

THE LEBANON NH-VT MICROPOLITAN STATISTICAL AREA

A GEO-DEMOGRAPHIC REVIEW

by

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and

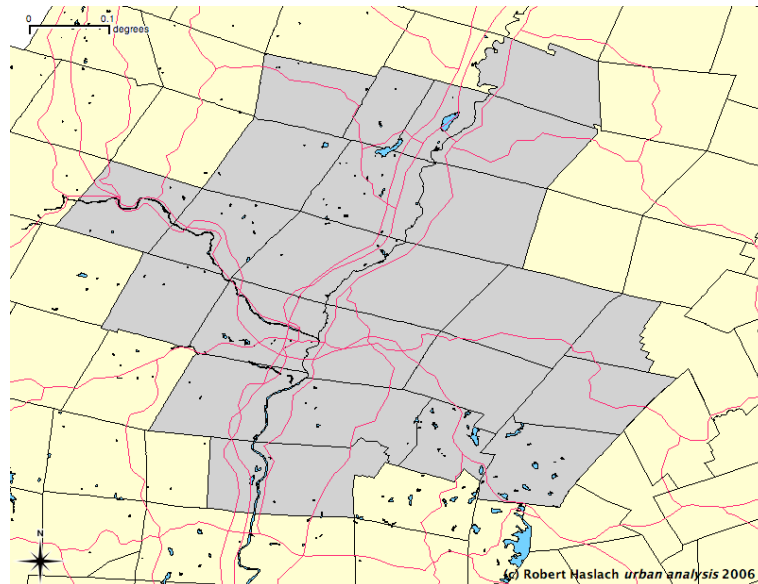
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for

The City of Lebanon, NH

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The statements, findings, conclusions, and recommendations found in this study are those of the authors, and do not necessarily reflect the views of the Department of Planning or The City of Lebanon, NH.

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1. EXECUTIVE SUMMARY

The Lebanon NH-VT Micropolitan Statistical Area is a geo-demographic area. Responses to Census 2000 questions by the residents of New Hampshire and Vermont defined its boundaries. After analysis of those responses, the U.S. Office of Management and Budget (OMB) selected the towns that showed the greatest social and economic interdependence to define the extent of The Lebanon NH-VT Micropolitan Statistical Area. The OMB uses a Micropolitan Statistical Area to present local and regional data so that it reflects the actual behaviors of its residents.

The Lebanon NH-VT Micropolitan Statistical Area is an economically integrated region of 25 contiguous towns that spans four counties in two states. The home-to-work commuting patterns collected by the Census were the principal factors that revealed which towns are linked socially and economically. The hilly topography of the Micropolitan Area largely determines where the roads can be built, where houses and business can be located, and how the population is distributed into high-density and low-density areas. Topography alone, however, does not determine population density. Income levels and zoning rules passed by town residents are greater determining factors.

Some jurisdictions, for example, have adopted regulations that make large lot residential development a requirement and prevent commercial services to support their residential population. Such policies are intended to preserve the traditional image of an Upper Valley of low density, rural communities. This image has attracted higher wealth, older and childless households. As they continue to arrive in the Micropolitan Area and to build, they are changing the character of the Upper Valley world they are joining.

The residents of the Micropolitan Area move easily and frequently across jurisdictional boundaries from home for work, recreation, and shopping. Part of the reason for this movement is that the traditional "village green" town has already or is disappearing. Many towns restrict business and commercial development in such a way that retaining or encouraging a traditional town center or village green business district is impossible in practice. Many towns lack local businesses able meet local needs. The result is that the Micropolitan Area has developed areas remote from the core that are primarily residential and unsupported by services, and others areas close to the core that have high concentrations of employment and shopping. Conversely, local policies that govern land development in close proximity to the centers of employment and shopping constrain the production of housing that could be designed and priced to accommodate the net in-migration of new residents needed to fill service and mid-level jobs.

There is little unemployment and a high demand for labor in the Micropolitan Area. Much of the employment is concentrated in the urban core of Lebanon-Hanover-Hartford. Lebanon's own labor force, however, cannot fill all the jobs in the City. Approximately 13,000 people commute into Lebanon daily to work. This number is half again as large as the number of its employed residents, most of who actually work in Lebanon. The same holds true for Hanover. In most other towns, less than 20% of residents work in their town. Between a quarter and half of all Vermont residents who are employed drive into New Hampshire each day across a few bridges. There is little employment in the Vermont towns of the Micropolitan, although several recent efforts are underway to attract more jobs to the traditional urban areas along the Connecticut River.

The lack of housing affordable for the employed of all economic strata is a constraint on the growth of the Micropolitan Area's business community. It also has created a real cost burden on the employees of Micropolitan Area organizations in the form of additional time and money expended to travel long distances from affordable housing to desirable employment. It is estimated that

households earning less than \$45,000 spend at least 50% of their monthly income on housing and commuting.

Regional planning is currently divided among three Regional Planning Commissions (RPC) -- two in Vermont and one in New Hampshire. Until July 2004, three Vermont towns were members of a bi-State RPC. The RPCs respond to requests by their constituent jurisdictions, but typically have no influence outside their own areas. Analysis of the interaction among all 25 towns and the impact on the Area of specific local decisions on land development policy were beyond the scope of this review. However, it is clear that land development policies and decision-making rest with the 25 independent jurisdictions, each of which enacts laws and regulations, without a clear mechanism to consider the impacts of their local decisions on the Micropolitan Area as a whole.

Since it is a statistical reflection of local economic and social inter-connections, the Micropolitan Area does not correspond to any political or other regional policy or decision-making jurisdiction. It crosses many borders. The Micropolitan Area has numerous cross-jurisdictional institutions, such as the Connecticut River Commissions, and especially the several school districts that cross over jurisdictional lines, even state lines. Taxpayers have been willing to pay a per capita fee to another town or school district to educate their children.

This arrangement is a practical community solution to an institutional need that transcends historic political boundaries. The Micropolitan Area designation, itself, suggests the potential value of a collaborative institutional framework that would include all the towns and residents of the Area, since they are already living and functioning together as an integrated economic system.

One example of a cooperative institution that includes all communities and crosses all political boundaries is Micropolitan Area Council of Governments (MCOG). In such an institution, legislators could discuss and weigh the broader issues of regional development as they are affected by the policies and actions of each member jurisdiction.

2. PURPOSE AND SCOPE

This report is intended to help The City of Lebanon's Office of Planning to understand the dimensions, significance, and impact on Lebanon of the **Lebanon NH-VT Micropolitan Statistical Area**. A Micropolitan Statistical Area is a geographic area defined by its residents' social and economic linkages to an urban core. Portions of the City of Lebanon and parts of the Towns of Hanover, Hartford and Norwich closest to the Connecticut River constitute the urban core. In December 2005, the City of Lebanon retained the authors to write a descriptive report that will help the City of Lebanon to understand better how it relates to the people of the Micropolitan Statistical Area as a whole and to their towns.

The work product of this project – the collection, organization, analysis, and interpretation of existing data and studies - is the better understanding of these “work-play-shopping-home” movements in the Micropolitan Area by 78,000 people. This project also exposes the data that are missing but essential to support actionable conclusions defined in terms of their physical, cultural and revenue impacts.

This project contributes insights necessary to create an actionable plan that will address the interests of stabilizing city finances; stimulate the production of affordable housing linked to employment centers by public transportation. This will create a vibrant urban core in Lebanon; and attract a younger generation of workers and entrepreneurs with the creative and intellectual capital to sustain the economic and social health of the Micropolitan Area.

The data presented here originally were collected and published by Federal, State, County and municipal authorities, as well as by private non-profit organizations. The authors organized and analyzed these data so they put the Micropolitan Area into clear relief. While the authors are knowledgeable about the Upper Valley, as well as about demographics, housing, transportation, and planning issues, they do not represent the specific interests of any one jurisdiction or local organization.

About the Authors

Robert Haslach – Principal Consultant has a private practice in Washington, DC as a consultant in urban analysis. Mr. Haslach currently is primary consultant to the Urban Markets Initiative of *The Brookings Institution*, Washington, DC, and to the Katrina Community Center project to aid the rebuilding of devastated Gulf Coast communities. He draws on his 30 years of professional experience with data collection, data creation through surveys in the United States and in developing countries, new uses of public data and administrative records, and the display and analysis of their spatial relationships through GIS. Combining demographics from public sources with custom data sets, often aids in finding solutions to economic issues associated with small geographies and urban areas. Mr. Haslach works collaboratively with the project sponsors, bringing other subject area specialists to the task as required, and is known for his skill in engaging the public in discussion, and fostering collaboration among stakeholders. He is a graduate of Dartmouth College and holds a Master of Arts degree from the University of Chicago.

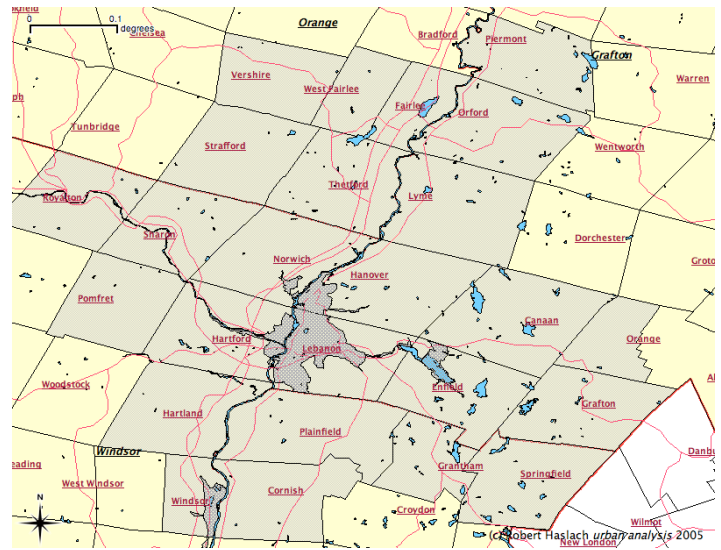
Robert Leland – Senior Consultant has over 30 years of senior executive and consulting experience with local and federal housing and community development agencies, nonprofit housing and community development corporations (CDCs), and a municipal planning agency. Mr. Leland is principal of RCLELAND CONSULTING LLC and a Senior Consultant with the *Institute for Social and Economic Development* in Washington, DC. Examples of consulting engagements include: project management of affordable condominium conversions; multi-family housing finance policy research and development; nonprofit organizational assessments and business plans; management of national training and technical assistance projects; multi-state loan fund training and credit committee member for water/sewer, housing and small business financing. He is a graduate of Colgate University and holds a Master of Regional Planning from Cornell University.

3. INTRODUCTION TO MICROPOLITAN STATISTICAL AREAS

This report describes the Lebanon NH-VT Micropolitan Statistical Area in terms of its physical characteristics, its residents and workers, its housing, and its mobility. In addition to describing the internal dynamics of this new Micropolitan Area framework, the report offers a unified picture across multiple jurisdictions for a better understanding of the many inter-jurisdictional “work-play-shopping-home” movements by the 78,000 people who live in the area. This report also points to additional data research for a more complete analysis that would help define the potential physical, cultural and revenue impacts of actions that municipalities might consider for adoption.

The City of Lebanon is at the center of a multi-county, multi-town agglomeration, called the “Lebanon NH-VT Micropolitan Statistical Area.” This Area includes only the towns shaded with grey in Figure 1. The U.S. Office of Management and Budget defined this Micropolitan Area in the same way that it defines all the U.S. Metropolitan and Micropolitan Statistical Areas. A Metropolitan Area is centered on an urban core with a population greater than 50,000, while a Micropolitan Area is centered on an urban core with a population of between 10,000 and 50,000. A *Micropolitan Area* and a *Metropolitan Area* differ only in scale. Both can contain urban and rural areas. A Micropolitan Area is not a level of government, although Federal agencies often use Metropolitan and Micropolitan Statistical Areas as a basis to report information, to establish program eligibility, and to set program features.

Figure 1 - Lebanon NH-VT Micropolitan Statistical Area



The Micropolitan Statistical Area is descriptive and not prescriptive. It comprises the central urban core, plus adjacent outlying villages and towns having a high degree of social and economic integration with the central urban core as measured through commuting trips. It thus reflects the actual behaviors of the people who live in it.

Why a Micropolitan Area: reflects actual economic patterns

The Office of Management and Budget (OMB), which is part of the Federal Executive branch, establishes and maintains the definitions of Metropolitan and Micropolitan Statistical Areas, Combined Statistical Areas, and New England City and Town Areas. It does so solely for statistical purposes¹.

Since the FDR administration, different Federal agencies had developed many different definitions of statistical geographic areas at the metropolitan level. Each used different criteria for different geographic units. Since their methodologies and area definitions were inconsistent, one agency's

¹ It does so pursuant to 44 U.S.C. 3504(e)(3) and 31 U.S.C. 1104(d) and Executive Order No. 10253 (June 11, 1951).

statistics were not comparable with another's for any given area. In the 1940s, the government developed a single set of geographic definitions for the Nation's largest centers of population and activity. Then, for the reports of the 1950 Census, the Bureau of the Budget developed "Standard Metropolitan Areas". Out of the 1980 and 1990 Census data came two types of areas: (1) Metropolitan Statistical Areas and (2) Consolidated Metropolitan Statistical Areas made up of Primary Metropolitan Statistical Areas. Many data users asked that the standards cover still more territory.

Today, with Census 2000 data in hand, OMB has extended the standards to include smaller areas. These are the Micropolitan Statistical Areas, of which Lebanon and 24 surrounding Towns is one. Under the 2000 standards, "Metropolitan Statistical Area" and "Micropolitan Statistical Area" are the terms used for the basic set of town- or county-based areas defined under this classification. Older terms are obsolete; "Consolidated Metropolitan Statistical Area" and "Primary Metropolitan Statistical Area" are now obsolete, as is the term "Labor Market Area".

The Lebanon NH-VT Micropolitan Statistical Area is built on Census data for towns. In recognition of the importance of these minor civil divisions in New England, the wide availability of data for them, and their long-term use in the Metropolitan Area program, OMB also uses the minor civil division as the building block for a set of areas for the six New England states. This study used New England City and Town Areas (NECTAs) data whenever possible, since the jurisdiction responsible for land use in the Lebanon NH VT Micropolitan Statistical Area is the town or the city.

Commuting links the Towns and City

The Micropolitan Statistical Area structure makes it possible to understand the region in terms of its real cross-boundary economic patterns. The OMB's Metropolitan Area concept has proven successful as a statistical representation of the social and economic linkages between urban cores and outlying, integrated areas. The new Micropolitan Statistical Area designation offers the same analytical strengths for integrated areas with smaller urban centers.

One of the major concerns in the Upper Valley is increasing traffic volumes. Traffic patterns, however, also provide the best clues to the economic linkages among the towns. OMB measures the integration of adjacent communities with the urban nucleus through commuting patterns. Changes in settlement, commuting patterns, and communication technologies have made settlement patterns an unreliable indicator. Many who work in urban areas live in low-density rural settings, often far from work. The percentage of employed residents who commute to the county or counties at the urban center is an unambiguous measure of whether an outlying county or town should qualify for inclusion in a Micropolitan Statistical Area. The percentage of employees working in an outlying county or town who reside in the central county or counties is similarly a clear measure of ties. Including both criteria addresses the conventional and the less common reverse commuting flows. OMB used data gathered by Federal agencies and, more particularly, commuting data from the Census Bureau. Commuting to work is an easily understood measure that reflects the social and economic integration of geographic areas.

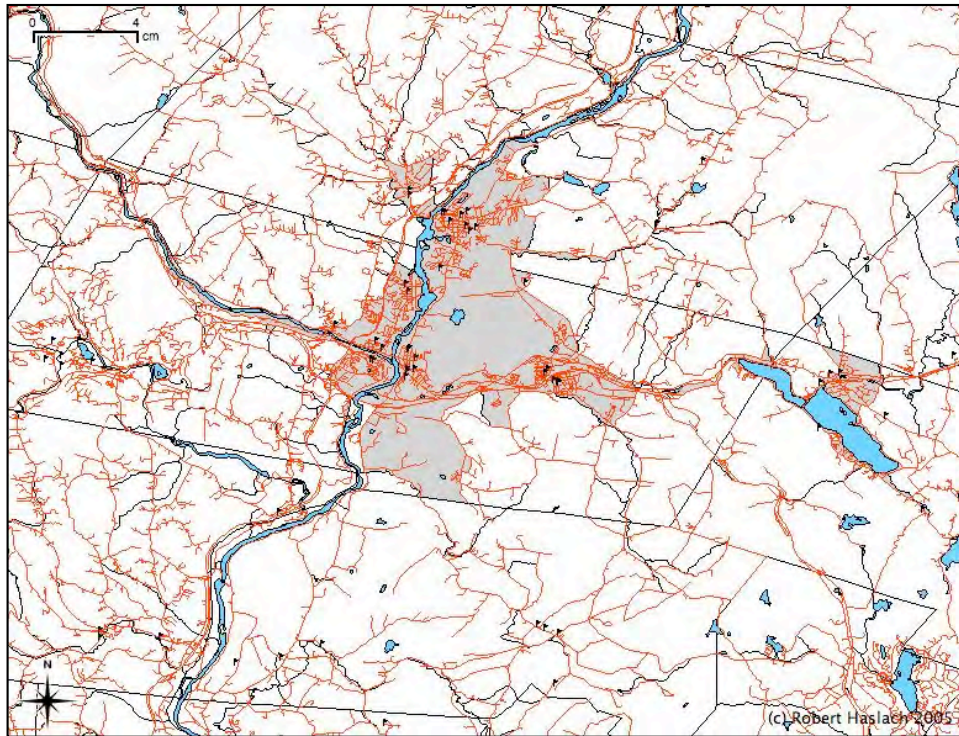
The Lebanon NH-VT Micropolitan Statistical Area covers parts of four counties in two states. To qualify as an outlying town: (a) at least 25 percent of the employed residents work in the central urban core, or (b) at least 25 percent of the jobs in the potential outlying town are accounted for by workers who reside in the central urban core. Thus, the decision to include particular towns in the Micropolitan Area was determined by their home-to-work commuting patterns. In the Area,

commuting is largely by private vehicle and to a lesser degree by public transportation².

What This Means for Lebanon

For the City of Lebanon, where many of the Area's major employers are located, this means that the incomes of about half of the people living in the outlying towns of the Micropolitan Area are derived from jobs located in Lebanon and in the Hanover-Hartford-Norwich urban core. The people who live and work in the Area travel freely and make use of services in all jurisdictions. Lebanon feels, both in quality of life and in municipal financial pressures, the effects of decisions and changes made in the three neighboring jurisdictions of Hanover, Norwich and Hartford, as well as in other Micropolitan Area towns in Grafton and Sullivan Counties in New Hampshire and Orange and Windsor Counties in Vermont. A better understanding of these commuting patterns may well reveal options for action by the City Council to respond creatively to the challenges the City faces.

Figure 2 – Lebanon NH-VT Micropolitan Statistical - Urban Core (in grey)



² Source: OMB OMB Bulletin No. 05-02, OMB Bulletin No. 04-03, and OMB Bulletin No. 03-04

4. METHODOLOGY, SOURCES AND DATA COLLECTION

The Lebanon NH-VT Micropolitan Statistical Area is an economic entity made up of twenty-five geographic units known as New England City and Town Areas (NECTA)³. These NECTA's correspond directly with the boundaries of the towns and City of Lebanon. US Census and New Hampshire and Vermont state data are collected at the NECTA level. This made it possible to use comparable data for all 25 geographies and to relate the data to County, State and Federal data.

The authors collected the base data for this report from the 1990 and 2000 Census, including data elements from both SF1 and SF3 datasets. Intercensal estimates at the town level were taken from State of New Hampshire and State of Vermont sources. The team collected and analyzed some data by ZIP codes, which have the virtue of subdividing certain towns into smaller units and a finer analytical grid. The team collected and analyzed data by school district boundary, making use both of data published by the school districts within the Micropolitan Area, as well as data of the U.S. Department of Education's National Center for Education Statistics. The team also collected and analyzed data published by the U.S. Department of Housing and Urban Development, the U.S. Geological Survey, and the New Hampshire and Vermont forestry departments. The base boundaries, roads and natural drainage in the maps and illustrations have been taken from the Census Bureau TIGER files.

The current and proposed zone boundaries and definitions were provided by the City of Lebanon, the Town of Hanover, the Town of Norwich, the Town of Plainfield, the Town of Enfield, and the Two Rivers-Ottawaquechee Regional Commission. Special thanks go to Ken Niemczyk, Mark Goodwin, Peter Fellows, Phil Dechert, Peter Kulbacki, Jim Taylor, Denyce Gagne and Shelley Hadfield for providing data and good advice. These town-level files were supplemented with files maintained and published by the New Hampshire Office of Energy and Planning (GRANIT), The New Hampshire Revenue Administration, The State of Vermont, The University of Vermont Center for Rural Studies / Vermont Center for Geographic Information, Vermont Housing Data, as well as data posted on websites maintained by the City of Lebanon, The Town of Hanover, the Town of Plainfield, the Town of Norwich, and the Town of Hartford.

Starting in January 2006, the team made three working visits to the Area, and conducted numerous interviews of officials in the planning, education, public works and other agencies of the four core municipalities of Lebanon, Hanover, Norwich, and Hartford, as well as others in the towns of Lyme, and Strafford. The team also gathered and analyzed a number of reports and studies on housing, transportation, education, and political institutions. Acknowledgement is made within the text as data are cited.

³ New England City and Town Areas (NECTA) is a U.S. Census geography unique to several New England states. In all other parts of the United States, sub-County level data are given as Census Tracts and Census Block Groups.

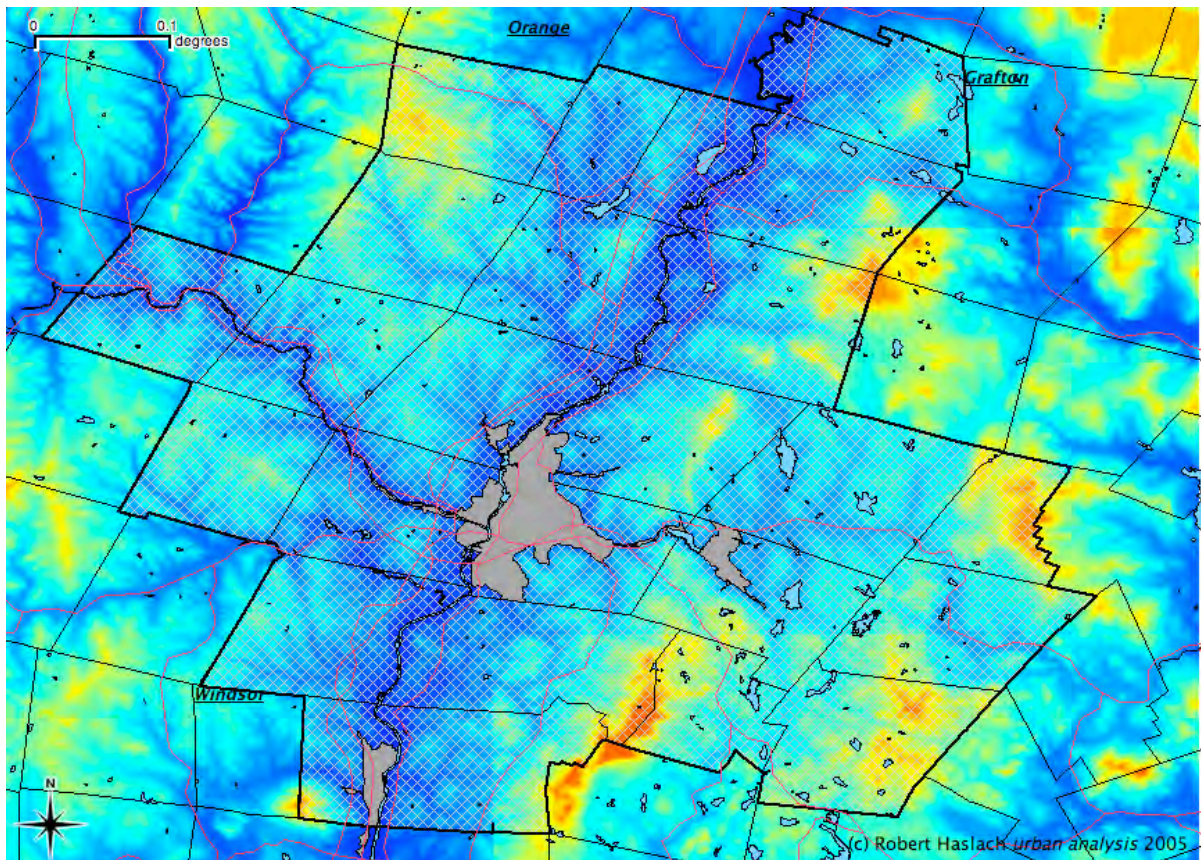
5. GEOGRAPHY

Topography Defines Patterns of Daily Life

Everyone who lives in or who visits the Upper Valley can see that the Lebanon NH-VT Micropolitan Statistical Area is heavily forested hilly land, deeply scored by streams and rivers. While obvious, it is important to understand that its rugged topography (depicted in the elevation model in Figure 3 below) sets very real limits on where it is physically possible to locate communications, transportation, business and housing.

Many streams and rivers drain the Micropolitan Area's 996 square miles (637,435 total acres) of hilly terrain. There are two natural barriers: the Connecticut River on its north-south axis, and the White and Mascoma rivers on its east-west axis. The natural drainage defines the patterns of daily life. Buildings and roads are clustered along rivers and streams. Road and rail traffic is funneled onto a few river crossings. Because of the hilly terrain, much of the land area -- primarily that with a 20% or greater slope -- is deemed unbuildable by most zoning regulations. In some towns, there are moves to limit development further through zoning that restricts what can be seen from public highways. The actual amount of developable land in the Area is less than half of the total acreage.

Figure 3 - Digital elevation model of Lebanon NH-VT Micropolitan Statistical Area



In addition to its varied terrain, the four counties of the Micropolitan Area are heavily wooded. Most of the forestland is privately held. The Upper Valley's forest cover is one of its chief aesthetic attractions to visitors and homebuyers, as well as a source of revenue for landowners and employees. Interestingly, over the past two centuries, the region was not always in forest.

Lyme, NH, provides an interesting story of changes in land use and priorities. Merino sheep arrived in the Upper Valley after 1806 when the Grafton Turnpike was opened from Concord through Lyme to Orford. By 1820, Lyme's population reached 1,824. Residents cleared 85% of its land and replaced forests with sheep pastures and small farms. Pictures clearly show a landscape of sheep-filled fields separate by fieldstone walls. After the opening of the Erie Canal to the West, and the end of the Civil War, many abandoned their hill farms and left for more profitable land. . The people who remained concentrated in the valleys and along brooks.

Lyme's agricultural history today is only an echo of a few farm businesses and the many abandoned barns and other structures that survive on former farmsteads. Today, these have become private homes on large properties. Much of the town's subdivision is being undone by the consolidation of lots into larger units. The forest cover is returning to the hills as second or third growth. This changing pattern of land use can be seen in many of the Area's other outlying towns.

Strafford, VT, has also seen its fortunes rise and fall. In addition to cash farming, Strafford once had mining. The Elizabeth Mine ore body in Strafford and Thetford was discovered in 1793. The mine first produced pyrrhotite, used to manufacture copperas, an important industrial chemical used to produce dyes and disinfectants. In 1830, Strafford Copper Works was formed to mine copper. There was a smelter on site during the early mining operations. In 1857 the railroad came to Strafford. Underground mining began in the early to mid-1800s. The mine was worked intermittently from 1830 until 1930. In 1942, the mine reopened in response to World War II and was operated by Vermont Copper Company. Most of the underground copper mining occurred between 1942 and the mine's final closure in 1958.

The Elizabeth Mine is eligible for listing on the National Register of Historic Places. However, it is also listed as an EPA Superfund site in need of toxic remediation. The Elizabeth Mine is an historic resource of local, state, and national significance. The site embodies the distinctive landscape, engineering, and architectural resources that are characteristic of an early nineteenth- to mid-twentieth-century American metal mining and processing site. The Elizabeth Mine is one of the largest and most intact historic mining sites in New England and includes the only intact cluster of hard-rock mining buildings in the region. Ironically, The Elizabeth Mine is also an EPA Superfund clean-up site because of acid mine drainage into Copperas Brook and then into the Ompomanussuc and Connecticut Rivers. The story of the tension between people bent on preserving the site as history, and by others on remediating the site to protect human health and uses of neighboring land, is a parable for the entire Upper Valley.

Conclusion

The hilly topography of the Micropolitan Area imposes developmental constraints, as well as a number of economic benefits. The most obvious are recreational businesses, such as downhill skiways and snowmobile trails in the winter. Commercial logging of private, state, and federal lands continues to add value to the Area economy. Demand for residential housing within this topography also increases its value. It is both an attractor for new residents and a powerful limiting factor on development. But the landscape and its cover are not frozen in time.

Current land development policies in many jurisdictions are attempts to preserve, while the historical economic reality is that the character and uses of land in the Upper Valley have adapted over time to the changing micro-economic fortunes of the region, as well as the needs and priorities of its residents.

Where once the rivers carried massive booms of cut logs floating to market, and 85 trains per day went through White River Junction, and flocks of Merino sheep fed wool to scores of mills along the rivers, today the economic value of the region's topography is established by the conflicting demands for residential subdivision and for the desire to preserve it in its present state.

6. POPULATION

The estimated 78,000 population of the Lebanon NH-VT Micropolitan Statistical Area is distributed unevenly among its twenty-five towns. In addition, the rate of change has varied widely among the towns.

Table 1 - Population of Lebanon NH-VT Micropolitan Statistical Area by New England City and Town Areas

Geography	1990 Total population ; Number	2000 Total population; Number	2004 Est. Pop (State Plnng)	Absolute change 1990- 2000	% change 1990- 2000	Index Change 1990-2000 (100=avg)	% change 1990- 2004 est.	Index Change 1990-2004 est. (100=avg)
Canaan	3045	3319	3478	274	9.0%	80	14.2%	95
Cornish	1659	1661	1712	2	0.1%	1	3.2%	21
Enfield	3979	4618	4850	639	16.1%	142	21.9%	146
Enfield CDP ⁴	1560	1698		138	8.8%	78		
Fairlee	883	967	967	84	9.5%	84	9.5%	63
Grafton	923	1138	1179	215	23.3%	206	27.7%	185
Grantham	1247	2167	2399	920	73.8%	654	92.4%	616
Hanover	9212	10850	11086	1638	17.8%	158	20.3%	136
Hanover CDP	6538	8162		1624	24.8%	220		
Hartford	9404	10367	10698	963	10.2%	91	13.8%	92
WRJ CDP	2521	2569		48	1.9%	17		
Wilder CDP	1576	1636		60	3.8%	34		
Hartland	2988	3223	3184	235	7.9%	70	6.6%	44
Lebanon	12183	12568	13470	385	3.2%	28	10.6%	70
Lyme	1496	1679	1725	183	12.2%	108	15.3%	102
Norwich	3093	3544	3587	451	14.6%	129	16.0%	106
Orange	237	299	303	62	26.2%	232	27.8%	186
Orford	1008	1091	1168	83	8.2%	73	15.9%	106
Piermont	624	709	721	85	13.6%	121	15.5%	104
Plainfield	2056	2241	2392	185	9.0%	80	16.3%	109
Pomfret	874	997	994	123	14.1%	125	13.7%	92
Royalton	2389	2603	2567	214	9.0%	79	7.5%	50
Sharon	1211	1411	1396	200	16.5%	146	15.3%	102
Springfield	788	945	1025	157	19.9%	177	30.1%	201
Strafford	902	1045	1045	143	15.9%	140	15.9%	106
Thetford	2438	2617	2617	179	7.3%	65	7.3%	49
Vershire	560	629	629	69	12.3%	109	12.3%	82
West Fairlee	633	726	726	93	14.7%	130	14.7%	98
Windsor	3714	3756	3759	42	1.1%	10	1.2%	8
TOTAL	67,546	75,170	77,677	7624	11.3%	100	15.0%	100

Data: US Census 1990 and 2000; 2004 estimates from New Hampshire Office of Energy and Planning and Vermont State Data Center

These figures depicting absolute changes in population also show that the amount of change in most towns was small, indeed. The town of Grantham, however, has nearly doubled the size of its population since 1990.

⁴ CDP: "census designated places," a geographic entity used by the U.S. Census Bureau to serve as the statistical counterpart of an incorporated place for the purpose of presenting census data for an area with a concentration of population, housing, and commercial structures that is identifiable by name.

Population Density, 2004

The towns are not of equal areas. In order to see differences in population density, population per square mile of land is a common measure. Here the actual differences among the towns become apparent. The high-density population core of 334 people per square mile can be seen in Lebanon at the center of the Micropolitan Area (dark). The Towns of Hanover and Hartford show densities of 225 and 230 people per square mile. Windsor and Enfield occupy a third tier of 190 and 120 people per land square mile. The remaining towns of the Area have lower densities ranging from 13 to 88, as Figure 4 below depicts. The Town of Orford reflects the typical position of the low-density, rural towns. "Orford consists of over 29,800 acres of land, approximately 12,000 of which could be suited for development based on soils and topography. Buildings, homes and the immediate yards around them utilize today only about 500 of those acres. Even if Orford continues to grow, it will be some time before two percent of the total land is used for development."⁵

Figure 4 - Lebanon NH-VT Micropolitan Statistical Area, Population Density by Town, 2004 data

(Dark=higher densities Light=lower densities)

			Pier 18		
	Ver 17	W FrI 32 FrI 47	Orf 25		
	Str 24	The 60	Lym 32		
Roy 64	Sha 36	Nor 80	Han 225	Can 65	Ora 13
	Pom 25	Hartf 230	Leb 334	Enf 120	Grf 28
		HartI 72	Pla 46	Grn 88	Spr 23
		WIN 120	Cor 41		

From Figure 4, it is clear that the higher density core of the Micropolitan Area is in the south-central sector generally aligned with the principal rivers and highways. The four jurisdictions that include the traditional urban core of the Micropolitan Area (Lebanon, Hartford, Hanover and Norwich) have been home to about half of the Area's resident population in the 1990 and 2000 Census.

The capacity of these towns to grow is constrained by their zoning policies and by the availability of land. At the same time, where other jurisdictions are building homes, such as Grantham, other data on age and presence of children suggest that these appeal largely to persons who are non-employed, retired or seasonal residents.

Since the urban core jurisdictions receive, as we will see below, a daily influx of commuters demonstrating economic and social ties to the City of Lebanon, a policy change to accommodate higher-density and lower-cost housing within the towns where the jobs are concentrated could increase the City's tax base, lower the pressure on commuting routes and increase the effectiveness of the transit system.

⁵ Orford Master Plan - Revised August 2001, page 10

Rate of Population Change, 1990-2004

The rate of population change for all 25 towns of the Micropolitan Area since 1990 has been 15 percent. If this rate of change is set at an index of 100, we can see that Lebanon and Hartford lagged the average, Norwich was close to the average, and Hanover grew at a slightly faster rate than the average. The higher relative growth in population, therefore, is not in the economic urban core, but in the other 21 towns whose populations depend on the vitality of economic center. The growth in population has been on the southern tier and eastern side of the Micropolitan Area.

The relative and absolute growth rate in the Town of Grantham, for example, is striking. Grantham revised its zoning regulations to streamline approval of major subdivisions, to permit greater residential densities, incorporated cluster development in its master plan, and commissioned a study by the Upper Valley Lake Sunapee Regional Planning Commission to assess the currently allowable build-out potential in the Town of Grantham. In the year 2000, there were approximately 1,500 homes in Grantham. The UVLSRPC study projects 6,800 homes at build-out assuming a 25% un-buildable site condition. This would translate to a projected population of 15,000 at build-out, or a town roughly the size of Claremont or Lebanon. Grantham does not have town sewer or water. A development located within the town, Eastman Community Association, does have a public water system and a few houses that are on a public sewer system owned by Eastman.

The greatest growth rate in population is in the New Hampshire towns on the outer edge of the Micropolitan Area.

The towns in Vermont tended to match or significantly lag the growth rate of the Area as a whole. Within the Town of Hanover, the growth between the 1990 and 2000 Census resulted in a greater concentration of population within its dense core (measured in the Census as the “CDP” – Census Defined Place). In Hartford, however, the growth was largely outside the traditional core of Wilder and White River Junction and focused in Queechee and West Hartford.

Table 2 - Rate of Growth by Town

<i>% population change 1990 to (est.) 2004</i>	Town	<i>Index Change 1990-2004 (100=avg)</i>
92.4%	Grantham	616
30.1%	Springfield	201
27.8%	Orange	186
27.7%	Grafton	185
21.9%	Enfield	146
20.3%	Hanover	136
16.3%	Plainfield	109
16.0%	Norwich, VT	106
15.9%	Orford	106
15.9%	Strafford, VT	106
15.5%	Piermont	104
15.3%	Lyme	102
15.3%	Sharon	102
15.0%	MICROPOLITAN AREA	100
14.7%	West Fairlee, VT	98
14.2%	Canaan	95
13.8%	Hartford, VT	92
13.7%	Pomfret, VT	92
12.3%	Vershire, VT	82
10.6%	Lebanon	70
9.5%	Fairlee, VT	63
7.5%	Royalton, VT	50
7.3%	Thetford, VT	49
6.6%	Hartland, VT	44
3.2%	Cornish	21
1.2%	Windsor, VT	8

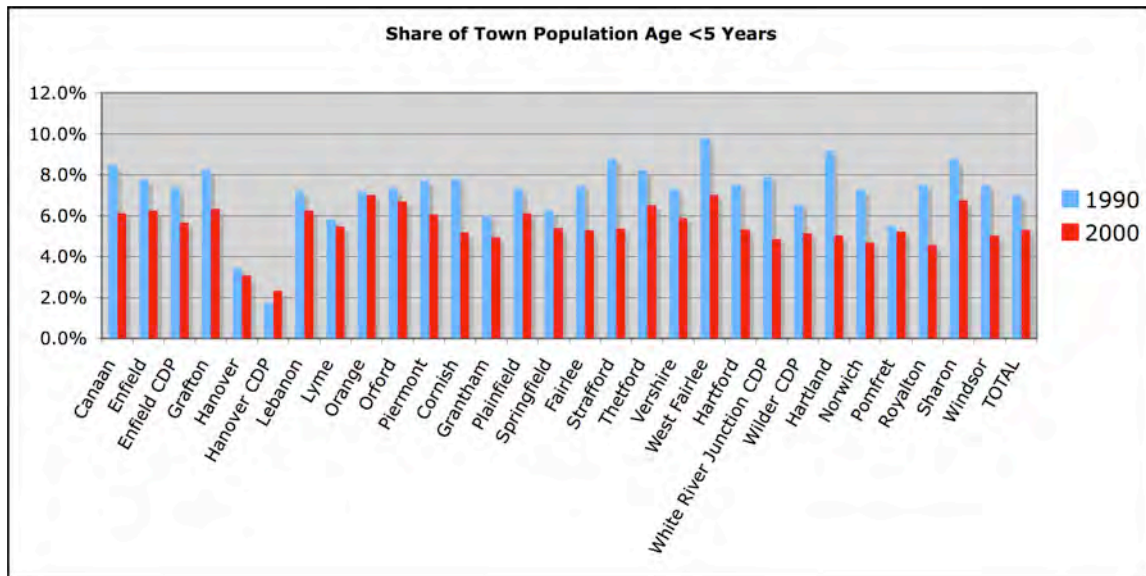
Age of Population

The distribution of town population by age group is key to understanding the types of demands that residents will make on town services. A growing younger population segment heralds greater demand for educational services. A growing older population suggests greater demands for personal care, assisted living residences, and health services. Each age segment is discussed separately below. In general, however, the Micropolitan Area is aging, both due to the passage of time for its residents and the in-migration of older people and out-migration of the young.

Infants and Children

The future of a town may be read in the presence of infants and children. While there was an increase in the absolute population of the Micropolitan Area, it was not reflected in an increase in the presence of infants and children. In the urban core, there was generally a decrease in the percentage of residents under the age of 5 years. Even relatively “young” towns, such as West Fairlee, Sharon, and Hartland saw a decrease in the relative share of infants and children of the town’s population. Hanover’s population between the ages of 5 and 24 is a special case. The “permanent” population of Dartmouth College students is counted as residents of the town, but not as voters or taxpayers. The small percentage (2%) of children under the age of 5 in Hanover’s CDP reflects the relatively low family formation rate in that town. The percentage of children under the age of 5 decreased in all four core jurisdictions, as it did in most other towns. Grantham’s housing boom appears to be translating into a stable or growing kindergarten population.

Figure 5 - Town population under the age of 5 years



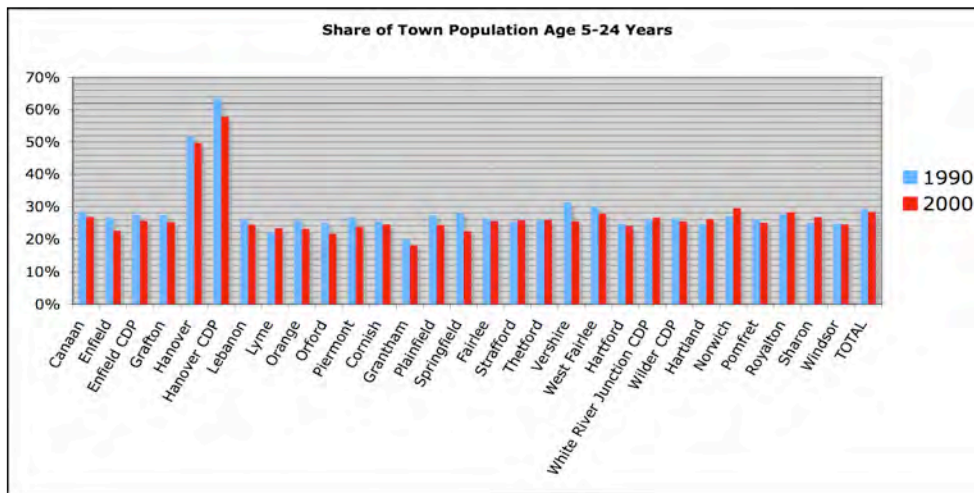
School and College Age Children

The population segment of school and college age children, 5-24, is decreasing as a share of total population, although in some high-growth towns such as Grantham and Springfield, the absolute number of children may be increasing⁶. At a town and school district level, these changes are reflected in a general decline in the enrollment of school-age children. The schools of the

⁶ “Grantham Village School Braces Itself”, By Carolyn Lorié, Valley News Education Writer, March 21, 2006

Micropolitan Area have excess capacity that can accommodate a growth of families with children. Hanover is, as always, an exception to the general picture. The Census counts the presence of all residents, including those identified as living in “Group Quarters”, which includes college dormitories, hospitals, prisons, and military installations. While the general trend shows a decline in the relative share of this age group in the town population, as Figure 6, below depicts, some towns show increases. It should be noted, however, that when the base is small – such as Sharon with a total population of some 1,400, the change in the family composition of only a few houses (from childless to a family with children) can make an apparent large shift in the numbers.

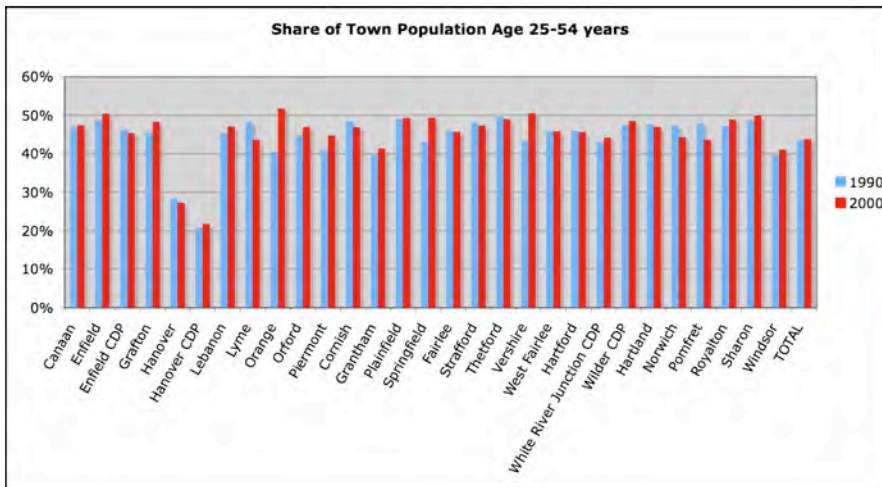
Figure 6 - Town population 5-24 years of age



Population 25-54

The economically productive segment of the Micropolitan Area’s population, ages 25-54, has increased. Most towns have seen this segment increase as a share of their total population, including Enfield, Grafton, Orange, Orford, Springfield, Vershire, Royalton and Sharon, among others. As we will see, however, this age segment is not, as a rule, employed within those towns, but by organizations located in the urban core.

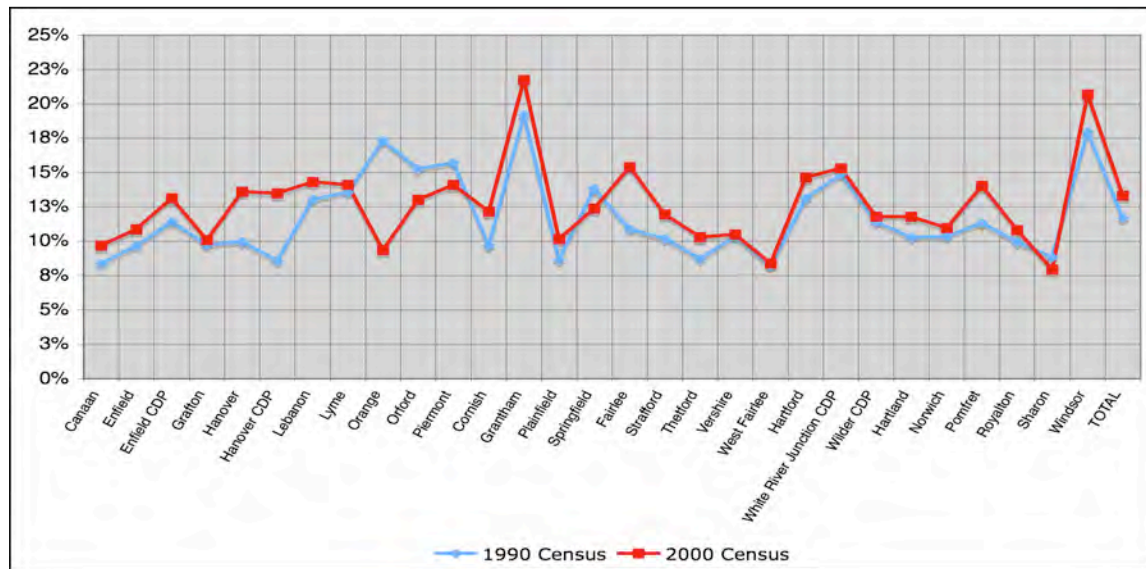
Figure 7 - Town Population Age 25-54 Years



Older Population

Turning to the segment over the age of 65 years, the population of the Lebanon Micropolitan Statistical Area appears to be aging. While the Area as a whole is aging, fast-growth Grantham is aging more rapidly than the other towns. In 1990, 19% of its population was age 65 and older. In 2000 that was nearly 22%, and its population under age 5 had decreased to less than 5%. As it grows, Grantham appears well on its way to becoming a retirement or second-home community. It may be a bellwether for other towns with a similar development policies and land features.

Figure 8 – Percentage of Town Population Age 65 and Older



Windsor, which saw very little growth over the decade, has a population aging in place. This same holds true also for Pomfret, Royalton, and Fairlee.

As we have seen, this was not the case with Grantham. Its growth appears to be in the demographic segment over the age of 25, and certainly the population 65 years and older. These additional residents seem to be in-migrants. Hanover's aging population, like that of Grantham, also appears to be largely in-migration, stimulated by the success of a major assisted living complex. The role played by housing, and the zoning decisions shaping choices of what, where and how to build, underlies the changing face of the Micropolitan Area in terms of age and income.

The town of Orange (with a very small base of only 300 residents) is an exception, but perhaps an indicator for what happens when older housing stock turns over to the next generation. Its 65+ segment dropped from 17% in 1990 to 9% in 2000. The absolute decrease in the number of Orange residents age 65+ was from 41 to 28, but their replacement was all younger residents. Typically this is what happens when housing stock – if priced in such a way that young families can afford to buy it – turns over from one generation to the next and a neighborhood becomes younger. The housing stock in the Area is not priced in such a way to allow this cycle to take place.

In 15 years, the same cycle can be expected to take place in Grantham as its current residents age and seek more appropriate housing closer to medical and town services.

Population by Household Income

The distribution of incomes has shifted upwards over the past 15 years. That is, the relative number of households earning less than \$30,000 annually has decreased as a share of all households. The number of households earning annual incomes in excess of \$75,000 has increased, both relatively and absolutely. These data are broken out by the percentage of households occupying each income band in order to reveal the shift in the distribution of the Micropolitan Area's households. A simple measure by median household income would tend to conceal the effective impact of rising incomes on those families that earn less, since only a few wealthier households would raise the average. The decline in the share of households with incomes under \$30,000 suggests either that these households have increased their income or have been displaced.

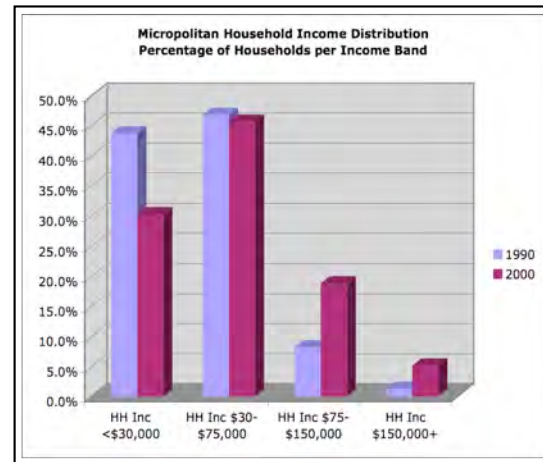
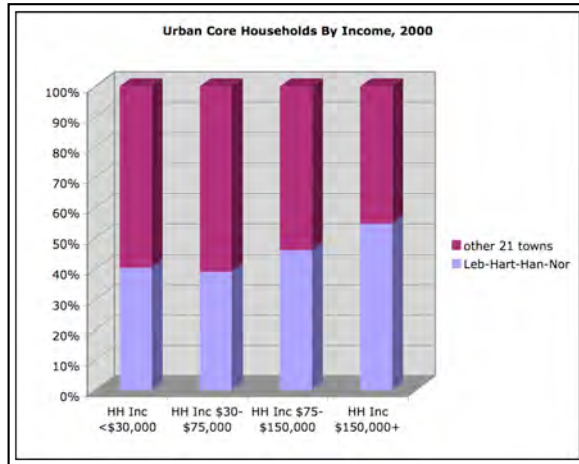


Figure 9 – Household Incomes of Micropolitan Area

The households in the four jurisdictions that made up the urban core of the Micropolitan Area at the 2000 Census accounted for 33% of total households, but more than 50% of those that earned more than \$150,000 annually, and about 42% of households earned between \$75,000 and \$150,000 annually.

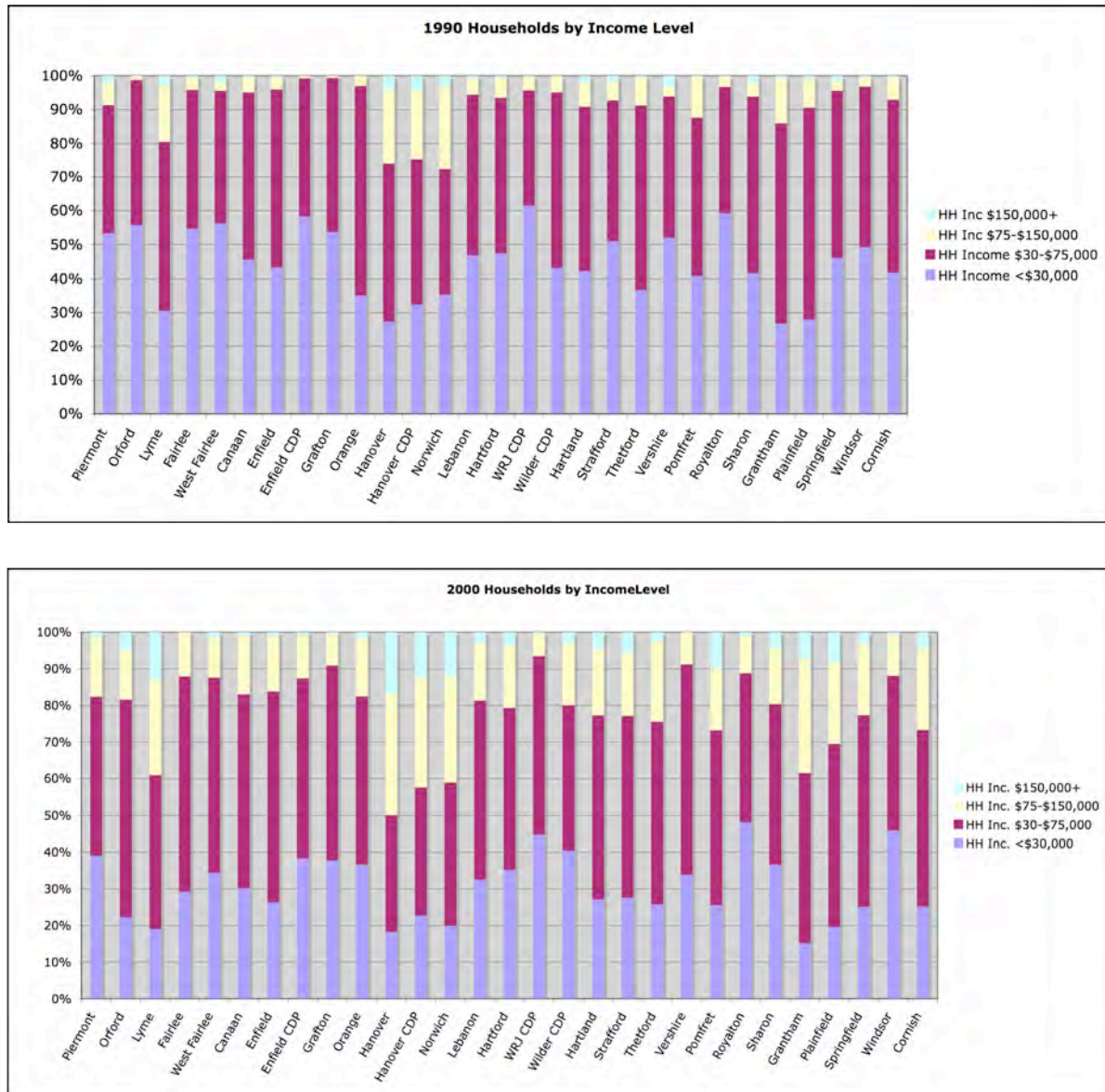
Household income from employment is only part of the story. Income also can include interest, dividends, and capital gains. However, those data are not available for the towns of the Micropolitan Area.

Another source of income for which data are available is payments from Social Security. In that regard, Grantham, as might be expected, leads all towns in the Micropolitan Area: 35% of Grantham households in the year 2000 were receiving Social Security income. They were closely followed by Windsor (34%), White River Junction (32%), and Lyme (30%). In fact, in only three towns do less than 20% of their households receive Social Security income. Looking at towns by the share of households receiving public assistance of some sort, 7% of Windsor households received such income, 6.5% of Sharon households and 6% of households in Vershire. Lyme, Pomfret, Grantham and Hanover each had less than 1% of households receiving public assistance income in 2000.

Household Income by Town

Whatever the source of income, it has increased since 1990. The 1990 Census data by town in the figure below dramatically reveal that, a decade ago, in many towns about half of the households lived on an annual income of less than \$30,000. The change in the distribution of incomes revealed by the 2000 Census data is dramatic. The percentage of households earning less than \$30,000 annually dropped from around 50% to 30%. The share of households with incomes in excess of \$75,000 has increased in most towns.

Figure 10 - Household Income by Town, 1990, 2000



Household income is an indicator of the price and type of housing that a family can afford and of its ability to absorb tax increases. The general measurement of the ability to afford housing is that its total cost should be not more than 30% of household income. Housing is discussed greater detailed in the next chapter.

7. HOUSING

The Census data for the housing sector of the Lebanon NH-VT Micropolitan Statistical Area economy confirm the present day conditions and point to future trends that are well recognized in the daily life of the Lebanon community and the Area. The challenges presented by the demand for and cost of housing are well-documented in the multiplicity of research and planning studies generated in recent years by a wide range of state, regional and local governmental planning entities, public-private housing coalitions, and housing development groups. For example, the 2002 Upper Valley Housing Needs Analysis⁷ estimated a need for 3,100 units just to meet current housing and job market demands before adding the demand to be generated by growth in jobs and households projected for the Region.

The current growth characteristics of the Lebanon NH-VT Micropolitan Statistical Area are a microcosm of the characteristics of change in growing urban areas across the nation. Although the urban scale of the Area is small, it is experiencing significant demographic shifts from the immigration of relatively affluent “baby boomer” households seeking an environment perceived as offering a “high quality of life” for their retirement years. This segment of population growth is putting development pressure on the outer edges of the urban area. Localities have responded with large lot zoning and land development regulations in an effort to balance the pressures for housing with the preservation of the rural character of the area. In consequence, Lebanon and its environs have its version of *urban sprawl*, which is eroding the quality of life that is associated with much of New England and the Upper Valley in particular. The New Hampshire Transportation Business Plan Findings and Recommendations found that: “*Zoning policies, which were adopted many years ago to separate land uses (industrial commercial, residential) for public health and safety reasons, have had the unanticipated effective of reducing transportation options and increasing dependence on the automobile for most trips*”⁸.

Upper Valley Housing Challenges

Based on the Upper Valley Housing Needs Analysis⁹, there are three principal housing challenges in the Micropolitan Area:

- *Providing a Sufficient Quantity of Housing:*
The increase in the number of households in the Area outstripped the number of housing units produced in the decade of the 1990s. This resulted in an estimated shortage of 1900 housing units in the Upper Valley employment center. The private market responded by producing primarily single-family homes that are not well matched to the demand. An additional 5,600 housing units are projected to be needed over the next decade.
- *Providing Suitable Affordable Housing:*
Housing is becoming less affordable due to high land costs, building codes, construction costs, and property taxes. Wages have not kept pace with the three-fold increase in rents and the five-fold increase in home prices in the five-year period since 2000. At the same time, the level of housing assistance is declining and the need for more housing suitable for an aging population is increasing.

⁷ Prepared by Applied Economic Research, August 2002

⁸ New Hampshire Transportation Business Plan Findings and Recommendations, March 2006, Revised, p.10

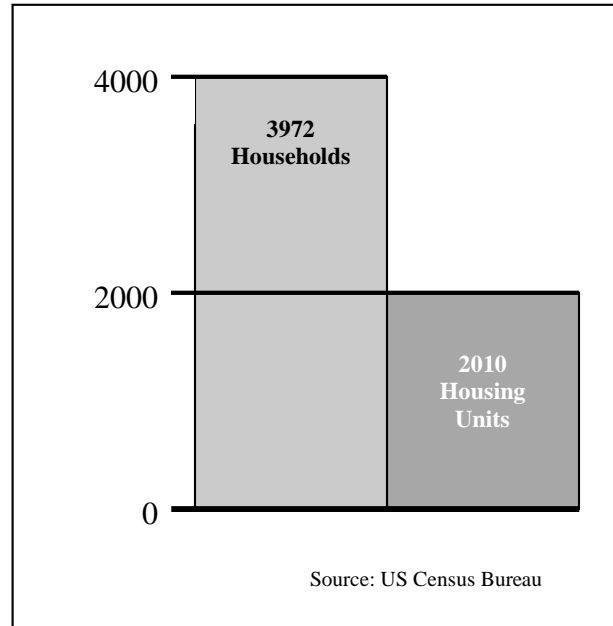
⁹ Chapter IX, Housing, November 18, 2005 draft

- *Balancing Housing and Jobs:*

Producing housing at prices, sizes and locations to match the type and locations of available jobs is a difficult balance to achieve. Balance is the ideal. However, concern about the potential fiscal impacts on schools and municipal services associated with higher density, lower cost housing results in pushing the development of such housing to the fringes – to neighboring communities -- away from the employment centers.

The following chart in Figure 11 illustrates the disparity between household formations and housing production in the decade from 1990 to 2000 that is driving these pressures.

Figure 11 - Growth in the Number of Households and Housing Units within the Lebanon Micropolitan Area, 1990 to 2000



Trends and Consequences

The challenges stated above are characteristic of growth in New England, which is resulting in a wealth disparity between the old and the new. The pressures of growth are driving land development patterns that are proving to have high cost consequences and adverse impacts on the quality of life. As documented in the other chapters of this report, those consequences are evident in increasing vehicular congestion and travel times, pressure to extend public infrastructure, increased scarcity of decent affordable housing, and growing challenges in attracting and retaining a work force necessary to sustain the overall economy of the region.

The City of Lebanon and its jurisdictional neighbors on both sides of the Connecticut River constitute a governmentally fragmented, but functionally interdependent economic system. The actions of one have ripple effects throughout the system. Housing -- a basic part of the system -- both supports the economy, especially the retail and employment sectors, and reflects the forces that define the strengths and weakness of the Area's economy.

The demand for relatively large-scale single-family housing is pushing prices up. Housing production in response to that demand is taking over ever more land in outlying rural areas of the Area, thus threatening the quality of life sought by those creating the most pressure on the housing market.

Dramatic growth in demand for seasonal housing also exerts pressure on the housing supply of the Micropolitan Area. In the 1990 Census, most vacant housing units were not available to the open market. They were reserved for seasonal use. This was more pronounced in the 2000 Census: fewer vacant units and more of these destined for seasonal use. The effective vacancy rate for all types of housing (excluding seasonal properties) is below 5% in most Area jurisdictions. This means that there is “No Vacancy” in the Upper Valley.

Figure 12 - Share of vacant housing intended for seasonal use only, 1990

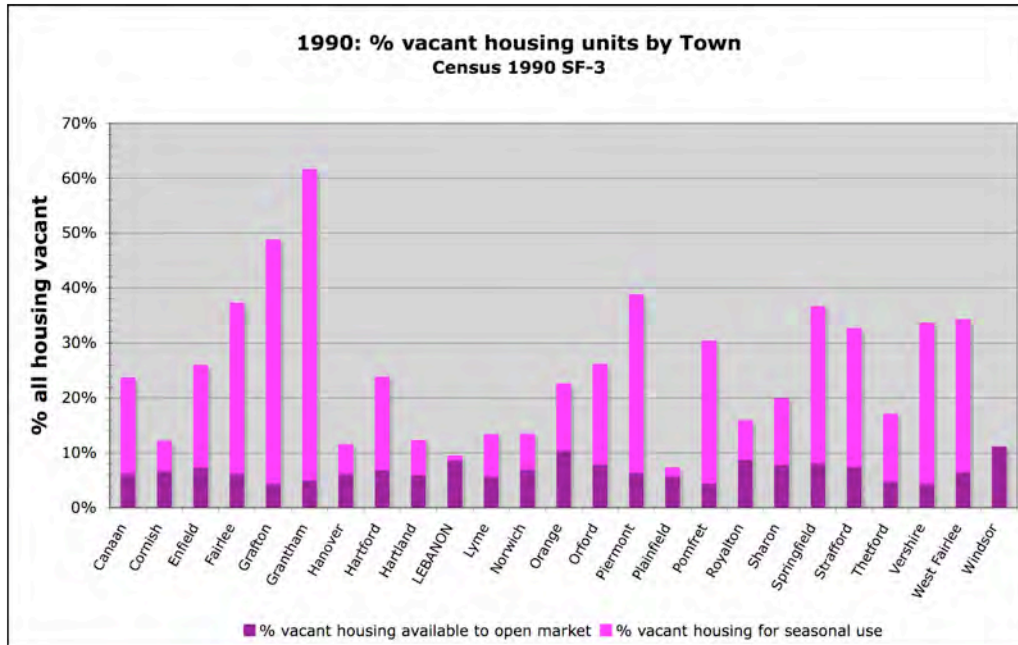


Figure 13- Share of vacant housing intended for seasonal use only, 2000



The policy and regulatory framework governing land development in the more rural jurisdictions of the Area tends to accommodate the demand for such housing while attempting to preserve the qualities of a rural environment. The resulting large lot development controls cause housing sprawl with the associated cost impacts of greater dependency on private vehicles for local trips, increased congestion, growing demand on public transit services, and future pressure to extend municipal water and sewer infrastructure. Large lot development controls are inherently inefficient in the use of land, infrastructure and public services. Advocates for low-density development policies often fail to account for the true cost of such development for the jurisdiction and for the taxpayers in neighboring jurisdictions who are less than willing to pay a higher share of the public cost for that inefficiency.

While single-family housing production is up, it appears destined largely for the seasonal or second home market. The supply of the most affordable housing types – multifamily and manufactured housing – has declined at the same time that the demand for affordable housing has grown. Each year the Micropolitan Area jurisdictions issue few or no permits for multifamily or manufactured housing. These trends are at the heart of the Area's housing challenge. There is high demand and a short supply of all types and all prices of housing, from mansions to efficiency apartments.

Regulations – A Balancing Act

The natural geographic features of location, terrain, water bodies and the like are the most basic variables that influence investment in land development. These variables are not subject to significant change by governmental bodies or developers. On the other hand, the land and infrastructure development policies of government planning and regulatory bodies have considerable impact on the use and development of the natural landscape and, consequently, on the livability of the community and the region. Governmental controls on the development of private land – zoning and subdivision regulations -- are the point of intersection between the interests of the individual property owner and the interests of the larger community. It is the struggle to balance those interests that must be addressed in a policy-making framework that enables the leaders and stakeholders representing the public and private development interests of the Micropolitan Area community to find common ground for the common good.

Affordable Housing – The Area's Challenge

The affordability of housing is a function of the costs of development (including land, infrastructure and regulatory costs) and the pressure of market demand on the housing supply and type. Studies of the Micropolitan Area economy and housing market all cite the need for more “affordable housing.” The issues of affordability are reaching higher up the household income ladder as the gap widens between the cost of housing and household incomes, especially in the low to middle income range. This gap is a growing challenge for the service employees and professionals -- such as teachers, police officers, fire fighters, nurses, and child care providers – who are essential to a fully functional community.

With effective vacancy rates below 5%, the Area's tight housing market has effectively closed the Lebanon/Hanover/Hartford housing market for the typical teacher or police/fire fighter whose median income is about \$30,000. In 2002, the lower limit of their affordability to own a home was about \$75,000, compared to the median home price of \$175,000.¹⁰ Between then and now, the affordability gap appears only to have widened.

¹⁰ Upper Valley Housing Needs Analysis – Summary Report, Upper Valley Lake Sunapee Planning Commission, August 2002

Grafton County's current median income is \$62,900 for a four-person household, according to income data released in March 2006 by the U.S. Department of Housing and Urban Development. The corresponding income figures for the other three Micropolitan Area Counties (Sullivan, NH, and Windsor and Orange, VT) are slightly lower – ranging from \$58,500 to \$62,600. These median income figures set the upper limits of eligibility for various HUD housing assistance programs. Over the last six years, the median income in the Counties has increased approximately \$10,000. However, the increase in median income does not mean that households earning less than the median saw their incomes increase by \$10,000 over the last six years. In the previous section on Population, we saw how the share of households earning less than \$30,000 has decreased and the share of Area households earning more than \$75,000 has grown. The increase in median income is more likely a reflection of the significantly higher incomes of the retiree population that has moved into the Micropolitan Area over this period. As a consequence, a wider range of households has become eligible for federal housing assistance programs. The following table shows the 2006 income eligibility limits for HUD programs:

Table 3 - FY 2006 Income Limits for HUD Program Eligibility

<u>New Hampshire</u>	<u>MFI*</u>	<u>Program**</u>	Median Income by Household Size							
			<u>1Pers</u>	<u>2 Pers</u>	<u>3 Pers</u>	<u>4 Pers</u>	<u>5 Pers</u>	<u>6 Pers</u>	<u>7 Pers</u>	<u>8 Pers</u>
Grafton County	\$62,900	30% of MFI	13200	15100	16950	18150	20350	21850	23350	24900
		50% - Very Low	22000	25150	28300	31450	33950	36500	39000	41500
		80% - Low	35200	40250	45250	50300	54300	58350	62350	66400
Sullivan County	\$59,900	30% of MFI	13200	15100	16950	18850	20350	21850	23350	24900
		50% - Very Low	22000	25150	28300	31450	33950	36500	3900	41500
		80% - Low	35200	40250	45250	50300	54300	58350	62350	66400
<u>Vermont</u> Orange County	\$58,500	30% of MFI	12350	14100	15900	17650	19050	20450	21900	23300
		50% - Very Low	20600	23550	26500	29450	31800	34150	36500	38850
		80% - Low	32950	37700	42400	47100	50850	54650	58400	62150
Windsor County	\$62,600	30% of MFI	13150	15050	16900	18800	20300	21800	23300	24800
		50% - Very Low	21900	25050	28150	31300	33800	36300	38800	41300
		80% - Low	35050	40100	45100	50100	54100	58100	62100	66150

* Median Family Income for a 4-Person Household

** Income Groups as defined by HUD for eligibility under various rent and home purchase assistance programs

Between 2002 and 2004, fifty-three building permits for new single-family home construction were issued in the City of Lebanon. The average “permit value” of the construction (exclusive of land and soft costs) increased from \$135,000 to \$195,500 over the three years. Using the Median Family Income from the above table for Grafton, the range of affordable mortgage debt for a family of four in the “workforce housing” category (i.e., between 50 and 80 percent of AMI) would be approximately \$100,000 to \$155,000. These debt affordability estimates are based on the 30 percent housing expense rule and assumes between \$125 and \$225 per month for real estate taxes and property insurance expenses and a 30-year, 7 percent fixed-rate mortgage.

Several housing groups – most notably the nonprofit Twin Pines Housing Trust -- are actively producing housing for low-income households. The amount of all types of new housing produced in the decade of the 1990's failed to keep pace with the more than 10,000 new jobs created in the Hartford/Lebanon area. As a result, the tight housing supply coupled with a two percent unemployment rate and substantial job growth has caused house sale prices to increase at a rate almost triple the rate of household income growth. Rents have been similarly affected. Housing affordability is cited by the Upper Valley Housing Coalition as an issue that affects households "across every range of our workforce." This a problem that is no longer associated with just the lowest income segment of the community.

The term "affordable housing" is widely associated with housing for low to moderate income individuals and families who need some form of public subsidy to achieve affordability based on the 30 percent standard. It is also the case that such housing is often stigmatized by both those occupying it and the rest of the community to the point of physically isolating the housing away from other residential neighborhoods. Good housing design that is well integrated into the architectural and aesthetic character of the community is an achievable goal for affordable housing as it is expected of housing built for the upper priced housing market.¹¹ Table 4, below, shows the disparity between household incomes and housing rents by state:

Table 4 – Household Incomes, Housing Rents, by State

State	2005 Area Median Income (AMI)			Maximum Affordable ² Monthly Housing Cost by % of Family AMI			
	Annual	Monthly	30% of AMI ³	30%	50%	80%	100%
New Hampshire	\$67,744	\$5,645	\$20,323	\$508	\$847	\$1,355	\$1,694
Vermont	\$59,618	\$4,968	\$17,885	\$447	\$745	\$1,192	\$1,490

State	Household Income (2005)				Renter Wage (2004)	
	Estimated Renter Median Household Income	Monthly Rent Affordable at Renter Median	Income Needed to Afford Two-Bedroom FMR as Percent of Renter Median	Estimated Percent of Renters Unable to Afford Two-Bedroom FMR	Estimated Mean Renter Hourly Wage	Monthly Rent Affordable at Mean Renter Wage
New Hampshire	\$37,572	\$939	97%	48%	\$12.03	\$625
Vermont	\$30,638	\$766	94%	47%	\$9.58	\$498

Source: "Out of Reach 2005," National Low Income Housing Coalition

¹¹ Affordable Housing Design Advisor, www.designadvisor.org guides community planners, architects and decision-makers through the process of designing attractive and practical dwellings for low-income and disabled residents.

The measure of housing affordability used by the Upper Valley Housing Coalition is that *no household should be forced to pay over 30 percent of its income for housing*. That may not reflect the true budget of the working household. There is evidence that, in addition to the price of acquiring a home, we must take into consideration the cost to travel from that home to the job that makes the home possible. The Lebanon Micropolitan Area was defined by measuring the social and economic linkages between outlying towns and the urban core as expressed through commuting. It is clear that the role and cost of automobile travel is a fundamental - and non-discretionary - element of acquiring and being able to keep a house. In fact, there are mortgage products backed by Fannie Mae that take into consideration the cost of commuting from a particular residential area to work. The mortgage underwriter is able to give additional credit for the location efficiency of an area.

Affordability – A Question of Class?

In the Lebanon Micropolitan Area, as in Washington, DC and San Francisco, CA, providers of core service must commute hours in each direction between home and work, paying the premium to acquire affordable housing as a charge to their time¹². General community support for publicly subsidized housing for lower income households is a tough sell in most communities. NIMBY-ism unfairly disadvantages lower income households in need of decent housing that is well located, well designed, and within their financial means. Community resistance to *affordable housing* often arises from negative perceptions of its design and its social impacts on quality of life and real estate values in adjacent neighborhoods. Recent town meetings in the New Hampshire jurisdictions of the Micropolitan Area, and most dramatically that in Lyme, have shown there is voter sentiment against providing a full economic range of housing choices within town borders, even to those who have traditionally lived in the towns and provide needed services to town residents¹³.

The truth is, however, that the rich and the poor receive government subsidies for their housing and the rich benefit more. The reality of our federal tax code is that virtually all housing in New Hampshire and Vermont – and throughout the nation -- is publicly subsidized, regardless of household income. The distinction is only in the method of subsidy and the amount per household. The fact is that the greatest amount of public subsidy for housing goes to higher tax-bracket households through the U.S. Tax Code. The deductions for mortgage interest and real estate tax account for a far greater public subsidy of housing than the total amount of subsidies for low-income households. Housing affordability is an “every class” issue that neighborhoods, communities, towns, and regions need to address and not avoid.

Workforce Housing – An Answer

The language of *workforce housing* has recently emerged to paint a more palatable image when talking about the need for affordable housing. The term *workforce housing* makes it easier to talk about and understand the connection between housing, a core component of the economy, and the labor force needed to support and sustain a vibrant economy and a fully functional community. Nevertheless, the production and operation of workforce housing also requires public subsidy and, perhaps, employer support to be economically feasible. The same costs of housing production and operation apply as do the tools of public subsidy, including low or no cost land, low cost connections to water and sewer infrastructure, favorable equity and debt financing, tax incentives, and operating

¹² “Where Did All the Children Go? In San Francisco and Other Big Cities, Costs Drive Out Middle-Class Families” By John Pomfret, Washington Post, March 19, 2006

¹³ “Zone Changes Rejected in Lyme 364-170”, by Jessica T Lee, Valley News, March 15, 2006, p1col1

support. In the section on Employment, below, we will see why the whole region will benefit from providing Workforce Housing.

Voices in the Valley

The Upper Valley Housing Coalition, in its two-part CD-set entitled “The Housing Challenge”, has captured in first person stakeholder interviews both a clear statement of the problems and the solutions. The connections between local land development regulations and the current and long-term social and economic health of the Micropolitan Area are well stated by the concerned citizens interviewed by the Coalition. In his “Solving the Upper Valley’s Housing Needs” Dan French makes clear that there is no lack of understanding of the problems and the solutions needed to manage the housing crisis of the Area. The challenge is to find the resources, organize the capacity, and muster the political will to adopt local policies that facilitate the *smart growth* vision of the Coalition and others concerned about the livability and economic viability of the Upper Valley.

Smart growth is a policy framework for local land development decision-making that has gained currency in recent years in response to concern about the effects of “sprawl.” The impetus behind the smart growth movement is well described on the website of the Smart Growth Network (www.smartgrowth.org):

In communities across the nation, there is a growing concern that current development patterns are no longer in the long-term interest of our cities, existing suburbs, small towns, rural communities, or wilderness areas. Though supportive of growth, communities are questioning the economic costs of abandoning infrastructure in the city, only to rebuild it further out. Spurring the smart growth movement are demographic shifts, a strong environmental ethic, increased fiscal concerns, and more nuanced views of growth. The result is both a new demand and a new opportunity for smart growth.

The Upper Valley Housing Coalition, in response to local questions such as -- “How will affordable housing affect my community?” -- has stated the following: *Towns that grow using the principles of “smart growth” will see housing clustered near the town centers allowing use of central water, sewer, and a variety of transportation options. Smart growth works against sprawl across the countryside and protects the open spaces.*

And, to the question -- “Does our town have enough water and sewage capacity for more housing?” -- the Coalition has stated in response that *good local and regional planning means assessing current capacity and planning for future needs. “Smart growth” principles will direct housing to areas where this infrastructure exists and not necessitate irresponsible extensions of these services.*

In most communities the amount of developed land is growing faster than the population. This pattern of sprawling growth forces us to be overly dependent on automobiles, increasing the pollution and damage they cause. It also destroys farmland and open spaces and pollutes more and more watersheds. Where roads and rivers are close neighbors in the valleys, as in the Upper Valley, this is a recipe for pollution. At the same time this rural sprawl contributes to a range of serious social problems, particularly isolation of the population from traditional village centers. In response to these trends, citizens, public interest groups and all levels of government have begun to develop smart-growth solutions to revitalize our cities, promote more compact and transit-oriented development, and conserve open space.¹⁴

¹⁴ From the National Resources Council (www.nrc.org)

In order to understand *Smart Growth*, the National Neighborhood Coalition (www.neighborhoodcoalition.org) argues that local leaders and citizens have to understand sprawl. NNC defines “sprawl” as *low-density development that emphasizes the car over other forms of transportation and separates residential areas from commercial spaces and other land uses*. They characterize the typical image of sprawl as an exurban strip mall or large-scale single-family housing development abutting quickly disappearing farmland.

The above characteristics of sprawl are not unlike the housing (and economic) development challenges of the Lebanon Micropolitan Area. Those challenges are defined by the results of current land development policies implemented in local zoning and subdivision regulations throughout the Area. In summary, the immediate and long-term impacts of those policies are:

- High transaction costs for building permits due to elaborated and detailed zoning regulations¹⁵
- Absence of municipal water/sewer/transportation infrastructure development, and high public service operating costs linked to restrictive large lot zoning.¹⁶
- Sprawl and a loss of the sense of “village” as result of zoning and subdivision regulations that prohibit the creation and re-creation of places that define the historic character of the area.
- Diminished quality of life reflected in increased traffic congestion for local trips to accomplish such daily tasks as work, school, shopping, entertainment and recreation.
- Labor supply imbalances caused by the lack of adequate housing that is well located, well designed and affordable for service and professional sector employees.

The Upper Valley Housing Coalition is providing a voice of advocacy for a regional vision within which each local jurisdiction has its place and role. The impact of its advocacy is seen in an emerging sense of responsibility for finding *smart growth* solutions through the revision of zoning and subdivision regulations currently underway in many of the local jurisdictions. These, however, remain largely uncoordinated local responses to the housing and land development challenge. A broadly supported Lebanon NH-VT Micropolitan Statistical Area development plan that recognizes the assets of each jurisdiction and defines -- in a regional context -- their locally determined functional role and future development character could help rationalize the local policy making process.

Restrictive large lot zoning in rural jurisdictions may be intended to preserve a town’s “rural character,” but it also creates pressure on all available land in their own town -- and in neighboring towns providing services to their residents -- to accommodate the growing demand for housing. The counter balance to a policy of large lots in the outlying areas is a land use policy in the urban centers to encourage *cluster development* that makes creative use of density to increase efficiency in the use of scarce land and to lower the per unit cost of land in the production of housing.

The first step, however, is to understand the costs and conflicting impacts of much of the current local zoning and land development regulations that are within the control of the local jurisdictions throughout the Micropolitan Area.

¹⁵ See: The Impact of Zoning on Housing Affordability, Edward L. Glaeser and Joseph Gyourko, March 2002, Harvard University, Harvard Institute of Economic Research Discussion Paper Number 1948

¹⁶ Only Lebanon, Hartford, Hanover, Enfield, and Windsor provide municipal sewage infrastructure to some districts. Grantham does not have town sewer or water; the Eastman Community Association in Grantham has a public water system and a few houses that are on a public sewer system. All other towns in the Micropolitan Area rely on private septic fields.

Reclaiming the Village

Homeownership is promoted as the realization of the “American Dream.” However, *a decent home in a suitable environment*¹⁷—whether owner or rented—is an even older and more basic dream. The village, as a suitable environment, is no more valued than in New England. But, the very existence of the village is put at risk by the current market, cost and regulatory environment, unless the principles of *smart growth* are widely supported and implemented.

Lebanon and its urban neighbors offer the best opportunity to realize the smart growth vision of the “village” with its convenience, efficiency, economic diversity, and sense of community. The urban centers of the Micropolitan Area have developable land, water/sewer/transportation infrastructure, and public systems and services—the assets needed to support a plan for reclaiming the village. In addition, the real opportunities for the smart development of vacant land, the reclamation of “brownfields” and the adaptive reuse of obsolete buildings are to be found in the urban centers. A collaborative process to identify potential cluster development sites suitably located in relation to public transportation, schools, convenience shopping and employment centers, with low-cost connectivity to existing water and sewer infrastructure, should be a priority.

Such sites offer opportunities to design and develop new mixed use “cluster developments” to create neighborhoods that bring together a range of affordable housing attractive to families and seniors and conveniently accessible to the activities of daily life. One example is Hartford, where a Design Review District envisions enabling a flourishing residential and commercial core in White River Junction by putting extant structures to new uses that are appropriate for our time. Another local example is the planned 70-acre Riverfront Development Project in downtown Windsor, VT. This site will provide a mix of retail shops, restaurants, artist studios, 66-units of new housing, a 72-room hotel/conference center, and 65,000 square feet of high tech industrial space—all within walking distance of Windsor’s downtown Main Street and a new 12-acre waterfront park.

It is worth noting that, among the considerations driving the decision of Seldon Industries, LLC to relocate to the Windsor waterfront was Windsor’s proximity to Dartmouth College—19 miles away. In the words of Paul Dulac, “*We made a conscious decision to relocate to the Windsor Riverfront because the town, the environment, the culture, the training of the people, the proximity to Dartmouth College provided a unique opportunity for a firm like ours to prosper. We just wanted to be here.*”¹⁸ In the Employment Section, below, we will see that Seldon’s decision is already bearing economic fruit for the Micropolitan Area.

Finally, the New Hampshire Department of Transportation adds its voice to those who seek to reclaim the traditional New England Village. Its new multi-year Business Plan, the New Hampshire Department of Transportation recommends that towns develop zoning regulations “that promote traditional town center development and redevelopment by promoting street connectivity, on-street parking, pedestrian-friendly environments, reduced minimum parking requirements etc. Main streets and traditional town centers are the lifeblood of our communities—their protection should be our priority¹⁹”.

¹⁷ The U.S. housing policy goal of ...*a decent home in a suitable environment for everyone*...is set forth in the federal Housing Act of 1949.

¹⁸ Paul Dulac is COO of Seldon Laboratories LLC, a research and development using nanotechnology to purify water. The Diamond Edge Technology Incubator is also being developed to complement Seldon’s work.

¹⁹ New Hampshire Transportation Business Plan Findings and Recommendations, March 2006, Revised, p 13

Conclusion

Today, Lebanon, Hanover, Hartford, Norwich and their many neighboring jurisdictions have evolved to fill distinctive roles in the Micropolitan Area's inter-dependent regional economic system. If *smart growth* is to be a commonly held vision, it will succeed as the creation of stakeholders in each jurisdiction who recognize the added value of talking and working together in a planning and development process designed to help make "win-win" development decisions for each locality and the Area. A regional strategy will strengthen the capacity of the towns of the Micropolitan Area to advocate for their collective interests, attract investment, and organize and share financial resources and expertise.

A collaborative strategy based on the Micropolitan Area will help achieve balanced growth in the housing and business sectors, attract and retain a diversified workforce, and plan for the impacts on public infrastructure and services – all of which are necessary to assure Upper Valley's future quality of life.

8. EMPLOYMENT

The previous chapter on Housing discusses the constraints facing families in the Micropolitan Area seeking appropriate housing. The other side of that coin is the location of employment.

The Lebanon NH-VT Micropolitan Statistical Area as a whole shows a highly integrated employment market. As shown in Table 5 below, in only a few towns does a large portion of residents actually work at jobs located within their town boundaries: two-thirds of Hanover's employed residents work in town, while 61 percent of Lebanon's employed residents work within Lebanon. A town such as Orange is able to employ only three percent of its residents: 90 percent work elsewhere in New Hampshire. Similarly, Springfield exports 83 percent of its workers to jobs in other towns.

A striking measure of the integration of the Micropolitan Area is that between one quarter and half of employed Vermont residents in the Area commute to work out of state, presumably to work in New Hampshire. The traffic counts, discussed in the following chapter on Transportation, show these movements quite clearly.

Equally important is the issue as to where the commuters are working in the Micropolitan Area. Not surprisingly, the majority of jobs in the Micropolitan Area is located in the urban core. Using 2004 state planning office estimates for number of paid jobs per town, Lebanon, Hanover and Hartford account for about 80 percent of all jobs in the Micropolitan Area: 18,000 in Lebanon, 9,300 in Hanover, and 2,100 in Hartford. This is one more measure of the weight and role of the urban core.

Lebanon's resident population cannot provide all the labor needed for these jobs. In fact, only some 5,000 of its 7,600 employed residents work in Lebanon. More than 2,000 leave town to work, making room for some 13,000 people who enter Lebanon every day for work. They have come from other towns in New Hampshire, but many commute daily from Vermont.

Table 5 - Employment destination of town residents

Community of residence	% Work in community of residence	% Commute to other in-state community	% Commute out-of-state
Norwich	27	17	56
Hartford	34	17	48
Thetford	25	27	48
Fairlee	31	25	44
West Fairlee	15	41	44
Vershire	25	33	42
Hartland	19	40	41
Sharon	19	45	36
Strafford	30	34	36
Windsor	35	33	33
Piermont	19	56	26
Royalton	32	45	24
Pomfret	24	52	24
Cornish	18	64	17
Orford	20	63	17
Enfield	15	73	13
Plainfield	20	68	12
Lyme	25	64	11
Lebanon	61	29	10
Canaan	20	71	9
Grantham	20	70	9
Grafton	16	76	8
Hanover	66	29	5
Springfield	17	78	5
Orange	3	93	5

The traffic count data discussed in the next chapter on Transportation provide a detailed picture, but they only serve to confirm the obvious; namely, that Area traffic funnels across two bridges and along two other commuter routes, constrained by the topography of the Micropolitan Area and by the place of residence chosen by the workers.

The work of the Windsor Improvement Corporation to re-invent an obsolete waterfront industrial area of the town is a good example of a local vision to address the challenges of distance and dependence on personal vehicles to accomplish the activities of daily life. The Windsor Waterfront Development Plan is a market-driven strategy implemented through local policy, legislation and regulation -- and private investment. Windsor's focus on re-purposing obsolete properties appears to be paying off. In March, Sen. Jim Jeffords (I-VT) announced that Seldon Labs received a multi-million dollar grant from the U.S. Department of Defense. This could translate into a 50% increase in jobs at Seldon's Windsor site, in the former Cone-Blanchard machine-tool plant. Sen. Patrick Leahy (D-VT) announced a separate multi-million dollar grant by the Department of the Army to The Center for Precision Manufacturing (CPM). The Center plans to use these funds to begin work in the privately developed, four-story, 40,000-square-foot Windsor Technology Center planned for Main Street. The technology center will occupy part of the new building and hire 30 employees to carry out research and development and to provide training. The development firm WTC, of which the CPM's owner also is a partner, is looking for private funds to buy and develop the site, owned by The Rockingham Area Community Land Trust in Springfield, VT. The Trust is willing to sell the property rather than use it for an affordable housing project²⁰.

How great is the concentration in employment opportunities among the jurisdictions of the Micropolitan Area? Figure 14 below illustrates the gap that exists today.

Figure 14 - Number of jobs per town (est.) and [number of employed persons]

			Piermont 84 jobs [402]		
	Vershire 83 jobs [330]	WFairl 63 jobs [420] Fairlee 189 jobs [610]	Orford 268 jobs [670]		
	Strafford 186 jobs [620]	Thetford 428 jobs [1,710]	Lyme 430 jobs [973]		
Royalton 515 jobs [1,610]	Sharon 173 jobs [910]	Norwich 564 jobs [2,090]	Hanover 9,364 jobs [5,263]	Canaan 552 jobs [1,935]	Orange 10 jobs [191]
	Pomfret 156 jobs [650]	Hartford 2,125 jobs [6,250]	Lebanon 18,057 jobs [7,629]	Enfield 685 [3,185]	Grafton 53 jobs [664]
		Hartland 388 jobs [2,040]	Plainfield 441 jobs [1,524]	Grantham 391 jobs [1,264]	Springfield 235 jobs [631]
		Windsor 700 jobs [2,000]	Cornish 139 jobs [1,065]		

²⁰ "\$10 Million in DOD Grants For Windsor", David Corriveau, Valley News, March 21, 2006

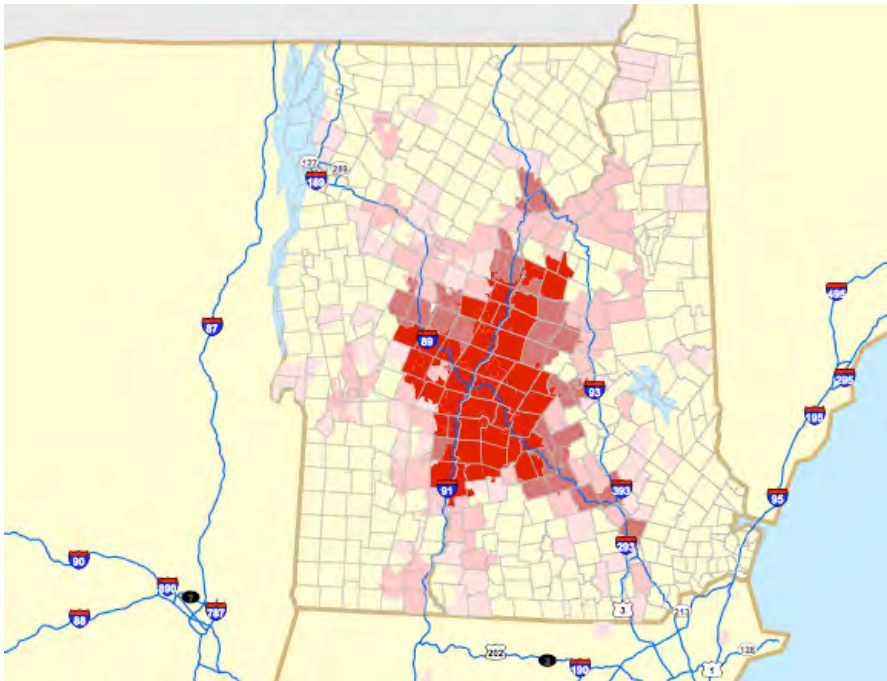
An organization such as King Arthur Flour in Norwich has indicated that it could hire additional people if there were appropriate housing in proximity to the plant. What is appropriate? It is not necessarily an issue of price. Testimonial evidence from some younger workers moving to the Area and seeking affordable housing suggests that there is a growing interest in an “urban” setting. This could be an apartment or loft in a town center, rather than a house on 5 acres in a forest, or housing that is affordable but comes with the additional cost of a long commute to work and then back home.

The White River Junction plan foresees such downtown housing in restored buildings. Windsor’s redevelopment plan seeks to create in the center of Windsor a nexus for housing, retail businesses, hospitality services, and light industry. In other words, jobs, residential accommodations, convenience services and a waterfront park will all be located within walking distance of one another and Windsor’s traditional town center. Windsor’s plan to meet that market demand could be a model for other jurisdictions and a catalyst for needed new jobs in the town.

Judging by the distances between the location of jobs and the residence of the workforce, the people of the Area have already earmarked portions of the Micropolis as residential and others as commercial. That cannot be changed until either of two things happen: ownership of housing turns over to a younger generation with other needs, and/or, jobs move closer to residences. The latter is possible where zoning regulations have not locked out such developments. When regulation is made in isolation from the interests of the Area as a whole, it is difficult for individual towns to find ways to respond to felt needs and to solve problems.

The City of Lebanon’s Planning Department has begun a study into the residence of employees of the City’s 10 largest employers. At the time of this report, while not complete its study depicts the wide radius within which employees live. In the figure below the dark red indicates ZIP codes in which more than 10 employees live, beige 5-10 employees, pink 2-4 employees and light pink 1 employee.

Figure 15 - ZIP Codes of residence for employees working in the City of Lebanon, NH
(Data collected by City of Lebanon Planning Department as of March 10, 2006)



Source: City of Lebanon Planning Office

The Lebanon Planning Department data do not indicate the salaries for each of these employees, but in other studies, the home-work distance is inversely correlated with salary earned. The lower salaried employees travel the greatest distances from home to work.

According to the New Hampshire Department of Transportation Plan report, “For those who can drive, the cost of travel is placing an increasing burden on household budgets. Nationally, more than 20% of the average household budget is spent on transportation, making it second only to housing²¹. One hundred years ago, it was 2% of the typical household budget. Low-income households spend more than 35% of their budgets on transportation. Lack of transportation choices is contributing to the inability of the poor to escape the cycle of poverty and joblessness.”

In addition to their numbers, the nature and quality of those employment opportunities are relevant to the future of the Micropolitan Area. Today, the Area’s urban core is the hub of a service economy (education, government and healthcare) that has a number of companies in the manufacturing sector that can attract complementary companies. On the margins of the Micropolitan Area are companies active in forestry and agriculture, construction, and hospitality. Much of this would not exist without the presence of a major college and hospital within the core whose employees are well paid, well educated, and consumption demand-leaders.

As solid as the core may be, new business formation is the key to a sustainable economy. Business formation in this decade depends on the presence of young adults who feel supported in their efforts to create new processes, products and companies from information rather than raw materials inputs. Retaining the Micropolitan Area’s young people is a critical issue. The presence of a nascent graphics industry (traditional printing and graphics, cartography, software, etc) has stimulated new business formations in other markets. Employment, transportation, and housing are closely linked. To retain, attract, and keep a workforce of young and educated adults, the Area must offer appropriate types of housing and social/cultural opportunities.

The demands of an aging population also influence the composition of the service sector workforce. Personal service providers typically needed by retired people or their families may not be available. These are usually personal services (cleaning, personal care, catering, and maintenance) that pay the lowest wages. Zoning can effectively preclude nearby affordable housing choices for such personnel. Data suggest that there are ever fewer young persons living in the towns of the Micropolitan Area. Teens living at home and new high school graduates would normally be some of the service providers. In their absence in the numbers required by the ever growing oldest demographic, the full requirement falls to adults who are working in the personal service sector.

Like the young people, these adult service providers will also be unavailable if zoning ordinances make only higher-priced housing practical. Employees who enjoy a steady job with benefits will absorb the cost to drive between 40 and 100 miles each way, five days a week. It is another matter whether personal service providers also will be able to afford a similar commute between an affordable home and minimum wage employment in one of the Area’s new adult communities.

The towns of the Micropolitan Area that are not able to offer the opportunity for housing suitable for all income levels may not be in a position to offer their aging residents access to the services and service providers they already need today.

²¹ Surface Transportation Policy Project, *Driven to Spend* (2005), cited in: New Hampshire Transportation Business Plan Findings and Recommendations, March 2006, Revised.

9. TRANSPORTATION

“The fastest growing areas (in percentage terms) will be the Lakes Region and the I-89 corridor.... In our rural areas, the increased isolation of an aging population will create new demands for transportation services to meet the needs of seniors for access and mobility... The Upper Valley and Southwest share a river border with Vermont, creating a demand for good bridges while protecting our transportation infrastructure from flood damage.”²²

There is little public transportation in the Micropolitan Area. As we have seen, its highways follow the drainage system of streams and rivers. That is an unchanging constant. The population has been increasing – and dispersing – for decades. Beyond the increase in numbers of vehicles on the road, the root cause of the Area’s highway congestion is the pattern of dispersing multi-car families to low-density housing that is physically isolated from centers of commerce and business. The traffic is heavy in a relative sense only. A predictable traffic slow-down at a major intersection is a painful contrast to a fond belief that the Upper Valley is, or was, or should be, rural.

In 2003 the Upper Valley Lake Sunapee Regional Planning Commission²³ reported to the Vermont Agency of Transportation that, “...[it] has experienced steady growth in employment which has increased demands on the region’s transportation network. In addition to those who commute to Hartford, many Vermont residents are crossing state lines to employment opportunities in NH. This places significant peak hour impacts on the roads that act as gateways into NH (Ledyard Bridge, US Route 4 and Interstate 89).”

It would perhaps be more accurate to say that significant employment is concentrated at the core but that land use regulations mandating low-density housing assure that the distances between home and work will only increase.

The 2003 UVLSRPC report continues, “... Possibly exacerbating commuting pressures is the fact that the NH portion ... has had a larger share of the job growth, while housing development is split nearly 50-50 between New Hampshire and Vermont communities. This job/housing imbalance is contributing to increasingly decentralized land uses and traffic congestion within the employment center.”²⁴

Little has changed over the last few years. Where the UVLSRPC report focused for its solution on the construction and expansion of Park and Ride lots along the Interstate highways, and the incorporation of public transit into the commuting equation, the fact remains that traffic on the river crossings confirms what we have seen in all previous chapters. Employment is concentrated east of the Connecticut River, while to its west the number of jobs does not meet local market demand. To pay for their large lot housing in Vermont, workers must cross the river to earn a living.

It needs to be said that Lebanon, Hanover and Hartford have no control over the deluge of automobile commuters that pour across its borders each weekday morning. These towns are home to what the residents of other towns (that had made it difficult or impossible for major retailers or manufacturers to set up within their borders) want and need in order to live.

²² Source: New Hampshire Transportation Business Plan: Findings and Recommendations, March 2006, Revised

²³ In 2002-2003, when the UVLSRPC carried out this study, its member towns included Hartford, Hartland, and Norwich, VT. These towns were granted permission, in response to their request, to leave UPLSRPC to join a Vermont-based regional planning commission on July 1, 2004.

²⁴ “Commuter Needs for the Hartford-Lebanon-Hanover Employment Center: An Assessment of Park and Ride Facilities in the Upper Valley”, Prepared by the Upper Valley Lake Sunapee Regional Planning Commission for the Vermont Agency of Transportation, November 26, 2003

Public transportation is also unlikely to solve the problem. The present route structure accurately maps population densities. The dispersion of potential bus riders across vast stretches of forested hilly landscape makes it economically unfeasible to create public transportation routes among the low-density towns to eliminate even a small portion of the automobile traffic.

The two hour-by-hour traffic count graphs below in Figure 16 illustrate the situation as of March 2005. Southbound traffic on I-89, from Vermont into New Hampshire, shows a classic double-humped commuting pattern: a morning peak at 8am and an afternoon peak at 6pm. The Northbound counts of traffic on the same bridge, however, shows that it carries many fewer people into Vermont from New Hampshire in the morning than it carries north at 6pm.

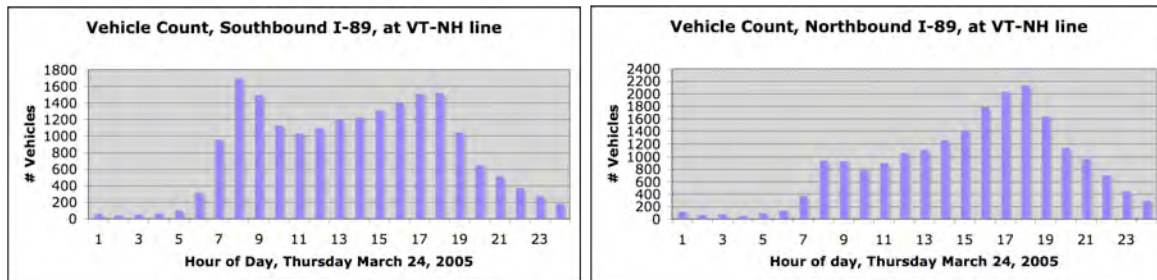


Figure 16 – Traffic Counts, I-89 Connecticut River bridge, March 24, 2005 (source, State of New Hampshire)

Public Transportation

The general absence of alternatives to the private automobile in the Micropolitan Area is widely recognized. The Upper Valley Transportation Management Association (UVTMA) was created “in consideration of projected economic growth of the Upper Valley, and the resulting adverse impact of traffic on the economy and social fabric.” Its mission is “to provide leadership and education to promote planning, development, and implementation of transportation initiatives to mitigate traffic congestion and reduce reliance on single occupant vehicle commuting.” It seeks to foster cooperation among employers, local government and other public agencies to facilitate actions to lessen the demands on the region’s roads.

The Lebanon NH-VT Micropolitan Statistical Area is served by very limited rail and more extensive bus service. Bus service is concentrated on the urban core and keyed to the needs of shoppers and employees. Rail service is limited to two trains daily and is little used for movement within the Micropolitan Area.

There are two commercial providers of public bus service and three 501(c)(3) non-profit providers.

Advance Transit, Inc. (ATI) is the primary public transportation provider. Advance Transit’s goals focus on reducing traffic counts and contributing to improved access to employment. Its fixed-route system provides regular scheduled service to the core Lebanon, Hanover, White River Junction area as well as service to Enfield, Canaan, Norwich, Wilder, and Hartford. It is primarily structured to serve employees and shoppers with destinations in the core area. Its routes are well located relative to densely populated areas.

Advance Transit’s total fixed route passenger boardings in calendar 2004 were 281,202. Currently, approximately 40% of ATI’s riders are residents of Lebanon as confirmed by passenger surveys

in October 2004 and April 2005. The April 2005 survey also found that 60% of passengers on the four ATI routes that directly serve Lebanon are going to destinations within Lebanon.²⁵

Connecticut River Transit, Inc. (CRT) is a private, non-profit company that serves the Windham and Southern Windsor County areas. It provides about 103,000 trips annually on a public bus service and volunteer network. Like Advance Transit, CRT receives contributions from towns, hospitals, state departments, businesses and individuals. These contributions help secure committed government awards from the Vermont Agency of Transportation (VTrans), the Federal Transit Administration, Medicaid, and area human service agencies totaling over \$1.8 million.

Stagecoach Transportation Services, Inc. (STSI) provides transportation services to the elderly, persons with disabilities, and general public services across a 26-town area of northern Windsor and Orange Counties.

Commercial Bus Service

Dartmouth Coach is a commercial service owned by Concord Coach Lines, Inc. It makes 7 weekday and 6 Sunday northbound trips from Boston's Logan Airport and South Station daily, stopping at New London, Lebanon and Hanover, NH. It then makes the same number of southbound trips to the same destinations along Interstate 91.

Vermont Transit is a commercial service that links Boston and Montreal via White River Junction and Hanover with five southbound and five northbound buses a day. It does not stop in Lebanon. It does service the Manchester Airport and Logan Airport.

Transportation and an Aging Population

The March 2006 report of the New Hampshire Transportation Department notes, "The percentage of New Hampshire citizens who don't have a license, or can't drive due to a disability or poor health, is about 25% and growing... For this group, isolation is a real problem; more than one in five (21%) do not drive and more than 50% of those who do not drive stay home on any given day due to lack of transportation options. Compared to older drivers, older non-drivers make 15% fewer trips to the doctor, 59% fewer shopping and dining-out trips, and 65% fewer trips for social, family and religious activities."

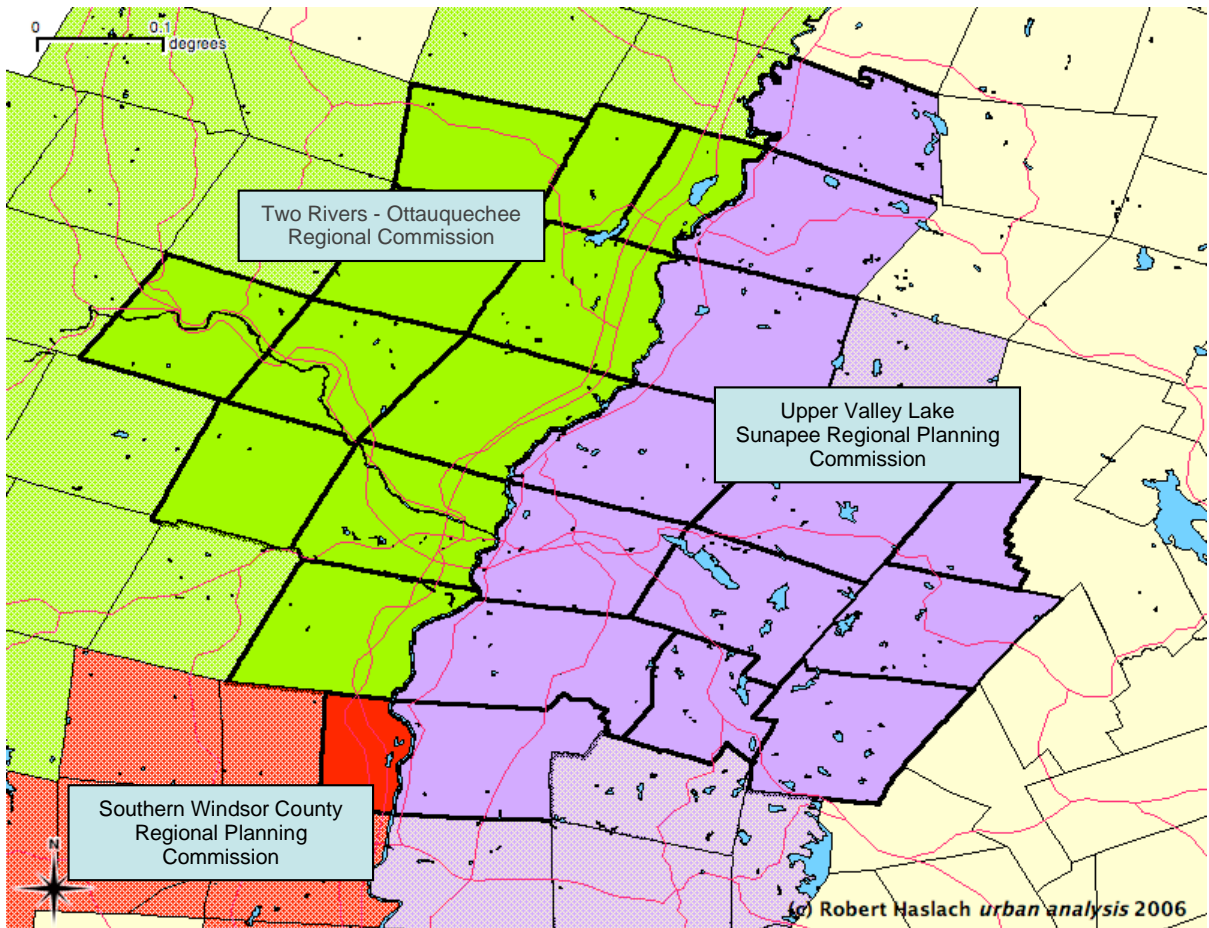
These observations point to the Business Plan's encouragement for the reclaiming of the village green concept, so that people who cannot drive automobiles may nonetheless have access to a social network and services they need for a fruitful life.

²⁵ Operational Impact Study of Advance Transit Fixed-Route Bus Network, *Final Report*, Prepared for: City of Lebanon, New Hampshire June 28, 2005 Prepared by: Upper Valley Transportation Management Association

10. PUBLIC INSTITUTIONS

While they are called on to vote for many local bodies, the people who live and work in the Lebanon NH-VT Micropolitan Statistical Area pay little attention to jurisdictional boundaries in their daily routines. The Micropolitan Area reflects the actual economic interdependent links among 25 jurisdictions forged by the people of the Area as they move every day from their residence to their work, schools, recreation and shopping.

Figure 17 - Regional Planning Commissions divide the Lebanon NH-VT Micropolitan Statistical Area



While the people who live in the Micropolitan Area define its unity by their lives, the Area does not have a single institution within which its jurisdictions can shape policies to promote the best interests of the whole. While there are numerous political organizations focused on single issues, such as schools, the environment, planning and development, as Figure 17, above, illustrates, three Regional Planning Commissions (RPC) claim portions of the Micropolitan Area in their territories. The authority of these state-funded planning and analysis bodies stops at the River. They no longer have the formal mechanism that once existed since the 1960s to share or take into account policies developed by a neighboring jurisdiction. There are organizations, however, whose interests have led them to create structures that do span the state boundary.

League of Women Voters of the Upper Valley

Active in Vermont and New Hampshire, the League of Women Voters of the Upper Valley (LWVUV) is a regional League. Members live in several area towns, with the largest concentrations being in Hanover and Norwich. In addition to activities focused on local governments, the LWVUV holds meetings and forums on issues of regional concern, such as conservation of natural resources. The Upper Valley League, as a regional organization, facilitates voter education activities in Area towns where there are enough members to do the work. The League publishes annual directories of local officials for Hanover, Lyme and Norwich. Called *Voter Guides* for Norwich and Lyme, and *Know Your Officials* in Hanover, they are available at the respective town offices and libraries.

The Connecticut River Joint Commissions

The Connecticut River Joint Commissions were formed in 1989 to unite the efforts of the two river commissions established by the legislatures of Vermont and New Hampshire. New Hampshire's Connecticut River Valley Resource Commission, created by the legislature in 1987, and Vermont's Connecticut River Watershed Advisory Commission, similarly created in 1988, were directed to cooperate with each other to preserve and protect the resources of the Connecticut River Valley, and to guide its growth and development. They have met together as the Joint Commissions since 1989. Both Commissions are advisory and have no regulatory powers. Their role is to advocate and ensure public involvement in decisions that affect their river and their valley. The 30 volunteer commissioners, fifteen appointed by each state, are landowners and business people from a variety of walks of life who share an interest in the health of the river and the future of the Connecticut River valley. They share the mission of advising the state legislatures and agencies, towns, and residents on protecting and improving the environmental quality of the watershed while promoting thriving local economies and vibrant communities. The Connecticut River Joint Commissions aim to be the catalyst for cooperatively developing a strong and vibrant economy while preserving the wealth of natural resources in the Area.

School Districts

The towns of the Micropolitan Area have established relationships to pool resources to provide public education to children and young adults that otherwise would not be feasible. Most school districts, with one exception, have remarked on the decline in enrollments, some are actively recruiting students from neighboring towns, and many are consolidating schools into fewer buildings. A number of towns have created consolidated school districts in recognition of the fact that their school-age populations are too small to sustain the overhead of a town school.

Interjurisdictional contracts for education cross all established geo-political boundaries: town, county and state. For, example, the Town of Cornish operates grades K-8; its grade 9-12 students are tuitioned to Claremont or the State of Vermont (Windsor and Hartford). The Hartford Area Career and Technology Center (HACTC) serves students attending Hartford, Hanover, Lebanon, Mascoma, Windsor, and Woodstock high schools, along with Thetford Academy, Sharon Academy, and home-study students. The Windsor School has students from Windsor, West Windsor, Weathersfield, and Hartland Vermont as well as Cornish New Hampshire. While Lyme is part of New Hampshire SAU 76, and operates a town elementary school, its high school students are supported with town tuition payments to other schools. The majority of the 103 students elect to attend either Hanover High School or Thetford Academy. Others selected schools in five different towns in New Hampshire and

Vermont. Many of these are fee-based services to out-of-district students. Several towns have gone one step further to create permanent inter-state school districts.

The Dresden School District²⁶

Hanover, NH and Norwich, VT, formed the nation's first interstate school district in 1963. The Dresden District School Board consists of eleven members: the seven members of the Hanover School Board and four of the five members of the Norwich School Board. Town voters elect school board members, pass a budget, and vote on other questions on the warrant at the annual District Meeting. The three boards (Norwich, Hanover and Dresden) together hire the superintendent, the assistant superintendents, and seven other administrative/clerical employees. Town school districts in New Hampshire are grouped geographically into School Administrative Units (SAU's). The three Hanover Schools, Bernice Ray Elementary, Francis C. Richmond Middle, and Hanover High, plus the Marion Cross Elementary School in Norwich are grouped into SAU #70. Students in grades 7-12 attend first the Richmond Middle and then Hanover High School.

In addition to students from Norwich and Hanover, students from other towns within the Micropolitan Area attend Dresden School District schools. Of its 2006-07 enrollment of approximately 760, Hanover High School has 79 out-of-district students from towns that do not have their own high school. The majority (55) comes from Lyme; 8 are from Strafford; and 5 from Hartland, VT. The other towns providing students are: Cornish 4, Piermont 4, Corinth 1 and Weathersfield 1²⁷. The District's demographic projections predict a decline in enrollment at the High School, assuming a rate of growth in housing construction comparable to the past three years. The Board suggested the need to encourage more non-resident students to attend the secondary schools in the district. Annual tuition prices were derived by calculating the percentage increase on the gross budget and multiplying that figure times the previous year's tuition rate as opposed to a straight per capita calculation.

Rivendell Interstate School District

Fairlee and Orford created the Rivendell Interstate School District. The towns jointly operate Morey Elementary K-5 and the Rivendell Academy 6-12; they contract with the River Bend Career and Technical Center, Bradford VT for vocational educational services. The Rivendell Interstate School District was created pursuant to Article IV.G of the New Hampshire-Vermont Interstate School Compact, and serves the communities of West Fairlee, Fairlee, and Vershire, Vermont, and Orford, New Hampshire.

²⁶ Source – League of Women Voters of the Upper Valley: <http://www.uppervalleyleague.org/>

²⁷ Data from Superintendent's Office of SAU #70, Accounting Supervisor, 2/7/06

11. CONCLUSIONS

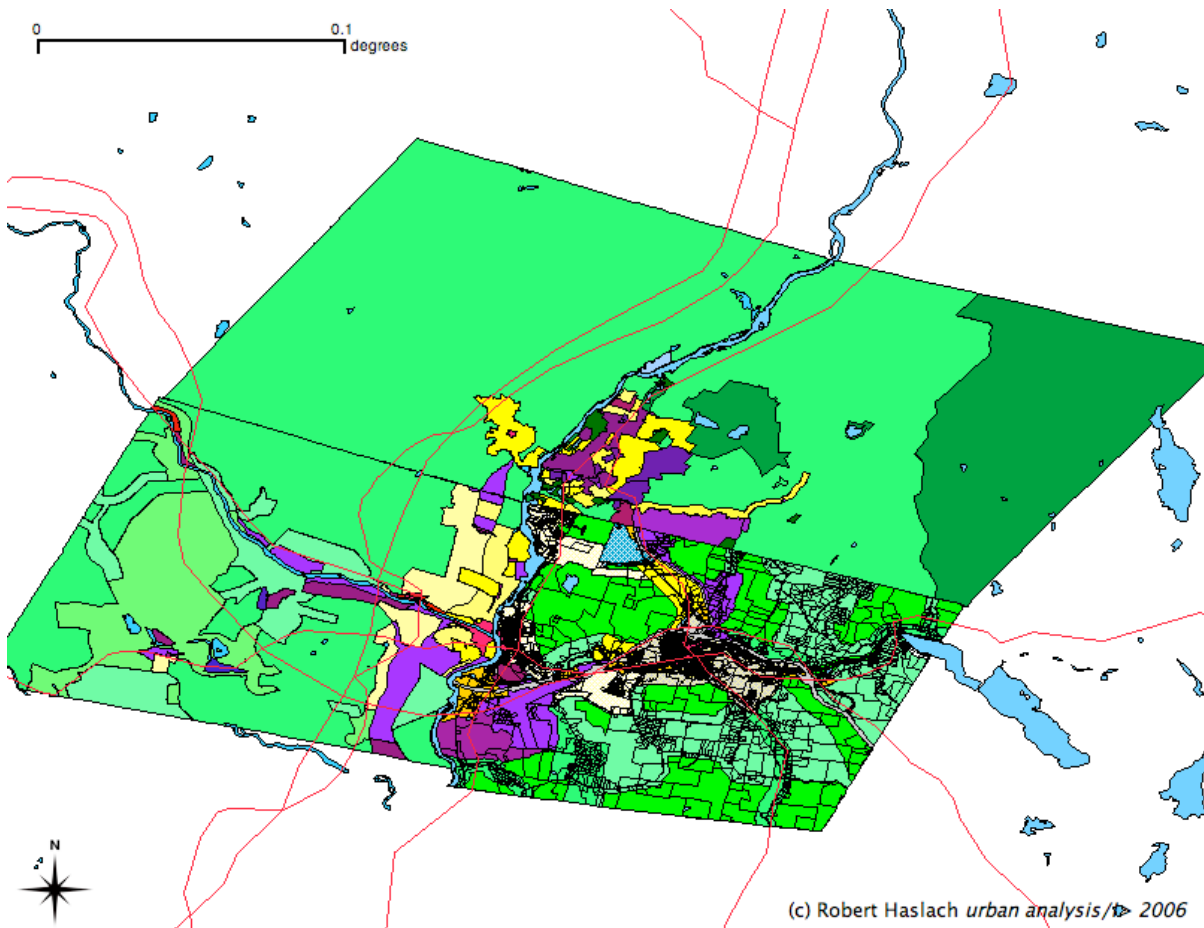
A. Coordination Within and Among the Urban Core Jurisdictions

The majority of the population, employment, commerce, business and traffic is found within the Micropolitan Area's urban core. Three of the four jurisdictions are in the midst of, or have completed, major revisions to their zoning regulations. While there has been ad hoc consultation between Lebanon and Hanover, especially in such instances as the development of the Medical Center and of the Giles Tract, and between Hartford and Norwich north of Wilder, there is no longer a formal means for the planning and zoning bodies of all four jurisdictions to meet and to coordinate the impact of changes to and implementation of their individual zoning regulations.

Figure 18 shows the zoning boundaries of the four core urban jurisdictions of the Micropolitan Area. The zoning decisions depicted in this map indicate the potential for incompatible impact on neighbors. Past land development policy decisions along the jurisdictional borders argue for the need to coordinate policy development and implementation in the future.

We recommend the creation of a formal institutional framework within which each jurisdiction can coordinate zoning and planning with the others to benefit the urban core.

Figure 18 - Zoning boundaries for Lebanon, Hanover, Hartford and Norwich (2005 versions)



B. Micropolitan-Wide Consultative Body

The towns of the Lebanon NH-VT Micropolitan Statistical Area have found creative cooperative solutions that respond to common challenges. The cross-boundary school districts are the most obvious example of this creativity. The Micropolitan Area as a whole, however, has no such over-arching institutional framework.

Its 78,000 residents demonstrate daily that they consider the 25 towns of the Area to be a unified whole. Their movements to employment, shopping, school and recreation demonstrate this. But all jurisdictions do not provide all services equally. A degree of specialization has already taken hold.

- Some towns have become, and appear intended to be, largely low-density bedroom communities with little or no commercial or service presence;
- Others towns are treated as destinations for commerce and employment;
- Still other towns have moved toward becoming retirement centers, which will create a significant population whose healthcare and other services are planned by default to be provided by institutions in neighboring towns;
- Finally, other towns are restricting development through zoning so that demand is forcing up prices for a limited resource and creating de facto homogenous upper income enclaves.

The residents of each jurisdiction are depending on other jurisdictions, either tacitly or explicitly, to provide needed services to all users but only at the expense of the local taxpayers of the towns where services are located. In order to begin a process that can revitalize an urban core that will attract and retain economic, social, and cultural life, a group representing each of the 25 component jurisdictions could meet to coordinate their individual needs and better understand how municipal policies affect the Micropolitan Area as a whole.

Therefore, creation of a Micropolitan-wide "Micropolitan Council of Governments", could be an important step toward a more collaborative relationship among the leaders and residents of the Micropolitan. The MCOG has taken two forms in the areas that have adopted it: legislative and advisory.

Examples of interjurisdictional associations

The City of Berkeley California has been seeking to formalize its relationships with adjacent cities, districts, and regional government agencies. The interjurisdictional issues in the East Bay area include economic development, open space, education, transportation, infrastructure, and air quality. A theme familiar to the Lebanon NH-VT Micropolitan Statistical Area is the need to strengthen sub-regional or interjurisdictional partnerships to encourage prudent land use decisions and to reduce unwanted externalities, such as traffic congestion, which reach beyond political borders. While the Lebanon Micropolitan Area has a traditional concern to maintain the rural character of much of its Area, a similar regional issue of concern to Berkeley, and other older cities such as Oakland, is the growth of urban sprawl in exurban and rural counties throughout the East Bay.

Many efforts have been made to develop a regional level of government in the Bay Area; none has yet succeeded. Instead, special purpose agencies with limited jurisdiction and authority have been created. One agency, the Association of Bay Area Governments (ABAG), focuses on regional issues but is now essentially a voluntary membership and information clearinghouse with no regulatory

authority. Other regional groups have formed around specific member orientations, such as the Bay Area Council, Greenbelt Alliance, and Bay Vision 2020.

The volunteer organizations have not been able to help resolve the City's issues. Given the lack of any strong government regional direction, each city has pursued its own efforts in relative isolation and largely without reference to regional considerations. Undefined common visions have resulted in unrealized common goals. Specifically, age-old issues of congestion and automobile use, growth management of suburban development, affordable housing provision, and jobs-housing balance within cities or sub-county areas, have continued to be sources of conflict, rather than of cooperation.

The Metropolitan Washington Council of Governments (COG) is a "tri-state" regional organization of Washington area local governments founded in 1957. COG is composed of 19 local governments surrounding our nation's capital, plus area members of the Maryland and Virginia legislatures, the U.S. Senate, and the U.S. House of Representatives. COG provides a focus for action and develops sound regional responses to such issues as the environment, affordable housing, economic development, health and family concerns, human services, population growth, public safety, and transportation.

COG is an independent, nonprofit association. It is supported by financial contributions from its participating local governments, federal and state grants and contracts, and donations from foundations and the private sector. The full membership acting through its board of directors, which meets monthly to discuss area issues, sets policies.

The Washington Metropolitan Area Transit Authority is run by a Board of Directors composed of six voting and six alternate members. Maryland, the District of Columbia, and Virginia appoint two voting and two alternates each. The WMATA Board of Directors determines agency policy and provides oversight for the funding, operation and expansion of transit facilities within the Transit Zone. The authority of the Board of Directors is vested in the collective body and not in its individual members. Accordingly, the Board in establishing or providing any policies, orders, guidance, or instructions to the General Manager/Chief Executive Officer or WMATA staff acts as a body. No member individually shall direct or supervise the General Manager/Chief Executive Officer or any WMATA employee or contractor. Any request for a study, which contemplates a change in the Adopted Regional System or other Board-approved plan, which affects more than one signatory, is referred to the Board for discussion and appropriate action before the General Manager/Chief Executive Officer authorizes any staff resources. Fares and advertising revenue do not pay for all of the costs of operating Metrorail, Metrobus and MetroAccess service. The shortfall is covered by contributions from the District of Columbia; Maryland; Arlington; Alexandria; Fairfax; Fairfax County and Falls Church.

Other examples of interjurisdictional partnerships include:

- a special improvement district that includes both Philadelphia and Lower Merion Township;
- a nonprofit organization that coordinates the revitalization activities of a three-county, 13-community corridor in the Detroit region; and,
- a multi-jurisdictional special improvement district in San Diego.

C. Dispersion of Employment

The work of the Windsor Improvement Corporation to re-invent an obsolete waterfront industrial area of the town is one example, like others in White River Junction and in West Lebanon, of attempts to re-distribute employment destinations within the Micropolitan Area. The employer investment for the Windsor Riverfront project has come from outside the Upper Valley.

The several chambers of commerce and economic development commissions could usefully create a task force that engages representatives of the towns, as well as business leaders, to identify obsolete real estate inventory that can be adapted to more economically productive uses, including housing. From such an effort, a new vision for development could emerge that blends opportunities for business and job growth with more cost effective housing solutions. Since appropriate housing is widely understood to be the precondition for appropriate employment, The Upper Valley Housing Coalition may serve as a model, involving as it does leaders from all elements of public and private life in the Micropolitan.

D. Traffic Control

Several studies cited in this report, and many respondents, have stated that the increase in automobile traffic is a sign of the deterioration in the quality of life in the Micropolitan Area.

This traffic is a consequence of the dispersion housing in distant, rural, low-density settings and the concentration of employment, business and commerce in the Area's urban core. In addition, the topography of the Area requires that traffic be funneled across a few bridges and along a few riverside highways and roads. These conditions cannot be changed in the short term.

The decision to use a private automobile is a choice that creates costs for the driver but also for those who pay for the maintenance of infrastructure. Since the residents of distant towns are not charged a fee, they are making use of Lebanon's infrastructure at no cost to themselves but transferring the maintenance cost they create to town residents. Were these costs made apparent to automobile drivers, they might begin to self regulate.

In addition, each of these ideas comes directly from traditional New England institutions, such as the turnpike.

- Tolls (via EasyPass) to regulate traffic on roads or bridge by charging different prices for the use of heavily traveled roads and bridges at different times of day. If a higher fee is charged at peak times, then the drivers will be paying for the incremental additional cost to the structure created by peak heavy use. In addition, drivers may decide that the cost is high enough to use a Park and Ride and avoid the extra toll. The Port Authority of New York and New Jersey uses this system to regulate use of Manhattan's tunnels and bridges by private automobiles.
- Paid parking in congested areas; if parking in a congested area were correctly priced, some fees could be collected and a number of commuters would be encouraged to use public transportation.
- Automobile stickers issued by towns experiencing highest congestion; people who enter and enjoy the use of a congested area should be willing to pay for its maintenance. The City of London uses this system. Residents of the regulated area pay nothing for the sticker.

12. SOURCES

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13. DEFINITIONS

Micropolitan Statistical Area (or, Micropolis)

A Core Based Statistical Area associated with at least one urban cluster that has a population of at least 10,000, but less than 50,000. The Micropolitan Statistical Area comprises the central New England City or Town Area or Towns containing the core, plus adjacent outlying towns having a high degree of social and economic integration with the central county as measured through commuting.

Urban Cluster

A statistical geographic entity to be defined by the Census Bureau for Census 2000, consisting of a central place(s) and adjacent densely settled territory that together contain at least 2,500 people, generally with an overall population density of at least 1,000 people per square mile. For purposes of defining Core Based Statistical Areas, only those urban clusters of 10,000 more population are considered.

CDP, “census designated places,” is a geographic entity used by the U.S. Census Bureau to serve as the statistical counterpart of an incorporated place for the purpose of presenting census data for an area with a concentration of population, housing, and commercial structures that is identifiable by name.

Housing

Occasional use. These are units held for weekend or other occasional use throughout the year. Second homes may be classified here or as seasonal.

URE. These are temporarily occupied by persons with Usual Residence Elsewhere. If all people in a housing unit usually live elsewhere, the unit is classified as vacant. For example, a beach cottage occupied at the time of the interview by a family that has a usual residence in the city is included in the count of vacant units. Their home in the city or the home of a comparable vacationing family also can be in the AHS sample and would be reported as occupied since the occupants are only temporarily absent. URE units also may be classified in any of the vacancy categories: seasonal or for sale.

Other vacant. This category includes units held for settlement of an estate, units held for occupancy by a caretaker or janitor, and units held for personal reasons of the owner.

Seasonal units are intended by the owner to be occupied during only certain seasons of the year. They are not any-one’s usual residence. A seasonal unit may be used in more than one season, for example, for both summer and winter sports. Published counts of seasonal units also include housing units held for occupancy by migratory farm workers. While not currently intended for year-round use, most seasonal units could be used year-round; see the next definition.

Suitability for year-round use. For vacant housing units that are not intended by their current owners for year-round use (seasonal and migratory), the respondent was asked whether the construction and heating of the housing unit made it suitable for the unit to be occupied on a year-round basis. A housing unit is suitable for year-round use if it is built as a permanent structure, properly equipped, insulated, and heated as necessitated by the climate.