ROUTE 169 CORRIDOR MANAGEMENT PLAN

prepared for:

The Route 169 Scenic Road Advisory Committee and
The Connecticut Department of Transportation

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cover photo: Route 169 in Canterbury looking towards the Quinebaug River Valley

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prepared by

Lardner/Klein Landscape Architects, P.C.
Hutton Associates, Inc.
Mary Means & Associates
A-N Consulting Engineers
Higgins & Quasebarth
Scenic America
Ken Kruckemeyer

December 1995

The Route 169 Advisory Committee

The following individuals have served on the Route 169 Advisory Committee, and provided invaluable assistance in the development of this plan. Each of the First Selectmen were asked to appoint someone from their town. In addition, representatives of various representative groups were asked to participate.

***Hope Barton**, Chairman, Brooklyn Conservation Commission*
***Judy Bouse Pahl**, Program Director, NECCOG*
***Nini Davis**, Director, NE CT Tourism Office*
***Donald Francis**, First Selectman, Town of Brooklyn*
***Ray Guillet**, Town of Canterbury*
***Jean Hazelton**, Town of Woodstock (Representative)*
***Richard Herrmann**, Town of Lisbon (Representative)*
***Marge Hoskins**, Quinebaug &Shetucket Rivers Valley National Heritage Corridor*
***Bill Hull**, President, Hull Forest Products*
***Phillip James**, President, Wyndham Land Trust*
***Charles Kennerson**, Connecticut DOT District Office*
***Ellery Kington**, General Manager, Willimantic District CT Light & Power*
***Gloria Langer**, NECCOG*
***Herman Lehlbach**, Connecticut DOT, Scenic Road Committee*
***Norma O'Leary**, Connecticut Farm Bureau*
***Stanley Sheldon**, First Selectman, Town of Pomfret*
***Elizabeth B. Wood**, Historian, Town of Woodstock*
***James Wright**, First Selectman, Town of Lisbon*

New York Times, Monday, September 27, 1875, page 4, column 3.

"Making Towns Attractive"

"Mr. Henry C. Bowen delivered a brief, practical and suggestive address at the Woodstock Fair, in Connecticut, the other day, closing as follows:

The time is coming, and is not far distant, when the people in all these New England towns and villages will organize and go systematically and joyfully to work in making public improvements. Those places which move the soonest will reap the earliest and greatest renown, for they will gain in population the refined, the most enterprising and wealthy, and make permanently secure their prosperity. Real estate will increase in value, taxes will decrease because of the increased value of property and of population and everybody will be made happier and better by the change. It is time to think of the improvements of your public streets and highways. It is time to think of sidewalks and shade trees along all your highways, of public parks and fountains, of bathing-houses and boat-houses, of flowers and shrubbery - of grading and leveling, of doing everything in your power to make all these beautiful hills, and valleys bud and blossom as the rose, and be more and more your pride and joy. In this good work you must be united, harmonious, and persevering, and the blessed yearly investment of time and money you make will pay you a dividend every day the year around and all your life long, and thousands shall share in your investment when you are dead and forgotten. Let every man, woman, and child do something in this matter and do it promptly. You can at least plant an elm or a rosebush every year, and you will not have lived entirely in vain. A single work more under this head. I hope the time will speedily come when it shall be called a punishable offense for any man to make the public highway a depository for his old broken carts and stone heaps, and old rubbish from his garret and barn , from cellar and door-yard.
Such action is harmful, demoralizing, and a public nuisance and it should be rigidly forbidden and prevented. You have the power to do this, I hope you will have the disposition to enforce it. It is for the public good that this should be done, and that is reason enough. And, hereafter, if a man wants a nuisance, let him have it in his own door-yard where he can see it, ponder over it, and smell it every day, all by himself. Those towns and villages will most prosper which fastest multiply their local attraction. You will all of course, vote for schools, churches, and workshops, and this is right but you must march onward beyond these points as fast as you can with proper regard to other duties. Look out for public institutions and endow them. Look out for your streets and highways, and improve them. Make your town, your village and your home more and more beautiful every year. Your hearts will be made better, and your souls will be richer for so doing. Pardon this friendly intrusion and accept my best wishes for your continued prosperity."

The Route 169 Corridor Plan Consultant Team

Project Director: *Jim Klein, Principal*
Lardner/Klein Landscape Architects, P.C.

Landscape Architecture:
Lardner/Klein Landscape Architects, P.C.
Jim Klein
Catherine Sedgwick Davidson
Lane Ledbetter

Land Use Planning:
Hutton Associates, Inc.
Ernie Hutton
Randy Mason

Community Planning:
Mary Means & Associates
Mary Means
Carol Ann Perovshek

Civil Engineering :
A-N Consulting Engineers
Alan Nafis

Historic Preservation:
Higgins & Quasebarth
Bill Higgins
Anne Covell

Design Research:
Ken Kruckemeyer, MIT

Corridor Planning Research:
Scenic America
Sally Oldham
Carol Truppi

Illustrations by:
Lane Ledbetter and Jim Klein

All Photographs Courtesy of:
Lardner/Klein Landscape Architects, P.C. unless otherwise noted.

Digital Data Provided by:
Connecticut Department of Environmental Protection
United States Geologic Survey
University of Connecticut, Laboratory for Remote Sensing

Special thanks to :
Elizabeth Wood for reviewing and providing additional data for the historic resource inventory.

Table of Contents

A note about technical appendices:

Technical memoranda are summarized in the final report. Due to reproduction costs, technical appendices have not been included in the final report. Technical appendice can be found at one of eight different locations: each of the five corridor towns has a copy; the Northeastern Connecticut Council of Governments (contact Judy Bouse Pahl), and the Connecticut Department of Transportation (contact Herman Lehlbach at 860-594-2027). Color versions of the byway features mapping are at these locations.

Appendix 1

Resource Inventory Technical Memorandum (dated March 20, 1995 by Lardner/Klein Landscape Architects, P.C., and Higgins & Quasebarth)

Appendix 2

Land Use Planning Tools and Techniques (dated April 1995 by Hutton Associates)
Highway Safety Analysis (dated September 1995 by A-N Consulting Engineers)

I. INTRODUCTION

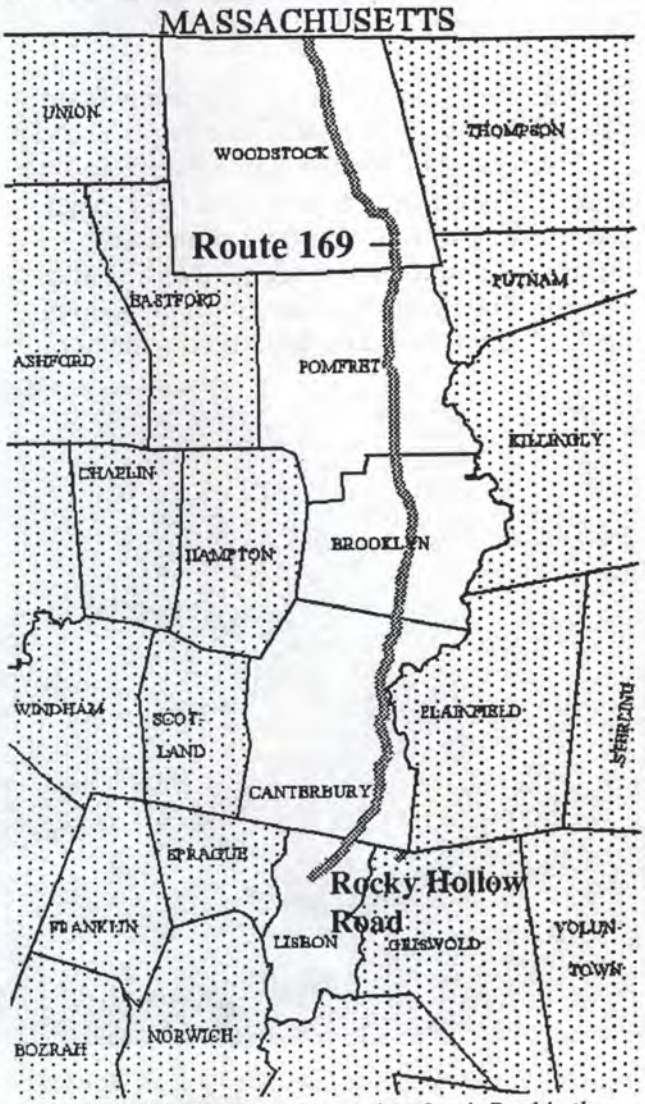
In the Fall of 1994, the Connecticut Department of Transportation was seeking an initial pilot for its program of Corridor Management Plans for Scenic Byways. Having received a grant from the Federal Highway Administration for preparation of these plans, DOT had selected a multi-disciplinary consulting team to work with local communities. The consultant team of landscape architects, planners, and engineers began working with local leaders from Woodstock, Pomfret, Brooklyn, Canterbury and Lisbon on a Corridor Management Plan for the 32 mile long Route 169, the second longest designated Scenic Road in Connecticut. The overall goal of the collaborative project was to achieve balanced, long-term ways of conserving the special qualities of countryside and villages while enhancing our ability to enjoy it in a safe and comfortable manner.

Route 169 was identified as a logical pilot study because of a number of important characteristics and conservation initiatives that were already found in the region:

- Route 169 is entirely within a newly designated National Heritage Corridor—the Quinebaug and Shetucket Rivers Valley National Heritage Corridor (Q-S NHC);
- A strong conservation ethic — evident by the many ways each individual town has chosen to conserve the areas rural character;
- A strong agricultural presence — although they face many of the same pressures as other communities;
- An active tourism promotion strategy was already in place by the Northeast Connecticut Visitor's District (NCVD);
- Broader economic development goals for the region had been adopted — which included the scenic byway as an integral part;
- Willingness of Connecticut DOT District II maintenance personnel to not only participate in the planning effort but to work more closely with the landowners to help maintain the scenic qualities.

The consulting team began by collecting existing and available information about the corridor including information about each town's land use and zoning practices, the traffic volumes and accident data, an update of the scenic and historic resource inventory (from the original application materials for state designation), and an inventory of the natural and recreational features found along the Route.

With many different types of users of Route 169 (residents, businesses, commercial and leisure travelers) and with many different people actually owning the "view," it was apparent from the start that a conscious collaboration was



Route 169 is designated as a Connecticut Scenic Road in the towns of Lisbon, Canterbury, Brooklyn, Pomfret and Woodstock.

needed for any kind of long-term conservation and enhancement strategies to work — and everyone who 'owns' Route 169 had to be part of that collaboration.

That is not necessarily practical, so a Route 169 Advisory Committee was established to act as a 'surrogate community.' It includes the first selectmen of the five towns, selected representatives of planning, zoning, conservation and local historic district commissions, tourism officials, farming and forestry concerns, small businesses, land trusts, preservation and historical societies. With the planning team they have reviewed an extensive analysis of the corridor's visual features, natural resources and historic sites, and developed an overall vision for Route 169 that lists goals and objectives for the plan. They have also examined trends that threaten the future of the road and key views from it.

The Advisory Committee and Planning Team met with many of the residents along the road at a public workshop to articulate what their vision of this corridor is and what their major concerns are — including both pluses and minuses — about its management as a scenic corridor. The Planning Team, with the help of the Advisory Committee identified a menu of potential actions that include conservation measures, traffic calming techniques, better landscaping, and suggestions to encourage more sensitive development practices. All the residents living along the road were invited to a display set up at the Brooklyn Fair — providing an additional opportunity for the 'owners' of the scenery to make suggestions and offer insights as to which of the strategies might be most appropriate for Route 169.

The resulting Corridor Management Plan provides an overall vision for Route 169 which includes:

- resource conservation strategies – to identify and protect the qualties that make this place special;
- road design and maintenance strategies — to enhance safety while being more sympathetic to aesthetics;
- regional and land use strategies — examples of different ways to guide growth without impacting economic development and the rights of individuals; and,
- tourism strategies — ways to manage the impact of tourism if efforts to promote the area are successful.

The plan recommends an active role for land trusts and conservation interests in helping working farms remain in active use, ways of strengthening the village centers, and informative waysides for visitors. Residents of Route 169 appear to favor incentives for conservation (such as tax breaks for better land use practices) over regulatory measures. At the same time residents were interested in encouraging more tourism activities, as long as it did not destroy the rural character of the area,

PHOTO COURTEST OF ELAINE KNOWLTON

Route 169 Scenic Road Corridor Display at the Brooklyn Fair provided an opportunity for many property owners along Route 169 to talk to planning team members 1 on 1.

one of the reasons many people are interested in living in and visiting Northeastern Connecticut. For the Connecticut DOT, the plan recommends more sensitive design and maintenance practices and 'traffic calming' techniques for the approaches to historic villages and crossroads as a means of slowing down drivers in these more pedestrian oriented places.

The Route 169 Corridor Management Plan represents an excellent opportunity to build upon much of the hard work already undertaken to date — not only in gaining recognition and designation for Route 169 as a scenic road, but also for the Quinebaug and Shetucket Rivers Valley National Heritage Corridor. The plan provides an unique opportunity to implement simple and effective land use and conservation measures in a small and focused area — giving town residents an opportunity to see how these measures work as a mechanism to retain the high quality of life found here. Many of the issues that involve scenic roads -- such as design standards for rural roads, utilities and tree preservation, tourism and economic development, land use planning, agriculture and woodland management -- are issues found in other situations throughout the region. Some solutions may be applicable to other areas, especially those that offer incentives for conservation rather than regulation.

Finally, as one of the early action initiatives of the plan, the Advisory Committee has recommended pursuing national scenic byway designation — which will provide both recognition of the quality of life of the area, as well as improving chances for funding of proposed improvements allowing people to enjoy the scenic qualities of the area more safely without sacrificing scenic quality.

The landscape of Route 169 is fragile in many ways. What once was a thriving agricultural economy is now dependent upon jobs beyond the region. Much of the farmland is leased to only a few remaining farmers. Located only an hour away from employment centers, the area is becoming more attractive to exurbanite commuters wishing to live a rural life-style, but to keep their urban jobs. The Route 169 Corridor does not have to continue on the track to suburbia. Each of the five corridor towns can build upon this opportunity by recognizing that each of the individual pieces of this long and skinny place, owned by many different people, are part of a bigger landscape — the whole of which belongs to all who enjoy the beauty of its rolling hills, stone walls, ancient rows of trees, and historic villages.

The Corridor Management Plan identifies the whole — those features that are so important to the people that live along Route 169 that they would not want to lose them as this region inevitably changes. It is now up to each individual and town to implement the types of actions and partnerships that are desperately needed to conserve both the 'pieces' and the 'whole.'

The report that follows contains the analysis and recommendations for the types of individual and partnership actions needed to keep the Route 169 Corridor "just the way it is now."

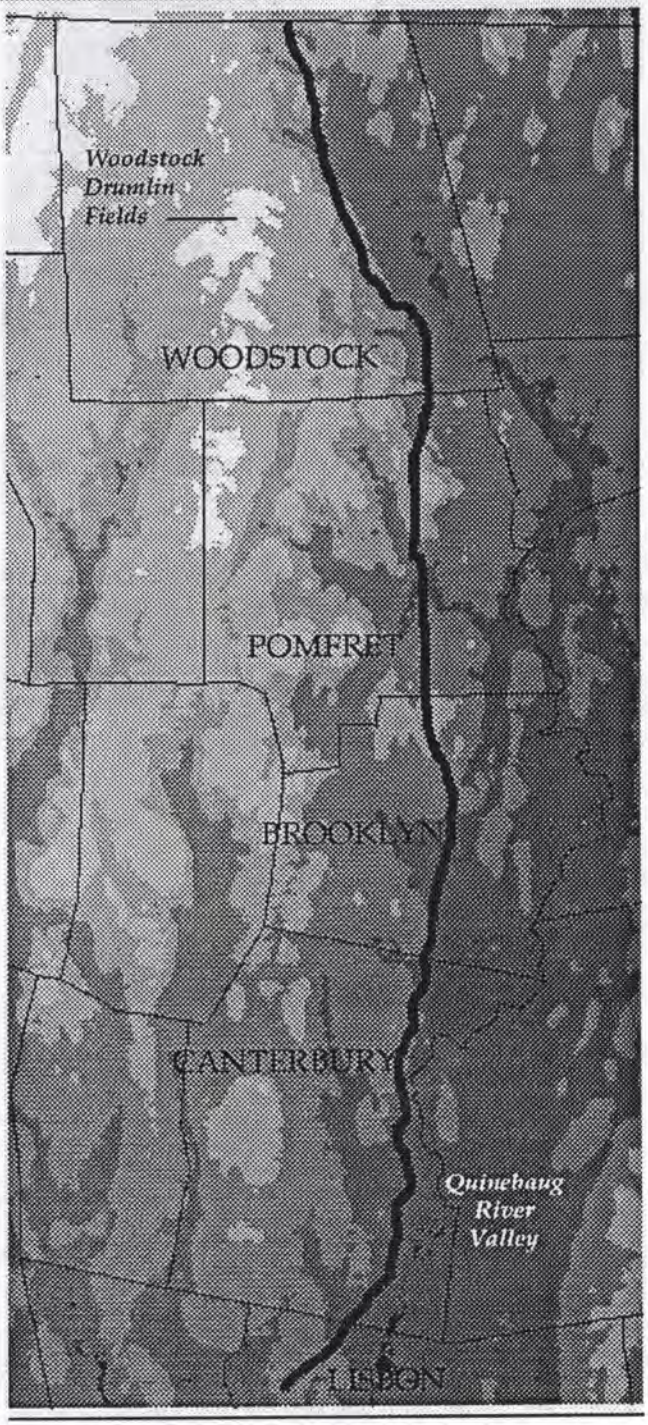
II. EXISTING CONDITIONS

THE CHARACTER AND QUALITY OF THE ROUTE 169 CORRIDOR

Once known as the Norwich-Woodstock Turnpike, Scenic Route 169 traverses the rolling uplands of northeastern Connecticut for 32 miles between the Towns of Lisbon and Woodstock. Route 169 has been traveled since the 1600's and was included by Scenic America in its 1993 top list of Scenic Byways due to its historic value, outstanding beauty and for the efforts of local preservationists to protect its scenic and historic qualities. The current alignment still follows the original route, with the exception of those few places where the road was re-aligned for safety or convenience. Route 169 was designated as a scenic road on April 15, 1991 for that segment running from the intersection of Rocky Hollow Road in Lisbon northerly to the Massachusetts State Line in the Town of Woodstock, a total distance of 32.10 miles.

As part of Connecticut's "Eastern Uplands" physiographic region, dominated by its metamorphic bedrock, Route 169 follows rolling to gently rolling terrain, along the east facing slopes and western ridge of the Quinebaug Valley. There is a drop in elevation (the peneplain) of between 10 and 20 feet per mile from the north to the south. At the very southern end of Route 169 near Norwich, the elevation drops much more quickly to the coastal plain.

Route 169 traverses terrain that is sometimes referred to as the "Windham Hills." The Windham Hills are more gently rolling and rounder than the lands closer to the Central Valley of Connecticut. These lands have long been an important agricultural region, especially in the areas where a thick glacial till is found on the rounded tops of the hills. The Woodstock drumlin field is perhaps the most unique geologic feature found in the area. The Quinebaug lowlands is another important geologic feature that lends character to the area — although Route 169 barely skirts the lowlands which are home to most of the urban and industrial uses found in the region.



Route 169 gradually drops in elevation from south to north at a rate of between 10 and 20 feet per mile. Each progressively darker band of elevation represents a 100 foot drop in elevation .

The Village of South Woodstock

According to Michael Bell, in his book *The Face of Connecticut*, the eastern uplands were incised by the erosive forces of streams and runoff, scouring the softer metamorphic rocks of the peneplain. However, these landforms are often difficult to see because the hills and ridges are similar in size and are so close together that the landscape features are not readily visible. In fact, there are only a few places that the landform is readily visible, giving the landscape a much more intimate character and scale than other parts of Connecticut.

The geologic formations have had a great influence on settlement patterns found in the region. The so-called streamlined hills, with their thick layers of glacial till, provided the setting for the traditional New England Town -- a village on a hilltop surrounding a town green. According to Michael Bell:

> *"The classic colonial New England town — a village on a hilltop surrounding a town green — results from the combination of a desire to farm on high ground, the constraints of landscape, and the social customs of the day. Puritan society placed a high value on the importance of community, putting enormous pressure on its members to live together in a town. One manifestation of this pressure was the virtual requirement that all families attend the meeting house ... each Sunday for services. In those days of poor roads and animal powered transportation, that usually meant walking. Somehow, enough farmland had to be found to support a town's worth of families, living close enough together so that everyone could easily get to the meeting house — and all on high ground.*

While the upland areas were relatively rich and desirable farm soils, they also contained the stony glacial remnants of metamorphic rocks which farmers cleared to the edge of the field over many years. The resulting rock walls are one of the most striking and attractive characteristics of these upland areas. As agriculture declined in the area, many of these rock walls are now enclosed by forest and brush. The growth of mills and manufacturing in the valleys also changed the character of the upland areas. While farming declined, manufacturing jobs attracted many of its workers from the hills to the valleys, further converting farmland to forest.

Post-World War II suburban growth and other regional and national socio-economic forces have also had their impact on the character of Route 169, although not nearly as much as other parts of Connecticut. Those same 'streamlined hills,' with their thick layers of glacial till that supported the agricultural settlement of the eastern uplands, also support septic tank drainfields, a prerequisite to late 19th century rural residential land uses. The decline of agriculture has forced many farm families to subdivide existing road frontages and sell off rural lots to pay taxes or cover losses due to unforeseen circumstances. The result has been a gradual transformation from a largely agricultural region to eastern woodlands dotted with rural residences and small businesses. Many people who live here often commute to employment centers to the south and west.

Throughout its history, Route 169 has served all of these various epochs and changes in land use. Traditionally the road simply connected one settlement to another. When manufacturing started to attract new settlements to the valley, the road was used to bring upland farm products to lowland industrial and manufacturing settlements. As part of the overall suburban migration, Route 169 has served to link home, school, local services, and jobs. Today Route 169 also serves recreational uses, especially leisure travelers looking for weekend 'adventures', antiques, or simply to sample a rural way of life.

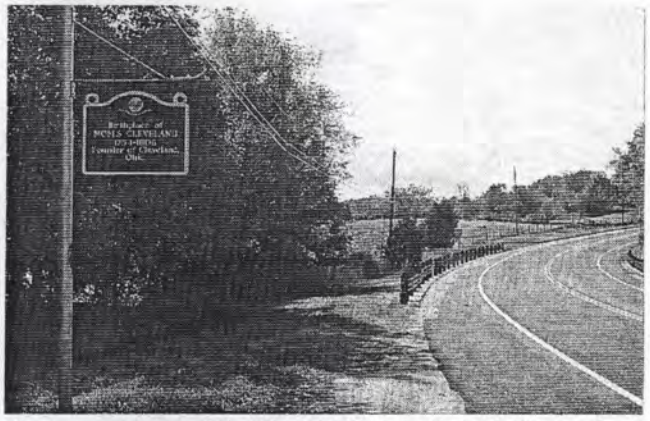
Scenic Byway Characteristics
THE SIGNIFICANCE OF THE VIEW AND CONTEXT

The significance of the resources found within the Route 169 Corridor exceeds the criteria for national significance, as identified in the final nomination information for national scenic byways. National significance is recognized as "features that are considered representative, unique, or irreplaceable". These features fall under six broad categories: scenic, cultural, historic, archaeological, recreational, and natural." The basis for Route 169's nomination as a National Scenic Byway rests primarily in three categories — scenic, historic, and cultural. Natural and recreational resources play an important supporting role, and although not nationally significant, are significant on a statewide scale. The following summarizes the basis for such recognition in these categories:

The more rounded landforms associated with Drumloidal Glacial Till Uplands, in the Town of Woodstock

Scenic

The views from Route 169 are owned by the thousands of individual property owners that live along the corridor. The attractive pattern of land use that has evolved over many centuries is the result of individual actions of the residents of the five towns that the corridor traverses. As described above, Route 169 traverses the physiographic region of Connecticut known as the "Eastern Uplands." Within the eastern uplands there are three distinct landscape types:



Views more typical of the Glacial Till Uplands in the Town of Canterbury

Glacial Till Uplands - ridgetops and sidehills
Drumloidal Glacial Till Uplands - Glacial Till uplands with more rounded and oval shaped uplands
Glacial Outwash Plains - bottomlands

Enclosed wooded views are typical of the lower elevations found in the Lisbon area

These three character types form a subtle impression upon the visitor to Northeastern Connecticut, and a visit along Route 169 traverses all three. Starting from the south the traveler parallels the Quinebaug River bottomlands barely skirting the sidehills until just north of Canterbury. Here the road intersects a drumlin like formation and then descends back down into the bottomlands associated with Blackwell Brook. Just north of Brooklyn, the

The Pomfret School is an example of the intimate character of stone walls, mature trees, and traditional architectural styles found in the region.

The Village of North Woodstock is rich in architectural heritage.

Route 169 parallels the Quinebaug River and is an integral part of the recently designated Quinebaug & Shetucket Rivers Valley National Heritage Corridor.

road starts to climb again across glacial till uplands and then reaches what is sometimes referred to as the Woodstock Drumlin Field.

While the experience of traveling across these major landscape types is not readily visible to the average traveler, there are a number of panoramic views in each town which allow the traveler to see the landscape. In addition, participants at the public workshop, held in Pomfret in April of 1995, were asked to identify specific high quality views by identifying places they would take an out of town visitor, or where they would take a picture for a postcard of their town. These have been identified on the scenic byway feature maps in Appendix 1, as well as the summary map in Section III, under "Conservation Strategies.". The lands that are visible from these areas were mapped utilizing a geographic information system, and are also included in the scenic features inventory mapping.

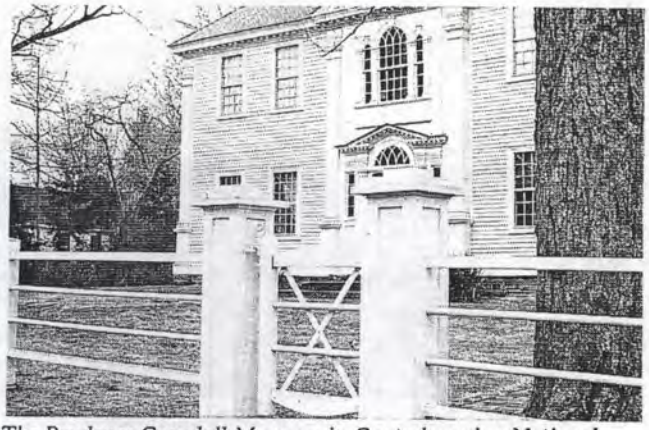
The most visible character type comes from the view of the immediate roadway environment — the close in landscape of the village, woodland, and farmstead. This intimate character, often framed by stone walls and mature lines of trees, is the most memorable experience along Route 169, and is one of the few areas where this type of Southern New England landscape remains intact. The combination of stone walls found along this route is the result of hundreds of years of agricultural development, and in that sense, the walls are irreplaceable. The approximate locations of the stone walls and the rows of mature trees are mapped on the scenic byway features maps in Appendix I.

Historic and Cultural Resources

The historic and cultural significance of this area was recently recognized by its designation as a National Heritage Corridor. The Quinebaug & Shetucket Rivers Valley National Heritage Corridor (Q-S NHC) recognizes the great potential for recreation and site interpretation due to its abundance of outstanding 19th century mills, mill villages and beautiful landscapes. Route 169 forms the western edge to the Q-S NHC and is considered an important element in the

Heritage Corridor, especially as a means for linking its many diverse historic sites.

In addition to the two National Historic Landmarks (Prudence Crandall Museum and Roseland Cottage), there are over 175 historic sites and districts recognized by local and state surveys, and/or the state or national registers of historic places. The National Register of Historic Places lists two districts along Route 169 (Bush Hill and Brooklyn Green, both in Brooklyn) and 11 individual properties. The rich architectural heritage of villages, such as Brooklyn, Pomfret, and Woodstock, is representative of the hill town communities that settled this part of Connecticut and are still very much intact. A complete listing of properties, districts and the scenic road corridor's historic and cultural features is contained in Appendix 1.



The Prudence Crandall Museum in Canterbury is a National Historic Landmark

Roseland Cottage in Woodstock is listed on the National Register of Historic Places

Natural Resources

The natural resources of the Route 169 corridor have played a significant role in the both the economic development of the region and in the quality and appearance of the landscape. Within the viewshed of Route 169 are extensive areas of woodland, much of which has succeeded from agricultural use to mature woodland, as the agricultural economy has been transformed to manufacturing and now to a service sector orientation. These woodlands continue to play an important role in how both visitors and residents alike perceive the character of the corridor. Of particular importance are the highly visible wooded hillsides that provide a particularly attractive setting for the towns and villages along Route 169. When combined with the attraction of fall color, these highly visible wooded hillsides should be considered especially critical for maintenance of the existing character and quality of Route 169.

This pond, located at Route 169 and Joy Road in Woodstock is typical of the attractive network of streams, ponds, and wetlands that are found throughout the Route 169 Corridor

Perhaps equally significant from the perspective of the more intimate scale of views along the Route 169 Corridor is the network of streams and wetlands found throughout the corridor. Close in views of waterways such as English Neighborhood Brook provide important variety to the long-distance vistas and mature tree canopies found throughout the route.

The Connecticut Audubon Society recently purchased this property in Pomfret at Route 169 and Route 101 and is planning to manage it as a sanctuary

The Quinebaug Management Area is between Route 169 and the Quinebaug River (top half of photograph)

Bicycle routes are plentiful along adjoining side roads which take you to towns like East Woodstock.

Many of the lands and waters that compose this system of wetlands and waterways are already protected by existing floodplain and wetland ordinances, creating a backbone of greenways and open spaces that help to both embrace and separate different uses of land.

Recreational

There is a significant amount of passive recreational opportunities within all of the Quiet Corner in general, and Route 169 in particular. Recreation resources in the vicinity of Route 169 are primarily related to state parks and forests, and to various walks and trails. Recreational resources are mapped and identified on the scenic byway features mapping contained in Appendix 1. A brochure was prepared by the Northeast Connecticut Visitors District highlighting the area's recreation resources (as well as other scenic and historic features), and a complete listing of recreation sites is available by Internet connection through the University of Connecticut, whose faculty and students are frequent visitors to this area.

The significance of the recreational resource lies primarily in the diversity of recreational opportunities provided, as evidenced by the complete listing of recreational features found in the "Quiet Corner" (see Appendix 1). Route 169 serves as the primary access route to recreational features and provides an enjoyable way to arrive at recreational activities. Of particular note (see map in Appendix 1 for locations):

- The Airline State Park Trail crosses Route 169 in Pomfret. The Airline State Park trail extends 21 miles from Willimantic to near Putnam and is part of the multi-state Southern New England Trunkline National Recreation Trail.

- The nearby Quinebaug River provides significant recreational opportunities, including fishing, canoeing, and wildlife observation. Of particular note is the Quinebaug Management Area located in Canterbury, which includes over 1,219 acres of open space along the Quinebaug river.

The management area includes a major state fish hatchery which is a point of interest.

- There are two bicycle routes that have starting points along Route 169. These routes, promoted by the Northeast Connecticut Visitor's District as an excellent way to see the area, are Prudence's Trail (starting from the Prudence Crandall Museum in Canterbury), and the Roseland Trail (starting from the Roseland Cottage in Woodstock). Both of these properties are National Historic Landmarks and open to the public.

Connecticut Bikeway Map

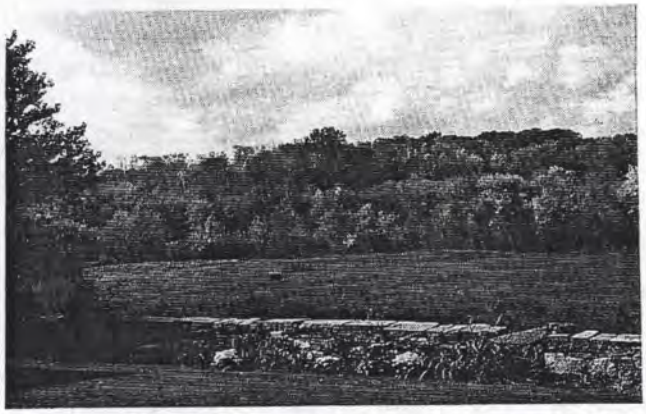
The Connecticut Department of Transportation has prepared and distributed a "bikeway map" (prepared with funds from FHWA), designating different routes as various levels of 'recommended routes', 'loop rides', 'cross-state routes', and 'not recommended' routes for bicycle travel. This is not an actual policy document, and many have expressed concern with the designations relative to traffic or safety concerns: no actual physical provisions have been made for bicyclists in terms of separated lanes, signage, rest stops, etc. Much more work remains to be done by both public agencies (such as ConnDOT) and private advocates to actually have an consistent agreed-upon statewide policy document for bikeways as well as the infrastructure to support bicycle touring.

The Route 169 corridor appears on the map as a 'cross-state route' (an ambiguous category which is not a 'recommended route' but implies a recommended connection or short-cut). The Route 169 Advisory Committee is unanimous in their concern over the safety of bikers on Route 169, and the need to promote routes that start and end along Route 169, but loop through the adjoining countryside on less traveled roads.

Overall Significance

The national significance of the Route 169 Corridor rests primarily in its intimate scenic character and historic features and points of interest — stone walls, mature trees, historic villages, farmsteads, and consistent patterns of land use over time. While the scenic resources may not be comparable to a National Park out west, they are a superb example of the Southern New England landscape, especially when looking at the intimate scale of roadside details and environment. The natural and recreational features play an important contributing role in extending the kinds of opportunities that are available to visitors. While much of the land around it has changed significantly, this area, through a combination of difficult development conditions and a rugged, yet individualistic conservation ethic, has maintained its character consistently over time.

The community leaders have recognized this fact and through the corridor management planning effort for Route 169, the efforts of all those individuals and groups that have supported the nomination of the Q-S NHC over the past six years, and the Northeast Connecticut Visitor's District (who have been actively promoting the area for appropriate scales of tourism) are making important strides in both conserving the qualities that make this area so beautiful, and linking that scenic beauty and heritage directly to economic development and tourism.



"What is most significant about Route 169 is the intimate scale of stone walls, mature trees, village and farm. It is a beauty that grows on you with every visit."

The Route 169 corridor, sometimes referred to as a "green island" amidst the rapidly urbanizing I-95 and I-395 Corridor, is not immune to the pressures of growth and development. The Town of Lisbon is encouraging developers to orient development towards internal roads rather than along Route 169.

Scenic Byway Characteristics

EXISTING LAND USE AND REGULATORY FRAMEWORK

Regulatory tools and techniques exist in both public and private sectors, and within the public sectors at various levels of government. This section addresses the different types of tools, techniques, commissions and other groups in place in the Route 169 corridor. It should be stressed that tools for shaping patterns of development and conservation consist of more than the traditional kinds of regulations administered by government agencies. They also include the voluntary actions of private citizens and groups and several types of incentives and partnerships through which the public and private sectors cooperate to achieve mutual goals.

The following paragraphs outline the regulatory tools in place in the five towns of the study area, (Woodstock, Pomfret, Brooklyn, Canterbury, and Lisbon), and briefly address some regional and state efforts. A more complete listing of "tools and techniques" for conserving the character and quality of Route 169 is listed in Appendix 2.

Tools Common to All Towns

Each town has certain commissions and regulations in place to regulate land use and development. These include a planning commission with its corresponding set of subdivision regulations, a separate board for zoning appeals, and an inland wetlands and waterways commission with corresponding soils-based inventory mapping of potentially restricted areas.

In addition, four of the towns have instituted some form of zoning and manage this function in a unified planning and zoning commission (P&Z). Each town has implemented regulations to suit its own perceived needs, and the resulting regulatory conditions across the five towns are extremely complex and minute in detail. This report is not an exhaustive study of existing regulation, therefore; it extracts the issues of greatest importance to developing a scenic byways strategy.

While the specifics of each town differ, there are important commonalities. For example:

- in most towns, agriculture and single- or double-family housing are as-of-right (especially in areas along 169);
- subdivision and zoning regulations have some clustering provisions;
- some sort of sign regulations are in place;
- all towns participate in the state Act 490 program to reduce tax assessments on open space, forests, and agricultural land (the law provides that lands with these special designations be assessed at their use value, not their higher exchange value).

In addition to this core of land use tools and techniques, some towns have implemented additional measures, such as conservation commissions, historic districts and guidelines and local scenic roads programs. The following matrix summarizes the distribution of regulatory tools, programs and agencies across the five towns of the study area.

WOODSTOCK

The premise of zoning in Woodstock is to establish a single zoning district with common site-planning parameters, and to address specific development issues on a case-by-case, special-permit basis. The town's primary district (there is actually a second district, specifically for industrial parks) covers the

	Woodstock	Pomfret	Brooklyn	Canterbury	Lisbon
Subdivision Regs.	x	x	x	x	x
Plan of Cons./ Dev.	x	x (draft)	x	x (***)	x (u***)
Zoning Ordinances	x		x	x	x
Cluster Provisions	x				x
Wetlands Comm.	x	x	x	x	x
Local Scenic Roads	x				x
Sign Regulations	x		x	x	x
Historic District	(x)				(x)
Cons. Comm.	x	x			x
Econ. Dev. Comm.	[x]				x
Trusts/ Easements		x	x		x

x = exists
( ) = tool similar to historic district
[ ] = lapsed
(***) = update in progress
Sources: various town documents, reports, interviews.

length of Route 169's right-of-way. Regulations call for residential uses occupying lots of 1.25 acres, a 150-foot minimum frontage and 40-foot minimum setback from road. Somewhat different requirements apply to multi-family and cluster developments, largely the same parameters for non-residential uses.

Woodstock also has a local scenic roads program. The program is written to be administered by the P&Z commission, which can designate the roads, subject to the approval of owners of a majority of lot frontage. No major alterations can be undertaken on these roads without Commission approval. An ordinance creating an Historic Properties Commission is also in place. An economic development commission once existed, but has lapsed.

POMFRET

The Town of Pomfret recently decided not to implement a zoning proposal. The Planning Commission, however, administers a set of subdivision regulations which along with inland wetlands regulation, has an effect on proposed land use changes. A Draft Plan of Conservation and Development was developed in 1990. A local scenic roads ordinance is in place, identical to that of Woodstock.

A considerable inventory of land has been set aside from development by land trust, nature preserve, ownership by the town and state government. There also is a conservation commission and an inventory of important open spaces identified for future preservation.

BROOKLYN

Brooklyn is the most aggressive of the five towns in utilizing regulatory measures to guide land use and proactive conservation strategies for open space.

Town zoning is organized around use districts. The land around Route 169 is zoned mostly for residential-agriculture use. The minimum lot size is about an acre (40,000 square feet), minimum road frontage is 150 feet, and minimum setbacks are 50 feet. An important exception to the main zone is the Professional and Business Office district near Brooklyn village center, which is tied to the National Register of Historic Places historic district and adds regulations, reviews and contextual requirements (set up as historic-district regulations) into the zoning code.

The active conservation commission recently produced an open space and conservation plan and manages a small fund for town acquisition of open space. In addition, some parcels are held and managed by land trusts. An economic development commission has also been very active, studying various proposals to attract

specific kinds of investment to the town.

A permanent town planner position exists for the town and a thorough set of town resource inventory maps was recently completed (the only town to have this type of mapping.)

CANTERBURY

Canterbury has instituted performance zoning to manage land use. One unified district covers the full extent of the town; the performance criteria are (1) soils, to govern water system capacity, and (2) site-planning criteria, which call for two-acre-minimum lots, a minimum road frontage of 200 feet, and minimum 50-foot setbacks. A second, floating "village commercial" district was added in 1991. One provision in the zoning code that might need to be addressed is the stipulation that planned industrial parks (which are allowed by special permit) must be accessed by state road. Canterbury has one full-time person acting as planning, wetlands and zoning official.

LISBON

Zoning in the Town of Lisbon is structured around use and density districts. Along Route 169 there are no business or industrial zones (these are distributed elsewhere in the town), and most of the lots are designated R-40, for residential lots of 40,000 square-foot minimum. (Other residential zones call for minimum lot sizes of 60,000 or 80,000 square feet.) Other requirements in the R-40 zone are a 125-foot minimum road frontage, 40-foot setbacks, 2.5-story height limit and 20% maximum lot coverage.

Private Sector Tools

Two land trusts have major operations in the Route 169 Scenic Road Corridor: the Wolf Den Land Trust and the Wyndham Land Trust, Inc. These private, non-profit corporations operate to conserve natural resources and open space by acquiring land in fee or through an easement, managing some parcels, and undertaking other initiatives in public education.

Wolf Den owns 200 acres of land, including a large parcel fronting on Route 169 in Brooklyn. The trust has recently completed a Stewardship Incentive Program plan for this 152-acre property (a federal program for sharing costs of forest management). It also conducts public site tours.

Wyndham Land Trust owns nearly 350 acres and holds easements on about 100 more. Based in Pomfret Center, their mission is conservation of natural resources in Windham County; their priority is preserving habitats for birds and other wildlife. The trust's properties include several on or near Route 169.

The Audubon Society recently purchased a tract of land on the east side of Route 169 (north of Route 101.)

Regional and Statewide Land Use Planning

If the main question is identifying what tools exist to protect the rural character of this scenic corridor and its constituent towns, one must also look beyond the towns to state-level and regional plans and programs.

State Plan of Conservation & Development

A projected vision of the state and regional conservation and development patterns, this plan outlines state-wide policies to concentrate growth in already built-up areas and conserve rural land and open space. While it is now a growth-management plan with no specific enforcement 'teeth,' it is nonetheless a key policy document and framework for future funding by the state or other entities.

For the 169 corridor, it defines the individual hamlets as 'rural community centers' and identifies both existing preserved open space and proposed 'preservation areas'.

Regional Planning Organizations

The State of Connecticut is divided into 15 different regional planning organizations (RPO's). A RPO conducts planning activities for a geographic area within the state which con-

sists of a number of municipalities. The Route 169 Corridor is included in two such organizations: the Northeast Connecticut Council of Governments (NECCOG) which is officially called a "Rural Regional Planning Organization" and includes Woodstock, Pomfret, Brooklyn and Canterbury; and the Southeastern Connecticut Regional Planning Agency, which includes the Town of Lisbon. Powers of these organizations are limited to those granted by the state (transportation review, planning coordination) or by their underlying members. They can provide a consensus framework for integrating individual town policies into regional programs, such as the recently-established "Enterprise Corridor Zone" overlay district established through the NECCOG along I-395 in the Quinebaug Valley.

NECCOG is in the process of updating the regional plan of conservation and development — an important opportunity to for all of the corridor towns to look at Route 169 and the Q-S NHC (see below) as part of an overall regional open space conservation and economic development strategy.

Quinebaug and Shetucket Rivers Valley National Heritage Corridor

As described above, and after six years of local and regional planning and promotion, the U.S. Federal government has recognized the Quinebaug River and adjacent Shetucket River watershed as the Quinebaug and Shetucket Rivers Valley National Heritage Corridor. The "National Heritage Corridor" program is an emerging approach to regionally-coordinated economic and tourism development, overseen by local public and private partners. Although the Q-S NHC has not yet received funding and only recently established its steering committee, its regional vision of heritage conservation and targeted pro-active tourism development is already beginning to permeate thinking and planning in the affected towns.

The Route 169 Scenic Corridor is part of the Q-S NHC. As the 'hill town' complement to the valley's 'mill villages', the scenic road corridor plan has the opportunity to help establish some of the initial program thrusts and development parameters for the larger Q-S NHC.

Connecticut Conservation and Development Policies Plan 92-97

Effectiveness of Existing Land Use Framework

There are three types of widely used land use regulation in the study area — zoning, subdivision regulations and wetlands regulations. There are two basic kinds of zoning: district and performance. One town (Pomfret) does not use zoning at all. Subdivision regulations are universal and relatively similar, and most require some level of site plan review. Most towns also have some sort of cluster provision for developments of certain number of units.

Inland wetland and waterway regulations are similar in each town, with some using development setbacks to help buffer the water resources. Resource boundaries are established in the same way in each town, according to poorly drained (or worse) soil types.

The state agriculture department Purchase of Development Rights (PDR) program allows land to remain in agriculture while compensating the farmer by directly purchasing rights to development (taking the land out of the market), and by lowering the tax assessment of the farmland.

In the private sector, land trusts present an opportunity to regulate the land market, and two such groups already hold and manage land in the study area.

Certain opportunities emerge from this consideration of the tools and techniques currently in use. There are effective means for influencing the development and conservation of town lands surrounding Route 169, some of which are more appropriate to the current regulation-wary climate:

- Overall, the existing zoning ordinances, subdivision regulations, and permitting criteria are fairly loose, leaving each commission with significant room for interpretation and judgment. Some zoning regulations are explicitly set up to decide issues by special permit.

- Zoning regulations, for the most part, are traditional ordinances that will not necessarily prevent inappropriate development along the Route 169 Corridor. There are exceptions, such as the Professional and Business Office zone in Brooklyn. Problems in revising zoning have to do, as always, with achieving sufficient political consensus. One opportunity is the potential of reaching agreement on the specific issue at hand — scenic preservation, with economic and tourism development benefits -- possibly through the use of specific zoning adjustments, such as instituting a "scenic corridor overlay zone," in those towns that desire it. A discussion of more specific strategies is found in Section III, under "Conservation Strategies."

- Another important consideration is the enforcement of right-to-farm legislation as a means of helping farmers by assuring a regulatory and development climate that facilitates the continuation of family farming.

- Although cluster development regulations are in place in many areas, it is an open question whether the land market will be sufficiently strong to set these rules into motion. Many residents are concerned about the potential size of clusters built under such a provision in the zoning ordinance. However, the density is limited by the soils carrying capacity for common septic systems. Typical cluster provisions allow no more houses than would otherwise be allowed in the standard subdivision. In fact, this provision is a means to encourage development in environmentally appropriate areas. An example of how a such a development might work is found in Section III, under "Guiding Land Use."

- Subdivision regulations, tied to uses and densities allowed by zoning, encourage the types of development that detract from the scenic quality of Route 169 — 1 or 2 acre, single-family residences built along the road frontage. However, adjustments in the regulations to improve siting, setbacks, or screening can make a major difference. (See Section III, "Planning Concepts"). To date, commercial development, for the most part,

has not changed the landscape of Route 169, outside of existing villages. However, as new properties come on the market, additional attention should be given to this issue before it becomes a problem. (See Section III, under "Guiding Land Use.")

- Existing environmental regulations, where pertinent, can also help in open space and scenic preservation. Conservation commissions, though they have few powers, can be important organizing, information-gathering and education forces (as in the Town of Brooklyn, for example). Commission members can work towards achieving political support for vision-oriented open space plans, and identify important parcels to be conserved. They can also act almost as public-sector land trusts, bringing together landowners, conservationists, and government officials, to achieve conservation goals.

- The judgments and permits of the Inland Wetlands Commissions are often made prior to other town approvals for development projects. So where pertinent, their participation in land use issues can be very significant. Wetland regulations appear to be a significant conservation issue for the Route 169 Corridor, as they are a continual part of the intimate views that one perceives along the road (see Appendix 1 for land cover inventory mapping.

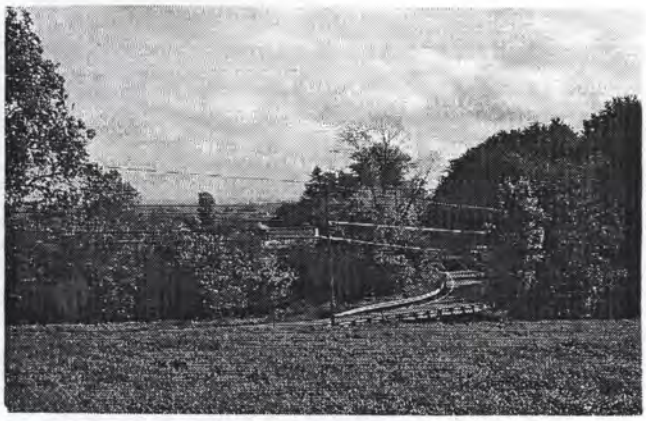
- Local scenic roads ordinances exist in two towns, and there is interest in linking locally designated scenic roads to their statewide counterpart. A linkage between the state scenic roads program and the local ordinance program, has the potential for creating a regional and local network of scenic travel routes. The state will not designate, maintain or regulate local roads, though often the local roads have superior scenic character and are often more feasible for use by bicycles than their state road counterparts.

Scenic Byway Characteristics

TRANSPORTATION AND HIGHWAY SAFETY ISSUES

A detailed highway and safety analysis was conducted by A-N Consulting Engineers of Newington, to evaluate the transportation components throughout the scenic road corridor. Roadway, bridge and abutment facilities were examined to determine structural and service conditions. Traffic operations and safety measures were analyzed for areas throughout the corridor for identification of hazardous travel conditions. The technical evaluation is included in Appendix 2, of this report and is summarized below:

The road and right-of-way is the responsibility of the Connecticut Department of Transportation (ConnDOT). According to the laws governing scenic roads, the Connecticut Department of Transportation *"shall maintain the character of such road when so designated, if practical."* The Connecticut DOT is responsible for ensuring the safety of the road and this will require road and landscape maintenance along the right-of-way. The District II offices for ConnDOT are responsible for maintaining the road surface, replacing guide rails, mowing, and vegetation management. Vegetation management is necessary to retain adequate sight distances at intersections, to maintain clear zones free from obstructions that might create driving hazards, and to reduce the risk of hazards associated with falling limbs and trees.



Highway safety is a significant issue facing the Route 169 Corridor -- especially as related to preserving the scenic character of the road while ensuring our ability to enjoy that scenery.

Classification and Design Speed

State Route 169 generally serves residential uses and agricultural activities that are adjacent to the road as well as some areas of isolated industrial and commercial activity, most often located at the highway intersections. Both State Route 12 and I-395 parallel Route 169 to the east. I-395 provides a limited access freeway for high speed through traffic and Route 12 provides access to more concentrated commercial activity.

The highway classification for Route 169, according to the definitions of the Connecticut Department of Transportation (ConnDOT) and the American Association of State Highway Transportation Officials (AASHTO) green book "A Policy on Geometric Design of Highways and Streets, 1990," is a rural major collector road. This determination was made because it generally serves village areas that are not serviced by a higher system of road, it collects traffic from local areas, provides links with nearby larger towns or cities, and serves important inter-county traveled corridors. It does not have the characteristics of an arterial road that generally provides quick travel between larger towns and cities and that will attract travel over longer distances.

Design Criteria for Scenic Roads

General guidelines for improvements to scenic roads have yet to be adopted by Connecticut DOT as required by the laws governing scenic roads. Therefore it is critical that any improvements proposed for scenic roads be based on the goals of the community as identified through a public design process. Recommendations for such a process are detailed in Section IV, Implementation.

Nearly all work on Scenic Roads will be done as resurfacing, restoration, or rehabilitation (RRR) projects, rather than as reconstruction. For such projects FHWA has adopted TRB Special Report 214, Designing Safer Roads—Practices for Resurfacing, Restoration and Rehabilitation for both procedure and design guidelines. The intent of the guidance in Special Report 214 is to begin with the existing conditions and performance of the road, rather than to design by attempting to meet the strict guidelines of the AASHTO green book. For scenic roads, this type of contextual design will be needed to retain the existing character of the road, as required by the law.

In making improvements to scenic roads, (such as turning lanes or passing lanes like the one proposed for the vicinity of Woodstock Middle School, or in those cases where major projects are proposed for roads that cross Route 169, such as Route 6), it will be important to carefully examine the design criteria used in relationship to the information contained in this plan. In selecting a minimum design speed to apply, the intrinsic scenic qualities of the road must be understood and consideration must be given to the impact of applying strict standards to the design.

Certainly in areas of high interest to travelers, such as the village center areas, allowing a lower minimum design speed, in conjunction with traffic calming techniques, would help to reduce the differential speeds between the diverse users of the road. In all cases, the design speed selected, and the resulting geometric design of the road, should provide for clear, identifiable, and predictable transitions between rural and settled areas. The diagram on page II-15 reflects in general, the minimum design speeds that should be used in the types of conditions indicated.

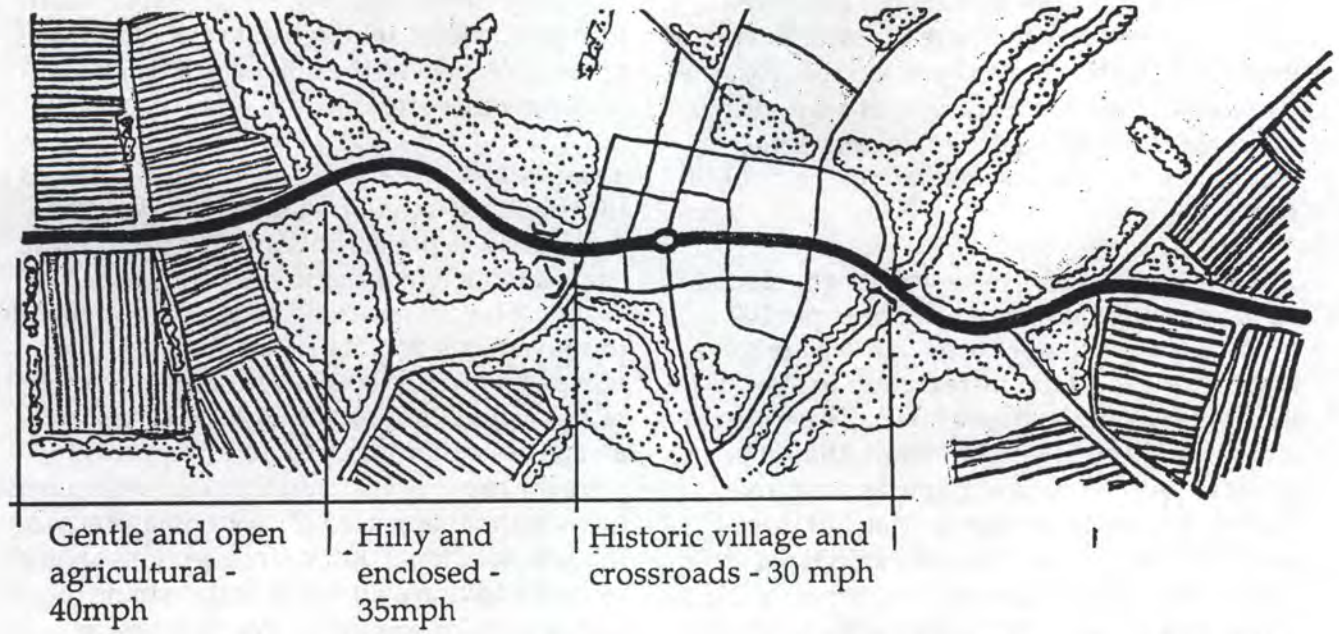
There are a few problem areas along Route 169 such as limited sight distances at the intersection of Route 169 and 44 in Pomfret

With the design speed established, the other design criteria are then applied in relation to that speed. The stopping and intersection sight distances required for the design speed are applied, providing the basis for the geometric design, which in turn affects the horizontal and vertical alignment. Other design criteria such as passing sight distance, width of the road, and cleared area are also established based on the design speed. The design speed also effects the vehicle carrying capacity of the road. It should be noted that using minimum or slower design speeds does not guarantee slower operating speeds. There will always be drivers who deliberately choose to exceed speed limits regardless of the conditions. Enforcement must be used to slow these drivers.

Highway Safety Analysis

Based on existing and available data and on field observation, an analysis was made of the overall safety of Route 169. In general the road has characteristics that meet the standards set forth for a rural collector road with a 40 m.p.h. design speed. The horizontal and vertical alignments provide adequate sight distance for most of the length of the road and the sight distances at intersections are also generally within the required standard.

One of the most significant issues relative to the scenic road is the proximity to the travelway of the mature trees lining the side of the road — an important defining characteristic of the scenic qualities of the road. Special Report 214 notes that neither AASHTO nor FHWA set clear zone width requirements. The report suggests that the state establish either a numerical standard or a more flexible design policy. It seems logical that for scenic roads, a flexible policy would be a useful way to address both the concerns of highway safety and aesthetics. The use of flexible criteria is critical to maintaining important visual attributes of the highway, as well as being the most efficient way of achieving safety in a cost-effective manner. Many trees and upslopes would fall within a fixed dimension, yet have no history of accidents. Such features should be retained because they create the visual character of the road and serve to reduce operating speeds.



Example of transitioning design speed from gentle terrain with open landscapes through hilly terrain with enclosed forest canopy to historic villages or crossroads

Report 214 notes that to determine which roadside obstacles should be removed or protected the designer must evaluate the accident history of the road, and must consider the following factors:

a) the distance of the obstacle from the roadway edge,
b) the presence of other obstacles nearby,
c) sideslopes on which the obstacles are located,
d) alignment,
e) traffic volume, and
f) speed.

Based on applying the flexible policy of Report 214, and in situations where safety improvements are being considered, it will be possible to maintain clear zones without destroying the scenic character of the road. Over time, replacement trees should be replanted as old trees die at a suitable distance from the road (determined by applying the criteria above) as part of an overall tree planting program for Route 169 (See Section III, Planning Concepts"). Other obstacles, like stone walls, are usually further back, but in some cases are within an area in need of a reasonable clear zone. In these cases, the obstacles should be relocated rather than removed, and only when safety related road improvements are necessary. (ConnDOT, in recent years has been more than willing to do this in most situations.) If the obstacle cannot be moved, then it is ConnDOT policy to consider the use of guide rail. It should also be noted that obstacles currently within the road right-of-way, even if relocated to achieve a desirable clear zone, would in most cases still remain in the right-of-way.

The accident ratio for the entire length of road is relatively low at about one accident per 100 million travel miles. However, there are some areas where this ratio increases up to almost four per 100 million travel miles. These are the areas where special consideration should be given to see if a physical improvement can reduce the risk of accidents. Many of these problem areas are at or near intersections where the problem may also stem from capacity limitations. Also, the fact that many of the accident types consist of failure to grant right of way, or driver violated traffic control, indicate that problems are occurring at the intersections.

There are a few areas along the road where sight distances are limited by vertical or horizontal alignment. The high accident section in Woodstock between Route 171 and Childs Road (26 accidents per 1.68 miles) is an area where sight distance limitations exist. In order to meet today's standards, the alignment would have to be drastically changed. It might be possible to improve the situation by cutting back slopes to provide more sight distance without a change in the road alignment. An example of how this might be done is included in Section III, Planning Concepts. This might be possible in other areas where limited sight distance results in a hazardous condition.

One other safety hazard occurring along this road is the speed of the traffic and the corresponding number of accidents that result from driving too fast for the conditions. Along some sections of Route 169, the alignment is straight and flat, inviting higher speeds. These stretches of roadway tend to lead into historic villages and crossroads, or they lead into hilly and forested areas of limited sight distance. The result is excessive speeds for the conditions. Traffic calming techniques (see Section III, Planning Concepts) can be used to provide smoother transitions between high speed and low speed areas, although enforcement of the speed limit may be the only way to control traffic in other areas.

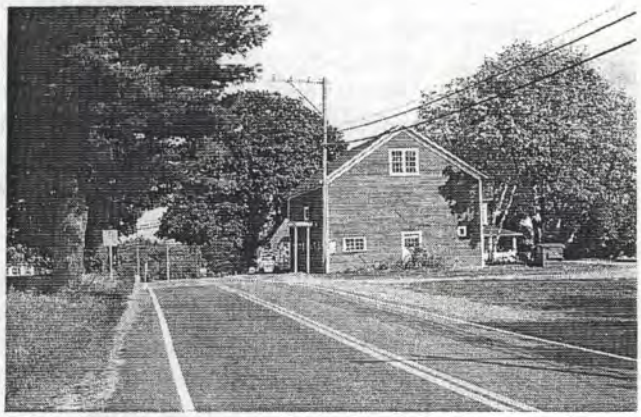
The conclusion of this highway safety analysis is that there are locations along the designated scenic road segments of Route 169 that require some attention in order to provide a safer highway for the motoring public. However, the improvements do not necessarily have to involve widening or large scale realignments, but rather ways of improving sight distances and awareness of hazards. Route 169 appears to have the capacity for substantial growth in most areas without any need for widening to accommodate additional traffic. Intersections should receive additional attention to determine requirements for turning or bypass lanes, in combination with traffic calming techniques as described in Section III.

III. PLANNING CONCEPTS AND STRATEGIES

Advisory Committee Imagines 20 Years From Now ...

A VISION FOR ROUTE 169

"As the region grows and prospers, Route 169 retains much the same rural character as today. The communities through which it passes balance growth, development, and improvements in transportation with wise policies for the conservation and preservation of open space, and the continuation of farming and timbering — the activities that have traditionally shaped the area's distinctive working landscape of fields, forests and hamlets. Throughout its length, interpretive exhibits and educational programs make its more than 300 years of quiet evolution come alive for residents and visitors alike."



Route 169 Corridor Plan:

GOALS AND OBJECTIVES

The following goals and objectives were adopted by the Route 169 Advisory Committee to guide planning efforts throughout the corridor:

1. SCENIC BEAUTY
   Preserve the Route 169 Corridor's scenic beauty and the quality of its natural and cultural resources that contribute to that beauty.
   - 1.1 Identify significant resources and distribute maps to each town for use by their planning commissions, conservation commissions, other agencies, interest groups, and interested property owners.
   - 1.2 Provide strategies that encourage individual owners to make improvements to the landscape consistent with an overall plan, including the potential for individuals or groups to 'adopt' some of the maintenance activities along the road and right of way - such as caring for stone walls, hedgerows, trees and shrubs, and other landscape elements.

2. SAFETY
   Ensure the safety of Route 169 for motorists and pedestrians, while preserving options for future appropriate transportation needs throughout Northeastern Connecticut.
   - 2.1 Establish, with full agreement from Connecticut DOT, that the parallel routes of I-395, Route 12, and Route 169 each have distinct purposes: I-395 for high-speed travel, Route 12 for commerce, and Route 169 for local access to homes, recreation and leisure activities, as a tourist destination, and as a linkage between the civic functions of each town along the Corridor.
   - 2.2 Make road improvements only as necessary to ensure public health and safety, and consistent with the defined overall purpose of Route 169.
   - 2.3 Develop and adopt reasonable design standards and criteria specifically oriented to scenic byways, including guidelines for maintenance and improvement of the roadway, right-of-way, landscape, signage, bridges, and other structures.
   - 2.4 With Connecticut DOT, develop procedures for involving the public in all planning and design decisions. If safety improvements prove necessary, use these procedures to ensure the corridor's fragile scenic and historic values are sensitively addressed throughout the design and construction phases.

3. ECONOMIC/TOURISM DEVELOPMENT
Encourage the region's prosperity through appropriate economic and tourism development along the Route 169 Corridor.

3.1 Through wise strategic planning and regional collaboration, increase investment and economic activity throughout the Corridor, consistent with existing transportation capacity, and retaining the scenic and rural character that attracts such investment.

3.2 Pro-actively guide the quality and 'fit' of commercial and residential development in order to integrate it sensitively into existing communities and their traditional development patterns.

4. COOPERATION AND MANAGEMENT
Assure that all perspectives are considered in developing and implementing scenic corridor strategies and that all are active partners in its management.

4.1 Actively involve in the planning process local individuals with pertinent skills and interests , as well as representatives of business, farming, forestry, tourism, and other property owners whose livelihoods depend upon the land and its natural resources along Route 169.

4.2 Actively involve civic organizations, educational institutions, including the University of Connecticut, and other public interest groups in the planning process.

4.3 In the collaborative planning process, actively involve the elected and appointed officials at the town level as well as representatives of regional, state and federal agencies with an interest in the Corridor and in the implementation of the Corridor Plan. Involve representatives of DOT's district office and local utility companies with responsibilities within the right-of-way.

4.4 Establish a permanent advisory entity for the Route 169 Corridor, consisting of representatives from each town and those interests identified in the first three objectives of Goal 4, for the purpose of coordinating input and in defining a consensus-based strategy for balanced preservation and growth.

4.5 Establish a direct link between this permanent entity and each town's Board of Selectmen to provide better communication about proposed improvements along the road and right-of-way and establish an approach for resolving conflicts between the competing and overlapping interests along the Corridor.

4.6 Through a defined work program or compact agreed to by major stakeholders, manage the components of the Route 169 scenic Corridor to achieve the Corridor Plan's vision over time, bringing to the task such financial resources as might be available via the participating partners.

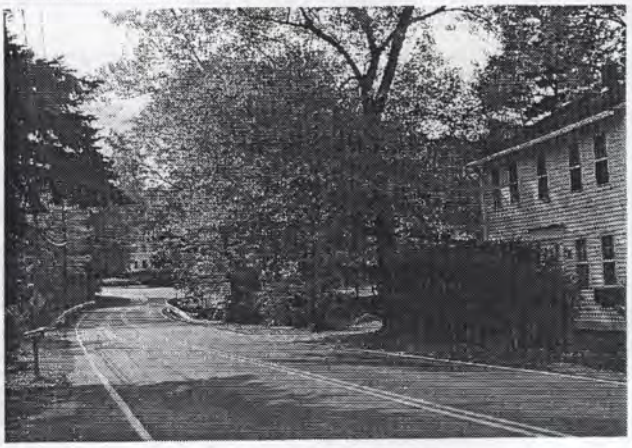
5. INFORMATION AND EDUCATION
Engage in an active program of information and education geared towards teaching individuals about the corridor's heritage and how they can contribute in a positive way to retaining the scenic and historic values along Route 169.

5.1 Develop strategies for communicating to the broader conservation community, how farmers and foresters are adapting to changing technologies to compete effectively in the marketplace, and the positive impact that economic viability of farming and forestry will have on scenic resources.

5.2 Develop strategies for communicating to landowners and the development community, how alternative patterns of development can preserve scenic values while meeting the economic objectives of individual land owners.

5.3 Develop an active program for the interpretation of the corridor's heritage, historic resources, the evolution of villages and hamlets, and the transformation of traditional rural land uses such as farming and forestry as they adapt to changing technology.

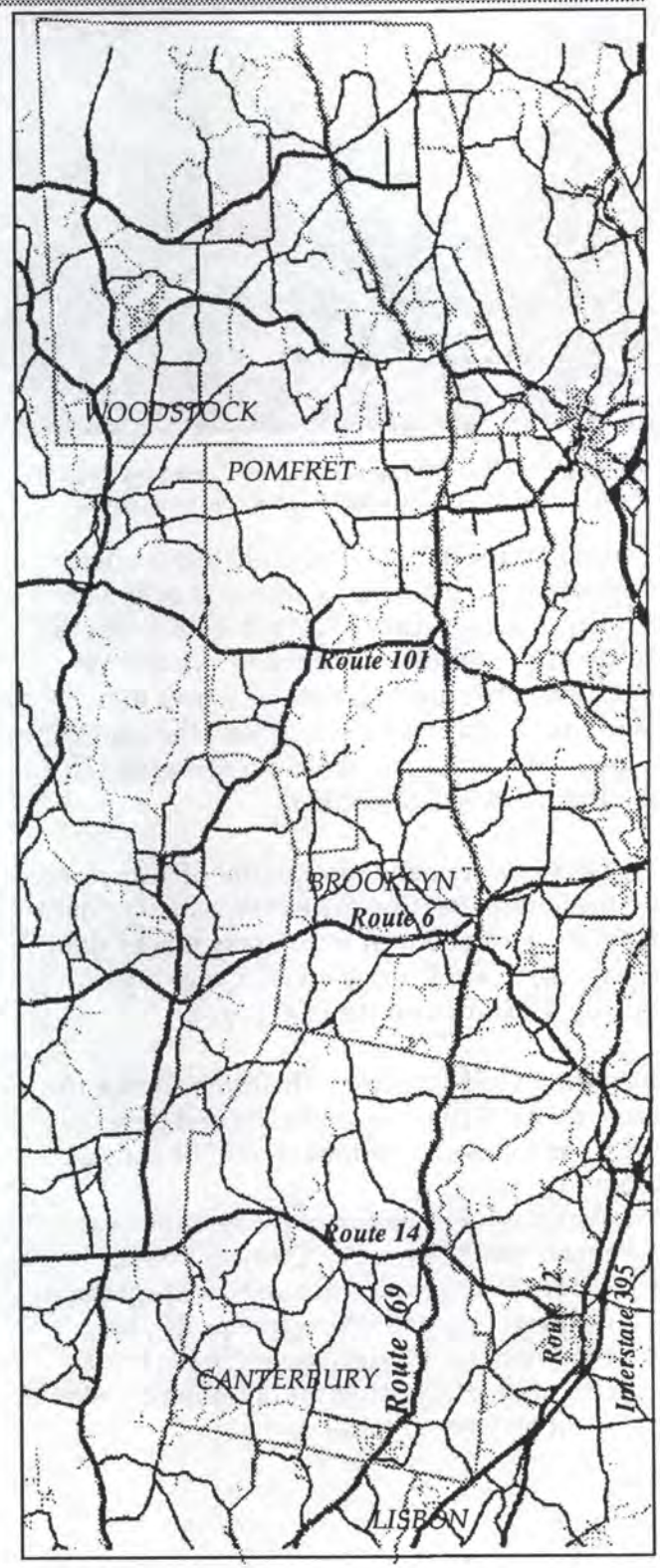
1. Resource Conservation Strategies



The traditional southern New England landscape is a vanishing resource worthy of protection by individuals, towns, interest groups, and business that depend on retaining the rural character and quality of life of the area to flourish.

The landscape of the Route 169 corridor has a subtle kind of beauty that residents love just the way it is. Visitors are attracted by its intimate scale and rich architectural heritage. Perhaps it is the way that the rural roads "lay lightly on the land." Or perhaps it is the intimate scale of stone walls and mature lines of planted trees. Or perhaps it is the views of rolling farms interspersed with wooded hillsides and hamlets that speaks quietly of the traditional southern New England landscape. Whatever the attraction, it is a landscape that is attracting more and more people as a place to live.

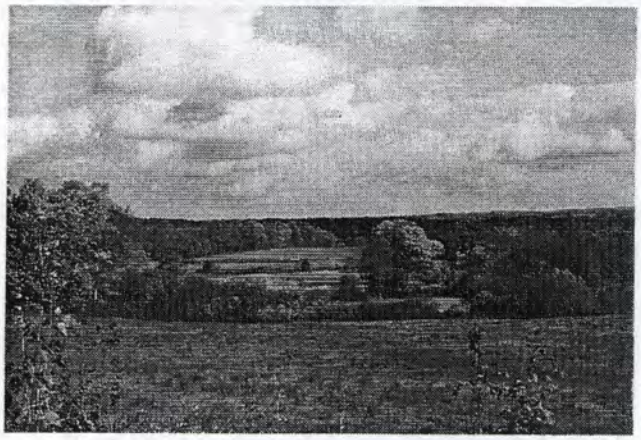
It is precisely this magnetic attraction that should be cause for concern. This is a dynamic landscape of change. If you get up in an airplane you can start to see this change, and it is a change that is ubiquitous -- it is gradually eroding the fragile character of this beautiful landscape. What are the essential parts of this place that must be conserved to keep it unique? The following pages summarize the types of landscapes that have been identified by citizens and professionals alike as the critical resources of Route 169 and its environs.



Route 169 sits at the precipice of change -- just a few minutes drive in some places from Interstate 395.

Resource Conservation Strategies

VISUALLY PROMINENT LANDSCAPES



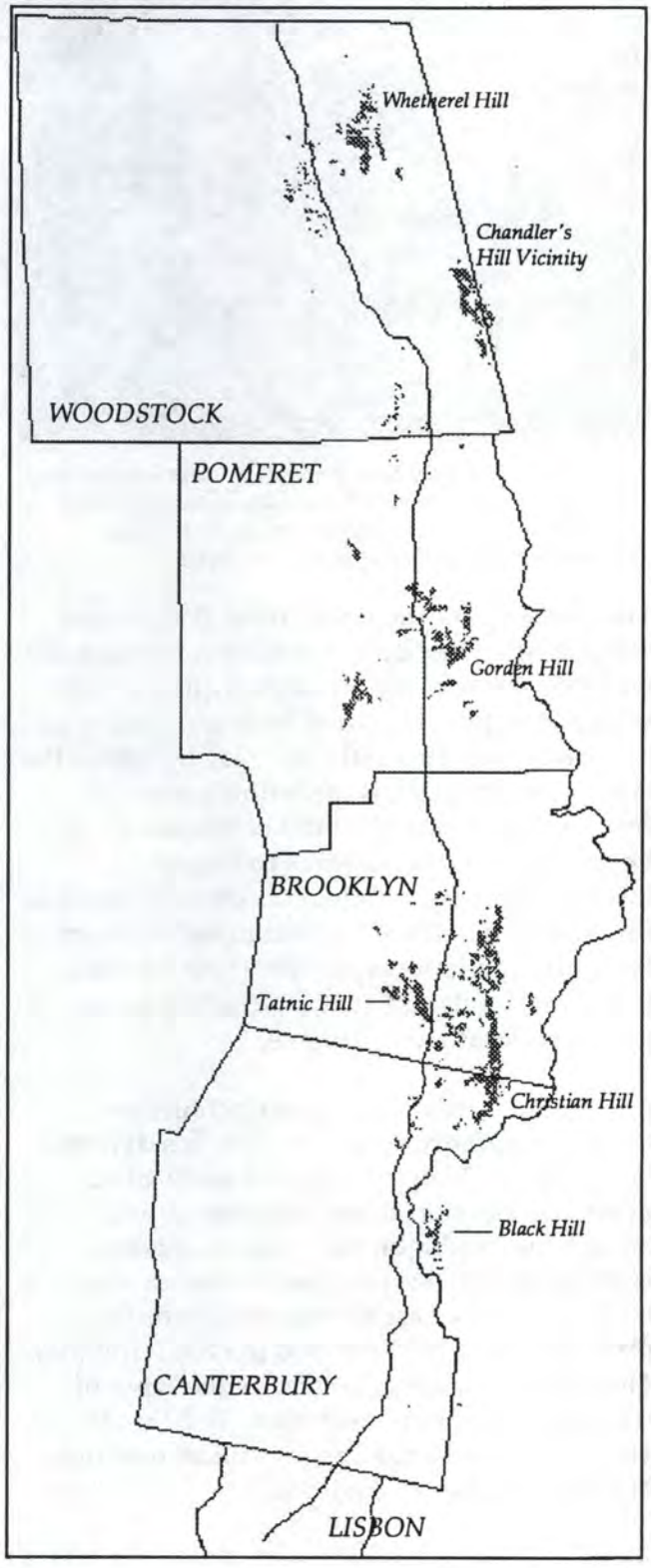
The view from Route 169 at the Brooklyn-Canterbury Town line is one type of landscape that can be seen from many places.

The landscape of the Windham Hills is often difficult to see because the hills and ridges are similar in size and are so close together that the landscape features are not readily visible. In fact, there are only a few places where the landform is readily visible, giving the landscape a much more intimate character and scale than in other parts of Connecticut.

This places a tremendous amount of importance on the landscapes that are either visually prominent, (they can be seen from many places along the road), or are a single view of very high quality (as shown on the next page).

In addition to recognizing their importance in each town's plan of conservation and development the following options should be considered:

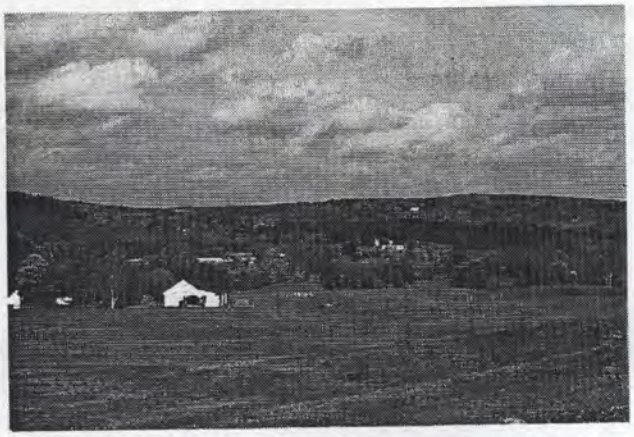
- Purchase or donation of conservation easements (see Section IV, "Owners Role");
- Mountaintop protection and/or steep slope ordinances (establishing tree protection requirements for developing in the areas that are highly visible and limiting development on steep slopes.)



Visually prominent landscapes include those areas that can be seen from many different points along Route 169

Resource Conservation Strategies

HIGH QUALITY VISTAS

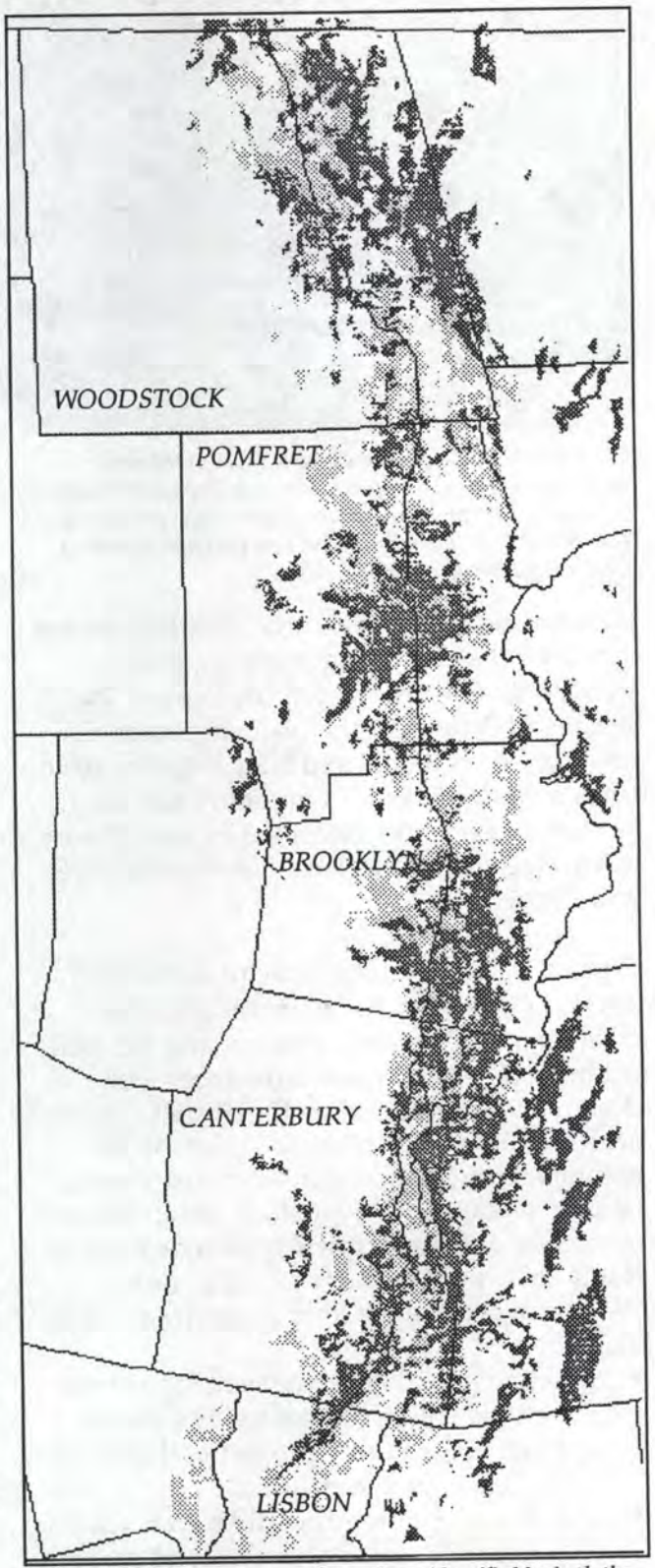


One of the most panoramic views in the corridor is actually seen from a side road - shown here is the view from Young Road in Pomfret looking towards the North.

High quality vistas include areas of land that are superlative examples of southern New England scenery including areas with a variety of land-forms, landscape types, water features, rock outcrops or traditional settlement patterns.

There are only a few places along the corridor where high quality views can be easily seen. Therefore, it is critically important for each town to recognize the quality of these views in their plans of conservation and development and work closely with the owners to retain their rural characteristics. This does not mean that development should be precluded, or that an owner cannot realize the long-term economic value of their lands. Instead the owner and town might consider:

- an owner of a critical parcel should consider granting a right of first refusal, if and when they decide to sell; or,
- giving incentives, such as bonus densities or regulatory trade-offs to owners that do wish to develop their land. Each town should adopt ordinances that will allow for (but not require) the creation of tightly knit development patterns more closely resembling existing patterns of settlement. An example of such an ordinance, and what the results of its implementation might look like is included in this section under "Guiding Land Use." Examples of positive incentives are found under Section IV, "Implementation."



Areas of land that can be seen from places identified by both the planning team and citizens attending public meetings and workshops as having high quality views (darker gray).

Resource Conservation Strategies

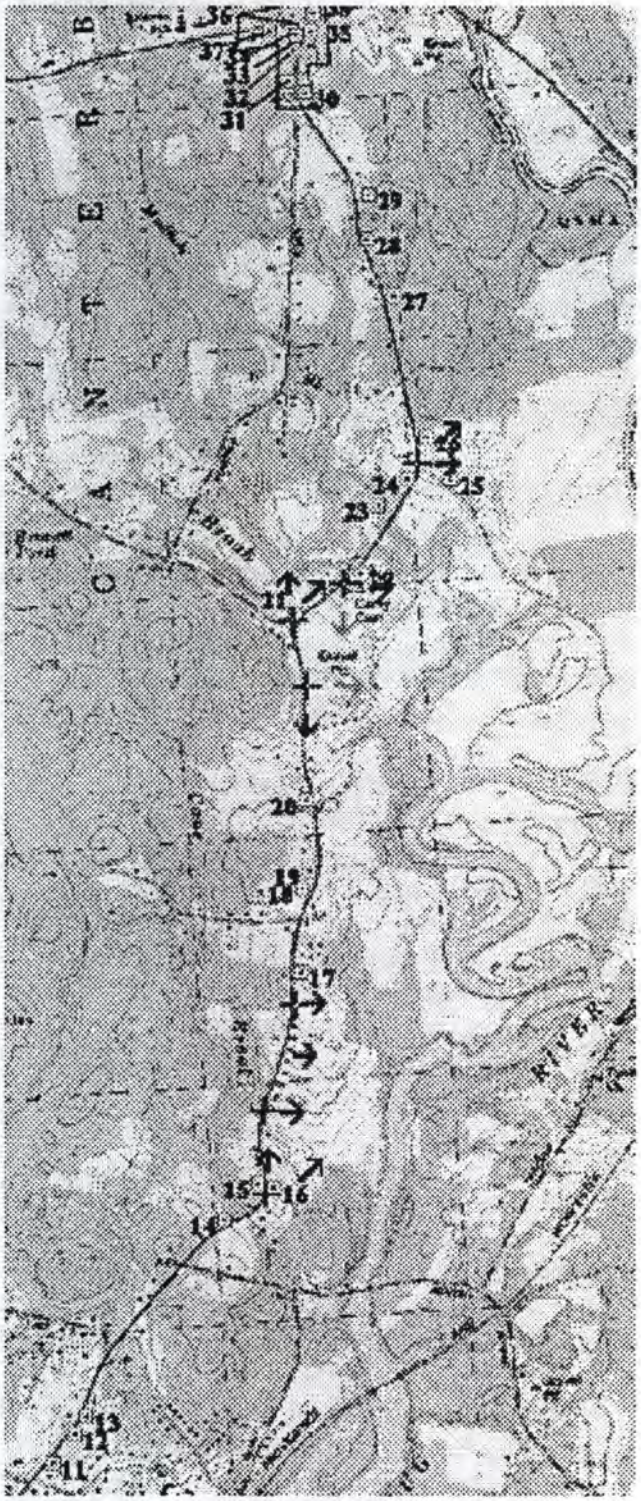
HISTORIC AND CULTURAL FEATURES

The Canterbury Green is an example of one of the many attractive historic and cultural features found along the corridor – features that provide important opportunities for visitors and residents alike to learn more about how the Quiet Corner of Connecticut has developed over time.

Historic and cultural features have been inventoried for the entire length of the corridor through all five towns. Features include National and State Register Districts, structures listed on the National and State Register, structures inventoried on Connecticut's historic survey, and features identified by local historians and recognized as local historic structures and districts.

Conservation of historic structures and their settings currently takes place through the creation of local historic districts and the establishment of preservation ordinances with design review authority in the district. There are a few districts in place as shown on the accompanying map, and at least one more is being considered in Woodstock. Extending the protection of these districts to include more of Route 169 would be one strategy to foster additional protection Other strategies should include:

- granting a local tax abatement for historic structures within the Route 169 Corridor applied only to those properties that undertake preservation measures;
- match conservation-friendly buyers looking to purchase or invest in an historic property or farm, with properties for sale or undergoing renovation.



There are more than 175 identified historic properties and districts along the Route 169 Scenic Byway. Shown here are the sites along Route 169 south of Canterbury (arrows indicate locations of high quality views.)

Resource Conservation Strategies

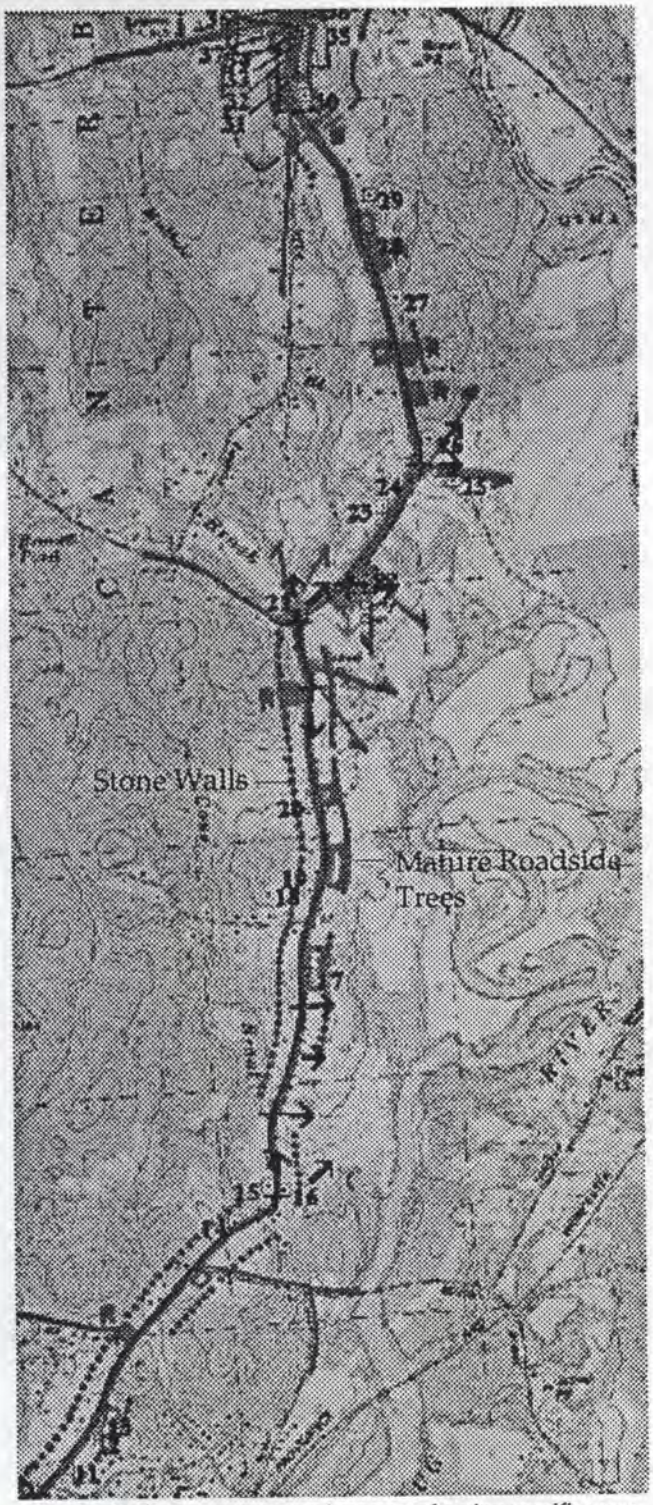
STONE WALLS and SPECIMEN TREES

The geology of the Windham Hills region combined with the persistent efforts of more than 200 years of farm families has created an unique and intimate character along many stretches of Route 169 framed by stone walls and mature trees.

The intimate scale of Route 169, with its stone walls and mature trees, is one of the most important attributes of the Route 169 corridor. Stone walls found along the corridor range from simple rubble walls to those walls that have been carefully restored.

Using Connecticut DOT "photo-logs" (photographs taken every 50 feet for road maintenance purposes), the locations of stone walls on both sides of the road have been identified and mapped. Currently the conservation of these walls is entirely left to the property owner and the Connecticut DOT's care to avoid harming them on road widening or maintenance projects. With the scenic byway designation, the walls appear to be protected. However, further protection might be offered by:

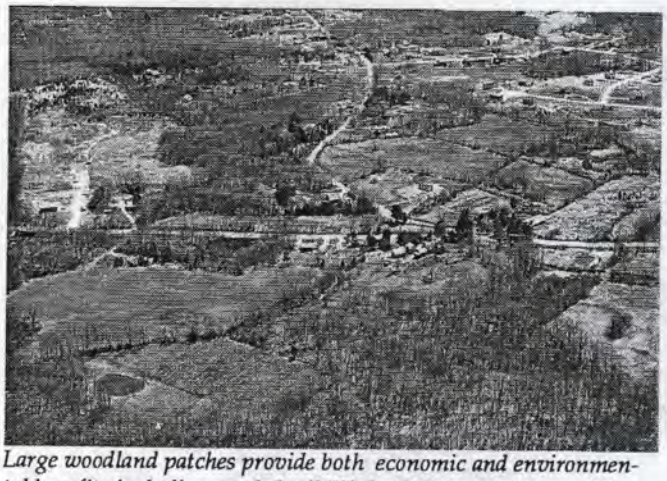
- seeking the establishment of a rural historic landscape district, in those areas not protected by National or State register districts;
- seeking private civic group support for masonry restoration by using funds to hire local masons to perform wall restoration.



Map detail of same area as previous page showing specific areas where there is a high concentration of stone walls (dots) and mature trees (rectangles) The area near the Clark property (#17 on the previous page) should be considered for rural historic landscape district status (see cover photo).

Resource Conservation Strategies

THE WORKING FOREST

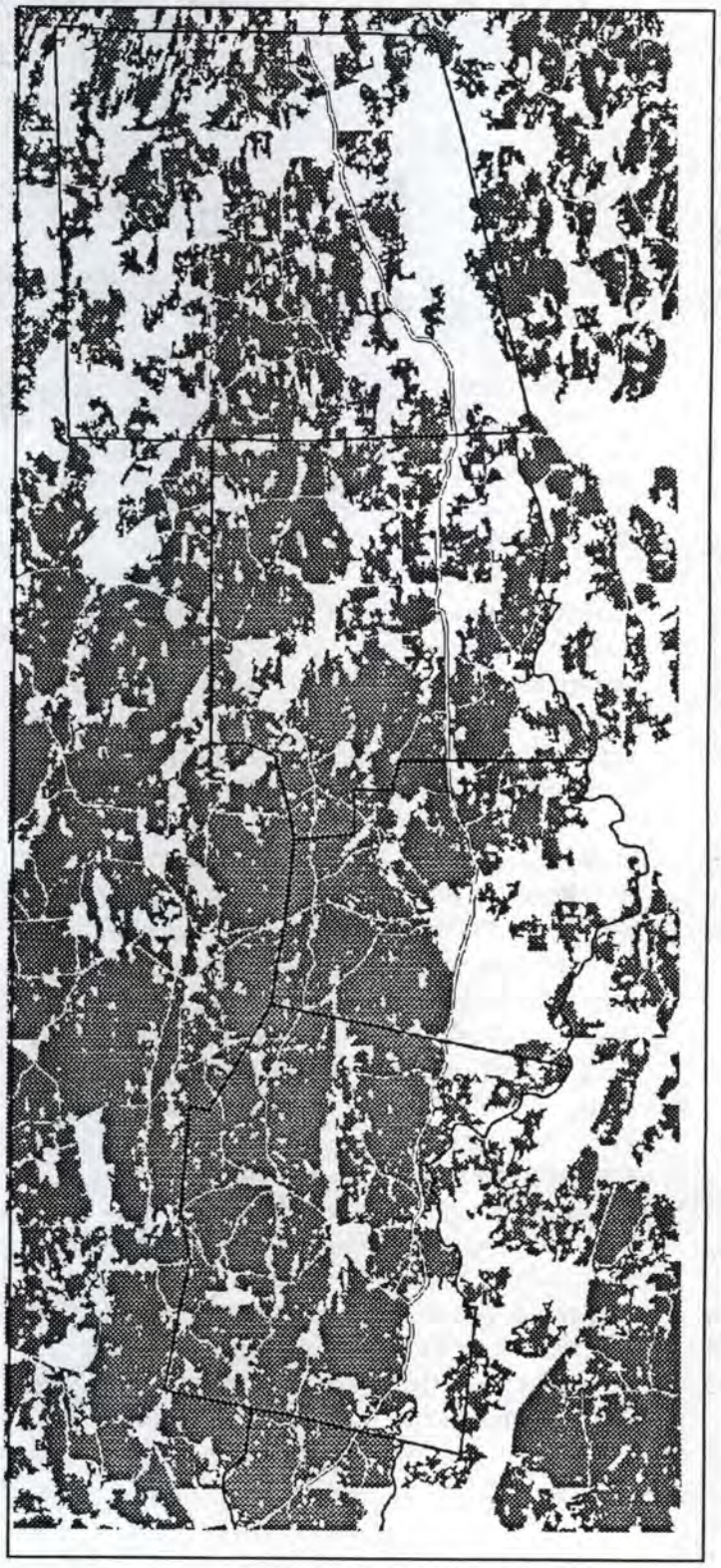


Large woodland patches provide both economic and environmental benefits including needed wildlife habitat for species requiring extensive forest interiors for breeding and nesting.

While much of Route 169 was originally farmland, regional and national economic trends have turned many old farms back into mature woodlands. Many of these private woodlands provide the backbone for Connecticut and southern New England's forest products industry.

In most cases, the twin objectives of forest productivity and retaining a natural appearing woodland setting are easily obtainable through careful forest management planning. It is becoming difficult for landowners to manage their properties in an appropriate manner due to the increasing costs of complying with local and state regulations. A working forest that provides an economic as well as aesthetic return to a landowner is a much preferred corridor use over a subdivision, and every effort should be made to make it easier for property owners to manage their woodlands. This can be accomplished by:

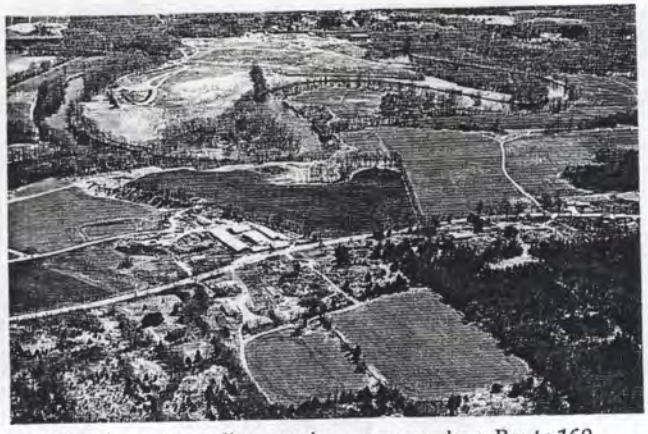
- making forestry an "as of right" use in all zoning districts for properties with an approved Connecticut Landowner Stewardship Management Plan;
- ensure that stewardship plans address how forest practices will respond to visually prominent lands and high quality views from Route 169, including reducing the potential contrast through visual resource management.



Woodland patches greater than 100 acres in size (not taking ownership parcels into account) are the major land cover found throughout the corridor.

Resource Conservation Strategies

THE WORKING FARM

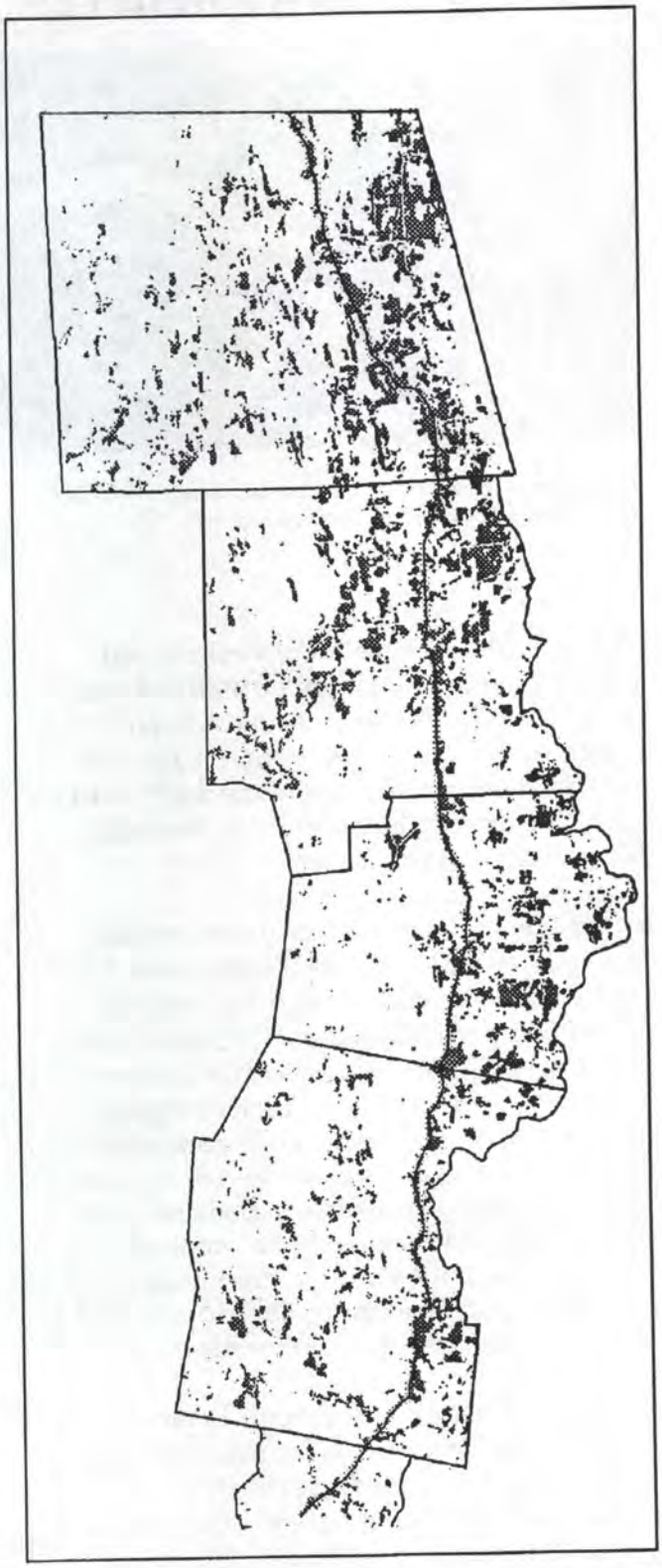


Working farms are a disappearing resource along Route 169

The few farms that remain along Route 169 play a very important role in retaining what is left of the rural character of the area. Although right to farm legislation protects farmers from complaining exurbanite neighbors who want the life-style but not the smells, the economics of agriculture has reduced the number of working farms along Route 169 to just a handful.

Much of the land is leased to fewer and fewer farmers. Estate tax law can have a devastating impact on a farmers ability to keep a farm in the family. The Connecticut Cooperative Extension Service has provided programs on estate planning to help farmers prevent potential problems. Wherever possible, existing farmers along Route 169 should be encouraged by expanding existing tax abatement programs for dairy farms to other types of agricultural (and forestry). As farms come up for sale, there will be a need for creative financing techniques such as:

- forming partnerships between land trusts and farmers without capital. In Roxbury, a land trust and a farming couple split the cost of a farm, and then the land trust exchanged 30% of the farmer's share in exchange for conservation easements;
- allowing (but not requiring) farmers to transfer development from one parcel used for farming to another, not used for farming, in exchange for permanent conservation easements on the agricultural lands (see "Guiding Land Use").



Existing cropland and pasture in the vicinity of Route 169 as interpreted by the University of Connecticut from satellite imagery.

Resource Conservation

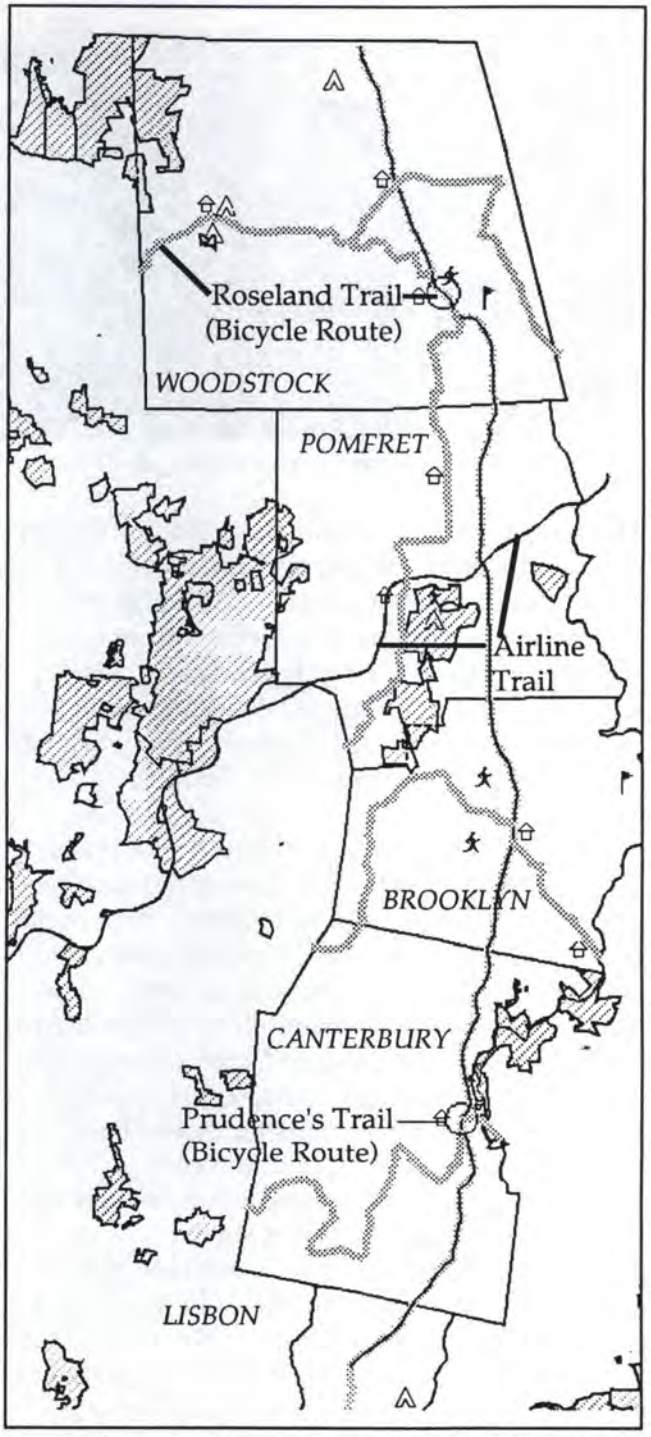
RECREATIONAL ROUTES

The former railroad right-of-way now known as the "Airline Trail" crosses Route 169 at Pomfret Landing

Making it easier to get out of your car and sample the recreational opportunities found along Route 169 is one of the most important aspects of the scenic byway. Scenic byways provide an attractive route to the many outdoor recreation opportunities found in Northeast Connecticut's Quiet Corner.

In addition to the major recreational routes crossing Route 169 such as the proposed Airline Trail, and the bicycle routes being actively promoted by the NECVD as described in Section II. Linkages are also necessary between town parks and schools. In each of the five corridor towns, there is a tremendous amount of pedestrian traffic crossing Route 169 as schools let out and during peak use periods for park areas. These linkages can be accomplished by:

- seeking scenic byway program funding for trail connections and trailheads as part of a comprehensive program for the entire corridor;
- requiring new developments to provide sidewalks inside village core zones(while also preserving roadside trees);
- seeking ISTEA safety grants, and other trail funding such as DuPont's program for greenways administered by the Conservation Fund) to develop and improve these linkages (see Section IV.)



Major recreational features include bicycle routes, state parks and forests (hatched lines), private campgrounds (tent symbol), golf courses (flags) and other trails (hiker symbol).

Resource Conservation

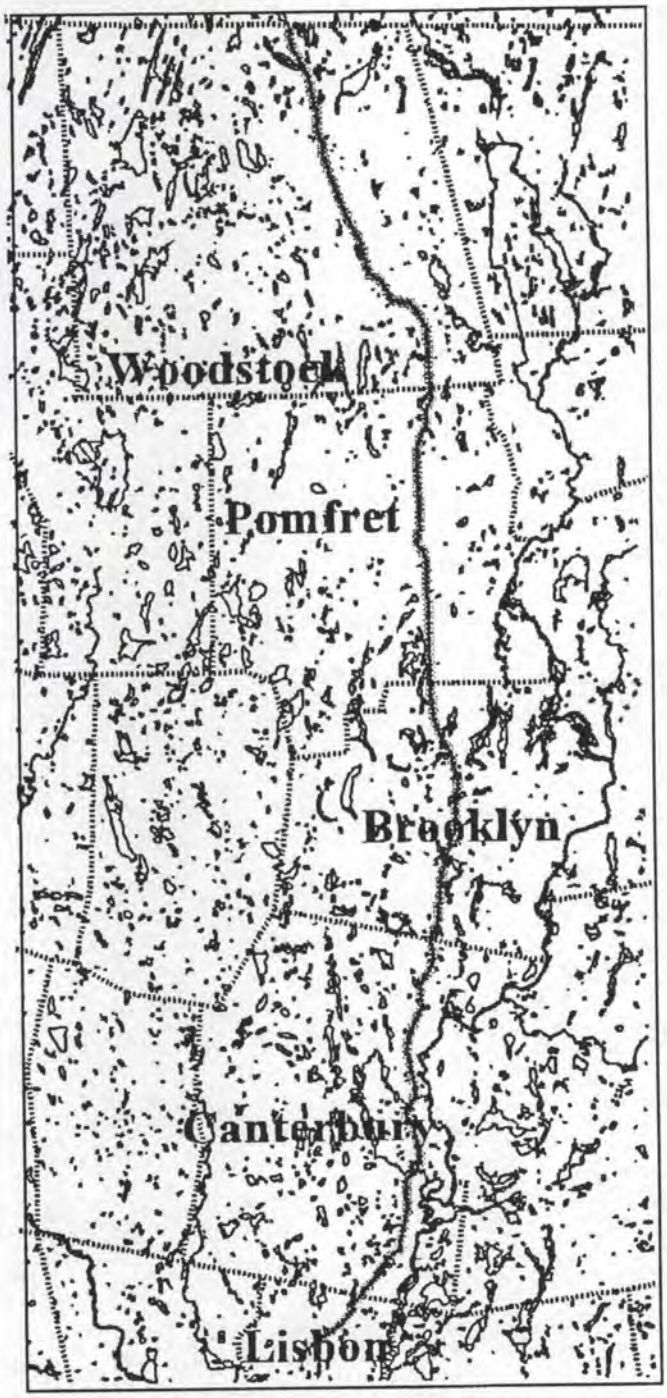
SURFACE WATER AND WETLANDS

Streams, ponds, and wetlands provide both aesthetic and natural resource values for the Route 169 corridor.

Streams and wetlands are protected open space. They will never be developed and therefore serve important functions for preserving scenic values. By preserving the adjoining riparian vegetation in the form of a "greenway," stream corridors can serve to buffer adjoining land uses. More than just visual relationships, greenways serve to permanently connect habitat areas for use by wildlife. Greenways along streams, known has riparian corridors, provide the following benefits:

- *complex vegetative structure that promotes biological diversity;*
- *more numerous and diverse edge habitat;*
- *higher biological productivity;*
- *proximity to water enables wildlife to meet life requisite for water (a critical component of wildlife habitat);*
- *distinct microclimate -- tending to be cooler in summer and warmer in winter;*
- *important filtering function that remove nutrients and other pollutants before they get to the surface water.*

In addition to traditional regulatory methods already in place, there is still a statewide grant program that is available to rehabilitate riparian areas, as well as several private foundations who are interested in promoting wildlife enhancement projects (including the DuPont Greenway Program described on the previous page.



Surface water resources are numerous throughout the study area. Areas where stream corridors cross Route 169 provide excellent opportunities for demonstrating the benefits of greenways.

2. Managing the Roadside Environment

MOWING

If not mown, most of the grassy edges of the highway roadside reverts quickly from grass, to brush and eventually to woody plants. Once the vegetation becomes woody, it is impossible to mow. The result is that the roadside view of attractive stone walls and mature lines of trees looks unkempt, blocks sight lines from driveways, and eventually creates obstructions within the clear zone.

Connecticut DOT's District II maintains a total of 1700 miles of road and right-of-way including Route 169 -- with many different types of conditions.

The Pomfret School has been maintaining the right-of-way to a higher standard than the Connecticut DOT can afford through an adopt a highway type agreement.

Several property owners suggested that they would be willing to clear the brush along the frontage of their property (within the public right-of-way), if there was some assurance that once the brush was cleared, ConnDOT would keep it mown. However, since each DOT maintenance garage has so much territory to cover, it would be difficult for them to commit to mowing any particular area. With 3400 miles to mow in District II, for example, they are lucky to get 20 good weather workdays in a growing season, allowing their three crews to make one pass along all the roads for which they are responsible.

According to the district landscape supervisor the scenic byway gets some priority in terms of such things as access to the only stump removal equipment, but they would be unable to promise an owner that their frontage would be mowed, given the limitations of personnel and equipment. He has, however, offered to assist anyone wanting to 'adopt' the public right-of-way in front of their property using ConnDOT's "adopt-a-ramp" program as a model. This would streamline the process for gaining the necessary permits to both landscape and maintain the right-of-way.

Any civic group or individual can maintain the right-of-way with a permit. The Pomfret School, for example, maintains the right-of-way to higher standards than ConnDOT would be able to accomplish. By adopting the right-of-way, groups or individuals can pick up litter and plant new flowers, shrubs and trees (with ConnDOT review of safety issues). However, one of the limitations has always been the need to obtain permits and get appropriate insurance.

Using ConnDOT's "Adopt-a-Ramp" program as a model, ConnDOT suggests that the Town take out the permit for the group so that insurance requirements can be waived. In addition, ConnDOT may be able to provide access to equipment, such as the chipper at the Pomfret Garage, when it is available and there is someone to operate it.

TREES, UTILITY WIRES, AND HIGHWAY SAFETY

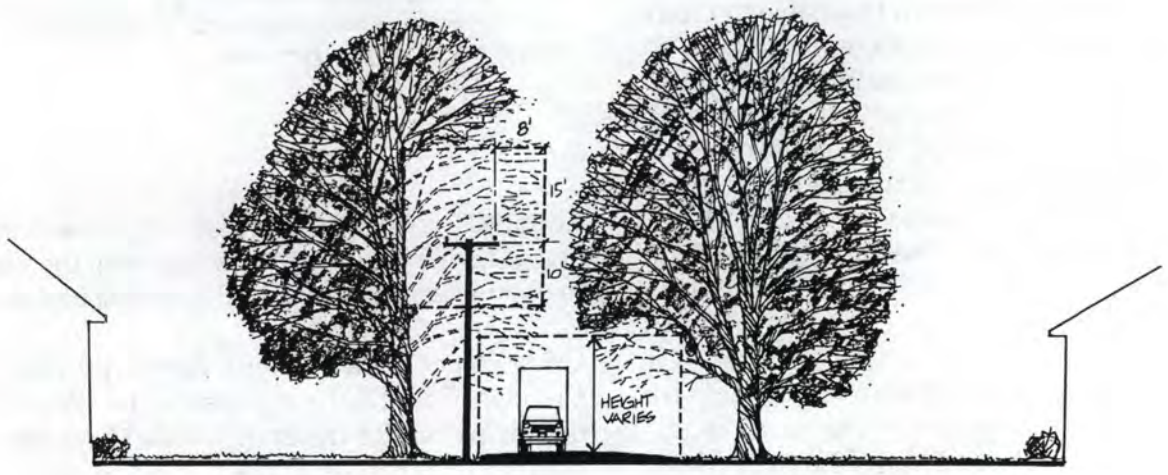
One of the biggest issues raised at the Spring 1995 workshops in Pomfret and also at regional workshops held across the State was the concern for mature specimen trees, especially those within the highway right-of-way. There is a lot of competition for the right-of-way -- between the utility companies wanting to make sure that branches don't fall on the wires, to the DOT wanting to make sure that low lying branches and brush do not scrape cars and trucks or block sight lines.

Northeast Utilities plans tree trimming along their 21,000 miles of distribution lines at least once every four years. They have a vested interest in ensuring proper planting of trees within the vicinity of electric lines. Their standards require clearances of 10 feet below, 8 feet to the side and 15' above any electric lines. Northeast Utilities does not prune trees and shrubs whose mature growth will not grow tall enough to interfere with the distribution lines. In fact, they offer small tree planting grants to plant trees within the right-of-way that will not interfere with the electric lines.

The Connecticut Department of Transportation generally follows AASHTO standards for clear zones along travelways. Typically for a road with a 35 mile per hour design speed, or less, trees should be planted with a minimum of a 10 foot clear zone where there is no curb. Where flexible guardrail is in place, the distance ranges from between 4 and 12 feet depending upon the type of guard rail. With barrier curb, the distance decreases to 6 feet behind the face of the curb. These general guidelines are often modified by such details as sight distances to regulatory signs or driveways and intersecting roads.

Connecticut DOT is also responsible for overhanging limbs over the roadway. Typically trees should have a minimum branching height to provide clearance from trucks.

The figure below shows the result of applying all of these requirements at once -- not leaving much room for planting or at least not much choice for variety.



... and SOME SUGGESTIONS FOR NEW PLANTING

Continual planting along roadsides is necessary to replenish the roadside forest. The roadside environment should not be seen as a static and unchanging landscape, but one that should be managed over time. There are a number of basic design principles for new planting that can assist in re-establishing a mature lines of trees along Route 169:

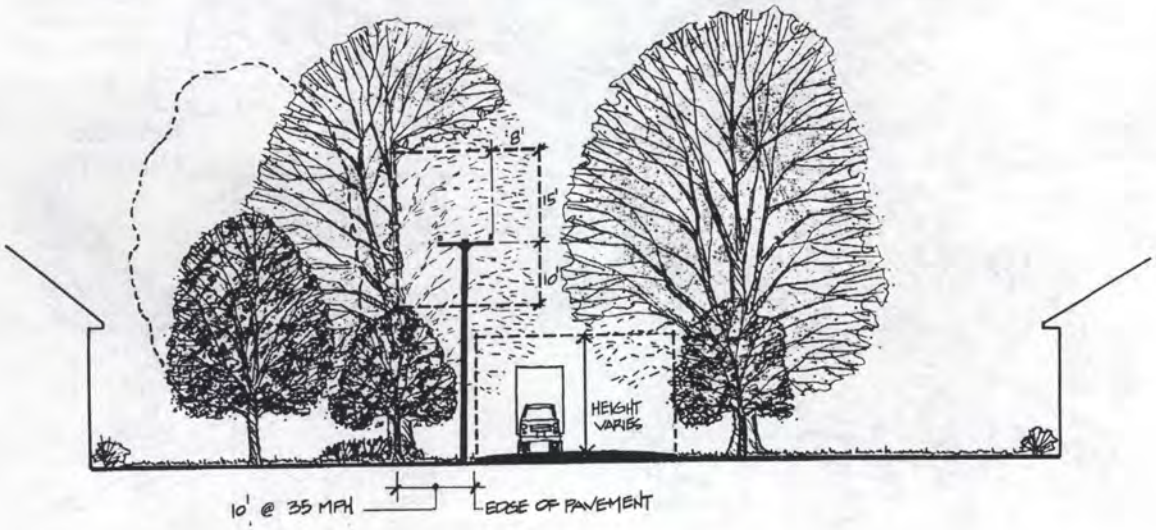
Right Tree/Right Place

Picking the right tree for the right place involves analyzing the growing conditions and identifying the factors that may affect the trees growth and appearance. Growing conditions along highways are often much different than those in yards or in the woods. Roadside trees must be tolerant of salt, poor drainage, soil compaction, dust, and reflected heat. External factors include the presence or absence of overhead utility lines, and underground utilities, sight line requirements for driveways and road intersections, and clear zone requirements for the existing road. In addition to these functional requirements, landscape provides considerable aesthetic benefits such as creating a sense of space, framing views or simply an object of beauty in and of itself

With all of these complications it is fortunate that there are two readily available guides for tree planting that are useful for Northeastern Connecticut. The first is a small pamphlet "Trees and Shrubs for Your Community" written by written by noted tree expert Glenn D. Dryer (reprint available from Northeast Utilities.) The second is called Street Tree Factsheets, (Gerhold, Wandell and Lacasse, eds.), and is available from the Connecticut Department of Environmental Protection Bookstore in Hartford.

Working with Overhead Wires

New planting underneath wires should be selected so that they it does not grow taller than the bottom clearance of that wire. At the same time, their lower minimum branching height should be high enough to avoid blocking the driver's view. They can be combined with low (2-3 foot maximum) shrub planting underneath, and a mature shade tree behind the wires, as shown below. This layering of shrub, small tree and large tree actually mimics the natural vegetative structure of woodland edges.



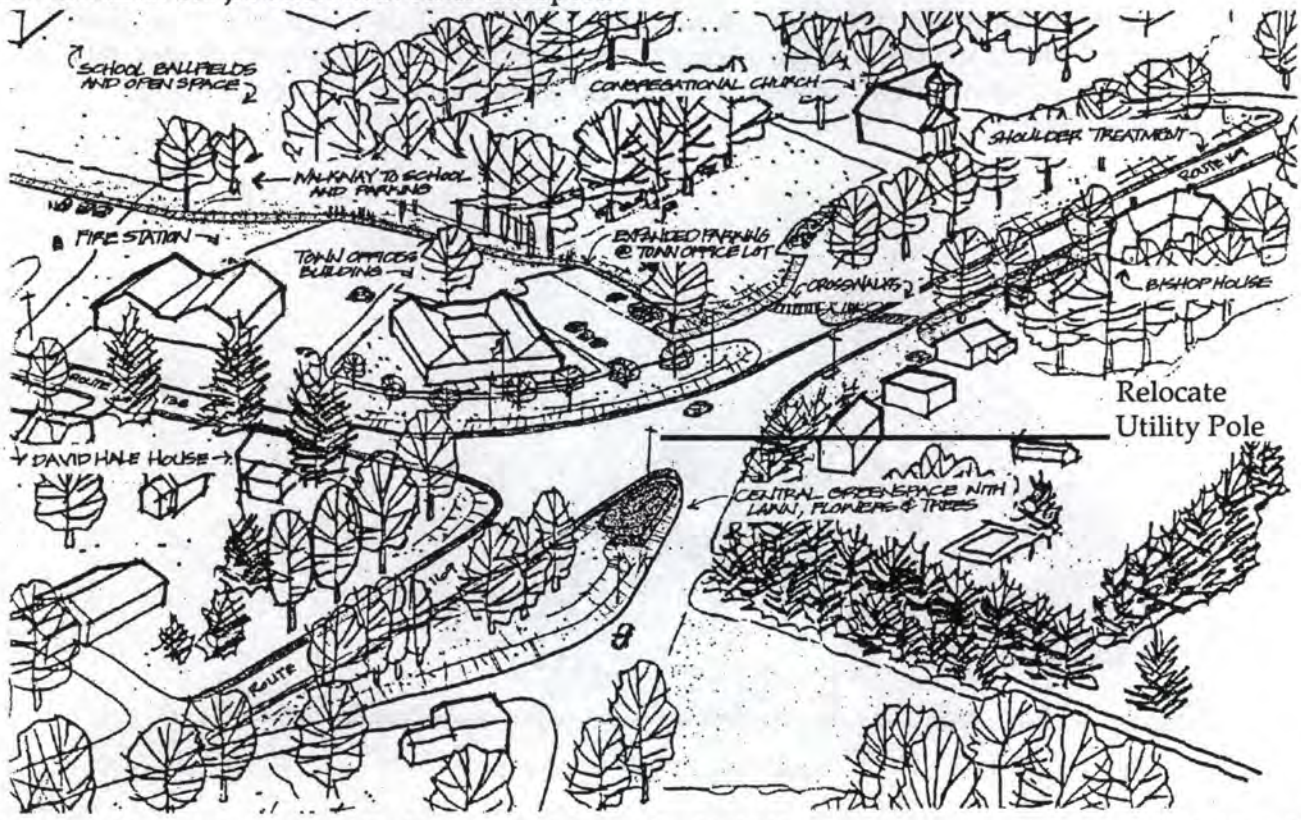
... WHAT ABOUT UNDERGROUNDING UTILITY LINES?

Utility lines have been mentioned throughout the process as conflict with scenic values, especially where there are mature trees or historic structures. Many people have raised the question about undergrounding utility lines. The most significant obstacle to undergrounding utilities is the cost. The Town of Branford recently estimated the cost of undergounding utilities on the green to be in the vicinity of $300,000.

While many people think undergrounding is cost prohibitive, it should still be considered as an alternative, albeit a long range one. Undergrounding should be considered only in those areas where there is a high degree of concern for aesthetics, and where there is no alternative route, such as behind buildings, that is available. Each of the village areas should be considered for undergrounding.

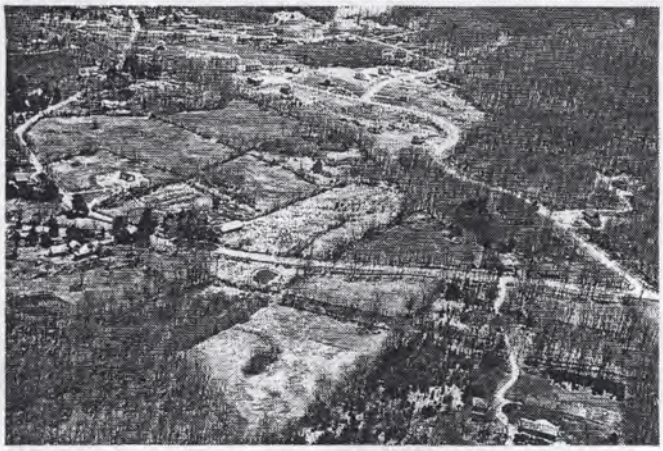
Undergrounding may be more feasible if it is considered in conjunction with other transportation improvements, such as those proposed for "traffic calming on page III-19, and done at the same time. However, ConnDOT policy precludes the use of transportation money for burying utility lines, even in conjunction with a project. This is due to the high cost and the need to utilize limited funds that are available for enhancement projects related to higher priority transportation needs. While the long-term benefit of undergrounding may be significant, there does not appear to be any source of funding available to invest! Two other potential alternatives to undergrounding worthy of consideration are:

- Using alternative methods of utility line construction, such as armless construction or a spacer cable (narrowing the width of tree clearance required);
- relocating utility lines to the rear of property lines (although more difficult because it requires obtaining new right-of-way, with no identifiable source of funding).



Relocation of or undergounding of utility lines should only be considered in highly visible areas like the intersection of Route 138 and 169 in the Village of Newent. The utility pole in the middle of the small open space could be relocated to improve the appearance of the village.

3. Regional Issues



External factors such as growth in employment centers along Interstate 395 may impact the Route 169 Corridor

Background growth in traffic volume has a direct relationship to regional patterns of land use. Travel between home and work, home and school, home and shopping, and home and recreation or leisure is both predictable and controllable if issues such as roadway capacity and level of service are used as a determination in approving large-scale development projects. "Adequate Public Service" ordinances have been used successfully in other states (Montgomery County, Maryland, for example) to ensure that future development does not outpace the ability of the existing and planned public services to support that development.

Each of the five corridor towns should consider the adoption of an "Adequate Public Facilities" ordinance requiring new developments to demonstrate that they will not generate an increase in travel along Route 169 over and above the existing capacity of the road, and thereby triggering the need for road capacity improvements. While Route 169 appears to have enough capacity for the next ten years, the corridor sits at the edge of a growing area to the South. The growth and development of Foxwoods is a good example. Foxwoods is the largest employer of the Town of Lisbon's residents. As Foxwoods continues to grow, the impact may be felt further and further to the North, without any of the indirect economic benefit to each Town.

ConnDOT's Scenic Road Committee also reviews non-transportation development projects along a designated scenic road when there is a major traffic generator proposed (over 200 parking spaces). The Committee can indicate to the Town in which the project is located that the construction of a proposed major traffic generator will result in de-designation of the scenic road (or portions of the scenic road). It should be noted that as of the writing of this report, this has yet to happen.

Development outside of the corridor that impacts the corridor should be addressed in the Northeast Connecticut Council of Governments Regional Plan of Conservation and Development. While advisory only, the plan should raise the issues of the potential impacts of development across Town boundaries.

Other regional strategies to consider are:

- Monitoring the functional classification and defining the purpose of the three parallel north-south roads -- most of Route 169 is a rural major collector (except where crossed by and parallel to Route 44); most of Route 12 (West of 395) is a Minor Arterial, and Interstate 395 is a limited access highway. Land use decisions should reinforce these classifications by encouraging more intensive land uses (industrial, commercial, and higher density housing) to locate along Route 12 and at the I-395 interchanges.
- Monitoring the functional classification and purpose of the major east-west routes is also crucial to retaining the character of the corridor (see section on "Traffic Calming" that follows).

The state legislation authorizing the designation of scenic roads requires that the character of scenic roads be preserved. The DOT's "Scenic Road Committee" shall evaluate *whether improvements will have a significant effect upon or alter the specific features or characteristics that qualified it to be designated scenic.* Too often they do not see these projects until it is too late in the design process for constructive change. The Scenic Road Committee should review projects at the earliest stage of project development.

4. Road & Right-of-Way Design Strategies

Some roads, like interstate highways, are built to serve large volumes of high speed, through traffic as safely and efficiently as possible. Other roads like Route 169 serve to link people with homes, jobs, recreation and leisure, commerce, and the many institutions that support our culture. Route 169 is particularly significant in its relationship to recreation and leisure travel -- attracting visitors to the state who see the act of "getting there" as important as "being there." The characteristics of the road itself are just as important as the rural character of the place where the visitors are headed.

In planning for any safety improvements within a scenic road corridor, it is important that a cooperative working arrangement be established whereby all of the interested points of view are included from conception to implementation. With all parties involved the following process should be undertaken (see Section IV, Implementation, under "The Roie of ConnDOT" for recommendations on an appropriate public design process for scenic roads in Connecticut).

Step 1: Set the Stage for Flexibility

The first step for addressing highway safety improvements along a scenic road must be to establish a set of goals for the project that fairly represent all the aspirations of the various participants. The project description should enumerate the full set of design constraints, which can form the basis for any future design exceptions or waivers that may be required.

Step 2: Select Relevant Guidelines

As discussed in Section II, most work on scenic roads will fall into the category of maintenance or rehabilitation -- usually referred to as 3R (Resurfacing, Restoration, and Rehabilitation). The AASHTO "Green Book," the standard reference for design guidance on highways, "is not intended as a policy for resurfacing, restoration, or rehabilitation (3R) projects" according to its own forward. Instead, the forward refers to Transportation Research Board Special Report 214, "Designing Safer Roads: Practices for Resurfacing, Restoration, and Rehabilitation" and related publications for guidance, with Reference to NCHRP Report 362, "Roadway Widths for Low Volume Roads." These reports describe procedures for 3R projects; and the relationship between safety, cost, tort liability and geometric design. According to ConnDOT few areas along Route 169 would qualify as a low volume road (2000 ADT or less.) ConnDOT indicates that they have been "using reduced standards on most projects to minimize roadside impacts for a significant time." Therefore it is incumbant on both the residents of the corridor, and on ConnDOT to maintain clear lines of communication as to the degree of impact that is acceptable for any particular project. ConnDOT has yet to approve specific guidelines for use along scenic roads, which would serve to assist residents in understanding what kinds of "reductions in standards" would be acceptable to preserve scenic values. Until such guidelines are published, each action will need to be evaluated on a case by case basis.

Step 3: Utilize Design Strategies That Improve Safety While Preserving Scenic Quality

The intent of the guidance of TRB Special Report 214 is to begin with the existing conditions and performance of the road, rather than to design by attempting to meet the numerical design guidelines of the AASHTO green book. ConnDOT indicates that they address the impacts of highway upgrades on scenic roads by using the "careful fit" approach and they seek to ensure that the proposed cross section of a highway improvement "will not look substantially different from the match of the project limits." The following pages outline some techniques that expand upon the careful fit approach to include approaches that address the psychology of driver behavior -- referred to as "traffic calming techniques." These techniques have not been approved by ConnDOT for use on scenic roads, but should be considered when more information is available on their applicability in Connecticut. (An application for a Scenic Byway Program Grant has been submitted to FHWA for this purpose.)

Road and Right-of-Way Design Strategies

TRAFFIC CALMING TECHNIQUES

One of the biggest issues affecting the quality of life and the visitor experience along Route 169 is the issue of traffic speed through villages and crossroads. Consideration of the behavior of drivers and the visual clues that are given by roadway and roadside details can provide guidance to more sensitive design approaches for slowing drivers down.

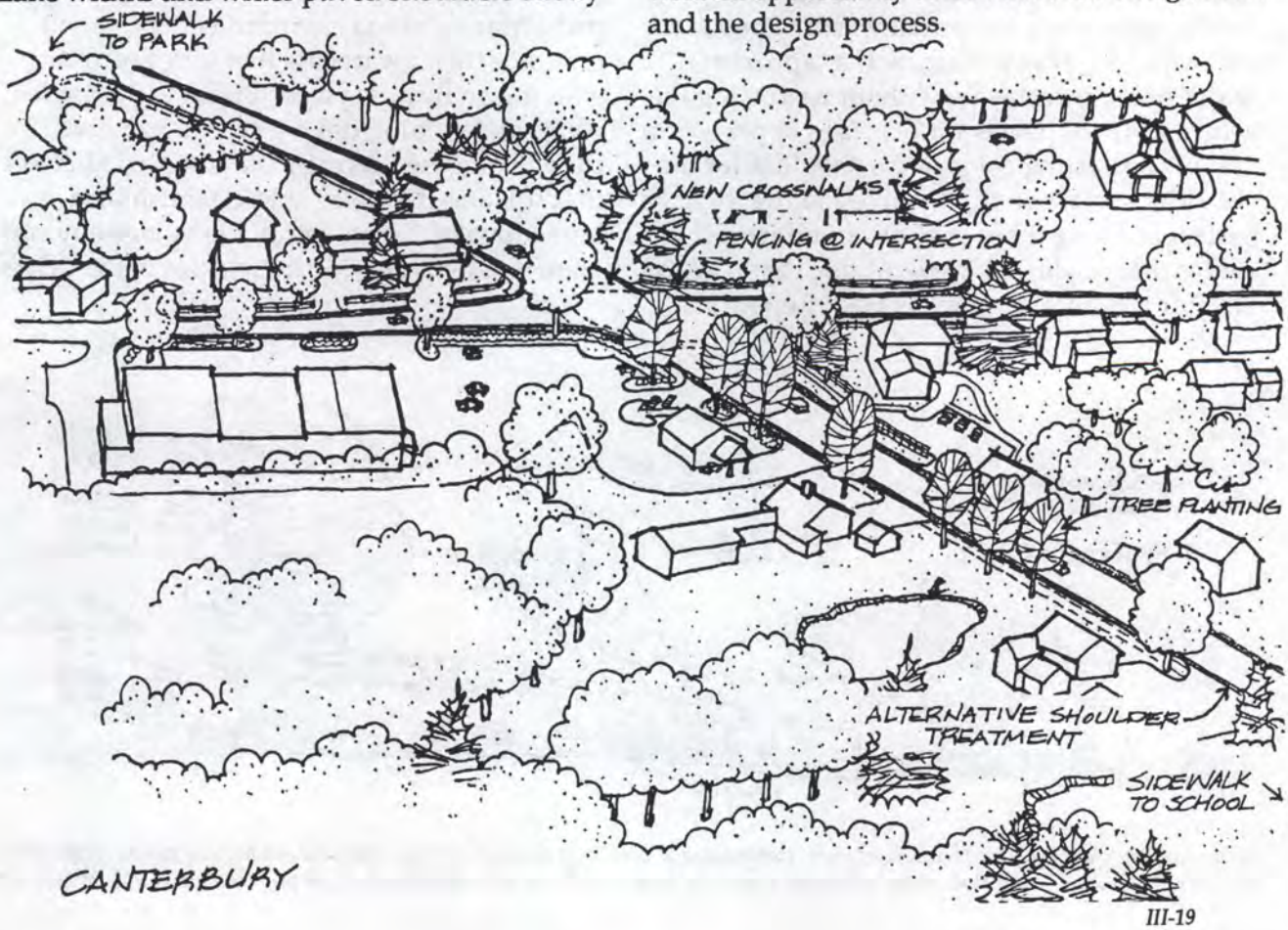
Intersections that have historically been a crossroads of activity should be marked by a pause in the operating character of the road. This sense of identity can reinforce the historic fabric (churches and old houses) and the contemporary utility (shopping and places to eat) of such crossroads. Highway design details can actually be chosen and installed to heighten the awareness and functionality of these spaces.

Presently there is little differentiation of these special places along Route 169. The signage and roadside treatment is ordinary and disorganized. Lane widths and wider paved shoulders subtly encourage the driver to speed on through.

The sketch of the Route 14 and 169 intersection (below) shows how the use of some of the following techniques can help to invite drivers to slow down, giving them clues well ahead of the intersection that they are entering an historic, pedestrian-oriented village:

- use alternative shoulder treatments to clearly define the travelway as separate from the shoulder;
- use new planting and landscape features to increase the "visual friction" perceived by the driver;
- use entry signs, entry planting and continuous fencing to enhance village identification.

The application of these techniques to Route 169's historic villages and crossroads must be tested on a case by case basis. Should funding be received from FHWA for such testing, it will provide both the corridor towns, and ConnDOT with an opportunity to test both the design ideas and the design process.



Road and Right-of-Way Design Strategies

INCREASING VISUAL FRICTION

Driver behavior will be improved by a consistent set of highway geometry and roadside details. Where the goal is to lower driving speeds in order to reduce the speed differential between users, a useful technique is to increase the "visual friction" between the driver and the landscape making the driver feel the need to slow down. Since there are two parallel routes to Route 169 that serve commercial and through travelers, the following techniques should be employed along Route 169 and its major highway intersections encourage more appropriate driver behavior Scenic Route 169:

Travel Lanes and Shoulder Treatment

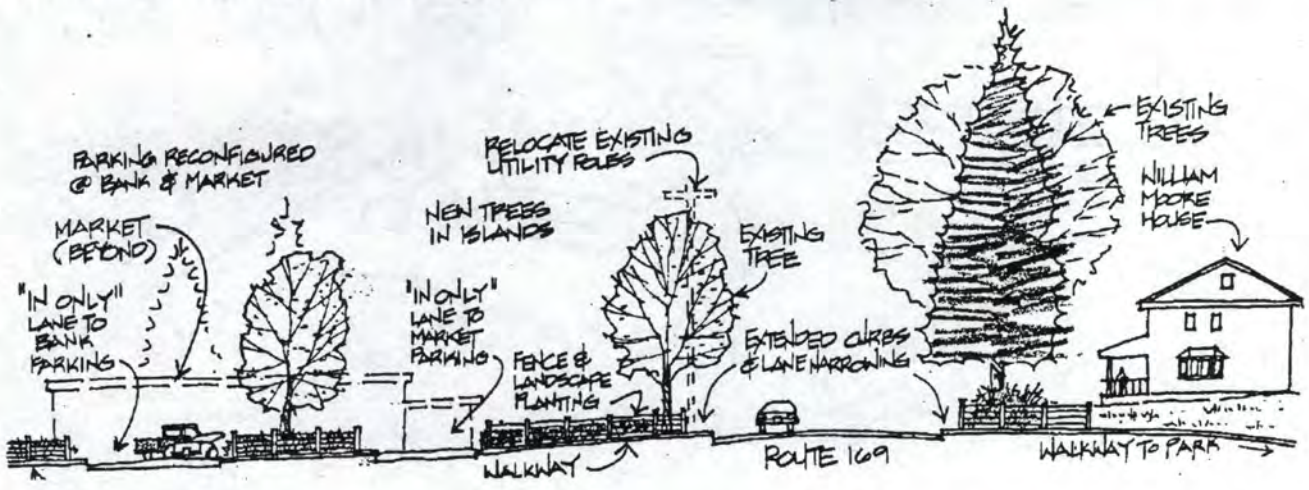
Most of Route 169 has 2 foot shoulders and 12 foot lane widths. Several of the routes crossing 169 (notably Routes 44, 101, and 14) have 6 foot shoulders. If the goal is to slow traffic down as they come to intersections, then alternative shoulder treatments should be considered to reduce the apparent width of the travelway (without reducing the actual width of paved surface). One way to narrow the "apparent" width of the travel way, without narrowing the actual width of paved surface, is to apply a chip seal of contrasting color to the shoulder (or the shoulder surface could be milled to roughen the surface). Along those portions of intersecting routes that qualify as "low-volume roads" (2000 ADT or less according to NCHRP Report 362) lanes could be re-striped to narrow the actual width of the travelway approaching the intersection to the extent that existing conditions allow, and in combination with the use of alternative shoulder treatments.

Landscape Elements

In addition to defining and/or narrowing the perceived width of the travelway, landscape elements should be introduced to increase the visual friction between the driver and landscape. Trees spaced closer and closer together as drivers approach the intersection will have the added effect of making the driver feel that they are going faster as the trees pass them by more quickly, thus making them feel the need to slow down.

Identifying Entrances

A high priority should be given to improving the entrances to each village. Drivers will benefit from knowing that they are entering a pedestrian-oriented environment and it will reinforce their awareness that they are also entering an historic place. Building new sidewalks and curbing (taking care to preserve mature trees by leaving a planting strip between the curb and the walk), and establishing a higher quality finish within the village environment will help provide these clues to the driver.



Alternative shoulder treatments, extended curb, sidewalks, and landscape elements such as trees and rail fencing can be combined to give drivers more clues that they are in a pedestrian oriented environment. These improvements are proposed for Routes 14 and 169

Road and Right-of-Way Design Strategies

DESIGN ELEMENTS FOR ROUTE 169

In addition to the traffic calming techniques for villages and other developed areas described on the previous pages, there are other techniques and design elements that should be used for 3R work and improving visitor enjoyment and safety along Route 169:

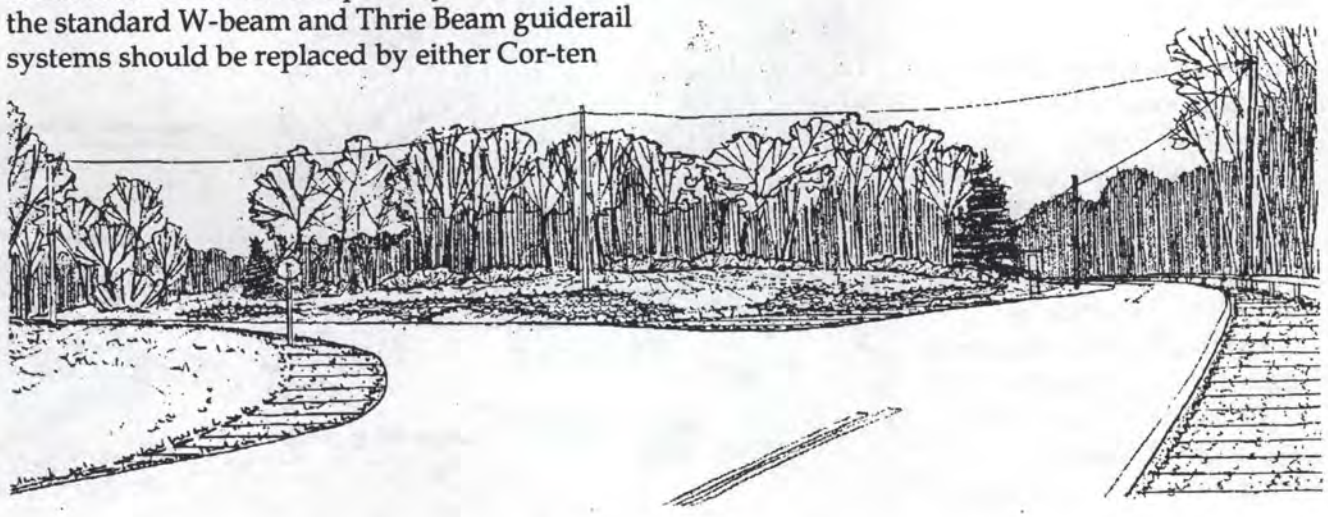
Slope Treatment

In those places where better sight lines are necessary, such as at the intersection of Route 44 and 169, some slopes may need to be "laid back" or regraded. On an uphill cut, "soil-bioengineering" should be used to hold the bank. Specially adapted types of vegetation are planted to stabilize the slope, eventually allowing the return of mature vegetation to a forested condition. The shape of these slopes is also critical. Where possible, they should be regraded to mimic the shape of the adjoining slopes. In some cases bio-engineering may take more room than the use of 'crib' or other forms of retaining walls. Variable shaping of uphill slopes is another technique to minimize the impact of improving sight distances. It also takes more room than a standard 2:1 slope.

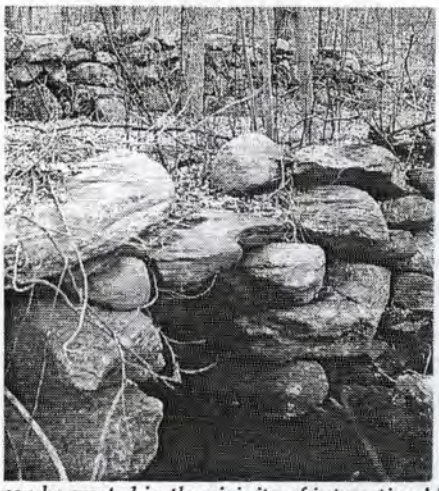
Bridges and Guiderails

Structures found along scenic byways have a visual effect that can add up considerably. Wherever possible, the 3 strand cable is preferred because of its transparency. Over time, the standard W-beam and Thrie Beam guiderail systems should be replaced by either Cor-ten "rusting" steel (having much less contrast than standard galvanized steel) or if approved by the state, the steel-backed wood guiderail used by the National Park Service. It is worth noting that at informational meetings on the Merritt Parkway various types of guiderail systems were shown. A number of people did not like the appearance of the Cor-ten "rusting" steel. For Route 169, the steel-backed wood guiderail should be the preferred guardrail system and used consistently throughout the corridor.

On scenic roads, open bridge rails are preferred to solid concrete. There are several horizontal tube bridge railings that are relatively transparent, have been tested and meet all FHWA requirements. Historic bridge rails of visual merit can be retained through the istallation of steel box-beam systems on the traffic side of the historic rails to be retained.



The sloped bank adjoining the intersection of Routes 44 and 169 could be regraded by removing the vertical curve and laying back the slope to provide better visibility of on-coming traffic



Pull-offs can be created in the vicinity of interesting historic features such as this old stone culvert along the former highway right-of-way in Lisbon, just north of Newent.

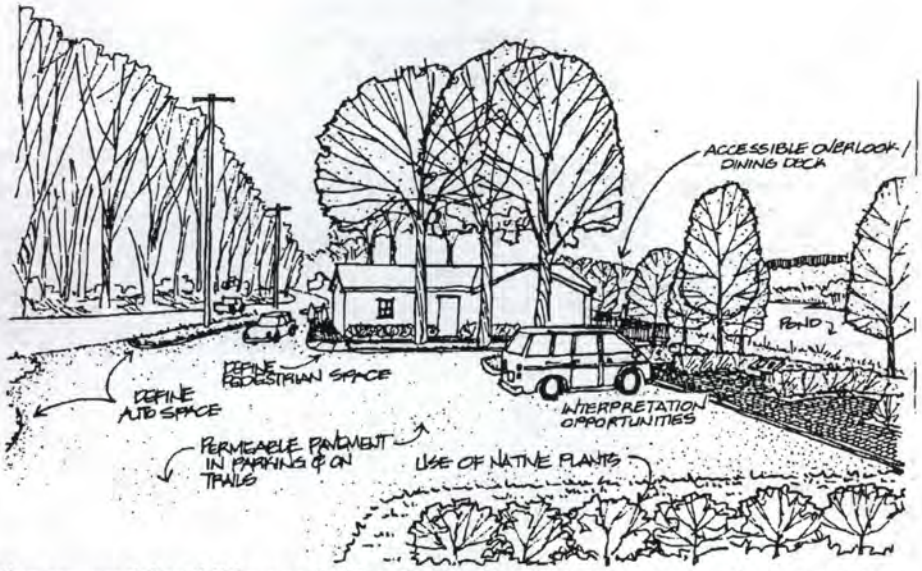
Pull-offs

There are a number of places along Route 169 where people pull off onto a shoulder or grassy strip along the road to appreciate the view. Without appropriate places to slow down, or enough room to accelerate from the shoulder this creates a potential conflict between the regular users of Route 169. The difficulty along Route 169 is that there are few if any places to construct even a small pull-off for visitors to safely stop and appreciate a panoramic view without impacting the mature trees and stone walls, or the existing character of the road.

However, there are several places especially in Woodstock (with its more panoramic views) where pull-offs could be created in tandem with existing businesses. The store at Joy Road and Route 169, and the Christmas Barn are two such opportunities. The drawing at the right illustrates how this could be done at the Joy Road store as a cooperative effort between an entity such as the Northeast Connecticut Visitors District and the store's owner. The store already provides a place to sit and have an ice cream cone overlooking the pond. The drawing shows how this facility might be improved to include interpretive and/or educational information about the area, and allow for safe access to and from the store (assuming it would bring in more traffic -- a benefit for the store.) Improvements would be implemented as a public/private partnership, with the owner providing the land, and economic development funds used to improve the access/egress. These same techniques could be used for the Christmas Barn, which has an attractive view overlooking the farm and valley to the east below.

Another opportunity for providing places to stop and view the scenery is along old remnant right-of-ways (places where Route 169 has been realigned leaving the old right-of-way in public ownership.) There are two old highway alignments that are in the vicinity of historic features of potential interest to visitors:

- the Woodstock Library, just north of Route 197 (at English Neighborhood Brook Road);
- just north of the Village of Newent in Lisbon, where there is an old stone culvert from the original road.



Enhancements to outdoor facilities at existing commercial establishments "with a view" such as Joy's Store can provide opportunities for visitors to sample the scenery, and local businesses.

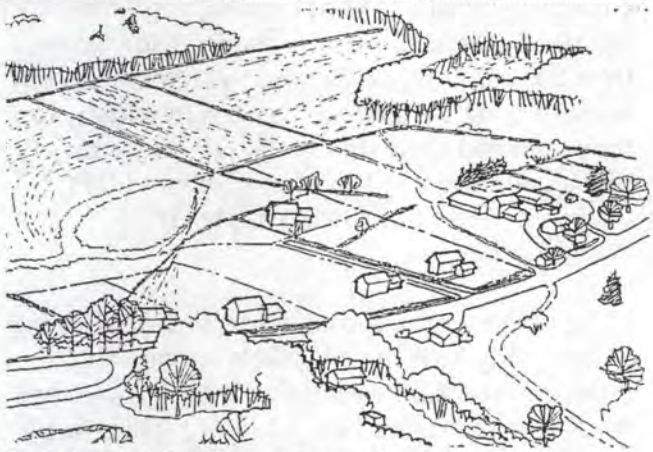
5. Guiding Land Use

While the Department of Transportation is primarily responsible for the road and right-of-way, the 'scenery' is owned by more than 800 different property owners along the way. Land use is a local issue under town control. For the effective long-term future of a scenic corridor, a conscious collaboration is needed -- and everyone who 'owns' Route 169 must be part of it.

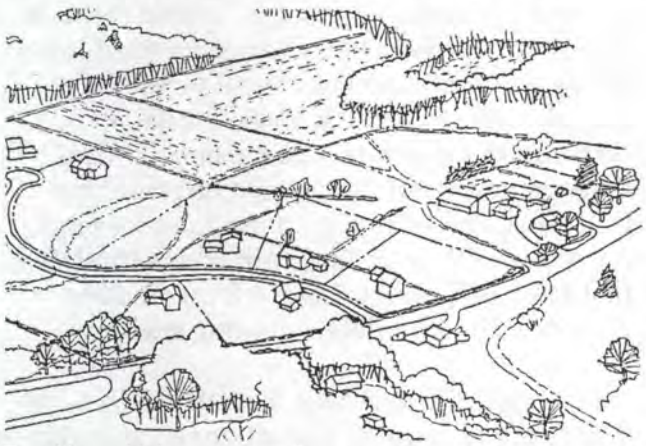
One of the most significant impacts on the scenic values of Route 169 is caused by the gradual accumulation of change. Much of this change can have a positive effect on both economic development and scenic values, if individual property owners and developers agree to a few simple guiding principles for land use and development. It also requires some give and take from both the property owner and the planning and zoning commission. The following scenarios describes how this give and take might work on a hypothetical proposal for developing one of the corridors farms in a more creative manner, guiding the use of commercial lot frontages, and guiding development of industrially zoned properties.

RESIDENTIAL LAND USE

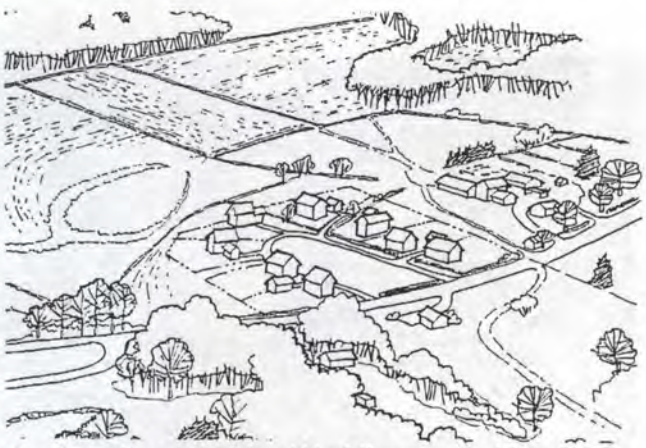
The first scenario shows how the common practice of subdividing part of a farm to produce needed income -- an important need for many landowners along Route 169 -- can be achieved by placing houses in tighter groupings around a common open space, rather than strung out along the highway. This would require the use of a commonly owned "soil absorption system" which could be sited on the most appropriate soils rather than using larger lot sizes to mitigate the impact of marginal soils on septic drainage -- in effect designing with nature as an ally, rather than as a constraint. This system would be owned and operated by a homeowners association. If the homeowners association fails to properly maintain the system, it should be treated the same way that a person is treated who fails to properly maintain an individual system.



Traditional subdivision practices are often guided by how many lots can be divided along existing roads. In this case five lots were created, leaving a small portion of the farm for hayland.



To achieve a higher return on investment, some owners forego agriculture altogether and build a new road to increase the amount of usable frontage, in this case to 8 lots.

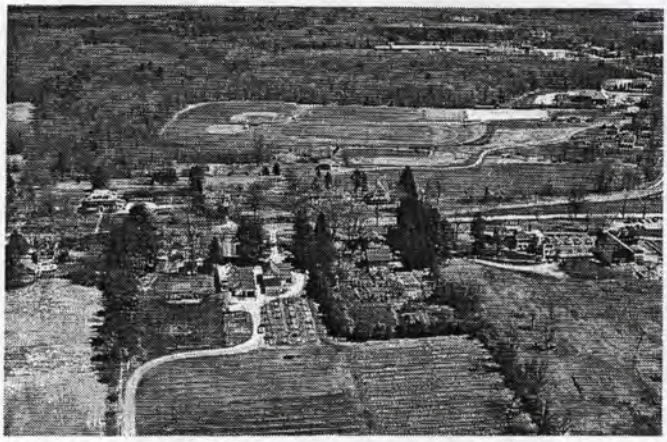


An alternative approach would be follow more traditional patterns of land use such as encouraging the placement of houses closer together to retain farmland and orienting houses around a common open space.

Grouping buildings is not a new technique. It has been practiced in New England for more than 200 years. New England's farmers did not want to walk very far to the barn in winter, so they grouped their structures very close together, as shown in the photo below of this adaptive re-use of a farm complex in Woodstock.

More importantly, the economics of developing more tightly knit rural hamlets suggest that owners could achieve similar incomes with less investment and risk (see side-bar.) This simplified pro-forma illustrates that towns could encourage this form of development of roadside residential strip development by giving enough of a density bonus to offset the added cost of a small private road. In exchange for the density bonus, a conservation easement would be placed on the remaining land (see Section IV, "What is a Conservation Easement.") In this manner, more farmland could be preserved (retaining agricultural land use rates for tax purposes). The simplified pro-forma illustrates that the break-even price of a lot would also provide more affordable building sites.

If designed appropriately, a small grouping of homes can be attractive to active retirees with spendable incomes who want to live in the country with a few neighbors, but don't want as much land to maintain.

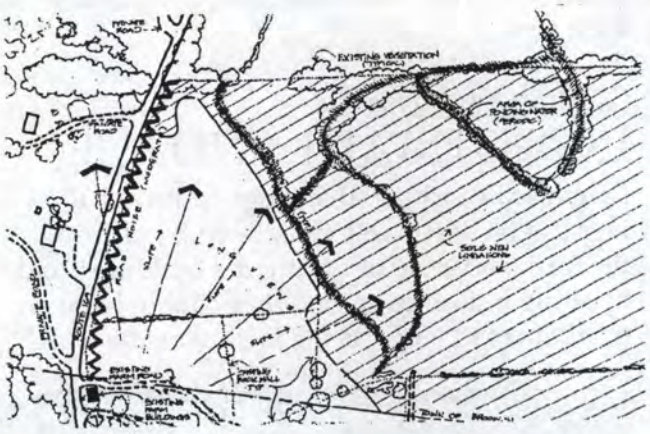


Traditional groupings of structures can already be found throughout the region, such as these next to the Woodstock Inn.

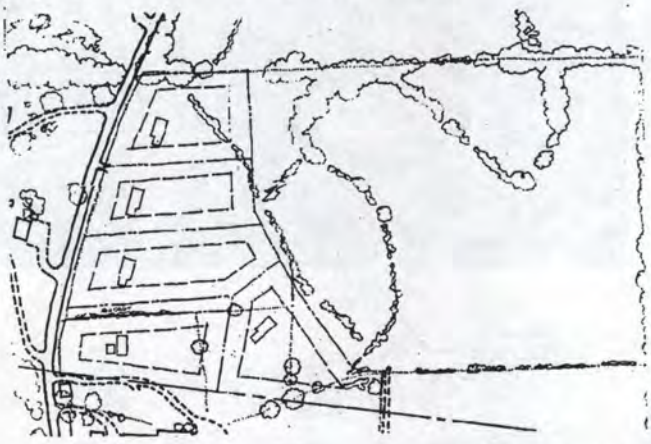
A SIMPLE PRO-FORMA COMPARISON

The following table compares the economic performance of standard development practices versus grouping homes around common open space on less land. Utilizing common assumptions about raw land cost, the cost of a private road, soft costs and the market value of a standard development lot, a determination was made as to what the minimum or sales price of an 'Option B' lot would need to be to yield similar revenue as a standard development lot. The static pro forma contained in this table is based on many development assumptions, including the assumption that the cost of common drainfields would be the same cost as an individual system on a per house basis. The table should only be used to compare performance of the two types of development patterns, and not considered as establishing financial values of real property.

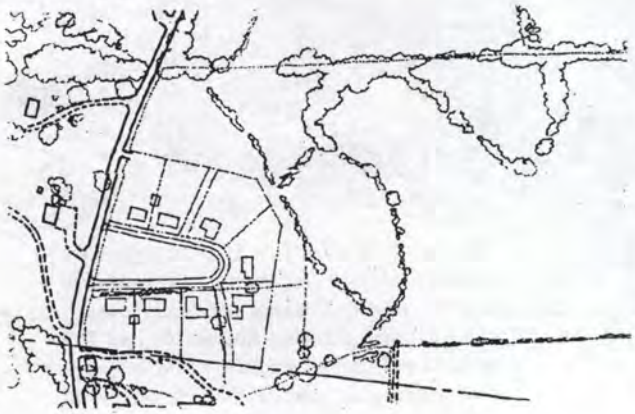
	Option A (standard)		Option B (clustered)	
Hard Costs				
Raw Land Cost (@10,000/ acre)	$90,000	(9 acres)	$57,000	(5.7 acres)
Private Drive (assume $45/lf)	$15,750	(350 feet)	$31,500	(700 feet)
Total Hard Costs	$105,750		$88,500	
Soft Costs				
Surveying & Eng. (@15% hard costs)	$15,863		$13,275	
Administrative Costs (@6% of hard costs)	$6,345		$5,310	
Financing (@11% Hard Costs)	$11,633		$9,735	
Total Soft Costs	$33,840		$28,320	
Total Development Costs	$139,590		$116,820	
Revenue Potential				
Average Lot Size	1.75 acres		.6 acres*	w/common open space
Average Price	$30,000	Assumed Market	$15,904	minimum req'd.
Number of Lots	5		8	
Total Revenue Potential	$150,000		$127,230	
Revenue Less Cost	$10,410		$10,410	
Residual Land Value/acre	$1,157		$1,826	



An analysis of the existing conditions identifies suitable soils for septic tank drainfields, and existing features found along the property that should be considered in the design



The standard development pattern upon which the 'Option A' simplified pro forma is based.



The alternative development pattern upon which the Option 'B' simplified pro forma is based.

CONNECTICUT EXAMPLES OF CREATIVELY DESIGNED RESIDENTIAL DEVELOPMENT TO CONSERVE OPEN SPACE

There are two excellent examples of projects in Connecticut that have been recognized for residential design that can be built in harmony with the environment. These cases are documented with site plans and photographs in the book Rural by Design, by Randall Arendt. More information can be found by contacting the developer or the town.

Strathmore Farms

In Madison, Connecticut, 25 single family homes were built on a 29 acre parcel. Homes are built closer together, yet all retain views of either a preserved 6 acre meadow, or the Hammonassett River. The following techniques were utilized:

- Narrow (18 foot) streets;
- commonly owned land (condominium structure);
- individual septic systems maintained by the homeowners association.

The developer was Robert Dowler, of Madison.

Long Hill Farm

In Guildford, Connecticut, 55 single family homes were built on 50 acres. Homes were specifically sited to take advantage of its setting, with all oriented twoards permanently preserved open space. Trees were carefully preserved and the road was built to follow the lay of the land. The following techniques were used:

- Narrow(18 foot) streets;
- Houses sited and trees perserved to maximize privacy;
- Common septic drainfields were built on the best soils (with reserve areas for future needs);
- Additional multi-family homes built in structures designed to be sympathetic with the vernacular building forms found in the area.

The developer wasLauren Meyers, Jr., AIA

Guiding Land Use

HIGHWAY COMMERCIAL

The developers of commercial properties typically build low scale structures set back from the road, but with visible, parking in front and a large sign. Rather than constructing a sign to let someone know there is a business there, why not pull the entire building up to the front of the lot where they used to be built in earlier times.

By siting the building at the front of the yard (using a "build-to" line rather than a "setback" line) several goals can be accomplished at once:

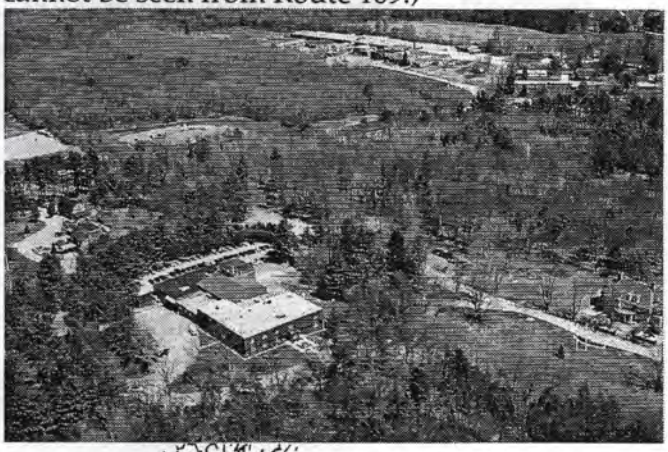
- a two-story building serves to frame the space at the intersection creating more of an architectural identity, rather than a highway identity, consistent with older stores and village uses;
- parking can be sensitively integrated at the rear of the lot so that it is not visible from the road;
- cars enter a place rather than an intersection by combining the build-to line with new lines of trees framing the open space.

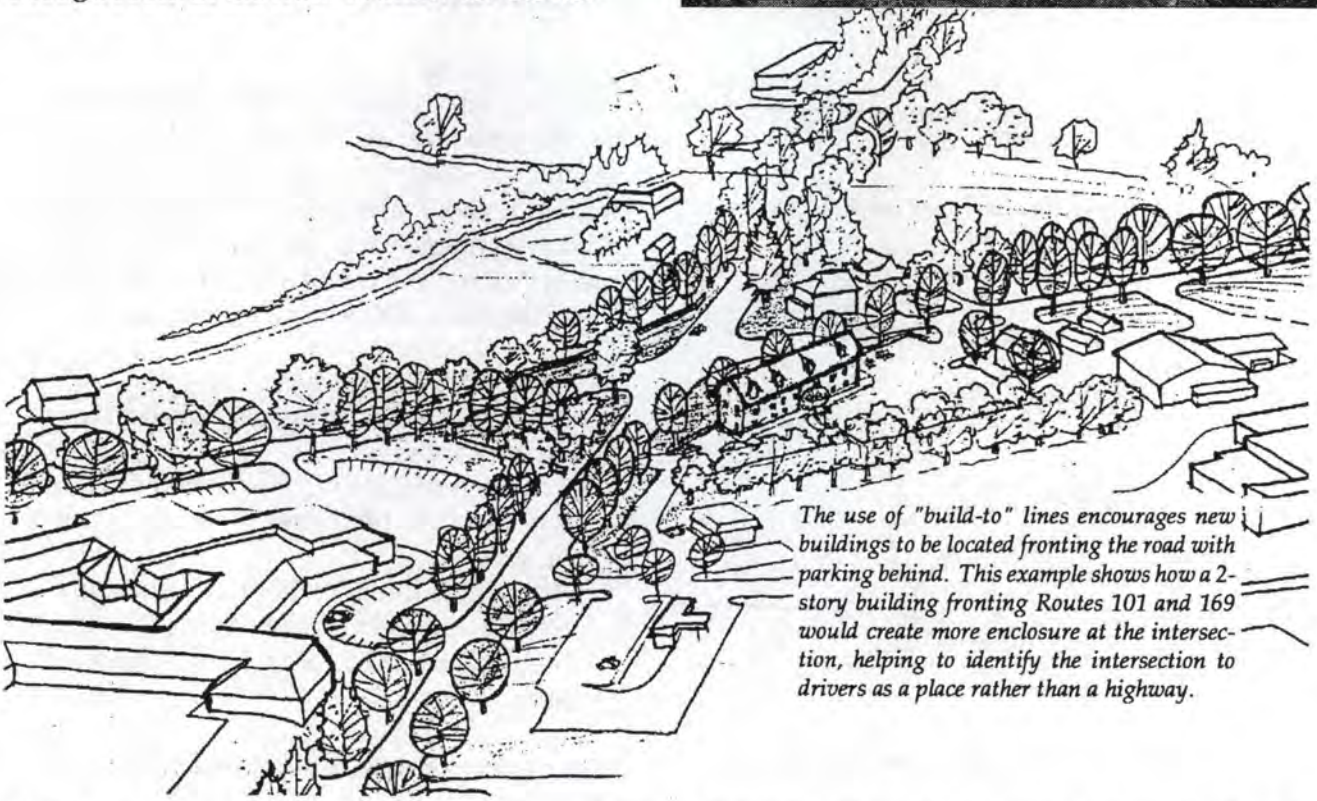
The build-to line should be sited to leave enough room at the front to allow for the normal functioning of the street, including space for sidewalks, street trees, and an appropriately scale sign.

Guiding Land Use

INDUSTRIAL LAND USE

Larger scale industrial and agricultural buildings can be sensitively integrated by utilizing the form and scale of traditional buildings, and by siting buildings so that they cannot be seen from the road (such as the facility below which cannot be seen from Route 169.)





The use of "build-to" lines encourages new buildings to be located fronting the road with parking behind. This example shows how a 2-story building fronting Routes 101 and 169 would create more enclosure at the intersection, helping to identify the intersection to drivers as a place rather than a highway.

Guiding highway commercial land uses can achieve both traffic calming goals and aesthetic goals as shown in this hypothetical use of the old dairy bar restaurant site at the intersection of Routes 101 and 169.

6. Promoting Attractions and Features

Route 169 offers the opportunity to link together the attractions and features that make this place worth visiting, and at the same time teach visitors and residents alike about how this place was settled and how it has changed over time. The following describes the general recommendations regarding the appropriate levels of promotion of the attractions and features found within the corridor.

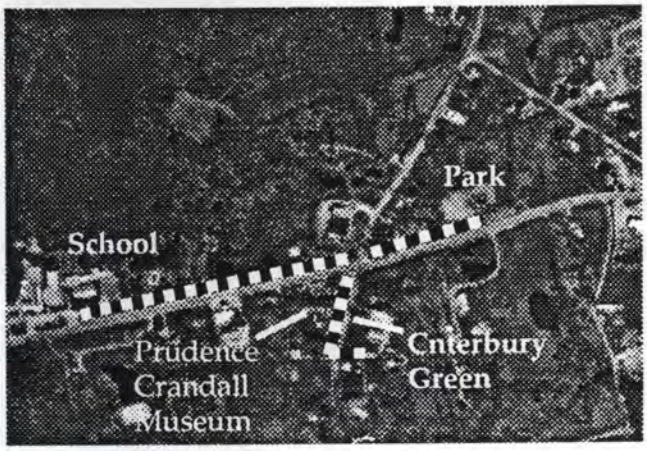
CORRIDOR INTERPRETATION AND PROMOTION

Interpretation of the history and resources of the Route 169 corridor is a value in its own right, of immense importance to local residents as a documentation and validation of their community heritage. Of course, communicating this interpretation to visitors as well as residents is equally important for tourism.

This interpretation and promotion of Route 169 is already a key agenda of a variety of larger umbrella groups, including the Northeast Connecticut Visitors District (NECVD), the State of Connecticut Division of Tourism, and the evolving Quinebaug & Shetucket Rivers Valley National Heritage Corridor. Tourism promotion of the Route 169 corridor should be seen as an integral part of each of these continuing efforts, coordinated by the visitors district and linking as it does some of New England's most attractive and unspoiled villages.

The interrelated roles of the region's three parallel north-south corridors are important to this integrated concept:

- the I-395 corridor as a major carrier of through traffic from Boston and northern New England to the Foxwoods/ Mystic/ Long Island Sound area;
- the Route 12 corridor as a gritty urban corridor, linking historic mill towns in an 'industrial archaeology' tour along the Quinebaug River;



Village walks should be promoted in each of the historic villages within the corridor.

- and the Route 169 Corridor, the "quiet road" in the Quiet Corner, a rural highland tour featuring historic hamlets and scenic vistas of farmland and forests.

Visitor Centers: Orientation and Interpretation

There is a need for two levels of visitor orientation within the Route 169 Corridor:

Welcome Centers : New Intercept Facilities for Tourist Orientation

The State of Connecticut Division of Tourism funds and operates a series of approximately 14 "Welcome Centers" throughout the state at key entry or tourism locations. Essentially set up as 'intercept' facilities, their role is to capture through traffic and provide personalized advice and information about attractions both regional to the center and throughout the state. There is no center near 169 at this point, although a logical location is on I-395 to the east near the Massachusetts border, where visitors from the north can get information about the Quinebaug region, and embark on a series of side tours. The Northeast Connecticut Visitors District is lobbying with the state to provide such a facility.

As a long-term strategy, similar facility could also be located at the southern entrance of the Route 169 corridor, preferably near the Norwich/169 exit. Actually, Exit 83 is the more ideal long-term entry to the corridor, bringing visitors one mile south past the dramatic mill complex, and from there north on 169 through Lisbon and beyond. This exit has the advantage of having on/ off ramps in either direction (the direct Route 169 connection at Exit 83A is in actuality only a half-intersection, with on/ off ramps only to and from the west).

At present, these Welcome Centers are often seasonal 'manned rack displays', dispersing maps, event calendars, and travel folders. Certain sites have been experimenting with 'touch-screen' computer displays, and in the future these sites could also be the locations for audio-visual-focussed connections to the World Wide Web (WWW). For the sites described above, these connections should link to associated Route 169 sites and information.

Discovery Centers: Use of Existing Local Attractions for Visitor Interpretation

From these 'intercept' facilities, one can be directed along Route 169 to a series of more local 'discovery centers'— existing attractions that can also form a network of interpretive services. These attractions— tourist sites such as the Bishop House, Roseland Cottage, and the Prudence Crandall Museum, or commercial enterprises that already distribute tourist information, such as the store at Joy Road and Route 169 — are well located, and can be staffed by already existing personnel, with space for displays from other attractions or audio-visual or video presentations.

As such, the centers can interpret regional history or culture not only for tourists but also for residents— a place to bring schoolchildren as well as out of town family or friends, a source of local pride and communication.

They should be an integral part of an eventual tourism site network with promotional help from the Northeast Connecticut Visitors District and coordinated with the Q-S National Heritage Corridor.

Tour Itineraries, Support Material and Signage

In addition to the well located physical space needed to distribute information, there is a need to develop a coordinated effort for support information. Already there is a duplicity of signs, all with different graphic formats promoting wineries or agricultural produce. The following general strategies should be followed:

Tour Itineraries and Brochures

One of the important services that the visitor centers can perform is the dissemination of tour itineraries of various lengths and on various topics. These can range from corridor-length drive-by tours, to a series of looped bike tours on roads adjacent to Route 169, to individual walking tours in various hamlets. They can also include topically-organized tours, such as "Agri-Tourism" resources -- farms that have opened their doors to Bed & Breakfast lodging and meals, demonstrations of activities such as sheep shearing or maple sugaring, or museums of agricultural technology (the Northeast Connecticut Visitors District has helped coordinate such activities, including production of a series of brochures covering northeastern Connecticut).

The creation of these tours and the associated support material described below should be coordinated between the Route 169 Advisory Group, and the Q-S NHC, with the help of the NECVD. Local historic societies offer the most important resource for creating information and tours -- the local knowledge and interest.

The definition of these tours can focus on different audiences and interests. A simple brochure, featuring maps and photographs, should be prepared for each. (It is important to have a

common and consistent graphic framework and editorial approach for this material, again part of an overall Quiet Corner/ Quinebaug-Shetucket framework). The current NECVD brochures are an excellent starting point, and future brochures and tour guides should build on the format already in use.

Directional and Interpretive Signage

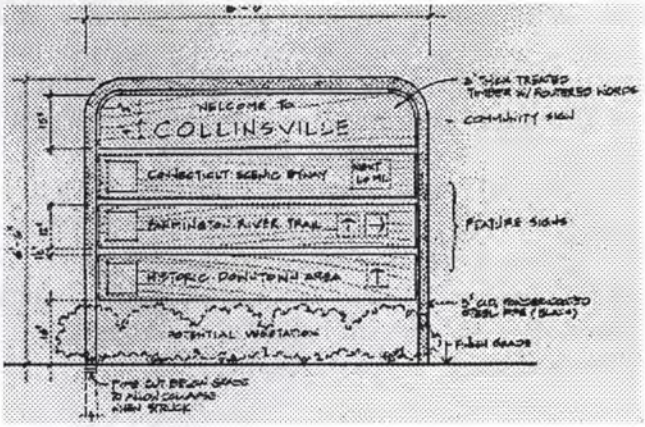
Signage should follow the same graphic framework:

- Directional signage— at major intersections, pointing the way to attractions— should be designed with consistent color, size, and placement, simple enough to be read from a moving vehicle.

- Interpretive signage— information at attractions themselves— should have similar but different characteristics, focussed on more detailed text and graphics, designed to be read on foot or from a stationary vehicle.

The Connecticut legislature is now considering bills to regulate commercial advertising along scenic highways and to investigate highway signage to promote tourism. Each of these initiatives deserves support of participating agencies and local sponsors.

As the design and consistent image of these items is very important, this report recommends that the State of Connecticut should commission a professional design firm to provide the graphic framework for the State scenic roads program as a whole, consistent with the future recommendations of the legislature's findings on signage. This will ensure an identity for the program and for individual roads throughout the state. A key criterion should be that the resulting design is provided as a simple computer template into which localities can inset their own descriptive content. (A good example of this is the graphic standard established for the Blackstone River Corridor National Heritage Area in Massachusetts and Rhode Island).



Example of a coordinated framework for tourist information signs. Standardized signs could be slipped into brackets and customized for each location, while still retaining a similar size, color, and graphic language (as suggested for Collinsville Scenic Corridor)

Coordination of Events and Activities with the Q-S Rivers Valley National Heritage Corridor

The programming of activities to attract visitors as well as local residents can be of immense value to the local economic base — witness the positive local impact of the Brooklyn or Woodstock fairs.

A potential issue that had been discussed at advisory committee meetings is how to spread this positive impact (while minimizing the negative impact) over a larger time frame— emphasizing additional activity in the visitation valleys rather than at the peaks. The medium-term creation of two to three modest and strategically-scheduled new touring events can help this process.

These events, to be organized with the help of the Northeast Connecticut Visitors District as part of the Q-S NHC program, should include weekend 'tours' in which participants would take part in various driving and walking itineraries related to different aspects of the corridor (modelled after the successful Columbus Day weekend walks sponsored by the Q-S NHC with the help of the NECVD, and complementary

potential Quinebaug tours along Route 12). The brochure and signage material discussed earlier will be an important resource. In conjunction with local historic groups, tours can developed along specific themes — the corridor's early origins and revolutionary war history, its civil war/ Victorian era architectural heritage, early education for African-Americans, an agricultural tour, etc. Other events could build on local strengths— a Putnam-focussed antiques/ interior design fair, for instance.

These events should be planned and administered by local groups as interest and markets dictate, coordinated in conjunction with the Northeast Connecticut Visitors District with the Q-S National Heritage Corridor committee. Potential funding should be sought from member donations, private market participants, foundations, or state-level Tourism or Humanities Council contributions.

Human Powered Recreation

Human powered recreation continues to be one of the fastest growing sectors of the leisure industry. Opportunities for bicycling, walking, and the enjoyment of both the natural and human history abound in the Route 169 corridor and within all of the "Quiet Corner". Route 169 should be seen as the starting point for many of these activities -- a more pleasant way to travel. Strategies can be used to both promote the recreational opportunities found along Route 169 and also to make them safer and easier to enjoy, for example:

- Parking and tourist destination signage should be incorporated at all trail heads, recreational opportunities, tourist facilities and historic sites open to the public. There is currently a statewide panel looking at the use of tourist-destination signs. Other options include the further use of brochures, radio frequencies, and WWW connections for tourists to a statewide data base.
- Greenway planning and design should be incorporated at all locations where a proposed greenway crosses Route 169, for example, the Airline Trail in Pomfret, and at all locations where parks and schools are in close vicinity, especially in the village areas.

Support Facilities: Improvement, Development and Coordination

One of the concerns expressed about increased visitation is that its impact may strain the local infrastructure. For instance, increased traffic can be a problem, but one that can be resolved through early identification of issues, working with ConnDOT to assist with resolution. Proposed 'traffic calming' techniques discussed elsewhere are an attempt to deal with existing issues of excessive speed as well as potential future impacts. The highway safety analysis indicated that existing roads have few capacity related problems, both now and in the future.

Other aspects of tourist infrastructure— lodging and meals— can take place adjacent to the corridor as opposed to within it. One of the great benefits of Route 169's location relative to I-395 is the presence of chain motels, restaurants and visitor services near interchange points, where the greater access and visibility creates more feasible demand. Visitors to Route 169 can therefore experience the scenic and cultural heritage of the area, partake of local restaurants and shops, but not overstrain the capacity of existing resources— which can grow as needed to meet the potential market.

One way that this appropriate local growth can occur is by encouraging the expansion of the existing "Bed and Breakfast" network. This assistance can occur not only from enabling actions at each town level (zoning approvals and incentives), but also from creation of a Bed & Breakfast 'information and referral' system, a cooperative organization making available data on location, type, price and features. Again, this could be established in conjunction with the Northeast Connecticut Visitors District, working with the Q-S NHC.

IV. PLAN IMPLEMENTATION

A Voluntary Strategy for Conservation

As the second longest scenic road in Connecticut (behind the Merritt Parkway), the Route 169 Corridor is one of Connecticut's most important designated scenic roads as evidenced by its recognition as a "top ten" scenic road by Scenic America in 1993. It is also one of the first pilot projects in the current program of developing "Corridor Management Plans" that will lead to the long-term commitment needed to make this scenic road into a "scenic corridor."

A "scenic corridor" is more than a road. It is also the series of views and associated historic, cultural and tourism resources that give the corridor its scenic qualities. The ownership and control of these views and resources extend far beyond ConnDOT's right-of-way jurisdiction.

Local property owners— individuals, institutions, corporations, land trusts— actually hold the land (or in some cases, its development rights). The framework for the property's use and development by its owner is established by local legislation — Town zoning, land use plans, or other regulations (such as wetlands and historic districts)—and by State or Federal environmental or other regulations. Within this framework, owners have the right to use their property as they see fit.

To the property owner, the land along Route 169 represents an asset. Its use and development potential are enabled or constrained by economic realities — its value for the owner's chosen use, its market for other uses (farming, forest, commercial, residential, etc.).

At the same time, to the local community, the land also symbolizes a way of life— its fabric of open space, fields and forests, individual buildings, and villages.

The fact that the scenic quality of the land has led to its designation as a state Scenic Road presents both the owner and the community with an opportunity available in few other places.

On the one hand, the Connecticut Department of Transportation, as stipulated in the state legislation authorizing the designation of state scenic roads, is willing to take the necessary steps to retain the scenic characteristics of the road and right-of-way, if in turn, the corridors scenic values are protected. They have started this process through the development of more sensitive approaches to addressing design and safety issues for scenic roads (see "The Connecticut DOT's Role.")

On the other hand, it is the individuals, towns, land trusts, and businesses along the route that have the major responsibility for protecting these scenic values — views that are owned by hundreds of individuals and corporations, regulated by local government, and affected by state and federal policies.

What is needed now is a kind of balancing act that establishes a commitment by all parties involved. In order for this balancing act to occur, it is necessary to develop a joint memorandum of understanding between ConnDOT and the local community that is general and flexible and is built on the recognition that a scenic road is made up both of a road and its scenery. While it is ConnDOT's responsibility for the character of the roadway itself, the preservation of the adjacent scenic resources must be the responsibility of adjacent property owners, local municipalities, other governmental programs, or special interest groups such as land trusts.

The memorandum of understanding between the Connecticut Department of Transportation, each of the five corridor towns, and the Northeastern Connecticut Council of Governments should stipulate that:

if each corridor town agrees to work with a variety of other participants, incentives and programs to help preserve the corridor's scenic views, historic and cultural context,

then the Connecticut DOT agrees to adopt and undertake appropriate maintenance standards and improvements to the road and right-of-way, that reflect its special standing as a designated scenic road.

As their part of the memorandum of understanding, the Connecticut Department of Transportation would:

- agree to adopt, as Department Policy, the goals and objectives identified in Section III of this report;
- agree to apply more sensitive and flexible maintenance and design practices (as summarized in Section III, "Road and Right-of-Way: Design";
- agree to fully participate in the NECCOG subcommittee that will serve as the management entity linking the Connecticut DOT and the five corridor towns to address issues of common concern;
- agree to foster open, early and direct communication with key stakeholders.

As their part of the agreement, each corridor town and the Northeastern Connecticut Council of Governments would:

- adopt the goals and objectives identified in Section III of this report as part of the town's plan of conservation and development and NECCOG's regional plan of conservation and development;
- adopt, as each town sees fit, appropriate planning concepts for the viewshed of Route 169 that will provide incentives to property owners to conserve Route 169's scenic quality, as summarized in Section III, "Resource Conservation" and "Guiding Land Use";
- agree to fully participate in the NECCOG subcommittee that will serve as the management entity linking the Connecticut DOT and the five corridor towns to address issues of common concern.

In addition, both parties agree to work together to:

- Identify more cost-effective ways to manage and maintain the road and right-of-way, including finding alternative sources of funding to pay for the added costs associated with managing the road and right-of-way in a more sensitive manner; as summarized in Section III, "Managing the Roadside Environment";
- Jointly promote the attractions and features found in the area, at a level appropriate to the capacity of existing facilities, through improvements to signage, development of trailheads, and the placement of interpretive exhibits and information kiosks, as summarized in Section III, "Promoting Attractions and Features".

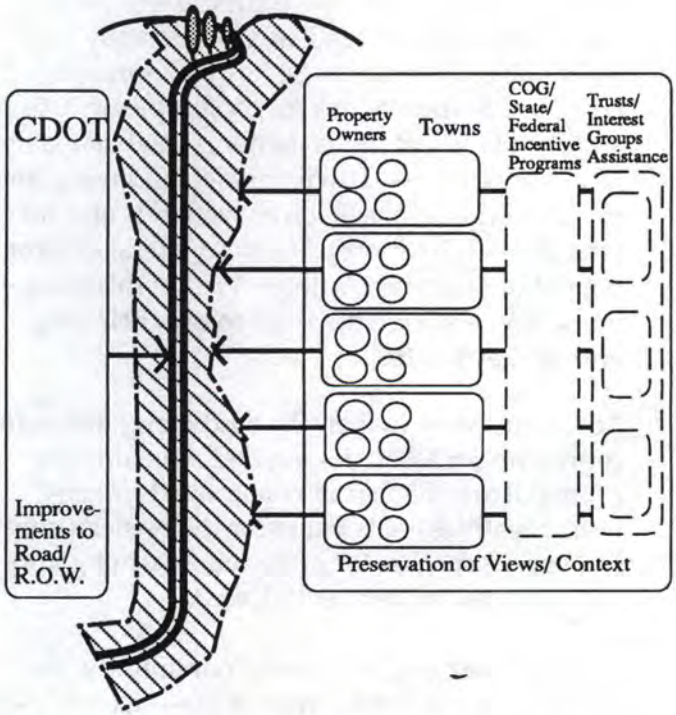


Diagram illustrating the relationships between various groups with interest and responsibilities within the Route 169 Corridor

1. The Role of Connecticut DOT:

In a joint memorandum of understanding between the Connecticut Department of Transportation and the five corridor towns that balances contingent commitments from each to preserve Route 169 as a permanent scenic corridor, *the Connecticut DOT agrees to undertake appropriate maintenance standards and improvements to the road and right-of-way, that reflect its special standing as a protected road.*

This section of the report provides guidance to the Connecticut Department of Transportation on how to implement their part of the plan. Section III, "Road and Right-of-Way: Design" identifies specific design concepts and strategies that should be applied to Route 169. They include:

- "traffic calming" techniques for major intersections to provide better clues to drivers who need to slow down, including:
  - alternative shoulder treatment;
  - tree planting (outside of clear zones) at increasingly closer intervals to give drivers more clues to slow down;
  - more clearly identified entrances to existing villages;
  - sidewalks and other improvements to make each village more walkable.
- application of appropriate level of design standards for 3R type work;
- use of soil-bioengineering techniques to stabilize uphill cut sections;
- use of alternative bridge and guiderails that allow for views through to the landscape that are more compatible with the natural setting.

A draft set of general design guidelines for all scenic roads addressing each of these topics was written by Lardner/Klein Landscape Architects, P.C., with Ken Kruckemeyer, A-N Consulting Engineers, and Scenic America as part of the overall statewide "Scenic Byways Corridor Management Study" for the Connecticut Department of Transportation. The report submitted to ConnDOT in April of 1995 is still under review by the Connecticut Department of Transportation. When guidelines are officially adopted, the document will automatically become part of the corridor management plan for Route 169 as a technical appendix.

The following pages identify the process and procedures that the Connecticut DOT should take whenever initiating any improvements to Route 169, and sets forth a case for allowing more flexibility in the application of design standards to scenic roads.

The Role of the Connecticut DOT:

PROCESS AND PROCEDURES

There are a few locations along Route 169 where safety has been raised as a concern by citizens who use or live along this route. The intersection of Route 44 and 169 is one example. Because of the diversity of needs and users, the challenge to making any improvements to a scenic road is even greater than for other roads in the state. The proper design that will achieve agreement and be successful will, therefore, address the psychology of driving as well as the physical requirements of the road. By working in a cooperative and iterative fashion, these improvements can be accomplished.

The result will be a complete description of the work to be done, including both safety measures and the necessary enhancements and/or design exceptions to ensure that the project will be both safe and attractive. The following process should be utilized by the Department along Route 169 (and on scenic roads in general:)

Step 1:
Preliminary Identification of Issues
When roadway or roadside work is necessary along Route 169, it is essential that the Connecticut DOT candidly and realistically identify the specific issues or problems to be solved, from all points of view.

ConnDOT prepares an initial draft needs statement listing issues to consider and problems that may arise.

Step 2:
Development of Project Descriptions and Goals (Scoping Statement)
Work must begin with a commonly understood (even if not agreed upon) set of goals for the project that fairly represent the aspirations of all participants. Enumerating the full set of design constraints is also an important step in securing federal funding, particularly for "non-highway" expenses or enhancements; and becomes the basis for any "design exceptions" or "waivers" that may be required.

ConnDOT meets with the Route 169 Advisory Committee , a subcommittee of NECCOG to review draft needs statement and agree upon the scope of the project. ConnDOT and the Route 169 Advisory Committee should then hold a joint informal workshop targeted to nearby landowners, interest groups, and town officials.

Step 3:
Developing Design Alternatives
Based on the results of the initial scoping meeting, DOT can then prepare preliminary design alternatives, one identifying what types of design exceptions and enhancements that will be necessary to address the issues and concerns raised by the Route 169 Advisory Committee and citizens at the public workshop session, and one that shows the design without the exceptions or enhancements. *ConnDOT should utilize the types of design techniques and details as shown in Section III, "Road and Right-of-Way Design Strategies," where appropriate.*

ConnDOT then meets with the Route 169 Advisory Committee, and holds a second public workshop to review the preliminary design alternatives and select with the Committee the recommended design.

Step 4:
Field Review with the Committee and Neighbors
Prior to developing final design plans, DOT should mark in the field with flags or paint, proposed improvements and verify the design proposals with the Committee and neighbors. Should extensive revisions prove necessary, this should be repeated.

The Role of the Connecticut DOT:

DESIGN FLEXIBILITY FOR SCENIC ROADS

Connecticut's *Guidelines for Highway Design* were published in January 1990. Improvements to existing roads, including scenic roads are, in most cases, governed by Chapter 14, Geometric Design of Existing Highways. This chapter makes note of the 1987 TRB Special Report 214, *Designing Safer Roads*, and its 1988 adoption by the Federal Highway Administration; and it includes many of Special Report 214's procedures. The "Tables of 3R Geometric Design Values" in Chapter 14 of Connecticut's manual, however, varies significantly from Special Report 214, and are considerably more demanding. Any exceptions to the Geometric Design Values must be approved through the standard Connecticut DOT design exception process, as described in Chapter 6-7.0, Exceptions to Geometric Design Criteria.

Since Connecticut's Guidelines were adopted, the National Cooperative Highway Research Program has published "NCHRP Report 362, *Roadway Widths for Low-Traffic-Volume Roads.*" TRB Special Report 214 and NCHRP Report 362 describe the balancing act that is required for 3R projects. They describe procedures for selection, design and construction of highway improvement projects; and the relationship between safety, cost, tort liability and geometric design.

Contemporary thinking about safety-conscious, cost-effective 3R work places great emphasis on compatibility of design elements. For example, the NCHRP study indicates that safety can be achieved on 3R projects for low volume roads by utilizing narrower lane widths that are in consonance with the tighter geometry of other, existing, highway design features. FHWA gives the states authority to utilize a broad variety of resources in determining appropriate guidelines for highway work. On low volume roads, NCHRP Report 362 provides the justification for establishing a new 3R design process that will result in high quality roadway work, while reducing the need for design exceptions. *However, only a few road segments qualify as a low volume road (under 2000 ADT) on Route 169.*

On moderate volume scenic roads, such as the majority of Route 169, Connecticut DOT, in absence of published guidelines, must continue to use the design exception process. ConnDOT maintains that guidelines for scenic roads "would not be a major departure" from its current standards for 3R work. They would include, according to ConnDOT, "additional information about roadside treatments, the cross section to critical sections, etc." ConnDOT indicates that where a highway has to be widened, "the total width should be only a few feet wider than the existing". There appears to be a difference of opinion about the potential visual impacts of applying Connecticut's Chapter 14 versus Special Report 214. *To ensure that community goals are being fully considered, ConnDOT should prepare illustrations such as those shown below describing the proposed improvement as part of the public involvement process described on the prevous page.*

Before and aftersimulation illustrates the theory that applying more demanding standards to scenic roads may encourage speeding, thereby negating the safety value of the improvements as the driver moves into the next curve at too high a speed.

The Role of the Connecticut DOT:

ADOPT DESIGN GUIDELINES

Visual and environmental issues that are associated with 3R work are not covered in much detail in the "Green Book"or in Special Report 214. These issues are, however, critical for Scenic Roads. The state law and regulations governing work on Scenic Roads provides some guidance about what is required when working on scenic roads. The Route 169 Corridor Management Plan and the draft design guidelines for scenic roads, when used in tandem with related engineering design standards and guidelines, can assist the Department of Transportation and citizens groups in determining the relevant design issues, and the appropriate solutions that may be employed when work is to be done on the road or roadside.

The traditional methods of trying to improve safety on state highways may not be possible or appropriate for scenic roads. These methods have concentrated on physical modifications to the roadway and roadside such as widening lanes and shoulders, adding guiderail, cutting trees, and changing the vertical and horizontal geometry. These techniques will often destroy the visual quality that led to the scenic designation. In addition, by creating a more wide-open look to the road, these techniques reduce the apparent dangers for the driver and result in higher operating speeds, as illustrated on the previous page. This is especially problematic for scenic roads, since a substantial proportion of the users of these roads are new to the road, wish to drive slowly to enjoy the view, and may include bicyclists as well.

For scenic roads, therefore, an increase in accidents could possibly be the result of traditional strategies to improve safety, since these techniques would be likely to increase the speed differential between users. In preparing alternatives for any required improvements to Route 169, DOT should consider the following techniques as appropriate for the specific project (and as described generally in Section III, Design, and more specifically in the proposed design guidelines for scenic roads under review):

- use "traffic calming" techniques that might be applied to the roadway and roadside to give drivers more opportunities to slow down -- for example, alternative shoulder treatments to clearly differentiate between the travelway and the shoulder;

- use roadside landscape improvements to increase texture and visual complexity (trees, stone walls, naturalistic shaping and planting on uphill slopes) to give drivers more clues that they are coming to a settled area, and to improve the appearance of intersections;

- use signage, creative variation of highway alignment and cross-section, and landscape improvements at village entrances to influenced driver behavior and reinforce scenic values;

- use horizontal railings with greater transparency on bridges to retain views of streams and wetlands;

- use steel backed wood guiderails as replacements for standard galvanized guiderails to reduce visual contrast.

The Connecticut DOT is required by law to retain the character of designated scenic roads. The approval of general guidelines will help to articulate what Connecticut DOT can and cannot do when trying to balance their responsibility for ensuring safe roads, with their responsibility for retaining the scenic characteristics of a designated scenic road. This should be their first action in implementing the Route 169 Corridor Management Plan.

2. The Community's Role

As a joint memorandum of understanding between the Connecticut Department of Transportation and the five corridor towns that balances contingent commitments from each to preserve Route 169 as a permanent scenic road corridor, *each corridor town and the Northeast Connecticut Council of Governments agree to work with a variety of other participants, incentives and programs to help preserve the corridor's scenic views, historic and cultural context*

Local property owners, elected and appointed municipal officials, and other participants can respond in different ways to the challenge of ensuring that Route 169 remains a scenic road. The following description outlines the sorts of actions that each of these participants can take, and some of the different tools and incentives available to help.

The scenic qualities of Route 169 are the result of hundreds of years of individual actions. Those same individual actions are now needed to conserve the qualities that make it unique

The Community's Role:

PROPERTY OWNERS

Private property owners and advocates of scenic protection share a great deal of common ground: the Route 169 scenic viewshed, after all, consists mostly of privately held land. The interest of property owners in the Route 169 viewshed (as everywhere else) centers on the value and integrity of their land. This plan purposely does not create additional layers of regulation or other requirements that may seem onerous to land owners. Instead, the plan approaches the common goal of conservation with a system of give-and-take, offering a variety of incentives and guidelines to landowners, allowing them to maintain and develop their land without adversely affecting — and possibly even improving — the scenic qualities of the area.

These incentives augment the systems of regulation already in place in each town to assure minimum conditions of public safety and environmental quality (e.g., subdivision and zoning regulations, wetland and watercourse regulations, other land use ordinances). The question of property value is critical to the entire approach— the underlying belief of this plan is that both individual and collective action to preserve the resources of the entire viewshed is in the long-term interest of property owners, and can be achieved in ways that provide significant public benefits and do not cause hardship.

The integrity of private property depends on the actions of surrounding landowners and local government, both of which are managed by established systems of legal regulation. Safety is another aspect of integrity, and this is a central goal for ConnDOT and many of the residents who live along Route 169.

12. Cooley, Susan D. *Country Walks in Connecticut: A guide to The Nature Conservancy Preserves.* 1982. The Appalachian Mountain Club and The Nature Conservancy, Boston.

13. Dreyer, Glenn D. *Connecticuts Notable Trees.* 1989. Revised 1990. Covered Bridge press, North Attleborough, MA.

14. Hardy, Gerry and Sue. *Fifty Hikes in Connecticut: A Guide to Short Walks and Day Hikes in the Nutmeg State.* 1978. Revised 1993. Backcountry Publications, Woodstock, VT.

15. Jorgensen, Neil. *A Guide to New Englands Landscape.* 1977. The Globe Pequot Press, Chester, CT.

16. Jorgensen, Neil. *A Sierra Club Naturalist's Guide: Southern New England.* 1978. Sierra Club Books, San Francisco.

17. Nutting, Wallace. *Connecticut Beautiful.* 1935. Garden City Publishing Co., Inc., Garden City, NJ.

18. Keyarts, Eugene. *Sixty Selected Short Nature Walks in Connecticut 3rd Edition.* 1991. The Globe pequot Press, Old Saybrook, CT.

19. Patton, Peter C. and James M. Kent. *A Moveable Shore: The Fate of the Connecticut Coast.* 1992. Duke University Press. Durham and London.

20. *Greenway Vision for the Quinebaug and Shetucket Rivers.* 1990. National Park Service River and Trail Conservation Assistance Program North Atlantic Region.

21. Ritchie, David & Deborah. *Connecticut: Off The Beaten Path, A Guide to Unique Places.* 1992. The Globe Pequot Press, Old Saybrook, CT.

22. Roark, Kelly. *Connecticut Outdoor Activity Guide.* 1994. Country Roads Press, Castine, ME.

23. Sherer, Thomas E., Jr. *The Connecticut Atlas, 2nd Edition.* 1992. Kilderatlas Publishing Company, Old Lyme.

24. Sherman, Steve. *Country Roads of Connecticut and Rhode Island.* 1994. Country Roads Press, Castine.

25. The Connecticut Bicycle Book. 1993. *The Coalition of Connecticut Bicyclists,* Inc. Middletown, CT.

26. *Connecticut Connections: Resources for Greenways.* 1994. The Greenways Committee.

POMFRET		
***Route 101/169 Intersection** - traffic calming using landscape improvements; design assistance for vacant commercial tract (new owner)	Property Owners ConnDOT Northeast Utilities Town NECCOG	*Scenic Byway Program Fund (applied in 96)
Pomfret Village Walks - pathway connecting through all of Town of Pomfret villages along Route 169 (w/architectural/garden tour)	Property Owners ConnDOT NECVD Town Pomfret Historical Society	ISTEA (97) or Scenic Byway Program Fund (future) Private
Pomfret Railroad Station Master Plan - trailhead for airline trail (old RR right of way)	Town NECCOG Airline Trail Comm. CT DEP Property Owners	Scenic Byway Program Fund - applied for 96
***Route 44/169 intersection** - improve sight lines with design enhancements for soil bio-engineering, alternative shoulders, etc.	ConnDOT Town NECCOG	Scenic Byway Program Fund 97 (future for design enhancements over and above standard practices)
Historic Inventory of Pomfret - money applied for as previous submission	Pomfret Historical Society CT Historic CT Trust	Scenic Byway Program Fund (applied for 96)
Tree and Wall Conservation Area - extend maintenance and planting of right of way through adopt-a-highway program	Property Owners Town of Pomfret	Private sources for planting grants Northeast Utilities
WOODSTOCK		
***Northern Gateway Information** • improvements at Joy's store, or Christmas Barn; • or Roseland Cottage	Property Owner CT Tourism ConnDOT DEP (for Joy's store) NECVD	Scenic Byway Program Fund 97; Demonstration Grants (water quality - non-point source); Tourism Office
Village Walks - interpretive walking tours of North Woodstock, Woodstock, and South Woodstock	Town ConnDOT Woodstock Historical Society NECVD CT Tourism CT Trust; CT Hist. Commission	Scenic Byway Program Fund 97
Conservation Easements • View from Cemetery in Woodstock (see USGS map)	Town Land Owners Land Trusts	

Village Entrance Improvement Program • actively work to establish citizen groups to plant and maintain gardens at the entrances of each village to help mark and define the start of each densely settled area (see Brooklyn below -- using the ConnDOT "adopt-a-ramp" program applied to scenic roads (allows planting within Right-of-Way as long as it meets specified criteria for sight distance, etc.)	Garden clubs, civic organizations, church groups, scouting groups, etc. ConnDOT each Town	Private (local employers), Northeast Utilities planting grants (every four years in each town); Purchase of low cost plant materials from Connecticut Dept. of Agriculture marketing program
LISBON		
***Newent Village Walks** • connect park, Bishop House, Town Hall and School with paths and crosswalks; provide bicycle trailhead at existing parking lots (town or park)	ConnDOT SECCOG NECCOG Town of Lisbon Lisbon Historical Society	Scenic Byway Program Fund 97
***Intersection of 138 and 169 -** • landscape improvements, relocate utilities; test feasibility of realigning intersection, reclaim green space	ConnDOT; SECCOG NECCOG Northeast Utilities;	Scenic Byway Program Fund 97;
Bishop House • incorporate visitor information and interpretation into existing facility	Historical Society, CT Tourism Office; CT Trust for Historic Preservation; State Historic Preservation Office;	
Pull-off at Old Stone Culvert - • develop roadside interpretive exhibit, telling the story of the Norwich to Woodstock Turnpike	ConnDOT Q-S NHC NECVD Lisbon Historical Society;	Scenic Byway Program Fund (future)
Specimen Tree and Natural Vegetation Conservation Zone - • Establish voluntary agreement signed by property owners wishing to maintain the natural appearance of the road frontage along Route 169, utilizing ConnDOT's "adopt a highway" program that includes a provision to allow the planting of new trees in the ROW coordinated among property owners; • consider and adopt a tree conservation ordinance to protect investment in existing trees along road frontage (if voluntary approach does not work);	Property Owners Town of Lisbon ConnDOT Northeast Utilities	NU planting grant on utility line side (long range) Private

Endorse the Plan

The most constructive approach would be for each town to endorse the plan in two ways:

1. Adopt the plan's goals and objectives as part of the Plan of Development for the Town (some Towns, the NECCOG and the Q-S NHC have already done this).
2. Write a letter of endorsement for the plan, in concept, stipulating that the Town agrees with the Memorandum of Understanding as outlined on pages IV-1 and 2, and is willing to pursue the elements of the plan as outlined. The letter will be used in support of an application for a National Scenic Byway (see below).

Participate in the Management Entity

A permanent management entity has been recommended by the Route 169 Advisory Committee to be formed as a subcommittee of NECCOG. A permanent management entity is a necessary component to apply for national scenic byway status, but more than that, it provides a way to foster coordination of activities along Route 169 and to serve as a better communication link than exists now with ConnDOT, ensuring adequate review and involvement in decisions affecting Route 169. Each town will need to appoint a permanent representative to the Committee (which could be the same person that served on the Route 169 Advisory Committee). The exact composition of the committee will need to be determined by the Council of Governments, but it must include representation of the full range of points of view -- including both conservation organizations, farming and forestry interests, property owners, and business interests.

Apply for National Scenic Byway Status

The Route 169 Advisory Committee has recommended pursuit of National Scenic Byway status for Route 169. On the positive side, it would give Route 169 a higher priority in competing for future scenic byway program funding (FHWA) and publicity stemming from it will likely stimulate some appropriate types of tourism development along the corridor. It should be noted that mere designation alone will not result in anything like a dramatic increase in visitors. Nor would it appear that such status would lead to greater regulatory burden. In order to apply, the management entity will need to be established (this can be documented by a letter from NECCOG) and each of the towns should write their letter of endorsement to accompany the application.

Begin the Process of Implementing the Plan

The plan identifies a number of short-term strategies and projects appropriate for the corridor as a whole, and each of the five corridor towns. The highest priorities for project implementation are identified on the table that follows. However, it is critical to the success of this plan that enhancements to the road and right-of-way go hand in hand with techniques for conserving the view and context.

Road and Right-of-Way Design Enhancements

The first opportunity for implementing some of the enhancements suggested in the plan involve recent applications to the FHWA's Scenic Byway Program for traffic calming techniques at Routes 14 and 101. This will provide ConnDOT and each town with an opportunity to demonstrate that safety and beauty are not mutually exclusive. A 1997 application should be submitted for high priority projects, or those submitted that remain unfunded.

Establish a Route 169 Corridor Overlay District

Each town should immediately establish a Route 169 corridor overlay district as part of their official zoning map (and/or plan of development, if no zoning exists) corresponding to the viewshed boundary as identified in Appendix 1. Each town should then consider adopting incentive-based ordinances that would apply to those properties within the district, especially for tree preservation, hamlet or cluster development, and for encouraging development within existing villages. Ordinances should simply encourage these innovative techniques through the mechanisms described in Section IV of this corridor plan.

It is important that each town recognizes an integral connection between transportation and land use. If each town does not adopt some of these strategies, then there will not be any scenery left to enjoy. This is the real challenge in the days, months and years ahead.

Prince Charitable Trust	10 South Wacker Drive, Suite 2575	Chicago, Illinois	open space, land use planning, transportation collaborative planning, citizen participation, collaborative efforts, education, land acquisition	312-454-9130 (ph) 312-454-9125 (fax)		may be limited to Chicago, Rhode Island, and Washington , D.C.but has funded Virginia Save our Streams work -- look at watershed of Q-S to see if it flows in to Rhode Island?	Tracy Shafroth, Program Director	2 page letter of inquiry
Prospect Hill Foundation	420 Lexington Ave. Suite 3020	NY NY 10170	land and water protection primarily in the Northeast -- offer strategies and policies for the conservation of public and private lands; strengthen policies and initiate means for improving water quality and protecting coastal areas	212-370-1144 (ph) 212-599-6282 (fax)		possible funding for circuit rider to help towns implement conservation planning	Constance Eiseman, Executive Director	3 page letter - call for annual report with application guidelines
Sudbury Foundation	278 Old Sudbury Road	Sudbury Mass. 01776	modest investment in grant funds can help in a significant way to protect or restore the health and integrity of the environement; funded Mass. Watershed Coalition in Fitchburg for computer mapping	509-443-0849 (ph) 508-443-0756		10-20,000 dollars -- promoting collaborative conservation efforts-- best to emphasize river/greenway efforts as collaborative to scenic road and heritage corridor	Derry Tanner, Executive Director	Telephone call or brief concept paper; get grant guidelines
The Fund for Preservation of Wildlife and Natural Areas	One Boston Place, 24th Floor (c/o The Boston Foundation	Boston, Mass. 02108	past funding for natural area protection, Nasuha River Watershed Association greenway brochure	617-723-7415 (phone) 617-589-3616 (fax)	5/1/96	past grants might support land conservation activities/greenways	Marshall Schell, Vice President for Development	contact for updated guidelines
Norcross Wildlife Foundation	325 West 89th Street, #2 / PO Box 0414	NY NY 10024-0414	land and habitat conservation, species protection, rivers, and coastal issues	212-362-4831 (ph) 212-362-4783 (fax)	9/1/96	possible source of greenway funding	Richard S. Reagan	contact for current grant-request guidelines - app. is 2 pages 14 cp
The Cabot Family Charitable Trust	75 State Street	Boston, Mass. 02109	Environmental issues of New England, land conservation, coastal issues, agricultural education, outdoor education, and recreation	617-342-6007 (phone) 617-342-6103 (fax)	3/1/96	Funded Trustees of Reservations, funds seed money -- ask for funds for revolving open space acquisition program	Ruth C. Sheer, Executive Director	Annual Report with Application Procedures
Perkin Fund	340 Country Club Road	New Canaan CT 06840	support for marine issues and wildlife conservation	203-966-1920	3/ 15/96	CT address - tie in to greenways/wildlife conservation	Gladys T. Perkin Trustee	send letter to Morris & McVeigh/767 3rd Ave. NY NY 10017

ture, community planning, landscape architecture, or urban forestry. The Extension Service is funded by the United States Department of Agriculture and by the Governor's office, and funneled through the University of Connecticut (the land grant university). The Rural Development Council and the Eastern Connecticut RC&D are also affiliated with this extension network. The State of Iowa has funded a position at Iowa State University in Ames, where a person has a part time appointment with the Department of Landscape Architecture, and the remainder of the appointment is for technical design assistance to communities.

In most cases, the chances for gaining funding is increased greatly when the applicant can show some evidence that there is a track record of success, that there is a regional approach, that there is a permanent administrative umbrella to ensure the project's success, that there is a clear plan for the use of funds, and that there is a fully demonstrated need that meets the objectives of the funding organization.

Regional Council of Government

The Regional Council of Governments for most of the Route 169 area is the Northeastern Connecticut Council of Governments (NECCOG). In addition to acting as the local Regional Planning Agency (RPA) for the area, it also coordinates intergovernmental activities and initiatives among the various Towns who make up its membership. Four of the five towns in the 169 planning area are members of NECCOG; Lisbon, to the south, is part of the Southeastern Connecticut COG, but for purposes of consistency can act under the umbrella of the NECCOG (precedents for such an administrative approach already exist, including the recently established enterprise corridor zone along the Interstate 395 corridor).

The NECCOG must play many critical roles in bringing together the various interests as the plan moves forward. They must play the role of the regional coordinator for the Route 169 Advisory Committee as it shifts from its current planning advisory role to that of plan implementation. In addition, the NECCOG should serve in an administrative capacity when applying and managing grant funding. Most importantly the NECCOG already serves as a clearinghouse whenever support is needed from all of the corridor towns for particular issues, such as letters of support for grant applications and project review for transportation and other regional issues. (See Section V.)

Private Sector Funding Opportunities

There are a number of private sector grantmaking organizations that provide funding for land conservation activities including many of those that are proposed as part of the Route 169 Corridor Management Plan. These grants are summarized on the following table including the name of the organization, due date (if any), contact person, eligible activities, and recommended activity for funding request. These grant sources were identified from several data bases using the keyword of "land conservation", and including organizations that fund projects in New England.

3. Opportunities for Funding and Assistance

State and Federal Programs

While most federal and state programs are dwindling rapidly in size and scope, especially those that apply to conservation programs, there are still a few programs that are available. Competition for these programs are great.

Wherever possible, there is a need to demonstrate the regional importance of these initiatives and to make a greater case for the role that these programs or projects play in economic development and environmental protection.

Some examples worth noting:

Economic incentives / differential assessment

Public Act 490 is a state law allowing farm land, open space and forest land to be assessed at use value (i.e., as a farm) rather than exchange value (i.e., the land's potential use, as a housing or commercial development). This is a significant benefit for the land owner, and the program reportedly keeps many such parcels in current use and thus is a successful land management technique. The 490 program is widely used in the Route 169 area. The decision-making power under this legislation lies in defining land as belonging to one of the three exempted categories. This power falls in two places: local tax assessors are given guidelines but have leeway to decide whether a particular parcel qualifies as farm or forest land; in order for open space to be eligible for 490, it must be designated as such in the town Plan of Development (produced by the Planning Commission).

According to some local officials along Route 169, assessing all farmland, forest land, and open space as its current use makes a crucial difference in the economics of these small land-related businesses and thus help prevent the more intensive development of subdivided lots (which sometimes is pressured in order to pay the taxes). As with other local abatement programs, the impact on local revenues must be carefully balanced with the positive benefits to agricultural and open space conservation and the fact that most of these properties create little or no demand for public services, and therefore should not bear as heavy of a tax burden.

Purchase of land / development rights

The state Department of Agriculture has a purchase of development rights program for agricultural land. This important incentive program results in permanent sale of development rights, using state bonding authority as the source of funds to compensate private landowners for agreeing to forego the real estate development potential of their property. The program has been used throughout the Route 169 corridor, and recently was authorized through July, 2000.

Signage Programs

The state legislature is currently examining the issue of signage as it affects the beauty of state roads and scenic views. The potential for a signage program specifically geared to designated state scenic roads is something that must be carefully analyzed. Programs in other states have ranged from instituting a consistent and simple set of attractive directional signs, to clustering advertising signs at specific locations rather than randomly stringing them out along a highway. Vermont has an exemplary program for both directional signs and advertising. Such programs need to be paired with a mutually-agreed way to control the location and size of signs along a particular roadway, and any initiative must consult each town's existing signage ordinance, and the DOT's responsibilities for signage within the right-of-way.

Such a program can be instituted by the state within the right-of-way on state highways, but to be effective must also deal with adjacent property, involving local towns and property owners.

The Community's Role:

LAND TRUSTS/ INTEREST GROUPS

Land Trust /Conservation Assistance

Land trusts are an important not-for-profit sector vehicle for land conservation—particularly in Connecticut, which has more than 100 local land trusts. The two trusts operating in the Route 169 corridor, the Wyndham Land Trust, and the Wolf Den Land Trust, already control an impressive amount of land, permanently protected as open space, forest land, wetland and other endangered habitats. As private property owners, towns or other partners move forward with plans to protect additional parcels of land in the viewshed, it should be remembered that the trusts provide a ready umbrella under which lands can be conserved— they can accept and facilitate the processing of easements or sales, obviating the need to create additional organizations.

The role of the land trusts in conserving scenic and historic resources cannot be understated. The land trusts can utilize the information contained in the resource inventory to help support the justification for purchasing land or easements along the Route 169 corridor.

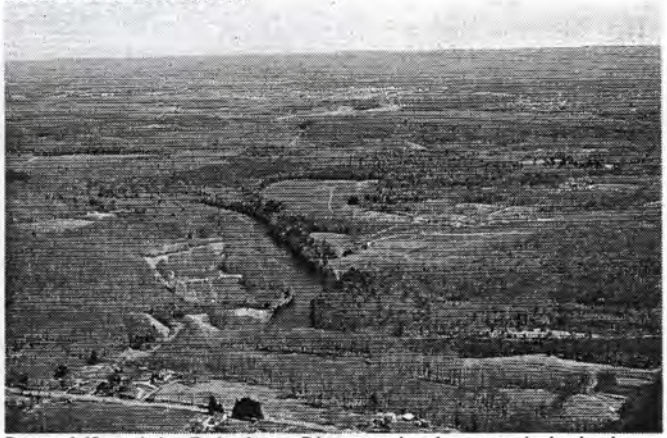
A second important role for the land trusts is that of an advocate, lobbying for the protection of lands by local government, — especially those that are undergoing a revision to their plan of development. In collaboration with the Town conservation commissions and statewide and regional conservation groups (such as Connecticut Audubon), the land trusts could develop and map a list of priority sites within the viewshed (based on information from this study) for protection or acquisition.

Finally, the public outreach efforts of the trusts should continue and be expanded where possible, in conjunction with the Route 169 program. Nature walks, school programs and other educational efforts increase citizens' sense of belonging and stewardship. Events such as running races can also double as fund raisers, or can be joined to volunteer maintenance and clean-up efforts.

Quinebaug and Shetucket Rivers Valley National Heritage Corridor

The Route 169 area is already an integral part of the Quinebaug and Shetucket Rivers Valley National Heritage Corridor, and as the Q-S program continues to develop, it will complement scenic road corridor planning efforts in several ways:

The Q-S Committee and newly formed non-profit organization should identify a person to serve as a contact point to coordinate efforts. Several people that have been serving on the Route 169 Committee have been involved in both efforts to date, and they would be likely candidates. The Q-S NHC should adopt the Route 169 scenic viewshed as one of its overall conservation priorities. As the management plan for the Q-S NHC develops -- currently being coordinated with the assistance of a planner from the Connecticut DEP's State Parks Department -- "boundary opportunities" between the Route 169 viewshed and the Q-S NHC project area should be identified and ways to cooperatively leverage grant money to implement similar project goals. For example, a Geographic Information System would be a useful tool for future planning and monitoring that both entities could benefit from.



Route 169 and the Quinebaug River are in close proximity in the Town of Canterbury

The Brooklyn Green Historic District is registered on the National Register of Historic Places

stringent development criteria more appropriate to rural highway frontage). The Pomfret Historical Society has received funds for a survey and National Register nomination for the North School District in the northern part of town which includes Route 169 from the Pomfret School North. Lisbon and Canterbury, should examine the experience of their sister municipalities and consider extending these same protections to their local hamlet areas: the implementation of some of the hamlet-based short-term projects suggested elsewhere in this study would be enhanced were historic district tools available in those locations.

The presence of properties on these national or state registers or in these local districts— in addition to conferring various levels of protection from demolition, unsuitable renovation, or impact from adjacent development— also gives justification for preservation or enhancement grants from sources such as national, state, or regional foundations. Although many Federal funding programs are currently being reduced, future assistance may also be available from other entities dedicated to heritage tourism development— from the Quinebaug and Shetucket Rivers Valley National Heritage Corridor, of which Route 169 is an integral part (currently unfunded but hopeful of future grants), or from the Federal Highway Administration as part of its ongoing scenic roads program. (This only if the 'ISTEA' program, of which scenic roads is a part, is renewed). These funds may be leveraged with other private or not-for-profit sources. The continuing active participation of groups such as the historic societies that make up the Association of Northeastern Connecticut Historical Societies will be key to this effort.

How Creative Land Development Helped Lincoln, Massachusetts Preserve It's Rural Character

The Town of Lincoln is a rural suburb located about 13 miles from Boston, just west of the Route 128 Corridor. Lincoln, in the early 1960's was a small historic community of approximately 5200 people covering approximately 9,500 acres and operating under a town meeting form of government with elected unpaid officials. Lincoln was facing many of the same issues as those of the five Route 169 Corridor towns -- how to protect the character and open space of the town.

The town, in 1961 had residential zoning of approximately 2 acre house lots. Still largely open, the town was developing at a rate of fifty new houses every year. At that rate the Town's remaining stock of 2,278 acres would be converted to 850 house lots by 1978! Instead, 400 dwelling units were built on much less land with an additional 75 families accommodated in apartments in existing houses. Over 1400 acres of land was conserved through the actions of the Conservation Commission, a Land Trust, and the Rural Land Foundation. How did they do it?

The best way to explain the process, sometimes called "Creative Land Development" after Robert Lemire's book was published documenting the process, is through the example of how the Wheeler Farm was "saved." After purchasing open space through bonding authority and cost sharing for a number of years, the Town began to realize that a purchase of the Wheeler Farm would cost as much as all their previous purchases combined. The Wheelers were looking to build as many as 40 houses, but were willing to work with the Conservation Commission. Six buyers had expressed interest in purchasing the property at market rate, but they could not agree on who got what parcel. Instead, The Rural Land Foundation was formed as a non-profit trust to buy and sell land as well as hold land for conservation purposes.

With one bold effort, the RLF purchased the land for $285,000 financed with a combination of three loans backed by the $10,000 guarantees of 30 conservation minded citizens. Hiring the services of a local landscape architect, they devised a plan that divided the parcel into 11 lots ranging from 2 to 7 acres, with 1700 feet of road and utilities, and 54 acres of permanently protected open space. The resulting sale of the farmhouse and 9 acres of land ($105,000) and eight additional lots for prices ranging from $25,000-$45,000 netted the foundation $40,000 dollars in excess of costs. Instead of selling the last lot that was for sale, they deeded it and the 56 acres of open space to the Lincoln Land Conservation Trust. After 3 1/2 years, the Rural Land Foundation completed its work and returned all the personal guarantees.

Lincoln had already been well served by some very generous gifts of land. It is believed that the conservation ethic that pervaded Lincoln at the time, emanated from these initial gifts. The Town also benefited from creative bond financing to purchase open space as a hedge against future economic costs of servicing residential land (an analysis showed that it cost Lincoln more to educate the children living in new homes, than it would to fund the purchase of open space). The remaining land was saved through this creative development approach (approximately 155 acres of land saved as part of 1.6 million in land development transactions).

Some people have suggested that only Lincoln, a wealthy suburb, could afford such a venture with its associated risks. However, it was mostly good timing (knowing which lands serve conservation purposes from the start allowed them to utilize a large state and federal grant -- subsidizing the purchase of open space -- so that it only cost each household $50 per year for 12 years) and the small actions of many people that put this in reach for the Town. The initial Rural Land Foundation was formed with a $1 (one dollar) donation by its first eight founding members. This is the only money actually contributed to the foundation. The rest of this complicated story, including ways in which Lincoln promoted affordable housing and appropriate commercial development is well documented in the book Creative Land Development, by Robert Lemire, 1979.

Jacob's Ladder Trail Scenic Byway, Massachusetts

The Jacob's Ladder Trail Scenic Byway Study (in Western Massachusetts) proposed a number of design and management recommendations for the road, roadside elements and adjacent land use development. The plan highlights the natural, cultural, scenic and historic qualities of the area and recommends landscape turn-outs to protect those resources while providing the traveler the opportunity to view and appreciate them. A number of land use strategies were proposed to conserve scenic values associated with the view and context of the Jacob's Ladder Trail. The plan recommended using overlay zones to achieve scenic byway goals including the following recommendations.

Performance Standards:
- a buffer zone beginning at the outermost boundary of the road right-of-way;
- remove no more than 20% of vegetation or historic features from buffer zone;
- alterations, improvements and accessory structures shall not be located within buffer zone except for drainage culverts, utility lines and access driveways;
- recommend supplementing native vegetation in areas that lack good vegetation in the buffer and encourage the construction of appropriate roadside elements such as stone walls that characterize the area.

Commercial Access:
- minimize the number of curb cuts;
- one driveway per business shall be permitted;
- limit curb cut widths to the minimum width for safe entering and exiting but not to exceed 24';
- prohibit new driveways on slopes greater than 15%.

Commercial Parking:
- locate parking areas to the side or rear of the structure;
- share parking areas with adjacent businesses.

Signs:
- the maximum size shall be 40 sf and the maximum height shall be 6';
- provide signs, which should identify business, residential or public uses without creating confusion, unsightliness or obscuring adjacent businesses;
- construct signs of natural materials to be compatible with surrounding features and the Jacob's Ladder Trail design theme;
- minimize the number of signs to avoid visual clutter;
- design signs with a minimum number of sign colors and graphic elements;
- prohibit the use of trees, rocks, bridges, fences, windmill towers and dilapidated buildings as sign supports;
- prohibit billboards, flashing, roof, moveable or portable signs, and signs containing moving parts and reflective elements in the sunlight.

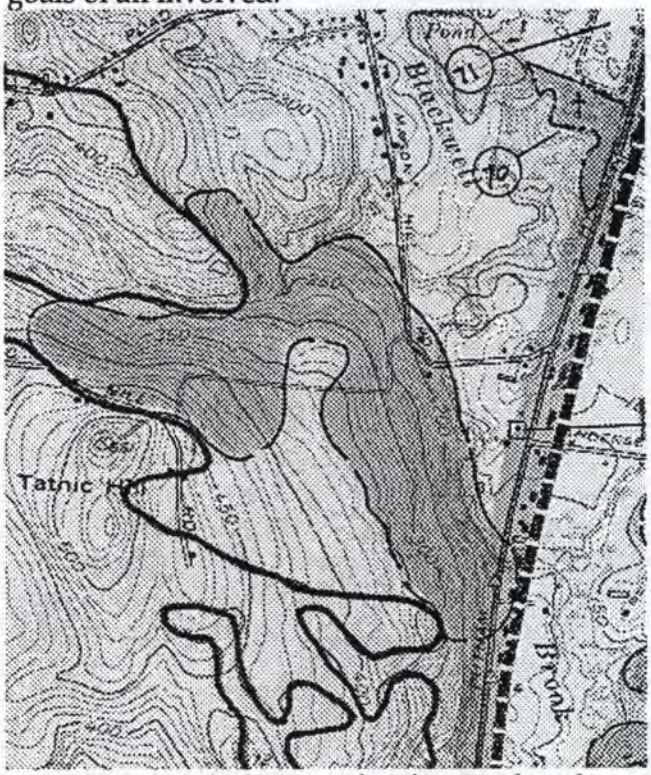
Landscaping:
- minimize earth removal and large volumes of cut and fill in the design of new development;
- grade changes shall be in keeping with the existing appearance of neighboring developed areas;
- minimize area over which existing vegetation is removed;
- landscape parking lots with shrubbery along all lot lines.

Design Guidance:
- A design guidebook was prepared to guide development and design review. Generally the guidelines recommend that proposed development be compatible with the character of existing architectural style and materials.
- The Jacob's Ladder Scenic Byway Study includes guidelines for storm water and erosion control, noise and toxic or noxious fume control, glare, hazardous materials storage, dust, fumes, vapors and gases, and lighting.

There are specific actions landowners can take which satisfy public goals of scenic and resource preservation while bolstering the value and integrity of the privately held parcels or the financial position of the landowner. These include:

- granting a right of first refusal (recorded with land records) to a conservation organization who might be interested in purchasing the land;
- attaching covenants and restrictions on a deed to protect a stand of trees, or to protect an historic structure;
- the donation of easements (for which tax deductions are available);
- sale of conservation easements or development rights (which can extract immediate cash value from the property); and,
- voluntarily following more sensitive design practices that conserve resources and preserve views (studies by the Urban Land Institute have shown that good design increases property values).

Property owners need partners and resources to undertake these kinds of conservation measures. The following sections detail several ways in which private property owners can work with public and non-profit partners to satisfy the goals of all involved.



Visually prominent landscapes, such as the tops and steeply sloped sides of hills make excellent candidtates for a conseration easement

What is a Conservation Easement?

A conservation easement is an alternative way to voluntarily keep land in open space use without the need for outright purchase. A conservation easement allows an owner of a property to either donate or sell some of the rights in a property (such as the right to remove vegetation in a certain area, or the rights to "develop" some or all of a property) to a non-profit organization or public agency who then holds those rights in perpetuity.

An owner wishing to donate a conservation easement may do so for tax benefits. To qualify under federal tax code (section 170(h) of the Internal Revenue Code) the land must meet one of several tests for "conservation purposes." Any of the lands identified in Appendix 1 as part of the resource inventory have been identified as important for the "scenic enjoyment of the general public" and therefore may qualify as creating a "significant public benefit." Any of the lands identified as important open space lands in a Towns Plan of Development would also serve to identify "significant public benefit.".

An owner who is selling the conservation easement, may be someone who needs an immediate source of cash, but wishes to continue using and enjoying his or her property (such as a farmer in need of money for a child's college tuition).

The type of easement given can be controlled by the owner and it is recorded in local land records. It may be either a "perpetual easement", or when not used for tax purposes, a term easement. Once a purchaser or recipient of donated easements is found, there are a few basic steps to follow to create a conservation easement:

1. Identify the resource and extent of land (or building facade) that should be covered by the easement.
2. In consultation with an attorney, draft a statement of purpose for the easement and establish restrictions stating what the owner may <u>not</u> do with the property).
3. Monitor the easement, once it has been legally established. This is the responsibility of the holder of the easement, which should be an organization that will be around for a while, and preferably an organization that already holds other easements. The Wyndham Land Trust is one such organization along Route 169, but a Town can also hold a conservation easement.

Next Steps

SHORT-TERM PROJECTS (0-5 YEARS)

The following is a listing of short-term projects that have been identified by individuals, Town representatives, interest group representatives, and the Consultant Team. Those marked with an asterisk are recommended for inclusion in next years Scenic Byway Program Fund. Potential partners are identified and the type of funding source is identified. Where "private" funding sources are identified, refer to the chart starting on page IV-21 for appropriate sources. In addition there are a number of corridor wide projects that are identified that should be initiated in the short-term:

Project	Potential Partners	Type of Funding Source
CORRIDOR WIDE		
Adopt Goals and Objectives and Decide on National Scenic Byway Application	5 towns + NECCOG (apply through ConnDOT)	Coordinated by NECCOG
Establish Permanent Management Entity as subcommittee of NECCOG	5 towns + NECCOG Q-S Heritage Corridor	NECCOG administrative budget item (small amount)
Establish a Route 169 Corridor District in each of the five corridor towns that corresponds to the viewshed map contained in Appendix 1, for the purpose of adopting tree preservation, cluster or hamlet development ordinances, tax abatement for open space, and other strategies as individually adopted by each town.	5 towns + NECCOG	NA
Signage/Information/Access Program • provide better information for tourist and recreational features - highlight 169 as the leisurely way to get there; • coordinate signage for facilities and services (develop signage system for scenic byways.)	ConnDOT CT Tourism NECVD SECVD Towns	CT Tourism/Economic Development
Bicycle Trailhead Program • actively seek out bicycle parking areas for side routes away from Route 169 (see Appendix 1 for intersecting routes)	Towns CT Tourism NECVD/SECVD DEP/ConnDOT Q-S NHC Towns Bicycle Clubs Conservation Groups	ISTEA

The Community's Role:

THE FIVE CORRIDOR TOWNS

The Role of the Plan of Development

One of the first steps toward implementation of the Corridor Plan is each Town's adoption of the scenic road corridor's goals and objectives as part of their plan of development. This is a simple, positive step that affirms the principles that will guide the Town and its partners in conserving the area's scenic qualities.

Existing plans of development lay a solid foundation for the role of the five towns in scenic conservation. Woodstock's most recent plan update, for instance, calls for creation of a number of conservation, preservation, and development initiatives largely coinciding with scenic road corridor goals. These include:

- a farmland preservation fund;
- outreach to property owners; and,
- amending existing regulations to shape development that meets conservation priorities.

All of these — and many features of other town plans — have been designed to preserve existing patterns of development and demonstrate a clear level of public and political support for this goal.

Regulatory Trade-Offs

The regulatory structures commonly employed by towns to shape land use — subdivision regulations, zoning, wetland and watercourse regulations — do not have to be deployed in the strictly negative sense of preventing certain uses and site designs. Regulations can be structured to reward certain desired outcomes rather than just prohibit specific actions — this is often called "performance zoning." It must be noted that a de facto method of land use management in Connecticut towns such as those along Route 169 (and elsewhere) is the use of the special permit or "special exception." Due to the fact that many rural towns have very simplified one or two district zoning maps (if they have zoning at all), many proposed developments do not fit into the 'as-of-right' framework and require special consideration.

This process gives planning and zoning commissions considerable leeway to interpret guidelines, and it also introduces an element of negotiation and problem-solving into the regulatory framework. The process could be damaging if used capriciously, but it offers a great opportunity to ensure the character of town lands without discouraging desirable kinds of development (i.e., development that improves the tax base without demanding too much in public services or damaging resources with public value, such as Route 169's scenic viewshed).

Introducing a set of regulatory trade-offs within the 'scenic viewshed' of Route 169 can take good advantage of this decision-making freedom held by planning or zoning commissions or other bodies. This would involve creating an "Option B" for developing land, in addition to the existing "Option A" method of building as-of-right (as defined in the voluminous subdivision regulations and zoning codes) or applying for a special exception. Option B would revolve around a set of incentives and guidelines, letting property owner and commission trade one for one. For instance, in return for placing buildings out of road sightlines or leaving existing woodlands intact, the owner might be allowed to build a slightly larger structure or build an access road to less rigorous standards, even as a private road.

Trade-offs would remain completely optional, and would apply only within the Route 169 scenic viewshed, or applied to all owners with road frontage along Route 169. Whatever trade-offs are made, the development would have to meet the goals and objectives of the Route 169 Corridor Plan, as well as basic environmental criteria already mandated through state or federal regulation in order to qualify for the incentive. Some of the trade-offs should also apply to single-lot developments (although they do not qualify as "subdivisions"), because these ultimately have as much effect on scenic quality as do larger developments.

Examples of possible creative approaches for property owners (as summarized in Section III, "Guiding Land Use"):

- "build-to" lines (similar but opposite to set-back lines) at village centers and crossroads to define spaces with buildings;
- tree preservation (and new landscape plantings)
- utilizing tighter groupings of houses even on smaller projects;
- location of parking behind commercial structures, not on the road frontage;
- reducing the number of curb cuts; sharing driveways.

Examples of possible incentives given by towns for using more creative approaches:

- streamline/rationalize approvals process (faster approvals save money if agreeing to Option "B" approach);
- greater building density allowed;
- flexibility in building setback, yard requirements, frontage requirements, etc.;
- site planning asisstance (if available);
- flexible standards for building road infrastructure (reducing up-front costs of development).

Creation/Extension of Local Historic Districts

Continued use of such flexible land-use planning tools as local historic districts is also encouraged. These districts are designed to reinforce the specific existing conditions of the area, and they can be made as strict or lenient as the landowners in the district wish (under Connecticut law, property owners must vote to approve creation of a local historic district). Historic districts are especially relevant for villages (such as Woodstock, where a new district has been proposed).

Local Tax Abatements/Credits

Throughout the planning process, citizens and members of the advisory committee have recommended that alternative tools for resource protection be utilized — ones which encourage appropriate land uses, rather than discourage inappropriate ones. Economic and in-kind incentives are two such alternative land-use tools oriented towards incentives. Several of these tools are already available through state and federal government programs — which are discussed under the section, "Federal and State Programs." The following section outlines issues and proposals for local-level economic and tax incentives.

State law currently gives towns the option to abate property taxes up to 50% for certain land uses (dairy farm, fruit orchard, vineyard, vegetable farm, nursery farm, tobacco farm, and others). Several of the corridor towns currently employ these abatements for dairy farms. They are mainly judged to be successes, not so much because of the economic benefit of the abatement, but because enacting the ordinance shows a town's support for a certain land use and way-of-life. Dairy farms are one aspect of what distinguishes the Route 169 Corridor from the homogenized suburban landscape that is not too far away. Extending this benefit to other types of farming activity, and even to a greater variety of lands with different types of conservation interest, such as visually prominent hillsides or high quality views may be a simple way to keep lands in open space that might otherwise get converted to more intensive uses.

Federal tax benefits already exist for donating easements, but a town-level program could help leverage land-owners into more long-term commitments. The abatement would apply to lands within the scenic viewshed. It would be strictly voluntary. Landowners would apply for the abatement if they wish. For example, a certain percentage abatement (to be determined by

towns individually, relative to their own policies and budgeting process) could apply to landowners agreeing to a set of "view preservation" principles, or agreeing to undertake "view improvement" measures. The modest abatement could depend on a ten-year commitment to maintain scenic qualities, with a payback agreement built in (similar to existing programs in which a landowner would pay back some of the abated tax if the land is converted to non-open space uses). As with the local dairy-farm abatements, the positive scenic-protection message sent by such a program would demonstrate the towns local commitment to maintaining rural land uses.

The bottom line with economic-incentive land-use tools is balancing the environmental and quality-of-life benefits produced by the incentives with the reductions in tax revenues. From the financial perspective, abatements and land taken out of the market and off of the tax rolls have to be compensated by other local revenues or by new, "in-fill" types of development located within already built up areas. This is especially true in this time of modest macro-economic growth, tight public budgets, and protracted budget debates.

Revolving Open Space Acquisition Funding for Key Parcels

In some situations, a key parcel of land may come up for sale where an initial payment may be needed to hold the land until an appropriate buyer can be found. Revolving open space acquisition funds are sometimes used as an emergency source of funding in just such a situation. The Town of Lincoln, Massachusetts, was one of the first towns to use this type of approach. The success of such a technique depends upon the ability of the Town or interest group to quickly find another buyer — known as a conservation buyer.

The conservation buyer may be another non-profit that is capable of managing the land in its rural use, or it may be a development entity, that can turn around and resell the property with conservation easements and design guidelines in place, on the most sensitive lands. In times of rising property values, the property can often be sold for the same or greater value, yielding a return to the investor. If this is coupled with a willing seller who offers the property as a "bargain sale" to the Town or non-profit in exchange for tax benefits, then there is an even greater chance for an economic gain which can be immediately returned to the revolving fund for use on other properties. Critical elements of the open space system in Lincoln, Massachusetts were created this way (see previous page).

Creating a start-up fund could come directly from town budget allocations, or from devices such as a real-estate transfer tax (which has been used with great success on Nantucket Island, for instance). The Town of Brooklyn has started a small fund for these purposes.

Protective Mechanisms: Registers and Districts

There are a variety of tools and techniques available to help with the preservation of the corridor's historic and cultural resources. The State and Federal governments maintain 'historic registers', to which properties may be nominated and which serve as the mechanism for ensuring that other Federally funded projects do not conflict. Over 35 properties fronting on Route 169 are on either or both the National Register of Historic Places or the Connecticut Register of Historic Places.

Corridor towns such as Brooklyn and Woodstock have taken advantage of the State's enabling legislation to create local historic districts with additional and more substantial powers of land regulation, overseen by a local Board. (One suggestion made by a Brooklyn planning commission member is that the Town consider expanding its local historic district, now focused on its central hamlet, to protect building resources along the 169 corridor as well— possibly as a parallel district with modified and less-

The Community's Role:

LOCAL PRIVATE SECTOR ADVOCACY GROUPS

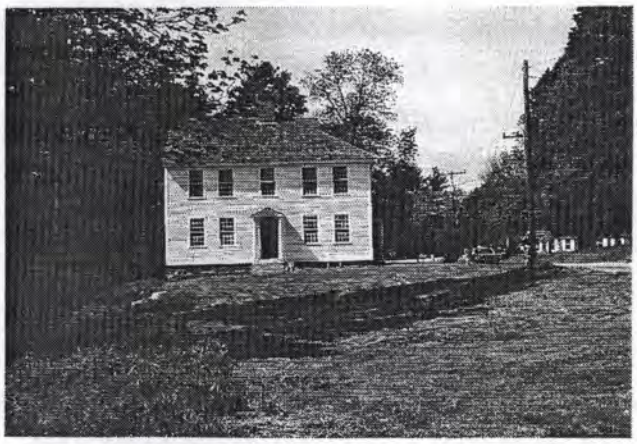
Adaptive Uses for Historic Structures: Private and Public

Of course, the conservation potential of these local facilities will be increased to the extent that they also have a functional use of local importance, in addition to their architectural or historic value. Finding creative but appropriate adaptive uses for historic buildings is an important challenge.

Private uses, requiring no public or philanthropic support, are ideal in the sense that they pay their own way based on the intrinsic real estate or architectural values of the particular resource. Examples are the continuing educational use of the Pomfret School and Woodstock Academy facilities, maintaining their architectural components through ongoing relevant functions. Other office, commercial or residential uses can also take place in often-underutilized existing building stock, helping maintain the "Quiet Corner" rural ambiance.

Of course, public accessibility and the potential for tourism interpretation is an equally important objective that may not necessarily be met by private use. This educational function is the rationale behind the use of a not-for-profit approach for renovation and public maintenance of facilities such as the "Roseland Cottage," the Prudence Crandall House or the Bishop House as attractions open to the public. The feasibility of this approach can be enhanced to the degree that Scenic Corridor designation at either the State or even national level can foster an increase in appropriate tourism.

A tourist-oriented meld of the public and the private is in the area of visitor accommodations. For instance, the creation of "bed and breakfast" facilities or inns can provide the income to preserve structures without subsidy while maintaining semi-public access. An increase in tourism demand can provide the market feasibility for additional facilities -- witness the preponderance of B & B's near Pomfret School. Farm-



based "agri-tourism" accommodations (now popular in Europe) can provide key supplemental income for working family farms. And the potential for tourist-enhanced shops or restaurants can help maintain the economic viability of local hamlets, competing with respect to nearby strip development.

Local Involvement

One of the best ways to ensure conservation of historic structures and local historic district resources (or open space) is through fostering volunteer participation by individuals. This can include the involvement of private broad-based groups— such as resource-specific volunteer support groups for a local historic house or church. These groups, because of their fervent emphasis on particular issues, can help influence and maintain local legislation or provide local private matches to leverage public seed grants.

Projects might also include joint trails systems, applying techniques recommended in the Route 169 CMP to protect riverfront land or more distant ridgelines, especially where Route 169 verges close to the Quinebaug, and interpretive projects for pull-offs and signage where the distant view from the scenic road is also part of the Q-S NHC landscape.

Other Private Participants

Utility Companies: Maintenance and Location of Utility Lines

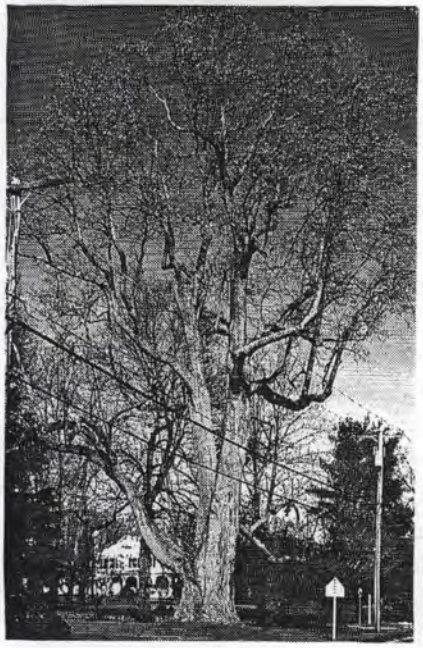
Much like ConnDOT, Northeast Utilities bears responsibility for maintaining crucial infrastructure located in the right-of-way but greatly effecting the view of contiguous lands. The two most direct benefits of Northeast Utilities collaboration in this plan relate to tree-trimming and location of power lines.

One result of the Route 169 Advisory Committee's meetings to date has been the linking together of those who live along Route 169 and those who must maintain it. This helps both sides to see the need for a more organized process for consultation on trimming and other line maintenance with landowners, towns, town foresters and other effected partners. These efforts should be continued and expanded. Based on this example, other utility providers such as phone and cable companies should be similarly engaged. (Please refer to Section III, "Managing the Roadside Environment."

Most importantly, Northeast Utilities offers small grant programs for tree planting within the right-of-way as a means of encouraging the planting of compatible trees in the vicinity of overhead utility lines. Putting the right tree in the right place means that Northeast Utilities does not have to come back and prune it, saving them money in the long run.

Corporations and Institutions: Adopt-a Highway

Based on the "adopt-a-highway" efforts widely used throughout the country, local corporations with offices within the Route 169 corridor, school groups, scouting groups, or churches might help sponsor similar efforts along the Route 169 region. As discussed in Section III, "Managing the Roadside Environment," adopt-a-highway programs could be facilitated if the Town agreed to take out the permit from the Connecticut DOT, thereby reducing the insurance and bonding requirements. In addition, the Connecticut DOT has agreed to "personally" help any group wanting to adopt a highway section through the process and to make it as easy as possible.



Northeast Connecticut Visitors District

While most of the participation of the regional tourism agency is in the area of interpretation and promotion (discussed elsewhere in this report), it can also assist in cooperative efforts to conserve and enhance the scenic Route 169 corridor.

For instance, as described above and in conjunction with ConnDOT and local towns, the tourism agency could help seek grants from state sources or other not-for-profit national beautification groups to design and implement a specialized signage system for the scenic road corridor. Such a system, developed in conjunction with local merchants and service providers, would coordinate a state scenic roads logo with 'Vermont-type' directional signs, a consistent, functional and attractive system of signage for tourism service locations, replacing the need for obtrusive billboards.

Federal Highway Administration Scenic Road Program and ISTEA

The Federal Highway Administration can potentially provide some of the most direct incentives for scenic road corridor planning and conservation. If agreed to by Route 169 corridor towns, designation of Route 169 as a National Scenic Byway will bring greater recognition of the quality and character of Route 169. This can help build a sense of stewardship for the landscape, both for visitors and for residents. Designation can also be parlayed into tourism marketing to the degree desired by individual towns and the regional tourism agency.

With such designation, FHWA's Scenic Byway Program Fund will also give priority to funding projects within designated scenic byways having approved corridor management plans. A further benefit of FHWA's involvement is also anticipated: FHWA approval is required to use alternative design standards for road improvements. Further recognition of the scenic qualities of Route 169 will help to demonstrate the reason for needing design exceptions or waivers to protect the character of the scenic road.

Technical Assistance

With few remaining incentives and assistance programs available at the state and federal level, and more programs being eliminated every day, funding for these programs is very competitive. Northeastern Connecticut can compete for these funds if they package all of their corridor and conservation initiatives together and apply for one package of funding and/or technical assistance from state and/or federal agencies. The problem is, that in a rural area such as this one, there are few persons available to coordinate grant funding applications, or to provide the towns with the kind of assistance necessary to put a grant application together.

The one pressing need that is common to all of the conservation initiatives that are taking place — the Quinebaug-Shetucket Heritage Corridor, the Route 169 Scenic Road Corridor, and other greenway and trail programs — is the need for a "circuit-rider" that can serve all of Northeastern Connecticut. One possibility is that a person could be hired with outside funding (R.K. Mellon Foundation recently funded scenic and historic conservation efforts in Pennsylvania and other states) to serve as the director of the Quinebaug Shetucket Heritage Corridor Inc., whose duties would also be to provide technical assistance to towns for implementing the Route 169 plan (such as helping with the design of a conservation easement, or helping with the review of a development plan), and to coordinate and assist in the pursuit of outside funding.

Another possibility might be to utilize the extensive network of technical assistance and outreach organized by the state extension service as the home base for the position. Outside funding could be used to "buy out" someone's University appointment. This person might come from one of the existing programs in agricul-

Foundation	Address	City, State, Zip	Keywords	Phone/Fax	Date due	Funding Opportunity	Contact	Initial Action
Conservation Fund/DuPont Grants for Greenway Projects	1800 North Kent St.	Arlington, VA 22209	greenway, trails,	703-683-2996 (ph)	1/31/95	assistance towards a greenway project (possibly trailhead at Airline Trail/Route 169)	Jack Lynn	Application materials requested from Conservation Fund
Richard K. Mellon Foundation	PO Box 2930	Pittsburgh, PA 15230-2930	American Land Conservation Program and Conservation of Natural Areas (land acquisition, scenic vistas, preservation of Civil War battlefields, wetlands protection, wildlife preservation); provided funding to Scenic America for corridor study.	412-392-2800 (ph) 412-392-2837 (fax)	4/1/96	Conservation Easement Program -- best if applied in conjunction with Q-S NHC	George H. Taber, Vice President and Director	Annual Report contains application form and checklist of required attachments
Conservation Technology Support Program	324 Fuller Avenue - Suite C2	Helena, Montana 59601-5029	Geographic Information System (ESRI)	406-442-3696 (ph) 406-442-3687 (fax)	1/16/96	Purchase of GIS equipment by non-profit - in tandem with Q-S NHC -- in kind grant of hardware, software, training and support	Marshall Mayer Executive Director, Desktop Assistance	application form by email to ctsp@desktop.org
Hartford Foundation for Public Giving	85 Gillet Street	Hartford, CT 06105	support for parks and environmental health -- demonstration programs, education, innovative programs, land acquisition -- capital campaigns/expenses, equipment facilities, multi-year grants, seed money in Hartford and the 29 towns in Capitol Region	860-548-1888 (ph) 860-524-8346 (fax)		Collinsville riverfront improvements related to bike trail - deadlines not given	Michael Bangser, Executive Director	Call for Application Packet and to discuss project
Kresge Foundation	3215 West Big Beaver Rd., PO Box 3151	Troy, Michigan 48007-3151	buildings and equipment, land acquisition for conservation organizations working on habitat and species organizations Funded Nature conservancy, Mass Audubon, -	810-643-9630 (ph) 810-643-0588 (fax)		Maybe worth a joint application for environmental center with Audubon property in Pomfret	Alfred J. Taylor, Jr., Chair	Telephone before submitting a proposal, guidelines available
Pew Charitable Trusts	One Commerce Square/2005 Market Street suite 1700	Philadelphia, PA 19103-7017	protect the environment and encourage the sustainable use of natural resources, sustainable agriculture	215-575-9050 (ph) 215-575-4939 (fax)		tie in to sustainable agriculture or forest and marine conservation	Joshua S. Reichert, Director, Environmental Division	call for application procedures on environmental pollution

National Fish and Wildlife Foundation	1120 Connecticut Ave. NW, Suite 900 (Bender Building)	Washington, D.C. 20036	Wetland conservation, conservation education and leadership training, fisheries initiative, neotropical migratory bird conservation program, fisheries and wldlife assessment, wildlife and habitat initiative - funded Mass Audubon for protection - NC state	202-857-0166 (ph) 202-857-0162 (fax)	4/15/96	land acquisition, collaborative efforts, demonstration programs, innovative programs, training, -- could be a source for circuit rider position if tied more to environmental (UConn linkage helpful)	Krishna K. Roy, Director, Development and Marketing	Ask for application material from foundation
The Cricket Foundation	Exchange Place, Suite 2200	Boston, Mass. 02109-2881	Advocacy, land conservation, research in New England Funded land protection for Mass. Audubon also Charles River Watershed Association for general purposes	617-570-1130 (phone) 617-523-1231 (fax)	5/15/96	operating costs and projects - small grants for land protection (requires IRS tax exempt number)	George W. Butterworth III, Esq., Counsel	Telephone inquiry to start
American Conservation Association, Inc.	1350 New York Ave. NW, Suite 300	Washington, D.C. 20005	land conservation, (public lands, open space, wilderness, forest protection), coastal issues, water quality, river protection and wildlife	202-624-9389	5/1/96	has funded scenic conservation projects, emphasis on citizen participation, technical assistance -- try for circuit rider demonstration project for Route 169	Charles M. Clusen, Executive Director	Annual Report, Grantskeeper Guide
The George I. Alden Trust	370 Main Street, Suite 1250	Worcester, Mass. 01608	Conferences, education, land acquisition, publications, research seminars Worcester Area/Northeastern United States Funded Worcester County Horticultural Society, New England Aquarium	508-798-8621 (phone) 508-791-1201	7/1/96	- favors educational institutions - look for funds to support U. Conn participation for technical assistance - horticulture related taught at Worcester Polytechnical Institute (use extension funding angle)	Frances H. Dewey, 3rd, Chairman	Annual Report includes submission of
J. M. Kaplan Fund, Inc.	30 Rockefeller Plaza Suite 4250	NY, NY 10112	Natural and built environment - natural resources and environmental conservation, land use and farmland protection, environment and enterprise, inner city greening (NY City and State)	212-767-0630 (phone) 212-767-0639 (fax)	10/15/96	program undergoing review - New York State only, but a telephone call for Connecticut may be worthwhile	Henry Ng, Director	Telephone for guidelines

V. NEXT STEPS

The Corridor Management Plan is a set of linked strategies intended to keep the Route 169 Corridor pretty much as it is today, accommodating growth and development, but doing so in such a way as to maintain the region's strong sense of time and place. The remaining issue is how to implement such a broad set of strategies over a region containing five towns and numerous property owners. Who will carry out the work outlined in the Corridor Management Plan?

Change happens incrementally -- a pasture goes fallow, underbrush grows up and the view is lost. A farmer passes on, the heirs subdivide the acreage and houses dot the formerly sweeping field. An 18th century house burns and is replaced by a modern ranch house. A specimen tree is stuck by lightning and the roadside canopy is lost. And gradually, over time, the place is no longer what it was.

The strategies for conserving the special places that are along the Route 169 Corridor call for constant watchfulness as these changes -- as well as opportunities for enhancement -- come up. They call for advance thinking, too, in terms of having local land use policies that pro-actively guide development to reinforce the traditional patterns and prevent the 'standardization' that comes with typical forms of contemporary development.

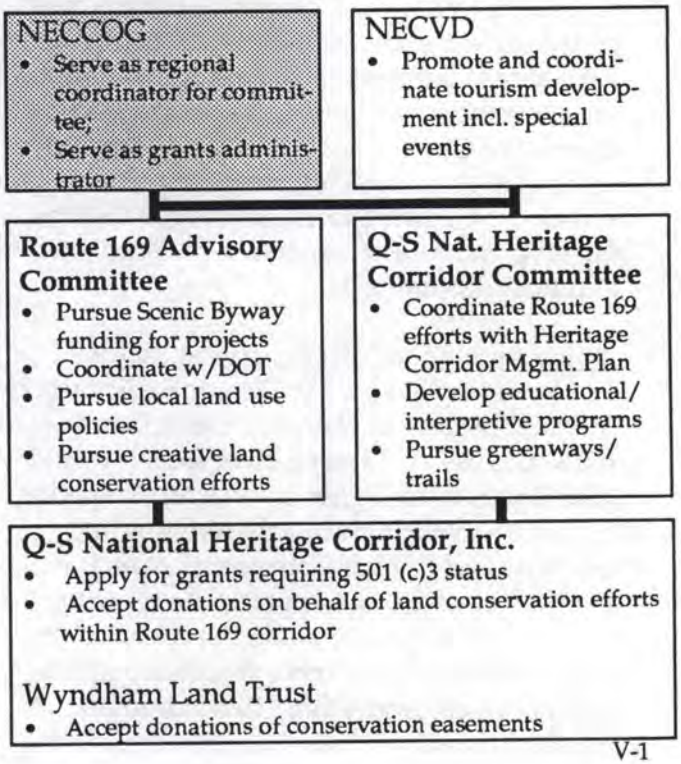
How best to orchestrate this symphony of many players, many instruments over time? One of the considerations is the limitation of 'people resources' in a largely rural area, where involved civic leaders and public officials are stretched thinly. To the degree possible, it seems wise to utilize existing institutions as much as possible.

It is recommended that the Route 169 Advisory Committee continue and be expanded. The Northeastern Connecticut Council of Governments has agreed to serve as the regional coordinator for all of the various actions that need to take place under the plan. NECCOG has the statutory responsibility to prepare the Regional Plan of Conservation and Development. It also serves as the regional transportation planning agency, and provides support services for such groups as the Quinebaug-Shetucket National Heritage Corridor Committee. In fact, the emerging non-profit organization formed to support the activities of the Q-S NHC seems an appropriate partner to undertake a number of the Plan's recommendations. In addition, the Northeastern Connecticut Visitors District has also supported efforts of the Q-S NHC, and successfully promoted the regions assets to visitors. The diagram below suggests a logical approach to defining each existing organizations role in implementing the Corridor Plan.

What Needs To Be Done Right Now?

There are a number of immediate steps that must be taken now to take advantage of current opportunities within the National Scenic Byway Program and to coordinate efforts with the development of the Q-S National Heritage Corridor management plan which is in its initial stages. We are asking each town to take several actions in the weeks and months ahead to begin the process of implementing the Corridor Plan:

ROUTE 169 COORDINATION



CANTERBURY		
***Route 14 and 169** - traffic calming using new landscape improvements, lane narrowing, fencing, curb and gutter, sidewalk connecting park and school	ConnDOT Town NECCOG Property Owners	Scenic Byway Program Fund 97
***Canterbury Village Walks** • walkway connecting Canterbury Green, Prudence Crandall House, closest point to Quinebaug River • parking at village Green, or park; • walking tour (brochure)	ConnDOT CT Tourism Office NECVD Town Canterbury Historical Society	Scenic Byway Program Fund 97
Prudence Crandall Museum - incorporate visitor information into existing museum facility	CT Tourism Office NECVD Canterbury Historical Society Town CT Trust for Historic Preservation	CT Tourism/Economic Development Private
Stone Wall Conservation District - vicinity of Clark House	Property Owners Canterbury Historical Society Town CT Trust for Historic Preservation	National Center for Preservation Technology and Training (Competitive Grant)
Conservation Easements - at Brooklyn Canterbury Town Line	Property Owners Land Trusts Towns	Tax Incentives Private
BROOKLYN		
***Route 6/169 - Design Enhancements** - can this intersection be improved without destroying the Village of Brooklyn? -- using traffic calming techniques.	ConnDOT Town NECCOG Brooklyn Historic Society Brooklyn Cons., P&Z Commissions Property Owners	Scenic Byway Program Fund 97 or ISTEA for enhancements required
Bicycle Pedestrian Trail - path connecting town recreation park and natural area -- money was turned back due to limited funding for engineering, etc.	ConnDOT Town NECCOG Town Recreation Dept.	Consider revising budget and incorporating into Route 6 project as enhancement
Village Entrances/Improvements - clear demarcation of beginning of settled area using landscape improvements	Private nurseries, garden centers, ConnDOT Northeast Utilities	Private Northeast Utilities
Conservation Easements - tops and side slopes of hills to south of village (see scenic byway Features Map)	Property Owners Land Trusts Town	Tax Incentives Private

BIBLIOGRAPHY:

Books

1. *Tourbook: Connecticut, Massachusetts, Rhode Island*. 1994. Automobile Association of America. Buffalo.

2. *Campbook: Northeastern*. 1994. Automobile Association of America. Buffalo.

3. Bell, Michael. *The Face of Connecticut: People, Geology, and the Land*. 1985. Revised 1988. State Geological and Natural History Survey of Connecticut Bulletin 110.

4. *The Aquifer Protection Area Program for the State of Connecticut*. 1992. Reprinted 1994. Connecticut Department of Enviornmental Protection and the Bureau of Water Management, Hartford.

5. *Enviornment 2000: Connecticut's Enviornmental Plan. 1992 - 1997*. 1992. Connecticut Department of Enviornmental Protection, Hartford.

6. *A Watershed Management Guide for Connecticut Lakes*. Revised 1991. Connecticut Department of Enviornmental Protection Bureau of Water Management, Hartford.

7. *What's Legally Required? A Guide to the Legal Rules for Making Local Land-Use Decisions in the State of Connecticut*. 1993. Connecticut Department of Enviornmental Protection, Hartford.

8. *Joint Study into the Creation, Establishment and Designation of a State -Wide Scenic Highway System*. 1972. Connecticut Department of Planning and Research and the Connecticut Department of Environmental Protection in cooperation with the U.S. Department of Transportation, Hartford.

9. *Scenic Road Applications*. Connecticut Department of Transportation, Scenic Advisory Committee.

10. *Connecticut Walk Book: A Trail Guide to the Connecticut Outdoors*. 1993. Connecticut Forest and Park Association, Rockfall CT.

11. *Travel Historic Connecticut: A Guide to Connecticut's Town Historical Markers*. 1987. The Connecticut Historical Commission. Guide Press Co. Madison, WI.