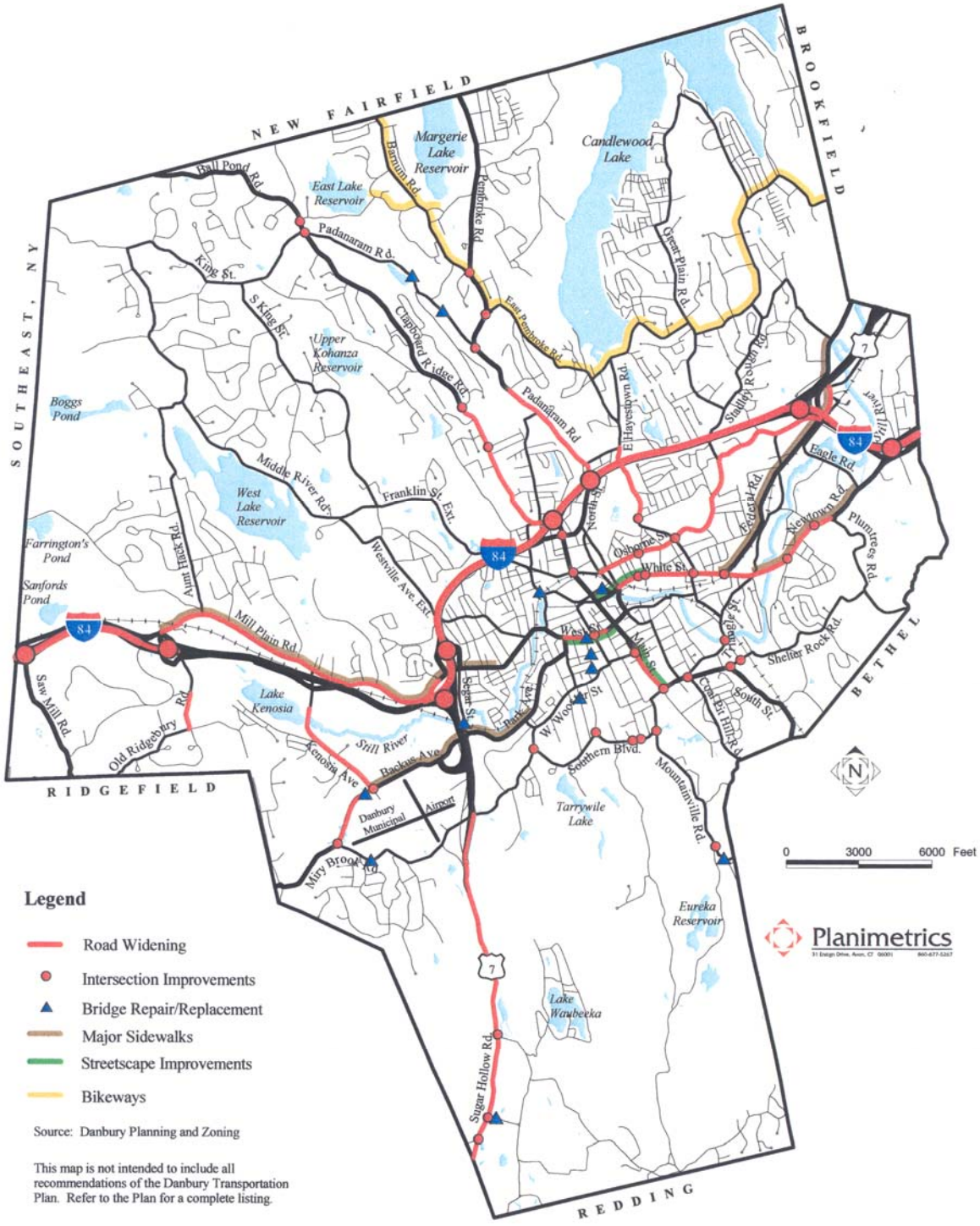


FIGURE 6
MAJOR RECOMMENDED TRANSPORTATION IMPROVEMENTS

FINANCING STRATEGIES

Improvements to streets and highways are rarely inexpensive and often require long-range capital programming (see Appendix) at the municipal or state level to ensure that adequate funding is available. For projects relying solely on municipal funding, road bonds of a ten or twenty year duration are usually required. These are placed within the City's capital budget and submitted to Common Council for approval as part of the Mayor's annual budget proposal.

Projects which rely on state or federal funding that are funneled through ConnDOT follow one of two processes. The first are projects initiated by ConnDOT, usually limited to improvements to state roads. In these circumstances, ConnDOT seeks local review and comment. Though rare, the City may veto such a proposal through HVCEO. More typically, the review process affords the City the opportunity to suggest revisions to initial plans.

Proposed state funded projects initiated by the City follow a more complex process for which there is no uniform application form, set funding allocation, or guarantee of success. Proposed improvements need not be limited to state highways but may also include major municipal collectors or arterials. Typically, however, projects which relieve state roadway congestion or facilitate economic development receive the most attention from the state.

An initial step to improve chances of ultimate state approval is to prepare a well documented proposal which includes (1) a description of the project, (2) a schematic drawing of the proposal showing all improvements and land takings, if any, (3) a preliminary cost estimate, (4) its impact on traffic congestion and safety, (5) economic development benefits, and (6) environmental impacts. Consultation with the Project Development Unit of ConnDOT's Bureau of Engineering and Highway Operations is an important aspect of this initial step.

Limited funding is available from HVCEO for this purpose. The project must appear on the *Regional Transportation Plan* adopted by HVCEO as a prerequisite for federal assistance.

If ConnDOT agrees that the proposed project is worthy of further consideration, then sufficient funding for its design and construction must be found and programmed. This is often a challenging ordeal as funding is quite competitive for scarce dollars and there are multiple categories under different federal Surface Transportation Project (STP) programs, each with its own eligibility requirements and procedures. The influence of HVCEO varies with different programs. Some have set regional allocations that require agreement among HVCEO members while others do not.

Relatively expensive projects have no mandatory regional allocation and, consequently, are largely controlled by the state. The need to effectively lobby for funding under these circumstances cannot be understated. Support from the ConnDOT professional staff can prove to be an invaluable ally in such an effort.

But, even approved projects may face years of delay as funding priorities change or complications arise within the state bureaucracy. While there is no process that guarantees state funding, successful projects include sound initial planning, consultation with ConnDOT staff, HVCEO support, project lobbying, and vigilance until construction is completed.

SELECTED BIBLIOGRAPHY

Connecticut Department of Transportation. *I-84 Corridor Deficiencies/Needs Study Final Report.* Newington: ConnDOT, 2000.

_____. *Long-Range Transportation Plan for the State of Connecticut 2004-2030.* Newington: ConnDOT, 2004.

Housatonic Valley Council of Elected Officials. *Danbury Driveway and Curb Cut Control Plan.* Brookfield: HVCEO, 1996.

_____. *Evaluation of Traffic Signal Coordination for the Greater Danbury, CT Area*, Brookfield: HVCEO, 2004.

_____. *Transportation Planning Resources for Danbury, CT.* Brookfield: HVCEO, 2004.

_____. *2004-2030 Regional Transportation Plan for the Greater Danbury Area.* Brookfield: HVCEO, 2004.

Hoyle, Cynthia L. *Traffic Calming.* American Planning Association, PAS No. 456. Chicago, 1995.

Institute of Transportation Engineers. *Transportation and Land Development.* Englewood Cliffs: Prentice Hall, 1988.

_____. *Transportation and Traffic Engineering Handbook, 2nd Ed.* Englewood Cliffs: Prentice Hall, 1982.

Michael Gallis & Associates. *Connecticut Strategic Economic Framework.* New Haven: Connecticut Regional Institute for the 21st Century, 1999.

Moore, Terry and Paul Thorsnes. *The Transportation/Land Use Connection.* American Planning Association, PAS No. 448/449. Chicago, 1994.

Mount Auburn Associates. *Building on Our Strengths: An Economic Strategy for the Housatonic Valley Region.* Somerville, MA, 1993.

New York State Department of Transportation. *Highway Design Manual Chapter 18 Facilities for Pedestrians and Bicyclists.* Revision 29. Albany, NY, 1996.

Rail Transit Development Program. Brookfield: HVCEO Regional Planning Bulletin No. 70. 1992.

Schank, David and Tim Lomax. *The 2004 Urban Mobility Report.* Texas Transportation Institute, The Texas A&M University System, 2004.

Schreiner, Richard. *2003 Bus Service Improvement Plan.* Danbury: HART, 2003.

TRA Black & Veatch. *Airport Master Plan, Final Draft Report.* Boston, 1995.

Vanasse Hangen Brustlin, Inc. *Feasibility Report for Extending Rail Passenger Service Beyond Downtown Danbury.* Brookfield: HVCEO Regional Planning Bulletin No. 87, 1995.

Wilbur Smith Associates. *Regional Concept Plan for Bike Route Development.* Brookfield: HVCEO Regional Planning Bulletin No. 89, 1996.

CITY OF DANBURY TRANSPORTATION PLAN
APPENDIX: RECOMMENDED SCHEDULE OF IMPLEMENTATION
2005

	COST	FY 05/06	FY 06/07	FY 07/08	FY 08/09	FY 09/10	FY 10/11	FY 11/12	FY 12/13	FY 13/14	FY 14/15	TBD
I. STREETS & HIGHWAYS												
State and Federal												
Interstate 84												
1. Exit 1 improvements (short term)	$$	R										
2. Exit 2 improvements (short term)	$$	R										
3. Exit 4 improvements (short term)	$$$$	R										
4. Exit 5 improvements (short term)	$$$$	D			C							
5. Exit 6 improvements (short term); add lane on	$$$$$	D		C								
North St., Second Ave.-NS Shopping Center												
6. Exit 8 improvements (short term)	$$	R										
7. Exits 2-8 improvements (long term)	$$$$$	R										
8. Add travel lanes between Exits 3 and 8	$$$$$	R										
9. Add EB travel lanes between Exits 1 and 2	$$$$	R										
10.Widen to Waterbury	$$$$$	R										
Clapboard Ridge/Ball Pond Road, Rt. 39												
1. Widen from Cowperthwaite-East Gate Rd.	$$$$					I						
Add SB turning lanes and improvements:												
2. East Gate Rd.	$$					I						
3. Beckerle St. (including traffic signal)	$$					I						
Intersection realignments:												
4. King St./Padanaram Rd.	$$					I						
5. East Lake Rd.	$$					I						
Downs Street/North Street, Rt. 841												
1. Convert Downs St. to one-way; Main St.	$$$$	R										
intersection improve.; widen to Barnum Ct.												
Federal Road, Rt. 805												
1. Widen from White Turkey Rd. Ext.-Starr Rd.;	$$$$	R										
add left turn lane at Starr Rd.; add right turn												
lane onto Federal Rd. from Starr Rd.												

Cost: $ 0-100K; $$ 100K-500K; $$$ 500K-1M; $$$$ 1M-10M; $$$$$ 10M+

Schedule: I = Initiate Process: R = Under ConnDOT Review; D = Design; C = Construct; TBD = To be determined

	COST	FY 05/06	FY 06/07	FY 07/08	FY 08/09	FY 09/10	FY 10/11	FY 11/12	FY 12/13	FY 13/14	FY 14/15	TBD
Main Street, Rt. 53												
1. Convert Patch St. to one-way EB	$	I										
2. Add turning lanes at Franklin St. and	$$			I								
Garamella Blvd.												
3. Widen to four lanes Wooster St.-South St.;	$$$$	R										
add turning lane at Wooster St.; intersection												
improvements at South St.												
Mill Plain Road/Lake Avenue Ext., Rt. 6												
Widen to four lanes:												
1. Mill Ridge Rd.-Driftway Rd.	$$$$	D				C						
2. Driftway Rd.-I-84 Exit 2	$$$$								I			
3. Add traffic signal at Westwood Drive	$	I										
Newtown Road, Rt. 806												
1. Widen from Plumtrees Rd.-Old Newtown Rd.;	$$$	R										
turning lane at Old Newtown Rd.												
2. Widen from Old Newtown Rd.-Triangle St.	$$$$					I						
3. Turning lane & signal at Old Shelter Rock Rd.,	$$$	D				C						
4. Reconfigure Triangle St. intersection	$$$$					I						
Padanaram Road/Pembroke Road, Rt. 37												
1. Widen NS Shopping Center to Jeanette St.	$$$$$						I					
Add turning lanes:												
2. Padanaram Rd./Pembroke Rd.	$$$						I					
3. Stacey Rd. with traffic signal	$$$$	D				C						
4. Barnum Rd.	$$$$						I					
South Street, Rt. 53												
1. Improve intersection: Triangle/Coal Pit Hill	$$$	R										
2. Left turn lane onto Memorial Drive	$$$		I									
3. SB turning lane onto Shelter Rock Rd.	$$				I							
Sugar Hollow Road (U.S. Rt. 7)												
1. Phase 1	$$$$	C	C	C								
2. Phase 2	$$$$$			C	C	C	C					

Cost: $ 0-100K; $$ 100K-500K; $$$ 500K-1M; $$$$ 1M-10M; $$$$$ 10M+

Schedule: I = Initiate Process: R = Under ConnDOT Review; D = Design; C = Construct; TBD = To be determined

	COST	FY 05/06	FY 06/07	FY 07/08	FY 08/09	FY 09/10	FY 10/11	FY 11/12	FY 12/13	FY 13/14	FY 14/15	TBD
Municipal												
Aunt Hack Road												
1. Elevate shoulders	$$$											•
Backus Avenue												
1. Coordinate signals with Kenosia Ave.	$$$	R										
2. Widen portion west of Kenosia Ave.	$$						D		C			
3. Kenosia Ave. intersection improvements	$$	D/C										
Beaver Brook Road												
1. Widen "mouse hole"	$$$$											•
Franklin Street												
1. Traffic signal, crosswalks at Rose Hill Ave.	$$	D/C										
Garamella Boulevard												
1. Add fifth lane b/t Maple & Balmforth Aves.	$$$					D		C				
Kenosia Avenue												
1. Widen from Cemetery to Backus Ave.	$$$$			I								
Miry Brook Road												
1. Realign intersection with Backus Ave.	$$						D		C			
Mountainville Road												
1. Realign intersection with Long Ridge Rd.; add	$$			D		C						
left turn lane onto Southern Blvd.												
Old Ridgebury Road												
1. Widen to 4 lanes Reserve Rd. to Benson Dr.	$$$$		D		C							
Old Sherman Turnpike												
1. Extend to Payne Road	$$$$											•
Osborne Street												
1. Widen to Germantown Road	$$$$	I										
2. Traffic signal and turning lane at Fifth Ave.	$		D	C								
3. EB left turn lane onto Locust Ave.; NB left	$$			D	C							
turn lane from Locust Ave.; improve												
turning radii												
Pahquioque Avenue												
1. Improve vertical alignment & minor widening	$$$											•

Cost: $ 0-100K; $$ 100K-500K; $$$ 500K-1M; $$$$ 1M-10M; $$$$$ 10M+

Schedule: I = Initiate Process: R = Under ConnDOT Review; D = Design; C = Construct; TBD = To be determined

	COST	FY 05/06	FY 06/07	FY 07/08	FY 08/09	FY 09/10	FY 10/11	FY 11/12	FY 12/13	FY 13/14	FY 14/15	TBD
Plumtrees Road												
1. Improve horizontal align. near fire training site	$$									D	C	
Reservoir Street												
1. Improve 'S' curve; replace bridge	$$$								D	C		
Rose Hill Avenue												
1. Increase SE radius at Hoyt St.	$	D/C										
Segar Street												
1. Improve alignments; minor widening	$$$							D		C		
2. Improve railroad crossing	$$				D		C					
Southern Boulevard												
Realign intersections at:												
1. Brushy Hill Rd.; Deer Hill Ave.	$$$$					D		C				
2. Mountainville Rd.	$$			D		C						
3. Lincoln Ave.	$$							D		C		
Starr Rd./Sand Pit Rd./Germantown Rd.												
1. Widen with intersection improvements	$$$$$					I						
Tamarack Ave./Hospital Ave.												
1. Widen from Hayestown Ave.-Locust Ave.	$$$$	I										
2. SB turning lane at Hospital Ave.	$$	I										
3. Traffic signal at Virginia Ave.	$		D/C									
Triangle Street/Lee Mac Avenue												
1. Traffic signal Triangle St. & Lee Mac Ave.;	$$	D	C									
EB turning lane from Triangle onto Lee Mac												
2. SB turning lane Lee Mac onto Shelter Rock	$								D/C			
West Street												
1. Widen from Terrace Place to Division St.;	$$$$					D		C				
turning lane onto New St.												

Cost: $ 0-100K; $$ 100K-500K; $$$ 500K-1M; $$$$ 1M-10M; $$$$$ 10M+

Schedule: I = Initiate Process: R = Under ConnDOT Review; D = Design; C = Construct; TBD = To be determined

	COST	FY 05/06	FY 06/07	FY 07/08	FY 08/09	FY 09/10	FY 10/11	FY 11/12	FY 12/13	FY 13/14	FY 14/15	TBD
White Street												
Widen:												
1. Balmforth Ave.- Fifth Ave.	$$$$		D		C							
2. Fifth Ave. to Federal Rd.	$$$$				D			C				
3. Federal Rd. to Triangle St.	$$$$							D			C	
Turning lanes at:												
4. Federal Road; Locust Ave.	$$$$								D		C	
5. Moss Ave.; Fifth Ave. and traffic signal	$$	D	C									
6. Improve railroad crossing	$$	D		C								
Wildman Street												
1. Improve railroad crossing	$$					D	C					
Wooster Heights Road												
1. Alignment and slopes at Harvard Rd.& Terre	$$							D		C		
Haute Rd.												
2. Increase turning radius at Southern Blvd.	$$$	D/C										
and add 3-way stop.												
Signal Coordination												
Computerized Signal System												
Install at:												
1. North St.	$$$	R										
2. Old Ridgebury Rd.	$$$											•
3. Lake Avenue Ext.	$$$	D				C						
Intelligent Transportation Systems												
Install CCTV:												
1. I-84 Expressway Diversion Route	$$$$	D		C								
2. Other locations	$$$											•

Cost: $ 0-100K; $$ 100K-500K; $$$ 500K-1M; $$$$ 1M-10M; $$$$$ 10M+

Schedule: I = Initiate Process: R = Under ConnDOT Review; D = Design; C = Construct; TBD = To be determined

	COST	FY 05/06	FY 06/07	FY 07/08	FY 08/09	FY 09/10	FY 10/11	FY 11/12	FY 12/13	FY 13/14	FY 14/15	TBD
Bridges												
1. Rose Hill Ave.	$$$$	D	C									
2. Backus Ave.	$$$	D	C									
3. Padanaram Rd.	$$$	D	C									
4. Crosby St.	$$$$	D	C									
5. Segar St.	$$	C										
6. Other bridges rated poor	$$$$											•
7. Inspection every two years	$		•		•		•		•		•	
Land Use & Transportation												
Driveway Controls												
1. Rt. 7: Wooster Hts. Rd.-Ridgefield			•									
2. Rt. 37: Hayestown Ave.-New Fairfield			•									
3. Federal Rd.: White St.-Brookfield			•									
Parking Lot Design												
1. Revise regulations		•										
III. OTHER MODES												
Sidewalks & Streetscapes												
Replace sidewalks:												
1. Keeler St.: Main St.-Liberty St.	$$$				D	C						
2. State St.: Main St.-Town Hill Ave.	$$$						D	C				
3. Library Pl.: Main St.-Terrace Pl.	$$		D/C									
4. Chapel Pl.; Main St.-Terrace Pl.	$$								D	C		
5. Interconnect gaps in urban core	$$$$											•
New sidewalks/multi-use paths:												
1. Newtown Rd.: Triangle St.-Eagle Rd.	$$$$		I									
2. Federal Rd.: White St.-Nabby Rd.	$$$$								I			
3. Park/Backus Ave.: Greenfield-Kenosia Ave.	$$$$						D		C			
4. Lake Ave./Mill Plain Rd.: Abbott-Kenosia	$$				D		C					
5. Mill Plain Rd.: Kenosia Ave.-I-84 Exit 2	$$								I			
6. Revise sidewalk regulations		•										

Cost: $ 0-100K; $$ 100K-500K; $$$ 500K-1M; $$$$ 1M-10M; $$$$$ 10M+

Schedule: I = Initiate Process: R = Under ConnDOT Review; D = Design; C = Construct; TBD = To be determined

	COST	FY 05/06	FY 06/07	FY 07/08	FY 08/09	FY 09/10	FY 10/11	FY 11/12	FY 12/13	FY 13/14	FY 14/15	TBD
Streetscape improvements:												
1. Main St.: Boughton St.-South St.	$$$$	R										
2. West St.: Main St.-Deer Hill Ave.	$$	D		C								
3. West St.: Deer Hill Ave.-Division St.	$$			D	C							
4. White St.: Balmforth Ave.-Fifth Ave.	$$$$	D		C								
5. White St.: Main St.-Balmforth Ave.	$$$			D		C						
Bicycle Circulation												
1. Two Lakes Bikeway	$											•
2. Candlewood Lake Bikeway	$											•
Air Service												
1. Update Airport Protection Zone regulations												•

Cost: $ 0-100K; $$ 100K-500K; $$$ 500K-1M; $$$$ 1M-10M; $$$$$ 10M+

Schedule: I = Initiate Process: R = Under ConnDOT Review; D = Design; C = Construct; TBD = To be determined

Note: Please refer to the *City of Danbury Transportation Plan* for a more complete description of each recommendation.

10/1/2005