



Economic Development Strategy for the Merrimack Valley

Final Report

Prepared by:

Economic Development Research Group

*Glen Weisbrod
Margaret Collins
Karen Hamilton
Lisa Petraglia*

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1.0 Introduction

The Merrimack Valley is widely known as the Birthplace of the American Industrial Revolution. While manufacturing is still an important activity here, high-tech, telecommunications and service related industries are growing at a fast rate due to an excellent transportation network and an educated work force. The Merrimack Valley represents about half of Essex County, Massachusetts and lies between the Boston region and rapidly growing southern New Hampshire.

The Merrimack Valley Planning Commission (MVPC) is a regional planning agency providing professional services to 15 communities in Northeastern Massachusetts (see map). It is one of 13 regional planning agencies operating in the Commonwealth of Massachusetts. The MVPC is a public agency committed to assisting its member communities in issues related to transportation, environment and economic development. The U.S. Economic Development Administration has designated MVPC and its area as an Economic Development District.

Economic Development Research Group (EDRG) was commissioned by the MVPC to prepare an economic development and diversification strategy for the Merrimack Valley. Funding for this study was provided by the U.S. Department of Housing and Urban Development and the MVPC.

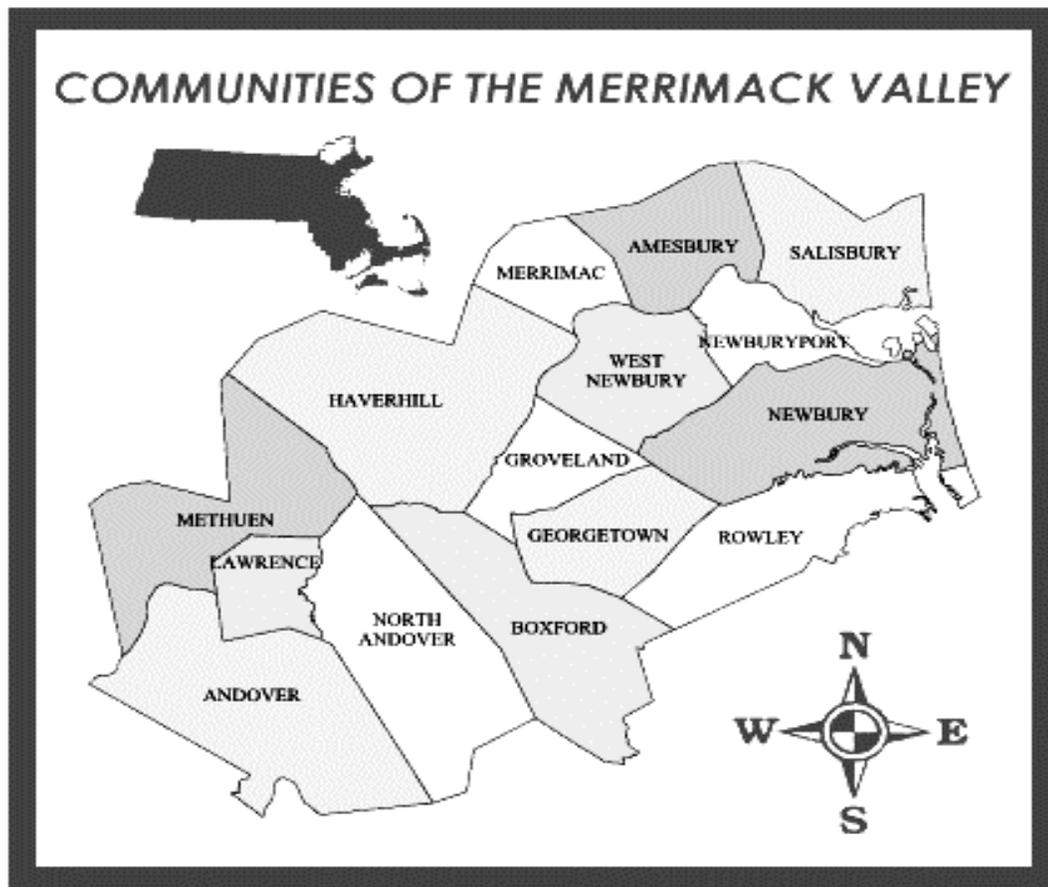
To examine the region's economic development needs and opportunities, the consultant team completed six stages of information collection and analysis:

- *Stage 1. Review of Prior Studies*, including a regional assets summary, a citizen's attitude survey, prior interviews with economic development stakeholders and the most recent OEDP (Overall Economic Development Plan) document.
- *Stage 2. Analysis of Economic Trends and Patterns*, to identify evolving changes in the region's mix of jobs by industry and by occupation, and the region's economic performance compared to that of surrounding areas.
- *Stage 3. Analysis of Regional Competitiveness*, to identify relative costs of labor, availability of supporting infrastructure, and other factors affecting the attractiveness of the region for growing, recruiting and retaining businesses.
- *Stage 4. Discussions with Business and Economic Development Leaders* concerning regional strengths and weaknesses, covering selected representatives of local economic development agencies, property developers, and businesses.
- *Stage 5. Analysis of Technology Trends Affecting Specific Industries*, including the role of changes in data technologies, defense spending, and retailing.
- *Stage 6. Scenario Forecasting*, using the REMI economic forecasting and simulation model, to estimate future regional economic changes likely to occur

over the next two decades under alternative assumptions about regional investment and competitiveness.

Information obtained from these six stages was then used to develop the findings in this report. The findings include:

- *Current Situation* – how recent trends in the region compare to those of broader county, state and national trends,
- *Future Change* – how much future regional growth in jobs and occupations is forecast to occur in the region,
- *SWOT* – identification of the region’s economic development Strengths, Weaknesses, Opportunities and Threats.
- *Strategy Directions* – a framework of strategies and actions to build on the region’s strengths and opportunities, while addressing the region’s weaknesses and threats to its economic future.



1.1 Historical Context

The economic base of the Merrimack Valley has proven to be resilient throughout numerous economic cycles that the region has weathered. The older urban centers of the Valley were initially developed during the Industrial Revolution around the textiles and shoe industries. The region flourished on these traditional industries as they spawned related suppliers and services, attracting skilled labor that reinforced the Merrimack Valley's strength as a cluster for the apparel industry.

By the mid-twentieth century, competition from lower cost locations - first in the South and eventually overseas - began to weaken traditional industries. With the rapid expansion of the Boston metro area that characterized the 1960s and 1970s, and the construction of I-93, the region grew in population while employment stagnated. The construction of I-495 in the early 1970s made new areas accessible for development. New residents of the Valley's rapidly developing suburbs tended to be commuters rather than local workers.

The long, protracted process of employment stagnation in the Merrimack Valley lasted into the 1980s, when the region enjoyed a brief recovery. Large, technology-intensive manufacturers of computer and related equipment -- like DEC and Raytheon -- began to establish major operations in the Valley. These attracted suppliers, subcontractors, and skilled labor, which in turn attracted more investment. The recessionary years of the late 1980s led to contraction, and in some cases closure, of major industries. During the depths of the recession in the early 1990s the unemployment rate was more than 15%. Nonetheless, employment has grown more rapidly than population during the 1980s and 1990s, due to demographic changes and to indigenous job growth along I-495 and I-93.

Economic recovery picked up momentum during the mid and late 1990s. Since 1995, the region has gained nearly 13,000 new jobs in a range of new, leading edge industries. The Merrimack Valley is rapidly developing as a cluster for the exploding internet economy.

Although parts of the region are experiencing unprecedented prosperity and investment, recovery has been unevenly distributed. The older urban cores of the region are filled with vacant mill buildings. Pockets of unemployment and poverty persist. Defense contracts have declined by 60% over the past five years, representing a more than 10% decline in the region's 1992 manufacturing GRP.

This study is motivated by two primary objectives for the Merrimack Valley:

- To sustain economic recovery and competitiveness
- To promote further diversification of the economic base.

2.0 Recent Trends in the Economic Base of the Region

In the past few years, the Merrimack Valley has experienced a surge of investment by fast-growth technology-intensive firms. However, problems of environmental blight and poverty still exist in some areas. This chapter looks at recent trends underpinning economic growth. Changes in employment, wages and the availability and cost of labor, industrial sites, and buildings are evaluated. Issues related to the availability of high speed internet connections for new businesses in the region are also considered, as this will likely be an important factor in future economic growth.

2.1 Employment Trends: 1995 to 1999

Table 2-1 shows recent trends in private employment and wages in the Merrimack Valley from 1995 to 1999. These data are based on employment in companies located in the Valley rather than on residents of the Valley who may or may not work within the region. Since 1995, the total number of jobs in the Merrimack Valley has increased by 11% overall to about 132,500 – a gain of nearly 12,700 jobs. The region's rate of job growth, which lagged well behind the state average in the early 1990s, has exceeded that of the state by almost 20% over the past five years.

Both durable and non-durable goods manufacturing performed well overall. Durable goods manufacturing, furniture, glass and electronics manufacturing sectors recorded gains of over 20%. In line with national trends, the metals and lumber industries registered losses. A loss was recorded in computer manufacturing; however, this has probably been abated since 1999 by expansions of computer and related vendors. Gains in all sectors of non-durable goods manufacturing except clothing were registered. Over 500 jobs were added in food processing, for a gain of 67% over the five-year period.

Large job gains were recorded in warehousing, wholesaling, transportation, and communications. Employment growth has been supported by the expansion of industrial parks in Andover, Haverhill, Lawrence, and Methuen, Newburyport, and Salisbury. New and expanding companies in a range of traditional as well as new economy industries have absorbed most of the space in existing industrial parks.

The retail sector suffered with the closure of Methuen Mall and the loss of revenues to New Hampshire outlets, with general merchandise and apparel outlets registering the largest decreases. Retailing is expected to start to recover with the recent rebirth of the Methuen Mall as "The Loop", a leisure and entertainment-oriented shopping center with retailing focussed on sales tax-free clothing and services.

Table 2-1: Employment Trends in the Merrimack Valley 1995 - 1999

		JOBS		
		1995	1999	% Change
Basic				
1 to 7	Ag. Services	773	1,026	33%
Construction				
15	Const. Gen.	662	1,040	57%
16	Const Heavy	567	787	39%
17	Const. Special	2,688	3,499	30%
Durable Goods Manufacturing				
24	Lumber	241	204	-15%
25	Furniture	124	181	46%
32	Glass, Stone	199	355	78%
33	Primary Metals	318	225	-29%
34	Fab. Metals	2,230	1,947	-13%
35	Computer & Industrial Machinery	2,703	2,563	-5%
36	Electronic	9,899	11,887	20%
38	Instruments	3,863	4,031	4%
Non-Durable Goods Manufacturing				
20	Food	758	1,265	67%
23	Apparel	894	630	-30%
26	Paper	1,147	1,196	4%
27	Printing	1,402	1,892	35%
28	Chemicals	1,119	1,203	8%
29	Petroleum	NA	NA	NA
30	Plastics	2,172	2,488	15%
31	Leather	404		NA
39	Misc.	132	237	80%
Transportation, Communications, & Utilities				
41	Local Trans.	898	886	-1%
42	Warehousing	599	1,035	73%
44	Water Trans.	48	46	-4%
45	Air Trans.	16	29	81%
47	Trans. Services	147	170	16%
48	Communications	1,221	1,915	57%
49	Utilities	1,225	950	-22%
Wholesale				
50	Durable Goods	3,553	3,767	6%
51	Non-Durable Goods	2,535	2,796	10%
Retail				
52	Hardware	539	545	1%
53	Gen. Merchandise	783	361	-54%
54	Grocery	3,412	4,160	22%
55	Automotive	1,712	1,780	4%

Table 2-1: Employment Trends in the Merrimack Valley 1995 – 1999(cont'd)

		JOBS		
		1995	1999	% Change
56	Apparel	2,441	670	-73%
57	Furniture	451	592	31%
58	Rest & Bars	6,467	7,149	11%
59	Misc. Retail	2,111	2,275	8%
Services				
60	Banks	1,772	1,704	-4%
61	Credit Unions	157	308	96%
62	Stock Brokers	47	125	166%
63	Ins. Carriers	924	758	-18%
64	Ins. Agents	541	608	12%
65	Real Estate	711	745	5%
67	Investment	50	NA	NA
70	Hotels	681	958	41%
72	Personal Services	1,312	1,369	4%
73	Business Services	5,957	8,820	48%
75	Auto Services	808	957	18%
76	Misc. Repair	301	365	21%
78	Movies	336	353	5%
79	Amuse & Recreation	1,128	1,675	48%
80	Healthcare	12,611	12,846	2%
81	Legal	588	711	21%
82	Education	2,060	2,192	6%
83	Social Services	3,410	3,961	16%
84	Museums, Galleries	34	11	-68%
86	Clubs	996	1,127	13%
87	Engineering	3,387	3,613	7%
88	Household	168	400	138%
89	Misc.	17		NA
Totals (1)		119,806	132,495	11%

(1) Totals include government employment and data withheld due to confidentiality (NA)

Source: Massachusetts Department of Employment and Training

In line with statewide trends, growth in services has been strong. Business services grew most, gaining 2,900 jobs since 1995 and accounting for almost 25% of the total job growth in the region. Business services in the Merrimack Valley grew by nearly 50% compared with 36% statewide. Most financial services industries also registered significant gains in employment. The growing of tourism and leisure industries were evidenced by significant increases in jobs in hotels, amusement and recreation sites, clubs, and restaurants.

Under the current *Standard Industrial Classification (SIC) System* it is difficult to trace the performance of new service and technology sectors, since they did not exist when the

SIC system was developed. A new industrial classification system -- called the *North American Industrial Classification System* (NAICS) is now being piloted by the Census Bureau. NAICS will aid in analysis of new economy and service sectors.

2.2 The New Economic Base

Thirty years ago, the establishment of such corporate technology giants as Raytheon, Hewlett-Packard and today's Lucent in the Merrimack Valley highlighted the region's access to skilled labor markets and to transportation networks. With the build-out of most available industrial and commercial sites in the inner 128 beltway, the natural progression has been to the outer 495 ring of Eastern Massachusetts, more sites have been available and costs are lower.

During the early and mid 1980s, development of speculative industrial and commercial space in the Merrimack Valley underpinned employment growth in the region. Development came to a standstill from 1989 until the mid-nineties. In recent years, mass deployment of the internet has enabled the creation and expansion of a new generation of businesses in internet-related hardware and software and in E-commerce. Available sites and buildings in the Valley are rapidly filling up, particularly in the southwestern segment of the Valley where I-93 intersects with Route 495.

During this era of rapid expansion of internet services, Merrimack Valley has attracted a number of high-profile, high-growth technology and financial services firms. Among these are CMGI, Putnam Investments, Nortel, Navisite, Sentillion, Vicor, Compaq, Quantum Bridge, Loadspring Solutions, RAID, the Genetics Institute, and scores of other companies involved in optics, networking, telecommunications, software, and healthcare services. Venture capital firms pumped \$125 million into Merrimack Valley companies in 1999, a significant increase from the \$6 million that was invested in 1995.

The region is well positioned in several key growth technology sectors. These include optical networking equipment, for which the market is forecast to grow from \$8.9 billion in 1999 to \$41 billion in 2003. Many new firms are E-based, and a ten-fold growth in internet commerce is projected over the next five to ten years.

The retention of existing expanding firms has proved to be the most efficient and effective economic development strategy, given that expanding firms are responsible for the majority of the jobs created. The challenge posed in the current, fast-growth environment is to retain expanding firms within the region who may outgrow their present sites. This requires a good supply of skilled labor, business sites, and supportive infrastructure.

2.3 Labor Supply

As shown in Table 2-2, wages in the Merrimack Valley were similar to those in the rest of the state in 1995. By 1999, the average wage in the region had slipped below the state average of \$40,325 by some 4%. Despite the lag, wages in the Valley have grown by 22% over the past four years.

Table 2-2: Average Wage in the Merrimack Valley Compared with State Average 1999

	<u>1995</u>	<u>1999</u>	<u>% Change</u>
Merrimack Valley	\$31,783	\$38,885	22%
State Average	\$32,322	\$40,328	25%

Source: Massachusetts Dept. of Employment and Training

This can be viewed as an asset rather than a problem since the region’s operating costs are lower in comparison to the state and this gives the region a competitive advantage in attracting outside investment.

As Table 2-3 shows, the supply of labor in the Merrimack Valley is tight. In August of 2000, unemployment in the Valley averaged 3.0%, compared to the 2.4% statewide average rate. The only communities in the Valley that significantly exceed the statewide average rate are Methuen (3.3%) and Lawrence (5.7%), where the unemployment rate is more than double the state average. Having a better-than-average untapped supply of labor in the current tight market may be viewed favorably by certain industries, if the untapped labor is perceived as trainable.

Table 2-3: Unemployment in the Merrimack Valley as of August 2000

Rowley	1.2%
Boxford	1.4%
Georgetown	1.8%
Groveland	1.9%
Newburyport	1.9%
West Newbury	1.9%
Amesbury	2.0%
Andover	2.0%
Merrimac	2.0%
Newbury	2.1%
North Andover	2.3%
Salisbury	2.8%
Haverhill	2.9%
Methuen	3.3%
Lawrence	5.7%
REGIONAL AVERAGE	3.0%
STATE AVERAGE	2.4%

Source: Massachusetts Dept. of Employment and Training

The Massachusetts economy is expected to expand by 400,000 new jobs by 2006 - an increase of over 12% from its current level. Another 740,000 jobs will become available as workers retire, move up the career ladder, or change careers. In total, there will be a demand to fill more than 1.1 million jobs. Five of the ten fastest-growth occupations are in technology sectors. Most of these jobs will require training, which may vary in length from six months to six years. A critical aspect of an economic development strategy will be to promote workforce preparation for new jobs in skilled occupations, particularly for less-educated workers lacking English fluency.

2.4 Supply of Industrial Park Sites

There are two main types of accommodation for businesses in the Merrimack Valley: (a) new buildings in industrial parks and (b) renovated mill buildings, which tend to be in or near urban core areas. This section discusses industrial parks, while Section 2.5 discusses renovated buildings.

Table 2-4 lists the main industrial sites and renovated mill projects in the Merrimack Valley. There are industrial parks and buildings in Amesbury, Andover, Lawrence, Methuen, Newburyport, North Andover, and Salisbury. Very few open sites in industrial parks are available. The only readily available, serviced sites are in the Methuen Industrial Park, which has one 10-acre site, and in Haverhill’s three industrial parks, which have available sites of from 15 to 80 acres. Thus, there are currently only four sites - totaling 135 acres - that have adequate access and utilities for near-term development. More efficient use of existing buildings and sites will be necessary in the future. Additional opportunities for development of other sites in the region are discussed in Chapter 4 (Section 4.3)

Table 2-4: Supply of Industrial Sites & Buildings in the Merrimack Valley

Industrial Park/ Building	Area (acres or sq.ft)		Activities / Infrastructure Issues	Principal Industries/ Other Comments
	Total	Available		
Amesbury				
Amesbury Industrial Park	100 acres	0	Manufacturing , distribution	Building equipment, electronics, furniture
Hunt Road District	90 acres	0	Manufacturing, distribution	Waste management, fish farming, furniture
Andover				
River Road District	370 acres	0	Technology R&D, office, hotels	Technology, Financial & Professional Services
Dascombe Industrial District	400 acres	0	Technology R&D, Manufacturing, Distribution	Raytheon, California Paints, Compaq
Lowell Junction Industrial District	350 acres	100 acres	R&D, Manufacturing,, Distribution/ Available acreage needs access road from I-93.	Genetics Institute, Gillette
Brickstone Square	1 million sq. ft.	0	Office, R & D	CMGI, E-business, technology, and professional services.
Dundee Park	100,000 sq. ft.	0	Incubator space for office and R&D	Small firms in technology & business services

Table 2-4: Supply of Industrial Sites & Buildings in the Merrimack Valley (Continued)

Industrial Park/ Building	Area (acres or sq.ft)		Activities / Infrastructure Issues	Principal Industries/ Other Comments
	Total	Available		
Haverhill				
Haverhill High Tech Park	130 acres	80 acres	Technology manufacturing & distribution	Technology
Frontier Industrial Park	60 acres	30 acres	Technology Manufacturing, distribution	Technology
Ward Hill Industrial Park	500 acres	15acres	Manufacturing and Distribution	Technology, Traditional
Burgess-Lang Tech Center	240,000 sq. ft.	7500 sq. ft.	Office and R&D	Technology, Business Services
Lawrence				
Riverfront Industrial Park	50 acres	0	Light Assembly, Warehousing & Distribution	New Balance, Clothing, Handling Equipment
Lawrence Industrial Park	100 acres	0	Distribution, Engineering, Shipping	Media One, Firestone, Shipping
Everett Mills	650,000 sq. ft.	150,000 sq. ft.	Office, warehousing, distribution, light manufacturing	Technology, services, Textiles
Heritage Place	300K sq. ft.	130K sq. ft.	Negotiations are underway for 75,000 sq. ft.	Renting for \$10 to \$14 per sq. ft.
200-300 Canal Street	1.5 M sq. ft..	300K sq. ft..	Office, R&D	Small technology, E-Commerce, & services
Methuen				
Aegean Industrial Park	60 acres	0	Front Office & Warehousing:	Pharmaceuticals, Computers, Building Materials
Methuen Industrial Park	65 acres	10-20 acres 1 site	Manufacturing, Distribution, Training	Shaws, Nabisco, Construction, Printing,
Griffin Brook Industrial Park	60 acres	0	R&D, Manufacturing, Telecom Networking	Electronic Components, Telecom, Networking, Medical Research
Scattered Sites	300 acres	300 acres	50% have utilities on site	
Newburyport				
Lord Timothy Dexter Industrial Green	300 acres	0	Manufacturing & distribution	Food, Chemicals, Semi-Conductors
Lord Timothy Dexter Industrial Green West	100 acres	100 acres	\$2 million for access improvements requested	Grant application pending
North Andover				
Willow Industrial Park	150 acres	0	Manufacturing	Chemicals, printing (traditional)
Lawrence Airport Industrial Park	49 acres	Class A Office Space	\$18 to \$25	Sites will sell for \$80 to \$100K per acre
Salisbury				
Salisbury Industrial Park	60 acres	15 acres in 7 sites	Manufacturing & Distribution Undeveloped sites lack sewer	Mixed traditional Grant pending for sewer

2.5 Supply of Renovated Buildings

Reuse of mill buildings is often an economical alternative, particularly for startup industries. While some of the tenants of refurbished mill developments include more conventional companies involved in professional and business services, many are young companies in fast-growth sectors including those relating to the internet or e-business. Renovated mill buildings provide fashionable working environments and are popular with many younger staff. Keeping a good supply of competitively priced mill space available gives the region a distinct competitive advantage in attracting new investment and in retaining expanding industries with a unique product that draws attention to the region's industrial heritage.

The main concentration of mill buildings is in the core areas of Lawrence, Haverhill, Amesbury, and Methuen. Table 2.4 lists some of the major mill renovation projects in the region. These developments are used by small and medium companies and serve principally as office and light industrial space. Some of the projects, like Everett Mills in Lawrence and Brickstone Square in Andover, came to market during the 1980s. Similar renovated mill buildings exist in the Amesbury and Haverhill cyber districts, but are not listed in Table 2.4.

Brickstone Square met with market acceptance even during the depth of the recession. It has since expanded to 1,000,000 square feet and is currently fully occupied, renting for \$18 to \$25 per square foot. (See Table 2-4). These rents have nearly doubled in the past year.

Dundee Park, also in Andover, is a small business incubator facility, renting for \$14 to \$16 per square foot. Dundee Park has 100,000 square feet of space, all of which is currently full.

In Lawrence, Everett Mills, a historic 650,000 square foot multi-story textile mill renovated during the 1980s, is now about 80% occupied.

Also in Lawrence, another 1.2 million square feet have been absorbed at the waterfront mill buildings at 200-300 Canal Street.

The developer of Dundee Park in Andover has undertaken a new project in Lawrence, the 300,000 square foot Heritage Park complex. Negotiations are underway for a large portion of the available space here. Rents will range from \$10 to \$14 sq.ft., depending on finishes required.

There are a number of other sites that need water, sewer, and access improvements before they can be marketed. In most cases, grant applications are pending for these improvements. These sites are described in the section on Opportunities in Chapter 4.

2.6 Demand: Trends in Rents, Land Prices, and Availability

Table 2-5 shows recent rents and purchase prices for commercial and industrial sites in the Merrimack Valley. Sites and buildings in Andover top the market, with prices of \$175,000 per acre and rents ranging from \$18 to \$25 per square foot. Elsewhere in the region, sites are in the \$65,000 to \$100,000 range per acre. Rents for industrial space in mill buildings are in the range of five to ten dollars per square foot. Rents for Class B renovated office space range from \$10 to \$16 per square foot.

Table 2-5: Typical Rents & Prices - Industrial & Office Space in the Merrimack Valley

Community	Development	Rents (Per sq. ft.)	Sale Prices (per Acre)
Andover			
	Land in Industrial Parks		\$175,000
	Class A Office Space	\$18 to \$25	
	Class B Flex Space	\$14 to \$16	
Haverhill			
	Class A Office Space	\$14 to \$16	
	Class B Office & industrial space	\$4 to \$10	
Lawrence			
	Class B Office Space	\$10 to \$14	
	Class B Flex Space	\$6 to \$10	
	Class B Industrial Space	\$4 to \$8	
Methuen			
	Class B Office	\$10 to \$15	
Newburyport			
	Industrial Land		\$100,000
North Andover			
	Land in Industrial Parks		\$65,000
Salisbury			
	Land in Industrial Parks		\$100,000
	Land in Industrial Parks		\$75,000 to \$100,000

Source: interviews with commercial real estate representatives

Table 2-6 compares rents in the Merrimack Valley for Class A Office space with other areas in the Boston Metropolitan Statistical Area (MSA). These comparisons show that renting in the Merrimack Valley is significantly less expensive than central and inner area suburban options, even including the Framingham area. Merrimack Valley rents are competitive as well with other outer-495 communities like Franklin and Lowell. However, as is the case in most other Eastern Massachusetts area communities, the

current supply of industrial and office buildings and sites is unlikely to be sufficient to meet demand in the longer term.

Table 2-6: Rents for Class A Office Space in the Merrimack Valley Compared with Other Eastern Massachusetts Area Communities

	Rents per Sq. Ft.
Merrimack Valley	\$18 to \$24
Downtown Boston	\$45 to \$55
Cambridge	\$40 to \$55
Burlington	\$35 to \$40
Framingham	\$30 to \$35
Quincy	\$25 to \$35
Wilmington	\$20 to \$25
Franklin	\$20 to \$24
Lowell	\$18 to \$22

Source: interviews with commercial real estate representatives

2.7 Communications Infrastructure

Cyber districts have been established in Amesbury, Haverhill, and Lawrence and are now being implemented to varying extents. Cyber districts are intended to provide the type of environment conducive to spawning high-growth businesses. They should reinforce the Valley’s image as a cluster of highly specialized industries - optics, software, e-commerce – with an environment supportive of growth. This cluster of industries is fed by the region’s skilled labor force and by its access to suppliers, clients, and colleagues.

Many of the technology-intensive businesses that are targeted by cyber districts need broadband on-line access for high-speed data transmission. One of the most complex issues facing both private developers and public officials charged with promoting cyber districts is the issue of the adequacy of existing telecommunications infrastructure to handle the growing demands of businesses for high speed internet access.

Table 2-7 shows the characteristics of different modes of connecting to the internet. Two aspects, connection and speed, are critical for businesses. There are two types of internet connection: open or dial up. “Dial up” connections require that the user call a telephone number (through a modem) in order to access the internet, risking time losses from busy lines or loss of the connection. “Open” connections are always live, and are preferable for most businesses because they are reliable and convenient. Speed is measured in bits per second. One kilobit per second means that one thousand pulses are transmitted per second. One megabit per second is one million pulses.

A typical telephone modem is too slow for most business needs. ISDN is an older high-speed technology that is nearly obsolete due to the much higher-speed options now available. DSL (Digital Subscriber Lines) is currently the best value for money of the options, including internet access. It is available only on copper wire lines (not fiber optic) and the user must be within 15,000 feet (about 3 miles) of the telephone company's central offices.

Table 2-7: Internet Connection Options

Type of Service	Speed	Type of Connection	Cost	Available in Merrimack Valley
Telephone Modem	56 K	Dial Up	\$	Yes
ISDN	128K	Dial Up	\$\$	Yes
DSL	1.5 M	Open	\$\$	Restricted
Cable Modem	Up to 1.5M	Open	\$\$	To most home businesses
High-Speed Wireless	1.5 M	Open	\$\$\$	1+ year away
T-1	1.544 M	Open	\$\$\$\$ but varies	Yes

Source: Boston University Graduate School of Management, Amesbury Cyber District Pilot Project Study, 1999, Verizon, and ATT Broadband (formerly Media One)

Central offices are located in downtown Amesbury, Andover, Haverhill, Lawrence, and Newburyport, where the main concentrations of businesses are. Most areas within these towns can get DSL lines. DSL is less likely to be available in the smaller, more residential towns of the Merrimack Valley, unless the location happens to be within three miles of a central office in an adjacent town. In many cases, even in areas within 15,000 feet access to DSL lines is restricted by the presence of equipment such as coils, caps, and bridges that may have been used to repair faults on the line.

Cable Modem open connection to the internet is available through ATT Broadband (formerly Media One). This is a low-cost, high-speed connection option available only to home-based businesses since, at present, it is restricted to residential customers. A pilot project to deploy cable modems internet connections to businesses will be launched early next year and the technology may eventually become available to commercial areas. Speeds of up to 1.5 M per second are possible for downloading; a slower 300K per second applies for uploads. At \$40 to \$50 a month, this is one of the best connection options for home-based businesses that cannot get DSL service. It is available in all Merrimack Valley communities except Salisbury, Groveland, Georgetown, and Merrimac.

T-1 lines provide the fastest, most reliable, and most expensive way of connecting to the internet. These lines are comprised of a bundle of 24 wires, called channels, each with a bandwidth of 84 kilobits per second. The total bandwidth for a T-1 line is 1.544 Megs per second. Contrary to popular belief, T-1 lines do not require fiber optic cables; they can

be installed over copper wire as well. The costs of T-1 lines vary by distance from the central office (see list above) or from the nearest Point of Presence (POP) provided by the user's internet Service Provider. A POP is like an internet switching station. For most small businesses, T-1 lines, with installation costs ranging from \$600 to \$1000 and monthly costs of \$1000 to \$3000, is cost-prohibitive. Savings are possible where a critical mass of users are clustered, as central office and internet switching infrastructure will be closer to these areas. T-1 lines are available throughout the Merrimack Valley but are cheaper in established business districts where there is a critical mass of users.

Shared and fractional T-1 line access can be purchased at lower costs. Boston University Graduate School of Management did a feasibility study of provision of shared T-1 access in renovated mill buildings in the Amesbury Cyber District. Such "plug and play" buildings would be pre-wired for high-speed, broadband on-line access. The study was commissioned to investigate the economics of provision of shared T-1 lines by landlords trying to attract e-businesses and technology firms. Installation and wiring costs were estimated at \$40,000 to \$60,000. Monthly costs were estimated to run from \$20,000 to \$40,000. Tenants would be charged \$300 to \$500 a month to cover costs and make a return on the investment.

In practice, few landlords in regions like the Merrimack Valley are willing to risk this level of investment for a speculative service for which there is an uncertain demand. In most cases, the tenants, not the building owners, choose and install the internet access technology according to their needs. Landlords and developers in the Merrimack Valley say that tenants inquire about availability of high-speed internet connections, but they do not feel that it is a deciding factor in selection of space, since most tenants expect to install their own. This may change with changing demands by tenants.

2.8 Conclusions

In summary, there have been both positive and negative trends occurring in the Merrimack Valley. The next chapter examines expected changes for the near future. In Chapter 4 the strengths, weaknesses, opportunities, and threats of the Merrimack Valley are examined, and Chapter 5 summarizes these in the context of a strategy plan.

3.0 Growth Forecasts

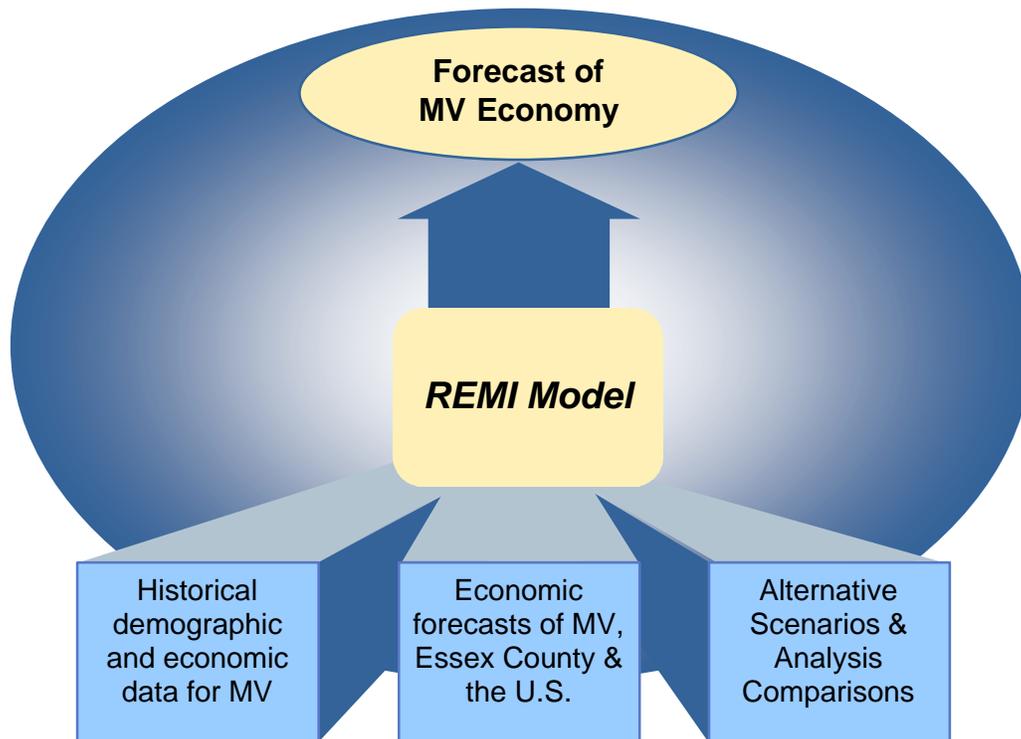
3.1 Background

Forecasts of employment growth in the Valley over the next ten years are presented in this section. The Merrimack Valley Planning Commission contracted with Regional Economic Models, Incorporated (REMI) to develop a forecasting model of the region. The REMI model is one of the most widely used and respected regional policy analysis forecasting tools available. The model is based on data from national forecasts of industry growth by the Bureau of Labor Statistics (BLS) and the Bureau of Economic Analysis (BEA). Forecasted rates of economic change for the Merrimack Valley are compared to forecasts for the larger Essex county area and for the US as a whole.

Projections of future economic growth in the REMI model are based on historical demographic and economic data for the Merrimack Valley as well as BEA national forecasts of future industry and final demand changes. In addition to these base case projections, two alternatives scenarios were developed and tested for employment impacts using the REMI model.

The overall analytical framework of the REMI model is shown in Figure 3-1 below.

Figure 3-1: Analytical Framework

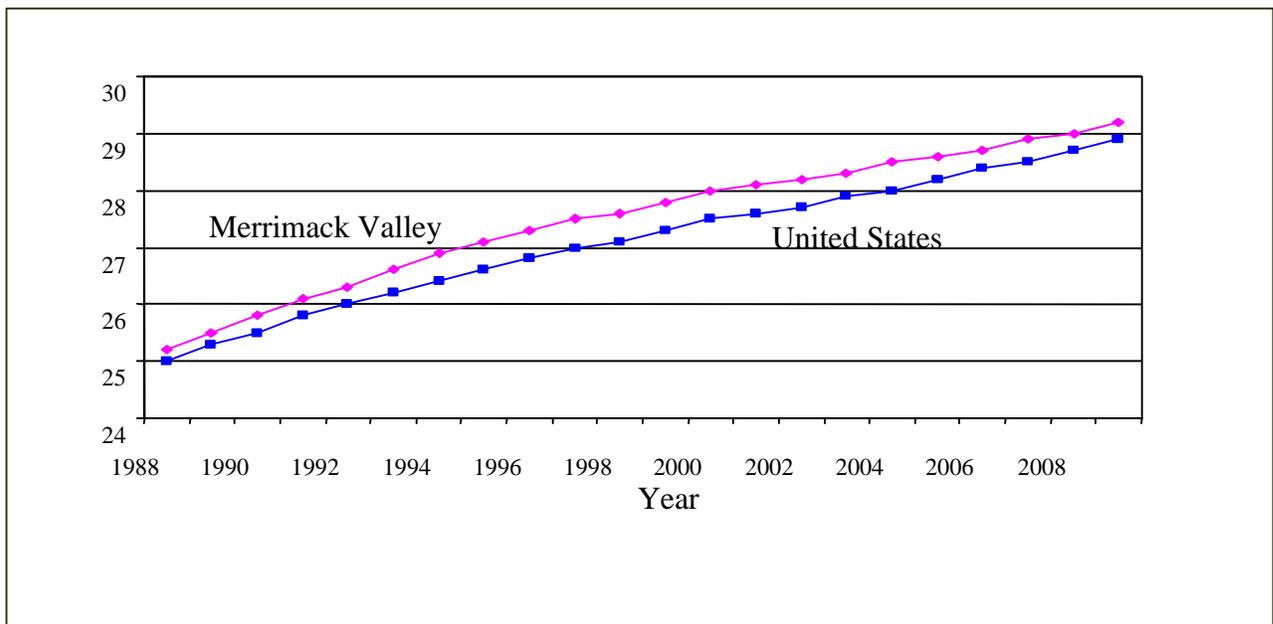


Two key economic indicators are changes in population and employment. The Merrimack Valley has over 307,000 residents, accounting for nearly half of the population in Essex County. Over the next ten years, the population is projected to grow faster than that of Essex County, although slightly slower than that of the overall U.S.

About 52% of the Merrimack Valley population is in the labor force, compared to 58% of the nationwide population. Over the past ten years, employment grew by only 2.3%, from 154,250 jobs to 157,800 jobs. However, employment growth is expected to mushroom over the next ten years, reaching 179,020 jobs by 2010, a gain of 13.4% over the 1999 level.

Personal income in the Merrimack Valley is expected to keep up with the average U.S. level, far outpacing the growth forecast for the whole of Essex County. Inflation is projected to roughly mirror the U.S. rate. Per capita real disposable income in the Merrimack Valley has been growing steadily since the recession in the early 1990s. The forecast is for continued growth over the next decade. Figure 3-2 presents data on real disposable income per capita in the Merrimack Valley and the U.S. for the period 1988 to 1999 and presents forecasts through 2010.

Figure 3-2: Real Disposable Income per Capita* (in thousands of \$92)



* Source: REMI model (historic, estimated, and projected values).

A significant portion of wage income and proprietor's income earned at Merrimack Valley businesses accrues to non-residents. At the same time, many Merrimack Valley residents commute into the Boston metropolitan area, returning with income at least as

great as what leaves the Valley.¹ This implies that there is currently a mismatch between the region’s labor force and the types of jobs available within the region. However, as commuter rail use has grown over the past 10 to 15 years, it has become easier for workers to access their desired job markets.

3.2 Employment Outlook

Employment can be looked at in two ways: (1) by the occupations in which people work (e.g. executive, clerical, technical) or (2) by the industries in which they are employed (e.g. manufacturing, retail, and utilities). The following covers both perspectives.

Forecasted Job Creation in the Merrimack Valley

Occupations. The largest net employment increases over the next decade will occur in administrative, professional and service-related occupations.

Industries. The largest net employment increases over the next decade will occur in non-manufacturing, services and retail trade industries.

The forecasting model indicates that the Merrimack Valley has the potential to experience strong net job growth in key occupational groups over the next decade. Table 3-1 shows that the largest number of new jobs will be service-related, with 3,880 new jobs projected over the next ten years. This is followed by jobs in professional specialties, the fastest-growing sector, with a net increase of 2,620 new jobs over the next decade. Technicians, many of whom will require training of six months to two years, will be one of the top growth occupations, expanding by 19% and adding 1,230 new jobs.

Table 3-1: Forecasted Job Growth (1999 to 2010)

Occupations	Percentage Increase	Number of New Jobs
Professional specialties	25%	2,620
Technician and support	19%	1,230
Service Occupations	16%	3,880
Executives	15%	2,320

¹ Source: REMI Merrimack Valley model. For 1999, approximately 88 percent of labor and proprietor’s income earned flowed out of the region with non-resident commuters. However, the region’s residents imported earnings as well for a net commuter income gain of \$510 million.

Table 3-2 shows employment data, both historic and forecasted, for detailed occupational groups.

Table 3-2: Employment Levels for the Merrimack Valley*

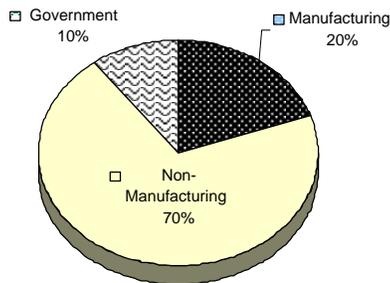
Employment by Occupation (thousands)	1988	1999	2010	% Growth 1988-1999	% Growth 1999-2010
Adminis support, incl clerical	29.21	29.08	31.44	-0.45%	8.14%
Professional specialty	19.95	24.64	30.90	23.52%	25.38%
Service	21.39	23.97	27.85	12.06%	16.17%
Execut, admin & managerial	14.39	15.08	17.40	4.79%	15.35%
Marketing and sales	13.44	13.92	16.02	3.62%	15.08%
Mach setters/oper/tenders	9.22	7.46	7.45	-19.10%	-0.19%
Help, labrs & mat movers hand	6.39	6.50	7.28	1.72%	11.99%
Technicians & rel support	5.81	6.42	7.65	10.59%	19.19%
Mechan, installers & rep	5.90	6.04	6.80	2.36%	12.55%
Transp/mater moving mach/vehicle oper	5.29	5.60	6.36	6.02%	13.58%
Hand wrkrs, incl assemb/fabricat	6.08	4.72	4.92	-22.37%	4.26%
Production, precision	6.14	4.72	4.74	-23.13%	0.53%
Construction trades	3.83	4.14	4.33	8.11%	4.46%
Agri, for, fish & rel	2.00	2.77	3.08	39.05%	11.10%
Blue collr wrker supervisors	2.62	2.30	2.34	-12.23%	1.65%
Plant and system	0.28	0.27	0.29	-3.87%	4.76%
Extract & rel wrkrs, incl blaster	0.12	0.16	0.18	26.83%	17.31%

* Source: REMI model (historic, estimated, and projected values)

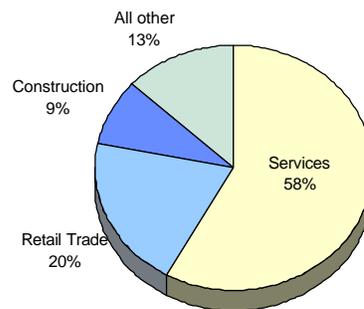
Overall, 70% of the paid workers in the Merrimack Valley are employed in the non-manufacturing sector of the economy, which is made up predominantly of services, followed by retail trade and construction. Manufacturing represents 20% of total employment in the Merrimack Valley, and government accounts for the remaining 10%. The pie charts in Figure 3-3 below illustrate this breakout in paid employment for 1999.

Figure 3.3: Employment in the Merrimack Valley

Total Employment

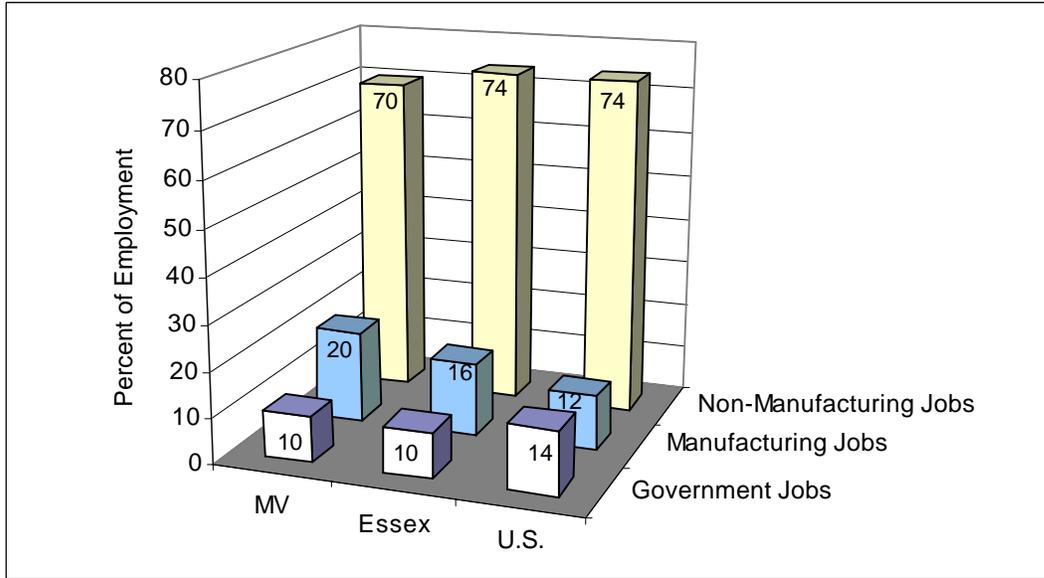


Non-Manufacturing Employment



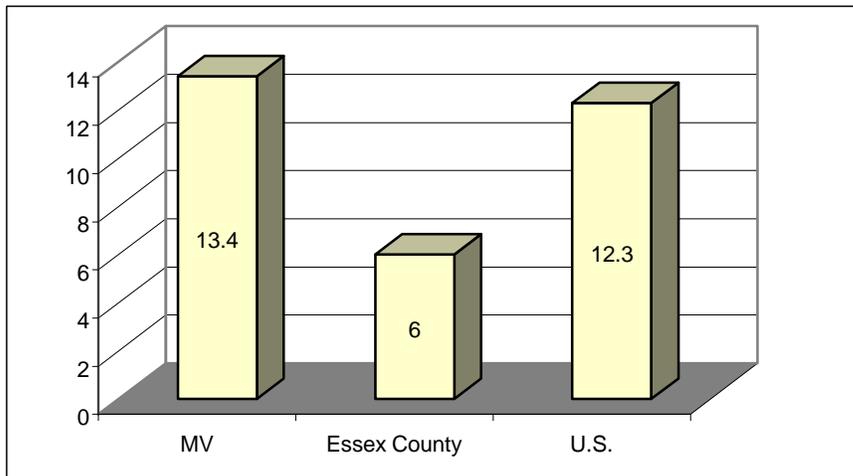
As shown in Figure 3-4, one-fifth of the Merrimack Valley’s labor force works in manufacturing industries, a significantly higher proportion than that of either the U.S. or Essex County overall. Similar to the comparison areas, about 70% of the region’s jobs are in non-manufacturing. The Merrimack Valley’s share of government jobs is significantly less than the U.S. average.

Figure 3-4: 1999 Employment Comparison



The Merrimack Valley is in a strong position with regard to future job growth. Projected employment growth over the next decade in the Merrimack Valley is well above that projected for both Essex County and the U.S. As shown in Figure 3-5, employment in the Merrimack Valley is expected to grow at 13%. This is twice the projected rate of employment growth for the county and exceeds the national average as well.

Figure 3-5: Forecasted Employment Growth (1999 to 2010)



3.3 Economic Change

An economic analysis tool known as “shift share” was applied to identify the employment categories that are gaining or losing jobs faster or slower in Merrimack Valley than in the two comparison areas. This is a way of comparing net job creation in the Merrimack Valley with Essex County and the U.S. The general findings from this shift share analysis are summarized as follows.

Shift Share Findings	
●	Net job creation in the Merrimack Valley is forecasted to far surpass Essex County in finance, insurance, real estate, and transportation, communications, and public utilities.
●	Manufacturing jobs are expected to decline in the Merrimack Valley at a slower rate than in the national overall. Counter to national trends, durable good manufacturing in the valley will grow faster than non-durables.
●	Job growth in transportation, communications, and public utilities is expected to be faster in the Merrimack Valley than the average U.S. job growth.

Overall, the Merrimack Valley is projected to experience robust employment growth over the next ten years in several important industry groups. Some employment declines are projected in certain industries that are also declining nationwide. The following table shows the industries with the strongest performance in the Merrimack Valley compared with the other areas (Essex County and the U.S.). See the Appendix for the shift-share classification on each of the industries referenced.

Strong Industries in the Merrimack Valley
<ul style="list-style-type: none">▪ Durable Goods Manufacturing▪ Transportation, Communications, and Public Utilities▪ Services▪ Agricultural Services▪ Construction

These industries are growing slower in the Merrimack Valley than the national average:

Slow Growth Industries compared with National Trends

- Finance, Insurance, and Real Estate
- Wholesale Trade
- Retail

The following industry is declining faster in the Merrimack Valley than in the nation as a whole:

Weak Industry

- Non-Durable Goods Manufacturing

These and other strengths and weaknesses of the Merrimack Valley are explored in the next chapter.

3.4 Alternative Scenarios

The standard “base case” forecast produced by the REMI model is actually based on a number of implicit assumptions which are not guaranteed to occur. These assumptions include:

- continued availability of industrial park land with features comparable to that previously available;
- continuation of past levels of transportation access, with no significant increase in highway congestion or degradation of travel times;
- continuation of defense spending with no major shift in levels and mix of military procurement;
- continuation of past retail buying patterns with no significant change in pattern of retail dollars flowing to NH stores;
- continuation of hi-tech business location patterns, with no significant shift of growth toward or away from I-495 or I-93 North area.

The “*base case*” scenario is described by the employment and occupation trends presented in Chapter 2 and in section 3.2 above. As discussed above, this scenario forecasts that the rate of *total employment* growth over the interval 1999 – 2010 for the

Merrimack Valley will be greater than that experienced in Essex County and even in the U.S.

Without adequate investment in the future, the region could experience a reduction in available industrial land (as existing industrial parks fill up), an increase in highway congestion (as highway traffic rises), a reduction in defense spending, and continued “leapfrogging” of hi-tech business past the Merrimack Valley toward New Hampshire. This is referred to as the “*under performing*” scenario, and would mean that the Merrimack Valley would grow in the future at a slower rate than recently experienced.

With appropriate efforts to increase the quality and quantity of available building space, on the other hand, an “*over performing*” scenario is possible. In this scenario, the region could attract more hi-tech businesses than has been possible in the past, further promote tourism, and further diversify the economy beyond existing trends. The “*over performing*” scenario means the region will be able to grow more in comparison to the growth recently encountered and will not be constrained by the availability of a desired class of business sites.

The “*over performing*” scenario assumes accelerated growth assumptions over the interval 1999-2010 for major non-manufacturing sectors that would drive the demand for office space. The “*under performing*” scenario uses the reverse of the growth changes. The chart below summarizes these assumptions.

Forecast	Assumptions for Merrimack Valley
Over performing	<ul style="list-style-type: none"> ▪ The Finance, Insurance, and Real Estate sectors will grow at the national average rate of 8.8% (currently, the sector’s growth rate is 60% of the national average) ▪ The Services sector will grow at the national average rate of 28.2% (currently the sector’s growth is 98% of the national average) ▪ Retailing will grow at a rate of 9.8% (currently the sector’s growth is 80% of this target)
Under performing	<ul style="list-style-type: none"> ▪ Finance, Insurance, and Real Estate sectors will grow more slowly than in the base case (the sector’s growth will be at 27% of the national rate) ▪ Services will grow more slowly (the sector’s growth will be at 95% of the national rate) ▪ Retailing will grow more slowly (the sector’s growth will be at 60% of the national rate)

The retail sector is included in constructing these alternative forecasts even though the sector does not directly affect the demand for office space. While the region’s retail sector still lags behind retail growth in other parts of Massachusetts, successful new office development could also help support greater levels of retail activity in the region.

Utilizing the policy simulation characteristics of the REMI model, the chart below shows the projected employment results (reported in thousands) for 2010, followed by some selected impacts for the Merrimack Valley of these alternative forecasts.

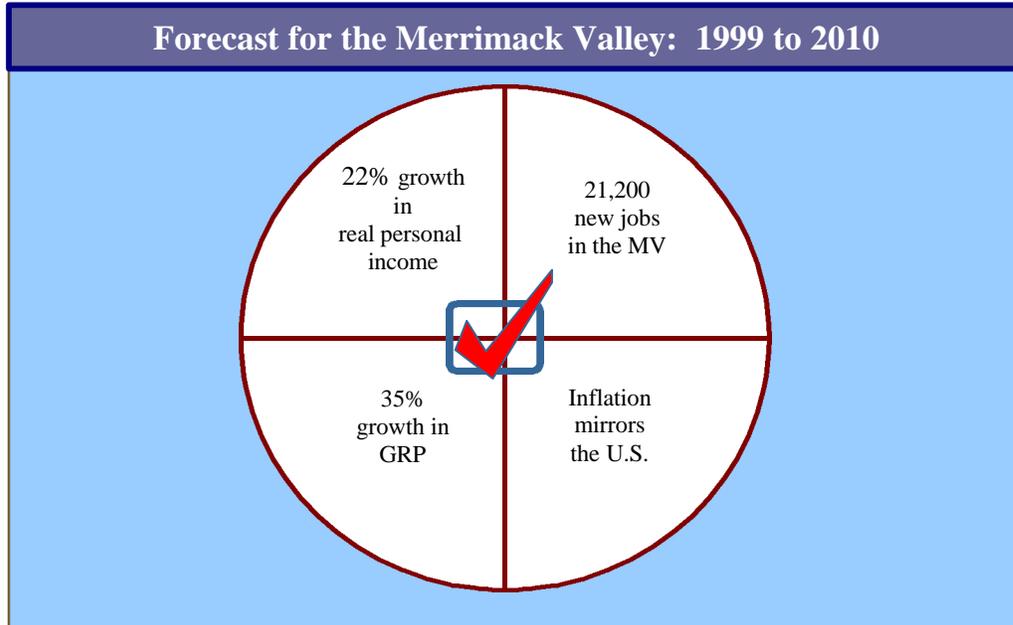
		OverPerforming	UnderPerforming	BaseCase
EMPLOYMENT	F.I.R.E.	8,714	8,127	8,421
	Services	74,510	73,638	74,074
	Retail	21,722	20,918	21,320
	Total Jobs	180,187	177,850	179,018
IMPACTS	Total Jobs	+1,169	-1,168	
	Fire/Srvcs/Retail	+1,024	-1,024	
	GRP (mil 92\$)	+61	-61	
	Real Pers. Inc.(mil. 92\$)	-0.9	+0.9	
	Price Index (%)	+0.06	-0.06	
	Population	+472	-474	

3.5 Conclusions

The REMI forecasts indicate that the Merrimack Valley has the potential to be in a strong economic growth position over the next decade. While growth was slow over much of the previous decade as a result of a slow recovery from the severe recession that crippled the region in the early 1990s, it is expected to gain moderate momentum over the forecast horizon.

The base case forecast is for strong growth in real disposable personal income, on the order of 22% over the 1999 to 2010 time period. This is comparable to the projected national growth in real disposable personal income. Likewise, gross regional product (GRP – a measure of personal and corporate income) will grow at a healthy rate, at a total of 35% over the next decade. This growth would surpass the projected national GDP growth of 29%. There is expected to be a net gain of 21,200 new jobs by 2010. Inflation is expected to remain under control over the next ten years, essentially mirroring rates anticipated for the overall U.S.

The *over performing* and *under performing* scenarios that have been tested demonstrate a plausible range of future economic prosperity that hinges on implementing a strategy to keep building upon the growth already captive in the region. The over performing scenario estimates employment growth +1.3% above the base case (an increase of 2,320 jobs), while the under performing scenario estimates an employment growth 1.3% below the base case.



3.6 Real Estate Market Implications

According to the base case forecast, 21,200 new jobs will be created in the Merrimack Valley by 2010. At an average density of 330 to 500 square feet per worker, the employment forecasts for the Merrimack Valley indicate a potential demand for seven to ten million square feet of office and industrial space over the next ten years. If this were to be accommodated on green field sites, it would absorb an estimated 500 to 800 acres of industrial land. As has been discussed in the previous section, there is now a total supply of only 135 acres of serviced industrial land available in four parcels scattered throughout the region.

There is, however, an ample supply of older buildings to be renovated that could accommodate much of this demand. A major focus of the recommended strategy that is outlined in Section 5 of this report is on the recycling of sites for industrial uses. A limited number of additional sites in industrial parks, however, must be made available in order to keep the region competitive for lower-density industrial uses.

4.0 Synthesis: SWOT Analysis

In this chapter, we synthesize the findings of the previous chapters into an analysis of the strengths, weaknesses, opportunities, and threats facing the Merrimack Valley. This analysis forms the basis for the economic development strategy recommended in Chapter 5 that is designed to build on strengths, address weaknesses and threats, and take advantage of opportunities that face the region as it enters the 21st century.

4.1 Competitive Strengths

The Valley's primary strengths lie in its strategic location, competitive business and labor costs, economic base, and high quality of life. The main competitive strengths of the Merrimack Valley as a location for business and industry are shown in the chart on the following page.

Transportation and Accessibility. Perhaps the leading strength of the Merrimack Valley is its strategic location along the Route 495 North corridor between two intersecting radial interstate highways, I-95 and I-93. The area's excellent access to skilled labor and to materials has drawn large technology-intensive firms that have anchored the spin-off of new, high growth start-ups and have attracted related firms from outside of the region.

Business Costs. With the saturation of the Route 128 beltway and the rising costs of inner areas, business costs are lower in the Merrimack Valley than in many competing locations. Real estate costs are significantly lower in the region than in inner and more central areas. Rents and land prices are similar to other locations in the outer suburban ring (see Table 2.6, Chapter 2).

Labor Costs. Labor costs, as well, are lower than those of the state as a whole.

Environment. Affordable housing contributes to the Merrimack Valley's high quality of life, as do the area's many recreational opportunities and its access to the mountains, rivers, parks, woods, lakes, and to the coast.

Economic Base. The economic base has been diversified significantly since the days of textiles and footwear, but there are still healthy smatterings of traditional industries along with high-growth potential new firms in new technology-serving sectors. This trend has gained momentum with the growth of the Internet and optics, and has attracted numerous firms in these sectors. Even as services have grown, the manufacturing base is still strong.

Infrastructure and Environment. The main downtown business districts in the region are well served by high-speed Internet and data transmission infrastructure. In general the region is perceived to have a pro-business climate, which is critical to gaining business investment confidence. Andover's success in incorporating clean, corporate

land uses has inspired other communities to plan positively for growth which will contribute to tax bases and local household incomes without encroaching on the character of residential areas. The region's access to coast, mountains, lakes, and parks contribute to the high quality of life for residents that is one of the Merrimack Valley's greatest assets.

Competitive Strengths of the Merrimack Valley Region

Location

- Proximity of Boston research and labor pool
- Proximity of rapidly growing Southern New Hampshire.

Transportation and Accessibility

- Access to 495 Corridor and located between two radial highways
- Served by mass transit and commuter rail
- Close to two major airports

Economic Base

- Presence of established technology firms (Lucent, Raytheon, Nortel) has anchored spin off in high growth start-ups and has attracted related firms from other regions
- Evolving innovation cluster of optics and internet firms
- Strong manufacturing base and favorable future outlook
- Andover success story

Cost Competitiveness

- Lower labor costs than state average
- Lower cost real estate than 128 belt
- Housing prices lower than Boston area prices
- Affordable space in mill buildings

Labor Market

- Higher than average unemployment rate and untapped labor force participation means greater labor supply
- Optimistic forecasts for future growth in high- and low-skilled occupations and in diverse industries

Infrastructure and Environment

- High-speed internet access available in main business clusters
- Pro-business climate
- Access to coast, mountains, lakes, and parks

4.2 Competitive Weaknesses

The weaknesses of the Merrimack Valley in terms of sustaining its economic growth are listed on the chart on the next page. Most of the weaknesses are related to the region's lack of available sites and buildings to retain expanding companies and to attract new investment into the region.

Site Inventory. A current, accurate regional inventory of available sites and buildings is fundamental to promoting the Merrimack Valley. The current information on sites and buildings in the Merrimack Valley on MVPC's web site is the best information available and includes all industrial sites and buildings, not just those currently available. However, there is no method in place for updating this information, which could lead to problems in the future.

Available Sites. There is a lack of available sites for businesses of various sizes to locate in. Research has shown that having a good supply of available units in a variety of ranges gives an area a distinct competitive advantage in attracting and retaining industry. Realtors report that the main segments of demand are for units of

- 2,000 to 3,000 square feet for dot.com start-ups
- 5,000 to 25,000 square feet by companies wanting to buy units
- 10,000 to 60,000 square feet for expanding industries to lease or to buy

As is shown in Table 2-4 in Chapter 2, there are only four serviced sites with fewer than 80 acres available in industrial parks in the Merrimack Valley. Opportunities exist to create three new sites of over 100 acres, but these sites will need access improvements and sewer service before they are ready for use (see Section 4.3). This limited supply of available buildings for office and industrial uses constrains growth in the Merrimack Valley.

Office and Industrial Space. Most of the available supply of office and industrial space is in Class B renovated mill buildings. However, these buildings are largely occupied. Andover's two mill developments are full and another major mill reuse project in Haverhill, the Burgess Lang Technology Center, is 97% occupied. Everett Mill in Lawrence, a 650,000 square foot, multi-story textile mill renovated during the 1980s, is now about 80% occupied. Another 1.2 million square feet have been absorbed at the waterfront mill buildings at 200-300 Canal Street, which are now also 80% occupied. The developer of Dundee Mills in Andover has undertaken a new project in Lawrence, the 300,000 square foot Heritage Park complex in two old mills. Heritage Park currently has 130,000 available square feet in the complex, with negotiations underway for about half of the available space. There are also smaller renovated buildings available in the Haverhill and Amesbury Cyber Districts, but these are also filling up quickly. Given the current pace of absorption, we would estimate that the demand for affordable, class B renovated mill space in the region of \$10 to \$14 square foot will outstrip supply in less than one year.

Competitive Weaknesses of the Merrimack Valley Region

Sites and Buildings

- No current process for updating the regional inventory of sites
- Few large, serviced sites available for major users
- Tight supply of Class A office space
- Limited availability of renovated Class B space
- High renovation costs and parking problems at mill buildings

Labor Market

- Tight supply of skilled labor

Development patterns

- Uneven investment patterns, with concentration of high growth industries near I-93

Environment and Infrastructure

- Perceptions of anti-business climate in Lawrence where much of the available industrial space is located
- Uneven coverage of high speed internet access wiring due to lack of critical mass in rural areas, unfavorably for telecommuting and home businesses

Renovation of Mill Buildings. Although there are additional mill buildings that could be renovated for use as commercial and industrial space, renovating mill buildings has proved challenging. One challenge is that mill sites often lack adequate parking facilities. In addition, difficulties arise from the multi-story nature of mill buildings. Uses on the upper stories must generally be limited to office, rather than industrial or warehouse use, which requires a higher level of investment in finishes and in installation of elevators.

City of Lawrence. Most of the opportunity for bringing mill buildings back into productive uses exists in Lawrence where there are millions of square feet of vacant and underused mill space available for refurbishment for both technology and for more traditional industries. However, renovating mill space in Lawrence carries additional difficulties related to perceptions of a difficult business climate in the City of Lawrence. Some developers and investors in the region are reluctant to invest in the area due to perceptions of security issues and a cultural of infighting. Developers feel that they would experience delays in getting the necessary permits to facilitate renovation of old buildings in a time frame that would be sufficiently expeditious for a profitable project. However, developers who have actually undertaken mill renovation projects in Lawrence report that the city has been cooperative and quick in granting the required permits. The city should continue its improvement in servicing economic growth.

Investment Pattern. The uneven pattern of investment in the Merrimack Valley is another weakness of the region. Investment – particularly in high-growth, technology-intensive industries - has tended to cluster in the southwestern Valley, in the vicinity of I-93, having moved along Routes 2 and 3 from more central areas. The development of e-based businesses in more rural communities is impeded by relative inaccessibility as well as by the high cost of broadband Internet access. Access to high-speed Internet service is a problem for home-based businesses outside of the areas served by DSL and by cable modem (as discussed in Chapter 2, Section 2.7).

Skilled Labor. Another critical weakness is the tight supply of skilled labor in technology and engineering sectors. This is a statewide and national problem as well. It is somewhat abated by the area’s proximity to Canada and to a supply of well-trained technologists from top technical universities in Montreal and Ottawa. Since the state has not yet established a Workforce Investment Board for the entire Merrimack Valley, businesses in some parts of the region do not have easy access to federal funds for training of workers.

4.3 Opportunities

The main opportunities for the Merrimack Valley to sustain and direct the course of economic development in the region are listed in the chart on the next page.

Strategic Opportunities. The major strategic opportunity facing the region is the chance to swing the course of high technology investment by “new economy” industries along the Merrimack River and Route 495. The natural progression of investment has moved outward from Cambridge and from the Route 128 belt out Routes 2 and 3 and along I-93 into Andover, North Andover, and Methuen. From I-93 and I-495, investment could spread further to the Northwest along I-495 or it could push northward up Routes 3 and 93 into New Hampshire. Cisco has announced the siting of a major optics facility in Salem, and Corning plans to locate an optics operation at a large site in Nashua. In any case, the nearby New Hampshire facilities should create additional demand for space among related firms or outsourcing contractors on the Massachusetts side and should strengthen the position of the Merrimack Valley in leading edge optics applications.

Mill Buildings – Cyber Districts. Most of the districts where old mills are concentrated are served by high speed Internet access infrastructure. Many of the more rural, residential communities in the region do not have access to high-speed Internet links. This provides a competitive edge for the mill districts in attracting indigenous businesses and home-based businesses from less developed communities in the region. Successful implementation of cyber districts would help to extend the technology corridor that is now centered in Andover.

Opportunities for Economic Development in the Merrimack Valley

Strategic

- To draw high tech, office-based uses northeast along I-495
- Cisco and Corning investment on the New Hampshire side of the Merrimack Valley

Mill Buildings

- Good supply of historic mill buildings for renovation in cyber districts in Lawrence, Haverhill, and Amesbury.
- Attract home-based businesses in rural areas to Cyber Districts with high speed internet access

Major Sites for Office and Industrial Parks

- 100 acres at Salisbury – needs access – key strategic site
- 100 acres at Lowell Junction in Andover - needs access
- 50 to 550 acres at Lawrence Airport – reuse of airport as industrial should to be evaluated.

Tourism

- Potential for tourism and entertainment from business travelers and temporary workers in the region.
- Good, lower-skilled workforce for tourism industry development

Labor

- Good supply of competitively-priced, trainable labor
- Good regional training resources

Cultural

- Promote inclusion of new populations by outreach and bilingual materials

Major Sites. There are a few strategically located large sites in the Valley that need funding for infrastructure and access before they can be marketed.

- In the Salisbury Industrial Park there are 15 acres available for up to 7 sites, but there is no sewer service yet.
- Siting a major new technology investment at a 100-acre addition to the Lord Timothy Dexter Industrial Green in Newburyport would strengthen the weak northeastern segment of the region. A \$2 million road project, for which an application is pending, is needed to support development of the site.
- A 100-acre site at Lowell Junction in Andover provides an opportunity for Andover to continue its success in attracting quality jobs and investment, but major access improvements are needed to open up the site. The town of

Wilmington, where the access improvements for the Lowell Junction site would be located, has applied for funds for the project.

- An EDA grant has been secured to establish water and sewer service at a 50-acre parcel at the Lawrence Airport Industrial Park. A major opportunity exists to assemble up to 550 acres at the site, which abuts Lucent's campus in North Andover. The site's present use for recreational aviation may not be its optimal use: reuse of the site as an industrial or office park should be considered in terms of its economic and fiscal impact on the region. In the past, the City has not been receptive to the idea of reusing the airport. However, given that the purpose of this report is long term economic development, as the region's existing sites and mills reach capacity it may become important to reexamine the possibility of reusing this site.

Tourism. There are significant opportunities to develop tourism industries in the region to serve the business travelers and temporary workers who are accommodated in the region's many hotels. Andover alone has 1,400 hotel rooms and more are planned, notably facilities for staff assigned to short-term projects in the region. Restaurant, retailing, and entertainment industries could be developed to serve this population. Many local residents would also welcome more recreational opportunities in the region.

Labor Supply. Finally, a major opportunity that the region should develop and market to investors is the good supply of competitively priced, trainable labor. The unemployment rate of the region is above the statewide average. Most of the unemployment is concentrated in the City of Lawrence. Many of the unemployed are immigrants who would likely welcome more local job opportunities. In addition to facilitating the development of the tourism industry, this population could serve as a key resource for traditional and new industries.

Cultural Diversification. The multicultural nature of the Merrimack Valley's population presents an opportunity to promote cultural diversification and understanding. This could be accomplished through outreach to new populations and through the release of bilingual materials by public authorities.

4.4 Threats

Pace of Development. Perhaps the greatest threat facing the region is the rapid pace of development which, though welcome in terms of its impact on jobs and income in the area, is far outpacing local capacity for planning and provision of adequate infrastructure to support new growth. The lack of large, available sites may serve as a check on future encroachment on the greenbelt, but growth management policies need to be promoted before development outpaces infrastructure. Small communities in the region are feeling the pressure for additional residential growth, which may be fiscally unsustainable. Traffic capacity is limited and the extent to which new road investment will occur is

unknown. Congestion and overdevelopment threaten the quality of life that is one of the region's greatest assets.

Over-Dependence on Technology. The area's over-dependence on technology sectors (e.g., optics, Internet applications) makes it particularly vulnerable to general and unpredictable economic downturns. Compounding these concerns is the uncertain future of Lucent Technologies, the region's largest employer, which is restructuring its 6,000-person workforce and relying more and more on outsourcing. The company's stock has dropped by 50% this year, slashing its market value by \$125 million due to an underestimation of the demand for optical networking equipment and an overestimation of the demand for traditional switching equipment. However, most analysts view this as a temporary setback; the optical segments of the company are now growing and the prospects for turnaround look positive.

The region's heavy dependence on defense spending is another area of concern. This issue is addressed separately in the next section.

Competitive Threats facing the Merrimack Valley

Over-Development

- Rapid development will outpace infrastructure, reducing the quality of life
- Small towns under pressure of rapid residential development

Economic Base

- Traditional vulnerability to economic cycles
- Over dependence on Technology (internet, optics)
- Uncertain future of Lucent,–Merrimack Valley's biggest employer – 6000 jobs
- Concern about over dependence on defense spending and uncertainties about Raytheon

Competitiveness

- Rapidly rising costs of real estate, housing and labor may diminish cost competitiveness
- Competition from New Hampshire aggressive business incentives, income and sales tax policies, cheaper labor, more available sites.

Business Costs. In terms of retaining its competitive edge for attracting investment, the Merrimack Valley faces some major challenges. The costs of real estate and labor are rising rapidly, which, accompanied by depleting supplies, is raising business costs. Competition from New Hampshire communities able to offer aggressive business incentives may threaten the Valley's prospects as a haven for new economy industries. Corporate tax policies, lower labor costs, and a larger supply of sites make New Hampshire tough competition for large corporate investors seeking to minimize operating

costs. New Hampshire's sales tax-free status has devastated the region's retail base, which has just recently begun to adapt.

4.5 Vulnerability to Changes in Defense Spending

Based on the trends, the regional concern over the future of U.S. Department of Defense (DOD) contract awards to Merrimack Valley businesses is valid. Table 4.1 presents contract award data for the region's businesses for the last four fiscal years.

Table 4.1: DOD Contract Awards to Merrimack Valley Businesses

	FY96	FY97	FY98	FY99
Total (mil. \$)	\$375	\$538	\$282	\$184
# of Awards	50	55	57	42
# of Businesses	46	51	53	40
Massachusetts (mil.\$)	NA	\$5,500	NA	NA
United States (mil.\$)	NA	\$107,000	\$128,807	\$135,160

Source: MVPC and DOD Prime Contract Awards FY90, DIOR

Fortunately for the region, these dramatic reductions in defense contracts for the area's businesses have coincided with the rapid growth of the Valley's high-tech activities, the latter perhaps masking the full impact of the defense cuts. To better assess the relative performance of the region's economy and its susceptibility to further reductions, the changes in the dollar amount of contract awards to the region's businesses must be placed in the context of trends occurring elsewhere. Over the decade from 1988 to 1997, U.S. DOD prime contract awards declined by \$57 billion. Over that period the number of contracts awarded shifted away from equipment (-16%) and towards service contracts (+16%). These service contracts include engineering and architectural services, computer and data processing services, management and public relations and residential building contractors. The share of contracts going to evaluation and research and development remained unchanged. While the number of equipment contracts declined by 16%, the value of equipment contracts awarded declined by 57% over this period. The only equipment purchases that increased over this period were for aircraft, which are not made in the Merrimack Valley.

From 1988 to 1997, Massachusetts and other states experienced large variations in DOD year-to-year awards. Massachusetts is among the five states (including California, New York, Texas, and Connecticut) that have experienced the largest declines in the value of equipment contracts awarded. A comparison of average annual contracts awarded to Massachusetts from 1988 – 1992 and from 1993 – 1997 shows a decline of \$3.576 billion in annual contracts between these two periods. The majority of this decline (\$2.9 billion) occurred under equipment contracts much in keeping with national trends. Other states facing similar reductions in equipment contracts have offset this trend by garnering more service contracts.

The impacts of reduced DOD contract awards for 2000 on the Merrimack Valley region are presented in Table 4.2. The reduction of \$100 million is comparable to the reduction in awarded contracts from FY 98 to FY 99 for the region and is focused on the Durables Manufacturing sector.

Table 4.2: Total Impacts from \$100 million* Reduction in Defense Contract Awards to Merrimack Valley Manufacturers

YEAR 2000	Amount
Employment _ Total	-651
Employment _ Dur. Mfg.	-432
Employment _ Services	-90
Employment _ Whls/Retail	-70
GRP (bil. 92\$)	-0.051
Sales (bil. 92\$)	-0.110
Personal Income (bil. Nom. \$)	-0.0027

* reduction made in real, 1992 dollars

Source: Merrimack Valley REMI model

The top three Merrimack Valley firms in terms of DOD contract dollars awarded over the past four fiscal years are Raytheon, Hewlett-Packard and Dynamic Research Corporation, all of which are located in Andover. The combined employment of these three companies in 1999 was 8,700 employees, accounting for 40 percent of the region's total employment in the durables manufacturing sector. Thus, these three businesses are of strategic importance to the economic health of the Merrimack Valley region.

Reductions in DOD contracts pose threats not only to jobs in durable manufacturing, but also to jobs in other sectors that supply Raytheon, H-P/Agilent and Dynamics Research. Construction jobs would also be negatively impacted as investment activity slows under fewer contract awards. One mitigating factor to take into account is how much of the prime contract award leaves the Merrimack Valley region through sub-contracting arrangements.

It is not clear what future DOD contract awards will look like for the region's businesses. Much will depend on the direction of military spending policy made at the national level and the ability of area businesses to win service contracts as equipment contracts become harder to come by. The extent of the region's continued economic exposure to reductions in defense related contract awards is largely dependent on achieving a broad base of diversification in the region's economy.

5.0 Economic Development Strategy

In this chapter we propose the elements of an Economic Development Strategy for the Merrimack Valley after assimilating the current evidence regarding the region's economic performance. These elements address critical facets that are either constraining key opportunities for the region's sustained growth or allowing only certain communities in the Merrimack Valley to reinvent themselves. The strategy consists of four main elements:

- Growth Management
- Economic Base Growth and Diversification
- Education and Workforce Development
- Other Public Investment and Support Programs

These are discussed below.

5.1 Growth Management

A high quality of life is a major asset of the Merrimack Valley. Its location next to the Eastern Massachusetts metropolitan area benefits both commuting residents and local firms. Its access to ocean, forests, However, the recent pattern of economic growth in the Valley has generated challenges to maintaining the quality of life of the region's residents. Regional growth management should focus on specific types and amounts of growth and attempt to channel this growth to designated communities while minimizing the strain on the area's quality of life.

Growth management policies need to be promoted before development outpaces infrastructure. Perhaps the greatest current threat to the region is the recent rapid but uneven pace of development. Although new jobs and tax revenues have been welcome, development is outpacing the area's capacity to plan for and provide adequate infrastructure to support new growth. The number of serviced sites in industrial parks is rapidly diminishing, while vacant buildings in the centers of the region's older, more urbanized communities are unused.

A growing shortage of large greenfield sites may make future encroachment on the greenbelt impossible. Small communities in the region are feeling the pressure for additional residential growth, which may be fiscally unsustainable. Traffic capacity is limited, and provision of additional transportation infrastructure is unlikely to catch up with demand. Congestion and over development threaten the quality of life that is the region's greatest asset.

Growth management has several purposes:

- To encourage an efficient and beneficial growth pattern in the area
- To maintain the area's quality of life
- To channel new growth into areas served by existing infrastructure, particularly mill buildings and cyber districts in need of renovation
- To revitalize urban centers
- To stop sprawl and its encroachment on remaining greenfields
- To save some greenfield sites for highest and best future uses
- To mitigate the escalation of housing prices
- To push new technology investment northward from I-93 along Route 495
- To create quality jobs in higher-density working environments

Strategy Element 1-1: Direct Investment in Existing Buildings and Cyber Districts

Prosperous times offer the opportunity of accomplishing long-term economic and community development goals. Now is the time to develop and implement positive policies to direct investment into existing buildings. Rents for commercial space in the Merrimack Valley are reaching a level that makes private investment in the rehabilitation of old mill buildings feasible. Consideration should be given to potential residential reuses of some mill buildings in order to provide housing for employees and to enliven the districts at night. An arsenal of development incentives should be assembled and promoted to encourage investment in cyber districts and in mixed reuses of old buildings. The goal of cyber districts should be to create a campus-type environment with services and support for innovative new businesses and their employees. Section 5.4 discusses existing incentives for investment and sources of external funding.

The current housing crunch is driving rents and purchase prices to an all-time high -- even in parts of the region where housing has typically been cheaper. Therefore, it is a good time to promote residential reuses in mixed commercial and residential revitalization projects. Housing will reinforce the campus-style environment that cyber districts try to create, also absorbing some of the upper floor mill spaces that may be harder to lease for commercial uses.

A current inventory of the major mill complexes that provide the main opportunities for revitalization should be maintained. In view of strong market conditions, which support higher rents and the shortage of rental space for businesses, public policy should expand

support for the reuse of existing buildings and the studied development of greenfield sites.

Strategy Element 1-2: Invest in Central Business Districts

Strong demand for office space is supporting a level of rents that renders rehabilitation of older Central Business District (CBD) structures a more viable prospect. According to a 1997 survey, town center revitalization is a top priority of Merrimack Valley residents. Town centers mirror the health of a community, reflecting its well-being or malaise to residents and outsiders alike. A healthy, thriving town center presents a positive image, whereas a downtown area with high vacancies and blighted properties can tarnish the image of an otherwise thriving community.

As evidenced by Andover's business mix and New Hampshire's more recent corporate entrants, one strategy that will help ensure continued growth for the Merrimack Valley is to target office-based operations. This would include hi-tech firms and back-office activities. To succeed in attracting/retaining these types of businesses, high quality office space must become more plentiful and the region's existing telecomm infrastructure has to continue to improve. Rehabilitation of older mill properties in the Valley's communities combined with the assembling of properties to create new industrial development sites can help bring existing sites to new and improved uses.

Investment in CBDs supports tourism development, and also promotes growth management by re-using existing infrastructure. It complements the mill building reuse strategy, since many underutilized mill buildings are located in CBDs. Private investment should be catalyzed by parking, access, and amenity improvements and by assembly of tax incentives and assistance with low-interest loan financing. Excess space should be converted to housing to create internal markets for downtown merchants.

Strategy Element 1-3: Reserve Greenfield Industrial Sites for Future Development

Within the past 12 to 24 months there has been a staggering amount of new development on greenfield sites, and more is in the pipeline. Additional development is likely to put a strain on existing infrastructure and particularly on roads.

There are presently no large sites in the Merrimack Valley that are ready for development. The few big sites in the region that do exist need major investment in utilities or in access improvements. The time needed to obtain funding for these improvements will likely prevent infrastructure planning from catching up with development. Since industrial sites are scarce, they should be reserved for their highest and best use, which may be low-density industrial or higher density office and Research and development uses. Every attempt should be made to direct office uses to renovated mill buildings.

Strategy Element 1-4: Help Small Communities Manage Residential Growth

The region's smaller and more rural communities, many of which are largely run by voluntary efforts, are facing a growth crisis. Buoyant demand for housing in the region is increasing pressure for new residential development, principally for the younger family market. The replacement of older residents with young families puts pressure on municipal schools and services, generating concerns over the fiscal impacts of this development. Therefore, public policy should discourage development that is environmentally and fiscally incompatible with residents' aspirations for their communities. MVPC should provide seminars and technical assistance to communities in effective growth management techniques.

Strategy Element 1-5: Water Supply Protection

There is a pervasive concern among residents of the Merrimack Valley regarding the quality and future supply of groundwater. This concern limits confidence in the future of the Valley to sustain populations and industrial growth. In an MVPC survey, over three-quarters of residents said that they would support a tax increase to finance a regional water supply protection program. An examination of the costs and benefits of any proposed program would be warranted.

5.2 Economic Base Diversification and Stabilization

The region's economic history is indicative of previous cycles of over-reliance upon a key industry. At the turn of the 19th century the economy was dominated by textiles/leather manufacturing, and over the past 30 years defense-related industries have been the major employers. Today, due to its competitive advantages for internet, optics, and other cutting-edge technology firms, the Merrimack Valley is may once again be over-dependent on employment, now in volatile and competitive technology industries. The development of tourism and related industries would help to diversify the economy, as would support for more traditional industries like publishing, chemicals, textiles, and footwear. The region's growing role as a distribution center is also adding diversity to the economy.

The Merrimack Valley now has a flourishing economic base. To sustain the development of the economic base that has occurred over the past five years, it is recommended that the focus be on retention of expanding firms and provision of an environment of innovation for new start-ups. Preservation of the existing economic base with incremental support for new businesses is a far more effective and efficient approach to economic development than the expensive and competitive business of recruitment of new industry from outside of the area.

Strategy Element 2-1: Support Expanding Firms

Fast-growth expanding firms in the Valley will quickly outgrow their present premises, and a main challenge will be to retain these firms. It may not be possible to relocate firms in the same town; however, the objective should be to retain them within the region. An annual post card survey of firms in the Valley could query firms regarding their expansion or relocation plans. Networking with the local real estate and development community regarding the survey results is a key aspect of implementing the retention strategy.

Lawrence and other communities have a stock of millions of square feet of old mill space that could be renovated to accommodate expanding firms. It is essential that the City of Lawrence present a more positive image to the development community. This might be accomplished by establishing a special, expedited permitting program.

Strategy Element 2-2: Provide an Environment of Innovation to Encourage Start-Ups

The region's best prospects for future economic growth are its indigenous entrepreneurs. The Merrimack Valley's success in attracting and retaining high-growth technology industries attests to the excellent environment for innovation that it provides. This environment should continue to be supported by development of a campus-like feel in the cyber districts and in the main business centers. Telecom providers should be included in the planning process, with the aim of improving the availability of low-cost, high speed internet access in the region, and keeping apprised of the rapidly-changing technological developments in high-speed internet access.

Cyber Districts have been established in Amesbury, Haverhill, and Lawrence, where they are being used to varying degrees. However, there is a need for a more aggressive, regional approach to marketing these districts as havens for clusters of firms in key leading-edge technology applications. Successful cyber districts are key to the Valley's economic development strategy because of their capacity to promote the Valley as an environment for innovation, support revitalization of old mill buildings, and revitalize CBDs.

Strategy Element 2-3: Promote Regional Identity with Signage

The southwestern end of the Merrimack Valley has become a hotbed of new economy investment. This is spreading outward along I-93 and could move further north into New Hampshire or be directed along I-495 to the Merrimack Valley communities. Even if the growth moves north into New Hampshire, the recent announcements by Cisco and Corning regarding the siting of major optics operations on the New Hampshire side of the Merrimack Valley should strengthen the region's position. The Valley's reputation as a

center of excellence in the application of new technologies should be touted in the business relocation circles as well as publicized through an effective signage program. A regional signage program should be developed to promote a “brand identity” for the region, to reinforce its image as a cluster for technology investment, and to heighten the visibility of its downtown districts, renovated mill complexes, and industrial parks. The program should also draw attention to the area’s unique historic character and buildings, its mill complexes, and its hotels and tourist attractions. Strong signage programs elsewhere have been an effective marketing tool for promoting business locations.

Strategy Element 2-4: Promote Tourism

The ample supply of hotel rooms in the Merrimack Valley are used mostly by business travelers and by short-term project workers in the region’s industries. However, coastal communities such as Newburyport and Salisbury now attract non-business tourists, permitting visitors to see Boston and New England economically and conveniently while lodging in the Merrimack Valley. This tourism role of the Merrimack Valley should be expanded, and additional tourist-serving industries should be developed in inland towns. The “Loop” redevelopment project shows the potential for entertainment and leisure-oriented services and retailing. The tourism development initiative also provides an opportunity for the development of jobs and training opportunities for low-skilled workers (Strategy Element No. 3).

Strategy Element 2-5: Promote Retailing

In tandem with the tourism development and downtown revitalization components of this strategy, there should be an effort to promote the region’s retail industries. Competition from big box retailers in New Hampshire has led to a restructuring of retail activity in the Merrimack Valley toward entertainment, leisure services and sales of tax-exempt goods. Investment in support of downtown retailing would promote growth management by re-using existing infrastructure, and would support tourism development. Retailing should be supported by parking, access, and amenity improvements, assembly of tax incentives, and assistance with low-interest loan financing with such programs as Venture Capital.

5.3 Education and Workforce Development

As discussed in Chapter 3, the Massachusetts economy is expected to expand by 400,000 new jobs by 2006. An additional 740,000 jobs will need to be filled to replace workers who retire, move up the career ladder, or change careers. In total, there will be a demand to fill more than 1.1 million jobs. Five of the ten fastest-growth occupations are in technology sectors. Whether these jobs locate in the Merrimack Valley or within commuting distance of the Merrimack Valley, it is critical that an economic development

strategy promotes workforce preparation for new jobs in skilled occupations, particularly for less-educated workers lacking English fluency.

Strategy Element 3-1: Promote Jobs for Non-English Speaking Residents

Unemployment in the region is higher than the state average, due particularly to the high rate of unemployment in Lawrence, the region's largest community. Many unemployed people in Lawrence lack English skills but are otherwise employable. The MVPC should work with the Valley's community colleges to identify quality jobs that require less than 12 months of training and that do not require fluency in English. Meanwhile, existing programs to train managers in workplace Spanish should be promoted.

Strategy Element 3-2: Promote Existing Training & Development Programs

The efforts of existing agencies involved in training and workforce development should be more fully coordinated and promoted on a regional level. These programs include:

- the Merrimack Valley Manufacturing Partnership - engaged in technology transfer and workforce development
- The Merrimack Valley Economic Development Council - coordinating a major effort to identify occupations in demand and to develop training courses to improve labor supply in these jobs
- Northern Essex Community College's Center for Business and Industry - engaged in upgrading the skills of existing workers in the Valley's businesses

The current lack of a fully functioning Workforce Investment Board constrains the Merrimack Valley's ability to attract state and federal funds into the area's employers for training programs. The WIB has been undergoing restructuring, and the Valley will become more competitive for training funds when the restructuring is complete.

5.4 Other Public Investment and Support Programs

The Merrimack Valley's transportation network and public utilities will need to be expanded in order to accommodate further economic and household growth. Left unchecked, growing congestion degrades the quality of life in the region and increases business costs. To avoid undue fiscal burden, the provision of water, sewer, and other public services to burgeoning small, rural communities must be planned carefully. Telecom providers should be included in the planning process with the aim of improving the availability of low-cost, high speed, internet access wiring in the region, while keeping apprised of rapidly-changing technological developments in high-speed internet access. This will be important not only for newly forming Cyber-districts but also for fostering "new economy" opportunities such as telecommuting.

Strategy Element 4-1: Promote Applications to Funding Programs

The area should work to get the fullest possible amount of external support for infrastructure development and business growth. State and other public agencies offer a variety of grants and programs to support economic development. These programs include:

Massachusetts Department of Housing and Community Development programs

- Community Development Block Grants (CDBGs) for economic development projects of non-profit groups
- Ready Resources Grants for special economic development projects of cities and towns
- Downtown Revitalization Partnership (funded through CDBG) for revitalization of traditional downtown districts
- Municipal Incentive Grants for planning and management of regional development projects

Massachusetts Office of Business Development

- Economic Incentive Program - special tax credits and partial property tax abatement for up to 20 years in designated Economic Target areas
- Brownfields Program - incentives, low-interest financing programs, and up to 50% tax credits for clean-up of recycled industrial sites
- Workforce Training Program - to upgrade skills of existing workers

Massachusetts Development Finance Agency (Mass Development)

- Tax-exempt bond financing
- Interest-free loans and loan guarantees
- Pre-development grants for project feasibility studies
- Industrial Park financing
- Brownfields Redevelopment Fund
- Real estate services

5.5 The Next Steps

The MVPC through its CEDS committee should implement the strategy concepts. Representatives of the following groups should be invited to participate in this process.

- the 15 municipalities in the region
- the regional and local Chambers of Commerce
- the Lawrence Small Business Development Center
- Merrimack Valley Economic Development Council
- State business and economic development agencies
- the region's largest employers

- new and emerging companies in the region
- the region’s community colleges and other training providers
- developers of commercial and mixed use projects in the region
- commercial real estate brokers
- others involved in economic, real estate, and workforce development in the region

The group should concur with the strategy recommended in this document, amending it where appropriate. Implementation steps consisting of actions, timing, funding resources, and responsibilities should be established. Targets and milestones for implementation should be set. A timeframe of five years is recommended for implementation.

Organizations Contacted

Amesbury Alliance for Economic Development, Dennis Welcome
Amesbury Cyber District, Jennifer Raitt
ATT Broadband (formerly Media One)
Brickstone Properties, Martin Spaggi
City of Lawrence, Bob Luongo
Haverhill Cyber district building owner, Gene Willis
Kifor Developments, Bill Nofsker
Lawrence Small Business Center, Francisco Montero
Mass Technology Collaborative, Tom Hubbard
Mass Telecom Council, Katherine Raphaelson
Merrimack Valley Access (mva.net ISP), Dave Spaulding
Merrimack Valley Chamber of Commerce, Joseph Bevelacqua,
Merrimack Valley Economic Development Council, Bob Halpin
Merrimack Valley Manufacturing Partnership, Fran Eagle
Minco Realty, Larry Morroco
National Association of Industrial Park Operators (NAIOP), Debbie Osherop
Newburyport Industrial Development Authority, Kurt Garresh
North Essex Community College, Center for Business and Industry, Bob Hatem
Ozzy Properties, Helen Keller
Salisbury Industrial Park Authority, Paul Keenan
Spaulding and Slye, Kurt Oberg
City of Amesbury, Joe Fahey
Town of Andover , Steve Colyer
Town of Georgetown, Kathleen Caldwell
City of Haverhill, Eugene O'Neill
City of Methuen, William Buckley
City of Newburyport, Nancy Colbert
Town of North Andover, Bill Scott
Town of West Newbury, Marcy Ricker
Verizon Engineering, Lawrence Office, Bill Wallace

Shift Share Ratios* (Comparison of Growth Rates)

	MV to Essex Trend Ratios		MV to US Trend Ratios	
	<i>Trend Ratio 1988-1999</i>	<i>Trend Ratio 1999-2010</i>	<i>Trend Ratio 1988-1999</i>	<i>Trend Ratio 1999-2010</i>
	Manufacturing	1.15	0.09	7.51
Durables	1.08	-0.17	7.93	-0.78
Non-Durables	1.51	1.31	4.67	8.71
Non-Manufact	1.29	1.62	0.57	1.18
Mining	3.94	0.07	-7.02	0.03
Construction	0.04	0.29	-0.03	-5.45
Trans/Pub Util	-0.30	2.33	-0.03	1.74
Fin/Ins/Real Est	1.00	2.92	-0.82	0.62
Retail Trade	-28.50	-1.91	-0.35	1.46
Wholesale Trade	3.72	-1.15	1.56	1.59
Services	1.11	1.15	0.91	0.98
Agri/For/Fish Serv	4.50	1.11	2.12	1.03
Total Government	0.69	2.85	-0.47	0.75
State & Local	26.19	2.35	0.41	0.82
Federal Civilian	1.27	-1.41	4.59	1.00
Federal Mil	0.00	0.00	0.00	0.00
Farm	-3.36	0.64	-6.07	1.00
Total Employment	0.85	2.26	0.11	1.09

* Source: REMI model (historic, estimated and projected values).