Southwest Connecticut Reliability Project
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Regional Plans of Conservation and Development

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Housatonic Valley Regional Plan of Conservation and Development

ADOPTED EFFECTIVE 7/1/2009

The regional plan shall be designed to promote with the greatest efficiency and economy the coordinated development of its area of operation and the general welfare and prosperity of its people - CT General Statutes 8-35a

This Document has been extracted from HVCEO's historic website. The website is archived here for reference

There are formatting changes from the original to provide improve navigation throughout the document.

This original document was created by HVCEO, and has been extracted by Mike Towle, Associate Planner, WestCOG, on 5/24/2016

CHAPTER 1: INTRODUCTION TO THE PLAN AND THE REGION

1-1. WHY HAVE A REGIONAL PLAN?

In 1947 Connecticut first authorized regional planning. The goals were to provide a larger context for land use decisions made by individual towns, and to have a governmental entity available to address issues that extended beyond the boundaries of any single community.

These goals remain today. How HVCEO has managed this responsibility for Greater Danbury since its formation in 1968, and the challenges encountered, is recorded in the **History of HVCEO**.

State statutes require that the physical elements of regional planning be codified in an advisory regional plan by each regional planning organization in Connecticut. The Housatonic Valley Council of Elected Official (HVCEO) is one of fifteen such**regional planning organizations**. This document is HVCEO's physically oriented Regional Plan of Conservation and Development.

This Plan updates earlier regional plans of 1971, 1981 and 1997. It is designed to meet the requirements of State Statute Chapter 127, Section 8-35a, that a regional plan "*shall be designed to promote with the greatest efficiency and economy the*

coordinated development of its area of operation and the general welfare and prosperity of its people."

The HVCEO Regional Plan has the following uses:

--- 1. Provides leading advice on Responsible Growth strategies
--- 2. Sets development priorities as required by CGS 8-35a
--- 3. Coordinates water and sewer utilities between towns
--- 4. Promotes preservation of intertown water supplies and is supply assessment required under CGS 25-33g

--- 5. Markets the region as a coordinated metropolitan area
--- 6. Assists private investment studies and municipal bond sales
--- 7. Meets 23 USC 134(h)(1) mandate for land use/transportation coordination
--- 8. Works against mandatory consistency of local, regional and state plans

--- 9. Addresses CGS 22a 102d regional input to municipal plans
--- 10. Addresses CGS 16a-28 regional input to state plan
--- 11. Addresses CGS 8-3b on coordination along boundaries
--- 12. Coordinates aspects of municipal land use regulation

The Greater Danbury - New Milford Area is one of
fifteen state defined planning regions in Connecticut.

Connecticut's original 1947 regional planning statute recognized that the growth of a municipality influences, and is influenced by, the surrounding region, that no town is an isolated entity.

Since then it has become increasing clear that critically important service delivery, environmental, economic, utility and transportation systems are regional by nature and their proper development and management improves with a regional perspective.

The authority of this policy document upon the ten municipal plans is advisory. The reasoning is quite logical; the choice as to who makes land use decisions should be those who live closest to the results. This is opposed to non-local persons who are insulated from experiencing the consequences of their decisions and the raised eyebrows of their neighbors.

The Greater Danbury Region's ten municipal plans are required by statute to consider the regional plan in their ten year updates. Similarly, the local plans contain important considerations in the creation of this Regional Plan.

This Regional Plan is part of a geographically interrelated planning process in Connecticut, taking its place between the Connecticut Conservation and Development Policies Plan for 2005-2010 and the Housatonic Region's ten municipal plans of conservation and development:

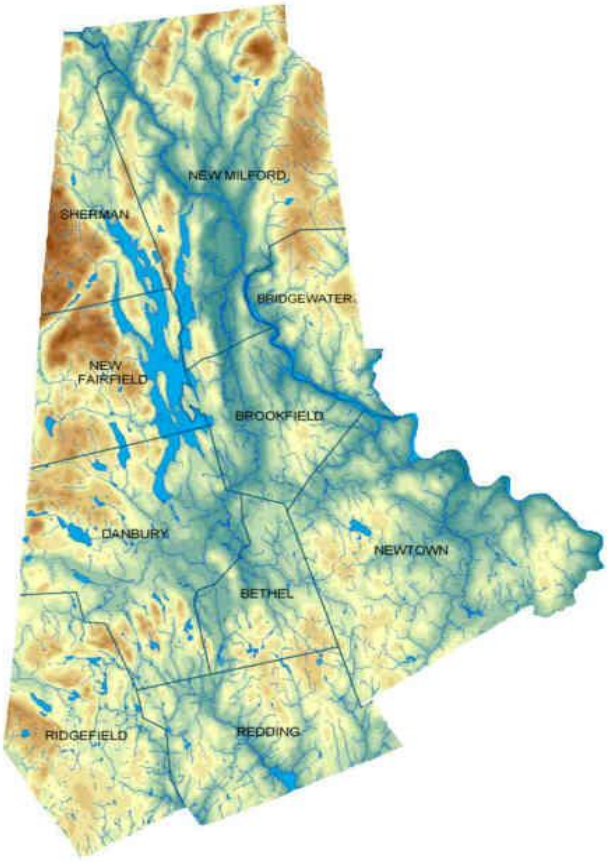
2010 Ridgefield Plan of Conservation and Development web link
2010 New Milford Plan of Conservation and Development web link
2008 Redding Plan of Conservation and Development web link

2007 Bethel Plan of Conservation and Development web link
2004 Newtown Plan of Conservation and Development web link
2003 New Fairfield Plan of Conservation and Development web link

2002 Danbury Plan of Conservation and Development web link
2001 Bridgewater Plan of Conservation and Development
2001 Brookfield Plan of Conservation and Development
2001 Sherman Plan of Conservation and Development web link

1-2. FUNDAMENTAL DEVELOPMENT FACTORS OF SOIL, SLOPE AND WETNESS

Fundamental to the preparation of any physical plan are the primary site factors of soil, slope and wetness. These factors interact with the Region's pattern of hills and valleys, as shown on the map below:



Pattern of hills and valleys in the Housatonic Region. Browns are highest elevations, descending thru yellows and greens to lowlands.
Proceed to the full size ***Topographic Overview Map****.*

While the provision of water and sewer utilities may mitigate some site constraints, in this hilly Region the geographic extent of such utilities will always be limited.

Successful planning, then, will require municipal regulations to take into account both the presence of development inducing utilities and the traditional natural site limitations of soil, slope and wetness.

As for soils, unfortunately no soil category in our area is entirely problem free. Excessively drained soils may seem to solve hydraulic problems, but by the same token are at risk for groundwater contamination.

And the area's many shallow and rocky soils can potentially impair septic system functioning, heightening regulatory review and the expense of design.

Soil above increasingly stony subsurface layers

Further, as the percentage of slope starts to rise, especially above 15%, there is increasing slope instability, greater potential for erosion and various structural concerns. And degree of wetness is a universal constraint at all locations.

These core natural variables have long been recognized within the texts of local development regulations, with varying degrees of articulation and staff support for enforcement.

As a planning aid for the regulatory process, defined below are four generalized and increasing degrees of constraint upon development, from 1) minimal to 2) moderate, 3) areas of more caution and finally 4) areas of most caution, as follows:

MINIMAL: *These most favorable areas have only a few or slight environmental constraints for development. This category includes excessively drained soils and also well drained soils with less than 15% slopes. Note that for mapping purposes, added in here are the soil categories of "urban" and "other" land, especially covering large portions of built up central Danbury and some town centers.*

MODERATE: *Having moderate or localized areas requiring restrictions before approval of development. But problems may usually be overcome with careful environmental planning and mitigation. This category contains well drained soils with 15% to 25% slopes and/or well drained soils with high seasonal water table. Also included here are hardpan soils of less than 15% slope, and shallow or rocky soils of less than 15% slope.*

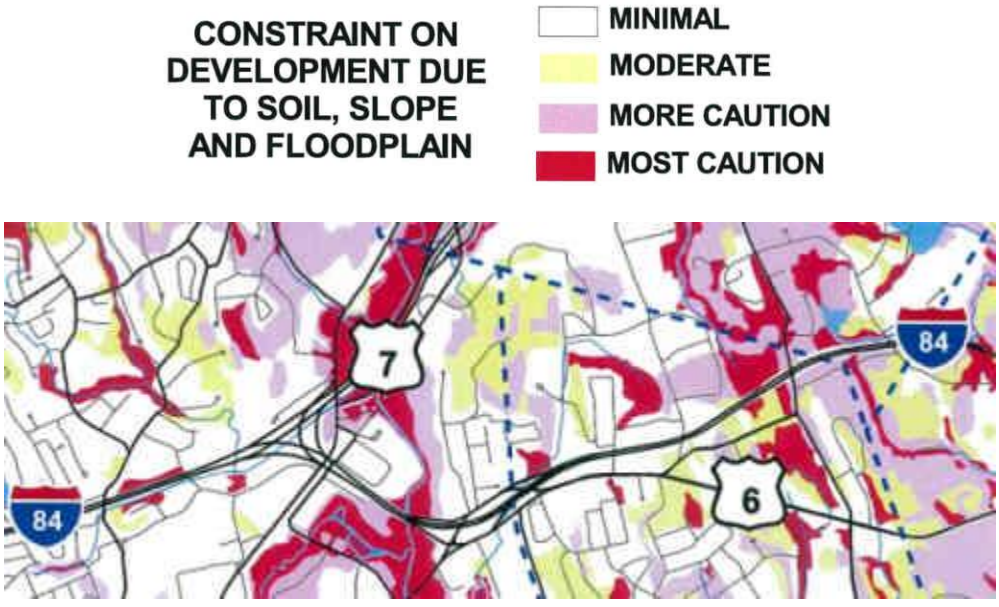
MORE CAUTION: *Defined as having limitations that can take considerably more effort to overcome with environmental planning and mitigation. Included here are*

shallow or rocky soils with slopes 15% to 25%, hardpan soils of 15% to 25% slope and/or hardpan soils with high seasonal water table, and lastly the higher elevation 500 year frequency portion of the floodplain.

Also included in these More Caution areas are soils with slopes in excess of a 25% slope (but unfortunately not included on the lavender areas on the maps below as it was digitally unavailable) On such steep slopes, limitations on development may be difficult to overcome even with the advanced environmental planning and mitigation.

***MOST CAUTION:** Areas with obvious severe or very severe limitations on development. This strictest category includes the lower elevation 100 year frequency portion of the floodplain, peat, muck, and those soils in the CT Inland Wetlands and Watercourses Act definition of wetland soils that are poorly drained, very poorly drained and alluvial.*

***Sources:** The Region's soil types have been combined into groups based on the landmark 1974 report entitled "Know Your Land" by the University of Connecticut Cooperative Extension Service. Also, the 2008 regional plan of the neighboring Central Naugatuck Valley Council of Governments (COGCNV), Fairfield County and Litchfield County Soil Surveys (on file at the HVCEO office), and HVCEO staff. Note: These maps are for generalized planning purposes only.*



Sample of soil, slope and floodplain constraint map for the Danbury - Bethel border area

The maps below suggest how, from a generalized perspective, local regulations and review procedures should increase their level of concern and extent of permit conditioning:

1. LINK TO CONSTRAINTS ON DEVELOPMENT MAP FOR BETHEL
2. LINK TO CONSTRAINTS ON DEVELOPMENT MAP FOR BRIDGEWATER
3. LINK TO CONSTRAINTS ON DEVELOPMENT MAP FOR BROOKFIELD

4. LINK TO CONSTRAINTS ON DEVELOPMENT MAP FOR DANBURY
5. LINK TO CONSTRAINTS ON DEVELOPMENT MAP FOR NEW FAIRFIELD
6. LINK TO CONSTRAINTS ON DEVELOPMENT MAP FOR NEW MILFORD
7. LINK TO CONSTRAINTS ON DEVELOPMENT MAP FOR NEWTOWN

8. LINK TO CONSTRAINTS ON DEVELOPMENT MAP FOR REDDING
9. LINK TO CONSTRAINTS ON DEVELOPMENT MAP FOR RIDGEFIELD
10. LINK TO CONSTRAINTS ON DEVELOPMENT MAP FOR SHERMAN

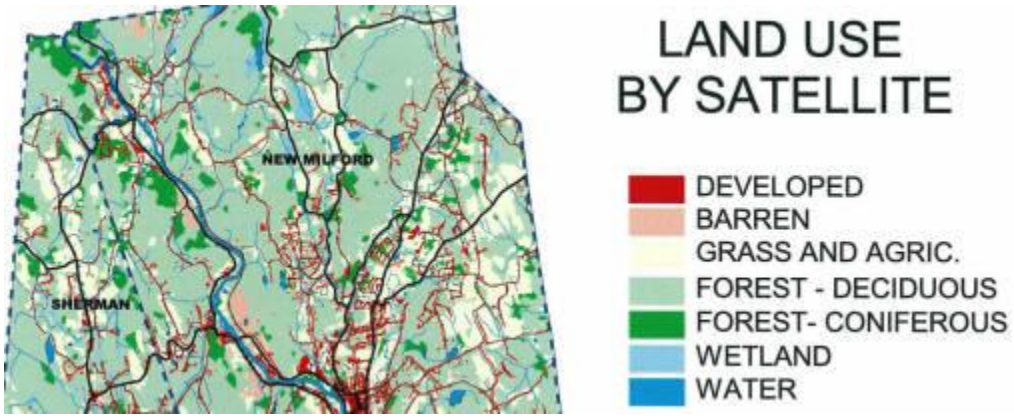
A hard copy of any of these web accessible municipal constraint maps can be mailed to you at no charge. The hardcopy edition of this Plan includes a regional **Constraints on Development Foldout Map for the Region**.

Users of the soil and slope constraint data above are cautioned that these primary factors are not the sole set of environmental constraints upon development.

Public water supply source areas, either surface as in a water supply watershed, or subsurface as in a stratified drift aquifer, may also be present as a separate constraint. These are discussed in Chapter 3.

1-3. LAND DEVELOPMENT TODAY

The current state of regional land development for the Region's 337 square miles is shown on this **Satellite View of Land Use**. A foldout copy of this variable accompanies the hard copy edition of this Plan.



Individualized histories of **Changing Land Use by Municipality** are also available on the hvceo.org web site.

1-4. DEMOGRAPHIC OVERVIEW

Presenting the characteristics of the population and the economy to be planned for is an important component of both local and regional plans.

It is also good practice for both governments and businesses to have an understanding of the demography and economy of the Greater Danbury - New Milford market area.

This Plan section serves that purpose, and also serves as a summary of hvceo.org's **area info tables**.

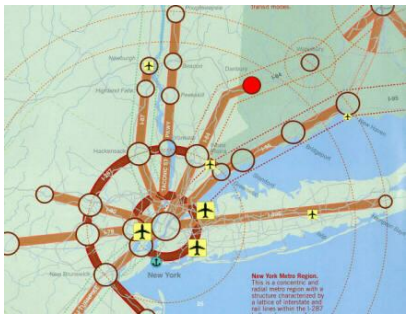
1-4:1. POPULATION:
*Since 1950 the Housatonic Valley Region has consistently **grown faster than the remainder of Connecticut**. While in 1950 the ten municipalities of the planning region represented 2.9% of Connecticut's total population, by 1970 that percentage was 4.5% and by 2000 had climbed to 6.2%.*

But this key variable, share of total state population, then cooled significantly between 2000 and 2010. The area's 6.2% share in 2000 rose to only 6.3% in 2010, and that with a little help by rounding the decimal (actual 6.23% and 6.28%).

So Greater Danbury growth, characterized as exceptional within Connecticut for several decades, has clearly leveled off. We are now more in tune with the slow growth in the remainder of Connecticut.

Yet the Housatonic Valley Region remains directly in the path of population decentralization from several nearby cities including White Plains, Stamford, Norwalk and Bridgeport.

On a larger scale the post-1950 decentralization of economic activity outward from the center of the Tri-State New York Area has seen much economic growth come first to Danbury, and then to other parts of the Region. This dispersal of jobs has also fueled population growth.



Danbury (red) nicely positioned
within the New York Metropolitan Area

During the decade of 1960 to 1970 the Region's population growth rate skyrocketed. Brookfield was the leader with a ten year population growth rate of 185%, then Ridgefield at 123%, New Fairfield 108% and New Milford 79%.

Much of the area's housing stock was built in the sixties decade. There was a corresponding urgency to upgrade planning and zoning procedures during that period, including the creation of HVCEO in 1968 to assist them.

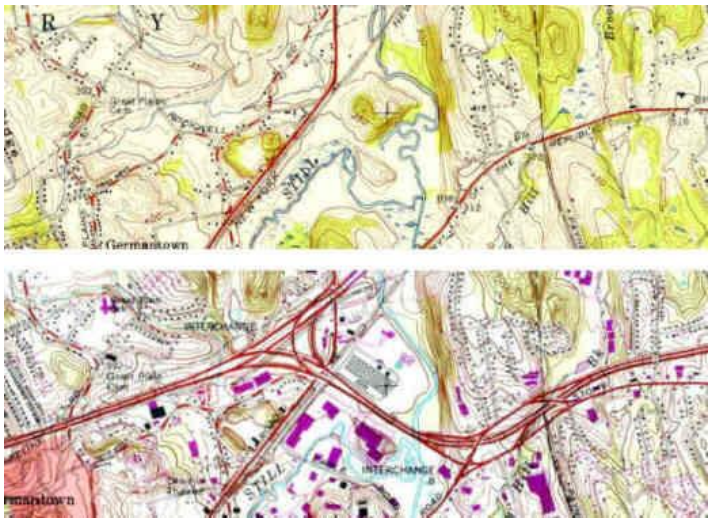
Today, lesser but still relatively high growth rates continue. Consider the perspective that just 10 of the 169 municipalities in Connecticut are located within the Housatonic Valley Planning Region. For the decade 1980 - 1990, ten percent of Connecticut's total population growth occurred in just these ten towns.

Then for 1990 - 2000, our Region's share was a dramatic 21% of statewide growth. That growth was fueled by ***this area's enviable geographic position*** *within the New York Metropolitan Area.*

All municipalities receive assistance from the state and federal government to modernize public resources. Additional assistance is justified in those regions where population growth is particularly rapid. The Housatonic Valley Region is in this category.

The growing importance of Danbury as a leading city in Connecticut is also notable. In the order of communities in Connecticut ***ranked by population size****, Danbury was the fifteenth largest in 1970. By 1980 its rank had risen to ninth, up to eighth in 1990, and then up to the seventh largest city in Connecticut by 2000.*

Danbury is and will remain the economic, geographic and institutional center of the Housatonic Valley Planning Region. New Milford retains its role as the secondary center.



Above is the Danbury - Bethel border area in 1953. Route 7 is in the center and Route 6 runs east - west at right. Below is the same scene today, after much development and the construction of 1-84.

Examining the four census years 1970 to 2000, in all ten municipalities the median age of residents was rising. Comparing the ***2000 median ages of municipal residents*** *to the national average of 35.3 years, only Danbury approximates that national average, all others are older.*

At first it might be assumed that the Housatonic Valley houses more elderly retirees than the average area, but that is not the case. The ***percent of the regional population*** *that was age 60 and over in 2000 was 14.2%, less than the national 16.2% and the Connecticut figure of 17.7%.*

But as the region is growing fast, the actual ***number of elderly residents*** *is still increasing significantly and must be planned for.*

The next possibility explaining an older population is that we have an abnormally low number of young children. But with 22.2% of our population aged 14 and under and the corresponding national percentage at 21.4% and CT at 20.9%, lack of children is not the major cause.

Rather, the sources of the high average age statistic are found in the remaining age categories. The region is significantly lacking in persons 15 to 34 compared to national averages (our 23.7% versus 28.1%).

University of Connecticut Professor Fred Carstensen, commenting on Connecticut's demographics in February of 2008 stated that "the state's skilled work force is aging and the pool of young workers available to replace them is getting more shallow each year.

Young workers continue to leave the state in record numbers as soon as they complete their training or education for jobs in other, more affordable states.... The young workers Connecticut has been loosing over the years tend to be better educated and more skilled than the young people who remain."

The Housatonic Valley Region is then well represented with persons aged 35 to 59 (40.0% versus 34.2% nationally). This "Baby Boom" group was born between 1946 and 1964, and its members are now in their forties, fifties and early sixties and have a strong presence here.

It is the combined influence of missing young adults and excess middle age groups that causes the regional median age to be on the high side. This is tied in part to the high cost of housing in the area, pressuring young adults to commute in on I-84 from Greater Waterbury and elsewhere rather than seek housing here.

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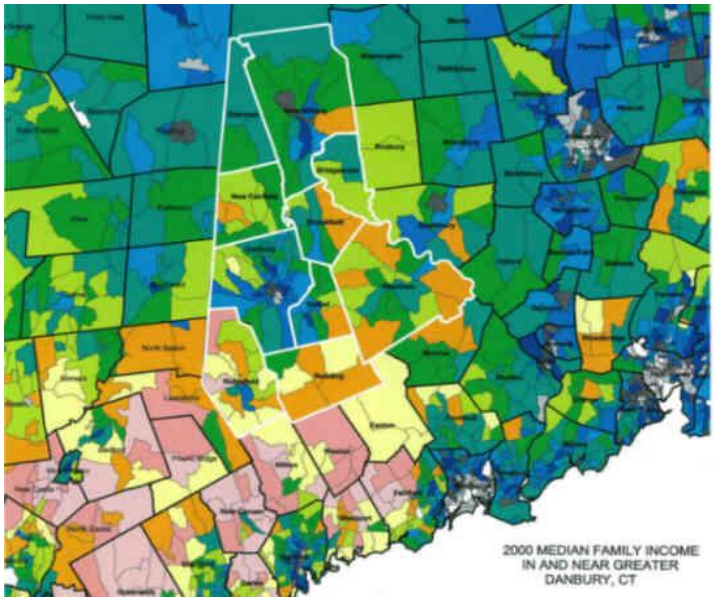
1-4:2. INCOME LEVELS:

People living in Greater Danbury have a sense that they are on the upscale side of Connecticut, that their combination of northern Fairfield County and southern

Litchfield County is prosperous and economically a cut above the more typical towns in the state.

*An analysis of **income data** shows that this perception is indeed true. Median family income **displayed on a map** of western Connecticut provides an interesting pattern of wealth distribution.*



Median family incomes ranging from pink as highest then thru yellow and orange, dropping down to greens and blues. Note the higher incomes to the south and southwest and the north to south Naugatuck Valley blue corridor to the east.
See full scale map.

In a 2000 national comparison of median family income, all ten municipalities comprising the Housatonic Valley Region had median family incomes well above the national average of $50,046.

Then in a comparison with just Connecticut itself, considered to be one of the wealthiest states with a 2000 median family income of $65,521, nine area municipalities had higher figures and central city Danbury at $61,899 was not far below the state figure.

In addition, towns in the area have on average rising median family incomes compared to the state. A hypothetical trend for a town could be 95% of the state average in 1970, 105% in 1980, then up to, say, 118% in 2000, clearly pulling ahead of the average CT town. The opposite trend, of falling numbers, is also possible.

Comparing incomes in each Greater Danbury municipality to corresponding statewide averages for the years 1970, 1980, 1990 and 2000 reveals a clearly upward regional trend.

But figures as to rising wealth can obscure the fact that lesser income households are found in all ten municipalities. For the 2000 census variable of ***household income less than $35,000****, the national percentage was 41% and the state of Connecticut not surprisingly a lesser 32%. All ten communities in this region had percentages less than that statewide 32% figure.*

Yet while lower than state and national levels, each town still has a substantial percentage of its total households in this modest income group. The percentages are Danbury at 31%, New Milford 21%, Bethel 19%, Brookfield 15%, Bridgewater, New Fairfield, Ridgefield and Sherman all at about 14%, Newtown at 13% and then Redding the least at 12%. Likely there are some senior retirees in this category.

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1-4:3. EDUCATIONAL ATTAINMENT:
The relatively high levels of income documented above correlate positively with high levels of education. ***Data on educational level*** *confirms that the population of the Greater Danbury - New Milford Area is relatively well trained.*

Concerning area youth, a favorable characteristic of the region is its consistently high quality ***public schools*** *and significant* ***public school enrollments****. Its good schools give the area another competitive advantage in terms of some business location decisions.*

New Fairfield High School

The national percentage of persons with bachelor's, graduate or other professional degrees in 2000 was 24.4%. The corresponding averages in all ten of our communities exceeded this figure. Indeed, Bridgewater and Newtown doubled it, and Redding and Ridgefield came close to tripling it.

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1-4:4. RACE AND ANCESTRY:

*Data as to **race** indicates that in 2000 there were 6,527 black persons in the region, up from 5,538 in 1990. Of the 2000 regional total, 78% lived in Danbury.*

***Asian Indian and Chinese populations** were also growing in the Region, Indians increasing by 98% and Chinese by 55% from 1990 to 2000.*

The census also identifies people who state their origin as Spanish, Hispanic or Latino, these persons drawn from all racial categories. The number of Hispanics in Greater Danbury grew substantially from 6,629 in 1990 to 15,228 in 2000.

Hispanics were only 1.2% of the region's population in 1970, only 1.9% for 1980, then 3.5% in 1990 and up to 7.2% for 2000. This shows that our area is becoming more like the remainder of the nation, with Hispanics in Connecticut at 9.4% and nationally at 12.5%.

*Of the many **subcategories of Hispanics** in the region, the subsets with the highest percentages here are Puerto Rican at 19%, Ecuadorian at 15%, Dominican at 14%, and Mexican 12%.*

*Also of interest is census data identifying population **by ancestry**. For example, Irish ancestry is reported at 11% nationally, a higher 17% in Connecticut, and then an even higher 23% in the Housatonic Region.*

In a similar manner, 2000 Italian ancestry was 6% nationally, a much higher 19% in Connecticut, and then 20% here. Our 6% percent Polish ancestry compares to 8% for Connecticut as a whole.

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1-4:5. HOUSING TYPES AND VALUES:

*In 2000 for the USA as a whole, the percentage of housing units that were **single family** was 66%. Connecticut's statewide percentage was 64%, and the Housatonic*

Valley Region was at a higher 74%.

Even with relentless housing construction from 1960 to 2000, the regional percentage of single family units has been relatively stable throughout the last 40 years. This means that overall multi-family housing construction has kept pace with single family. Single family units in the region were 73% of the total in 1960, 78% in 1980, then 74% for both 1990 and 2000 census years.

However, the percentage single family in some of the individual towns has been changing. Bethel dropped from 88% to 75% during the forty year period, and Ridgefield from 96% to 85%. The percentages that were single family in Brookfield and New Milford also fell.

The Bridgewater, New Fairfield, Newtown and Redding percentages for single family remained in the mid nineties for the whole forty years, while Sherman's stayed in the high nineties. Danbury was at 52% in 1969, rising to 61% in 1970 and a similar 62% for 1980, then down to 52% single family for both 1990 and 2000.

*At this point in its development the region has a large and varied inventory of **apartment and condominium** complexes.*

*An interesting variable that reveals much about the character of the region is the **value of owner occupied housing**. Consider the percentage of such housing in each municipality that, in 2000, was valued at over $300,000. Nationally the percentage valued at over $300,000 was 10%. Connecticut, a wealthy state, was at a much higher 18%.*

Considering the national benchmark of 10% and the state benchmark of 18% when viewing this variable, Ridgefield had a stunning 82%, Redding 78%, Bridgewater 44%, Newtown 39% over $300,000, Sherman 36%, Brookfield 31% and New Fairfield 27%.

Only Bethel at 17%, Danbury with 11% and New Milford just below 11% were under the state average of 18% of owner occupied housing units valued at over $300,000.

*The average number of **persons per household** fell steadily here for some decades. This is due in part to more divorced people living separately and the elderly in small households living longer.*

*Persons per household is now leveling off, with data as to **persons per housing type** showing fewer persons in the typical rental unit than in the typical owner occupied unit.*

*The extent of **rental housing** is significant in the region. As of 2000 the region has 4,696 persons in **group quarters**. Fortunately housing units **lacking plumbing or complete kitchens** are quite rare in the area.*

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1-4:6. JOBS AND EMPLOYMENT:
***Employment in the ten municipalities** totaled 86,150 in 2005. The City of Danbury alone contained one half of this regional total. Thus the economic health of Danbury is of concern to the residents of all towns in the region.*

Duracell Headquarters in Bethel, CT

Ridgefield and New Milford are next with near 10% each of the regional job total, followed by Brookfield and Newtown near 9% each and then Bethel at 8%. The outlying towns of Bridgewater, New Fairfield, Redding and Sherman combined contain only about 4% of the Region's total employment.

*In assessing the **types of businesses** employing area residents, take into consideration that the location of area resident's jobs may be inside the regional boundary or outside of it. About 17% of working residents were employed in manufacturing in 2000, compared to 15% for Connecticut and 14% for the USA as a whole.*

Then the percentage engaged in retail trade here, 11.5%, is very close to corresponding state and national averages. The region is not a center for

*governmental offices as demonstrated by its 2.2% compared to Connecticut at 4.0%. The area has numerous attractive **retail centers**, including the Danbury Fair Mall, often cited as the largest retail complex in Connecticut.*

Detail of Danbury Fair Mall, a 1.3 million square foot super-regional mall located off of I-84 Exit 3 in Danbury, CT

*As for **type of occupation**, the region's management and professional workers represented 42% of the work force in 2000, compared to 39% for Connecticut and 34% for the nation. Sales and office jobs at 25% were very close to state and national averages.*

*As for major employers located within the ten municipalities, the region has a **distinguished list**.*

*Many communities strive to keep their economic growth rising to match their residential growth. Changes over the decades in the **ratio of employment to population** are revealing as to their success.*

*And as an enduring positive indicator of economic health, for decades this area's **unemployment rate** has been continually lower than Connecticut's as a whole.*

*Also of interest will be the projections of this **2007 Industry Analysis** of the Housatonic Valley Planning Region.*

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1-4:7. DAILY COMMUTING PATTERNS:
*A look at the daily **journey to work** in the region reveals much about the area's economy, relative housing prices and increasing "sprawl" as it does about travel patterns themselves.*

Taking the City of Danbury as an example, employers in the City in 1970 could expect 68% of their workers to reside right within Danbury itself. Business was fortunate to

have its labor so close by. But by 2000, only 43% of Danbury employees resided within City limits.

I-84 thru Danbury

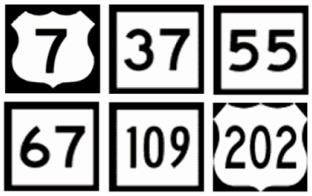
The same dispersal of the labor pool holds true for Danbury's suburbs. Many persons working in Brookfield also live there, 45% in 1970. But this nice near proximity for labor supply dwindled down to 24% by 2000.

For the same thirty year period, the rate in Newtown fell from 53% down to 35%, and in Ridgefield from 59% to 28%. New Milford, second only to Danbury as a regional center, fell from 69% to 54% of local residents filling local jobs.

Clearly, manufacturers and businesses can count less and less on their newly recruited employees finding homes in the same community as their new job.

This is not surprising, in that local property tax laws seek to pull businesses inside the town boundary and push new housing for their employees outside the boundary.

This phenomena fuels a "sprawl" development pattern, the outcome of which is to increase the distance between jobs and dwellings. It is increasingly viewed nationally as out of date, a detrimental result of our 1920's based land use planning system and the municipal property tax.



State route signs in New Milford

Taking the view of commuting up to the next higher geographic level, there is again evidence of a trend for the labor force to spread out.

In 1980 Danbury employers could at least expect that the vast majority, 83% of needed labor, could be found nearby within the ten town Greater Danbury Area. But by 2000 that figure had fallen to 67%.

Again the suburban pattern follows suit. In 1980 Brookfield's employers were able to fill 88% of their jobs from within the nearby ten town area, but by 2000 this fell to a lesser 73%. For Newtown the drop was 71% to 56% and in Ridgefield 80% down to 67%.

New Milford, with its central area role, largest geographic size of any municipality in Connecticut and significant stock of relatively affordable housing, bucked the trend somewhat and fell to a lesser 73% in 2000 from 79% in 1980.

Downtown Stamford, CT is 24 aerial miles south of Downtown Danbury. It is a significant commuter draw for Greater Danbury's residents.

Looking at the big picture, jobs in the region also filled by residents of the region fell from 89% in 1970 to 68% in 2000. To make up the difference, between 1970-2000 the area has continually imported more labor from all directions. As of 2000 about 26% of this daily outside labor supply arrives from the east on I-84.

From Greater Waterbury, 3% up to 7% of our total need. Then from New York State 2% up to 7%, the Stamford-Norwalk Area contribution was up 2% to 5%, and from Bridgeport and its suburbs 3% to 5%. As for employees living in areas further out, their share went from 1% in 1970 to a more significant 8% in 2000.

*Detailed commuter travel patterns by town are of interest: **From Bethel**, **To Bethel**, **From Bridgewater**, **To Bridgewater**, **From Brookfield**, **To Brookfield**, **From Danbury**, **To Danbury**, **From New Fairfield**, **To New Fairfield**, **From New Milford**,**To New Milford**, **From Newtown**, **To Newtown**, **From Redding**, **To***

***Redding*, *From Ridgefield*, *To Ridgefield*, *From Sherman*, *To Sherman*, *Statewide Journey to Work in 2000*.**

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1-4:8. RECENTLY MOVED INTO COMMUNITY:
*There are **high residential turnover rates** for the Greater Danbury Area, part of a national trend. Individuals and families are moving in and out much faster than many people realize.*

In the fifteen months prior to the 2000 Census, 21% of the population of the City of Danbury reported that they had moved into their current home. That is about one fifth of the City's households.

High residential turnover is also a state and national phenomena, as the figures for this same fifteen month period are 17% for Connecticut and 20% for the USA.

Danbury is the leader in this trend regionally at 21%, followed by New Milford at 17%. The suburbs of Bethel, Brookfield, New Fairfield, Newtown and Ridgefield then cluster around 12%.

More outlying Redding and Sherman had 10% new move-ins during the 15 months, and then the region's smallest town, Bridgewater, had the most stable population with only 8% moving.

Looking at the same 2000 census "year householder moved into unit" figures, but this time for the much longer 1990 to 2000 period, the trend in moving is even more dramatic. Danbury and New Milford are at 66%, with other towns clustered in the low sixties and fifties. Thus the majority of each municipality's population is composed of relatively "new" people, when defined as those living in town less than ten years.

Note that there is a modifying factor to these statistics, with families and individuals that moved from one residence to another in the same community during that time,

being counted "moved into housing unit 1990-2000" but not really newcomers to the community.

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1-4:9. LANGUAGE SPOKEN AT HOME:
Language data *for 2000 indicates that the percentage speaking English at home is declining and correspondingly that other languages spoken at home are increasing.*

The regional average for English fell from 87% in 1990 to 81% in 2000, with the national average at 82% in 2000. During the same ten year period, use of Spanish at home in the region rose from 3% to 7%.

The percentage decline in use of English in most towns was actually quite small. The change in the regional average was influenced mostly by the drop in English used at home in Danbury from 80% in 1990 to 65% in 2000, and to a lesser extent by the drop in Bethel from 92% to 85%.

But In assessing this particular statistic the Census Bureau advises "most people who speak another language at home also speak English."

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1-5. OVERVIEW OF CONFORMANCE TO STATE STATUTE

Chapter 127 of the Connecticut General Statutes defines the structure and duties of Connecticut's regional planning organizations. Within Chapter 127, Section 8-35a defines the minimum content of the regional plan of conservation and development.

Section 8-35a was last updated by Public Act 05-205, effective July 1, 2005. The mandated components of a regional plan as updated to 2005 are shown below. After each is a statement certifying the conformance of this Plan to the statute.

By correspondence dated 12/12/2008 the Connecticut Office of Policy and Management notified HVCEO that it had reviewed "the draft HVCEO Regional Plan of Conservation and Development and determined it to be not inconsistent with the Connecticut Conservation and Development Policies Plan.....

Upon adoption by HVCEO, the plan will serve as an effective guide to the municipalities in the Housatonic Valley Region when they update their local plans of conservation and development."

CONFORMANCE TO 8-35A GENERAL GOALS

1) ***At least once every ten years, each regional planning agency shall make a plan of development for its area of operation.*** **Response:** Previous HVCEO regional plans were dated 1971 and 1981. The plan currently in effect is dated 1997. Given the new requirements of public Act 05-205 for a ten year update, HVCEO will now adhere to a schedule of ten year updates.

2) ***The regional plan shall be based on studies of physical, social, economic and governmental conditions and trends and shall be designed to promote with the greatest efficiency and economy the coordinated development of its area of operation and the general welfare and prosperity of its people.*** **Response:** HVCEO has completed specialized research to meet this requirement, as documented by the inventory of **Publications by HVCEO** available on hvceo.org. This Regional Plan document, supplemented by and incorporating HVCEO's technical publication series, demonstrates conformance to the stated goal concerning supporting studies.

3) ***The regional plan shall note any inconsistencies with the growth management principle of integration of planning across all levels of government to address issues on a local, regional and statewide basis.*** **Response:** HVCEO has a good record of coordinating its planning with other levels of government. For example, the 2007 Bethel Plan of Conservation and Development includes a total of 42 references to HVCEO or its publications. This Regional Plan is designed to continue this coordination and reduce inconsistencies between planning documents.

The **Future Growth Map** has been fully coordinated with the growth policy maps within this region's ten local plans. The Future Growth Map is intended to help shape the state plan map.

View from Town of Bethel's Terre Haute property.

CONFORMANCE TO 8-35A BY LAND USE FEATURE

4) ***The plan must show its recommendations for the general use of the area including land use.*** **Response:** The Regional Plan provides mapped recommendations for the general use of the area. The state plan since its inception in 1973 and HVCEO Regional Plan updates since 1981 have displayed land use using map categories of relative development intensity and relative degree of environmental sensitivity.

5) ***The regional plan shall identify areas where it is feasible and prudent to have compact, transit accessible, pedestrian-oriented mixed use development patterns and land reuse, and to promote such development patterns and land reuse.*****Response:** Plan map categories deal with land reuse and then specific Plan chapters are dedicated to **mixed use**, **transit oriented development**. and **pedestrian access**. A detailed transit oriented development study for Bethel is in progress.

6) ***The regional plan shall note any inconsistencies with the growth management principle of redevelopment and revitalization of regional centers and areas of mixed land uses with existing or planned physical infrastructure.*** **Response:** The Regional Plan is consistent with this principle in its Future Growth Map category definitions.

7) ***The regional plan shall note any inconsistencies with the growth management principle of conservation and restoration of cultural and historical resources.*** **Response:** The Plan includes a Future Growth Map policy category addressing this topic.

8) The regional plan shall note any inconsistencies with the growth management principle of conservation and restoration of traditional rural lands. **Response:** The

Regional Plan is consistent with this principle. See especially the Future Growth Map category concerning Semi-Rural Remote Areas.

9) ***The plan must show its recommendations for parks, playgrounds and recreational areas.*** **Response:** **A Plan chapter** includes recommendations on these topics.

10) ***The plan must show its recommendations for schools and public institutions.*** **Response:** HVCEO's Future Growth Map categories are designed for use as a locational factor in the siting of schools and institutions.

HVCEO meets monthly to pursue regional planning and intergovernmental coordination

11) ***The plan must show its recommendations for public utilities.*** **Response:** The Regional Plan is a specific guide concerning the best locations for development intensity, a critical concern in decisions as to the areal extent of utility service areas.

12) ***The plan must show its recommendations for agriculture.*** **Response:** The Regional Plan is consistent with this goal. See especially the policy for Semi-Rural Remote Areas stating that farmland preservation should be encouraged by programs to reduce development pressures and to enhance the economic viability of farming and farm family independence. See also the agricultural land preservation policy in the **Open Space and Recreation Chapter**, also in the **Economic Development Chapter** "that recognizes the region's remaining agricultural areas as viable economic assets."

CONFORMANCE TO 8-35A CONCERNING HOUSING

13) ***The regional plan shall note any inconsistencies with the growth management principle of expansion of housing opportunities and design choices to accommodate a variety of household types and needs.*** **Response:** A balance of housing types and costs to match local employment and municipal residents' needs is a core component of this Regional Plan's policy.

The Plan also endorses the policy that both housing opportunities and design choices should be expanded in each municipality to accommodate a variety of household types and needs.

CONFORMANCE TO 8-35A BY TRANSPORTATION FEATURE

14) ***The regional plan shall note any inconsistencies with the growth management principle of concentration of development around transportation nodes and along major transportation corridors to support the viability of transportation options and land reuse.*** **Response:** This is a key policy of each of the Plan's development categories. There is also a Plan chapter dedicated to **transit oriented development**.

15) ***The plan must show its recommendations for principal highways, freeways, bridges and airports.*** **Response:** These recommendations are contained in the **Transportation Chapter** of the Plan.

CONFORMANCE TO 8-35A ENVIRONMENTAL GOALS

16) ***The regional plan shall note any inconsistencies with the growth management principle of protection of environmental assets critical to public health and safety***. **Response:** The Regional Plan is fully consistent with this growth management principle. See especially policies for Conservation Areas and Preservation Areas.

17) ***The plan shall be designed to promote abatement of the pollution of the waters and air of the region.*** **Response:** This policy has been adopted for all of the Plan's Future Growth Map categories.

18) ***The plan may encourage energy-efficient patterns of development, the use of solar and other renewable forms of energy, and energy conservation.*** **Response:** This policy has been adopted for all of the Plan's Future Growth Map categories. See also the **Global Warming Chapter**.

EXCERPT FROM THE ACT SPECIFYING CONTENTS FOR REGIONAL PLANS OF CONSERVATION AND DEVELOPMENT

Sec. 2. Section 8-35a of the general statutes is repealed and the following is substituted in lieu thereof (Effective July 1, 2005):

(a) At least once every ten years, each regional planning agency shall make a plan of development for its area of operation, showing its recommendations for the general use of the area including land use, housing, principal highways and freeways, bridges, airports, parks, playgrounds, recreational areas, schools, public institutions, public utilities, agriculture and such other matters as, in the opinion of the agency, will be beneficial to the area.

Any regional plan so developed shall be based on studies of physical, social, economic and governmental conditions and trends and shall be designed to promote with the greatest efficiency and economy the coordinated development of its area of operation and the general welfare and prosperity of its people.

Such plan may encourage energy-efficient patterns of development, the use of solar and other renewable forms of energy, and energy conservation. Such plan shall be designed to promote abatement of the pollution of the waters and air of the region.

The regional plan shall identify areas where it is feasible and prudent (1) to have compact, transit accessible, pedestrian-oriented mixed use development patterns and land reuse, and (2) to promote such development patterns and land reuse and shall note any inconsistencies with the following growth management principles:

(A) Redevelopment and revitalization of regional centers and areas of mixed land uses with existing or planned physical infrastructure;
(B) expansion of housing opportunities and design choices to accommodate a variety of household types and needs;
(C) concentration of development around transportation nodes and along major transportation corridors to support the viability of transportation options and land reuse;
(D) conservation and restoration of the natural environment, cultural and historical resources and traditional rural lands;
(E) protection of environmental assets critical to public health and safety; and
(F) integration of planning across all levels of government to address issues on a local, regional and statewide basis.

(b) Before adopting the regional plan of development or any part thereof or amendment thereto the agency shall hold at least one public hearing thereon, notice of the time, place and subject of which shall be given in writing to the chief executive officer and planning commission, where one exists, of each member town, city or borough.

Notice of the time, place and subject of such hearing shall be published once in a newspaper having a substantial circulation in the region.

At least sixty-five days before the public hearing the regional planning agency shall post the plan on the Internet web site of the agency, if any, and submit the plan to the Secretary of the Office of Policy and Management for findings in the form of comments and recommendations.

Such findings shall include a review of the plan to determine if the proposed regional plan of development is not inconsistent with the state plan of conservation and development.

Such notices shall be given not more than twenty days nor less than ten days before such hearing. The regional planning agency shall note on the record any inconsistency with the state plan of conservation and development and the reasons for such inconsistency. Adoption of the plan or part thereof or amendment thereto shall be made by the affirmative vote of not less than a majority of the representatives on the agency.

The plan shall be posted on the Internet web site of the agency, if any, and a copy of the plan or of any amendments thereto, signed by the chairman of the agency, shall be transmitted to the chief executive officers, the town, city or borough clerks, as the case may be, and to planning commissions, if any, in member towns, cities or boroughs, and to the Secretary of the Office of Policy and Management or his designee.

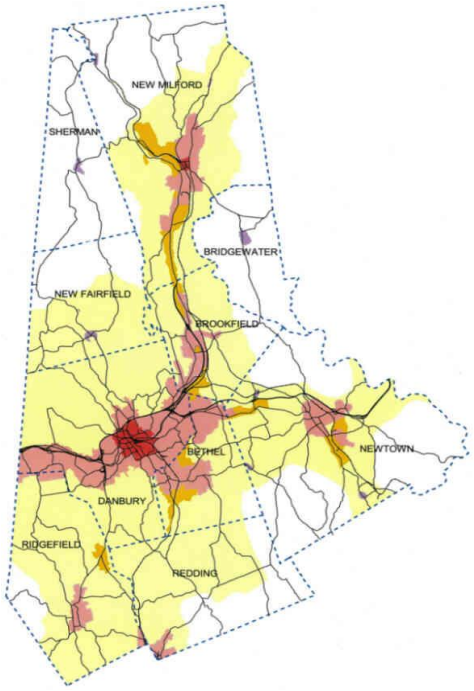
The regional planning agency shall notify the Secretary of the Office of Policy and Management of any inconsistency with the state plan of conservation and development and the reasons therefore.

(c) The regional planning agency shall revise the plan of development not more than three years after the effective date of this section.

CHAPTER 2: FUTURE GROWTH MAP

2-1. DEFINITION OF RESPONSIBLE GROWTH

The coordinating geographic policy of this Plan, the **Future Growth Map**, has as its goal improved planning and development of the region. The official term for this in Connecticut is "Responsible Growth", also known nationally as "Smart Growth."



Relative densities on HVCEO's Future Growth Map.
See full map for local details.

Responsible Growth starts by designating a primary regional center in Danbury and a secondary center in New Milford, both shown in red. Utilities and major activities then cluster in the relatively central pink and orange areas. The light yellow and uncolored areas are to develop at low density, with the uncolored areas the more rural and remote.

The national Responsible Growth movement is largely a reaction to the sprawl movement, the dominant form of development in the USA since the end of World War II.

Corrective actions to traditional development policies are needed, to add more choices and balance to the development pattern and to make it more environmentally sound.

This HVCEO Plan's definition of Responsible Growth is consistent with the definition of this term formulated in 2008 by Connecticut's Responsible Growth Task force. This Plan's definition is as follows:

--- 1. INFILL WITHIN CENTRAL AREAS: *This policy assists in creating a relatively centralized development pattern. Give priority for infill development when excess infrastructure capacity to support it already exists and proposed density is compatible with the neighborhood. Give priority to the clean up of brownfields and reuse of existing buildings in these areas.*

--- 2. LIMIT UTILITIES ON OUTER EDGE: *Don't extend sewer lines into outlying areas. Incorporate the concept of "urban growth boundary" by avoiding extension of development inducing water and sewer infrastructure beyond the outer edge of the Future Growth Map's Primary Growth Area.*

Planning for sewers must be carefully coordinated with the municipal plan of conservation and development. In 2008 CT DEP offered a guidance document on how to coordinate these two planning efforts. See this ***link to the CT DEP guidance*** *or contact HVCEO for a hard copy.*

--- 3. CAUTION WITH LOWER DENSITY AREAS: *These areas have the capability to absorb some growth, but only at intensities that can be permanently served by on-lot or near-lot well and septic systems. Use* ***open space subdivision design*** *to conserve the countryside and rural lands here.*

--- 4. BALANCE HOUSING TYPES AND COSTS: *Promote a fuller range of housing price levels and unit types to match the needs of the regional economic base and senior citizens.*

Both housing opportunities and design choices should be expanded to accommodate a variety of household types and needs. Improve the coordination of housing with the location of jobs, transit and services.

Encourage new housing options, such as the addition of this dignified accessory apartment over a garage

--- 5. MODERNIZE DEVELOPMENT OPTIONS: *Encourage much more emphasis in local planning on* ***mixed use, pedestrian friendly*** *and* ***transit oriented development*** *and seek to promote a sense of place. Build in such a way that alternatives to the automobile are more feasible.*

--- 6. PRESERVE WATER SUPPLY RESOURCES: *Limit development intensity and type on existing or potential* ***water supply watersheds*** *and existing and potential major aquifers.*

--- 7. REVERSE GLOBAL WARMING: *Greatly expand the use of renewable forms of energy and energy conservation. As the design and operation of the built environment has a huge impact on energy use, encourage* ***new energy saving ideas*** *in local development regulations.*

--- 8. ABATE POLLUTION AND PRESERVE KEY ENVIRONMENTS: *All aspects of conservation and development must serve to abate air and water pollution and preserve key environmental assets such as rare habitats and water supply resources.*

--- 9. IMPROVE APPEARANCE AND PRESERVATION: *Adopt community design guidelines to integrate growth and enhance community appearance. Consider models such as Simsbury, CT's award winning* ***Guidelines for Community Design****. or the* ***Storrs Center Special Design District*** *and the* ***Silas Deane Highway Architectural Guidelines****.*

Also of interest are the ***Downtown Torrington, CT design guidelines*** *and selected* ***design standards from Massachusetts****.*

Consider viewshed protection, with examples such as the zoning methodology for ***protecting viewsheds in Kent, CT*** *or the Woodbury, CT and Winsted, CT subdivision regulations, or Meriden, CT and Suffield, CT zoning regulations.*

*To further protect character, each municipality should consider assuming the significant additional design control powers available under the **Village Districts Act** with examples provided by **Ridgefield andNewtown**.*

2-2. FUTURE GROWTH MAP CATEGORIES

GOAL: Municipalities that balance and complement one another within a regional context as recommended by the Responsible Growth policies of this Plan.

Development Categories	Water and Sewer Service	Traffic Capacity Investment	Fixed Route Transit Service	Growth Potential
1. Regional Center	Serve fully by public water and sewer	First Priority	First priority for intense service and intermodal transfer	Mixed uses, highest densities
2. Near Central Area	Priority for service	Second priority	Second priority for intense service	Mixed uses, some housing at 3 or more units per acre
3. Primary Growth Area	First priority for service extensions from previous categories	Third priority	Expansion area for service	Mixed uses, some housing at 3 or more units/acre
4. Small Community Center	On site or community septic, no public sewers	Shares fourth priority	Lower priority	Low intensity mixed use, residential

	or water for growth			may be multi-family.
5. Suburban Area	On site or community leaching field. No sewers for growth	Shares fourth priority	No fixed route service	Almost entirely residential
6. Semi-Rural Remote Area	On site or community leaching field. No sewers for growth	Lowest priority	No fixed route service	Almost entirely residential, density may be lower than carrying capacity

1. REGIONAL CENTER: the Future Growth Map promotes adaptive reuse and high development priority for the centers of Danbury and New Milford. Within the Housatonic Valley Planning Region, Central Danbury is the primary regional center and Downtown New Milford is the secondary regional center.

Downtown Danbury is the Region's hub

REGIONAL CENTER CATEGORY DETAILS:
THE CENTERS OF DANBURY AND NEW MILFORD CONTAINING TRADITIONAL CORE BUSINESS AND HOUSING, ALONG WITH SERVICES AND FACILITIES OF REGIONAL SIGNIFICANCE, AND:
--- HAVING A CONVERGENCE OF TRANSPORTATION ROUTES AND SYSTEMS;

--- ESTABLISHED BEFORE EXTENSIVE USE OF THE AUTOMOBILE AND ORIGINALLY SERVED BY MIXED USE, PEDESTRIAN, TROLLEY AND/OR RAIL ACCESS;

--- WITH HIGHER CAPACITY WATER, SEWER, ELECTRIC AND STREET SYSTEMS WHERE DEVELOPMENT DENSITIES MAY BE RELATIVELY HIGH;

--- HAVE COMPONENTS AND PHYSICAL GROUPINGS THAT ARE MUTUALLY REINFORCING, AND WITHIN WHICH PEDESTRIAN CIRCULATION IS EFFECTIVE.

PRIORITIES AND POLICIES FOR REGIONAL CENTERS INCLUDE:
A. WHILE DENSITIES CAN BE THE HIGHEST IN THE REGION, THE GOAL IS AN APPEALING SCALE WITH MIXED USE OPTIONS. INSURE A DISTINCTIVE SENSE OF PLACE IN AN ACTIVE BUT NOT CONGESTED ATMOSPHERE.

B. TOP PRIORITY FOR THE DEVELOPMENT OF MAJOR PUBLIC INSTITUTIONS, PUBLIC TRANSIT SERVICES, AND LOCALLY DETERMINED TRAFFIC IMPROVEMENTS. PRIORITY USE OF PUBLIC FUNDS FOR HOUSING REHABILITATION AND RENEWAL, ENCOURAGEMENT OF THE ADAPTIVE ECONOMIC REUSE OF EXISTING BUILDINGS OR REPLACEMENT WITH CONTEMPORARY CONSTRUCTION SUPPORTIVE OF THE REGIONAL CENTER FUNCTION.

C. RECOGNITION AND REINFORCEMENT OF THE ECONOMY OF SPACE, TIME AND ENERGY, AND RECOGNITION OF PROBABLE HIGH POSITIVE COST-BENEFIT RATIOS FROM PUBLIC FACILITY INVESTMENTS.

D. CONSIDER DEVELOPMENT AROUND TRANSPORTATION NODES TO SUPPORT THE VIABILITY OF TRANSIT ORITENTED DEVELOPMENT AND A PEDESTRIAN FRIENDLY ENVIRONMENT.

E. ASSURE THE CONSERVATION AND RESTORATION OF CULTURAL AND HISTORICAL RESOURCES.

2. NEAR CENTRAL AREA: largely developed near central locations, including major sections of Danbury and New Milford, also much of central Bethel, central Ridgefield, the Branchville Village section of Ridgefield, the Georgetown Area in Redding, central Newtown, and parts of the Route 7 Corridor in Brookfield.

Complete the development of these areas using Responsible Growth principles.

Route 6 in Bethel showing existing sidewalks in blue and needed additions in red, a "Near Central Area" that will complete its development using a specially tailored Responsible Growth corridor plan.

NEAR CENTRAL AREA CATEGORY DETAILS:
LAND AREAS ALREADY LARGELY BUILT UP THAT HAVE
NEAR CENTRAL, ENERGY EFFICIENT LOCATIONS AND THAT:
--- ARE FOUND LOCATED A) AT THE PERIPHERY OF THE REGIONAL CENTER CATEGORY, B) AS THE CORE OF A TRADITIONAL TOWN OR VILLAGE CENTER, OR C) AS SEPARATED BUT CONVENIENTLY LOCATED COMMUNITIES HAVING A DISTINCTIVE SOCIAL OR ECONOMIC BASE;

--- HAVE MANY STABLE, FULLY DEVELOPED AREAS WITH NEIGHBORHOODS IN WHICH NO CHANGE IS NEEDED;

--- ARE USUALLY PROVIDED WITH WATER, SEWER AND UTILITY SYSTEMS AND WHICH HAVE OR MAY BE ADJACENT TO PUBLIC TRANSIT SERVICES;

--- MAY HAVE MODEST AMOUNTS OF LAND REMAINING AVAILABLE FOR GROWTH, AND MAY HAVE AGING BUILDINGS OR SITES WHERE INFILL CONSTRUCTION OR REHABILITATION OR CREATIVE REUSE WOULD MAKE THE BEST USE OF AN ENERGY EFFICIENT LOCATION;

--- ARE LOCATED WHERE THE PROMOTION OF INVESTMENT COUPLED WITH EXPANDED PUBLIC TRANSPORTATION AND HOUSING CHOICE WILL REDUCE INEFFICIENT SPRAWL DEVELOPMENT.

PRIORITIES AND POLICIES FOR NEAR CENTRAL DEVELOPED AREAS:
A. MAINTAIN THE CHARACTER OF EXISTING TOWN AND VILLAGE CENTERS AND PRESERVE SOUND EXISTING NEIGHBORHOODS.

ASSURE THE CONSERVATION AND RESTORATION OF CULTURAL AND HISTORICAL RESOURCES. CONSIDER MIXED USE DEVELOPMENT.

B. PROMOTION OF INVESTMENT IN THESE AREAS, INCLUDING EXPANDED WATER AND SEWER SERVICES AND PUBLIC TRANSPORTATION, INSTEAD OF SPRAWL TO MORE OUTLYING LOCATIONS.

C. CONSIDER DEVELOPMENT AROUND TRANSPORTATION NODES AND ALONG MAJOR TRANSPORTATION CORRIDORS TO SUPPORT THE VIABILITY OF TRANSPORTATION OPTIONS, TRANSIT ORIENTED DEVELOPMENT AND A PEDESTRIAN FRIENDLY ENVIRONMENT.

D. LIMITATION ON INTENSITY OF USE TO ACHIEVE AN APPEALING SCALE AND DISTINCTIVE SENSE OF PLACE, AND CAPABLE OF ACCOMMODATING THE AUTOMOBILE ON EXISTING STREETS AND ON-SITE WITHOUT DETRIMENT TO NEIGHBORHOOD CHARACTER.

E. IN SOME CASES THE PHYSICAL AGING OF BUILDINGS WILL REQUIRE REHABILITATION AND CREATIVE REUSE WHICH LOCAL ZONING SHOULD ACCOMMODATE WITH SUPPORTIVE TECHNIQUES.

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3. PRIMARY GROWTH AREA: The Future Growth Map recommends priority for sewer and water system expansion to these areas. They share the energy efficiency of central areas and have major roadways and public transit nearby.

Much of the Region's growth will be attracted by market forces to these areas.

From the perspective of an anti-sprawl centralizing policy, new low density development in these areas is wasteful of scarce public infrastructure. Rather, densities for residential translating into three or more dwelling units per acre, rather than one or less than one, should be favored.

Included in this category are parts of Danbury and New Milford, and also central sections of Brookfield, south central Bethel, the central and western Route 6 portions of Newtown, and Ridgefield's Route 7 and 35 intersection area.

PRIMARY GROWTH
AREA CATEGORY DETAILS:
USUALLY ADJACENT TO OR EXTENSIONS OF REGIONAL CENTERS AND NEAR CENTRAL DEVELOPED AREAS, BUT SLIGHTLY LESS CENTRALIZED, HAVING SIGNIFICANT VACANT OR UNDERUTILIZED LAND FOR DEVELOPMENT AND CAPABLE OF BEING SERVED BY PUBLIC WATER AND SEWER SYSTEMS AND TRANSIT EXTENSIONS. POTENTIAL FOR:
--- NEAR TERM DEVELOPMENT WHICH WILL BE CLOSE TO THE REGIONAL CENTER OR NEAR CENTRAL DEVELOPED AREAS;

--- MAY ALSO HAVE LONG TERM DEVELOPMENT POTENTIAL DEPENDENT UPON LATER EXTENSIONS OF CENTRAL WATER AND SEWER SYSTEMS, AND CONNECTION TO TRANSPORTATION SYSTEMS.

--- THE WAY IN WHICH THE PRIMARY GROWTH AREA DEVELOPS WILL HAVE A DOMINANT INFLUENCE ON THE SHAPE OF THE REGION AND THE REGION'S ABILITY TO ACCEPT GROWTH, FOR THESE AREAS CONTAIN THE POTENTIAL FOR USING AVAILABLE WATER AND SEWER SERVICE TO THE BEST RESOLUTION OF SOMETIMES CONFLICTING ECONOMIC, ENERGY, HOUSING, ENVIRONMENTAL AND TRANSPORTATION RELATED GOALS.

Boehringer Research and Development in Danbury and Ridgefield is in a "Primary Growth Area"

PRIORITIES AND POLICIES FOR PRIMARY GROWTH AREAS:
A. CONSIDER DEVELOPMENT AROUND TRANSPORTATION NODES AND ALONG MAJOR TRANSPORTATION CORRIDORS TO SUPORT THE VIABILITY OF TRANSPORTATION OPTIONS AND TRANSIT ORIENTED DEVELOPMENT. FACILITATE MIXED USE DEVELOPMENT AND PEDESTRIAN FRIENDLY ENVIRONMENTS.

B. SYNCHRONIZE WITH NATIONAL AND STATE GROWTH, ENERGY, AIR AND ENVIRONMENTAL POLICIES THAT WILL INCREASINGLY FAVOR THESE NEAR-CENTRAL LOCATIONS FOR NEW JOBS AND DWELLINGS.

C. PROVIDE FOR MORE INTENSIVE GROWTH IN THESE AREAS TO BALANCE THE LESS INTENSIVE LAND USE POLICIES APPROPRIATE TO OUTLYING SUBURBAN AREAS AND SEMI-RURAL REMOTE AREAS.

D. SEWER SERVICE CAPACITY OF CENTRAL SYSTEMS SHOULD BE DESIGNED WITH CAPABILITY TO SERVE PRIMARY GROWTH AREAS. RECOGNIZE THAT IT IS ALREADY THE POLICY OF CT OPM AND CT DEP TO MATCH SEWER CAPACITY TO SUCH AREAS AS SHOWN ON THE STATE CONSERVATION AND DEVELOPMENT POLICIES PLAN.

E. AREAS RESERVED AND DEVELOPED FOR RESIDENTIAL PURPOSES SHOULD USUALLY PROVIDE FOR THREE OR MORE DWELLING UNITS PER ACRE IN ORDER TO MAKE ENERGY EFFICIENT USE OF THESE NEAR CENTRAL LOCATIONS.

F. DEVELOPMENT IN PRIMARY GROWTH AREAS CAN INCLUDE NEW DEVELOPMENT AT TRADITIONAL NEW ENGLAND VILLAGE MIXED USE DENSITIES.

G. GROWTH POLICY ALONG HIGHWAY CORRIDORS SHOULD LIMIT THE TOTAL NUMBER OF DRIVEWAYS AND ENCOURAGE WELL PLANNED GROUPS OF COMPATIBLE USES, IN LANDSCAPED SETTINGS, AS AN ALTERNATIVE TO STRIP DEVELOPMENT. ACCOMPLISH THIS GOAL BY ADOPTING AS ZONING STANDARDS CORRIDOR DRIVEWAY AND ACCESS MANAGEMENT PLANS PREPARED BY HVCEO.

H. ASSURE THE CONSERVATION AND RESTORATION OF CULTURAL AND HISTORICAL RESOURCES.

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4. SMALL COMMUNITY CENTER: Here the clustering of relatively higher intensity or mixed uses in a pedestrian oriented hamlet environment is recommended.

The nine Small Community Centers in the Region are Northville, Boardman Bridge and Gaylordsville in New Milford, Sherman Center, New Fairfield Center, Bridgewater Center, and in Newtown the three outlying hamlets of Dodgingtown on Route 302, Botsford on lower Route 25 and Hawleyville Center on upper Route 25.

SMALL COMMUNITY
CENTER CATEGORY DETAILS:
LOCATIONS BEST FOR THE GROUPING OF RELATIVELY HIGHER INTENSITY USES DESIRED BY THE MUNICIPALITY;
--- GROUPINGS OF RESIDENTIAL, BUSINESS AND INSTITUTIONAL FACILITIES, OFTEN HAVING AN HISTORIC PAST, OR AS TRADITIONAL CENTERS IN SEMI-RURAL REMOTE AREAS, SERVED BY ON-SITE WELL AND SEWAGE DISPOSAL SYSTEMS OR COMMUNITY WELL AND SEPTIC SYSTEMS.

"Small Community Center" in Bridgewater

PRIORITIES AND POLICIES FOR SMALL COMMUNITY CENTERS:
A. SMALL COMMUNITY CENTERS MAY EXIST FROM THE PAST OR CAN BE CREATED IN SUPPORT OF HAMLET DEVELOPMENT IN SUBURBAN AND SEMI-RURAL REMOTE AREAS. ASSURE THE CONSERVATION AND RESTORATION OF CULTURAL AND HISTORICAL RESOURCES IN THESE AREAS.

B. SUCH CENTERS SHOULD REFLECT CONVENIENCE OF COMMUNITY SERVICES AND COMMUNICATION, IN CONTRAST TO SCATTERED HIGHWAY-ORIENTED STRIP DEVELOPMENT. PEDESTRIAN IMPROVEMENTS ARE NEEDED TO LINK USES, PROMOTE HEALTH AND REDUCE AUTO USAGE.

C. PATTERNS OF USE AND DEVELOPMENT ARE TO COMPLEMENT THE SMALL CENTER FUNCTION AND AVOID PROJECTS THAT HAVE A MULTI-TOWN MARKET OR SERVICE FUNCTION.

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5. SUBURBAN AREAS: This category, designated for parts of eight municipalities in the Region, surrounds the relatively central areas and represents a distinctly more outlying "next ring out" in the hierarchy of regional geography.

Lengthy growth inducing sewer infrastructure extensions brought in from central areas are discouraged here.

The challenge in these areas is to build for distinctive neighborhood identity. Some density transfer to maintain overall low densities is needed to avoid spreading population uniformly over the landscape, a sprawl pattern that would harm aesthetics, the environment and open space preservation.

SUBURBAN AREA CATEGORY DETAILS:
LOW DENSITY NON-CENTRAL DEVELOPING AREAS WITHOUT PUBLIC WATER AND SEWER SYSTEMS, HAVING THE CAPABILITY TO ABSORB ECONOMIC AND HOUSING GROWTH, BUT ONLY AT INTENSITIES THAT CAN BE PERMANENTLY SERVED BY ON-LOT OR NEAR-LOT WELL AND SEPTIC SYSTEMS, INCLUDING:
--- LOWER DENSITY AREAS OCCURRING ON LANDS HAVING THE SCENIC FEATURES OF NEW ENGLAND COUNTRYSIDE, WHERE OPEN SPACE SUBDIVISION AND DESIGN CAN ADDRESS AND CONSERVE SUCH FEATURES;

--- LANDS WHERE EXISTING TRANSPORTATION SYSTEMS ARE LARGELY CAPABLE OF SERVING SUCH AREAS WITHOUT CAPACITY IMPROVEMENTS, BUT WHERE SOME SAFETY IMPROVEMENTS MAY BE EXPECTED.

PRIORITIES AND POLICIES FOR SUBURBAN AREAS:
A. AS RECOMMENDED TO MUNICIPALITIES BY CT DEP, PLAN FOR AN OVERALL DENSITY OF BETWEEN ONE AND TWO ACRES FOR EACH DWELLING UNIT, AND AS RECOMMENDED BY CT DEP AT LEAST TWO ACRES IN EXISTING OR POTENTIAL WATER SUPPLY WATERSHEDS. COMMUNITY FACILITIES, BUSINESS SERVICES AND ECONOMIC DEVELOPMENT WILL BE OF LOCAL SCOPE.

Single family home in "Suburban Area"

B. GROUP DEVELOPMENT INTO NEIGHBORHOOD SETTINGS THAT AVOID COMPLETE DISPERSAL OF POPULATION ACROSS THE LANDSCAPE. MINOR NEIGHBORHOOD CONVENIENCE COMMERCIAL SHOULD BE ENCOURAGED TO REDUCE TRIPS. SEEK TO PROMOTE DISTICTIVE NEIGHBORHOOD IDENTIES.

C. THE INTENT IS NO NEW SEWERS IN THIS CATEGORY. HOWEVER, MINIMAL PUBLIC SEWER SERVICE INTRODUCED HERE TO SOLVE EXISTING POLLUTION PROBLEMS SHOULD BE SIZED FOR POLLUTION ABATEMENT ONLY. IT SHOULD ALSO BE COUPLED WITH LAND USE POLICIES THAT AVOID GROWTH INDUCEMENT AND DENSITY INTENSIFICATION BASED ON SEWER AVAILABILITY.

THUS THE INTRODUCTION OF CONVENTIONAL PUBLIC SEWERS ARE NOT ENTIRELY PROHIBITED FROM THESE AREAS, SINCE SOME NEIGHBORHOODS MAY HAVE FAILING SEPTIC SYSTEMS AND SEWER AVOIDANCE OPTIONS ARE NOT WORKABLE.

D. SOME FULLY DEVELOPED NEIGHBORHOODS IN THIS CATEGORY MAY HAVE SEWERS SERVING ONE ACRE RESIDENTIAL LOTS, A LOW DENSITY FOR SEWER SERVICE. THESE NEIGHBORHOODS ARE BETTER CLASSIFIED AS SUBURBAN AREAS THAN AS NEAR CENTRAL AREA OR PRIMARY GROWTH AREA, SINCE THE INTENT OF THIS CATEGORY IS TO AVOID NEW DEVELOPMENT AT SEWERED DENSITIES AND THESE AREAS ARE FULLY DEVELOPED WITHOUT THE POTENTIAL FOR MORE GROWTH.

E. CONSERVATION SUBDIVISIONS FOR ENHANCEMENT OF AESTHETICS AND PROTECTION OF NATURAL RESOURCES ARE TO BE ENCOURAGED AND IN CERTAIN CIRCUMSTANCES MIGHT BE REQUIRED BY SUBDIVISION OR ZONING REGULATIONS.

F. WHEREVER CONSERVATION SUBDIVISION DESIGN RESULTS IN MULTI-FAMILY HOUSING PATTERNS, OVERALL DENSITIES MUST BE LIMITED TO ASSURE LONG TERM ON-SITE SEPTIC SYSTEM DISCHARGES WILL MEET ESTABLISHED STANDARDS, FOR CENTRAL SEWER SYSTEMS WILL NEVER BE EXTENDED INTO THESE AREAS.

G. CONFLICTS WITH AGRICULTURAL LAND USES MAY OCCUR AND CAN BE MITIGATED WITH OPEN SPACE, FARMLAND PRESERVATION PROGRAMS AND LAND DESIGN OPTIONS.

H. ASSURE THE CONSERVATION AND RESTORATION OF CULTURAL AND HISTORICAL RESOURCES.

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6. SEMI-RURAL REMOTE AREAS: Limited development is proposed for these least accessible lands on the outermost fringe of the Region, including all of Bridgewater and Sherman. Creative adaptation of residential development for agricultural and open space preservation is a goal in such outlying areas.

This regional fringe Includes northern segments of New Fairfield, all of Sherman, northern and eastern New Milford, all of Bridgewater, a small section of eastern Brookfield, outlying parts of Newtown, eastern and southern Redding, and a section of western Ridgefield.

6. SEMI RURAL REMOTE AREACATEGORY DETAILS:
OUTLYING AREAS WHERE DENSITIES LESS THAN THE MINIMUMS NEEDED TO SUSTAIN ON-SITE SEWAGE DISPOSAL AND WELL SYSTEMS ARE REASONABLE IN ORDER TO RESIST GROWTH PRESSURES THAT ARE BETTER CHANNELED TO MORE COST-EFFECTIVE AND LESS REMOTE LOCATIONS. LANDS THAT;

--- MAY OCCUR IN OR MAY CHARACTERIZE OUTLYING COMMUNITIES AND PARTS OF MUNICIPALITIES THAT ARE NOT RESPONSIBLE FOR STIMULATING THE POPULATION PRESSURE RESULTING FROM REGIONAL ECONOMIC GROWTH;

--- ARE DISTANT FROM THE REGIONAL CENTERS AND PRIMARY GROWTH AREAS IN THIS REGION AND FROM SIMILAR CENTRAL AREAS IN ADJACENT REGIONS;

--- ARE CHARACTERIZED BY CONTAINING THE REGION'S HIGHEST PERCENTAGE OF VACANT, UNDEVELOPED LAND AND/OR AGRICULTURAL AND MANAGED FOREST LANDS;

--- OFTEN CONTAINING OR BISECTED BY MAJOR SECTIONS OF STEEP TERRAIN, OR RIVERS AND LARGE WATER BODIES, AND HAVING ELEMENTS OF A SCENIC RURAL ROAD SYSTEM, WITH RELATIVELY LOW AVERAGE DAILY TRAFFIC VOLUMES, OFTEN SUFFICIENT AS IS FOR THE SEMI-RURAL REMOTE USE.

Collage of rural community life in Sherman, CT

PRIORITIES AND POLICIES FOR SEMI-RURAL REMOTE AREAS:
A. OUTLYING AREAS THAT ARE NOT RESPONSIBLE FOR STIMULATING THE REGION'S ECONOMIC GROWTH SHOULD NOT BE OBLIGATED TO ACCOMMODATE THE POPULATION PRESSURE RESULTING FROM THAT ECONOMIC GROWTH.

B. LAND USE POLICIES SHOULD PROMOTE THE BASIC FUNCTION OF SEMI-RURAL REMOTE AREA. TO DO SO THEY WILL NEED TO ASSURE THAT REASONABLE ECONOMIC USES OF PROPERTY REMAIN AVAILABLE TO OWNERS.

C. CONSERVATION SUBDIVISION OPTIONS FOR DEVELOPMENT ARE NEEDED TO ASSURE REASONABLE ECONOMIC USE OF LAND AND TO REDUCE ROAD ACCESS COSTS.

D. MAJOR INSTITUTIONAL AND OTHER INTENSIVE NONRESIDENTIAL USES ARE DISCOURAGED IN THESE AREAS.

E. FARMLAND AND FOREST LAND PRESERVATION SHOULD BE ENCOURAGED BY PROGRAMS TO REDUCE DEVELOPMENT PRESSURES AND TO ENHANCE THE ECONOMIC VIABILITY OF FARMING AND FARM-FAMILY INDEPENDENCE.

F. INTRODUCTION OF NEW ARTERIAL HIGHWAYS OR MAJOR TRAFFIC CAPACITY INCREASES ARE INCONSISTENT WITH THE FUNCTION OF THESE AREAS.

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7- 8- 9-10. CONSERVATION, PRESERVATION, RARE HABITAT AND HISTORIC AREA OVERLAYS: These categories consist of environmentally sensitive areas, preserved lands, important habitats and historic areas within the categories above that should be taken into account as planning, zoning and state agency decisions are formulated.

7. CONSERVATION AREA
OVERLAY CATEGORY DETAILS:
IRREPLACEABLE ENVIRONMENTAL AREAS, MOST IN PRIVATE OWNERSHIP, INCLUDING:
--- EXISTING AND POTENTIAL WATER SUPPLY WATERSHEDS AS SHOWN ON MUNICIPAL AND STATE PLANS. INCLUDED ARE THEIR ENTIRE DRAINAGE AREAS, EXCEPT LANDS IMMEDIATELY ADJACENT TO RESERVOIRS, TRIBUTARY STREAMS AND OTHER DPH CLASS I AREAS WHICH ARE CATEGORIZED AS PRESERVATION AREAS (TOO DETAILED TO BE SHOWN ON GROWTH GUIDE MAP);

--- STEEPLY SLOPING AND MOUNTAINOUS TERRAIN UNSUITED FOR DEVELOPMENT (TOO DETAILED TO BE SHOWN ON GROWTH GUIDE MAP);

--- FEMA MAPPED SPECIAL FLOOD HAZARD AREAS, EXCEPT THE NARROW CENTRAL AND MOST SENSITIVE PORTION MAPPED AS THE FLOODWAY WHICH IS CLASSIFIED AS PRESERVATION AREA (TOO DETAILED TO BE SHOWN ON MAP);

--- STATE MANDATED STRATIFIED DRIFT AQUIFER PROTECTION AREAS FOR EXISTING WATER SUPPLY WELLS (EXCEPT FOR THEIR SMALLER WELLHEAD PROTECTION COMPONENT, WHICH IS CLASSIFIED AS PRESERVATION AREA) IN RIDGEFIELD, DANBURY, BETHEL, NEWTOWN AND NEW MILFORD (TOO DETAILED TO BE SHOWN ON MAP);

--- OTHER STRATIFIED DRIFT AQUIFERS THAT ARE PROTECTED AS EXISTING OR FUTURE RESOURCES BY LOCAL ZONING REGULATIONS (BROOKFIELD'S GALLOWS HILL AND STILL RIVER MIDDLE AQUIFERS, RIDGEFIELD'S UPPER TITICUS AND GREAT SWAMP AQUIFERS, BUT TOO DETAILED TO BE SHOWN ON MAP) ;

PRIORITIES AND POLICIES FOR CONSERVATION AREAS INCLUDE:
A. IT IS THE RESPONSIBILITY OF THE PRESENT GENERATION TO SERVE AS TRUSTEE FOR CONSERVATION AREAS IN ORDER TO PROTECT THE QUALITY OF LIFE FOR FUTURE GENERATIONS.

B. MOST CONSERVATION AREAS CONTINUE IN PRIVATE OWNERSHIP AND MAY BE USED FOR PRIVATE PURPOSES AUTHORIZED BY ZONING. ZONING IN THESE AREAS MUST PROVIDE FOR REASONABLE ECONOMIC USE OF PRIVATE PROPERTY AND MAY NOT BE SO RESTRICTIVE AS TO CONSTITUE A CONFISCATION OF PROPERTY.

HOWEVER, INTENSITY AND TYPE OF LAND USE INCONSISTENT WITH CONSERVATION OF NATURAL RESOURCES SHOULD BE AVOIDED.

C. SUITABLE LOCATIONS ARE IDENTIFIED IN THIS PLAN FOR INTENSIVE DEVELOPMENT AND REGIONAL GROWTH WITHOUT THE NEED TO DEGRADE OR DAMAGE CONSERVATION AREAS OR TAKE THE HEALTH AND SAFETY RISK OF INTENSIVE DEVELOPMENT IN CONSERVATION AREAS.

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8. PRESERVATION AREA
OVERLAY CATEGORY DETAILS:
LAND AND WATER AREAS OF CRITICAL ENVIRONMENTAL CONCERN REQUIRING GREATER RESTRICTIONS ON USE THAN THOSE CLASSIFIED AS CONSERVATION AREAS, INCLUDING;
--- INLAND WETLANDS, INCLUDING SWAMPS, MARSHES AND BOGS (TOO SMALL TO BE SHOWN ON GROWTH GIUIDE MAP);

--- ALL RIVERS, STREAMS AND WATER BODIES;

--- PUBLIC WATER SUPPLY WELLHEAD PROTECTION COMPONENT OF STATE MANDATED AQUIFER PROTECTION AREAS (TOO SMALL TO BE SHOWN ON GROWTH GUIDE MAP);

The pristine West Aspetuck River Watershed in New Milford, CT, classified in state plans as a possible future water supply
Photo courtesy of Rick Gottschalk

--- SELECTED WATER SUPPLY WATERSHED LANDS IMMEDIATELY ADJACENT TO RESERVOIRS AND TRIBUTARY STREAMS, STEEP SLOPES, ETC. (KNOWN AS CLASS I, TOO DETAILED TO BE SHOWN ON PLAN MAP).

--- THE FEMA MAPPED FLOODWAY PORTION OF SPECIAL FLOOD HAZARD AREAS (TOO SMALL TO BE SHOWN ON PLAN MAP).

--- AGRICULTURAL LANDS FOR WHICH DEVELOPMENT RIGHTS ARE OWNED BY FEDERAL, STATE OR MUNICIPAL GOVERNMENT, PRIVATE FOUNDATIONS OR LAND TRUSTS (TOO SMALL TO BE SHOWN ON THE GROWTH GUIDE MAP).

ALSO, LANDS KNOWN OR BEST JUDGED TO BE PERMANENTLY PRESERVED FOR OPEN SPACE OR RECREATION, AND WHERE DEVELOPMENT IS ONLY IN SUPPORT OF OPEN SPACE FUNCTIONS. INCLUDED ARE:

--- FEDERAL, STATE, AND MUNICIPALLY OWNED PARKS, FORESTS, AND OTHER OPEN SPACES AND RESERVES.

--- MAJOR LANDS PERMANENTLY PRESERVED FOR OPEN SPACE PURPOSES IN QUASI- PUBLIC, COMMUNITY OR ASSOCIATION OWNERSHIP.

--- CT DPH DEFINED CLASS I WATER SUPPLY LANDS IN STATE, MUNICIPAL OR WATER UTILITY OWNERSHIP.

PRIORITIES AND POLICIES FOR PRESERVATION AREAS INCLUDE:
A. THE POLICY AND PRESUMPTION IS THAT PRESERVATION AREAS ARE NOT TO BE DEVELOPED.

B. PORTIONS OF PUBLIC WATER SUPPLY WELLHEAD AQUIFER PROTECTION AREAS MAY ALREADY BE DEVELOPED, AND INFILL DEVELOPMENT MAY OCCUR, BUT ANY DEVELOPMENT ON WELLHEAD PROTECTION AREAS SHOULD: 1) PRECLUDE NEW USES THAT ARE POTENTIAL HAZARDS FOR GROUNDWATER, AND 2) ASSURE THAT THE MANNER OF OPERATION OF EXISTING USES AND EXISTING AND NEW SITE DEVELOPMENT, WASTE AND DRAINAGE PRACTICES PRECLUDES HAZARDS FOR THE WELLHEAD AQUIFER PROTECTION AREA.

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9. RARE HABITAT AREA
OVERLAY CATEGORY DETAILS:
IRREPLACEABLE HABITAT RESOURCES, MOST IN PRIVATE OWNERSHIP, INCLUDING:
--- IMPORTANT HABITAT RESOURCES FOR RARE, ENDANGERED, AND THREATENED SPECIES.

--- THESE AREAS INCLUDE FORESTED AREAS, ABANDONED FIELDS, INTACT WETLAND ECOSYSTEMS, AND MIGRATORY CORRIDORS.

--- THE STATE DEP HAS IDENTIFIED SEVERAL AREAS WITHIN THIS REGION CONTAINING LANDS WITH THESE QUALITIES WHICH HAVE BEEN IDENTIFIED IN THE STATE'S NATURAL DIVERSITY DATA BASE (NDDB). THESE ARE SHOWN ON THE REGIONAL NATURAL DIVERSITY DATABASE MAP, INCLUDING WITHIN THE TEN TOWN REGION 128 PLANT SPECIES, 55 VERTIBRATE ANIMAL SPECIES, AND 22 INVERTIBRATE ANIMAL SPECIES. SEE ALSO DEP MAPS FOR EACH MUNICIPALITY.

PRIORITIES AND POLICIES FOR RARE HABITAT AREAS INCLUDE:
--- AS RECOMMENDED IN THE 2007 BETHEL, CT PLAN, "AS PART OF THE LAND USE APPLICATION PROCESS, APPLICANTS SHOULD BE REQUIRED TO IDENTIFY NATURAL DIVERSITY DATABASE SITES ON THEIR APPLICATIONS AND TO CONSULT WITH DEP IF PROPOSING DEVELOPMENT ON LANDS IDENTIFIED AS AN AREA OF CONCERN IN THE NATURAL DIVERSITY DATABASE.

THE BETHEL INLAND WETLANDS COMMISSION REQUIRES THIS PROCEDURE IF ANY PART OF A PROPOSED DEVELOPMENT IS WITHIN OR ADJACENT TO A WETLAND OR WATERWAY.

THE PLANNING AND ZONING COMMISSION SHOULD ALSO REQUIRE THE DEP TO REVIEW AND COMMENT IF ANY PART OF A DEVELOPMENT PROJECT LIES WITHIN AN AREA IDENTIFIED IN THE NATURAL DIVERSITY DATABASE. THE COMMISSION SHOULD THEN ADOPT A PRACTICE OF CONSIDERING THE DEP'S COMMENTS AND INCLUDE THE COMMENTS AS CONDITIONAL REQUIREMENTS OF APPROVAL, TO THE MAXIMUM AMOUNT PRACTICABLE."

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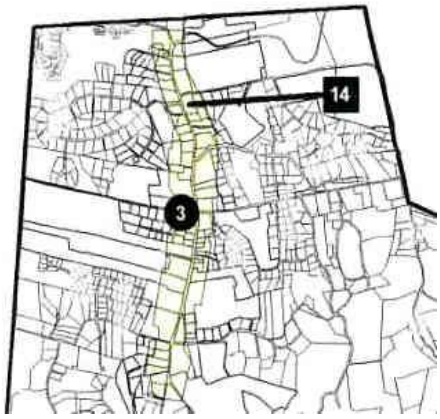
10. HISTORIC OVERLAY
CATEGORY DETAILS:
IRREPLACEABLE HISTORIC RESOURCE AREAS, MOST IN PRIVATE OWNERSHIP. THESE AREAS HELP SHAPE THE REGION'S UNIQUE REGIONAL IDENTITY AND SPIRIT (NOT SHOWN ON MAP):
-- MUNICIPAL HISTORIC DISTRICTS OR ZONES AND VARIOUS BUILDINGS ASSOCIATED WITH HISTORIC PRESERVATION;

-- HISTORIC DISTRICTS AND SITES FROM THE NATIONAL REGISTER OF HISTORIC PLACES (SEE LIST FOR CT);

-- KNOWN ARCHAEOLOGICAL SITES AS INVENTORIED BY THE STATE OFFICE OF ARCHAEOLOGY OR BY A MUNICIPAL COMMISSION;

-- VARIOUS CEMETERIES, MONUMENTS, MEMORIALS, BRIDGES AND OTHER HISTORIC LOCATIONS AND FEATURES.

PRIORITIES AND POLICIES FOR HISTORIC OVERLAY AREAS:
A. ENCOURAGE PRESERVATION AS THE FIRST PRIORITY FOR HISTORIC BUILDINGS, SITES AND DISTRICTS. MAKE USE OF THE STRONG POWERS OF THE CT VILLAGE DISTRICTS ACT AND THE ADVISORY POWERS DISCUSSED IN SIMSBURY CT'S GUIDELINES FOR COMMUNITY DESIGN.



Excerpt from the Ridgefield Town Plan showing a "Local Historic Treasure Area", not officially designated as an historic district but still worthy of note in the town plan.

B. ENCOURAGE ADAPTIVE REUSE OF HISTORIC STRUCTURES THAT PRESERVES THE CHARACTER AND INTEGRITY OF THE RESOURCE.

C. FOR DEVELOPMENT THAT OCCURS WITHIN OR NEAR HISTORIC SITES OR AREAS, ENCOURAGE DESIGN PLANS THAT PRESERVE AND CONTRIBUTE TO HISTORIC CHARACTER.

D. ENCOURAGE THE PROTECTION OF POTENTIAL AND REGISTERED ARCHAEOLOGICAL SITES UNTIL QUALIFIED PROFESSIONALS HAVE COMPLETED AN EVALUATION AND IN SOME CASES EXCAVATED THE SITE.

E. ADOPT ZONING AND SUBDIVISION REGULATIONS THAT REQUIRE ALL APPLICANTS TO INQUIRE OF THE OFFICE OF THE STATE ARCHAEOLOGIST IF THERE IS ARCHAEOLOGICAL POTENTIAL IN THE VICINITY. IF VERIFIED, FOLLOW PROCEDURES RECOMMENEED BY THE STATE ARCHAEOLOGIST AND FOLLOW DESIGN PLANS AND CONSTRUCTION PRACTICES THAT CREATE THE LEAST POSSIBLE IMPACT ON KNOWN OR POTENTIAL ARCHAEOLOGICAL RESOURCES.

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2-3. COMPARING REGIONAL AND STATE PLAN MAP CATEGORIES

A key feature of HVCEO's Plan categories is their ability to be readily compared with those in the **Conservation and Development Policy Plan for Connecticut** maintained by the CT Office of Policy and Management.

This is useful and deliberate, as state statutes require that the regional plan and the state plan be compared and their differences aired.

The state plan was first released in 1973 and has been updated regularly. The current version, for 2005 - 2010, was approved in 2005 by votes of the Connecticut House of Representatives and the Connecticut State Senate.

A key purpose of the state plan is to guide state agency decisions. It is especially

powerful as a guide to state regulators in the approval process for municipal sewer service extensions.

Excerpt from the State Plan legend, showing some of its category definitions. The HVCEO Plan makes use of similar definitions, defined above.

HVCEO's Future Growth Map categories are generally comparable in their titles and detailed policies to state map categories, as follows:

REGIONAL CENTERS *on the regional map are generally comparable to the* ***Regional Center*** *definition on the state map.*

NEAR CENTRAL AREA at *HVCEO is comparable to* ***Neighborhood Conservation*** *on the state plan map.*

PRIMARY GROWTH AREA *mapped at HVCEO is comparable to* ***Growth Area*** *on the state map.*

SMALL COMMUITY CENTERS *mapped by HVCEO are comparable to* ***Rural Community Centers*** *on the state map.*

SUBURBAN AREA *in HVCEO's terms is comparable to the more accessible* ***Rural Lands*** *as defined by the state map.*

SEMI-RURAL REMOTE AREA *in this planning region is shown as the more outlying and less accessible* ***Rural Lands*** *on the state plan map.*

CONSERVATION AREA *in this Plan is similar to* ***Conservation Area*** *on the state map.*

PRESERVATION AREA *at HVCEO is similar to* ***Preservation Area*** *on the state map.*

According to state statute HVCEO and the other regional planning organizations are required to submit their draft regional plans to OPM for comments and

recommendations. OPM's review will "determine if the proposed regional plan of development is not inconsistent with the state plan."

A key purpose of the HVCEO Regional Plan is to represent municipalities as persuasive input to the state plan. The differences between regional and state maps has been narrowed over time.

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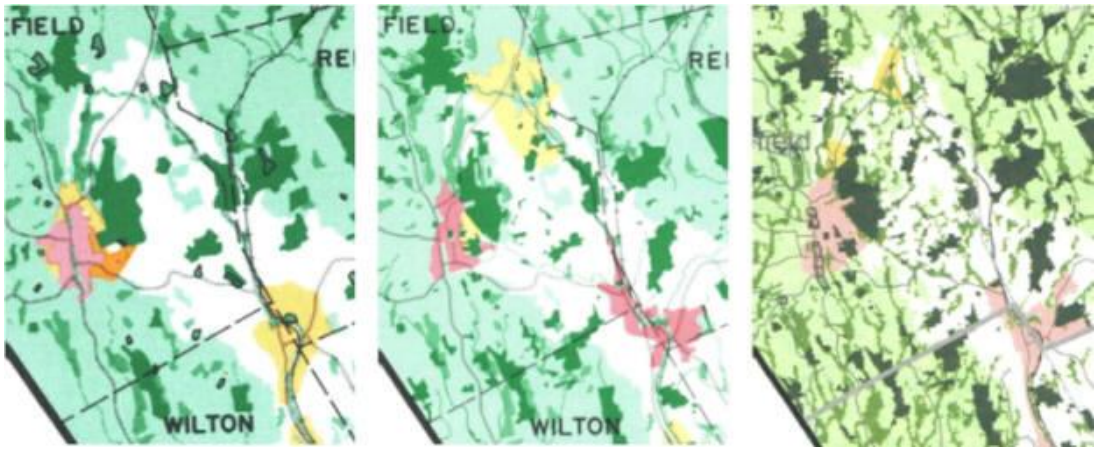
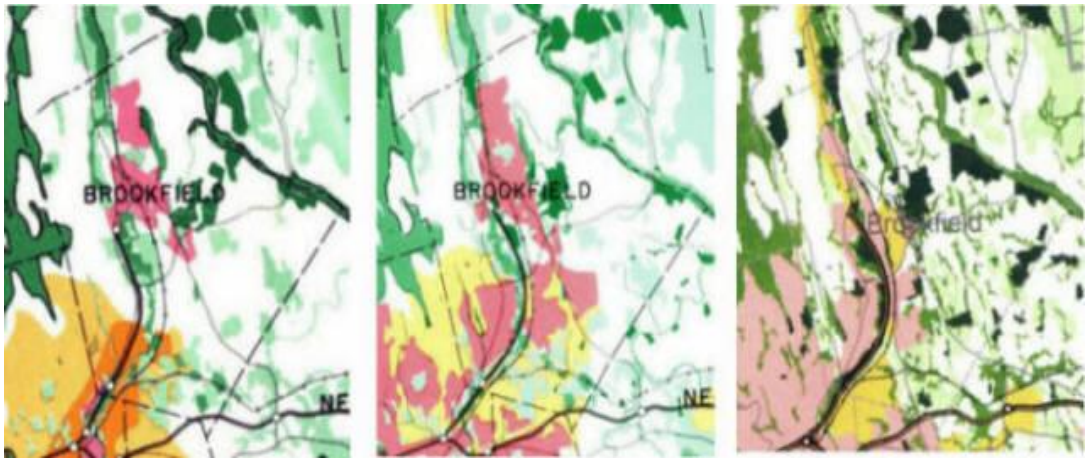
2-4. EVOLUTION OF THE STATE PLAN MAP

The map within the Conservation and Development Policies Plan for Connecticut as it relates to our area has been changing over time. This is due in part to state staff having at times a limited understanding of area municipalities.

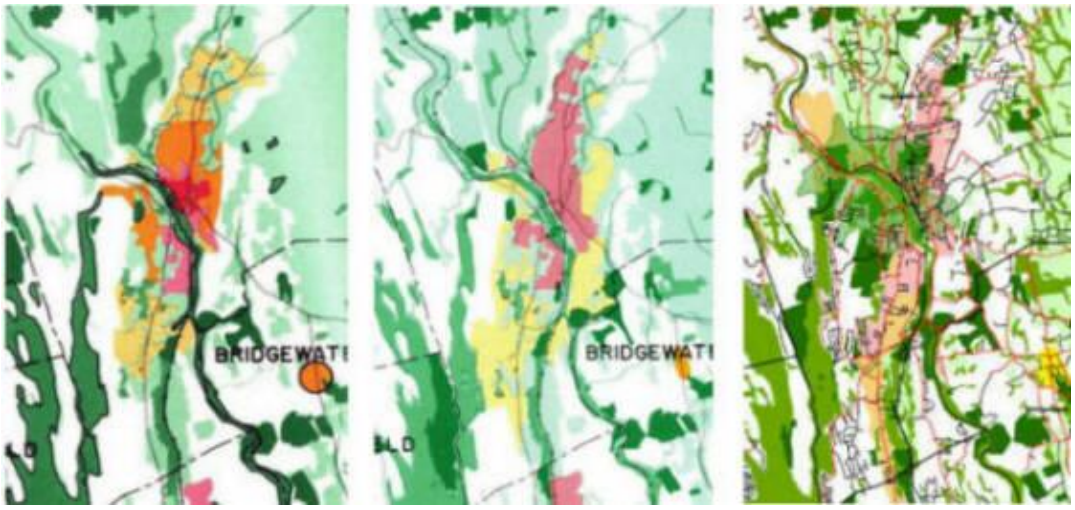
But in fairness, it is also coupled with local officials themselves providing input to the state that has varied and changed over the decades from one town plan update to another. Examples of how the state plan has been amended thru time are shown below:



On the lower right of the above graphic is shown Ridgefield's and Redding's Branchville and Georgetown areas in 1982 (left), in 1992 (center), and then on the latest 2005 state map at right. They are continually reshaped. Then at top center the Route 7 and 35 sewered area in Ridgefield first appears in 1992 and then is greatly reduced in 2005.



The graphic above shows Brookfield on the state plan in 1982 (left), in 1992 (center), and then on the latest 2005 state map at right. State approval of a continuous corridor of growth along Route 7 from Danbury to New Milford thru Brookfield has slowly been accepted on the state map.



The graphic above shows New Milford on the state plan in 1982 (left), in 1992 (center), and then on the latest 2005 state map at right. The plan for New Milford's central and more heavily developed area has been shaped and reshaped over the decades on the state map.

CHAPTER 3: WATER SUPPLIES AND WATER RESOURCES

3-1. EXISTING AND POTENTIAL INTERMUNICIPAL WATER SUPPLIES

This section of the Regional Plan begins with the most serious of infrastructure issues: development of new water supplies to supplement existing sources.

This topic is by nature regional and thus very appropriate for a regional plan.

As the Plan should focus on regional aspects of water supply, the listing below includes only potential additional intertown water supplies, excluding new or expanded sources to be used entirely within the boundaries of, and developed by, a single municipality.

Not included on the list below are existing and long established intertown water supply arrangements, especially drainage by gravity westerly to the the New York City system and south to the Aquarion Water Company which serves the Bridgeport and Stamford areas. These are catalogued in the town by town overview texts in section two below.

Note that both existing and potential supply sources are given equal weight for protection on the Future Growth Map, where both are shown as Conservation Areas.

The reasoning is that until a future supply area's final water supply status is determined, it must receive protection as if it were to definitely become such a supply, lest its runoff be degraded beneath drinking water standards. Both state and regional plan maps use identical environmental logic in this regard.

Inclusion of a concept in the list below is not an endorsement of the water supply proposal by HVCEO or by its potential water receiving or water donating member municipality. Rather, the list defines the agenda for upcoming water supply studies and policy formulation.

POTENTIAL ADDITIONAL INTERTOWN WATER SUPPLIES

WATER SUPPLY INTO BETHEL:

--- It is physically feasible for Danbury's water supply to serve as an emergency backup source for central Bethel. Source: determined to be feasible by Section 2 of a 2006 water supply interconnections study by HVCEO.

However, Danbury's water supply would first need to be increased to maintain an acceptable margin of safety before CT DPH could issue a "Permit for the Sale of Excess Water."

--- It is physically feasible for Danbury's water supply to serve as an emergency backup to augment existing supplies in northern Bethel. Source: determined to be feasible by Section 3 of a 2006 water supply interconnections study by HVCEO. But again, Danbury's water supply would first need to be increased to maintain an acceptable margin of safety before CT DPH could issue a "Permit for the Sale of Excess Water."

WATER SUPPLY OUT OF BETHEL:

--- In southern Bethel, the potential for runoff from Bethel's Wolf Pit Brook Watershed to be pumped northwesterly to Danbury is limited, under today's conditions, by a low cost benefit ratio. Source: 2006 study by HVCEO.

The source of designation as potential future water supply is the 2005 - 2010 Conservation and Development Policies Plan for Connecticut and its earlier versions dating back to 1974.

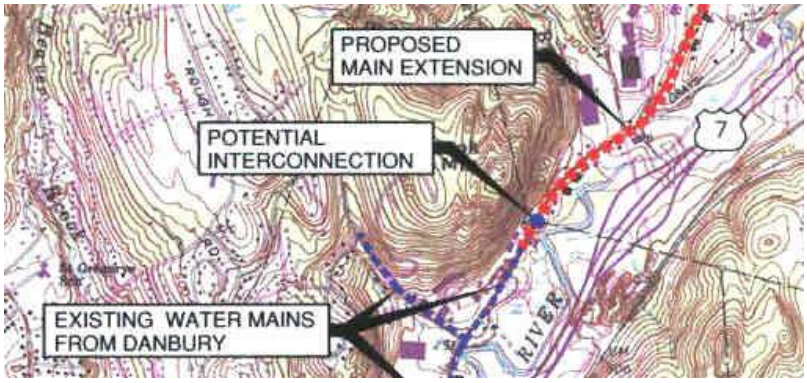
WATER SUPPLY OUT OF BRIDGEWATER:

--- A long term regional goal has been to preserve the potential for future runoff from the Shepaug River Watershed in eastern Bridgewater to be utilized as a supply source by a large water company capable of developing this source. Source of designation: 2005 - 2010 Conservation and Development Policies Plan for Connecticut and its earlier versions back to 1974.

WATER SUPPLY INTO BROOKFIELD:

--- It is physically feasible for Danbury's water supply to be extended northeasterly to serve the Federal Road Corridor in southern Brookfield. Source: determined to be feasible by Section 4 of a 2006 interconnections study by HVCEO.

However, Danbury's water supply would first need to be increased to maintain an acceptable margin of safety before CT DPH could issue a "Permit for the Sale of Excess Water."



Detail from HVCEO's 2006 Water Supply Interconnections report. See full size graphic.

WATER SUPPLY OUT OF BROOKFIELD:

--- The feasibility of transmitting water to Danbury from major aquifers in central Brookfield will be studied in 2008 by a consultant to the Danbury Water Department. Source: 2007 Danbury Water Supply Plan.

--- There is long range potential for watershed runoff from Brookfield's portion of the Candlewood Lake Watershed to be pumped up from the southern end of Candlewood Lake to nearby Margerie Reservoir in Danbury. The concept was put into operation temporarily during a Danbury water supply emergency in the late nineteen sixties.

The concept requires state water quality reclassification of Danbury Bay from B to AA. Source: 2007 Danbury Water Supply Plan and earlier versions of that Plan.

WATER SUPPLY INTO DANBURY:

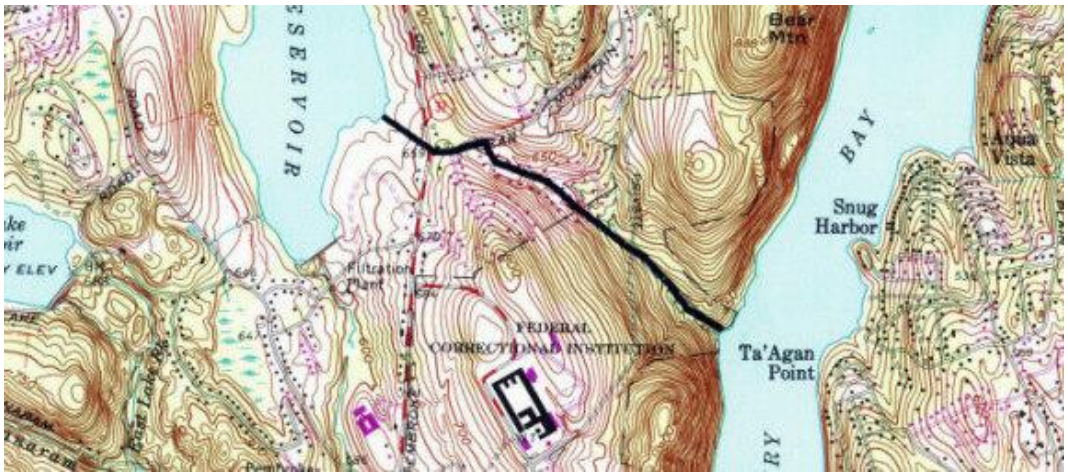
--- The feasibility of transmitting water to Danbury from major aquifers in central Brookfield will be studied starting in 2008 by a consultant to the Danbury Water Department. Source: 2007 Danbury Water Supply Plan.

A reassessment of the potential for diversion of drinking water from Ball Pond Brook in New Fairfield to Margerie Reservoir in Danbury will be studied starting in 2008 by a consultant to the Danbury Water Department. The Brook would require a classification from B to AA. Source of diversion concept: 2007 Danbury Water Supply Plan.

--- The potential use of New Fairfield's Short Woods Brook Aquifer as a local water supply for the New Fairfield Town Center area may yield an excess of water that can be transmitted to nearby Margerie Reservoir to assist Danbury. Source: New Fairfield First Selectman.

--- Long range potential for watershed runoff from portions of the Candlewood Lake Watershed in other municipalities to be pumped up from the southern end of the Lake to nearby Margerie Reservoir in Danbury. The concept was put into operation temporarily during a Danbury water supply emergency in the late nineteen sixties.

The concept requires state water quality reclassification of Danbury Bay from B to AA. Source: 2007 Danbury Water Supply Plan and earlier versions of that Plan.



The black line identifies the proposed water supply pipeline route from Danbury Bay of Candlewood Lake on the east up gradient to Margerie Reservoir on the west. The concept was put into operation temporarily during a Danbury water supply emergency in the late nineteen sixties.

WATER SUPPLY OUT OF DANBURY:

--- It is physically feasible for Danbury's water supply to be extended to Bethel, Brookfield, New Fairfield, New Milford and Newtown as documented in a 2006 water supply interconnections study by HVCEO. However, Danbury's water supply would first need to be increased to maintain an acceptable margin of safety before CT DPH could issue a "Permit for the Sale of Excess Water."

WATER SUPPLY INTO NEW FAIRFIELD:

--- It is physically feasible for Danbury's water supply to be extended north to serve the Town Center area in New Fairfield. Source: determined to be feasible by Section 6 of a 2006 interconnections study by HVCEO.

However, Danbury's water supply would first need to be increased to maintain an acceptable margin of safety before CT DPH could issue a "Permit for the Sale of Excess Water."

WATER SUPPLY OUT OF NEW FAIRFIELD:

--- Preserve the potential for future runoff from the Ball Pond Brook Watershed in central New Fairfield to be utilized by a water company. Source: 2005 - 2010 Conservation and Development Policies Plan for Connecticut and earlier versions of that Plan.

Also, a reassessment of the potential for diversion from Ball Pond Brook in New Fairfield to nearby Margerie Reservoir in Danbury will be studied in 2008 by a consultant to the Danbury Water Department. Source: 2007 Danbury Water Supply Plan.

View of New Fairfield's Short Woods Brook Aquifer.
Photo courtesy of Rick Gottschalk

--- The potential use of the Short Woods Brook Aquifer as a local water supply for the New Fairfield Town Center area may yield an excess of water that can be transmitted to Danbury's Margerie Reservoir. Source: New Fairfield First Selectman.

--- Long range potential for watershed runoff from New Fairfield's portion of the Candlewood Lake Watershed to be pumped up from the southern end of the Lake to nearby Margerie Reservoir in Danbury The concept was put into operation temporarily during a Danbury water supply emergency in the late nineteen sixties.

The concept requires state water quality reclassification of Danbury Bay from B to AA. Source: 2007 Danbury Water Supply Plan.

WATER SUPPLY INTO NEW MILFORD:

--- It is physically feasible for Danbury's water supply to be extended north thru Brookfield to serve southern New Milford. Source: determined to be feasible by Section 7 of a 2006 interconnections study by HVCEO. However, Danbury's water supply would first need to be increased to maintain an acceptable margin of safety before CT DPH could issue a "Permit for the Sale of Excess Water."

WATER SUPPLY OUT OF NEW MILFORD:

--- There is a long term regional and state goal to preserve the potential for future runoff from the West Aspetuck River Watershed in central New Milford to be utilized by a water company. Source: 2005-2010 Conservation and Development Policies Plan for Connecticut and earlier versions back to 1974.

The pristine West Aspetuck River in New Milford,

classified in state plans as a possible future water supply
Photo courtesy of Rick Gottschalk

--- Preserve the potential for future runoff from the Shepaug River Watershed in eastern New Milford to be utilized by a water company. Source: 2005 - 2010 Conservation and Development Policies Plan for Connecticut and earlier versions back to 1974.

WATER SUPPLY INTO NEWTOWN:

--- It is physically feasible for Danbury's water supply to be extended easterly along Route 6 in Bethel to connect with the United Water Company's Newtown System. Source: determined to be feasible by Section 8 of a 2006 interconnection study by HVCEO.

However, Danbury's water supply would first need to be increased to maintain an acceptable margin of safety before CT DPH could issue a "Permit for the Sale of Excess Water."

WATER SUPPLY OUT OF REDDING:

--- Redding's Upper Saugatuck Aquifer, as a potential small water supply but remote from urban areas in need, would have low cost benefit for development of a well field. Source of concept: U.S. Army Corps of Engineers 1982 Housatonic River Basin Urban Study.

WATER SUPPLY INTO OR OUT OF RIDGEFIELD:

--- no new intertown transfers proposed in the short term. However, if in the long term water supply resources of the Aquarion Water Company are directed north to supplement Danbury's, then the water supply transmission route might possible run thru Ridgefield.

WATER SUPPLY OUT OF SHERMAN:

--- no new intertown transfers proposed.

3-2. INVENTORY OF WATER SUPPLY SOURCES

Water supply source inventories and maps, for both watersheds and aquifers, on a town by town basis have been produced for municipal water supply source protection and planning.

These municipal data bases should be used in each municipal plan update.

The municipal inventories are incorporated by reference into this Regional Plan and provide a comprehensive supply overview, beyond the intermunicipal aspects listed above:

1. LINK TO WATER SUPPLY SOURCE INVENTORY FOR BETHEL
2. LINK TO WATER SUPPLY SOURCE INVENTORY FOR BRIDGEWATER
3. LINK TO WATER SUPPLY SOURCE INVENTORY FOR BROOKFIELD

4. LINK TO WATER SUPPLY SOURCE INVENTORY FOR DANBURY
5. LINK TO WATER SUPPLY SOURCE INVENTORY FOR NEW FAIRFIELD

6. LINK TO WATER SUPPLY SOURCE INVENTORY FOR NEW MILFORD
7. LINK TO WATER SUPPLY SOURCE INVENTORY FOR NEWTOWN

8. LINK TO WATER SUPPLY SOURCE INVENTORY FOR REDDING
9. LINK TO WATER SUPPLY SOURCE INVENTORY FOR RIDGEFIELD
10. LINK TO WATER SUPPLY SOURCE INVENTORY FOR SHERMAN

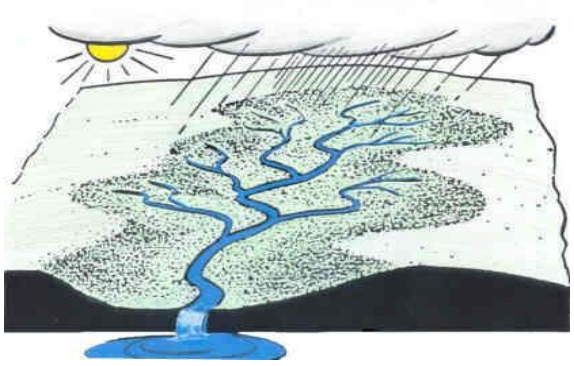
3-3. PROTECTING WATER SUPPLY SOURCES

Introduction

The two sections above provide an overview of water supply sources. This section provides the strategy for their long term protection.

Connecticut state statute 8-23 requires that each municipal plan of conservation and development address water supply resource protection. The municipal plan of conservation and development "shall consider the need for protection of existing and potential public surface and ground drinking water supplies."

To assist local water supply planning, HVCEO has invested time in maintaining background data on existing and potential water supply sources, many of which cross municipal boundaries. This information is used in town plan updates and development regulations.

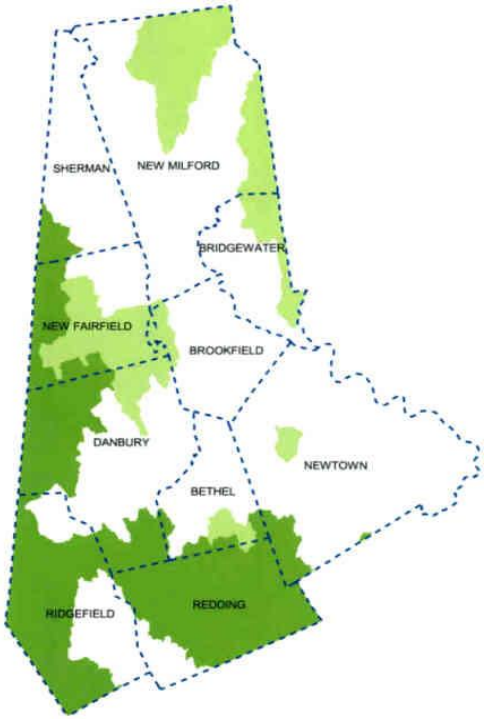


A watershed includes all upper streams that flow together to then empty into a single downstream location.

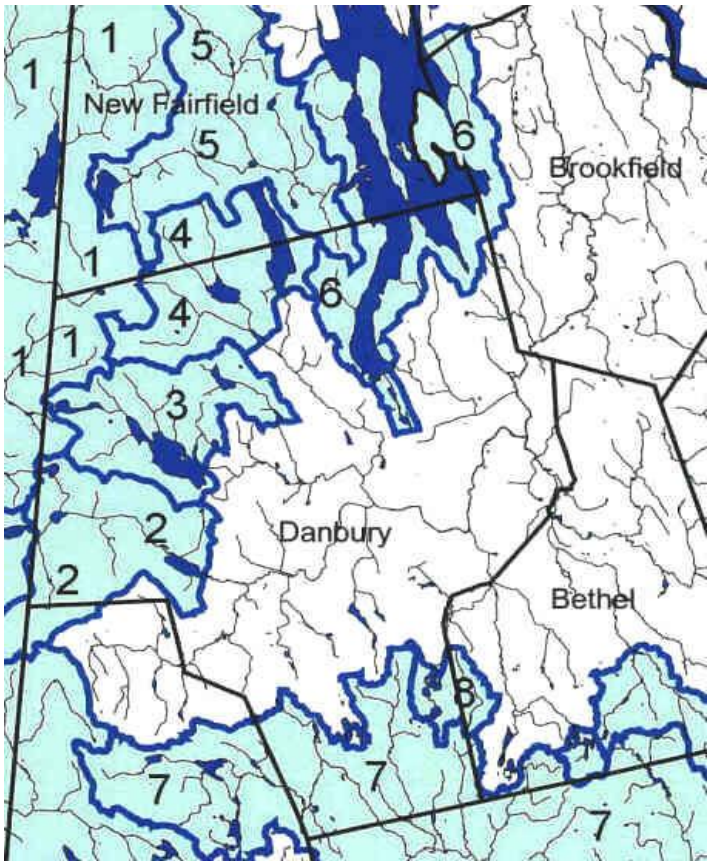
Surface Drinking Water Supplies

As noted above a watershed is defined as a land area that drains to a common discharge point. The high points of the topography in the watershed are on the outer edges and all drainage waters eventually merge into one watercourse.

A key policy of this Regional Plan is that *existing and potential watershed lands that drain to public water supply reservoirs are areas of special environmental concern.*



Existing water supply watersheds in dark green.
Potential water supply watersheds in light green.



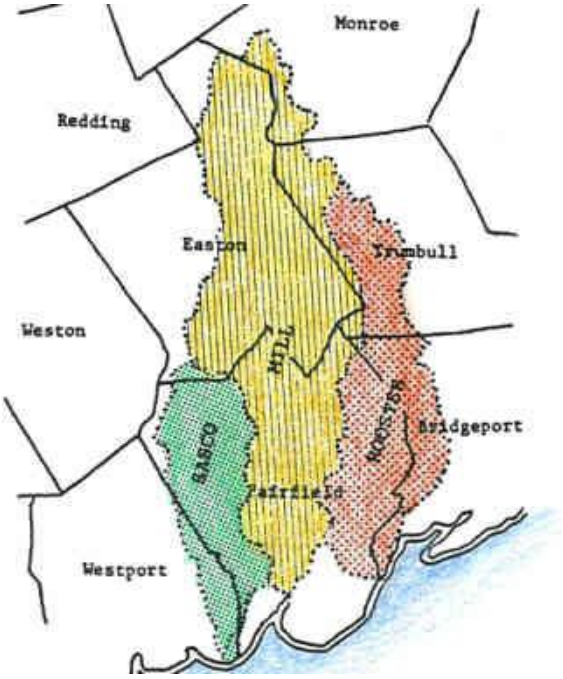
Details as to existing and potential surface water supply watersheds in and near Danbury. 1. supply source for New York City, 2-4 supply for Danbury residents, 5-6 potential future supply for Danbury residents, 7. supply for coastal Connecticut , 8. supply for Town of Bethel

Water quality is directly related to the extent of development in its watershed, such development involving land use type, degree of impervious surface, storm water and sediment controls, and the adequacy of storm water flow and sewer treatment infrastructure.

This key point has been proven over and over again since this classic 1976 study undertaken nearby:

A study of three adjacent watersheds in the town of Fairfield entitled "Detection of Non-Point Pollution of Small Streams in Southwest Connecticut" by S. Bongiorno et al, 1976, demonstrates the relationship of land development to water quality. All three areas have similar geology of crystalline bedrock devoid of any calcium carbonate deposits.

The easternmost basin, the watershed of the Rooster River on the Bridgeport-Fairfield line, is highly urbanized with a high density of dwellings in multiple family and much quarter-acre lot zoning.



Sasco in red, Mill in yellow, Rooster shown in red. Town of Redding at top left.

The watershed of the adjacent Mill River is moderately urbanized and that of the Sasco River to the west of the Mill River is semi-rural. Ninety percent of the homes in the Rooster River basin are connected to sanitary sewer systems which carry waste materials to treatment plants. The other two watershed areas dispose of wastes in septic tanks.

The study showed that the water quality of the Rooster River in the most highly urbanized watershed was worse in almost all pollution parameters than that of the other two rivers despite the fact that the Rooster has had sanitary sewering. The river's water quality was downgraded by street and surface runoff which was flushed into storm sewers.

Such stormwater runoff can contain many chemicals such as lawn fertilizers, organic herbicides, pesticides, and metallic ions which can reach surface waters through storm sewers and significantly lower the quality of the water. Rooftops, paved areas, automobiles, and lawns in a watershed area each makes its contribution to the receiving waters.

From the regional view it is obvious that the adequacy of protection features in one municipality affects the quality of water in downstream municipalities in the same watershed.

Due to the increasing pressure of land development on existing and potential water supply watersheds, performance standards are needed to control land use and stormwater runoff in new developments in these sensitive recharge areas.

As examples, HVCEO assisted the City of Danbury by preparing the 1989 planning report that led to the Danbury Water Supply Protection Overlay Zone.

HVCEO also prepared a 2006 report entitled **Bethel Water Supply Overlay Protection Zone** which was endorsed by the 2007 Bethel Plan of Conservation and Development.

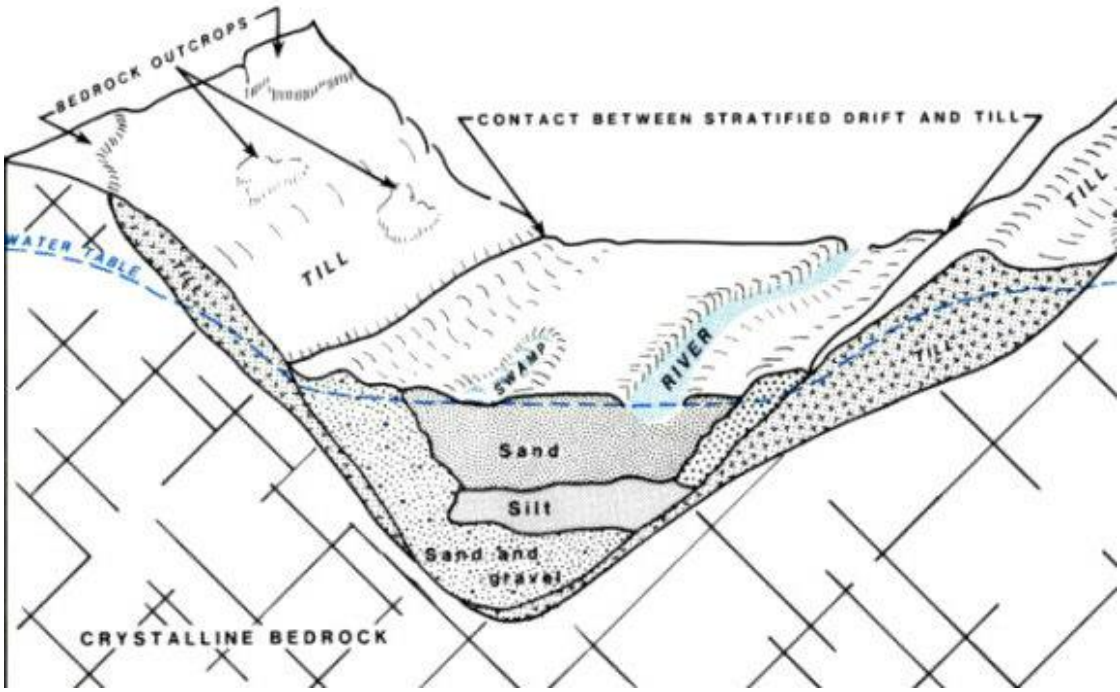
Views of Danbury's West Lake Water Supply Reservoir. Such water resource features enhance nearby residential property values. Photos courtesy of Rick Gottschalk

Concerning the ability of Connecticut's affordable housing statute 8-30g to induce increased density in the Housatonic Valley Region's existing and potential water supply watersheds, CT DEP has long supported a maximum density of one dwelling unit per two acres in such areas to provide adequate protection of water quality. The Conservation and Development Policies Plan for Connecticut also recommends a low density role for such sensitive watersheds.

Just as a municipality's industrially zoned land is exempt from 8-30g override, its state-defined water supply watershed land should also be exempted. For affordable housing appeals filed within Connecticut's CT DEP recognized water supply watersheds, allows state courts to take into consideration for their rulings density recommendations for watersheds found in the Conservation and Development Policies Plan for Connecticut.

Below Ground Drinking Water Supplies

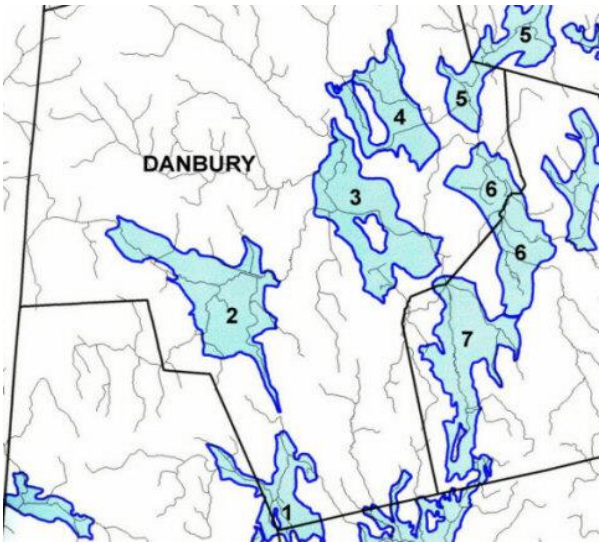
Drinking water is supplied to the Region through a network of 1) surface reservoirs catching stream flow as described above, 2) below ground gravel aquifers, and 3) the most common option wells drilled into bedrock. These water resources are under the control of various entities including municipal and proprietary water utilities and local landowners.



Below ground water supplies are of three types: the till aquifer, stratified drift aquifer (sand, silt, sand and gravel), and the crystalline bedrock aquifer. Most small capacity wells are drilled into the bedrock aquifer. But in lowland areas, stratified drift gravel areas often yield larger quantities suitable for public supply.

It is vital for local, regional and state plans to accurately plot the location of these resources as development proceeds. They are therefore fundamental features of this HVCEO regional plan. Our descendants will judge us harshly if we do not work together now to preserve their future sources of clean water.

Major stratified drift (sand and gravel) aquifers in the Housatonic Region are found in the lowlands of river valleys



Underground stratified drift aquifers (sand and gravel) in and near Danbury.
1. Sugar Hollow Aquifer, 2. Kenosia Aquifer, 3. Still River West Aquifer, 4. Great Plain Aquifer, 5. Still River Middle Aquifer, 6. East Swamp Aquifer, 7. Sympaug Brook Aquifer

Back in 1979 HVCEO provided the initial aquifer protection area mapping, naming and protection regulations for the Region's 26 major stratified drift aquifers. According to the regional policy adopted in 1979:

The 26 major stratified drift aquifers and their immediate recharge areas should be designated by municipal land use agencies as special protection zones subject to more stringent regulatory standards and site plan review designed to assure their permanent viability as potential water supply sources.

This Regional Plan reendorses the 1979 policy above.

The early mapping was adopted into zoning by Brookfield, Newtown and Ridgefield. Upcoming DEP mandatory aquifer regulation will affect Bethel, Danbury, New Milford, Newtown and Ridgefield.

Of use to local planning are the following technical resources for aquifer protection:

1) *A review of **aquifer basics on hvceo.org**, with links to information about the CT DEP mandatory aquifer protection program.*
2) *Criteria for **aquifer mapping on hvceo.org** used by first generation municipal aquifer regulations that are still in effect.*
3) *Overview of the **hydrogeologic setting on hvceo.org** for stratified drift aquifers particular to the Housatonic Valley Region.*
4) *From the latest updates of the ten town plans, excerpts of their **aquifer protection policies on hvceo.org**.*

3-4. WATER SUPPLY TRANSMISSION AND SERVICE AREAS

Regulation of existing and future public water supply transmission in the Region is managed largely by the Connecticut Department of Public Health (CT DPH), in conjunction with the Department of Public Utility Control and individual public and private water utility companies.

CT DPH makes use of a **regional Water Utility Coordinating Committee structure** for perspective in its regulatory process.

The Housatonic Valley Planning Region (except for the Town of Redding) is divided by the CT DPH mandated Housatonic Water Utility Coordinating Committee's (HWUCC) 1988 Areawide Management Plan into “exclusive service areas” assigned to the following companies:

See the jurisdictions of the above companies on
the Map of Housatonic WUCC Exclusive Service Areas
available at the CT Department of Public Health web site

Each such exclusive area is the domain of a single water utility provider, who is responsible for existing and future water customers in that area. While this regulatory system provides a business monopoly, rates and returns are in turn publicly regulated.

The water provider in the exclusive service area is obligated to extend water service to any customer in the assigned area who requests it. This service extension can be accomplished either through tying the new customer in with existing water infrastructure or developing and managing thereafter a new stand alone well.

While the Housatonic WUCC is administratively without staff support, the exclusive areas remain embodied in state law. State staff uses this tool to shape area water supply systems.

The CT DPH requires each water utility company to file supply plans with projections of future needs and a statement as to how they will serve their exclusive service area. These plans are of great interest to local planning and should be referenced when municipal plans of conservation and development are updated.

Also of value to town plan updates is HVCEO's 2006 report on **Potential Water Supply Interconnections to Danbury**. Contents include:

--- ***LINK TO CONNECTING DANBURY TO CENTRAL BETHEL***
--- ***LINK TO CONNECTING DANBURY TO NORTHERN BETHEL***

--- ***LINK TO CONNECTING DANBURY TO SOUTHERN BROOKFIELD***
--- ***LINK TO OVERVEIW OF DANBURY'S INTERNAL SUPPLY NEEDS***

--- ***LINK TO CONNECTING DANBURY TO NEW FAIRFIELD***
--- ***LINK TO CONNECTING DANBURY TO SOUTHERN NEW MILFORD***

--- ***LINK TO CONNECTING DANBURY TO NEWTOWN***
--- ***LINK TO CONNECTING DANBURY TO RIDGEFIELD***

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3-5. SHRINKING SUPPLIES DUE TO GLOBAL WARMING

In their water supply planning, municipalities in the Housatonic Valley should now plan for the fact that upcoming global warming will reduce the expected safe yield of surface reservoir and groundwater aquifer water supplies.

According to the Union of Concerned Scientists, water managers throughout the New England region need to evaluate the adequacy of their surface water supplies and storage facilities in light of the projected increase in droughts due to global warming.

Global warming means reservoir safe yields will be less than originally planned

"Overall, stream flow is projected to become more extreme, higher in winter and lower in summer, exacerbating drought."

Of course many residents of the Housatonic Valley Region obtain their drinking water from individual residential wells drilled into bedrock, not from public sources. But again, according to the Union of

Concerned Scientists, "depending on local hydrological and geological conditions, these groundwater users may be highly vulnerable to extended drought."

Of similar interest is a 2008 USDA funded study by the University of Massachusetts Department of Resource Conservation, projecting the impact of climate change upon the Connecticut River Watershed.

Computer models used to predict changes over the next 40 years showed a decrease in the annual amount of water running off the surface of the land to feed streams and rivers. Warmer temperatures were predicted to decrease runoff in the late summer months of July and August when demand is highest, resulting in lower flows that could threaten community water supplies.

Communities were advised to plan for water stress months and implement water conservation practices throughout the year.

Planning and zoning strategies to combat global warming are described in the **Curb Global Warming chapter** of this Plan.

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3-6. QUALITY GOALS FOR WATER BODIES

The Connecticut Department of Environmental Protection (CT DEP) has developed water quality standards in conjunction with the principles of the federal Clean Water Act. Other state agencies, such as the Water Supplies Section of CT DPH, make use of these standards for water supply planning.

As a result, each stream or water body in the Region has two classifications, one for its existing use, and one for ultimate future use, written in an "existing/future" format such as "B/A" or "A/AA".

The highest standards are reserved for existing and potential water supply watersheds, which are AA.

The DEP seeks to bring every water body in the State to a minimum classification of "B" or better. Class B is not suitable for consumption as water supply, but could be suitable for recreational use, fish and wildlife habitat, agricultural and industrial supply.

There is a non-degradation policy in Connecticut such that a stream now AA or A cannot be reduced to B to allow new discharges from industries or treatment plants. This classification system is summarized below:

CLASS AA: Designated uses are existing or proposed drinking water supply, fish and wildlife habitat, some recreational use, agricultural and industrial supply. Discharges into this water are severely restricted.

CLASS A: Designated use is potential drinking water supply, fish and wildlife habitat, recreational uses, agricultural and industrial supply and other legitimate uses including navigation. Discharges into these waters are severely restricted. No reclassification of A or AA down to B allowed.

CLASS B: Designated uses are varied and include discharges from industrial and municipal wastewater treatment facilities, providing "best available treatment" and "best management practices" are applied.

All Class C and D water bodies must eventually reach the minimum standards of the B classification. Enforcement orders are applied to achieve this. The assumption is that as we are an industrialized nation, some waters must be permanently reserved for receiving waste.

CLASSES C AND D: Indicates unacceptable quality. The goal is Class B or Class A and DEP will issue orders to require improvement.

BETHEL, CT STREAM QUALITY GOALS - *SEE THEM MAPPED*
1. Aspetuck Reservoir *tributaries reaching north into Bethel from Redding and Newtown: AA/AA.*
2. Bethel Reservoir Brook *from west of Hudson Street north to the Danbury City Line: B/A.*
3. Chestnut Ridge Reservoir *and its tributaries: AA/AA.*
4. Murphy Brook *(a.k.a. Braunies Brook) from source in Danbury to pump station at Reservoir Street: AA/AA.*
5. Saugatuck Reservoir *tributaries reaching north into Bethel from Danbury and Redding: AA/AA.*

6. Sympaug Brook *from Sympaug Pond and the old Bethel Landfill flowing north to just north of railroad bridge: B/A. Sympaug Brook continuing, from just north of railroad bridge north to Danbury City Line: B/B.*
7.Wolf Pit Brook *and tributaries that are upstream of a point just north of the intersection of Route 58 with Hoyts Hill Road: A/AA.*
8. All other streams in Bethel *such as Chestnut Brook, Dibble's Brook, East Swamp Brook, Limekiln Brook, etc: A/A.*

BRIDGEWATER, CT STREAM QUALITY GOALS - *SEE THEM MAPPED*
1. Housatonic River *forming western boundary of Bridgewater (as Lake Lillinonah): D/B. The severe D rating is due to PCB contaminated bottom sediments.*
2. Shepaug River *tributaries reaching westerly into Bridgewater such as Hop Brook, Second Hill Brook, etc: A/AA.*
3. All other streams in Bridgewater *such as Clapboard Oak Brook, Hitchcock Mill Brook, Wewaka Brook, etc: A/A.*

BROOKFIELD, CT STREAM QUALITY GOALS - *SEE THEM MAPPED*
1. Candlewood Lake *due to wastewater pumped up from the Housatonic River: B/B.*

2. Housatonic River *forming eastern boundary of Brookfield (as Lake Lillinonah): D/B. The severe D rating is due to PCB contaminated bottom sediments.*
3. Still River *from Danbury Line north to the New Milford Line: C/B.*
4. All other streams in Brookfield *such as Dingle Brook, Hop Brook, Merwin Brook, Limekiln Brook, etc: A/A.*

View of the historic AJ Tuck mill dam
on the Still River in Brookfield, CT

DANBURY, CT STREAM QUALITY GOALS *- SEE THEM MAPPED*
1. Candlewood Lake *due to wastewater pumped up from the Housatonic River: B/B.*
2. Eureka Lake *and tributaries: AA/AA.*
3. Hudson River *tributaries reaching into northwestern Danbury from New York State: AA/AA.*
4. Kohanza Reservoir *and upstream tributaries: AA/AA.*
5. Kenosia Lake *tributaries: AA/AA.*
6. Limekiln Brook *flowing from the Bethel Line northerly to the Still River: C/B. Also an unnamed tributary stream on the west side of old Danbury landfill flowing northerly to Limekiln Brook: B/B .*
7. Margerie Reservoir *and tributaries: AA/AA .*

8. Padanaram Brook *and tributaries north of Padanaram Reservoir: AA/AA. Then Padanaram Brook from Margerie Reservoir Brook south to Patch Street: B/A, and third Padanaram Brook from Patch Street south to the Still River: B/B.*
9. Saugatuck Reservoir *tributaries reaching north from Redding into Danbury: AA/AA.*
10. Still River *from Lake Kenosia easterly to Padanaram Brook: B/A. Then the Still River from Padanaram Brook easterly to Limekiln Brook: B/B. And next the Still River from Limekiln Brook (where Danbury Sewer Treatment Plant effluent enters) north to the Brookfield Line: C/B.*

11. Sympaug Brook *flowing from the Bethel Line north to the Still River: B/B.*
12. West Lake Reservoir *and tributaries: AA/AA.*
13. Unnamed brook in Rogers Park *flowing south into Bethel to join Reservoir Brook: B/A.*
14. All other streams in Danbury *such as Great Plain Brook, Miry Brook, Parks Pond Brook, etc: A/A.*

NEW FAIRFIELD, CT STREAM QUALITY GOALS *- SEE THEM MAPPED*

1. Ball Pond Brook *flowing from Ball Pond easterly to just past New Fairfield Center: B/AA. Ball Pond Brook continuing from just past New Fairfield Center easterly to Candlewood Lake: B/A.*

2. Candlewood Lake *due to wastewater pumped up from the Housatonic River: B/B.*

3. East Lake Reservoir *tributaries reaching north from Danbury into New Fairfield: AA/AA.*

4. Hudson River *tributaries reaching into New Fairfield from New York State, except Gerow Brook: AA/AA. Gerow Brook from its source at the old New Fairfield Landfill flowing northwesterly into New York State: B/AA.*

5. Margerie Reservoir *and tributaries: AA/AA.*

6. All other streams in New Fairfield*: A/A.*

NEW MILFORD, CT STREAM QUALITY GOALS *- SEE THEM MAPPED*

1. Aspetuck River East Branch *from the Washington Line south to the Housatonic River: B/A.*

2. Aspetuck River West Branch *and tributaries from the Kent Line to south of Wells Road: A/AA. Then the Aspetuck River West Branch from south of Wells Road south to the old brass mill: A/A. The Aspetuck River West Branch continuing from the old brass mill south to the Housatonic River: B/A.*

3. Candlewood Lake *due to wastewater pumped up from the Housatonic River: B/B.*

4. Cross Brook *from Cross Brook Road flowing west to Great Brook: B/A.*

5. Great Brook *from south of Park Lane East flowing south to the Housatonic River: B/A.*

6. Housatonic River *bisecting New Milford: D/B. The severe D rating is due to PCB contaminated bottom sediments.*

7. Little Brook *from near Sunny Valley Lane north and then east to Housatonic River: B/A.*

8. Still River *from Brookfield Line north to the Housatonic River (as Lake Lillinonah): C/B.*

9. Unnamed stream *from the old Waste Management Landfill west of Blue Bonnet Knoll easterly to the Still River: B/A.*

10. All other streams in New Milford *such as Bullymuck Brook, Morrissey Brook, Town Farm Brook, Womenshenuk Brook, etc: A/A.*

NEWTOWN, CT STREAM QUALITY GOALS *- SEE THEM MAPPED*

1. Aspetuck Reservoir tributaries *north of its confluence with an unnamed tributary flowing into the Aspetuck River from the north end of the old Redding Landfill: AA/AA. Then the Aspetuck River from the same unnamed tributary south to the Redding Line: B/AA.*

2. Deep Brook *from east of Route 25 at Park Lane flowing north then east around the old hospital campus to the Pootatuck River: B/A. Also, an unnamed tributary to Deep Brook near Grand Place flowing easterly to Deep Brook: B/A.*

3. Housatonic River *forming eastern boundary of Newtown (as Lake Lillinonah and then Lake Zoar): D/B. The severe D rating is due to PCB contaminated bottom sediments.*

4. Pequonnock River *tributary reaching north into Newtown from Monroe: AA/AA.*

5. Pootatuck River *from the Monroe Line north to Deep Brook just south of I-84: B/A. Also, Cold Spring Brook from west of the railroad tracks flowing northwesterly to join the Pootatuck River: B/A.*

Then the Pootatuck River from the confluence with Deep Brook flowing north to the Housatonic River as Lake Zoar: B/B.

***6. Taunton Pond**: B/A.*

***7. All other streams in Newtown** such as Gelding Brook, Halfway River, Limekiln Brook, North Branch Pootatuck, Pond Brook, etc: A/A.*

***REDDING, CT STREAM QUALITY GOALS** - SEE THEM MAPPED*

***1. Aspetuck River tributary** that is unnamed and flowing from the north end of the old Redding Landfill entering Newtown easterly towards the Aspetuck River: B/AA. Then the main stem of the Aspetuck River from this point south to the Easton Line (including two small tributaries, from south the end of old Redding Landfill, and from the Newtown Line southwesterly to east of Valley Road #2): B/AA. Also, a tributary that joins the Aspetuck in Easton that cuts through easternmost Redding via Lyons Swamp north to the old Easton Landfill: B/AA.*

***2. Chestnut Ridge Reservoir tributary** reaching south into Redding from Bethel: AA/AA.*

***3. Mill River tributary** entering from Easton: AA/AA.*

***4. Norwalk River** in the Georgetown Area, entering from Wilton and flowing south to again cross the Wilton Line: B/B.*

***5. Saugatuck River and tributaries**: AA/AA.*

***6. Wolf Pit Brook and tributaries** reaching south into Redding from Bethel: A/AA.*

***7. All other streams in Redding** such as Gilbert Bennett Brook, West Branch Saugatuck River, etc: A/A.*

Wetland on Norwalk River in Ridgefield.
Source: www.norwalkriver.org

***RIDGEFIELD, CT STREAM QUALITY GOALS** - SEE THEM MAPPED*

***1. Comstock Brook** and tributaries reaching into Ridgefield from Wilton: AA/AA.*

***2. Hudson River (Croton) tributaries** reaching into Ridgefield from New York State and including the Titicus River, Waccabuc River, Round Pond and their tributaries: AA/AA.*

***3. Kenosia Lake tributaries** reaching into the northwest corner of Ridgefield from Danbury: AA/AA.*

***4. Mill River and tributaries** reaching into Ridgefield from New York State: AA/AA.*

***5. Norwalk River** flowing from east of the Ridgefield Sewer Treatment Plant near Downtown*

Ridgefield to Wilton Town Line: B/B.
6. Saugatuck Reservoir tributaries *reaching into Ridgefield from Danbury and Redding: AA/AA.*
7. Silvermine River and tributaries *reaching into Ridgefield from Wilton and New York State: AA/AA.*

SHERMAN, CT STREAM QUALITY GOALS *- SEE THEM MAPPED*
1. Candlewood Lake *due to wastewater pumped up from the Housatonic River: B/B.*
2. Housatonic River *forming part of Sherman's boundary with New Milford: C/D. The severe D rating is due to PCB contaminated bottom sediments.*
3. Hudson River tributaries *reaching into Sherman from New York State: AA/AA.*
4. Ten Mile River *from the New York State Line east to the Housatonic River: B/B.*
5. All Other streams in Sherman *such as Morrissey Brook, Sawmill Brook, Wimisink Brook, etc: A/A.*

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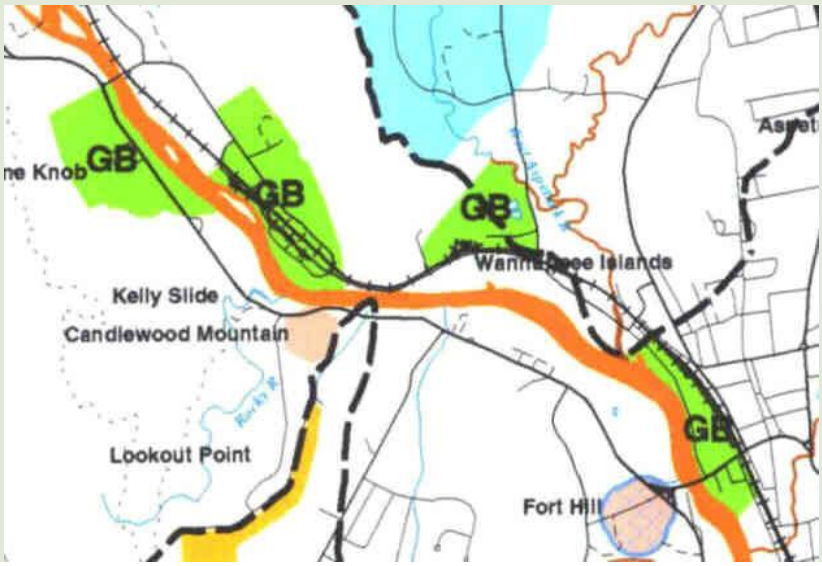
3-7. QUALITY GOALS FOR GROUNWATER

The ten municipal "see them mapped" links above to view surface water goals also show groundwater goals.

Connecticut DEP's groundwater classification system follows a similar logic to surface water. But look for a G in the acronym of groundwater notations.

An example from the DEP map just west of central New Milford, showing how the surface water and groundwater classification systems work together, is shown below:



GROUNDWATER ABOVE: Groundwater in the four green GB areas is assumed to have significant quality limitations. Then groundwater in the buff areas is classified as a higher GA rating but still has some slight limitations.

All uncolored (white) land areas are classified as GA, meaning without known limitations. Then the light blue area at top center is classified GAA, a part of the West Aspetuck watershed reserved for potential water supply use.

SURFACE WATER ABOVE: The dominant west to east surface water is the Housatonic River, classified as orange D with an eventual goal of B. The smaller north to south brown/orange stream above is the East Aspetuck River, classified B but with a goal of A. Then the dark yellow at the bottom left is the northernmost arm of Candlewood Lake, a DEP Class B water body (butt not suitable for waste discharges).

Contact HVCEO for color copies of the DEP classification maps in your area.

The DEP groundwater quality mapping system above often displays the Region's "brownfields." These problematic areas are defined as real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant.

A goal of this Plan is to clean up and remove environmental limitations from all brownfield sites in the Region.

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3-8. STORMWATER QUALITY MANAGEMENT

Plan sections above describe the linkage of runoff from land surfaces possibly damaging the integrity of downstream water supply reservoirs. The topic of stormwater management is narrower, but extends the application of runoff controls to all watersheds, not just the high priority watersheds reserved for water supply.

The federal Environmental Protection Agency (EPA) regulates stormwater, which usually carries pollutants, as part of its National Pollution Discharge Elimination System (NPDES) permitting program. This program is aimed at controlling discharges from all categories of industrial, commercial and public

property.
EPA has extended this regulatory program to stormwater from municipal stormwater systems.

Only recently implemented in Connecticut, the stormwater management regulations require each municipality to take steps to keep the stormwater entering its storm sewer systems clean before entering water bodies. Innovation in Connecticut on this topic is accessed from the Connecticut Nonpoint Education for Municipal Officials **(NEMO) web page**.

CT DEP has phased in regulations that require municipalities to obtain permits to discharge storm runoff from their stormwater drainage systems into streams. All municipalities in Connecticut with populations greater than 1000 must create a local stormwater management plan. See details at the **DEP Stormwater Management web page**.

Both municipalities and businesses tying into municipal sewer and stormwater systems are responsible for meeting the new water quality standards. The **HVCEO GIS program** can assist with the organization of reference point mapping and data management systems for these efforts.

Proper planning can also upgrade stormwater management's physical control features such that they become quite aesthetic. A goal of this Plan is also the **reduction of stormwater from parking lots**.

Creative environmental planning for stormwater management for new developments will jointly address stormwater management, open space and wetlands requirements, with each element reinforcing each other.

An **important study in Connecticut** recently proved that innovative stormwater management design features, when implemented in a residential subdivision, greatly improved the water quality of receiving waters when compared to a similar subdivision that did not implement the stormwater measures.

Top

3-9. WETLANDS PRESERVATION

Wetlands in Connecticut are defined as land, including submerged land, which consists of any of the soil types designated as poorly drained, very poorly drained, alluvial, and floodplain by the National Cooperative Soil Survey.

In Connecticut these lands may also include filled, graded, or excavated wetland sites that retain saturated soil moisture.

This Regional Plan endorses wetlands preservation and these sensitive areas are included in the Plan's Conservation Category.

Wetland soils are composed of a mosaic of richly productive habitats including swamps, marshes, wet meadows and riverine communities. In most cases wetlands are linked to a main watercourse that drains through them.

Note carefully that the Connecticut definition of wetlands is broader than just wet land, including river and stream watercourses and their adjacent flood plains.

Wetlands serve as natural filters by trapping impurities. Nutrients, contaminants, and sediments are transported to a wetland by stormwater runoff where the sediment is deposited.

Such nutrients and contaminants are then held within the wetland vegetation, and there, to the great advantage of the environment broken down or released slowly over time.

However, in some cases, such as the vernal pool illustrated below, the water body of a wetland is seasonal, that is, it disappears during dry periods or when stream flow is low.

Shown from left is the same vernal pool in winter, late spring, and early autumn. Source: www.vernalpool.org

Other key wetland functions are flood storage, habitat, educational value and buffering of human activities.

In the past the public viewed wetlands as useless swampy or soggy areas and developers traditionally just filled them in. But wetlands were discovered to be so critical for a healthy environment that their mandatory local regulation was put in place in Connecticut in 1973.

Complicating their regulation, wetlands are easily affected by upstream development. This is particularly true if erosion and sedimentation controls upstream are inadequate, located out of regulatory range in another municipality.

A wetland's precious filtering capacity is delicate and can be exceeded or harmed. Development on the non-wetland areas immediately adjacent to a wetland, commonly termed buffer or upland review area, may also cause impacts on water quality and wildlife habitat within the wetland itself.

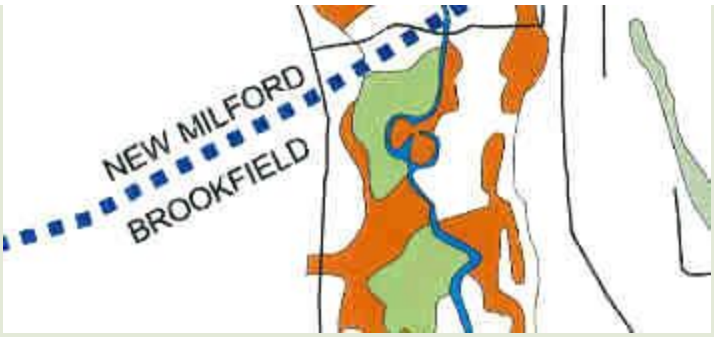
Large wetland just east of Ridgefield Center

New activities in wetlands are regulated by state authority delegated to local wetland commissions. There is also the parallel authority of the US Army Corps of Engineers for any development on a wetland that exceeds one acre in size. Local floodplain commissions also have a say.

Specifically, Connecticut State Statutes 22a-39-1 – 22a-39-15 require that any new activities in regulated wetlands be permitted by the DEP or a local wetland agency delegated that authority from DEP.

In addition, the Federal Emergency Management Agency requires that any work in a floodplain (including floodways) be permitted by a local “floodplain agency”.

The Connecticut Department of Environmental Protection (DEP) has mapped all wetland soils in the state, which are available digitally or as print copy from HVCEO. It is recommended that municipalities have a large scale version of this map on display in their land use office.



Excerpt from statewide CT DEP
map of wetland soils categories

Most municipalities use this map for "reference only" and require developers to undertake more detailed site specific wetland boundary delineation on properties where activities are planned.

Top

3-10. WATER SUPPLY RECOMMENDATIONS

GOAL: Encourage efforts to provide adequate, high quality water supplies to the Region.

1. *Strongly support the preservation thru land use regulations of existing and potential surface water supply watersheds and subsurface aquifers as vital reserves of future water supply.*

The 26 major stratified drift aquifers and their immediate recharge areas should be designated by municipal land use agencies as special protection zones subject to more stringent regulatory standards and site plan review designed to assure their permanent viability as potential water supply sources.

2. *Encourage efficient interconnections of existing water supply systems and inter-municipal cooperation on water supply.*

3. *Include in the Plan potential water supply improvements proposed by municipalities, HVCEO or state agencies. This listing is to set the regional planning agenda for upcoming water supply studies and policy formulation.*

4. *Encourage clean water supplies in developing areas through minimizing development impacts on groundwater recharge.*

5. *Encourage water conservation improvements such as flow meters, efficient fixtures and usage practices. Promote educational efforts that encourage water conservation.*

6. *Municipalities in the Housatonic Valley Region should now plan for the fact that upcoming global warming will reduce the expected safe yield of surface reservoir and groundwater aquifer water*

supplies. Seek changes to state agency guidelines defining safe yields, so that safe yields can be recalculated using more conservative factors.

Top

3-11. WATER RESOURCE RECOMMENDATIONS

GOAL: Protect the long term health of the region's water resources.

1. *Support the state goal of B quality, appropriate for fishing and swimming, for the regions wastewater receiving streams and the goal of A or AA quality appropriate for all others.*

2. *Use the HVCEO GIS program to assist with mapping data for municipal stormwater management efforts. Review local zoning regulations to comply with the CT DEP Stormwater Management Plan and the* ***CT DEP Stormwater Manual*** *.*

3. *A goal of this Plan is to clean up and remove environmental limitations from all brownfield sites in the Region. These are defined as real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant.*

4. *Plan and manage natural resources on the basis of watershed boundaries.*

5. *Coordinate state and local efforts to improve water quality in the region.*

6. *Consider downstream water quality impacts when making local land use decisions.*

7. *Municipal wetland agencies should develop an overall set of policy guidelines that provide performance standards and limitations for all properties in their jurisdictions and that identify the scope of work that is acceptable in and around wetland areas.*

CHAPTER 4: WASTEWATER TREATMENT OPTIONS

4-1. WASTEWATER TREATMENT THRU SEWERS

The development of sewer service infrastructure has been crucial for the growth of the Housatonic Valley Region. From the land use planning point of view, sewers allow development densities to significantly exceed the otherwise natural site limitations of soil and slope.

Wastewater goes down the drain, and then to....

When municipal sewer service is available, the large land area normally required for on site wastewater disposal thru leaching fields is cancelled. This allows site development to be more dense, an appropriate change to land economics if in the proper location.

"Proper location" is a much debated question in the planning for this powerful public utility. Questions of community character are involved. Counter balancing issues include the potential negative effect of increasing stormwater runoff and vehicular traffic. HVCEO's **Sewers and Growth Map** directly addresses this question.

Photo courtesy of Rick Gottschalk

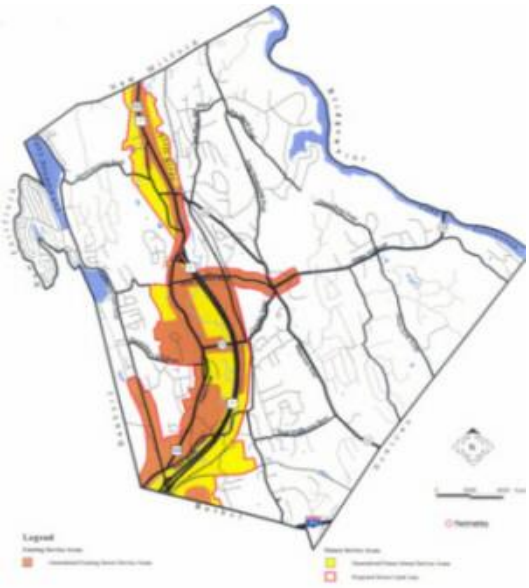
Planning for sewers must be carefully coordinated with the municipal plan of conservation and development. In 2008 CT DEP offered a guidance document on how to coordinate these two planning efforts. See this **link to the CT DEP guidance** or contact HVCEO for a hard copy.

Detailed histories on hvceo.org of sewer service development by municipality can be accessed below. These reviews assist each community in understanding its past sewer planning and its relationship to neighboring communities in sewer service matters:

1. LINK TO SEWER SERVICE ISSUES IN BETHEL
2. LINK TO SEWER SERVICE AVOIDANCE BRIDGEWATER
3. LINK TO SEWER SERVICE ISSUES IN BROOKFIELD

4. LINK TO SEWER SERVICE ISSUES IN DANBURY
5. LINK TO SEWER SERVICE ISSUES IN NEW FAIRFIELD
6. LINK TO SEWER SERVICE ISSUES IN NEW MILFORD
7. LINK TO SEWER SERVICE ISSUES IN NEWTOWN

8. LINK TO SEWER SERVICE ISSUES IN REDDING
9. LINK TO SEWER SERVICE ISSUES IN RIDGEFIELD
10. LINK TO SEWER SERVICE AVOIDANCE IN SHERMAN



Policy for the expansion of sewer service area is within the municipal plan. The above excerpt from the 2001 Brookfield Plan of Conservation and Development identifies existing sewered areas in orange and future sewered areas in yellow. Uncolored (white) areas are "not to be sewered."

With a lot of planning and inter-commission coordination, it is possible to counter unplanned affordable housing zoning overrides targeted at the vacant land in the municipal sewer service area. The Brookfield Plan of Conservation and Development of 2002 proposes a technique to achieve this goal.

According to the 2002 Brookfield Plan within the sewer service area, each parcel would be assigned a sewage allocation based on its current or anticipated water use based on: "a: the land use recommendations of this plan of conservation and development, and b: the capacity of the sewer infrastructure such as pipe sizes, flow rates, pump stations, and other considerations."

Since the statutorily authorized 8-30g zoning override is limited to zoning and the granting of sewer capacity cannot be forced by that law, a sewer capacity allocation plan tied to the plan of development preserves the integrity of planned densities. But, the technique takes a lot of work to set up.

The 2003 New Fairfield Plan of Conservation and Development makes a similar recommendation, that "each property in the service area receive a specific sewage discharge allocation that is related to the current use of property or the future development potential.."

The New Fairfield Plan also notes that "the Town of Simsbury, CT has used a limited capacity sewage disposal system (a sewer limit line with sewage allocations) for over thirty years. Simsury has found this type of system to be an important tool for supporting desired community development."

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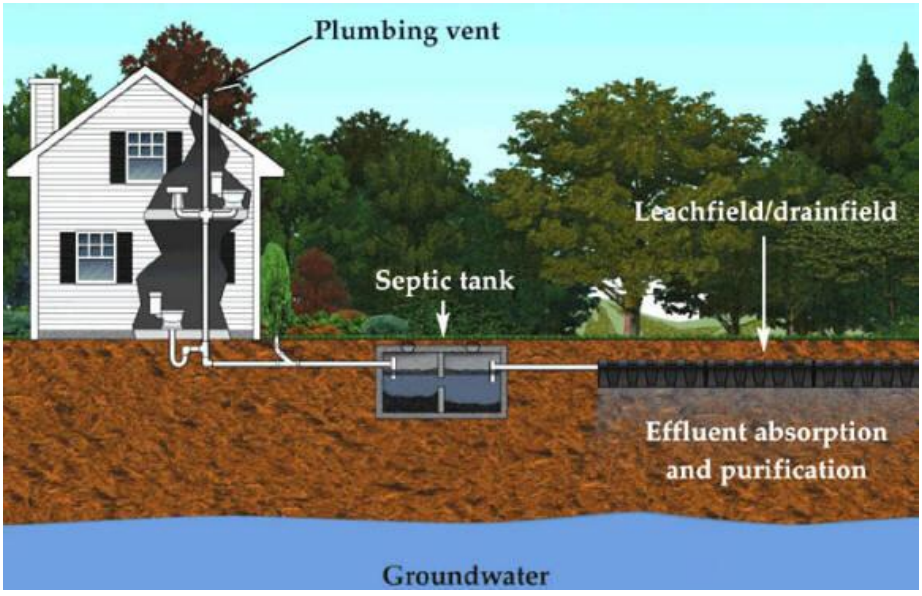
4-2. WASTEWATER TREATMENT THRU ON SITE SUBSURFACE DISPOSAL SYSTEMS

Wastewater disposal in areas that are not served by public sewers use on site "subsurface disposal systems." They are also referred to as “septic systems."

Individual leaching fields rely upon the soil in the vicinity of the home or business to purify discharged wastewater. After migrating thru the ground, later in time the same water may then become water supply for a nearby property. Proper soil type is crucial to this much needed purification process.

There are many limitations upon this delicate process. These are caused largely by incompatible soil type. This important discussion is presented in Chapter 1, Section 1-2 entitled **Fundamental Development Factors of Soil, Slope and Wetness**.



Typical septic tank and leaching field for a single family home

Approval of new subsurface disposal systems is a complex process involving design, site inspections, soil testing, and issuance of two separate permits. As a proper understanding of this process is vital for successful development and achieving the core values of this Regional Plan, a summary is provided below:

• Plans for new subsurface systems are typically prepared by engineers. They are then submitted to local health departments, that staff acting as agents of the State Commissioner of Health. Most, but not all, local health departments require that licensed professional engineers prepare these plans.

• Licensed sanitarians of local health departments evaluate the lot proposed for the septic system, which includes percolation tests, soil evaluation using deep test pits and make a determination of whether there are "areas of special concern."

• The sanitarian also evaluates the plan to determine if it conforms to the technical standards of Section 19-13-B103b of the Connecticut Public Health Code. These standards dictate the minimum size and design standards for septic tanks and leachfields, availability of reserve areas, and other system engineering requirements.

• If the review of the engineer's plan and the site inspection are deemed acceptable by the local health department sanitarian, a "permit to construct" is issued.

• Once the system is installed, the local sanitarian will return and inspect the site to verify the actual placement of the septic tank and leachfield on the lot and its conformance to an "as-built" plan prepared by the engineer. If the on-site installation is approved by the sanitarian, a permit to discharge is issued, allowing the system to operate.

• Local inland wetland agencies also have the authority to regulate construction of new septic systems in wetlands and regulated setback areas.

• For larger systems, including community septic systems and any discharge from a system greater than 5000 gallons per day, the Connecticut DEP must review and approve the design prior to the issuance of the local permit to discharge.

Installation of a subsurface leaching field

Unfortunately in all municipalities there are also significant issues with septic system failure and repair. The life of an septic system depends upon soil conditions and how well it is maintained. Properly designed and installed systems are expected to last 30 to 40 years. However, on site soil and hydraulic conditions will also determine the life of the system.

Homeowners are encouraged to inspect and pump out their septic tanks once every two years to maximize the life of their system.

Failure will cause sewage to back up into the dwelling or will result in the discharge of untreated sewage beyond the leachfield. When this occurs a repair is required, which needs prior approval by the local health department.

Correction of failing systems is usually self-enforcing, since most homeowners or businesses will not tolerate sewage back-ups or the appearance of raw sewage on or beyond their properties.

If a failing system is discovered by the local health department, health officials have both the authority and the obligation to issue an order to the property owner to correct the septic system.

Finally, it should be noted that local health departments (for all areas of the municipality) and water utilities (for public water supply watersheds only) have the authority to conduct “sanitary surveys” of neighborhoods to search for failing subsurface disposal systems.

For example the Danbury Water Department has one employee dedicated to routine inspections of all of the water supply watershed areas in Danbury. Once discovered by the Water Department, the Danbury Health Department will issue orders to the property owner to correct the failing septic system.

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4-3. MINIMUM LOT SIZE AND SEPTIC DISPOSAL

Moving up to the broader planning view, in 1989 the Connecticut Department of Environmental Protection released a research report entitled “Report for the Blue Ribbon Commission on Housing on the Land Required to Support Residential Development in Connecticut."

The 1989 research and its minimum lot size recommendations are still supported by DEP and remain that Department's policy today.

The concern in the late eighties was that housing production was being held back by unnecessarily large lot zoning, and that wastewater treatment standards used to justify very large lot zoning were suspect. The 1989 DEP report was written specifically to clarify that situation.

Subdivision application showing proposed homes in black, well locations in blue and individual leaching fields in dark orange. After applying the health code's minimum setbacks between well and wastewater disposal features, then setbacks from property lines, the lot area has become large.

According to the still valid 1989 DEP report:

While critics have assailed current zoning densities in unsewered areas as overly restrictive, the Department disagrees. In the main we believe that the current restrictions in some of these areas are not as stringent as they should be.

The maximum density that we can support in unsewered areas is one dwelling unit for each 0.6 acres, under ideal conditions. However, the majority of base natural

resource conditions mitigate towards a density of less than one dwelling per acre.

Many host conditions and potentials for new environmental damage require a density that is less than one house per two acres of "buildable", non-wetlands soils.

The following densities or lot sizes are recommended for various natural resource conditions:

--- Minimum lot area, without public water, 1 unit/acre exclusive of wetlands; with public water, 1 unit/0.6 acre exclusive of wetlands.

--- In public water supply watershed, without public water, 1 unit/2 acres exclusive of wetlands; with public water, 1 unit/2 acres exclusive of wetlands.

--- In inland waterfront areas, without public water, 1 unit/1.5 acres exclusive of wetlands; with public water, 1 unit/1.5 acres exclusive of wetlands."

Calculations of nitrogen loading factors under ideal, non-conservative conditions indicate that at least 0.6 acres is needed to dilute nitrogen. The figure of 0.6 acres applies only to lots that are provided with public water and provides little margin for error.

If a higher waste strength (70 mg/l) is utilized the lot size requirement jumps to 1.5 acres, just to dilute nitrogen. This still assumes that 1/3 of all rainfall infiltrates and the lot topography is regular, allowing dilution.

The topographic issue is another example where the assumptions in the DEP model are more clearly applicable to large systems, which must be spread out over extensive contour lines. The microtopography of subdivided land may be quite different from this, prompting caution in any infiltration analysis.

Whatever the quality of the system design,
it is imperative that the septic tank be cleaned
periodically in order to maintain its life expectancy.

As noted above DEP still supports the conclusions of the landmark 1989 research summarized above. The response to a February 2007 HVCEO inquiry to the DEP reaffirmed the validity of the 1989 study.

Concerning density in existing and potential water supply watersheds, a second and later DEP reference is also worth referencing. According to page 20 of the 1993 DEP report entitled Protecting Connecticut's Water Supply Watersheds, "based on this review of the literature, it appears that a maximum density of 1 dwelling per 2 acres will provide adequate protection of water quality if pollution control measures, as presented in this Guide, are utilized."

In response, existing and potential water supply watersheds in this Plan's Future Growth Map are recommended to remain unsewered and as low density areas, and exempt from further overrides for 8-30g affordable housing.

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4-4. WASTEWATER TREATMENT THRU COMMUNITY DISPOSAL SYSTEMS

The DEP report also indicated interest in creative subdivision development. But back in 1989 the practical details of such systems had not yet been worked out.

That situation has now changed. As documented below "community" disposal systems, with their open space, environmental and aesthetic benefits are now approvable by the Connecticut DEP.

Any such community system must be reviewed and approved by the CT DEP prior to issuance of a permit to construct and discharge. However, as noted in a **2007 White Paper** on this subject prepared by the Nature Conservancy for towns in the Saugatuck Watershed, significant cautions still apply.

A technical report prepared for the 2004 Newtown Plan of Conservation and Development, entitled "**Analysis of Open Space Conservation Subdivisions**" provides an enlightened view of community disposal systems.

Community leaching field
serving multiple single family homes

According to the 2004 Newtown report:

When an open space conservation subdivision is proposed to use a community sewerage system, it is important for the developer to contact DEP early in the planning process to assess the technical feasibility of such a system and to understand how such a system will affect the design of the subdivision.

It may be possible to lay out an open space conservation subdivision that is served by one community leaching field or a solution may entail the development of two or more community leaching fields.

Although the concept may allow a subdivision to be developed with a substantial land area set aside for "open space," it should be noted that leaching fields need to be maintained as grass cover, that is free of trees and shrubs, to allow for adequate evapotranspiration of moisture from the disposal system. This does not preclude the area to be created as a "conservation meadow habitat."

The DEP will be interested in the hydraulics of the proposed system, the treatment of nitrogen and pathogens and the mixing of treated wastewater into the area's ground water system.

In instances where soils and the ground water system are not supportive of a community sewerage system with a standard septic tank/leaching field operation, it may be possible to develop an approach that pre-treats effluents prior to discharging into a constructed leaching field.

Additionally, a subdivision may be developed with a "package treatment plant" involving a community wastewater disposal plant similar to those serving entire municipalities, but on a smaller scale. This also requires DEP approval and very strict management and maintenance requirements.

Package treatment plant

The Riverview condominium is a residential development in southern Newtown, constructed in the late 1990's. The Riverview has forty-nine two bedroom housing units, with a combined sewage discharge of 14,700 gallons per day.

This project was reviewed and approved by DEP for a community sewerage system that includes a collection system, a community septic tank, distribution box and a community leaching field.

This green space at Newtown's Riverview Condominium lies above its community leaching field

Prior to issuing a permit for a community sewerage system, the DEP required the Newtown Water Pollution Control Authority to signify that the Town is satisfied with the management structure, maintenance schedules and financial reserves established to manage, maintain and repair the system. Financial reserves are sized to enable the replacement of the system, if it were to fail.

Under state law, if a community sewerage system were to fail and the responsible homeowners association did not remediate the problems, the Town would become responsible for the cost of system repairs.

The Riverview homeowners association has an agreement with the Newtown Water Pollution Control Authority that governs the maintenance of the community sewerage system, as well as the reserve fund that was established to enable ongoing maintenance, repairs and system replacement, if required.

The presence of this community sewerage system in Newtown is an expression of confidence that DEP has in the long term performance of such systems.

The Riverview's community sewerage system is located directly over the Pootatuck Aquifer and within the Town's Aquifer Protection District, just upstream from the two United Water Connecticut wells that provide drinking water to 1,153 Newtown households.

As model residential subdivisions with community leaching systems, the 2004 Newtown report cites the new Great Oak Farm subdivision in nearby Monroe. The design of Great Oak Farm conserved 50% of the project area. The development is served by an on site community sewerage system that includes several leaching fields serving sub-drainage areas.

View of homes at nearby
Monroe, CT's Great Oak Farm Subdivision.

Another example cited by Newtown was Long Hill Farm subdivision in Guilford, containing 62 single family detached homes, that subdivision is served by a community septic system.

The design of the subdivision conserved significant amounts of open space, including

woodlands and open fields, and also buffered the subdivision from view from the local town road.

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4-5. WASTEWATER TREATMENT RECOMMENDATIONS

GOAL: Encourage coordination between local water pollution control authorities, which guide the geographic extent of local sewer development, and local planning commissions, as they prepare the municipal plan of conservation and development.

1. *Cite as a good example of internal municipal coordination the New Milford Water Pollution Control Authority, which uses as its expansion guide the future sewer area map adopted by the New Milford Planning Commission in the municipal Plan of Conservation and Development.*

2. *As HVCEO and state plans recommend areas for sewer expansion and avoidance, consider this input when setting municipal sewer expansion policies in the municipal plan.*

While the HVCEO ***Future Growth Map*** *for sewered areas is advisory, the* ***state plan map*** *is a very strong influence on CT OPM and CT DEP as their approval is sought for sewer service area expansions. Coordinate local and HVCEO future sewered area policy and then seek to amend the state plan map to conform.*

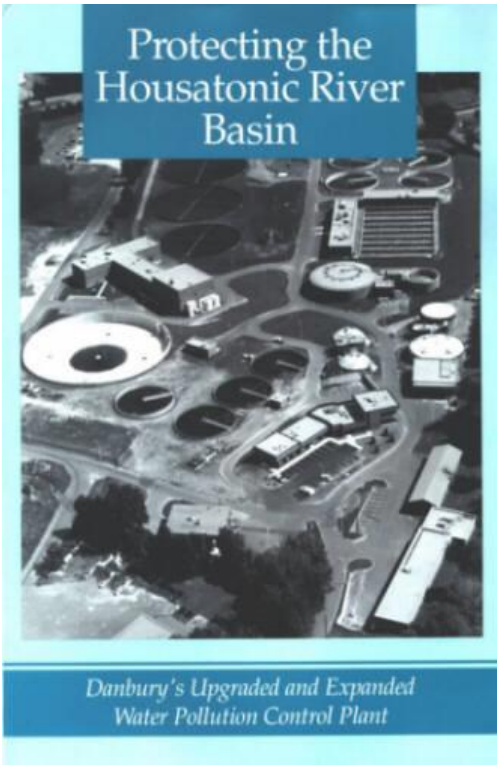
3. *Following the Newtown example, selectively expand the use of community leaching fields to promote creative development and open space preservation.*

4. *Where planned density does not require sewers, subsurface septic systems are the remaining method for treating wastewater. Encourage conservative design of such septic systems and inclusion of sufficient reserve leaching area so that on site disposal functions in perpetuity, permanently avoiding the spread of sewers for remediation.*

5. *Encourage periodic septic tank cleaning. Regular septic tank maintenance is the* ***single most important step*** *to extend the life of the system.*

6. *Continue to support efficient and cost-effective regional treatment of septic tank residue (septage). A regional septage disposal system planned by HVCEO has been operating at the City of Danbury's Water Pollution Control Facility since 1988 and serves Bethel, Bridgewater, Brookfield, Danbury, New Fairfield, Newtown and Redding.*

8. *Encourage water conservation by businesses and households in order to reduce the amount of wastewater effluent to be treated. Promote the policy that water conservation extends the life of sewage treatment plants and septic systems and helps to protect water quality throughout the region.*



The City of Danbury's sewer plant is the largest in the Region and also serves six nearby towns. The title of this 1993 plant brochure stresses the plant's regional role in environmental protection.

The contributions of consultant Jack Kozuchowski to this section of the regional plan are gratefully acknowledged.

CHAPTER 5: UPGRADE TRAFFIC CAPACITY AND TRANSIT

5-1. Introduction

The growth impacts inherent in the recommendations of HVCEO's **Regional Transportation Plan** are designed to be in harmony with this land development oriented Regional Plan of Conservation and Development. As the two primary HVCEO plans, they are mutually supportive.

Both public transit and traffic improvements are important to the Housatonic Region.

5-1:1. LAND USE AND TRANSPORTATION. Land use and transportation are intimately related. Indeed they are "two sides of the same coin" and must be planned together.

For the specific management of the relationship, this Plan directly relates *traffic and transit investment priority* to growth thru the policy coordinating table below:

Development Categories	Traffic Capacity Investment	Fixed Route Transit Service	Growth Potential
1. Regional Centers	**First Priority**	**First priority for intense service and intermodal transfer**	Mixed uses, highest densities

2. Near Central Area	**Second priority**	**Second priority for intense service**	Mixed uses, Some housing at 3 or more units per acre
3. Primary Growth Area	**Third priority**	**Expansion area for service**	Mixed uses, some housing at 3 or more units/acre
4. Small Community Center	**Shares fourth priority**	**Lower priority**	Low intensity mixed use, residential may be multi-family.
5. Suburban Area	**Shares fourth priority**	**No fixed route service**	Almost entirely residential
6. Semi-Rural Remote Area	**Lowest priority**	**No fixed route service**	Almost entirely residential, density may be lower than carrying capacity

The relationship of land use and transportation as explained in the 2002 Danbury Plan of Conservation and Development is worthy of repeating here:

Land use patterns and traffic exist in a reciprocal relationship. Certain land uses can attract extensive amounts of traffic, while the presence of a good road network and mass transit increases the desirability for development.

Once roadway or highway capacity is increased, the land uses that follow typically generate traffic sufficient to absorb the excess capacity gained by the improvements.

Narrowness, poor design, and excess curb cuts, or any combination thereof, all limit the functioning of a road. These factors are most acutely felt in high growth commercial corridors where the rate of economic development has outstripped the capacity of the road to accommodate land service and through traffic.

Poor coordination of development and roadway capacity at left, proper coordination at right.

Public sector responses to this infrastructure and development issue can be two fold. The first approach includes supply side road improvements (e.g. road widening, turning lanes, curb cut restrictions, traffic signals, signal timing changes). The second approach seeks to limit the pace or extent of traffic increases through restrictive zoning measures that limit or prohibit land uses that generate high amounts of traffic.

A LAND USE - TRANSPORTATION RELATIONSHIP AT THE REGIONAL LEVEL
The map on the right projects future travel time in ten minute intervals from I-84 Exit 7 north towards New Milford if the entire Route 7 Expressway had been built. The map at left shows travel times without the Expressway. The ten minute contour lines reach further north with the expressway, affecting the spread and intensity of land use.

5-1:2. BETTER BALANCE BETWEEN MODES OF TRANSPORTATON. Transportation planning has been criticized as being too heavily oriented to just one mode of transportation, the automobile. And correspondingly for freight movement, the truck. There is a lot of truth to this, the "system" reflecting both the preferences of its users and a lack of alternatives.

The goal of this Regional Plan is a better balance between the transportation modes. Specifically, a lesser percentage of total daily trips taken by auto and an increasing percentage using bus, rail, carpool and walking.

Methods to accomplish such change are provided in Plan Chapters **10. Mix Some Land Uses**, **11. Transit Oriented Development** and **12. Pedestrian Access**.

Route 6 in Bethel identifying existing sidewalks in blue and needed additions in red, as excerpted from the 2007 Bethel Plan of Conservation and Development

5-1:3. ECONOMIC DEVELOPMENT. Over recent decades, the transportation systems serving the region have facilitated extensive economic development. Key transportation resources include Route 7, which bisects the region from north to south, I-84 bisecting it from east to west, and Route 25 linking I-84 thru Newtown to coastal Fairfield County.

The Region also relies upon Metro North to provide commuter rail service on the Danbury Branch Line and the Housatonic Area Regional Transit District to provide local and interregional bus service. These services need to expand to provide a greater share of total daily person-trips.

The Housatonic Railroad Company and Providence and Worcester Railroad provide rail freight services in the region. Rail freight services are an important contributing component of the regional economy and need to be maintained and expanded, especially as an alternative to trucking.

On the mega scale, I-84 and nearby I-684 **connect the regional economy to the New York, New Jersey** and Midwest markets. From a statewide perspective they also function as the gateways to the I-84 corridor economies centered on Waterbury and urban areas to the east.

A more detailed review of the economic value of I-84 is contained in Plan Chapter 8 **Expand the Regional Economy**.

In addition to policies for upgrading the Route 7 and I-84 corridors, HVCEO also recommends expansion of interregional public transit connections to Waterbury and Bridgeport and better connections between public transit stations and employment sites.

In all cases, an important data source for regional transportation planning is the census record of daily **commuter flows from town to town** on hvceo.org. And for more local data sources see the **Transportation Planning Resource Center**on hvceo.org.

5-4:4. TRANSIT ORIENTED DEVELOPMENT. HVCEO recommends that municipalities follow the guidelines of Plan Chapter 11 regarding **Transit Oriented Development chapter**.

5-4:5. PEDESTRIAN ACCESS. Improve the relationship of transportation to land use by following the guidelines of the **Pedestrian Access chapter** of this Regional Plan of Conservation and Development.

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5-2. HART BUS SERVICE

HART operates two types of bus services. Fixed route service, which runs according to a published timetable, is available to the general public.

Then paratransit demand-responsive door-to-door service known as SweetHART is available to persons over 60 or with a disability.

HART fixed route service is an acknowledged asset for existing and planned employment centers. And persons without automobiles and/or with mobility limitations often gravitate towards housing near HART service, an important "land use - transit" connection.

HART conducts periodic studies to insure the continued efficiency of its system and for logical extension of routes. For further information see the Regional Transportation Plan's Part 5: **Plan for HART**.

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5-3. RAIL PASSENGER SERVICE PLAN

As of 2009 the area is in the midst of a major Conn DOT transportation study of alternatives for upgrading passenger service on the Danbury Branch Line. This effort includes a Connecticut DOT **rail study web site**.

Existing Danbury Branch Line stations shown in red, proposed stations in blue.

HVCEO passenger rail expansion policies will be revised once the state study is completed.

For the current policy, and much background on rail services in the area, see the Regional Transportation Plan's Part 6: **Rail Transportation Plan**.

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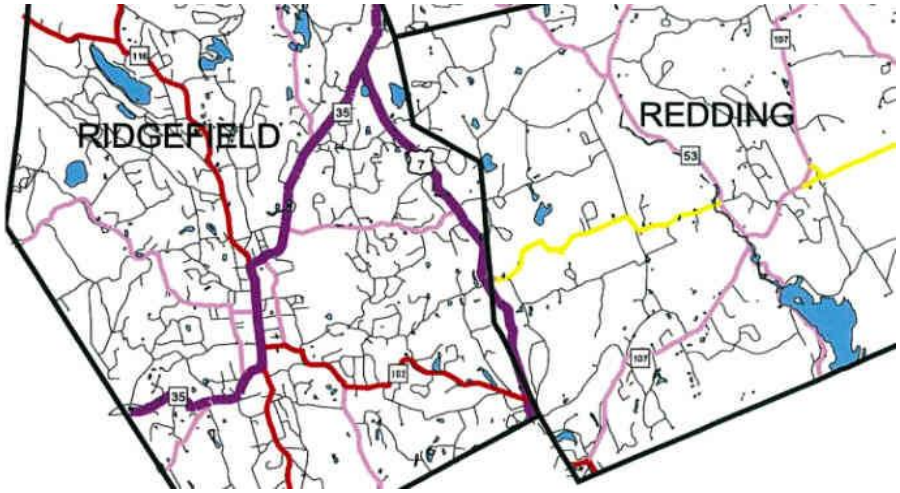
5-4. THE ROADWAY SYSTEM

5-4:1. CLASSIFICATION OF ROADWAYS. The classification of area roadways by function is a fundamental issue in transportation planning. It is a process by which streets and highways are grouped into similar classes according to the character of service they are intended to provide.

This classification influences the type of roadway expansion projects to be proposed on the roadway and the potential intensity of adjacent land use.

Basic to this process is the recognition that individual roads and streets do not serve travel independently in any major way. Rather, most travel involves movement through a network of roadways with different functions.

Given the diverse classification of area roads, differing design criteria are applied to encourage the use of the road as intended. Design features that can convey the level of classification to the driver include number of lanes, continuity of alignment, spacing of intersections, frequency of driveways, width of shoulders, sharpness of roadway curvature, grade standards and traffic controls.



Excerpt from map of Conn DOT roadway classifications for the region. View entire regional map on hvceo.org.

The classifications for the Housatonic Valley are described below:

National Highway System: *Throughout the USA, the combination of all interstates and some major arterials forms the National Highway System (NHS). The NHS is a federal designation of the very most important roadways in the country, from the perspective of interstate travel, defense, etc.*

To our west in adjacent New York State the NHS includes Interstate 684 north-south and New York Route 22 north-south. Then entering Danbury from the west, the NHS system across our Housatonic Valley Region includes all of Interstate 84 thru Danbury, Bethel, Brookfield and Newtown.

On the west side of Danbury where I-84's Exit 3 is the interface between the

intersection of Route 7 and I-84, all of Route 7 south from Danbury thru Ridgefield, Redding and Wilton is NHS designated. It then interfaces in Norwalk with NHS designated Route 15 (the Merritt Parkway) and then I-95, as an interstate automatically included as an NHS route.

Proceeding easterly thru Danbury to I-84's Exit 7, where Route 7 leaves I-84 and proceeds north, all of Route 7 thru Brookfield to New Milford Center is an NHS designated route. But once in central New Milford, the NHS designation transfers off of Route 7 to Route 202, where it proceeds northeasterly until reaching the NHS designated Route 8 Expressway in Torrington.

Then at I-84 Exit 10 in Newtown, Route 6 westerly to Route 25 is an NHS route. At the intersection of Route 6 with Route 25 (the Flagpole) the designation transfers off of Route 6 to Route 25, where it proceeds thru Newtown southeasterly thru Monroe and Trumbull to the Merritt Parkway and I-95.

Aside from the top level NHS, the remaining classification of roadways by function within the Housatonic Valley Region, as defined by Conn DOT using ***FHWA guidelines****, is summarized as follows:*

Interstate*: Limited access expressways that are part of the federal interstate system. In our case Interstate I-84 originating in Pennsylvania and terminating in Massachusetts. (As noted, all interstates are within the NHS).*

Arterials Overview*: These roadways provide the highest level of service at the greatest speed for the longest uninterrupted distance, with some degree of access control. Subcategories include:*

Principal Arterial*: These roads serve the major movement of traffic within the Region. Included in this class among others are portions of Routes 7 and 25, portions of Routes 53 and 302 connecting Downtown Bethel with Downtown Danbury, and the portion of Route 35 connecting Ridgefield Center to Route 7. (As noted above, Routes 7 and 25 and a small section of Route 6 are also in the NHS).*

Routes with this classification are high traffic volume corridors with the largest trip desires and carry a high proportion of total vehicle travel on a minimum of roadway mileage.

Minor Arterial*: The minor arterial street system interconnects with and augments the principal arterial system above. It provides service to trips of moderate length at a somewhat lower level of travel mobility than principal arterials. This system distributes travel to geographic areas smaller than those identified with the higher*

systems.

The minor arterial street system contains facilities that place more emphasis on land access than the higher system, and offer a lower level of traffic mobility. Such facilities ideally should not penetrate identifiable neighborhoods.

Examples from this class of roads include Routes 67 and 109 in New Milford, Route 202 in Brookfield, Route 37 in Danbury, Route 34 in Newtown, Route 58 in Redding, and parts of Route 116 in Ridgefield. Also, many town roads with an intertown travel function are included by Conn DOT in the minor arterial classification.

***Collector**: These roadways provide a less highly developed level of service at a lower speed for shorter distances by collecting traffic from local roads and connecting them with arterials.*

T *he collector street system includes subclassifications of major and minor and provides both land access service and traffic circulation within residential neighborhoods, commercial and industrial areas.*

It differs from the arterial system in that facilities on the collector system may penetrate residential neighborhoods, distributing trips from the arterials through the area to their ultimate destination.

Conversely, the collector streets also collect traffic from local streets in residential neighborhoods and channel it into the arterial system. In central business districts, the collector system may include the street grid which forms a logical entity for traffic circulation.

***Local**: The local street system consists of all roads not defined as arterials or collectors. It primarily provides access to land with little or no through movement. These roadways offer the lowest level of mobility and primarily serves to provide direct access to abutting land and to higher order street systems. Through traffic movement on local streets is usually deliberately discouraged.*

The debate over local planning and zoning applications can often relate to this classification system. Neighbors opposing a development often say that the roadway classification is too low for the type of traffic expected to be generated. In contrast, development proponents can claim an automatic traffic advantage when their proposal fronts upon an arterial route.

5-4:2. ACCIDENT RATES. The basic procedure at Conn DOT for identifying problem locations is to make statistical calculations as to accident rates by roadway

segment. This data is then used by Conn DOT, HVCEO and other planning agencies to help identify high accident locations.

Ultimately the information is used to formulate project priorities and to shape the details of design improvements. But Conn DOT no longer allows ordinary citizens to examine this data - in recent years limited to staff only.

5-4:3. MEASURING CONGESTION. Since congestion exists at many locations and roadway capacity improvement funds are limited, quantitative measurements to determine where traffic congestion is projected to be most severe are very important for determining the priority of public investments. The many **HVCEO traffic studies** listed on hvceo.org include such statistics and priorities.

Similarly, projections of traffic are very important for local land use commissions seeking to determine impacts of proposed developments. The key indicator of existing or future congestion is known as "level of service."

The level of service reflects driver satisfaction with factors that influence the degree of traffic congestion. Factors include speed and travel time, traffic interruption, freedom to maneuver, safety, driving comfort, convenience, and delays. Transportation professionals utilize six levels of service (like a high school report card, scores A to F) to describe level of service traffic flow conditions.

5-4:4. CURB CUT MANAGEMENT. Many existing driveway curb cuts preceded modern levels of local and state regulatory scrutiny. As uses change and properties are more intensely developed, local commissions need guidance from a traffic engineer as to the proper arrangements for driveways.

The need in this situation is for linear corridor curb cut and driveway management plans along major nonresidential corridors. In this way transportation and land use are very directly coordinated. HVCEO has completed many of these for its municipalities, and they now serve as standards by reference in local zoning regulations:

BETHEL DRIVEWAY LOCATION PLANS:
1) 1997: Route 6 from the Danbury Line easterly thru Stony Hill to the Newtown Line.

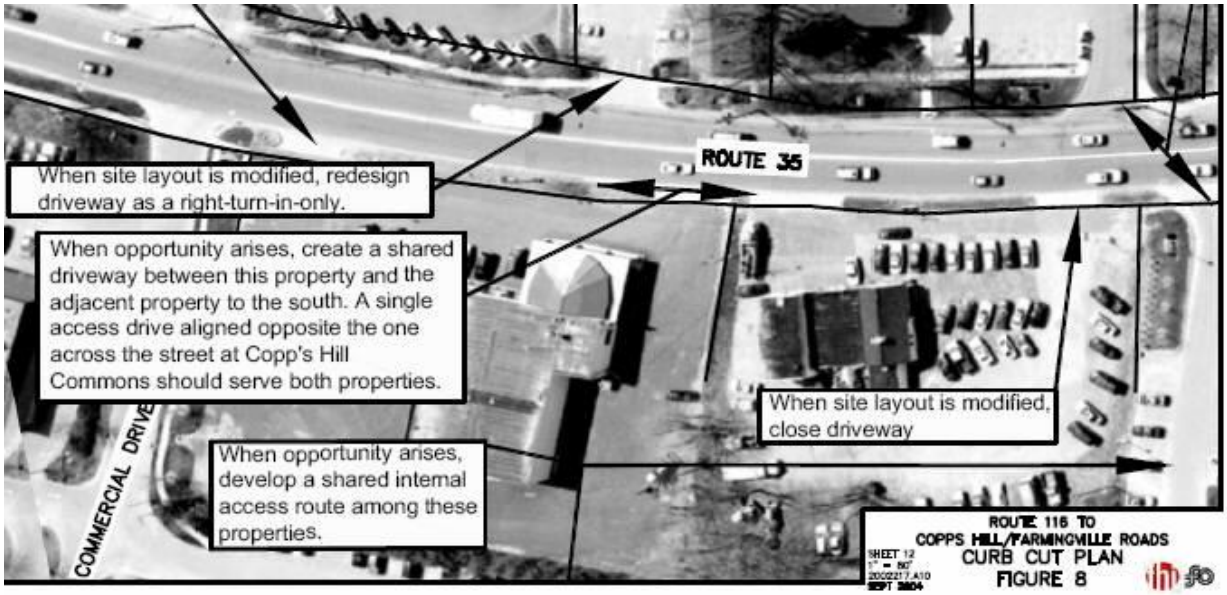
2) 2008: The Route 6 Plan above was updated as part of a municipal Route 6 Corridor Plan funded in part by HVCEO.

BROOKFIELD DRIVEWAY LOCATION PLANS:
1) 1994: Routes 805 and 202, from the Danbury line northerly along Federal Road to the New Milford Line.

DANBURY DRIVEWAY LOCATION PLANS:
1) 1985: Route 6 from the New York State Line easterly to I-84 Interchange 4.
2) 1994: Route 805 (Federal Road) from White Street northerly to the Brookfield Line.
3) 1996: Route 7 from the Ridgefield Line northerly to the Route 7 Expressway, to be updated in 2010.
4) 1996: Route 37 from Hayestown Avenue northerly to the New Fairfield Line.

NEW FAIRFIELD DRIVEWAY LOCATION PLANS:
1) 1996: Route 37 from the Danbury Line northerly to the Town Center at Route 39.

NEW MILFORD DRIVEWAY LOCATION PLANS:
1) 1997: Route 7 from the Brookfield Line northerly to Route 37, updated in 2007 to the Kent Line.
2) 2008: Updated above and added remainder of Route 7 and added Route 202 from Route 7 northeasterly to the Washington Line.



NEWTOWN DRIVEWAY LOCATION PLANS:
1) 1995: Route 25 from the Monroe Line northerly to Route 6 at the Flagpole.
2) 1997: Routes 6 and 25 in the Hawleyville I-84 Interchange 9 Area.
3) 2009: Update of above to include all of Route 6, all of Route 25, and part of Route 816 from I-84 easterly to Sandy Hook Center.

REDDING DRIVEWAY LOCATION PLANS:
1) 1996: Route 7 from the Ridgefield Line northerly to the second Ridgefield Line. To be updated in 2010.

RIDGEFIELD DRIVEWAY LOCATION PLANS:
1) 1996: Route 7 northerly from the Redding Line to the Danbury Line. To be updated in 2010.
*2) 2005: **Route 35 northerly from the NY Line to Route 7**.*

5-4:5. ROUNDABOUTS. A relatively new intersection design format in the United States is the exciting concept of roundabouts. These have become very popular in Europe and are now being built all over the USA and lately in Connecticut as well.

CAPACITY AND SAFETY ADVANTAGES OF A ROUNDABOUT
AT THE INTERSECTION OF ROUTE 302 WITH ROUTE 53 IN BETHEL
ARE DETAILED AT THE END OF A DISCUSSION OF BETHEL'S ROUTE 53 NORTH.
THE 2007 BETHEL TOWN PLAN ENDORSED THIS CONCEPT.

While they look and function something like rotaries, roundabouts are much smaller, avoiding the high speeds and accident rates of the rotary concept, now in disfavor. Not surprisingly, the **major auto insurance companies favor roundabouts**.

The modern roundabout has yield at entry control, and can move more cars more safety than modern signalized intersections. HVCEO recommends the use of roundabouts where feasible.

5-4:6. DESIGN CONSIDERATIONS. Roadway Enhancement: The advancing trend is towards better coordination of traffic investments to facilitate pedestrian patterns, nearby landscaping and aesthetics. This national "context sensitive design" and "complete streets" movements should be encouraged for transportation projects in our area.

For its part, HVCEO undertakes detailed roadway enhancement and town center area pedestrian studies for its members, most of which retrofit and humanize the edges of roadways.

Such studies have been completed for New Fairfield, Newtown, Redding, Sherman and Bridgewater, with efforts for Brookfield and New Milford in progress.

In coordination with Conn DOT HVCEO also offers a grant program for funding 1) roadway enhancement proposals and 2) "safe routes to school" sidewalk improvements.

PROPOSED SIDEWALK IN NEW FAIRFIELD CENTER WITH ROUTE 37 AND 39 INTERSECTION AT LEFT. EXCERPTED FROM HVCEO'S NEW FAIRFIELD CENTER BEAUTIFICATION STUDY.

Traffic Calming Techniques: The term "traffic calming" is often described as the combination of mainly physical measures that reduce the negative effects of motor vehicle use. The goal is to improve conditions for nonmotorized street users.

See traffic calming **Resource Page A** and traffic calming **Resource Page B**.

However, the term "traffic calming" also applies to a number of transportation techniques developed to educate the public and provide awareness to unsafe driver behavior.

Techniques include police enforcement and education in some areas. In others it means the use of speed humps or an array of other techniques and devices.

Context Sensitive Design: In the past, transportation planners and engineers were often more concerned with the efficiency, capacity, and safety of a roadway for motor vehicles than on the impacts such roads may have on the surrounding environment and communities they serve.

This approach often created undesirable conditions, including excessive vehicle travel speeds, unsafe environments for pedestrians, the loss of convenient on-street parking and adverse effects on local businesses.

Recently, transportation planners and engineers have begun utilizing a new approach to roadway design called Context Sensitive Design, also referred to as Context Sensitive Solutions. This approach seeks to design new roadways or modify existing ones to better suit all users – motor vehicles, bicyclists, pedestrians, and public transportation passengers. Additionally, context sensitive design is used to preserve and enhance the character of the surrounding community.

5-4:7. SCENIC ROADS: In 1981 the Connecticut General Assembly enacted Section 7-149a of the General Statutes, the "Scenic Roads Act." This enabling legislation has authorized cities and towns to designate lightly traveled local roadways characterized by scenic qualities as protected scenic roads.

SCENICALLY DESIGNATED
POVERTY HOLLOW ROAD IN REDDING, CT

HVCEO maintains a detailed inventory of **local scenic road designations** within the Region, identifying designations by Bridgewater, Danbury, New Milford, Newtown, Redding, Ridgefield and Sherman.

For more detail on the topics above see the Regional Transportation Plan's Part 2**:** **The Roadway System**.

5-5. MAJOR HIGHWAY CORRIDORS

I- 84 is the major east-west roadway thru the Region. I-84's traffic capacity needs to be expanded to meet the demands of current growth and to facilitate future economic growth.

In 2000 Conn DOT completed plans to expand the carrying capacity of I-84 thru the Region. The next step by Conn DOT will be the completion of an environmental impact statement for the major proposed improvements, including the setting of widening priorities.

Some I-84 work is proceeding without the environmental evaluation, including improvements to Exits 1, 5 and 6 in Danbury and 11 in Newtown.

For more information on I-84, including plans for the improvement of each exit, see the Regional Transportation Plan's Part 3A **Interstate 84**.

I-84 TRAVERSES THE CENTER OF THE PLANNING REGION

As for Route 7 south of Danbury, HVCEO supports widening and other capacity improvements to the existing roadway, rather than the construction of a new expressway.

For more information on Route 7 south see the Regional Transportation Plan's Part 3B**: Route 7 in Redding, Ridgefield and Danbury**.

As for improvements to Route 7 north of Danbury, HVCEO supports completion of the expressway thru Brookfield to the New Milford town line, followed by widening of the roadway in New Milford. Much of this work has been completed.

See the Regional Transportation Plan's Part 6 3C **Route 7 in Danbury, Brookfield and New Milford** for these and other northern Route 7 issues.

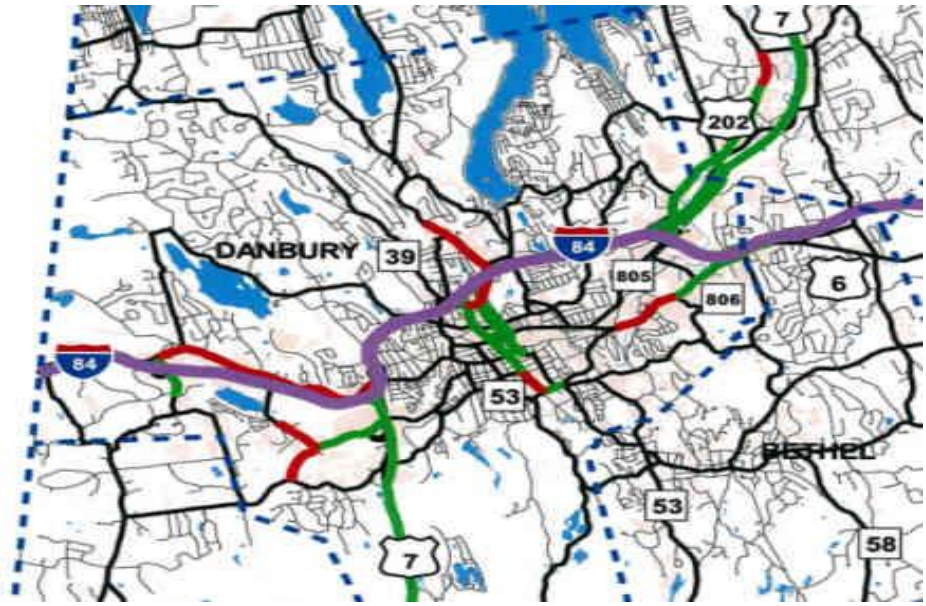
5-6. TRANSPORTATION PROJECTS BY MUNICIPALITY

Transportation improvements in each community are designed to work in harmony with municipal land use policy. HVCEO maintains a list of recommended transportation improvements for each community:

1. LINK TO TRANSPORTATION PROJECTS IN BETHEL
2. LINK TO TRANSPORTATION PROJECTS IN BRIDGEWATER
3. LINK TO TRANSPORTATION PROJECTS IN BROOKFIELD

4. LINK TO TRANSPORTATION PROJECTS IN DANBURY
5. LINK TO TRANSPORTATION PROJECTS IN NEW FAIRFIELD
6. LINK TO TRANSPORTATION PROJECTS IN NEW MILFORD
7. LINK TO TRANSPORTATION PROJECTS IN NEWTOWN

8. LINK TO TRANSPORTATION PROJECTS IN REDDING
9. LINK TO TRANSPORTATION PROJECTS IN RIDGEFIELD
10. LINK TO TRANSPORTATION PROJECTS IN SHERMAN



OVERVIEW OF ROADWAY WIDENING POLICY IN THE DANBURY PROJECTS SECTION OF THE REGIONAL TRANSPORTATION PLAN GREEN (LIGHTER GRAY IN HARD COPY)) DESIGNATES EXISTING

FOUR LANE ROADWAYS, WHILE RED (DARKER GRAY IN HARD COPY) INDICATES
TWO LANE ROADWAYS PROPOSED FOR EXPANSION TO FOUR LANES.
SEE THE FULL REGIONAL MAP.

5-7. AIR SERVICE

Danbury Municipal Airport. **Danbury Airport** has no regular public air passenger service, except to Cape Cod and related tourist destinations in the summer.

The following text is taken from the 2002 Danbury Plan of Conservation and Development which notes that:

Danbury Municipal Airport is the base for corporate air fleets, a flight school, and a number of aviation services, and consists of two intersecting runways and the control tower.

The airport is used exclusively for private flights and is protected from land use intrusions by the Airport Protection Zone in the Danbury Zoning Regulations. This zone is intended to reduce hazards in the approach and transition zones by controlling building area and height.

The 1995 Danbury Airport Master Plan offers three land use and zoning recommendations to further the protective envelope: (1) the City should acquire land or casements along the residentially zoned portion of Miry Brook Road to control the height of vegetation; (2) permitted land uses around the airport should be restricted to avoid new land use conflicts; and, (3) the Airport Protection Zone regulations should be updated to conform to current airspace standards. The airport has no plans to expand its current boundaries.

ARRIVING AT DANBURY AIRPORT

The airport's greatest negative impact on the community is the noise associated primarily with the flight school. This is especially severe during summer weekends and has its greatest impact on the Wooster Heights neighborhood.

To minimize this negative impact, many airports around the region institute noise abatement policies that impose curfews during those hours when noise is most likely

to disturb residential neighborhoods, policies that could be considered by the Airport Authority.

Candlelight Farms Airport. As for the small **Candlelight Farms Airport** in western New Milford, it has two turf runways and no control tower. The largest runway is 2,900 feet, aircraft parking is via tiedowns, and there are about 33 aircraft based at the field.

Stewart International Airport. The international airport options for Greater Danbury can be viewed by size. Kennedy Airport has 42 million passengers annually, La Guardia 23 million, Bradley 6.7 million and Stewart 300,000.

Early in 2007 the Port Authority of New York and New Jersey, which owns Kennedy and La Guardia, purchased Stewart Airport. The Port Authority's goal is to shift some air traffic north.

As Stuart Airport in Newburgh, NY is about 40 miles west of Danbury, this strategy serves our interests. A direct exit to Stewart Airport from I-84 is also planned.

CT Airport Systems Plan. The CT Statewide Airport System Plan has been updated by Conn DOT to 2006. It is an additional source of information on this subject.

Policies and information are also available in the **HVCEO Regional Transportation Plan** for **ridesharing, commuter lots and bicycles.**

Top

5-8 . TRANSPORTATION RECOMMENDATIONS

GOALS: Develop a transportation network for our growing region that is consistent with well planned patterns of land development and that effectively integrates energy conservation, air quality goals, environmental quality and environmental mitigation.

1. Implement the detailed recommendations of the HVCEO Regional Transportation Plan.

2. Promote a better balance between transportation modes, such that the share for automobile travel of total travel can decline in the future. Facilitate convenient pedestrian movements, mixed use and transit oriented developments.

3. Consider downstream transportation impacts when making local land use decisions.

4. Use transportation investments to support the economic vitality of the region, especially by enabling business competitiveness, productivity and efficiency. Coordinate the transportation system with local and state goals for enhancing economic vitality.

5. For the Region's transportation system as a whole, enhance physical and modal integration and connectivity, increase safety and security, and promote efficient system management and operation.

6. Work to maximize the productivity of existing transportation systems before such systems are expanded.

7. Increase accessibility and mobility options for people and freight. Promote a shift away from the one person per car situation and toward increased vehicle occupancy via continuous advocacy of public transit, car and van pooling.

Chapter 6: Curb Global Warming

6-1. INTRODUCTION

Reducing fossil based energy use and thereby tempering global warming is an unavoidable challenge. It is being addressed by numerous public and private sector entities including Connecticut's municipalities.

This section of the Regional Plan recommends anti-global warming actions for the municipal sector that is the primary audience for this document: local planning and zoning commissions.

Other bodies within municipal government also play key roles in fighting global warming.The municipal climate change task force comes to mind. But advice on such townwide strategies is available elsewhere. This Plan's contribution is to focus on the subarea of planning and zoning policies.

Virtually all climate experts now agree that the burning of fossil fuels to generate electricity and power vehicles has led to increased atmospheric levels of heat trapping gases, primarily carbon dioxide, that induce global warming.

In overview, the United States represents only 5 percent of the world’s population but consumes about 35 percent of its energy. Not surprisingly, our country also generates about 24 percent of global carbon dioxide emissions.

In addition, the United States has the highest per capita carbon dioxide emissions in the world. No wonder the term "reducing your carbon footprint" has entered popular usage.

According to the U.S. Energy Information Agency the USA's industrial sector uses 39 percent of total energy, followed by the transportation sector at 27 percent. The residential sector uses 19 percent, and the commercial sector at 15 percent, for a total of 100 percent.

As the land use mix of the Housatonic Valley Region is somewhat of a microcosm of the USA as a whole, in that it has urban, suburban and rural areas with significant industry, housing and an interstate roadway, the national percentages above for total energy use can serve as estimates for energy expenditure by sector in our area.

The United States also uses more energy per capita for transportation than citizens of any other industrialized country. Connecticut’s Housatonic Valley Region, with its relatively prosperous households and minimal public transit, is certainly a prime contributor to that sobering statistic.

According to the Union of Concerned Scientists “the characteristic climate of the Northeast has begun to change dramatically. Between 1970 and 2000 alone, summer temperatures rose about one degree Fahrenheit and winter temperatures rose nearly 4 degrees Fahrenheit. Spring is arriving sooner, summers are growing hotter, and winters are becoming warmer and less snowy.”

Again according to the Union of Concerned Scientists, carbon dioxide concentrations have risen to their highest levels in more than 650,000 years. The This group predicts that in a higher-emission scenario, as shown below, far less of the Northeast will experience a typical snow season toward the end of the century:

THE RED LINE IN THE MAP SHOWS THE AREA OF THE NORTHEAST THAT HISTORICALLY HAD AT LEAST A DUSTING OF SNOW ON THE GROUND FOR AT LEAST 30 DAYS IN THE AVERAGE YEAR. THE WHITE AREA SHOWS THE PROJECTED RETREAT OF THIS SNOW COVER BY THE 21ST CENTURY’S END.

Although the task of reducing fossil fuel emissions is daunting, the nation achieved a similarly rapid energy transformation a century ago as it shifted from steam power, gaslights and horse carriages to electricity and gasoline engines over a few short decades. So energy source retooling can be done.

Given the century long lifetime of carbon dioxide in the atmosphere, the longer each town waits to take action, the larger and more concentrated in time our emissions reductions will need to be to limit the severity of climate damage. Local planning and zoning commissions can help.

Presented below are some conceptual measures that land use commissions should consider in developing a targeted planning program that addresses climate change and control of global greenhouse gas emissions.

6-2. REGULATIONS AND PLANNING FOR ENERGY CONSERVATION

6-2:1. AMEND THE PLAN OF CONSERVATION AND DEVELOPMENT. Municipalities should amend their plan of conservation and development to add a policy statement on climate change. Sample language for a broad statement of local commitment could be:

The town of Danfield recognizes that the future of conservation and development in our municipality can make a difference in combating global warming. Therefore, the town of Danfield commits to guide future growth in a manner that will reduce greenhouse gases from residential, commercial, industrial and institutional land uses.

6-2:2. ENCOURAGE LEED BUILDING STANDARDS (Leadership in Energy and Environmental Design). Again according to the Union of Concerned Scientists, "cities and towns can use zoning laws to encourage energy efficient and 'green' development.

Zoning laws can require or offer incentives to building owners and developers to meet the U.S. Green Building Council's LEED certification and/or the EPA's Energy Star standards."

First home in New York State to receive a LEED-H designation at the gold level from the U.S. Green Building Council.

The first step is to develop site energy performance standards. Various web sites and documents can be used to obtain checklists of features that will minimize the carbon footprints of new developments.

However, the LEED standards by the U.S. Green Buildings Council are the most internationally accepted source for the design and construction of sustainable "green" buildings. These should be used as the primary reference in new municipal regulations.

The City of Boston's recently adopted zoning regulation that mandates new developments greater than 50,000 square feet achieve the LEED certification is a good example.

6-2:3. ENCOURAGE LEED NEIGHBORHOOD STANDARDS. Neighborhood design standards, patterned after the LEED system, are also being developed by the U.S. Green Building Council, in partnership with the Natural Resources Defense Council and the Congress for the New Urbanism.

These new standards will be used to certify "smart" developments - similar to the way in which LEED certification is currently available for individual buildings. As of 2008 there are two projects in nearby Stamford, CT that have applied for pilot LEED neighborhood development certification.

A leading candidate in our Region is the redevelopment of part of the Georgetown neighborhood in Redding by the Georgetown Land Development Company.

Site design strategies encourage new development to take better advantage of solar orientation, wind direction, topography, established vegetation, and other factors that can lower energy usage.

Municipal code and ordinance revisions that take into account energy efficiency standards will become increasingly important to communities and should be developed now.

6-2:4. ENCOURAGE SOLAR POWER AND OTHER ALTERNATIVES. Solar photovoltaic installations, which convert sunlight directly into electricity, are the fastest growing energy technology in the world.

While still expensive relative to other generation technologies, including other renewable energy technology, costs continue to decline.

Importantly, solar power is abundant during Connecticut's peak electricity demand period, which is driven by air conditioning on hot and sunny summer days.

Use of solar power on buildings also eliminates the cost of transmission and distribution, an important additional factor in assessing cost effectiveness.

Further dimensions for consideration in building design in the planning process include use of wind turbine energy, biofuels, geothermal energy, electrical cogeneration and fuel cells.

Wind turbines are usually installed on top of a residential structure. They collect kinetic energy from the wind and convert it into electricity. Such turbines are considered similar to mechanical units and must meet required setback, coverage and height regulations, and are tied to a zoning permit. See the map of **Connecticut wind power potential**.

As for home building practices, according to the Union of Concerned Scientists:

The construction of homes that generate energy from renewable sources, and on an annual net basis produce as much energy as they draw from the grid, known as Zero Net Energy Homes, is now feasible in the Northeast....

Though the task is challenging in a region with significant home heating requirements, highly efficient designs that incorporate ground source heat pumps and solar photovoltaic systems can require only one-fifth the energy of homes built to meet existing codes....

.... Owners of such homes can also purchase whatever supplemental energy they require from their utility in the form of zero-emissions electricity generated from renewable resources rather than fossil fuels.

See also the Northwest CT Conservation District's ConnVERT Program.

6-2:5. BROADEN PERMISSION FOR HOME OCCUPATIONS. To incorporate growing transportation related energy concerns, we may need to modify some municipal plans of conservation and development from their focus on exclusive employment districts to a somewhat broader geographic dispersal of small scale employment. More "home occupations" can reduce commuting and save energy.

Efficient work at home arrangement in Greater Danbury

Percentage of workforce
working at home in 2000:
2.8% Danbury
2.8% Bethel
3.1% CT
3.3% USA
3.3% New Milford

4.4% Brookfield
5.5% Newtown
5.5% Sherman
5.6% New Fairfield

8.1% Ridgefield
8.5% Bridgewater
11.8% Redding

This Regional Plan advises increasing the above percentages by encouraging more home occupations. While telecommuting with the Internet is increasing, even more work at home will contribute to reducing the energy price of some town's more remote geography.

Pundits predict a future where new single family homes will increasingly have the needed extra room critical for work at home, with the advantages of flexible hours and less commute time. This can also be a significant plus for suburban child rearing.

6-2:6. REVISE WATER SUPPLY PLANNING PROJECTIONS. As noted in fuller detail in the water supply chapter, municipalities in the Housatonic Valley should now plan for the fact that upcoming global warming may reduce the expected safe yield of surface reservoir and groundwater aquifer water supplies.

According to the Union of Concerned Scientists water supply engineers throughout New England need to evaluate the adequacy of their surface water supplies and storage facilities in light of the projected increase in droughts due to global warming.

Near empty water supply reservoir

6-2:7. REQUIRE A CARBON FOOTPRINT ANALYSIS. To develop a site performance standard for this variable, applicants could be required to provide an estimate of the greenhouse gas emission estimate for various site plan configurations as part of an alternatives analysis.

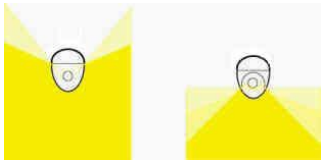
Alternative analyses are already employed to evaluate different options for developing a property. The carbon footprint analysis has been recently mandated in Massachusetts through state EPA regulations.

6-2:8. PROMOTE ON SITE FORESTATION. As part of this technique site plans could require a certain percentage of forest cover or other vegetative buffers that would be deed restricted.

Forestation plans would be evaluated to determine the optimal carbon reduction potential for alternative development layouts, due to avoidance of lawn maintenance and additional shading.

6-2:9. BETTER CONTROL ON OUTDOOR LIGHTING. Communities can gain significant energy savings through more efficient outdoor lighting. One key feature is the requirement that new municipal street lighting use cutoff fixtures, preventing light from being emitted above the 90 degree plane.

Shining shielded light straight down onto the target that needs lighting can often reduce the wattage of lamp by 30 to 40 percent.



Avoid energy waste by concentrating light.

6-2:10. MIX SOME LAND USES. The book "Energy Planning and Urban Form" by geographer Susan Owens found that the single most important factor affecting the relationship of urban form and energy requirements for transportation is the physical separation of activities. This is determined by both density and the degree to which mixing of land uses is permitted.

In other words the density allowed by local land use regulations, coupled with the degree to which the intermixing of selected land uses is permitted, are prime determinants of how much energy their community uses.

Thus this Plan's energy conservation policy is closely linked to the Plan's policy to **promote more mixing of land uses**.

6-2:11. LINK SPRAWL AND HOUSING POLICY. The municipal land use configuration endorsed by the town or city plan and reflected in zoning has a big impact on transportation patterns and resulting energy use. According to a discussion of planning in Connecticut's 2005 Climate Change Action Plan:

Residential and commercial development in suburban and exurban areas increases total vehicle miles of travel as distances between homes and jobs increase.

Low density development cannot support public transportation, so single occupancy vehicles are often the only practical travel option. This scattering of development in growing areas is often called "sprawl."

The Connecticut Action Plan indirectly documents the existence of sprawl with the evidence that, "since 1970 Connecticut's population has increased by a modest 12 percent, but vehicle miles to travel has increased by 78 percent. The National Governors Association reports that nationwide, the increase in vehicle miles of travel is attributable to more miles driven by existing drivers, rather than to new drivers."

Another indicator of sprawl is available from an analysis of Census Bureau journey to work commuter patterns, where the destination of morning commuters from Housatonic Valley towns changing thru time is well documented:

Taking the City of Danbury as an example, employers in the City in 1970 could expect 68% of their workers to reside right within Danbury itself. Business was fortunate to have its labor supply so close by. But by 2000, only 43% of employees resided within Danbury City limits.

The same dispersal of the labor pool holds for Danbury's suburbs. Many persons working in Brookfield also lived there, 45% in 1970. But this nice near proximity for commuting dwindled down to 24% by 2000.

For the same thirty year period, the rate in Newtown went from 53% down to 35%, and in Ridgefield from 59% to 28%. New Milford, second only to Danbury as a regional center, fell from 69% to 54% of local residents commuting to local jobs.

Clearly, manufacturers and businesses can count less and less on their newly recruited employees finding homes in the same community as their new job.

This is not surprising, in that local property tax laws seek to pull businesses inside the town boundary and push new housing for those businesses' employees across the municipal boundary.

This two sided phenomenon fuels a "sprawl" development pattern, the result of which is to increase distance and energy use between jobs and dwellings.

6-2:12. FAVOR CENTRAL AREAS FOR GROWTH. A growing world energy crisis would make it less likely to see growth in the Housatonic Valley Region's many relatively remote and low density areas.

But the Region's central locations would have an additional advantage in attracting growth in an energy scare future. These favored central locations are clearly identified on this Plan's **Future Growth Map**.

6-2:13. BUS AND RAIL TRANSIT. Make available alternatives to the automobile that allow travel with less energy use per person. Expand the Region's HART bus and Metro North passenger rail systems.

6-2:14. EXPRESSWAY TOLLS. It is possible that the addition of tolls to I-84 might reduce energy usage? The 2005 CT Climate Change Action Plan reported in the affirmative:

A recent Connecticut report, SWRPA's 2002 Vision 2020 Plan, completed an analysis of travel demand mode shifts that would result from a value pricing toll of $0.20 per mile in the southwest Connecticut corridor.

Conn DOT's travel demand model predicted that this pricing measure alone would create a 6 percent reduction in drive alone trips, an increase in new rail trips of 72 percent, and an increase in bus use of 25 percent.

These results are consistent with the results of the 1994 COMSIS Transportation Control Measures study, which indicated that a highway value toll of $0.10 per mile was expected to reduce vehicle miles of travel by 3.5%.

We need to determine if such a relationship would be true for the upcoming I-84 widening thru Newtown, Bethel and Danbury and if energy savings would outweigh the obvious public pressure against instituting a toll.

6-2:15. CT CLIMATE CHANGE IDEA EXCHANGE. Other climate change action plan ideas, beyond those for municipal planning and zoning, are available at the **CT Climate Change site.**

6-3. RECOMMENDATIONS FOR CURBING GLOBAL WARMING

GOAL: Update town plans and land use regulations to curb energy use and moderate global warming.

1. Consider the strategies recommended above.

2. The Housatonic Valley Region leads Connecticut in the production of "green" hydropower. It is also a leader in **fuel cell technology**. The Region can build upon this distinction to become a leader in other alternative energy strategies.

CHAPTER 7: MORE AFFORDABLE HOUSING

7-1. OVERVIEW

The report of the 2006 Danbury Task Force on Homelessness recommended that HVCEO undertake a regional housing assessment study. The Danbury report saw the lack of affordable housing as a regional problem, where the needed policy direction could best be set by HVCEO as Danbury's regional planning agency.

HVCEO agreed to undertake this work, the result to also serve as background for the housing chapter for this Regional Plan of Conservation and Development.

Due to the length of the separate housing report, a stand alone document entitled **Greater Danbury Housing Market Assessment** is available on hvceo.org and is not reproduced here in its entirety. Components include:

--- DATA BASE FOR AREA HOUSING
--- POLICY COMPONENTS OF AFFORDABLE HOUSING
--- MODIFICATIONS TO 8-30G ZONING OVERRIDE
--- HOUSING NEEDS QUANTIFIED
--- AFFORDABLE HOUSING MODELS

A highlight from this important research is the table below:

TABLE 51 Total Adjusted Affordable Housing Need by Community 80/30 Category			
Town	**Non-Elderly**	**Elderly**	**Total**
Bethel	438	369	807
Bridgewater	59	32	91
Brookfield	435	236	671
Danbury	4,304	1,437	5,741
New Fairfield	381	155	536
New Milford	1,303	397	1,700
Newtown	567	220	787
Redding	494	86	580
Ridgefield	628	459	1,087
Sherman	353	70	423
TOTAL	**8,962**	**3,461**	**12,423**

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7-2. AFFORDABLE HOUSING RECOMMENDATIONS

GOAL: Expansion of housing opportunities and design choices to accommodate the region's variety of household types and needs.

1. *Municipal planning should strive to balance economic growth with appropriate housing choices for the work force that is part of the local economic base in the municipality.*

2. *Both housing opportunities and design choices should be expanded in each municipality to accommodate a variety of household types and needs, especially newly forming households and senior citizens.*

3. *Connecticut's affordable housing land use appeals statute, Chapter 126a, Section 8-30g forcefully overrides local zoning. Yet this law has turned out to be a sprawl inducer, and thus has a significant negative impact upon municipalities. HVCEO will continue to* ***lobby for specific changes to this law*** *as stated below:*

REDUCE MASSIVE DENSITY INCREASE. *At present the increase in density is unplanned, and can be any multiple of what current zoning laws allow. Chapter 126a, Section 8-30g should be amended to moderate this impact to more intelligently tie affordable housing proposals to the preexisting town planning and zoning.*

This can be accomplished by limiting the density increases to fifty percent more units than the number that would be permitted by the existing zoning district in which the project is located.

BETTER MIXING OF MODERATE COST AND MARKET RATE UNITS. *An amendment to this statute is needed to ensure that the affordable dwelling units and lots on which the dwelling units are to be constructed are of comparable size and quality to other dwelling units in the proposed development.*

Such mixing was the intent of the original law, but is not followed in practice. Make it a requirement that building permits for the affordable dwelling units be issued in stages in proportion to building permits for the other dwelling units in the proposed development.

IMPROVE THE ACCURACY OF THE STATISTICAL FORMULA. *The statistical formula for defining affordable housing In Chapter 126a, Section 8-30g determines which municipalities are exempt from the override of local zoning by affordable housing proposals. Unless 10% of a town's housing is affordable, the town cannot deny a developer's proposal for affordable housing without a very compelling reason.*

The accounting system for determining the 10% needs to be made more accurate, as follows:

First, the formula has a major deficiency in quantifying the count of presently affordable housing, resulting in the undercounting of housing which qualifies as affordable by state definition. Simply, the current method inadvertently omits all units of low cost privately owned housing.

The State's definition of affordable housing, tied to "persons and families paying thirty percent or less of income, where such income is less than or equal to eighty percent of the median income," should apply to all local units, public and private, as both really exist on the ground and should be part of any objective count.

A 1997 HVCEO 1997 planning study demonstrated that objective criteria from the U.S. Census is available to fairly add qualifying existing low cost private rental units

to each town's total. The actual stock of municipal housing can then more fairly be compared to the 10% goal.

And lastly, certain housing improvement grants assist homeowners in mobile home parks to improve their dwellings. Deed restrictions on sales price are then agreed to for periods for five years or other intervals. During such periods, these units are valid affordable housing and should be counted under the formula.

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EXEMPT STATE DEFINED EXISTING AND POTENTIAL WATER SUPPLY WATERSHEDS

Concerning the ability of 8-30g to induce increased density in the Housatonic Valley Region's existing and potential water supply watersheds, CT DEP has long supported a maximum density of one dwelling unit per two acres in such areas to provide adequate protection of water quality.

The Conservation and Development Policies Plan for Connecticut also recommends a low density role for such sensitive watersheds. Just as a ***municipality's industrially zoned land*** *is exempt from 8-30g override, its state-defined water supply watershed land should also be exempted. For appeals filed within Connecticut's CT DEP recognized water supply watersheds, allows state courts to take into consideration for their rulings density recommendations for watersheds found in the Conservation and Development Policies Plan for Connecticut.*

USE THIS LAW TO STIMULATE ACCESSORY APARTMENT DEVELOPMENT. *Chapter 126a, Section 8-30g was modified during the 2002 session to allow a town to include "accessory apartments" as part of its 10% affordable housing count. However, under the amended act, accessory apartments must have a 10 year deed restriction committing the owner to rent the apartment at 30% or less of the tenant's income, and to someone whose income is less than or equal to 80% of the area, or the state's median income, whichever is less.*

This onerous ten year provision greatly reduces the number of homeowners willing to have their accessory apartments used to help meet their towns' affordable housing obligations. We need to allow homeowners to use the state formula certifying a unit's affordability on a much more practical annual basis.

As now defined in 8-30g, accessory apartments that "count" must connect by an inside entrance to the main residence. But this automatically excludes from official recognition units in outbuildings like garages or renovated barns. This should be corrected.

In addition, HVCEO supports authorizing any municipality to offer initial and then continuing property tax credits to any residential property owner who certifies the creation of a new accessory apartment and maintains it thereafter, the unit to meet state standards for affordable rent and maximum tenant income.

***4.** Housatonic Valley Region Initiatives:*

Maximize Regional Information Sharing for Affordable Housing Initiatives
*HVCEO should work with the City of Danbury, Dream Homes, the Greater Danbury Continuum of Care, the suburban municipalities in the region and other key stakeholders to create a centralized database of all affordable housing resources available in the region. The existing **HVCEO web page** on this topic is a good beginning resource.*

*The **2009 Housing Market Assessment** report should be widely disseminated to local groups that can make use of it. All databases included therein should be updated once 2010 Census data becomes available. In doing so, the number of 8-30g affordable housing units within each multi-family housing complex should be quantified.*

Regional Coordination of Payments in Lieu of Affordable Units
The Towns of Bethel and New Milford adopted ordinances allowing developers the option of paying into a housing trust fund or associated organization in lieu of constructing affordable units within their development. If enough municipalities pass similar ordinances, then some trust fund resources could be pooled for joint affordable housing development if there is mutual advantage.

Transportation and Housing Linkages Must Be Strengthened
The economic burdens of the rising cost of energy; the loss of time in traffic congested commutes; and the negative impacts on the environment must be addressed moving into the future. The region has the advantage of the Danbury Line of Metro North providing the basis for a more rational transit based development form.

The efforts to extend regular passenger service north to New Milford should continue to be a key regional initiative. This initiative should be coordinated with Transit Oriented Development (TOD) in communities in the region within which passenger rail service is made available. The relationship between transit and development also should be supported by use of Housatonic Area Regional Transit (HART) for linkages.

Increased Use of Inclusionary Zoning Within the Region
The HVCEO Region communities have supported various legislative initiatives to amend Section 8-30g of the Connecticut Statutes in order to more effectively address affordable housing needs. Key issues of concern in the current legislation are the lack

of local control as to the location and density of affordable housing proposals and the fact that affordable units found in the marketplace are not considered affordable unless government assisted or deed restricted.

The Blue Ribbon Commission Report in 2003 recommended fiscal incentives to encourage inclusionary zoning and mixed-income developments. Interestingly, some five years later, legislation was approved containing some of these elements.

The Incentive Housing Zone (IHZ) program provides for local control as to the location and density of housing through a process of local planning and adoption of a zone. The density issue is addressed by the provision that an IHZ must increase density by 25% over that currently allowed in the zone. The mixed-income aspect is addressed by the provision that only 20% of the units provided must be affordable.

The fiscal incentive is provided in that planning grants are available from the State Office of Policy and Management. A $2,000 payment will be made to the community for each unit permitted in the zone and $2,000 per multi-family unit or $5,000 per single-family unit for each building permit.

It is recommended that all communities in the region participate in the IHZ program.

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5. *Local Government Initiatives:*

Make Use of Estimates of Housing Need by Municipality
Within policy documents and grant applications, make use of affordable housing need estimates as summarized above and detailed in the HVCEO's 2008 Housing Market Assessment.

Establish Local Strategies
Each community should establish strategies to pursue this report's goals and objectives. While the goal is to address affordable housing issues on a regional basis, it must be recognized that the public policy most impacting housing is a community's zoning and subdivision regulations.

As state enabling statutes are not likely to be modified to permit regional zoning in support of responsible growth principles, zoning initiatives must be implemented at the community level. While each individual community's regulations must be examined and possibly modified by the appropriate local commission, there are several zoning and subdivision initiatives which would assist in meeting affordable housing goals.

The recommended initiatives are to be considered, customized and incorporated by each community as appropriate and as consistent with the community's Plan of Conservation and Development. These initiatives are as follows:

Apply for Technical Assistance Grants from the State of Connecticut's Office of Policy and Management

A top priority for Housatonic Valley Region communities should be to apply for the available technical assistance grants from OPM as part of the Incentive Housing Zone program. With up to $50,000 available for each municipality, a number of issues that are eligible under the grant guidelines could be studied in detail, as well as potentially funding the actual activities necessary for developing and implementing IHZ regulations.

This funding affords the Housatonic Valley Region communities with the opportunity to not only study their individual affordable housing needs in greater detail, but to also develop a program to address these identified needs.

Utilize Conservation Subdivision Techniques to Protect Open Space While Developing Affordable Units

Conservation subdivisions with an affordable housing component also could be a zoning option for the lower density communities in the region.

One possible way to utilize this tool would be to require that all new subdivisions over a certain number of housing units must utilize conservation subdivision principles and techniques and require that a certain percentage of housing units (say 10%-20%) be affordable. This strategy would almost certainly require some sort of density bonus or other form of incentive to be realistic.

Increase Accessory Apartments In The Region

An increase in the number of accessory apartments should be a primary technique for addressing housing needs for the following reasons:

--- Declining household sizes, including an increase in the number of one person households will increase the capacity of existing structures to accommodate a second unit.

--- As the Baby Boomer generation ages and the costs of maintaining a housing unit increase, particularly in terms of energy costs, homeowners will be looking for supplemental income.

--- In communities without a well-developed infrastructure, existing on-site water and sewer systems can accommodate additional households in an existing structure due to declining household sizes.

--- Many structures appropriate for accessory apartments are in older developed areas in proximity to rail stations. Accessory apartments in these areas have the potential to reduce traffic and sprawl.

Individual towns could create a program to identify and, if necessary, properly permit all existing accessory apartments and obtain deed restrictions to make them affordable so that they can be credited for affordable housing purposes.

In addition to the reasons stated in the bullet points above, the development of accessory apartments for singles and the elderly should be encouraged as a small but important component of the affordable housing supply.

Emphasize and Encourage Neighborhood Center/Local Route Small-Scale Development

In the low density areas of the Housatonic Valley Region, affordable housing developments should be encouraged with specific criteria for design, density and location.

Towns should encourage small-scale affordable housing developments of 12 units or fewer units along local routes of note or in the "hamlet" type centers that can be found scattered along them. Strict design criteria should be implemented so that these developments fit within the scale and design of these more rural areas.

Utilize the Strategic Placement of Mixed Use Developments to Develop Affordable Housing

In the primary transportation corridor areas (e.g., the Route 7/Route 202 corridor and the I-84 corridor), mixed use developments combining housing with an affordable component with retail, office or institutional uses along major transportation

corridors should be encouraged.

The housing in these developments can range from single family attached units, condos, cluster housing to traditional multifamily units. Buildings themselves do not need to be mixed, but rather the whole parcel could be a mixed development.

Encourage Apartments Over Ground Floor Retail/Office Space in More Urbanized Areas

These developments are envisioned as more of the "urban/suburban center" variety of mixed use development, consisting of multiple story buildings with ground floor commercial use and apartments on the floors above, again located along major transportation corridors.

Use Density Bonuses to Encourage Affordable Housing Development

Communities should provide a density bonus for affordable housing units in designated areas around existing developed areas and along transportation corridors. Five out of the ten communities in the region already utilize density bonuses; similar density bonuses should be encouraged for the other communities in the region as well.

Employ Transit-Oriented Development (TOD) as a Means of Addressing Affordable Housing Needs

Encourage individual communities to create overlay zoning districts near transit nodes, in town centers and in areas with underutilized commercial or industrial sites that would permit higher densities of housing in combination with commercial uses and open space.

Create Unique Property Tax Credit Programs to Encourage Deed Restrictions

A program that should be considered at the municipal level is one in which the annual local property tax on a property is forgiven in exchange for a deed restriction which requires that the property be sold at an affordable price upon the event of the next deed transfer. Such a program might be limited to senior citizens, such as the current "circuit breaker" elderly tax program.

Utilize Existing Home Ownership Programs and Financing Options to Develop Affordable Units that are Counted under 8-30g

Home ownership programs include a wide variety of approaches such as downpayment assistance, FHA/CHFA mortgages, and Community Development Block Grant and HOME program initiatives in several communities in the region.

In the instances where a home ownership program is proposed in a suburban community, it means making home ownership for someone who commutes from

Danbury to a retail/service job more of a reality by using the tools mentioned above as well as others to be developed.

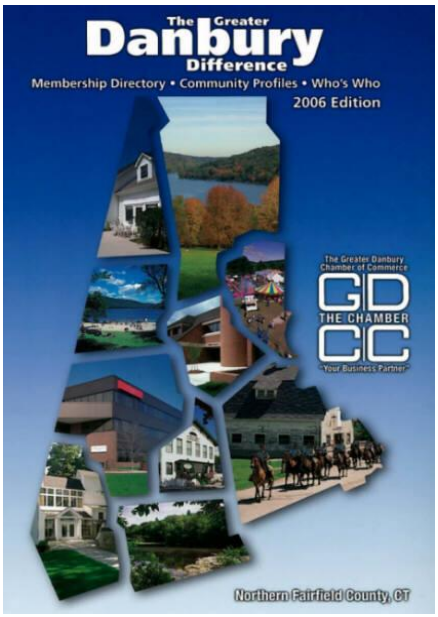
Financial Resources For All Initiatives

A significant potential funding source for housing planning activities is the Community Development Block Grant (CDBG) Program. Currently, the City of Danbury receives funds annually as an entitlement. The remaining communities in the region are eligible to apply annually for CDBG funds administered by the State of Connecticut Department of Economic and Community Development.

The communities could file a joint application and combine the funds with an allocation from the City of Danbury to support regional affordable housing programs and initiatives. The activities of such programs or initiatives would clearly be eligible and appropriate for the use of CDBG funds. There are also HOME funds available from HUD for Danbury as part of the State allocation.

In the same regard, the Greater Danbury Continuum of Care receives federal funds for special needs housing. These funds could be expanded by other towns in the region applying to the State DECD for federal "Balance of State" funds. There are also private funds, financial institution funds, the Federal Home Loan Bank Affordable Housing Program and foundation funds available.

Chapter 8: Sustaining the Regional Economy



Marketing by the Greater Danbury Chamber of Commerce with Danbury, New Milford and the eight other municipalities portrayed as a coordinated unit.

8-1. INTRODUCTION

The role of HVCEO in support of the area's many economic development efforts is to provide perspective, policy support and data of value.

Some specific roles for HVCEO in economic development will be to a) make available to outside market researchers the data they need to invest wisely in the Region, b) provide in-depth geographic overviews, and c) use its transportation programming authority to enhance the regional economy.

Fortunately, the ten communities of the Housatonic Valley Region form a unit that is dynamic and growing. The area can fairly be labeled one of the prime economic engines of Connecticut.

The 1.3 million square foot Corporate Center in Danbury is the largest office building in Connecticut.

A 2007 economic analysis for the Housatonic Valley Region, prepared by the CT Economic Resource Center, documents a strong economic base here. Between 2000 and 2006 the largest employment increase was in healthcare, the largest decrease was in manufacturing. During the same period the HVCEO region gained more than 900 jobs while the state lost 2,670.

Relative to the nation as a whole, Connecticut has a high concentration of corporate headquarters, which for employment data reporting purposes are classified as "management of companies" jobs. To compare relative concentrations of employment types, a "locational quotient" methodology is often utilized:

National employment concentrations are used as the baseline and are set at 1.00. If a particular comparison area (such as a state, region or municipality) has a lower concentration of a certain type of employment than the nation, its locational quotient will be less than 1.00. If the area has a higher concentration of a certain type of employment than the nation, its locational quotient will be greater than 1.00.

Relative to the United States, Connecticut has a locational quotient of 1.19 for the "management of companies" employment category. In comparison the Housatonic Valley Region has an impressive 2.72.

Similarly, for the retail sector Connecticut has a quotient of only 1.02, while the Housatonic Valley Region has a quotient of 1.42.

Even in manufacturing, which has comprised a significantly declining share of Connecticut's employment over the past few decades, the state has a quotient of 1.11 while the Housatonic Valley Region has 1.33.

Looking into the future, the Connecticut Economic Resource Center (CERC) forecasts the following strengths and weaknesses by economic sector for the Housatonic Valley Region:

RETAIL TRADE: current strength
MANAGEMENT OF COMPANIES: current strength

UTILITIES: emerging strength
WHOLESALE TRADE: emerging strength
EDUCATIONAL SERVICES: emerging strength
ARTS, ENTERTAINMENT AND RECREATION: emerging strength
ACCOMMODATION AND FOOD SERVICES: emerging strength
OTHER SERVICES, EXCEPT PUBLIC ADMIN.: emerging strength

CONSTRUCTION: limited prospect
MANUFACTURING: limited prospect
WAREHOUSING: limited prospect
INFORMATION: limited prospect
FINANCE AND INSURANCE: limited prospect
PROF. AND TECHNICAL SERVICES: limited prospect

HEALTH CARE AND SOCIAL ASSISTANCE: high priority retention target

Such classical regional assessments as above must be seen from the perspective of the global economy. Capitalizing on the increased connectivity of the world economy is the path to a bright economic future. Globally related economic opportunities are available to industrial sectors as well as cities and regions that know how to exploit them.

However, globalization has also created unforeseen problems and economic consequences. Changes in economic conditions over which municipalities, regions, states and even entire nations no longer have control can now have destructive consequences for the average citizen.

Employment by Town, 2005	
Municipality	**Jobs**
Danbury	43,154
Ridgefield	9,201
New Milford	8,395
Newtown	7,590
Brookfield	7,226
Bethel	6,878
New Fairfield	1,570
Redding	1,418
Sherman	475
Bridgewater	243
TOTAL	**86,150**

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8-2. HOUSING OPTIONS AND THE TAX BASE

Introduction. Over the last decade in Connecticut there has been increasing community dialogue over the relationship between economic development and housing and their relative impacts upon the tax base. The common conclusion has been that residential development “does not pay its way” like economic development, due to the costs of public education for additional children from new housing.

This shared opinion has often manifested itself in community as well as planning and zoning commission opposition to new residential development. On the flip side, it has lent support to the growth of age-restricted housing as a popular development form. Yet all types and price levels of housing are needed to support economic development.

Review of Studies. The dialogue over the fiscal impact of residential development has generated numerous studies. For purposes of background, three of these studies are described and their findings summarized below.

One of the more exhaustive geographically proximate studies of this subject was the Fiscal Impact Regional Report prepared for the nearby Council of Governments of the Central Naugatuck Valley (COGCNV) by Planimetrics in 2000.

That study examined the costs of services and tax revenues for 1-4 family dwellings as compared to a range of other land uses including commercial, industrial, Public Act 490 open space, public utilities and tax-exempt uses. Not surprisingly, the cost of services for residential uses exceeded the tax revenue received from residential properties.

The report did correctly point out that a negative fiscal impact is not always a community negative. For example, tax-exempt facilities enhance quality of life and land trusts preserve open space.

It further points out that the fiscal impact analysis used average costs rather than marginal costs in its methodology. The marginal cost approach requires an assessment of how much capacity remains in the current systems to absorb growth before investments must be made.

When the average cost rather than the marginal cost approach is used to estimate educational costs on a per pupil basis, this can lead to an overstatement of education costs resulting in a negative fiscal impact from residential uses.

Looking at other research, in 2007 the University of Massachusetts Donohue Institute prepared a report entitled The Fiscal Impact of Mixed-Income Housing Developments on Massachusetts Municipalities. The study examined eight mixed-income homeownership developments in seven communities.

The study concluded that the fiscal impact of these developments was similar to residential uses overall in the communities. In terms of specific developments, some had negative impacts overall while others with higher-end sales prices in the mix produced tax revenue in excess of the amount needed to cover municipal costs.

Similar to the COGCNV study, this research found that the use of the average cost of education on a per pupil basis created the greatest negative fiscal impact for residential uses.

The Institute study points out that the marginal or fair share approach makes more sense. Between 1999 and 2004 school enrollments in Massachusetts were essentially flat, experiencing only 0.2 percent total growth. During this same time period, total school expenditures grew by 28.6 percent.

The fair share approach spreads the cost of education across all properties which more appropriately takes into consideration the life cycle concept of a particular property's revenues and associated costs to a municipality.

Beyond fiscal impact implications, there is some sentiment in communities that multi-family, mixed-income housing developments may negatively impact single-family housing values. In 2005 the MIT Center For Real Estate published a study on this subject entitled Effects of Mixed-Income, Multi-Family Rental Housing Developments on Single-Family Housing Values.

The MIT study examined the impact of seven such developments in six communities in the Boston metropolitan area. The study concluded that large, dense, multi-family mixed income rental developments do not negatively impact the sales price of nearby single-family homes.

The study does make the point that the developments examined were high-quality housing and when built represented the top of the local market. It is reasonable to assume that such housing was developed on sites appropriate for the density. The design, amenities and quality of construction were also of a high-quality.

Implications For The Housatonic Valley Region. The issue of education costs is high on the agenda of communities in the region. However, as found in the Donohue Institute study, education costs continue to increase despite minimal increases in enrollments. Therefore, the direct relationship between housing development, increased enrollments and increased education costs appears to be either weak or non-existent.

It is clear that communities must retain a workforce to support the local economy as well as to have households at different points in the life cycle to support overall quality of life. Development decisions cannot be based solely on a “debits and credits” financial ledger approach.

As the energy and environmental costs of journey to work distances increase, the availability of housing more proximate to employment centers will become a crucial economic and planning determinant in the Housatonic Valley Region.

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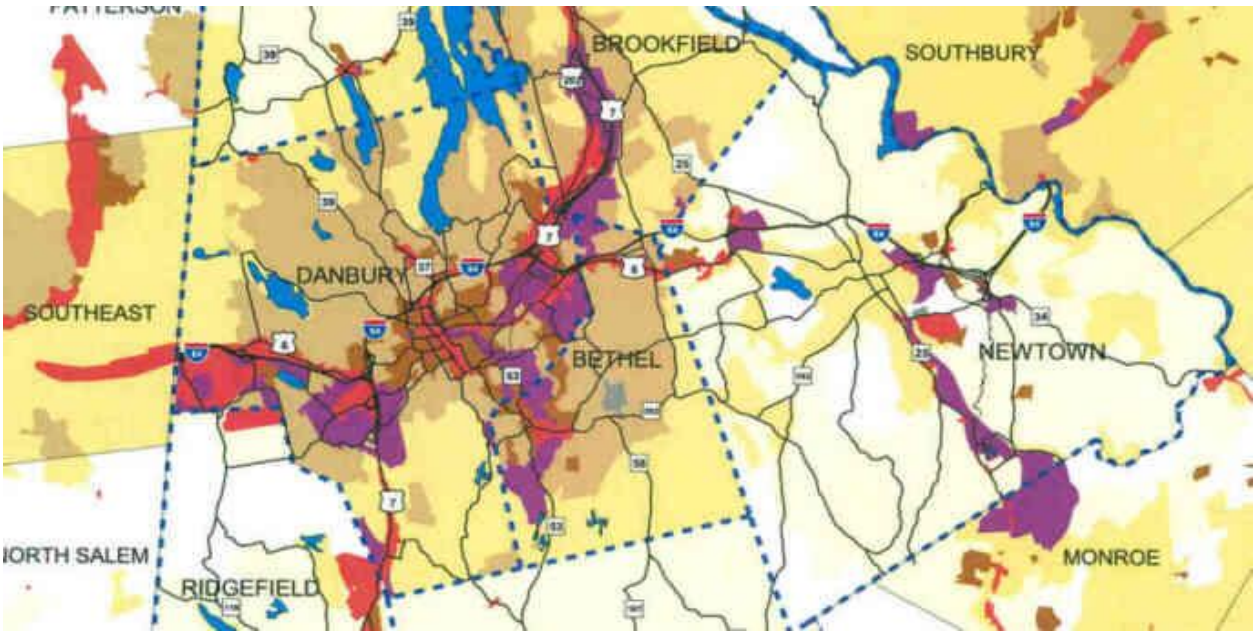
8-3. ECONOMIC DEVELOPMENT AND ZONING

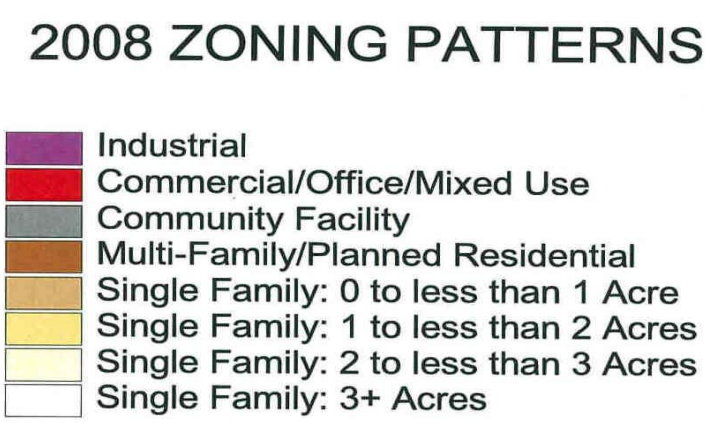
In pursuit of economic development, perceived barriers raised by local zoning regulations are often cited by developers and investors as unnecessary nuisances and cost factors. But this is not usually the case. Consider the perspective offered by the 2002 Danbury Plan of Conservation and Development:

Though many developers may customarily view zoning regulations as impediments, zoning can also assist economic development by helping to protect private investment and ensuring that sufficient land is reserved to meet the long term needs of the municipality for different kinds of development.

Proper zoning will insure that lands zoned for different uses are truly capable of supporting their designated uses, and that they are free from constraints that may render future development prohibitively expensive or otherwise impossible.



See full regional zoning patterns map.



Concern is expressed about the merits of holding vacant land open for manufacturing uses. Manufacturing has been in decline in Connecticut in recent decades, and there is both private market and public sector pressure to convert vacant industrially-zoned land from manufacturing to more immediately marketable commercial and business uses.

The debate is sometimes categorized as between those eager for tax revenues by bringing in "big box" retail versus those wishing to wait for low traffic impact warehousing, office uses, or other alternatives.

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4. MARKETING DANBURY AS THE DYNAMIC REGIONAL CENTER

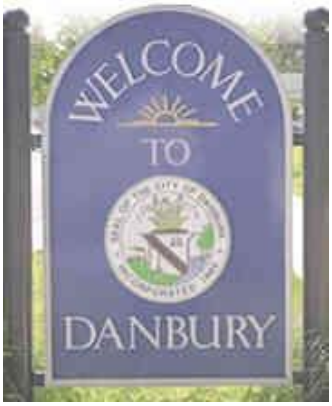
Even after decades of rapid economic growth by its major suburbs, the City of Danbury remains as the location for fifty percent of the region’s total employment. Danbury's economy is at the area's desirable central geographic crossroads. The City has consistently retained its historic role as regional economic leader.

Why is this so, when so many other cities in the Northeast have declined? Planning consultant Richard Harrall offers HVCEO this perspective:

Unlike other central cities in Connecticut with long legacies of manufacturing employment such as Hartford, Bridgeport and New Haven, Danbury has continued to grow in population, maintain and even expand its economic strength, and remain the dominant community in its region in terms of employment and population size.

The reasons that Danbury has had a different development outcome than other central cities in Connecticut are numerous. However, three factors have been the most critical: economic adaptability, proximity to the New York City market and availability of developable land.

While each of these factors have been important on an individual basis, the combination of the three and their inherent interconnectedness have been particularly potent.



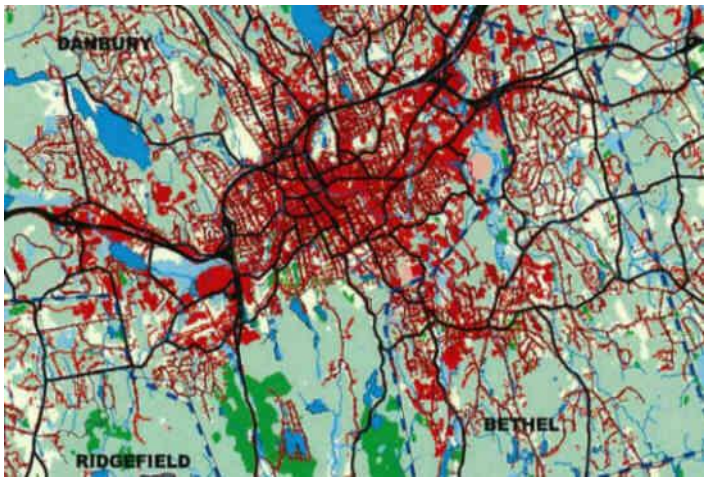
Manufacturing jobs began to leave Connecticut's central cities and established industrial centers during the 1940s. This job loss accelerated rapidly in the years after World War II, particularly in the decades between 1950 and 1980.

At first, many of the jobs moved to the southern and western sections of the United States; now many of these same jobs have moved again to overseas destinations such as China, India, Indonesia and the Philippines.

This process of industrial dislocation hit cities such as Bridgeport particularly hard, but also caused considerable economic distress for smaller cities such as Meriden and the communities in the Naugatuck Valley area. Danbury was not immune to manufacturing job losses; however, the City was much more adaptable to the changing economic conditions.

While cities such as Bridgeport had significant difficulty "reinventing" their economy and found themselves in a downward spiral of job loss, poverty and subsequent social isolation and disintegration, Danbury shifted its economy to corporate and office uses.

The City also maintained a complimentary balance of retail, medical, educational and service uses which made for a well-rounded economic base that could better withstand economic changes in the future.



Developed land in Danbury and vicinity shown in red.

See Danbury's development in larger context.

Danbury also held on to a core manufacturing base centered around highly-skilled and precision manufacturing jobs that could not be easily outsourced to areas with inexpensive labor.

A key reason for Danbury's ability to adapt was its close proximity to New York City. High business costs in and around New York made the Danbury market area look relatively inexpensive.

Offices and businesses tied to the New York market could save money by locating in the Danbury area, yet still be close enough to New York to maintain connectedness with national and international markets. Other Connecticut cities that have benefited from this close proximity to New York City are Stamford and Norwalk.

Finally, Danbury's relatively large geographic size provided the City with land available for new development of both a commercial and residential nature. While the development of land for commercial uses was clearly critical to adapting the City's economy to changing times, what truly gave Danbury an advantage over cities such as Bridgeport, Hartford and New Haven was the availability of land for single-family homes.

For many residents of other central cities, attaining the "American Dream" of single-family detached homeownership meant moving to the suburbs. Invariably, jobs followed the population shift out of the central cities. Crucially, in Danbury's case the desired single-family homes could be provided within the geographic boundaries of the City itself.

Thus, the availability of raw land for development allowed Danbury both to adapt economically and retain the workers needed for new jobs. Similar situations occurred in Stamford and Norwalk, where the more rural northern sections of those cities have become the prime location for new single-family homes.

It is also important to point out that significant percentages of nearby suburban populations commute to Danbury daily for their livelihood. For this reason alone, the continued economic health of the City is important to the residents of surrounding towns.

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8-5. MARKETING NEW MILFORD AS THE MAIN REGIONAL SUBCENTER

For the purpose of enhancing their name recognition and marketing potential, many suburbs would like their name included in the regional title along with Danbury.

For local promotional purposes in Danbury's suburbs, it is certainly permissible on occasion to include their town name in the regional title, such as “The Danbury-Ridgefield Area” or the “Danbury-Bethel Area.”

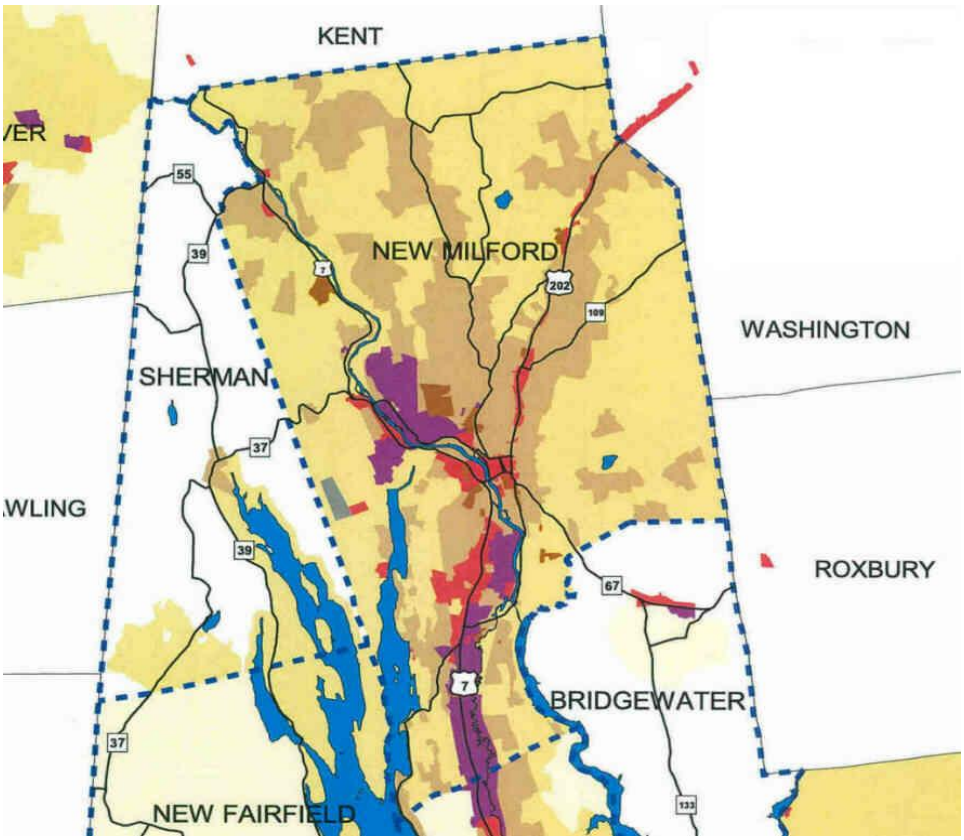
But there a clear cut “Number Two” community in the Greater Danbury Region that is most deserving of the slot in the regional title on a permanent basis. This is the Town of New Milford.

New Milford stands out from the other Danbury suburbs, evidenced by significant statistical indicators.

For example, while New Milford is part of the state designated ten town Greater Danbury Area, it ranks second only to Danbury in the dominant indicator of total population. It is also the second in zoning development holding capacity to Danbury.

An index of regional centrality is a high percentage of daily commuter trips that remain internal to a community. That is, a high percentage of residential origin and work destination pairs are located within the same municipality.

Within the Housatonic Valley Planning Region Danbury has the highest percentage of its residents remaining within the City for work, at 47%. But not surprisingly, next ranked is New Milford at 36%.



See full regional zoning patterns map.

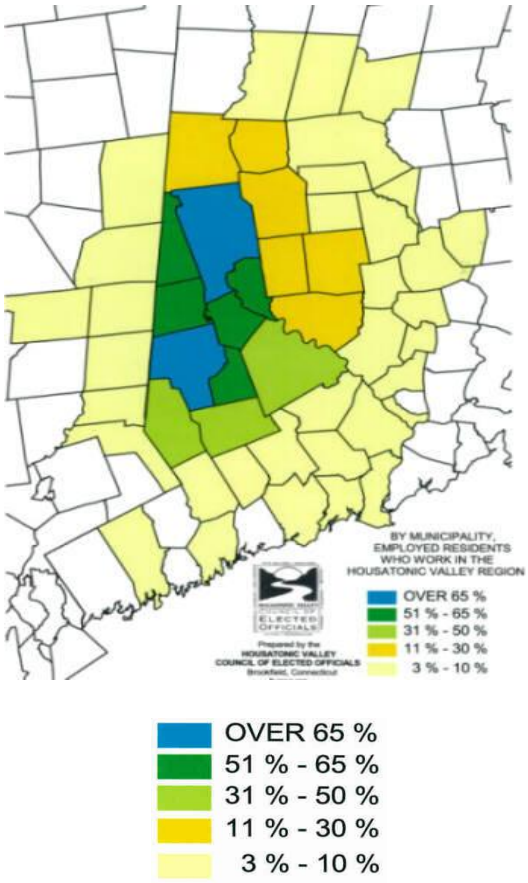
2008 ZONING PATTERNS

- Industrial
- Commercial/Office/Mixed Use
- Community Facility
- Multi-Family/Planned Residential
- Single Family: 0 to less than 1 Acre
- Single Family: 1 to less than 2 Acres
- Single Family: 2 to less than 3 Acres
- Single Family: 3+ Acres

And consider that while the commuter orientation of each municipal labor pool varies significantly, all have major percentages with destinations to the Housatonic Valley as their home planning region.

As expected, Danbury has a high figure for this regional variable, 68% of its employed residents oriented to the regional economy. Then Danbury's closely proximate economic allies, Brookfield and Bethel, share in this core function, with 64% and 62% respectively.

But then New Milford tops them and all other area towns at 73% of employed residents supporting the regional economy. This is more evidence that New Milford can claim a distinctive regional economic status.



Indicator of employed residents, by municipality,
who work in the Housatonic Valley Region,
with Danbury and New Milford in the lead.
See map above in full detail.

On the map above, blue identifies regional cores Danbury and New Milford that have over 65% of their employed residents working within the Region.

Then green on the map shows Bethel, Brookfield, Bridgewater, New Fairfield and Sherman at 51% to 65%. Light green categorizes Ridgefield, Redding and Newtown

at a lesser 31% to 50%, as many residents of those southern tier towns are attracted to coastal jobs further south.

Orange on the map then represents six towns to the region's northeast with 11% to 30% and yellow 3% to 10%.

Note that the attractive pull of our employment opportunities for residents of New York State, even with major economic magnet Danbury bordering the state line, is quite limited.

The geographic luck of having capacity for local wastewater receiving streams to assimilate discharged wastewater is also crucial for economic development. For the long term, New Milford has a substantial advantage over Danbury and all other regional towns in water quality constraint regulated sewer treatment plant discharge capacity, should it choose to develop it.

The key to this is that the Housatonic River has 250 million gallons per day to discharge into, while Danbury on the Still River has lesser 16 million gallons of dilution capacity.

Examining the role of New Milford as a retail center, it is relevant to note that in the 1997 New Milford Town Plan the “Downtown New Milford Primary Retail Trade Area” is defined to include all of New Milford, then parts of adjacent Brookfield, Sherman, Kent, Washington, Roxbury and Bridgewater.

Kimberly Clark manufacturing plant in New Milford.

Retail and commuter patterns clearly document New Milford as a secondary regional economic center, having its own small suburbs, to a greater extent than towns of similar population size such as Newtown or Ridgefield.

From yet another perspective, consider that hospitals have historically located in regional centers. Danbury and New Milford Hospitals are good examples.

Also of interest is a recent state study of restoring rail passenger service on the Danbury Branch Line. The results found that if service were restored to New Milford, more rail passengers would board there than at any other town on the line, even at regional leader Danbury.

In sum, New Milford's demographic, economic and land use indicators differ significantly from the other eight Danbury suburbs. New Milford has earned the distinction of being one of the two poles in the regional title "The Greater Danbury - New Milford Area."

Thus the rapidly growing Housatonic Valley Region has more complexity and sophistication to its urban form than presented in traditional 1990's style marketing, which focused on one center with multiple suburbs. The growing dual pole Danbury - New Milford axis is an economic asset for the entire area, not just themselves.

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8-6. MARKETING PROXIMITY TO NYC

The Housatonic Region's proximity to New York City is of great economic value. The advantage of that business link first became apparent around 1850 with the building of a connecting railroad.

Today, some of the tangible benefits are the accessibility of the City's unparalleled attractions including high paying jobs, museums and galleries, professional sports, historical sites, ethnic neighborhoods and restaurants, rail and airport facilities.

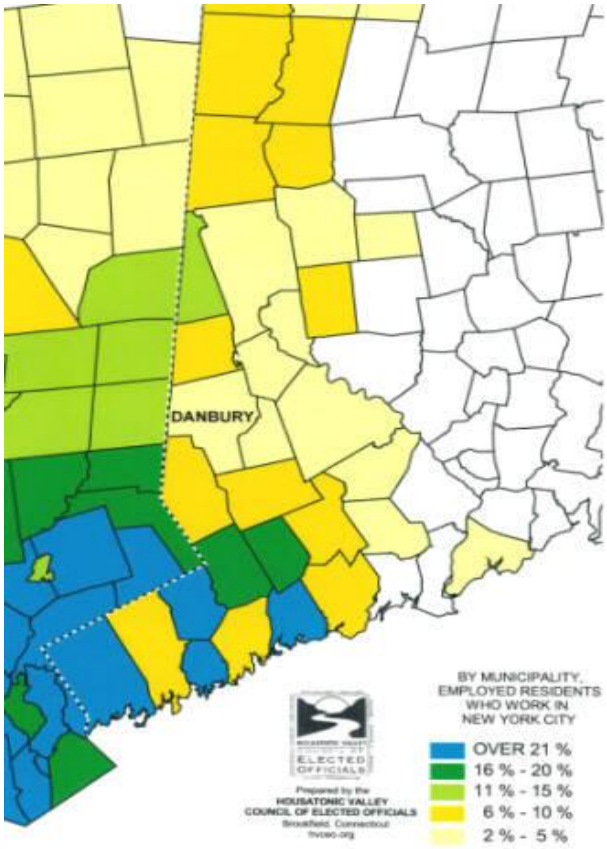
The Manhattan skyline. Some of the tallest buildings can be seen from Ridgefield, CT.

Consider these relatively short mileages; the straight line distance from Ridgefield Town Hall to Manhattan's Central Park is only 41 miles, to Danbury's City Hall 48, to Newtown's Town Hall 54 miles away from that park and New Milford 61.

Our region also has the attraction of being part of the Manhattan commuter shed. This is a "safety backup" for persons newly employed here; Manhattan jobs are distant but commutable in a pinch.

Westchester County businesses seeking to move further out from the high priced and congested outer core often want to document that Danbury is indeed within, if admittedly near the outer edge of, the Manhattan commuter shed.

While Greater Danbury shares I-84 corridor economic interests with Greater Waterbury, that area is too far east to make a claim of feasible NYC commuter access and cannot rival us in that way.



By municipality, percentage of employed residents who work in New York City.

As projected by noted economist Michael Gallis, the New York Metro area is expected to retain a strong position in the new global economy. He recommends that the Housatonic Valley benefit by positioning itself as a distinct submarket of that area, refreshing its marketing image of the past.

An example of a traditional method for marketing Greater Danbury's New York connection is a promotional map from about 1980 available on hvceo.org.

These days, well educated and high tech potential employees do not seek out a company to work for regardless of where it is located. While Greater Danbury might be a great spot for businesses due to the New York proximity as described above, that is not the worker's primary concern. It is an old problem, how to be near "the big city" and the "rural countryside" at the same time.

Again Greater Danbury emerges with winning marketing, for in this region you can both view distant Manhattan skyscrapers from a hilltop at the region's south end in Ridgefield, and walk the pristine Appalachian Trail at the north end in Sherman.

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8-7. HIGHLIGHT ADVANTAGES OF I-684/I-84 CORRIDOR IN METRO NEW YORK

In today's vastly enlarged worldwide competition for high tech knowledge based industries, by standing alone each municipality or even the larger Housatonic Valley Region is too small for effective visibility.

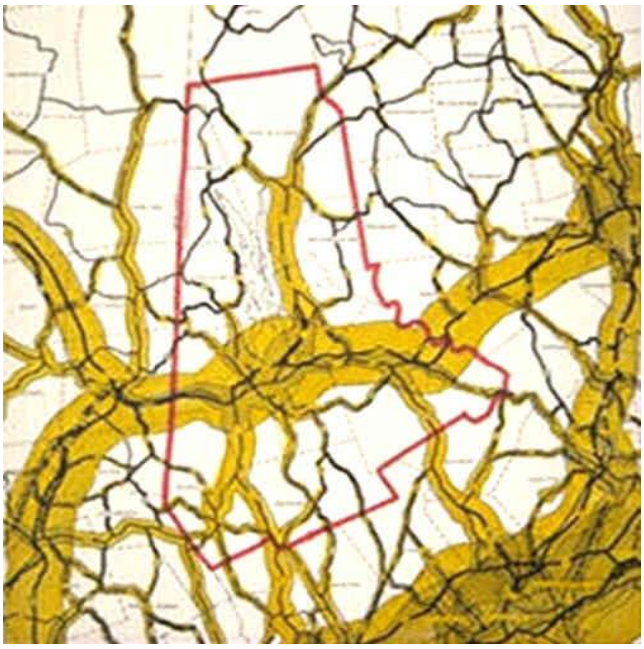
We should consider the advice of economic theorist Michael Gallis in 2003:

The Connecticut Sourcebook identified three main economic regions that dominated Connecticut. Each of the three economic regions crossed a state line.

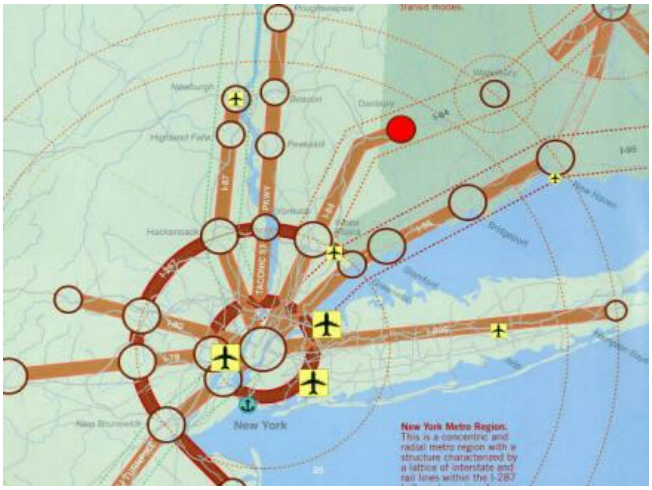
Both the western portion of I-95 and I-84 were included as corridors within the New York economic region in competition with the other radial corridors that extended out from the City of New York.

The Sourcebook identified nine total corridors — three in New York, four in New Jersey, and two in Connecticut. Of the two in Connecticut, one was shared by both New York and Connecticut — the I-684 / I-84 corridor...

Only by aggregating resources and positioning the I-684 / I-84 corridor as one of the nine choices within the New York region can the corridor develop the visibility necessary to compete.



Relative traffic volumes in and near the Region. Note the substantial influence of I-684 arriving from the southwest.



Gallis graphic of recommended "nine spokes" orientation for Greater Danbury marketing, featuring I-684. (Red added to denote Danbury).

As for New Milford as the economic subcenter, while north of the I-84 / I-684 corridor itself, new and fast multi-lane Route 7 connections to Danbury were

completed 11/2009. This massive transportation investment will draw I-84 corridor access benefits north to Greater New Milford.

The map on the right projects future travel time in ten minute intervals from I-84 Exit 7 north towards New Milford if the entire Route 7 Expressway had been built. The map at left shows travel times without the Expressway. The ten minute contour lines reach further north with the expressway, affecting the spread and intensity of land use. The final compromise plan, a combination of a limited expressway segment with widening of existing Route 7, provides most of these time benefits.

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8-8. HIGHLIGHT ADVANTAGES OF I-84 ACCESS WESTWARD AND OTHER TRANSPORTATION NEEDS

Economist Gallis also found that our area has another emerging locational high card. While access to New York to the southwest has been historically valuable, in many ways the City, its extensive environs and the Hudson River are increasingly barriers to quick access to the remainder of the country. One symptom is traffic jams on the Cross Bronx Expressway, which can idle a long haul commercial vehicle for 2-3 hours.

His main thesis is that geographically much of New England has the characteristics of a “dead end” from the perspective of the emerging world economy. This geography presents both the I-84 oriented Danbury and Waterbury Areas with great opportunity.

Gallis says that congested I-95 and Hudson River crossings present a barrier to global competitiveness for southern Fairfield County, but not here in Northern Fairfield and southern Litchfield Counties. Incidentally, the long time motive of I-95 oriented

Greater Bridgeport interests in supporting a Route 25 Expressway north to I-84 was their recognition of exactly this problem.

I-84 thru Danbury, Bethel and Newtown holds the high card of a relatively free flowing connection across the New York City and Hudson River barriers.

The position of I-84 through western Connecticut serves the New England market, then also the New York Metro market, then triple duty as a bypass for congested I-95 and NYC.

His key prediction:"as the I-95 corridor becomes more impacted and congested, the I-84 corridor will increase in importance."

Thus as the decades move on, easy flow to the west will be crucial for securing Greater Danbury's economic niche in the global market.

Yet due to area growth, congestion on I-84 thru the Region is increasing. A second factor is peak hour congestion on parallel I-95, so slow that at times it just is not a viable means of traveling through Connecticut. Congestion on I-84 will reach a critical point where the productivity of this interstate, a pillar of the locational advantage of the Housatonic Valley Region, is damaged.

The future for I-84?

An additional economic issue for Greater Danbury concerns the upgrading of Stewart Airport, accessed from I-84 about 40 miles to the west in New York State.

The Region also relies upon Metro North to provide commuter rail service on the Danbury Branch Line and the Housatonic Area Regional Transit District to provide local and interregional bus service. These services need to expand to provide a greater share of total daily person-trips.

The Housatonic Railroad Company and Providence and Worcester Railroad provide rail freight services in the region. Rail freight services are an important contributing component of the regional economy and need to be maintained and expanded, especially as an alternative to trucking.

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8-9. ECONOMIC DEVELOPMENT RECOMMENDATIONS

GOAL: Diversified economic growth producing quality jobs and tax revenue, well coordinated with other Regional Plan elements.

1. The Housatonic Region's most important economic resource is its highly skilled workforce. The greatest risks to the regional economy are loss of current skilled employees or an inability to attract more.

2. Congestion on I-84 will reach a critical point where the productivity of this interstate, a pillar of the locational advantage of the Housatonic Valley Region, is damaged. The private sector productivity gains of recent decades due to "just in time delivery" and digital inventory control will be dissipated due to traffic congestion. To prevent these problems develop I-84 traffic management and I-84 traffic capacity expansion strategies.

3. Encourage plans for affordable housing to match the housing needs of planned economic growth. It is clear that communities must retain a workforce to support the local economy as well as to have households at different points in the life cycle to support overall quality of life. Development decisions cannot be based solely on a "debits and credits" financial ledger approach.

As the energy and environmental costs of journey to work distances increase, the availability of housing more proximate to employment centers will become a crucial economic and planning determinant in the Region.

4. HVCEO will use its federal transportation funding programming powers to assist with economic development, and will continually update traffic improvement planning reports for each community.

5. Encourage further investment in established commercial centers at a degree of intensity appropriate to the character of each individual community. Maximize local control of aesthetic design, consider mixed use projects, and facilitate pedestrian links within these centers.

6. Market the Region's locational advantages, such as its proximity to both national/international markets (New York City) and important regional markets (Hartford, Hudson Valley, Stamford-Norwalk-Bridgeport).

The vast Chinese market meets the Housatonic Valley Region, an economic jewel in Connecticut

7. Improved rail connections to Stamford and New York City should be vigorously pursued, coupled with restoration of passenger rail service north to New Milford and the placement of transit oriented development at some rail stations. Expand rail freight services to be more competitive with trucking.

8. Foster connectivity between key employment sectors in the Region, such as healthcare and precision manufacturing, with secondary and post-secondary educational institutions to provide a continuous stream of skilled workers for critical industries in the Region.

9. The impacts of federal recognition of the large hydropower industry in the Region remains a significant special issue requiring attention from elected leaders. Seek ways to make hydropower a building block of future economic development.

10. Recognize the Region's remaining agricultural areas as viable economic assets.

11. Work with state and federal agencies having authority over the siting of telecommunications, energy facilities and air service routes to achieve a balance between the need for expanded services and preservation of the natural environment and community character.

12. To assist with effective marketing of the region, HVCEO will:

A. Maintain a demographic and economic overview and its supporting tables, documenting the high quality of life here. As industries driven by intellectual capital such as research, technology and services still need face to face idea collaboration they can be attracted here by the documented high quality of life.

B. Keep current a web listing of local economic development groups including chambers of commerce, economic development commissions, etc. to facilitate access to local economic development officials.

C. Keep current a list of major employers by municipality to showcase the quality and variety of the regional economy.

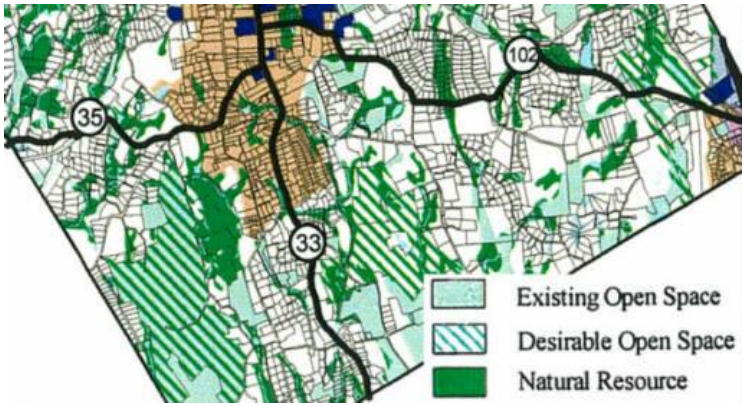
The creative contributions of consulting planners at Harrall - Michalowski Associates to this section of the Regional Plan are gratefully acknowledged.

CHAPTER 9: MORE OPEN SPACE AND RECREATION

9-1. INTRODUCTION

This section of the Plan provides a regional perspective on the preservation of open space, farmland, and the development of recreation.

Regional planning for open space and recreation has evolved over the past decade, with more digital map geographic information system "GIS" technical support, focused political support, planning for regional greenways, regional trails and regional river trails.



Excerpt from the 1999 Ridgefield Town Plan, identifying existing public and private open space areas in light green and, importantly, "desirable open space" areas in green cross hatch.

While many people perceive open space to be any land that is not built upon, such a definition includes private land subject to development and is thus not accurate. Such *perceived* open space is not *preserved* open space.

Rather, preserved open space is defined as publicly controlled land that is preserved or restricted to park, recreation, or conservation use.

Aside from its role as the setting for numerous forms of recreation, open space achieves other goals on the local and regional level. Consider that such land

contributes to the environmental health of watersheds by providing extended areas for recharge of groundwater and filtering of surface water runoff.

And like wetlands, open space can reduce flooding severity by providing a holding area for flood water. Wildlife habitat is also enhanced through open space acquisition, especially when open areas are linked to create wildlife corridors.

Preserving open space areas, particularly forests, will also contribute to worldwide efforts to combat global warming by absorbing carbon dioxide from the atmosphere.

According to the Trust for Public Land there are **real tax benefits associated with retaining open space**. In simple terms, there are few public expenditures compared to a single family residential subdivision on the same site.

And residential property lucky enough to be adjacent to open space benefits from the provision of a neighborhood buffer and visual relief from nearby development, adding to value. Open space also provides an economic return by providing opportunities for outdoor recreational suppliers and ecotourism industries.

As for a definition of recreation, the following passage from the 2002 Danbury Plan of Conservation and Development states it well:

"Recreation consists of any leisurely pursued experience or activity engaged in solely for the pleasure of doing it.

Active recreation includes sports, exercise, or active play at facilities that include, among others, playgrounds, playing fields and courts, beaches, pools, multi purpose play areas, and golf courses.

Passive recreation is defined as relaxation activities such as hiking, nature watching and picnicking.

Whether active or passive, recreation is, above all, more than relaxation and diversion from work. It re-creates the individual."

Photo courtesy of Rick Gottschalk

View from New Fairfield east towards Brookfield over Candlewood Lake, the largest lake in Connecticut.

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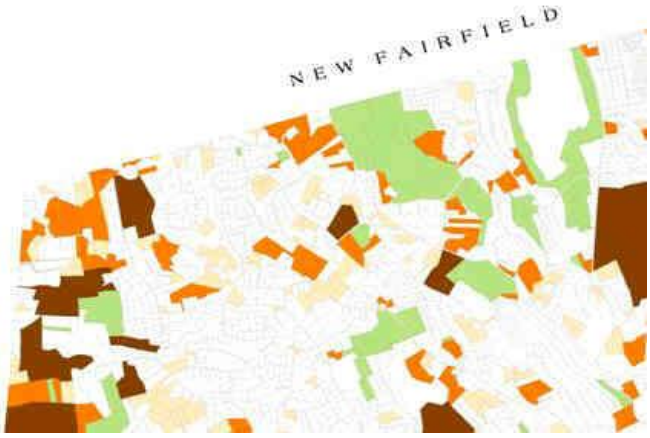
9-2. MUNICIPAL INVENTORY OF OPEN SPACE ASSETS

It is recommended that municipalities inventory their public and private undeveloped lands to determine preservation and purchase priorities.

To note a good example, in 2002- 2003 the City of Danbury collaborated with the Land Trust of Danbury and the Danbury Conservation Commission to secure a grant to conduct such an inventory. An excerpt from the resulting map showing northwest Danbury is below:



Excerpt from Danbury's 2004
Natural Resource and Open Space Analysis

The grant funded a model for ranking the values of undeveloped lands, based upon criteria such as size of property, proximity to other open space areas, accessibility, natural resource features, and threat of future development.

The computer model then ranked the lands into categories of high, medium and low for protection, preservation or acquisition and mapped the locations of each.

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9-3. THE GREENWAY CONCEPT

Greenways are corridors of open space that are preserved by deeded conservation easements or public acquisitions with development restrictions. Greenways often link key habitats along their corridors and are frequently linked to keystone natural resources.

These corridors are typically traversed by trails dedicated to passive recreation and environmental education. Greenways are thus functional bridges between open space and passive recreation.

Creating new greenways in the region involves the following elements:

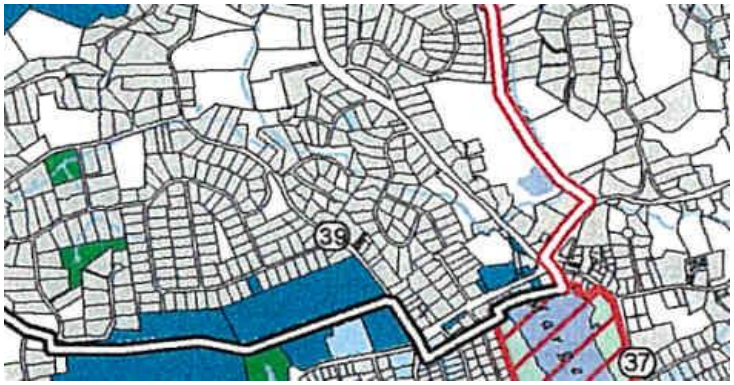
• ***Planning – identifying the tracts of property that are needed to preserve corridor environmental and ecological features, connectivity of resources and properties, and public access.***

• ***Acquisition – execution of agreements with property owners for acquiring access***

and preservation easements or outright transfer of ownership to municipal or state governments.

• Conservation Construction – clearing trails, constructing river crossings, creating environmental restoration demonstration projects, installing environmental education signs etc.

Examples of regional greenway initiatives in the Housatonic Region include the **Ives Trail Greenway** (Ridgefield, Danbury and Bethel), and the Still River Branch of the **Housatonic Valley River Trail** (Danbury, Brookfield and New Milford).



Excerpt from the 2003 New Fairfield Plan of Conservation and Development's Open Space and Greenway Plan.

The double red line identifies the proposed "Central Axis Greenway" along Short Woods Brook. The red cross hatch identifies Margerie Reservoir, where a greenway to Danbury is planned. The double black line identifies the proposed Eastern/Western Greenway thru the schools complex. They all meet at the Town Center.

The 2005-2010 Conservation and Development Policies Plan for Connecticut includes a list of 35 state designated greenways, some of which remain conceptual. State agencies and others are to take note of these corridors in their plans and facilitate their development.

The list is entitled "Connecticut Greenways Council Officially Designated Greenways 2001 - 2003" and is accompanied by a **statewide map**. The following greenways in the Housatonic Valley Region are included:

-- Housatonic Riverbelt Greenway
-- Still River Greenway
-- Newtown Greenway System

There is funding available to subsidize greenway planning through DEP's recreational trails and open space acquisition grant program.

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9-4. DEP'S GREEN PLAN GUIDES OPEN SPACE ACQUISITION

It is important to note that according to DEP's "Green Plan for Guiding Land Acquisition and Protection in Connecticut 2007-2012", the overall state goal is "to continue to acquire and protect land to satisfy a variety of needs as expressed in Connecticut General Statutes 23-8(b) and in various State plans... and to support local and *regional plans* (italics added), where available."

The DEP Green Plan goes on to define the several criteria for prioritizing open space grant applications. One of these is "locational concerns," stating that:

"The relative location of a property to be acquired or protected is also important. For example, a property might merit special consideration if it is adjacent to or near existing protected open space; provides a buffer for a high value ecological area on protected open space; is an addition to existing protected open space that will create greenways or improved access to existing state parks, forests or wildlife management areas; or can connect two or more ecologically valuable areas to provide wildlife corridors."

Then under "general evaluation considerations" for state purchase of open space, it is further stated that "the proximity to urban areas or public transportation is an important consideration for the Department in our pursuit of environmental equity."

Grant applications to DEP from area municipalities are advised to remind that agency of the way in which statewide open space acquisition policy was organized on a regional basis some years ago:

In DEP's 1987-1992 Statewide Comprehensive Outdoor Recreation Plan (SCORP), land preservation needs were assessed on a planning region by planning region basis.

In what was a daring move for a statewide document, the 1987 - 1992 SCORP concluded that "A consideration of all the foregoing factors have made acquisition

of public open space in the Housatonic Valley Planning Region this SCORP's highest priority among all of the state's planning regions."

Unfortunately, that high priority geographic focus was soon diluted in subsequent SCORP's. Yet there has been little change to the data base dynamics that led to the earlier statewide priority for the Housatonic Valley.

Thus the earlier DEP view retains validity as a selection factor for state assisted open space purchases in the Housatonic Valley Planning Region.

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9-5. TEMPORARY OPEN SPACE THRU USE OF PUBLIC ACT 490

In the 1960's it became apparent that Connecticut was rapidly losing open land to development due to the disproportionate tax burden for retaining it "as is." This was certainly true here in the Housatonic Valley Planning Region, where the population that decade grew by a stunning 56%.

In response, in 1963 the Connecticut General Assembly passed what is commonly referred to as Public Act 490. This relieved the pressure, due to property tax carrying cost, on conversion of farm, forest and open space lands to more intensive uses.

Good land suitable for home sites,
yet taxed at a low level as agricultural use.

Codified today as Section 12-107 of the CT General Statutes, the 490 law states that it is in the public interest to encourage the preservation of farm land, forest land and open space by slowing economic pressures for the conversion of such lands to more intensive uses.

The statute provides for the valuation of qualifying land based on its current use. Thus when land is classified as farm, forest or open space its assessment is based on use value, rather than on its open market value for housing or other uses.

Use value assessments are lower than those based upon fair market values. The owners of such land receive preferential and significant, but legal, property tax relief.

As the goal is long term preservation, a conveyance tax penalty is applied if the classification is changed within ten years of the initial classification date. The status is discontinued if the land use or ownership changes, but can be reinstituted once a local assessor certifies continued agricultural use.

Forest land is usually required to be 25 acres or more with a forest land designation by the Forestry Division of CT DEP. The state sets no minimum lot size requirement for the program for farmland.

Open space is a category where towns often set standards, such as a parcel being "more than two times the minimum lot size for the zone" or "ten acres above the minimum lot size."

Note that Connecticut is not unique with this arrangement, as every state in the nation has a use value assessment law for farm, forest and open space. This HVCEO Plan urges that this opportunity be fully utilized.

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9-6. SECURING PUBLIC LAND DURING THE TRADITIONAL SUBDIVISION PROCESS

As authorized by state statute, a small percentage of vacant land in a residential subdivision may be reserved as open space by municipal regulation. The list below illustrates the open space set-aside percentage for subdivisions in each of the ten Housatonic Valley Region municipalities:

Bethel 10%
Bridgewater 15%
Brookfield 15%

Danbury 5% to 20%
New Fairfield 20%
New Milford 15%
Newtown 15%

Redding 10%
Ridgefield 10%
Sherman 15%

BETHEL: ***Bethel's subdivision regulations state that the 10% open space set aside is a maximum (in other words, up to 10% may be required).***

--- According to the 2007 Bethel Plan of Conservation and Development, "Some communities require as much as 20 percent of subdivided lands be dedicated as open space. Bethel should consider revising the subdivision regulations to require that at least 15 percent of any subdivided parcel be dedicated as open space during the subdivision process, or an equivalent fee in lieu be provided, limited to 10% of the land value by State Statutes."

BRIDGEWATER: ***Bridgewater's subdivision regulations state that the Town may require that 15% of the land in a subdivision be set aside for open space, park or playground uses.***

BROOKFIELD*: Section 234-702 of Brookfield's subdivision regulations state that no more than 15% of the total area in a subdivision may be required for an open space set aside; however, if a set-aside is required for a particular subdivision, the area set aside must be a minimum of 40,000 square feet in size.*

DANBURY: ***The City of Danbury has a sliding scale for open space set asides in its subdivision regulations, which are dependent upon the underlying zone and the size of the subject subdivision. For subdivisions in the RA-20 zone that have a total area of at least 5 acres, 20% of the total area is required for an open space set aside.***

For subdivisions in Danbury's RA-40 zone that have a total area of at least 10 acres, 10% of the total area is required for an open space set aside. For subdivisions in the RA-80 zone that have a total area of at least 20 acres, 5% of the total area is required for an open space set aside.

NEW FAIRFIELD: ***New Fairfield has the largest open-space set aside requirement in the region, requiring a minimum of 20% of a subdivision be set aside for open space.***

NEW MILFORD: ***New Milford requires that at least 15% of the total subdivision area be set aside; however, this regulation is not mandatory unless the entire area***

of the subdivision is greater than 2.1 times the size of the minimum lot size of the underlying zone.

NEWTOWN: ***Newtown requires a minimum of 15% of total subdivision area set aside for open space.***

REDDING, RIDGEFIELD AND SHERMAN: ***The subdivision regulations in both Redding and Ridgefield state that a maximum of 10% of total subdivision area may be required for an open space set aside, while the Town of Sherman mandates that if an open space set-aside is required, it shall be 15% of the total subdivision area.***

In the case of Ridgefield, the 10% requirement only applies if the subdivision in question does not fall under the conservation subdivision regulations contained within the Town's Planned Residential Development (PRD) zone regulations.

In addition, eight of the ten municipalities in the Region have payment in lieu of open space regulations in their respective subdivision regulations. Only the Town of Redding and the City of Danbury do not have such regulations.

The goal is for the municipality to obtain land of open space and recreational value, not exclusively "left over" wetland or unbuildable "waste" land.

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9-7. SECURING PUBLIC LAND BY USE OF "CONSERVATION" SUBDIVISIONS

These specialized subdivisions are a means for a town to secure significant amounts of protected open space, at no direct cost to the town. Five of the ten communities in the Region have conservation subdivision regulations: Bethel, Brookfield, New Milford, Newtown and Ridgefield.

BETHEL: The Town of Bethel permits conservation subdivisions via its Design Conservation District (DCD) overlay zone:

This overlay zone may only be used in the R-10 or RR-10 zoning districts, and only applied to sites of at least 5 acres in size. Single family residential, as well as multifamily residential of up to four units per acre, are permitted uses. Developers may receive a density bonus of up to 50% of the total dwelling units initially allowed if 20% or more of the total dwelling units are designated as affordable housing.

If a developer does not want to actually construct the affordable units, he or she may make a payment of $80,000 per unit not constructed to the Town. The DCD regulations also require that 35% of the total site area be designated as open space.

The 2007 Bethel Plan of Conservation and Development promotes the conservation subdivision concept, labeling it "conservation residential development" or CRD:

To encourage the use of CRD's, the Commission might consider CRD's as of right and require a special permit for conventional subdivisions in the R-40 and R-80 zones for areas larger than 20 acres.

By adopting density standards for CRD and applying them to the buildable land within a CRD, a development yield approximating a conventional subdivision can be easily determined without the added expense of additional soil testing and preliminary subdivision designs.

The increased development flexibility, reduced infrastructure costs and streamlined approval process would make CRD's the preferred development option.

BROOKFIELD: The Town of Brookfield permits conservation subdivisions in its R-40, R-60, R-80 and R-100 residential zones:

The permitted uses in Brookfield's conservation subdivisions are the same as those allowed in the underlying zoning district. The number of permissible single family residential lots in a specific conservation subdivision is determined by dividing the total site area by the minimum required lot size for the underlying zone.

The actual lot sizes in the conservation subdivision may be a minimum of 20,000 square feet regardless of the underlying zone. Any land not used for development purposes must be designated as permanent open space.

NEW MILFORD: New Milford enables the development of conservation subdivisions through its Cluster Conservation Subdivision District (CCSD):

These conservation subdivisions may be developed in the R-40, R-60 and R-80 residential zones, and must be at least 30 acres in area. They are designed for single family detached homes, and at least 50% of the total site area must be conserved as open space.

The number of lots allowed cannot exceed the number of lots that would be allowed under a standard subdivision. However, if at least 70% of the total site area is

conserved as open space, the developer may receive a 10% density bonus in the number of units allowed.

The developer is allowed to submit regulations for the subdivision regarding minimum lot size, yard requirements, maximum building height, and other dimensional requirements.

NEWTOWN: Newtown utilizes its Open Space Conservation Subdivision (OSCS) regulations to permit conservation subdivisions:

Newtown's conservation subdivisions are allowed by Special Exception, must be situated in an R-1, R-2 or R-3 residential zone, and must either be at least 20 acres in size or have 8 or more potential building lots.

Subdivisions with less than 20 acres of area may apply to be conservation subdivisions if the potential land to be conserved as open space is located adjacent to existing preserved open space or will protect significant or unique natural features. A general guideline is given that at least 50% of the total subdivision area should be preserved as open space.

The individual lot sizes in conservation subdivisions are determined based upon a sliding scale that correlates lot coverage with lot size. The minimum lot size allowed is equal to 10 times the area of proposed lot coverage. For example, if the proposed lot coverage for each lot will be 2,000 square feet, the minimum lot size must be 20,000 square feet.

According to Newtown's 2003 Analysis of Open Space Conservation Subdivisions, the open space conservation subdivision is a tool used by municipalities to manage the subdivision of land for residential development in a manner that results in more effective conservation of the natural environment and the preservation of a town's community character.

The analysis report notes that Newtown's conventional subdivision process usually secures about 10+% of the land area being subdivided as open space. By contrast, an open space conservation subdivision typically results in the preservation of at least 50% of the subdivision as protected open space.

Fundamentally, open space conservation subdivisions enable a property to be developed for housing at the same gross density as is permitted under existing municipal zoning.

Note also that according to the 2003 Newtown research, wastewater disposal

***concerns* for open space conservation subdivisions and multi-family housing complexes have been largely resolved.**

Preserved green space over
the community septic leaching field
at Newtown's Riverview Condominium

RIDGEFIELD: Ridgefield provides for conservation subdivisions through its Planned Residential Development (PRD) zone.

Ridgefield's PRDs are allowed by Special Permit and may be utilized in R-AA and R-AAA residential zones on sites that are at least 6 acres in size. Within PRD zones, both conventional and conservation subdivisions are permitted.

In R-AAA zones, up to 0.30 to 0.33 dwelling units per acre are allowed, while up to 0.45 to 0.50 dwelling units per acre are allowed in the R-AA zone, dependent upon whether or not new subdivision roads are provided or needed. These density figures may rise as high as 0.67 dwelling units per acre and 0.80 dwelling units per acre in the R-AAA and R-AA zones, respectively, if the subdivision is a conservation subdivision and meets certain other criteria.

There is no minimum individual residential lot size for the conservation subdivision, and a minimum of 65% of the total subdivision area must be designated as open space.

GRANBY MODEL: A model community for our towns to emulate is Granby, Connecticut, where conservation subdivision practices have been notably successful. As noted in 2008 by Granby's Director of Community Development Francis Armentano:

While I try to think regionally, as a municipal planner, I can only act locally. To that end, and through creative cluster/conservation subdivision, here in Granby we have preserved an orchard, preserved significant acreage for farming (land is now

mostly provided to dairy farmers to grow silage) and created some fabulous hiking trails.

We have also avoided forest fragmentation, preserved significant wildlife habitat, greatly reduced the length of roads and more, all while creating some wonderful housing. Granby has preserved over 600 acres through cluster subdivision. And to the benefit of not just the town, but to the region.

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9-8. OPEN SPACE SET ASIDES IN ZONING

A number of specific zoning districts and zoning regulations in the Housatonic Valley Region towns require the setting aside of areas for open space:

BETHEL: ***In Bethel, for cluster developments in the RR-10 two-family residential zone and for sites in the Planned Residential Development (PRD) zoning districts, 35% of the total site area is required to be open space.***

DANBURY: ***The City of Danbury has a number of miscellaneous requirements for open space setasides as part of its zoning regulations. For cluster developments in the RA-20, RA-40 and RA-80 residential zones, up to 50% of site area may be used for residential lots and all remaining areas must be designated as permanent open space. For cluster developments in the RMF-10 multifamily residential zone, at least 40% of the area of each site must be kept as open space.***

In the Planned Neighborhood Development (PND) District, 33% of total site area must be dedicated as common recreational facilities and open space. In the Campus Research Park (CRP) zone, 30% of each site must be designated as common open space.

Finally, the zoning regulations also have various requirements for usable open space per dwelling unit; the figure most commonly used is 500 square feet of usable open space per dwelling unit.

NEW FAIRFIELD: ***In New Fairfield, the Multifamily District for the Elderly (MFDE) zone regulations require that 100 square feet of outdoor recreation area be provided for every studio/efficiency and one-bedroom unit constructed, and 200 square feet for every two bedroom unit constructed.***

NEW MILFORD: ***New Milford's Major Planned Residential Development District (MPRDD) zone regulations require that 60% of each site must be designated as***

open space. The Town's Planned Residential Development (PRD) zone regulations also require that all areas of a site not utilized for dwellings, parking, roadways or private yards shall be dedicated open space.

NEWTOWN: ***Newtown's Affordable Housing Development (AHD) zone regulations require that each site developed under this zone designation have 30% of its area as open space.***

REDDING: ***In Redding, the development of a Special Residential Complex, permitted under the zoning regulations within either the Village Residential (RV) zone or the Neighborhood Business (NB) zone, requires that 65% of the site remain as open space.***

RIDGEFIELD: ***In Ridgefield, the Town's Housing Opportunity Development (HOD) overlay zone requires that at least 60% of each site be designated as open space.***

SHERMAN: ***In the Town of Sherman, the development of a golf course facility comes with the requirement that 35% of the site be retained as open space, with 5% of the total area dedicated as public open space areas.***

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9-9. PRESERVING FARMLAND

The Housatonic Valley Region still retains some tracts of native farmland, especially at the northern end.

The Town of Suffield, CT is offered as a model municipality for the preservation of farmland. It has a very successful "purchase of development rights" program for this purpose.

Development rights purchased are priced at from 40% to more than 60% of the fair market value of the land, and as of 2008 there is a waiting list of participants to have their development rights purchased.

Part of Suffield's success is due to flexibility with respect to future expansion of agricultural activities and allowing an additional house for future family growth.

Preserved farmland: Blue Jay Orchards in Bethel

The Connecticut Department of Agriculture offers a farmland preservation program. The nicely preserved and highly productive Blue Jay Orchards property in Bethel is a good example of the success of this state program.

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9-10. SECURING PUBLIC LANDS THRU INLAND WETLAND PERMIT CONDITIONS

In the process of reviewing, evaluating and issuing permits for development proposals, inland wetland commissions may deny, approve or approve applications with stipulations.

The stipulations on permits may include the requirement for a deed recorded conservation easement that permanently preserves the environmentally sensitive portions of the site.

Depending upon specific regulations and bylaws, commissions may also consider stipulating acquisitions or easements on properties off site of the development parcel.

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9-11. USE OPTION TO ABATE TAXES ON OPEN SPACE IN EXCHANGE FOR TRANSFER OF DEVELOPMENT RIGHTS

State Statute 12-129r has authorized this option as of 2006. The municipality may establish a program under which property taxes may be abated in exchange for the transfer to the municipality of development rights, conservation easements, etc.

Also, the abatement may not exceed the market value of the open space land, and may be transferable to any other taxable property in the municipality owned by the applicant.

Danbury has adopted an ordinance under this state statute as Code of Ordinances Section 18-29, applicable after October 1, 2008, and allowing for a ten year abatement. Other municipalities in the area may wish to follow suit.

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9-12. OPEN SPACE RECOMMENDATIONS

Preserve ample open space and develop recreational opportunities for the Region's future population.

1*. The Housatonic Council's top regional open space preservation priority is the state purchase of a conservation restriction from Northeast Utilities for Vaughn's Neck in Candlewood Lake.*

Pristine Vaughn's Neck in Candlewood Lake

The Vaughn's Neck and adjacent Candlewood Mountain area comprises 710 acres in New Fairfield and New Milford and is the largest contiguous track of Northeast Utilities property on Candlewood Lake, itself the largest lake in Connecticut.

If the property were to be developed, the recreational and aesthetic quality of Candlewood Lake would be greatly reduced, affecting property values as well as the enjoyment of thousands throughout the Region and beyond.

Also, water quality of one of Connecticut's premier inland water resources could be impaired. Important wildlife habit would be threatened, as well as one of Connecticut's important fisheries.

Additional regional open space preservation priorities include:

PRESERVE TERRE HAUTE. Complete the process of protecting this attractive wild and scenic area along the Danbury and Bethel border.

COMPLETE THE RIDGEFIELD - DANBURY - BETHEL IVES TRAIL. Proceed with the the purchase of privately owned properties (or purchase of conservation / public access agreements) that will link the public open space properties along the Ives Trail.

COMPLETE THE DANBURY - BROOKFIELD - NEW MILFORD STILL RIVER GREENWAY AND HOUSATONIC VALLEY RIVER TRAIL. This priority is for the purchase of privately owned properties (or purchase of conservation / public access agreements) that will link public open space properties in Danbury, Brookfield and New Milford to create the regional Still River Greenway.

***2.** Provide adequate open space in built up areas by providing for small public greens and pocket parks, enhancing existing public greens, and promoting street tree programs.*

Elegant and award winning
Elmwood Park in Downtown Danbury
Photo courtesy of Didona Associates

***3.** All municipalities should make available the option of fees in lieu of open space (FILO) in traditional residential subdivisions, as authorized by State Statute Chapter 126 Section 8-25b.*

Such funds received from developers are available for surveys, appraisals and conservation easements, as well as for the more traditional purchase of development rights or full public purchase.

***4.** Support the use of open space conservation subdivision regulations, which allow a greater percentage of land to be preserved for open space. In doing so use make use of **Newtown's leading research** on this technique.*

5. *Include farmland preservation in open space planning efforts, to retain the region's history of agriculture as well as to provide local produce and educational opportunities.*

6. *There are two regional recreation features for which HVCEO will provide direct management assistance: 1) HVCEO will provide permanent web site hosting for the* ***Housatonic Valley River Trail****. 2) HVCEO will provide permanent web site hosting for the* ***Ives Trail Greenway****.*

7. *HVCEO will maintain a web based* ***inventory of open space and conservation organizations*** *in the region to promote them and to facilitate their interaction.*

8. *Promote the acquisition of open space land through the DEP Open Space Grant Program. HVCEO staff will provide an individualized letter of support to each applicant.*

The Weantinoge Heritage Land Trust preserve on the Thomas Peardon Farm in Bridgewater has spectacular views

9. *Promote temporary open land protection through tax assessment abatement programs (Public Act 490).*

10. *Consider viewshed protection, based on examples such as the* ***zoning methodology for protecting viewsheds in Kent, CT*** *or as found in the Woodbury, CT subdivision regulations.*

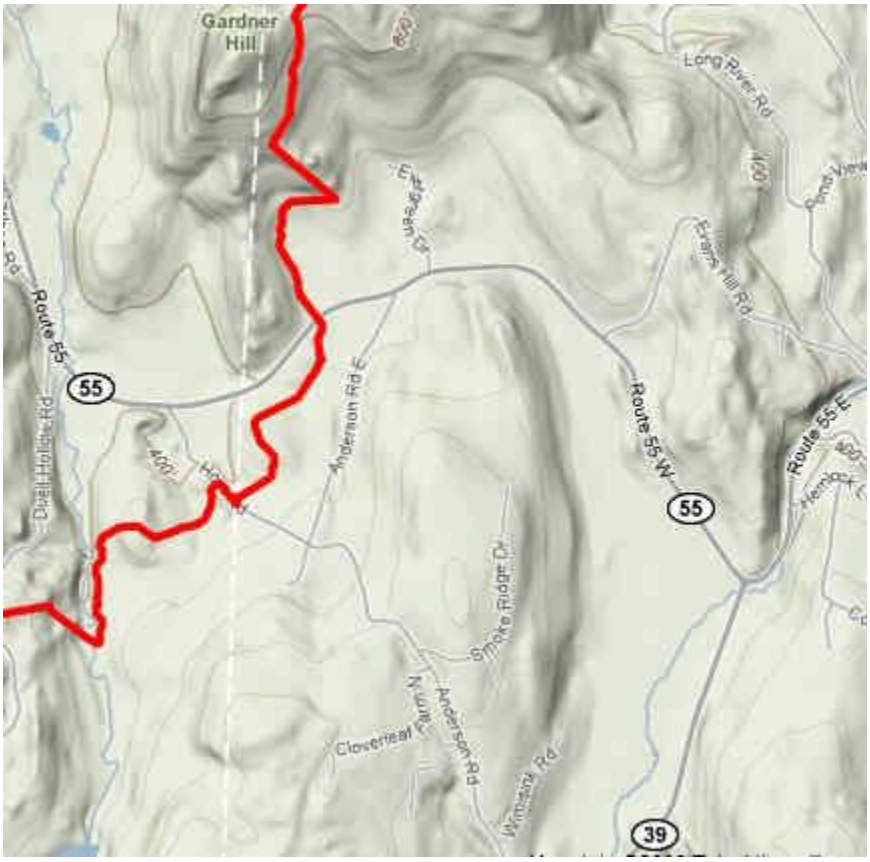
11. *Encourage municipalities to create an inventory of conservation easements already existing in their municipality and then map them, thereby enhancing coordinated open space and greenway planning.*

12. *HVCEO's GIS mapping services will be made available for a) local land preservation efforts, and b) CT DEP's emerging Statewide Trails Database by providing digital input of this area's trails.*

13. *As noted above, grant applicants to DEP are advised to remind that agency of the way in which statewide open space acquisition policy was organized on a regional basis some years ago:*

In DEP's 1987-1992 Statewide Comprehensive Outdoor Recreation Plan (SCORP), land preservation needs were assessed on a planning region by planning region basis.

The SCORP concluded that "a consideration of all the foregoing factors have made acquisition of public open space in the Housatonic Valley Planning Region this SCORP's highest priority among all of the state's planning regions."



The Housatonic Region provides access to the Connecticut segment of the Appalachian Trail from Route 55 in Sherman, CT

The creative contributions of
consultant Jack Kozuchowski to this section
of the Regional Plan are gratefully acknowledged.

CHAPTER 10: MIX SOME LAND USES

Time for new thinking: residential above retail in a pedestrian setting

10-1. MIXING LAND USES

Municipal zoning in the United States dates from the early decades of the twentieth century. A key aim then was to separate different and conflicting land uses; everyone saw that development types had become overly mixed and that there was friction between many of them.

For instance, delivery trucks arriving at the market were disagreeable to adjacent residences. Or industrial smoke and noise were not conducive to maintaining residential property values. Why not use the potent new tool of a zoning map to put businesses and industries well away in their own districts, away from housing, and vice versa?

As in other states, planning and zoning officials in Connecticut spent decades sorting out the often random land use mix, directing land uses such as residential, commercial and industrial to locations where they were physically separated and fully compartmentalized.

However, hindsight has shown that some careful mixing, especially between moderate density housing, small offices and modest retail, would have been a good idea all along. The separation movement went too far.

The record also shows that since 1950 better sanitation, stricter pollution limits, and other factors have eliminated many of the public health risks of mixing residential with commercial development.

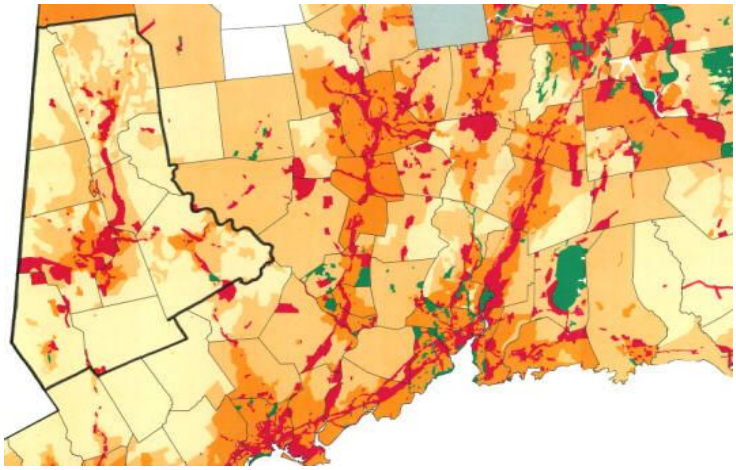
It was in 1961 that Jane Jacobs' influential book, The Death and Life of Great American Cities, arguing that the zoning ban on the mixing of uses should be modified, was the catalyst that led to rethinking on mix.

By this time it was also obvious that traditional land use mixing in historic pre-zoning New England village centers was not a problem, and property values there remained high. And problematically, these model areas could not be recreated or extended with today's segregated zoning districts.

Some revisions to zoning maps and accompanying regulatory texts are now justified. But realistically, in the Housatonic Valley Region the development pattern at this point is too mature to be dramatically revised; separate zoning districts will remain dominant.

Still, newly authorized mixed uses should play an increasing role in some locations that are still developing or already redeveloping. The preference should be for locations that strengthen designated activity nodes and transit potential, not linear highway locations, where the advantages to the community of mixed use are weak.

Uses allowed in the Region's new mixed use zones may be diverse. But they should not reflect in microcosm every other type of zone in the municipality. Rather, the uses allowed in the mixed use zones must be carefully screened to be complementary and interdependent.



Overview of zoning patterns in southwestern Connecticut, with the Housatonic Valley Region at left

Commercial and industrial zones are combined as red. Orange, buff and pale yellow indicate descending intensities of residential zoning. Before 1920 there was little control of the mixing of land uses. Then from 1920 until 2000 uses were forcefully separated by zoning. Since 2000 the trend of some modest remixing under controlled conditions has accelerated.

The selective remixing idea has moved sufficiently into the mainstream that the 2005 update of CT State Statute 8-35a guiding the contents of HVCEO's regional plan added a requirement that "the regional plan shall identify areas where it is feasible and prudent to have compact, transit accessible, pedestrian-oriented mixed use…and to promote such development patterns."

Some of the advantages of local mixed use as seen by HVCEO at the regional level:

--- Mixing land uses, preferably in community centers or development nodes, allows for a more diverse and sizable population and commercial base for supporting public transit. Simply, a higher percentage of those living in higher density subcenters use transit than those living in lower density outlying areas, because density is the key factor for creating demand for any transit system.

--- Mixing land use is an energy conservation strategy. The book Energy Planning and Urban Form by geographer Susan Owens found that the single most important factor affecting the relationship of urban form and transportation energy requirements is the physical separation of activities, determined by both density and the degree to which mixing of land uses is permitted.

In other words the density allowed by local land use regulations, coupled with the degree to which land uses are intermixed so energy costs can be reduced, are prime determinants of how much energy our communities use.

--- Mixed use can enhance the vitality and security of an area by increasing the number of hours that people are in public places. The business and investment communities have long recognized the benefits of placing housing nearby to attract more people to their shops.

--- Complementary and interdependent mixed uses promote convenience, making it easy to run errands, socialize and meet basic needs without always using a car. Often apartments or offices are located above retail spaces. Small but elegant public open spaces are also an important asset.

--- Proper lighting, safety and aesthetics can be incorporated into mixed use design to make people feel comfortable walking between the railroad station or bus transit center, residential areas, and commercial areas.

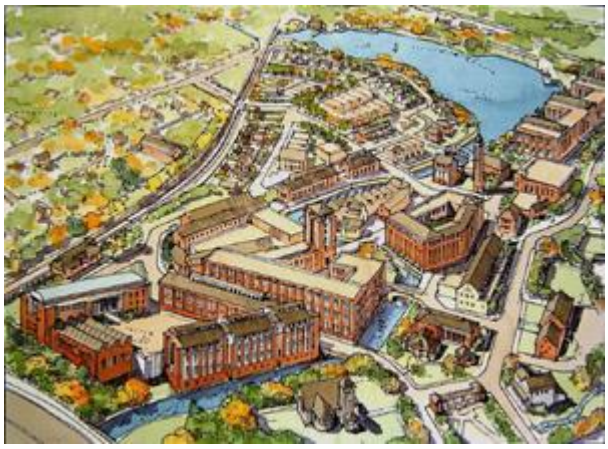
--- With mixed use, "shared parking" becomes viable. This is defined as parking that is proximate to and utilized by two or more uses but contains fewer than the required number of spaces for both uses standing alone. Yet it is adequate for the two uses on account of variable peak demand times for each use.

Some of the disadvantages:

--- As most development traditionally has been single use, many development and financing professionals view single use as a safer and more acceptable means to conduct business.

--- Professional planning talent is needed to write an appropriate mixed use zoning ordinance and guide developers in its application. This is not available in some municipalities. Connecticut state agencies in particular need to gain experience in working with each other and the private sector on complex mixed development efforts.

--- There is resistance to the change represented by mixed use development from members of the community which is often reflected in the reaction to such developments as part of the review process conducted by local land use agencies.



In 2005 the Town of Redding received a National Award for Smart Growth Achievement from the U.S. EPA for allowing the remixing of land use in its Georgetown Redevelopment Project. A new rail station on the Danbury Branch Line was included.

Today an innovate type of mixed use is derived from a regulatory technique known as **Form Based Zoning**.

This new regulatory format focuses primarily on building exteriors, placement of structures on lots, and the nature of streets and public areas. Land use is then considered secondary to these design concerns. Form based codes are very place specific and usually regulate at the neighborhood scale or smaller.

10-2. INVENTORY OF TOWNS CURRENTLY ALLOWING MIXED USE

According to a consultant study by HMA, Inc., "In the Housatonic Valley Region the zones that specifically call out 'mixed use buildings' as a permitted use are relatively few. However, there are many zones that do allow for a mix of uses within their boundaries, and there usually are no statements in the regulations that say that you can't do a mixed use building in one of these zones.

HMA also listed the zones in the Region that are most favorable to mixed use buildings. Some of the zones, such as the ones in Ridgefield, are very specific; while for others you must consult details in the individual zone texts to determine that such buildings are possible:

Danbury: RMF-10, RMF-6 and RMF-4 zones.

New Fairfield: BC zone.

New Milford: B-1, B-2, B-3, B-4, VCD, TLD, I/C and RT202 zones.

Newtown: B-1, B-2, HCDD, SHDD and SMVDD zones.

Ridgefield: B-1, B-2 and B-3 zones.

10-3. DESIGN GUIDELINES FOR MIXING LAND USES

The design guidelines used by Brookfield for planning its Brookfield Village Center provide an excellent model for mixed use planning in other municipalities, with variations as needed:

Require a Mix of Uses
-- Include a mix of residential, commercial, retail and recreational uses.
-- Ground floor areas along Federal Road shall be active uses, primarily retail.
-- Second and third level floor areas will be a mix of residential and office.
-- Integrate parking, loading, and service areas accessible to all properties.

Encourage Shared Parking
-- Provide adequate parking to support retail, residential and office using parking ratios of approximately 3 spaces per 1,000 square feet of floor area.
-- Create public private partnerships to manage the parking.
-- Create time limited, diagonal on street parking on both sides of Federal Road.
-- Create parking on one side only of the side streets.
-- Identify appropriate locations for municipal parking lots in the rear of buildings available for shoppers, employees, and residents.
-- Size and locate parking lots to accommodate multilevel parking structures.

Create Intimate Relationships between Buildings and Streets
-- Maintain a 3:1 building to street ratio with two and three story buildings.
-- Set back buildings between zero and ten feet from the edge of the sidewalk.
-- When the zero setback line is not utilized, the setback shall include public/private space with landscaping and/or tables, chairs/benches, and other pedestrian oriented amenities.

View of proposed Brookfield Village Center along Old Route 7 in Brookfield

Protect the Pedestrian Environment
-- Provide sidewalks throughout the Village.
-- Allow for tables, chairs, and temporary display racks along sidewalks.
-- Provide bicycle parking.
-- Install traffic calming devices along Federal Road.
-- Provide ample public spaces for resting and other passive activities.
-- Provide restrooms for the public.
-- Require ground floor windows to be active.

Transportation, Circulation and Pedestrian Access
-- North - south auto, transit, and bicycle traffic primarily along Federal Road.
-- Side streets primarily one-way streets.
-- Control access onto Federal Road by prohibiting left turns and limiting curb cuts.
-- Provide bus shelters on both sides of Federal Road at the HART bus stops.
-- Consider a rotary at the gateway to the District.
-- Prepare for the possibility of rail passenger service from New Milford to Norwalk.
-- Identify an appropriate location for a commuter parking lot connected to the rail line by a pedestrian bridge over the Still River.

Provide Manageable and Attractive Landscaping
-- Street trees should provide a sense of enclosure between the building frontage and the street. -- Chose trees that will reach a maximum height of between 25 and 40 feet, with an average distance between trees of 25 to 40 feet.
-- Chose trees that are able to withstand a wide range of urban stresses, are shade producing and attractive.

Furnish and Light the Streets
-- Place benches every 100 to 200 feet, particularly at areas of activity.
-- Place wastebaskets every 300 to 500 feet, particularly at areas of activity.

-- Place lighted bollards (short vertical posts) as appropriate.
-- Install down-shielded lighting elements, 15 to 25 feet in height, which are architecturally compatible with the design elements of the buildings.

10-4. RECOMMENDATIONS FOR MIXED LAND USE

GOAL: *Reintroduce into municipal zoning codes some controlled mixing of compatible land uses in select locations, preferably within community centers and development nodes.*

Use this technique as part of ***transit oriented development*** *to increase the market for bus and rail passenger service.*

CHAPTER 11: TRANSIT ORIENTED DEVELOPMENT

HVCEO 2010 BETHEL RAIL STATION TRANSIT ORIENTED DEVELOPMENT FEASIBILITY STUDY

CT DOT 2010 TRANSIT ORIENTED DEVELOPMENT OVERVIEW

11-1. INTRODUCTION

The 2005 legislative session amended state statutes to require that regional plans in Connecticut like HVCEO's address transit oriented development (TOD).

Specifically, the HVCEO regional plan must "identify areas where it is feasible and prudent to have compact, transit accessible, pedestrian-oriented mixed use development patterns."

The Rutherford, New Jersey Rail Station is the focus of new transit oriented development that will provide shops, offices, 48 apartments, a day care center and parking. This project meets New Jersey DOT Transit Village funding criteria, one of 17 in NJ since 1999.

See the 2010 **CT DOT Transit Oriented Development Overview**.

TOD's can also be viewed as an implementation mechanism related to two other new requirements for regional plans, also mandated by the 2005 legislative session: These are to **address pedestrian needs** and promote better planning thru **mixed land use**.

Transit oriented development is defined by Connecticut law as a mixed use neighborhood within walking distance of a transit station. According to Public Act 07-6 of 2007:

Transit-oriented development means the development of residential, commercial and employment centers within one-half mile or walking distance of public transportation facilities, including rail and rapid transit and services that meet transit supportive standards for land uses, built environment densities and walkable environments, in order to facilitate and encourage the use of those services.

A TOD has a central area containing a rail or bus station and a mix of commercial, office and institutional uses. This center is typically surrounded by residential development that is located within easy walking distance of the transit station.

The idea of linking land development decisions to the presence of transit service is not new. During the early 1900's, the development of many neighborhoods in Connecticut was influenced by the presence of a system of trolley lines that provided efficient transportation services for the needs of that era.

Today, the idea of transit oriented development is to link land use decisions with public transportation infrastructure, where possible, in order to accommodate new traffic demands and reduce the dependence on highway transportation.

11-2. LOCATE DENSITY AND MIXED USE DEVELOPMENT AT TRANSIT HUBS

Mixed use development surrounding rail and bus stations, at densities appropriate for the affected neighborhoods, benefits the mobility of residents as well as the economics of public transit systems.

The presence of office and commercial uses within the core of a TOD can stimulate transit patronage throughout the workday, not just during morning and afternoon commuter hours, further enhancing the economic viability of public transit service.

MTA passenger rail stations in the New York Metro Area. New TOD near these stations will enhance the Connecticut and tri-state rail systems.

Residential areas with convenient pedestrian access to transit service, combined with convenient pedestrian access to job sites on the other end of transit service, are key factors for creating more demand for transit.

A New Jersey transportation study showed that "an increase in residential housing options within walking distance of a transit facility, typically a one quarter to one half mile radius, does more to increase transit ridership than any other type of development."

11-3. TOD PLANNING PRINCIPLES AND SUPPORTING MUNICIPAL REGULATIONS

Special zoning designations are needed to facilitate the implementation of transit oriented development.

A major factor to consider in writing transit oriented development planning principles and supporting regulations is the resulting scale of development. It is important that the TOD's result in neighborhoods that are in scale with the communities located along the Danbury Branch Line: Ridgefield, Redding, Bethel, Danbury, Brookfield and New Milford.

Metro North Railroad will soon announce TOD criteria to be applied to the Beacon Rail Line in nearby New York State. It can be anticipated that Metro North will

eventually recommend similar planning criteria be considered on the Danbury Branch Line, as part of its continuing efforts to increase ridership levels.

The transit oriented development goal for this Regional Plan is to reinforce, intensify and foster mixed use neighborhoods at most existing and proposed passenger rail stations and at HART's central bus transfer station in Downtown Danbury.

New mixed use development at those locations should be designed to utilize and benefit from the presence of public transit services.

11-4. SITE EVALUATIONS FOR POTENTIAL TOD

The market support for rail TOD development within the Housatonic Valley Region is influenced by the need for many people working in Connecticut's expensive southwestern Norwalk-Stamford-Greenwich area to find more affordable housing within a reasonable commuting distance of their jobs. Se the map **of relative housing costs** between the two areas on hvceo.org.

For decades, many of the workers employed in southwestern CT have chosen to live in the Housatonic Valley Region, where housing costs are more affordable. To illustrate, from 1990 to 2000 resident commuters from HVCEO municipalities to job sites in southwestern CT increased from 12,737 to 14,436, a continuing trend.

A key goal of the HVCEO Regional Transportation Plan is to facilitate the ease of rail commuting by HVCEO residents to southwestern CT employment sites. The development of rail oriented TOD's, supported by Danbury Branch Line commuter service improvements, will help achieve this goal.

Existing Danbury Branch Line stations shown in red, proposed stations in blue.

The following is an assessment of TOD potential at each of the Region's existing, planned or potential rail passenger stations, at the HART bus central transfer station, and along HART bus routes:

GEORGETOWN RAILROAD STATION – TOD UNDER CONSTRUCTION

The HVCEO Regional Plan's Future Growth Map offers a TOD supportive "Near Central Area" designation for this innovative project, located in the Georgetown section of Redding adjacent to Wilton.

This development has received all required town, state and federal approvals and construction is in progress. This TOD is a brownfield redevelopment project that includes a new Georgetown Railroad Station on the Danbury Branch Line as authorized by Conn DOT.

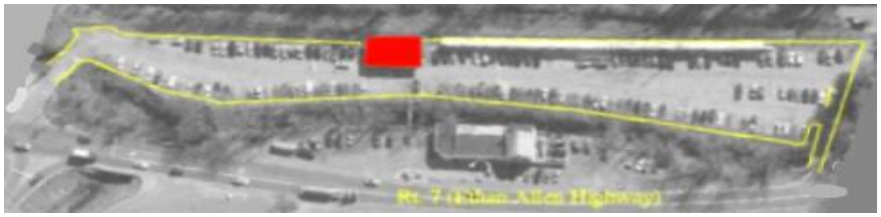
Intermodal transportation hub
near proposed Georgetown Station

BRANCHVILLE (RIDGEFIELD) RAILROAD STATION
– POTENTIAL TO BE DETERMINED

The HVCEO Regional Plan's Future Growth Map offers a TOD supportive "Near Central Area" designation for the Branchville Railroad Station vicinity in the Town of Ridgefield.

In 2002, the Ridgefield Planning and Zoning Commission prepared the Branchville Village Plan that included a goal to "Preserve the train station as part of Branchville," and to "support enhancement of the Branchville railroad station as a multi-modal transportation center with transit oriented services at or near the train station": essentially TOD.

Working with the Town of Ridgefield and HVCEO, CT DOT will study this location for TOD potential in 2009. See ***study draft as of May 2011*****.**



Ridgefield's Branchville Station (red) and linear parking lot.
The vicinity will be studied by CT DOT for TOD potential.

WEST REDDING RAILROAD STATION
– POTENTIAL TO BE DETERMINED

Currently, the West Redding Railroad Station has the least patronage of any station

on the Danbury Branch Line. This is an "out of the way" station location adjacent to a small, historic and rural hamlet.

Redding's 2008 draft Plan of Conservation and Development states "this edition of the Town Plan seeks to expand the discussion of higher density development to include the central part of the hamlet of West Redding due to its transportation resources and its resulting potential for transit-oriented development. It should be noted, though, that West Redding's lack of public water and sewer and its sensitive location at the headwaters of the Saugatuck River may turn out to be limiting factors."

The HVCEO's Plan Future Growth Map does not offer a growth designation for TOD at this location. It will need to be determined locally and thru the Conn DOT Branch Line planning process the extent to which TOD is feasible in this location.

BETHEL RAILROAD STATION

– SIGNIFICANT POTENTIAL

The Danbury Branch Line train station serving Bethel is located on the northern fringe of the Bethel Village Center.

This center is compact, pedestrian friendly, and contains a mix of commercial, office and institutional land and building uses surrounded by a variety of housing types.

The Bethel Railroad Station was located in the middle of this village center until the 1990's, when it was relocated approximately 2,200 feet to the north to provide for improved parking and to eliminate congestion caused by trains blocking Main Street while stopped at the old train station.

Of great importance to Danbury Branch Line TOD advocates, the 2007 Bethel Plan of Conservation and Development supports rail oriented TOD around the Bethel Railroad Station. HVCEO completed a ***feasibility study of this proposal in 2010****.*

Bethel's 2007 Town Plan proposes a transit oriented development area (blue) surrounding Bethel Railroad Station (red) and near transit a supported housing area (orange).

As stated in the Bethel Plan, "One area that is appropriate for TOD is the area adjacent to the Metro North Railroad Station on Durant Avenue. The Board of Selectmen, the Planning and Zoning Commission, and the Economic Development Commission should work together to begin the process of assembling appropriate parcels in the area for TOD development."

Continuing, the draft plan states, "The Commission will revise the zoning regulations for areas deemed appropriate for TOD to encourage multi-story buildings set close to the street, with some on-street parking and bus kiosks. Other considerations include encouraging ground floor retail and restaurants with upper story residential.

Parking should be structured, either in stand-alone or mixed use buildings. Landscaped sidewalks connecting the mixed use development with the train station and downtown should include benches, water fountains and other pedestrian amenities."

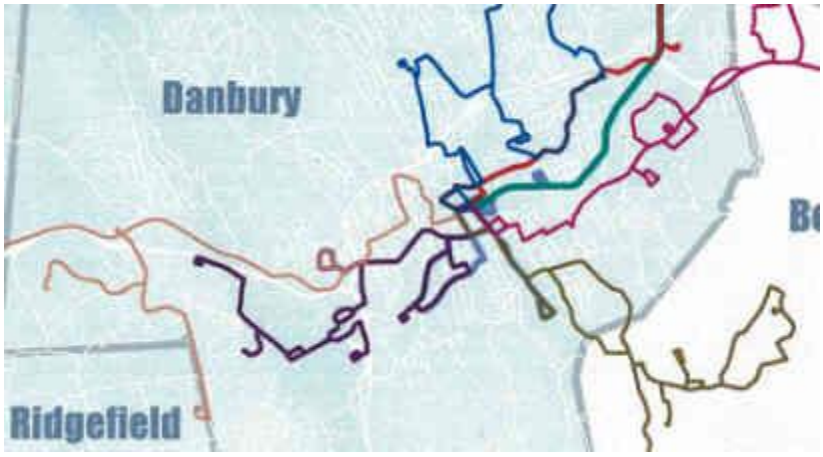
Continuing, "In addition to transit oriented developments, there may also be locations appropriate for moderately dense residential development (approximately 10 to 15 units per acre) that integrate transit options by providing access to the train station. The area around Grassy Plain north of Greenwood Avenue should be examined as a potential location for transit supported development."

The HVCEO Plan's Future Growth Map offers a TOD supportive "Near Central Area" designation for this location.

*In recent decades the number of Bethel residents that **commute south daily to Stamford** and other southwestern towns has continued to increase. This commuter flow is one market that could be served in Bethel by the proposed TOD area and related housing.*

Another would be the reverse flow, coastal commuters to office locations in the new TOD. That would reflect the trend found along the Shoreline East rail passenger service east of New Haven, where city commuters increasingly reach new employment along the rail line.

DOWNTOWN DANBURY RAILROAD STATION
– SIGNIFICANT POTENTIAL
Commuter rail service on the Danbury Branch Line currently ends in Downtown Danbury. With its central transfer station also located in Downtown Danbury, fixed route bus service is provided by the Housatonic Area Regional Transit District (HART) throughout the City of Danbury and to the towns of Bethel, Brookfield, New Milford and Ridgefield.



HART's public bus routes converge in Downtown Danbury.
As energy and environmental policy tightens, expect
increased viability for transit oriented uses along these routes.

Hosting these two transit facilities, Downtown Danbury can function as a TOD area. There is a wide variety of retail and service businesses and relatively high density residential neighborhoods, all located within walking distance of public transit services in an attractive, pedestrian friendly environment.

Western Connecticut State University (WCSU), with its 4,200 students and 1,000 employees, is within walking distance of the train station. WCSU is also served by

HART's Downtown Bus Loop, with regional bus service provided through HART's Downtown bus transfer station.

And, a major development, Kennedy Place has an approved plan that includes 586 dwelling units and 5,000 square feet of retail space, all adjoining the HART Pulse Point and within 1,500 feet of the Danbury Railroad Station.

Current development in Downtown Danbury includes high density housing that is being built in neighborhoods within walking distance of both the Danbury train station and HART's Downtown bus transfer station.

*In recent decades the number of **Danbury residents who commute daily** to job sites in lower Fairfield County has continued to increase. The daily total in 1980 was 2,572, up to 3,227 in 1990, and rising still further to 3,847 in 2000.*

This expanding commuter market has the potential to be attracted into the Downtown area. It will bring added vibrancy and economic activity to Downtown, facilitated by the presence of public transit resources, attractive pedestrian friendly neighborhoods, a diversity of business uses and quality municipal services.

The HVCEO Future Growth Map offers a very TOD supportive "Regional Center" designation for Downtown Danbury. The Regional Center designation proposes relatively high densities and to "concentrate development around transportation nodes to support the viability of transit oriented development."

DANBURY AND REGIONAL HART BUS STOPS – LOW POTENTIAL AT PRESENT

Bus stops to access Housatonic Area Regional Transit vehicles on their many routes throughout the Housatonic Valley Region are numerous. But due to today's relatively low service frequency, these geographically diffuse bus stops do not currently have the potential to become the transit element of a TOD.

However, future energy shocks that significantly impair the use of automobiles could rapidly enhance the strategic value of nearby bus service.

It is conceivable that in the future, having a bus route located nearby will be comparable to having public sewer service, a universally recognized positive influence on property values. The presence of nearby trolley lines in the past had the same positive impact on property values in their day.

The Region's many HART bus routes should continue to influence the shape and

occupancy of adjacent developments so that they work better with transit. This means that large developments along bus routes should make provision for bus loading areas and passenger amenities such as shelters and good pedestrian connectivity.

In addition, residents who are bus dependent will continue to seek housing along HART bus routes, a common phenomenon in recent decades.

DANBURY NORTH (PLANNED) RAILROAD STATION
– MINIMAL POTENTIAL
The HVCEO Future Growth Map offers a supportive "Primary Growth Area" designation for this location. The limitation on TOD potential at this site is due to the lack of developable land in the vicinity that could be linked with pedestrian access to the station and that could support the full range of TOD uses.

The upcoming Conn DOT Phase II Danbury Branch Rail Study will determine if this station should be constructed.

BROOKFIELD (PLANNED) RAILROAD STATION
– SIGNIFICANT POTENTIAL
The HVCEO Plan's Future Growth Map offers a TOD supportive "Near Central Area" designation for the Brookfield Village Center area.

Additionally, the design guidelines used by the Town of Brookfield for planning the future of the Village Center area call for mixed use development and state that the Town should "prepare for the possibility of rail passenger service from New Milford to Norwalk," and "identify an appropriate location for a commuter parking lot connected to the rail line by a pedestrian bridge over the Still River."

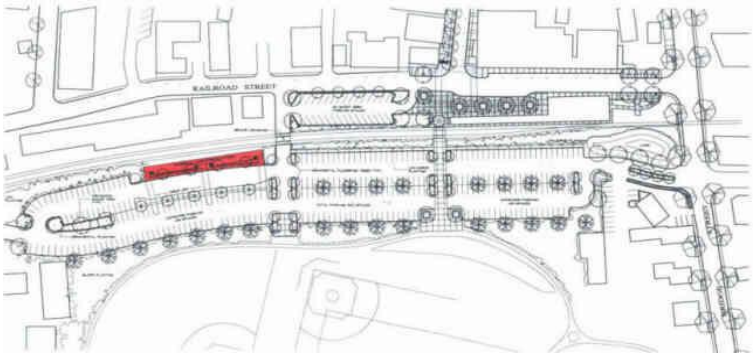
If the upcoming Conn DOT Phase II Danbury Branch Rail Study determines that this station should be constructed, then plans can be developed to provide for pedestrian connections from the commuter rail station to the adjacent planned mixed use village.

DOWNTOWN NEW MILFORD (PLANNED) RAILROAD STATION
– SIGNIFICANT POTENTIAL
The HVCEO Plan's Future Growth Map offers a very TOD supportive "Regional Center" designation for Downtown New Milford. The Regional Center designation proposes relatively high densities and to "concentrate development around transportation nodes to support the viability of transit oriented development."

The Phase I findings of the Danbury Branch Rail Electrification Feasibility Study concluded that the restoration/extension of commuter rail service to New Milford

would result in over 300 new daily boardings and increase ridership on the Branch Line by 37%, a dramatic projection as rail studies go.

The upcoming Conn DOT Phase II of the Danbury Branch Rail Study will further ascertain the TOD benefits that would result from the restoration of passenger rail to Downtown New Milford.



Shown in red is a potential commuter rail platform in the 1996 "Downtown New Milford Study."

11-5. GOALS FOR TRANSIT ORIENTED DEVELOPMENT

GOAL: HVCEO's TOD goal is to reinforce, intensify and foster mixed use neighborhoods at existing and proposed passenger rail stations and at HART's central bus transfer station in Downtown Danbury.

New mixed use development at those locations should be designed to utilize and benefit from the presence of public transit services.

Chapter 12: Pedestrian Access

12-1. INTRODUCTION

Connecticut's revised regional planning statute of 2005 calls for more emphasis on the promotion of pedestrian friendly development. There is wide agreement between the public and the planning profession that relative to other issues, sidewalk planning has been historically neglected.

More planning needs to be done to weave together existing sidewalk segments and to construct priority extensions. These should link residential areas to commercial activity centers, schools, parks, transit centers and other such land uses.

ROUTE 6 IN BETHEL SHOWING EXISTING SIDEWALKS IN BLUE AND NEEDED ADDITIONS IN RED, AS EXCERPTED FROM THE 2007 BETHEL PLAN OF CONSERVATION AND DEVELOPMENT

Importantly, in rural centers plans for pedestrian pathways can look very different than the more traditional concrete and curb in town and city centers. Focus in these areas can be placed on creating connections with trails, bikeways and greenways, where available.

Importantly, in July of 2009 Governor Rell signed Senate Bill 735, Connecticut's "Complete Streets" law. The new law mandates that "accommodations for all users shall be a routine part of the planning, design, construction and operating activities" of all state highways. But these types of enhancements will remain minimal without the urging of the town involved.

Beginning October 2010, one percent of transportation funding will be dedicated to construction of complete streets pedestrian, transit and bicycle elements.

HVCEO will assist its towns by preparing some of the detailed pedestrian and complete streets plans needed. The following specific plans have been undertaken by HVCEO to date:

--- 5/2009: **CENTRAL NEW MILFORD PEDESTRIAN LOOP CONCEPT PLAN**
--- 4/2009: **BROOKFIELD ROUTE 202 "COMPLETE STREETS" PEDESTRIAN PLAN**
--- 4/2008: **BRIDGEWATER CENTER PEDESTRIAN PLAN**
--- 2/2007 **SHERMAN CENTER PEDESTRIAN PLAN**

--- 8/2006 **TRAFFIC AND PEDESTRIAN PLAN FOR NEWTOWN'S QUEEN STREET AREA**
--- 10/2005 **NEW FAIRFIELD CENTER PEDESTRIAN AND BEAUTIFICATION STUDY**
--- 3/2003 NEWTOWN QUEEN STREET PEDESTRIAN PLAN (PHASE ONE)
--- 11/2001 GEORGETOWN BEAUTIFICATION, PEDESTRIAN AND TRAFFIC PLAN

The HVCEO policy of promoting pedestrian environments is closely related to other sections of this Plan dedicated to promoting transit oriented development and mixed land use, as both those new forms of development have significant pedestrian elements. It also addresses global warming by reducing the reliance on cars for all movements.

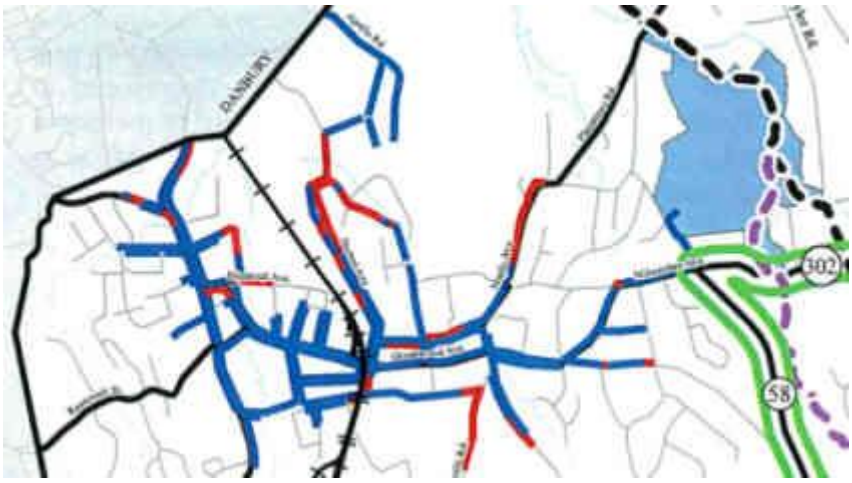
12-2. INVENTORY OF PEDESTRIAN POLICIES

In order to share pedestrian planning ideas between municipalities, the local policies for pedestrian development have been inventoried from the region's ten local plans of conservation and development, as follows:

PEDESTRIANS IN BETHEL'S 2007 PLAN
According to Bethel's 2007 Plan of Conservation and Development, "sidewalks, trails and greenways provide for safe pedestrian circulation, an important element in creating and maintaining an active and vital community.

In addition, providing an adequate pedestrian network will increase the chances that someone will choose walking over driving, particularly when the destination is a mile or less away.

In Bethel, the installation of sidewalks on one or both sides of a roadway occur in one of two ways: the Zoning and Subdivision Regulations require the installation of sidewalks for most new projects; and the Town undertakes sidewalk construction projects, through the Capital Improvement Program or in conjunction with specific projects such as the STEAP (Small Town Economic Assistance Program) funded sidewalk improvement program for the Downtown's Village Center.



EXCERPT FROM BETHEL'S 2007 TOWN PLAN, SHOWING EXISTING SIDEWALKS IN THE DOWNTOWN VILLAGE AREA AS BLUE AND PROPOSED SIDEWALKS IN RED. THE 2007 PLAN ALSO PROVIDES A SIMILAR EXISTING AND PROPOSED SIDEWALK POLICY OR THE ROUTE 6 CORRIDOR.

Bethel has a concentration of sidewalks in the historic Village Center. Sidewalks also exist along Durant Avenue up to the Metro North Rail Station. There are some residential subdivisions and commercial developments that installed sidewalks as part of their site development. The Sidewalk and Walkways Plan (excerpt above) shows the location of existing and proposed sidewalks.

A recommendation of this Plan is to increase and improve the pedestrian network in Bethel. This includes construction of new sidewalks, maintenance of existing sidewalks, connecting sidewalks with greenways and other trails, and addressing conflicts between pedestrians and roadways. A fee-in-lieu of sidewalks may be appropriate in some locations and should be an option where it is appropriate.

The Commission recommends that the Board of Selectmen fully fund a Sidewalk Improvement Plan, to be administered by the Town Engineer. The goal of the SIP should be to assess the condition all sidewalks addressing gaps, potential extensions, handicap access and maintenance issues at one time.

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PEDESTRIANS IN BRIDGEWATER'S 2001 PLAN

Bridgewater is a small rural community with scant potential for sidewalks. However an objective in the plan is to "Provide safe pedestrian circulation in the village center and surrounding high density development."

Then also to "Develop a plan to provide for pedestrian circulation in the village enter and adjacent high density areas." HVCEO ***prepared this plan for Bridgewater in 2008****.*

PEDESTRIANS IN BROOKFIELD'S 2001 PLAN

The Brookfield Plan proposes the development of "a walkable village type development pattern in the Four Corners area," including the establishment of "a network of pedestrian sidewalks" there, and also "pedestrian friendly streetscape" and "interconnected parking areas and pedestrian walkways."

The Brookfield Plan is also admirable in that it contains a definitive townwide "Sidewalk Plan" for the municipality. It uses color to denote primary and secondary sidewalk areas and recommended future connections.

According to the "Sidewalks" section of the Brookfield Plan "The lack of sidewalks and the low-density pattern of development in Brookfield limits pedestrian circulation. Existing pedestrian facilities, such as sidewalks and crosswalks, are basically located in some of the main retail areas on Route 202 and the Four Corners area."

Excerpt from the "Sidewalk Plan" within Brookfield's 2001 Town Plan. Orange denotes a Primary Sidewalk Area and yellow a Secondary Sidewalk Area, while red lines and arrows identify "Future Connections."

Continuing "There is also a 'Streets and Sidewalks Ordinance' in Brookfield which determines minimum standards. While interest in pedestrian activities is increasing, Brookfield does not presently have a specific sidewalk policy. The Brookfield Zoning Commission can require sidewalks for new development, if appropriate."

And also, "Sidewalks should be required in the business area, in the designed "Village District", in the Historic District on Route 25, and other commercial or high activity areas. Sidewalks should also be considered along minor arterial roads and near schools and parks."

Since 2001, Brookfield has undertaken detailed planning for **mixed use development** in the intersection area of Route 7 and Route 25. Pedestrian amenities will play a key role in the emerging Brookfield Village Plan.

In 2009 HVCEO will complete a pedestrian plan for part of Route 202 (Federal Road) in southern Brookfield.

Excerpt from new Brookfield Village Plan showing proposed crosswalks and sidewalks along Route 7.

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PEDESTRIANS IN DANBURY'S
2005 TRANSPORTATION PLAN

Danbury's 2005 Transportation Plan is a recently added subsection and expansion of the Connecticut Chapter of the American Planning Association award winning 2001 Danbury Plan. Sidewalk improvement policies are well organized in this document, as follows:

"The greatest concentration of sidewalks, found within the older sections of the City, were originally built before vehicular travel reduced the demand for sidewalks. Unfortunately, that has left the City with many sidewalks in fair to poor condition.

Although the City systematically repairs and replaces sidewalks, cost is an inhibiting factor. Proposed replacement of downtown sidewalks that experience especially high pedestrian use were listed in the 2001 Plan of Conservation and Development.

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

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

Of greater importance is the need to construct sidewalks along major corridors, especially as part of road improvement programs. This would greatly improve

pedestrian safety, encourage walking, and improve the visual quality of the commercial corridor when combined with landscaping.

Roadways which combine major commercial destinations with high traffic volumes ought to include continuous sidewalks or multi-use paths along one or both sides of the road, as feasible, including the following: Newtown Road, Triangle Street to Eagle Road; Federal Road, White Street to Nabby Road; Park Avenue/Backus Avenue, Greenfield Avenue to Kenosia Avenue; and, Lake Avenue /Mill Plain Road, Abbot Avenue to I-84 Exit 2.

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

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

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

Sidewalks should also be required where necessary to provide safe and convenient access to public schools. All differences in requirements between the Zoning Regulations and Subdivision Regulations must be reconciled."

A map in the Danbury Transportation Plan then shows areas for development of "Major Sidewalks", with an excerpt below:

Excerpt from the 2005 Danbury Transportation Plan identifying development of major sidewalks in brown.

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PEDESTRIANS IN NEW FAIRFIELD'S 2003 TOWN PLAN AND 2005 CENTER BEAUTIFICATION STUDY

The section of the New Fairfield Plan entitled "Pedestrian Walkways" states that "New Fairfield does not have sidewalks. As a result, there is very little pedestrian traffic and people feel they must drive between destinations, even when they are nearby.

For the New Fairfield Center, the 1998 Beautification Plan recommended the creation of informal public pathways as a means to connect development. New Fairfield should strive to implement the recommendations of the Beautification Plan, but continue to explore options for public sidewalks in the future."

A goal of the 2003 New Fairfield Plan of Conservation and Development in regards to New Fairfield Center is to encourage pedestrian activity. According to the Plan:

Though described as a 'center' in terms of its geographic location, this area essentially functions as a series of fragmented strip shopping centers rather than a 'traditional' town center.'

Explore alternative development patterns that will result in a pedestrian scale Center that is a focal point for the community and surrounding towns.. new zoning regulations can be implemented for the Center to allow development that is more in keeping with the desire for a walkable Center with a strong 'sense of place.

Note that HVCEO prepared a pedestrian plan for New Fairfield Center in 1998 and then in 2005 update and aerial extension of that plan.

*The 1998 Plan was the base for a successful federal grant application for streetscape and pedestrian improvements at Town Hall. The **2005 Plan** can be the base for additional pedestrian improvements.*

Using the 1998 Center Beautification Plan,
New Fairfield received federal funding for streetscape
and pedestrian improvements at Town Hall

Excerpt from the 2005 updated and extended Beautification Plan
showing a proposed pathway in New Fairfield Center
with the Routes 37 and 39 Intersection at left.

2005 CENTER PLAN'S RECOMMENDED
PEDESTRIAN ROUTES WITHIN THE STUDY AREA:
1. SIDEWALK ALONG ROAD FROM TOWN HALL TO VETERANS GREEN.
2. SIDEWALK ALONG ROAD AND ACROSS EXISTING CROSSWALK FROM BOARD OF EDUCATION TO HERITAGE PLAZA.
3. SIDEWALK AND NEW MID-BLOCK CROSSWALK FROM ROUTE 37 AND 39 INTERSECTION TO SAW MILL ROAD.
4. SIDEWALK FROM TOWN HALL WEST TO MEMORIAL FIELD PARKING.

2005 PLAN'S RECOMMENDED
PEDESTRIAN ROUTES BEYOND STUDY AREA:
5. NORTH ON ROUTE 39 TO CANDLEWOOD CORNERS.
6. FROM SHAWS GAZEBO CONNECT TO NEW FAIRFIELD LAND TRUST TRAIL SYSTEM.
7. POSSIBLE DIRECT CONNECTION FROM MEMORIAL FIELD TO VETERANS GREEN VIA EASEMENT THROUGH PRIVATE PROPERTY.
8. POSSIBLE DIRECT CONNECTION FROM VILLAGE GREEN SHOPPING CENTER TO POSSIBLE NEW PUBLIC BUILDING ON DUNHAM ROAD.
9. ALONG SAW MILL ROAD FROM SENIOR HOUSING TO ROUTE 37.

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PEDESTRIANS IN NEW MILFORD'S 1997 PLAN
Pedestrian concerns are limited to the section of the New Milford Plan discussing development along Route 7, which suggests that there be pedestrian links between development sites there.

Pedestrian policies for New Milford's relatively large and attractive downtown are planned in detail within another town document, the 1996 Downtown New Milford Study.

According to the 1996 Study, "The Village Center has an intimate size that lends itself to the pedestrian experience. However, because of the demands of the automobile, pedestrian needs have been neglected. Sidewalks are provided along both sides of most of all of the streets, but the system is fragmented with walks not always linking to one another.

The well developed pedestrian environment
in Downtown New Milford is highly valued by Town residents.

General walk conditions are poor. Although some walks appear to be in good condition, many need to be replaced (editors note: many have been since this was

written in 1996).

Walk materials vary, in many cases, from property to property. To provide a more aesthetic and cohesive feeling, one material should be used throughout the walk system."

Continuing, "Within the Village Center pedestrian system, several areas of modifications would greatly benefit the overall circulation pattern in terms of connecting parking, business, and public spaces." These areas and their pedestrian issues are then described. The accompanying map in the 1996 Downtown Plan identifies routes for enhancing primary and secondary pedestrian circulation.

Excerpt from the 1996 New Milford Center Study, identifying Primary Pedestrian Circulation in red and Secondary Pedestrian Circulation in blue

PEDESTRIANS IN NEWTOWN'S 2004 PLAN

According to the 2004 Plan, "There is support in this Plan for the Borough of Newtown's proposal for regulations that will 'improve pedestrian mobility.' There is

noted in the plan a need in hamlet areas for "streetscape specifications regarding sidewalks..."

An important policy in the Plan is to "evaluate an integrated planned community design strategy that reinforces existing built up, mixed use areas of Town and creates new nodes of mixed use development along Routes 6 and 25, and incorporates the historical pedestrian friendly development patterns traditional to New England communities."

The "Pedestrian Circulation" section of the 2004 Plan states, "Because of Newtown's low density character, most local roads do not have sidewalks." Also, that "considerable interest has been expressed for improved facilities, especially as relates to activities within the Borough and the Sandy Hook Village area. The Town and the Borough have completed a planning process that resulted in proposals for improved pedestrian movement along Queen Street."

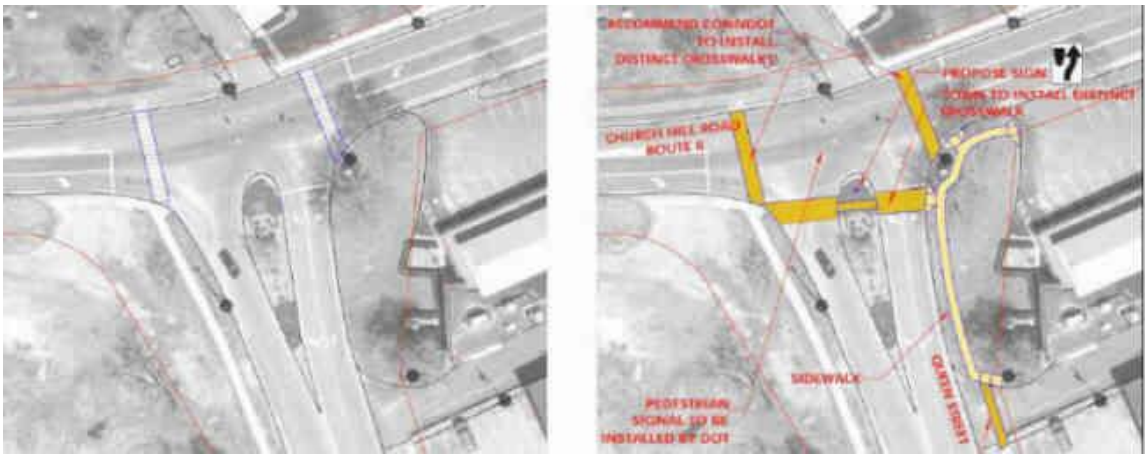
Continuing, "A planning study for the revitalization of the Sandy Hook Village area has been completed with recommendations calling for improvements that will result in enhanced pedestrian mobility and safety.

Recommendations for pedestrian improvements to Queen Street in the Borough and the Sandy Hook Village area have been endorsed by the Planning and Zoning Commission for incorporation into the Plan." (The Pedestrian Safety Plan for Queen Street cited above was completed for the Town by HVCEO in 2003).

The Plan proposes clear strategies for sidewalk development, including "establish a long range plan and priorities for sidewalks located in the Borough, the Sandy Hook Design District, and Fairfield Hills.... Identify existing and desired pedestrian circulation routes, and where sidewalk gaps exist, plan for the construction of new sidewalks, with new sidewalks in the Borough and Sandy Hook Center as priority areas...."

Also "Implementation of the 2003 Pedestrian Safety Improvement Plan for the Queen Street corridor... Develop a plan for and implement a continuous sidewalk on Church Hill Road extending between the flagpole and Sandy Hook Center..."

An update and expansion of the 2003 pedestrian plan was **completed by HVCEO in 2006**. Detailed recommendations to address pedestrian issues are included.



"Before and after" pedestrian recommendation from the [2006 Queen Street Area Traffic Study]

PEDESTRIANS IN REDDING'S 1999 PLAN

The Plan for this semi-rural Town does not deal with pedestrian issues. However pedestrian issues are addressed in detail within specialized plans for the more built up Georgetown section.

According to the HVCEO's 2002 Streetscape Enhancement Plan for Central Georgetown, "As for the pedestrian, Georgetown's downtown has an intimate pedestrian scale and is close to several neighborhoods. The main issue here is that there is no existing sidewalk network connecting them." This 2002 plan and related later documents then address these deficiencies in detail.

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PEDESTRIANS IN RIDGEFIELD'S 1999 PLAN AND 2002 BRANCHVILLE PLAN

One of the eight priority issues in the Ridgefield Plan is to "improve roads, sidewalks, and bike paths in order to meet local needs...." The policy for Ridgefield Center advises that a detailed study of Ridgefield Center and surrounding area should be undertaken in the near future to "enhance the overall pedestrian and vehicular circulation pattern."

The 1999 Plan's multi-family site location criteria state that "multi-family housing should be accessible to, and within reasonable walking distance of, shopping, community facilities, and public transportation."

The "Pedestrian and Bicycle Travel" section of the Ridgefield Plan then states,"Sidewalks should be extended throughout the Center and outlying areas in order to emphasize pedestrian scale, provide for transportation and recreation, help meet the needs of the disabled, and enhance Ridgefield's character.

A detailed sidewalk inventory and Plan should be included as part of the proposed Ridgefield Center Study. Due to the dispersed development and low density, there are few sidewalks in outlying areas of Ridgefield at the present time."

The summary of transportation strategies then states "Consider bicycle and pedestrian use and needs each and every time road improvement work is undertaken in Ridgefield." Also, "Provide the suitable type of pedestrian and bicycle facility as part of road improvements, when appropriate, in order to create a series of interconnected pedestrian and bicycle routes."

A supplement to the 1999 Town Plan, the 2002 Branchville Village Plan, deals in detail with pedestrian issues in this subsection of Ridgefield. The inventory section finds that "Branchville has very little in the way of coordinated pedestrian or bicycle facilities. There are few sidewalks in the Branchville area and what exists is not interconnected into a system."

The goal of this neighborhood plan is to help Branchville retain the characteristics of a village and resist conversion to a conventional suburban strip. "Villages work best when they are organized for people and are 'pedestrian friendly.' People are prepared and willing to walk rather than drive when destinations are nearby.... Studies have found that a comfortable walking distance for most people is about one half mile."

Also, "In Branchville, sidewalks should be wide and generous. In addition, the quality of the sidewalk surface is very important." Detailed guidelines for sidewalk construction are then provided.

In sum, the Branchville Plan in its entirety has a prime orientation toward development of an active and pedestrian friendly streetscape.

Pedestrian issues in Downtown Ridgefield were addressed in part by HVCEO's **2005 Route 35 Traffic Improvement Plan**.

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PEDESTRIANS IN SHERMAN'S 2001 PLAN,
2007 SHERMAN CENTER PEDESTRIAN PLAN

Sherman is a rural town and its Plan focuses pedestrian issues only upon the small Sherman Center area. According to the Sherman Plan, "if there is a residential housing alternative for senior citizens then it should be in the Center and within walking distance proximity to basic town services."

The Sherman Plan also endorses the development of "a plan for pedestrian walkways within the Town Center, such that those using the Center, including school children, can move between the major locations of the Center other than by walking on heavily traveled state highways and town roads."

*The needed **Sherman Center Pedestrian Plan** was completed by HVCEO in 2007.*

Excerpt from the Sherman Center Pedestrian Plan

12-3. RECOMMENDATIONS FOR PEDESTRIAN PLANNING

GOAL: To significantly increase sidewalk development and improve pedestrian amenities in the Region, especially in coordination with mixed use and transit oriented developments.

HVCEO should continue to develop pedestrian plans for municipalities.