2005

Haverhill Street Corridor Study: Methuen, Massachusetts

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Haverhill Street Corridor Study
Methuen, Massachusetts

Prepared For:
City of Methuen, Massachusetts
Department of Community Development & Planning

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In Conjunction With:
Regional Planning Studio 675
University of Massachusetts – Amherst
May 2005
EXECUTIVE SUMMARY

The City of Methuen’s Department of Planning and Community Development hired a team of students from the University of Massachusetts Amherst’s Master’s in Regional Planning studio class to examine the growth impacts of a potential highway interchange reconfiguration. Exit 46 of Interstate 93 in Methuen is a failed interchange, and will likely be reconfigured in the next ten years. Methuen, a middle class city of 44,000 midway between Boston, MA and Manchester, NH, is currently experiencing significant growth pressures. The reconfigured interchange will only add to these pressures.

In consultation with the client, the studio team focused its analysis on the Haverhill Street Corridor. Haverhill Street connects the City of Lawrence to Interstate 93. Haverhill Street is also one of the city’s major commercial districts, including Merrimac Plaza, a 150,000 sq. ft. community shopping center. There is a significant divide between the north side of Haverhill Street which is residential, and the south side, which is commercial.

The reconfiguration of the Exit 46 interchange will increase traffic volume and make Haverhill Street more accessible from neighboring Lawrence and Dracut. Increased volume normally benefits commercial development, but Haverhill Street is already congested, so increased volume may worsen congestion and have a negative impact on the district.

Three future development scenarios are presented. Scenario #1 assumes no intervention by the city, allowing current regulations and market forces guide development. Under Scenario #1 , future development is likely to continue to be fragmented and haphazard, increasing traffic congestion and further straining the relationship between commercial and residential uses.

Scenario #2 proposes two regulatory changes intended to reduce traffic congestion and facilitate economic development: a parcel consolidation incentive ordinance and an access management ordinance. These ordinances would encourage the development of larger, less auto-oriented commercial uses such as professional office space. They would also encourage shared parking and curb cuts. These changes would reduce traffic congestion and create a more effective commercial district.

Scenario #3 transforms the Haverhill Street Corridor into a unified, pedestrian-friendly, mixed-use neighborhood. It builds upon the regulatory changes of Scenario #2, adding a new access road that would allow customers to travel between commercial uses without exiting onto Haverhill Street. The commercial uses would be reorganized into pedestrian-friendly plazas, reconnecting the residential and commercial sides of Haverhill Street. The corridor would gain a strong neighborhood identity, enhancing its role as a gateway to Methuen from both Interstate 93 and the City of Lawrence.

The studio team recommends Scenario #3 as the preferred outcome. The report concludes with a list of Action Items the Department of Planning and Community Development can undertake to prepare for the impacts of the I-93 Exit 46 interchange reconfiguration.
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INTRODUCTION

The City of Methuen’s Department of Planning and Community Development hired a team of students from the University of Massachusetts Amherst’s Master’s in Regional Planning studio class to examine the growth impacts of a potential highway interchange reconfiguration on the city. At Exit 46 of Interstate 93 in Methuen, Routes 110 and 113 converge with the interstate in a large rotary. This rotary has been identified as a failed intersection and the worst automobile crash location in the region by the Merrimack Valley Planning Commission. MassHighway is in the process of hiring a consultant to propose a reconfiguration of the interchange. The City of Methuen is very concerned about how a reconfigured interchange will affect the strong growth pressures the city already faces.

In consultation with the client, the studio team focused its analysis on the Haverhill Street Corridor. Haverhill Street is a spine connecting the City of Lawrence, which borders Methuen on the east, to Interstate 93. Haverhill Street is also one of the city’s major commercial districts. However, unlike most commercial districts, Haverhill Street has commercial uses on only the south side of the street, with residential uses on the north side. Thus, in addition to being a spine, Haverhill Street also serves as a border between residential and commercial uses. This dual functionality and the high level of traffic congestion already present on Haverhill Street make this corridor a critical planning area.

The goal of this study is to project and analyze the growth impacts of the proposed I-93 Exit 46 interchange reconfiguration and formulate land-use recommendations and design guidelines to guide future development. This report reviews the demographic profile of the City and Focus Area, the existing land use characteristics of the corridor such as zoning regulations and assessor data, traffic conditions, business development patterns, redevelopment opportunities, and existing infrastructure. This information was then used to assist in the formulation of recommendations for future land use patterns for the Haverhill Street corridor. The recommendations are framed within three development scenarios representing, respectively, typical development patterns under existing regulations (Scenario #1), growth under moderate intervention via new land use ordinances (Scenario #2), and growth with a significant transformation of the existing commercial area and transportation infrastructure (Scenario #3). (See Appendix 1 for the complete Scope of Services)
Research Gathered

We consulted a wide selection of resources in preparing this report. A great deal of information came from our client, Curt Bellavance, Director of Planning and Community Development for the City of Methuen. Field observation trips were conducted and a number of photographs of study area conditions were taken. City plat maps and the Tax Assessor’s database were reviewed, and other data from MassGIS were analyzed via Geographic Information Systems to produce the maps included in this report. A number of city documents were consulted, including:

- City Zoning Ordinance
- 1996 Economic Development Plan
- 1997 Land Use Plan
- 2001 Open Space Plan
- 2004 Downtown Revitalization Study
- 2004 City of Methuen Community Development Plan
- Downtown Design Guidelines (unofficial)

Several comparable corridor studies were reviewed, including:

- Grand River Avenue Corridor Study Plan, Williamstown Township, MI, (Michigan State University RP Studio, 1999)
- Assessing the Economic Impact of Widening I-70 for the City of Columbia, MO, Economic Development Research Group, 2004
- Rethinking Land Use in an Exit Economy: The I-91 Corridor, Holyoke, MA, UMASS Amherst Regional Planning Studio, Spring 2004
- King Street Corridor Study, Northampton, MA, Vanasse Hangen Brustlin, Inc. 2003

Information was gathered from several Merrimack Valley Planning Commission reports, including the draft Interstate 93 Corridor Traffic Study, 2003 Regional Transportation Plan, and 2003 Comprehensive Economic Development Strategy. Data from ESRI’s 2003 Community Sourcebook of Zip Code Demographics and the Lifestyle Market Analyst 2004 was consulted. Information on shopping centers was taken from the Urban Land Institute’s Shopping Center Development Handbook, Third Edition.

Interviews with a number of knowledgeable people were conducted; these included a resident who has lived in the study area for over 30 years, a long-time business owner in the study area, a University of Massachusetts Amherst transportation engineering professor, and a transportation planner from the Merrimack Valley Planning Commission.
DEMOGRAPHIC AND SOCIO-ECONOMIC INVENTORY

Demographics

Race

In 2000 Methuen’s total population was 43,789. As Figure 1 illustrates, Methuen is somewhat less diverse than the state and Essex County. Methuen’s population is 89% white (39,126), 9.6% Hispanic or Latino (4,204), 2.4% Asian (1,040), 4.8% some other race (2,131), 1.8% two or more races (788), and 1.4% Black or African American (591).

Figure 1: Race

![Bar chart showing race distribution in Methuen, Essex, and Massachusetts](chart.png)

Source: U.S. Census 2000

Population Growth

Methuen has experienced a rapid rate of population growth in the past two decades (Figure 2). The city’s population increased by 8.9% between 1980 and 1990, and by 9.5% between 1990 and 2000. During the same periods, the populations of both Essex County and the Commonwealth of Massachusetts increased at significantly slower rates; 5.75% and 7.96% for the County and 4.87% and 5.53% for the Commonwealth.
MISER, the Massachusetts Institute of Social and Economic Research, projects the population of Methuen to increase by approximately 7.0 percent in the next twenty years. The projected population growth rate for the city of Methuen is much higher than that of the county and the state. This shows that Methuen, in the regional context, is actively growing. Its proximity to Boston and easy accessibility to Interstates 93 and 495 make it a very attractive residential area. Future commercial and retail entrepreneurs should therefore realize that the population growth is expected to continue though not as rapidly as in the past, but the city is still likely to face significant growth pressures in the future.

Age of Structures
Figure 3 shows the age of structures in Methuen, the state of Massachusetts, and Essex County. More than 50% of the structures in the city, state and county were built in 1939 or earlier. As shown by the chart, Methuen has a higher percentage of new structures (1.96%) than the state (0.93%) and the county (0.74%). The number of structures built in Methuen in 1939 or earlier is 4,570 (27.07%), which is a lower percentage compared to the state (34.54%) and the county (38.21%). As compared to the state and county, construction of new structures began to rise in Methuen from 1960, and has continued to the present.
Figure 3: Age of Structures

Age of Structures

Source: U.S. Census 2000

Economics

The economic profile of Methuen illustrates its economic conditions and opportunities for future growth and development. Indicators like employment, industry, income demonstrate the economic trends in the past and therefore, allow us to make judgments for future economic demands in the area.

Income

The median household income of Methuen is similar to the county and the state which indicates that residents of Methuen are mostly middle class and their standard of living is comparable to the average residents of the county and the state (see Figure 4). The income level of Methuen has increased from 1990 to 2000 and the rate of increase is very similar to the county and the state.
Employment
The unemployment rate of Methuen for March 2005 was 6.7%, compared to 5.3% for Massachusetts. Looking at the most recent 13 months data, Methuen’s unemployment has consistently been higher than the state. In 1992, Methuen’s unemployment rate was 10.3%, which is almost three times as much as in 2000. Methuen’s unemployment rate declined from 1992 to 2000, then started to increase after 2000. The statewide unemployment rate has shown the same trend. However, in the past couple of years Methuen’s unemployment rate has been increasing at a higher rate than the state.

Occupation
According to the 2000 Census, 36% of Methuen residents 16 years old and over were employed in Management, Professional and Related Occupations. Of those employed residents, just over 80% are in wage or salaried positions. The number of self-employed workers has increased 1.4% over the past 10 years, and the number of government workers has slightly declined by 1.2%.

Source: Massachusetts division of unemployment assistance, www.detma.org
### Table 1: Methuen Workforce

<table>
<thead>
<tr>
<th>Occupation</th>
<th># Employed</th>
<th>% of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Management, Professional</td>
<td>7,487</td>
<td>36.0</td>
</tr>
<tr>
<td>Sales and Office</td>
<td>5,649</td>
<td>27.1</td>
</tr>
<tr>
<td>Production, Transportation, Freight</td>
<td>3,207</td>
<td>15.4</td>
</tr>
<tr>
<td>Service</td>
<td>2,671</td>
<td>12.8</td>
</tr>
<tr>
<td>Construction, Extraction, Maintenance</td>
<td>1,778</td>
<td>8.5</td>
</tr>
<tr>
<td>Farming, fishing, forestry</td>
<td>18</td>
<td>0.1</td>
</tr>
</tbody>
</table>

*Source: City of Methuen Community Development Plan*

### Industry

Most of Methuen’s economic activity is in the retail, office, and industrial sectors. However, the city’s largest employer is Holy Family Hospital with approximately 1,800 employees. According to the US Census Bureau’s County Business Pattern, nearly 55% of businesses in Methuen are small, employing 1-4 people. These businesses are mostly in services, trade, manufacturing and government. According to the city’s Community Development Plan, the city has more employees working in the wholesale and retail sector than the regional average, while it offers fewer manufacturing positions than the regional average.

### Tax Base

Table 2 summarizes the existing distribution of assessed property valuation among taxable classifications. Since only about 13 percent of Methuen’s land is designated for commercial and industrial purposes, the city’s tax base is heavily reliant upon the residential properties. Some of the major employers in the city such as Holy Family Hospital and Methuen’s school are exempted from paying property taxes. According to the city’s Community Development Plan, a total of 616 parcels are exempted from properties taxes.

### Table 2: Methuen’s Property Tax Base, 2004

<table>
<thead>
<tr>
<th>Classification</th>
<th>Assessed Value</th>
<th>% of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential</td>
<td>$2,924,524,851</td>
<td>85.8</td>
</tr>
<tr>
<td>Open Space</td>
<td>$</td>
<td>0.0</td>
</tr>
<tr>
<td>Commercial</td>
<td>$272,434,197</td>
<td>8.0</td>
</tr>
<tr>
<td>Industrial</td>
<td>$136,737,760</td>
<td>4.0</td>
</tr>
<tr>
<td>Personal Property</td>
<td>$74,811,500</td>
<td>2.2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$3,408,508,308</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

*Source: Mass Department of Revenue, Municipal Data Bank*

### Economic Concerns

According to Methuen’s 1996 Economic Development Plan, the city is very concerned about supporting local businesses. The report states, “Methuen’s existing firms are the town’s most valuable resource: assisting them in meeting critical needs is likely to be the best use of public efforts to improve the economy.”

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Methuen is a part of the Merrimack Valley Planning Commission’s (MVPC) regional planning area which includes 15 communities. Some of the MVPC’s economic concerns are: an uneven pattern of growth and development in the region; need for public investments in aging and new infrastructure to support continued economic growth; retaining of region’s declining non-high-tech manufacturing base; difficulty in marketing excess manufacturing and commercial space such as old mill space and competitive disadvantage of Massachusetts border communities in attracting new businesses and industry.

**Future Economic Growth**

The Massachusetts Department of Employment and Training’s report, *SDA Long-Term Job Outlook Through 2008*, predicts a 9% regional job growth rate in the Lower Merrimack SDA (Service Delivery Area). The projected new jobs are primarily in the service sector. Service sector jobs are expected to comprise almost 50% of the region’s jobs in 2030, up from 21% in 1980. DET projects the highest increase in jobs in Methuen to be in health services and business services. Other new jobs are expected in the construction, transportation, communications and utilities sectors. Jobs in the manufacturing sector are projected to decline by 10%. Thus, Methuen is likely to experience job growth in service sector and job loss in manufacturing sector in the future.

**Consumer Spending Patterns**

According to ESRI’s *Sourcebook of Zip Code Demographics 2003*, Methuen consumers spend slightly more than the national average across all categories, but slightly less than the Massachusetts average across the same categories. Methuen consumer spending is strongest in home improvements and entertainment, and weakest in financial services. According to the ACORN classification of residential neighborhoods, 21.3% of Methuen’s population is considered Semirural Lifestyle. Semirural Lifestyle is part of the most affluent category of neighborhoods. People in this category are generally aged 35-54, have children, and are more likely to enjoy home projects, gardening, and reading.
STUDY AREA INVENTORY

Overall Study Area

Our primary task is to examine the growth impacts of proposed improvements to the rotary interchange at Interstate 93 Exit 46. Thus, the overall study area consists of the properties served by the major roads leading to the Exit 46 rotary: Route 110 (Haverhill Street, Lowell Street), Route 113 (Lowell Street, North Lowell Street), and Riverside Drive. The overall study area is bounded by Haverhill Street to the north, the Merrimack River to the south, Moffett Street to the west, and Woodland Street to the east. (See Figure 5) This is the area that will be most affected by the rotary reconfiguration.

To the west of I-93 and the Exit 46 rotary are older, residential neighborhoods. Valley Office Park, also known as the Brooks property, is a large professional office park located just west of I-93. A small residential neighborhood occupies the area between the southwestern extent of the rotary and the Merrimack River. There is a large wetland at the western edge of the study area. Four cemeteries are located further west, beyond the border of the study area.

The area to the east of the Exit 46 rotary contains a greater variety of land uses. Immediately to the east of the rotary is a single-family residential neighborhood, followed by Laurel Woods, a Chapter 40B mixed income condominium housing complex. Between Haverhill Street and Riverside Drive there is retail shopping, a municipal park, Park Gardens (a 130 unit affordable housing complex), a townhouse apartment complex, warehouse, some underdeveloped land, and a park abutting the Merrimack River to the south. North of Haverhill Street is a residential neighborhood.

West of the interstate, Routes 110 and 113 carry a significant amount of traffic to and from the Exit 46 rotary from residential areas in Methuen and the bordering Town of Dracut. Peak hour traffic approaching the rotary from the west routinely backs up over a half-mile, to the cemeteries. Traffic is even more congested east of the interstate along Haverhill Street, due to the higher intensity retail and residential uses. Haverhill Street connects the City of Lawrence to Interstate 93. Peak hour traffic from this direction routinely backs up on Woodland Street.

Focus Area

In consultation with our client, a smaller focus area was chosen within the overall study area. The focus area is known as the Haverhill Street Corridor. It consists of the properties along Haverhill Street between Lowell Street and Woodland Street (see Figure 6). The focus area is approximately one-half mile in length. Most of the analysis in this report pertains to the focus area.
Figure 5: Overall Study Area

A = Valley Office Park; B = wetlands; C = cemeteries; D = Laurel Woods (Chapter 40B); E = retail shopping; F = municipal park; G = Park Gardens (130 unit affordable housing complex); H = Woodland Street
Figure 6: Focus Area

A = Valley Office Park; B = wetlands; C = cemeteries; D = Laurel Woods (Chapter 40B); E = retail shopping; F = municipal park; G = Park Gardens (130 unit affordable housing complex); H = Woodland Street
The focus area was chosen for several reasons:

- Haverhill Street plays a major role in connecting the City of Lawrence to Interstate 93. As Lawrence becomes more economically revitalized, the relationship between Methuen and Lawrence will become even more important.
- In addition to its role as a spine connecting Lawrence and I-93, Haverhill Street is also one of the city’s major commercial districts. However, unlike most commercial districts, only one side of the street is commercial, with residential uses on the other side. Thus, Haverhill Street also serves as a border between two land use categories.
- Haverhill Street is already heavily congested, thus it is more likely to be impacted by the potential Exit 46 interchange reconfiguration.
- This area contains fewer fixed or permanent land uses than the rest of the overall study area, which allows for greater development opportunities.

Transportation Profile

Haverhill Street is a two-lane road characterized by a sharp divide between dense residential use on the north side of the street and neighborhood commercial, including a shopping plaza, banks, and fast-food restaurants, on the south side. The road serves as both thruway connecting the City of Lawrence to Interstate 93 and as an access road for the commercial uses. The commercial uses can all be reached by right turn for vehicles approaching Haverhill Street from I-93. Left turns onto Haverhill and back towards the interstate, however, are not allowed at several points: from the Burger King, Pizza Hut and Taco Bell/KFC restaurants across from Forest Street, and from the main entrance to Merrimac Plaza, across from Hobson Street. They are only allowed at the signalized intersections, which leads to backups within the commercial lots as vehicles wait to turn left onto the busy road. Similarly, unsignalized left turns into the businesses by vehicles traveling west can be difficult during peak hours, and the lack of designated left turn lanes on Haverhill leads to queuing in the middle of the road and diverts through traffic to the shoulder to get by.
The north side of Haverhill, including all but three small, commercial properties fronting Haverhill, is characterized by dense residential development of single and two family homes. Access to I-93 is attained via right turns, and Lowell Street (113) bisects the residential area, providing an alternate route to I-93. The majority of the intersections are unsignalized, which means that a resident returning home during the evening peak who wishes to shop on Haverhill Street faces a difficult left turn against through traffic in order to enter their street. The signalized intersection with Green/Burnham Street, for example, is particularly hazardous and was categorized by the MVPC as a high crash location. With 54 crashes in 2002, 23 of which involved bodily injury, the Haverhill/Burnham intersection ranked 244th on the top 1,000 highest crash locations list in the region.²

The speed limit along this half-mile area of Haverhill Street is 25 miles per hour, and the typical volume of traffic generally keeps the average travel speed around the speed limit. Traffic signals currently exist only at the intersection of Burnham and Haverhill Streets and for westbound traffic only at the intersection of Haverhill (110) and Lowell Streets (113) just before the rotary entrance. City ball fields, two high-rise towers with affordable elder housing, and a water treatment facility are located on Burnham Street, which runs perpendicular to Haverhill. Burnham terminates at another park along the banks of the Merrimack River, where it intersects with Riverside Drive. Haverhill Street is serviced by Merrimack Valley Regional Transit Authority (MVRTA) bus service.

**Demographic Profile**

Tables 3 and 4 show that Census Tract 2521.01, which contains the focus area, is slightly less diverse and has a lower median household income than the city as a whole. Median household income is 13% lower than the city as a whole. This difference is most likely due to the 130 unit subsidized housing complex in the focus area. However, at $43,651, the focus area median household income is still solidly middle class.

**Table 3: Race Comparison**

<table>
<thead>
<tr>
<th>Race</th>
<th>Census Tract 2521.02, Essex County</th>
<th>Methuen City</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>3,647</td>
<td>43,789</td>
</tr>
<tr>
<td>White alone</td>
<td>95.28</td>
<td>89.4</td>
</tr>
<tr>
<td>Black or African American</td>
<td>0.82</td>
<td>1.3</td>
</tr>
<tr>
<td>Asian alone</td>
<td>0.96</td>
<td>2.4</td>
</tr>
<tr>
<td>Some other race alone</td>
<td>0.08</td>
<td>4.9</td>
</tr>
<tr>
<td>Two or more races</td>
<td>0.44</td>
<td>1.8</td>
</tr>
<tr>
<td>Hispanic or Latino:</td>
<td>2.33</td>
<td>9.6</td>
</tr>
</tbody>
</table>

*Source: U.S. Census 2000*

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² Merrimack Valley Planning Commission Regional Transportation Plan, September 2003, p. IV-29-30
Table 4: Income Comparison

<table>
<thead>
<tr>
<th>Census Tract 2521.01, Essex County</th>
<th>Methuen City</th>
</tr>
</thead>
<tbody>
<tr>
<td>Median household income 1999</td>
<td>43,651</td>
</tr>
<tr>
<td>Methuen City</td>
<td>49,627</td>
</tr>
</tbody>
</table>

Source: U.S. Census 2000

Figure 7: Census Tract 2521.01, Essex County, Massachusetts

Land Use and Zoning Profile
The north side of Haverhill Street is a residential neighborhood consisting primarily of single-family homes, with a few two- and three-family homes, one 18-unit apartment building, and two mixed-use residential/commercial properties. The median property value of the residential properties is $208,000, and the median lot size is 0.209 acres (9,104 sq. ft.). The median house size is 1,872 sq. ft., and the median year built is 1915, so this is an older neighborhood with moderately-sized middle-class homes. The city assessor considers these homes to be in average-good condition. Further north of the focus area, the homes and lots are a little larger and have a higher property value. The houses fronting Haverhill Street are located rather close to the street edge, with a small sidewalk in between. Our client tells us some of the residents in this neighborhood have been opposed to the commercial development occurring across the street because of increased traffic congestion.
Residential properties along the Haverhill Street Corridor

The residential parcels are zoned RD Single Residence. Only detached single-family homes are allowed in the RD district; two-family, attached, and multi-family dwellings are prohibited. RD is Methuen’s most dense single-family residential zoning district, with a minimum lot size of 10,000 sq. ft. and a minimum frontage of 100 ft. Home occupation uses are allowed by right, as long as there is no retail sale of merchandise on the premises. Nearly all of the residential properties in the focus area were developed before the City’s most recent zoning ordinance was adopted (1989), hence why many of the properties do not meet current dimensional or use regulations.

The south side of Haverhill Street is a commercial district. The district is dominated by highly auto-dependent uses like fast food restaurants, gas stations, and drive-thru banks. It is highly auto-dependent and not pedestrian friendly. Traffic is congested, as there is only one travel lane in each direction, limited dedicated turning lanes, and several curb cuts. There is no room to widen the road without encroaching on the homes and businesses along the corridor. Given the tightness of the corridor, traffic speed is no more than 25-30 miles per hour. The median property value of the commercial properties is $498,400, and the median lot size is 0.691 acres (30,100 sq. ft.). The median year built is 1971, so this side of Haverhill Street was developed more recently than the residential side.
The anchor of the commercial district is the Merrimac Plaza, outlined in green on the map below. Merrimac Plaza is considered a community shopping center, as opposed to a neighborhood or regional shopping center. Community shopping centers generally have 100,000-450,000 sq. ft. of gross leasable area (Merrimac Plaza has 150,000 sq. ft.) and serve a population of 40,000-150,000 people within a 10-20 minutes driving distance. Commercial shopping centers usually consist of a supermarket, a large variety or discount store, and several smaller supporting stores. Merrimac Plaza has a Market Basket grocery store. Instead of one large variety or discount store, Merrimac Plaza has several mid-sized retailers: Brooks Pharmacy, Dollar Store, AJ Wright, and Dots. The remainder of the plaza is a mix of small national and local retailers.³

³ For a complete list of Merrimack Plaza retailers, see Appendix 3.
Merrimac Plaza has a mix of off-price and discount stores. Off-price stores appeal to price sensitive, middle to upper-middle income consumers who are looking for a bargain on high-quality merchandise. AJ Wright, which is a subsidiary of TJ Maxx and resells name-brand merchandise, is an off-price store. Discount stores target middle to lower-income consumers who are more cost conscious and are willing to buy lower quality goods. Dollar Store is a discount store.

Market Basket and Brooks both prominently advertise that they accept EBT, or Electronic Benefit Transfers, better known as Food Stamps. This lower-income orientation is somewhat surprising given that the surrounding neighborhood and Methuen as a whole are relatively middle-class. However, the shopping center’s market area includes the City of Lawrence, which is one of the poorest communities in Massachusetts. This explains the shopping center’s lower-income orientation. Given the socio-economic makeup of the surrounding area, it is expected that Merrimac plaza will continue to have off-price and discount stores in the near future.

The commercial parcels are zoned BH Highway Business, except for the three small parcels at the west end, which are zoned BL Limited Business. A wide range of retail and office uses are allowed by right in the BH district. Business complexes and shopping centers, which allow more than one building on a lot or more than one type of business in a single building, are allowed by special permit.
Figure 9: Commercial Uses in Focus Area

- Burger King
- Pizza Hut
- Mobil gas station
- McDonald's
- Dunkin' Donuts
- Market Basket
- Merrimac Plaza

Legend:
- BH zoning
- BL zoning
PROPOSED ROTARY RECONFIGURATION

In late 2003, the Merrimack Valley Planning Commission (MVPC) engaged the transportation engineering firm Vanasse Hangen Brustlin, Inc. (VHB) to complete a Corridor Traffic Study of I-93 in Methuen and Andover. VHB characterized the corridor as a heavy commuter corridor with the majority of traffic traveling southbound during the morning peak hour and northbound during the evening peak hour. During the evening peak hour, the volume of northbound traffic between Exit 45 (River Road) and Exit 46 (Rts. 110/113) was the second highest among the seven intersections in the study area (7,780 vehicles per hour [vph]). The volume of northbound traffic between Exits 46 and 47 (Pelham Street), during the same period, decreases to 6,515 vph, which evinces the importance of the Exit 46 interchange as a hub of evening commuter activity from points south.

Using the above and other data, VHB assessed the Level of Service at and around the Exit 46 interchange. A Level of Service (LOS) analysis compares peak traffic demands with the available highway capacity. Demand is based on hourly traffic flows, and LOS ratings are assigned on a scale of A through F, with a rating of D or better indicating an acceptable level of capacity to accommodate demand. The Mainline LOS, which assesses the performance of the through corridor around the interchange (I-93) around Exit 46, ranges between LOS D and E for the southbound morning peak hour, and between LOS E and F for the northbound evening peak hour. This LOS data represents minimally acceptable to poor performance of the interstate during peak periods as a direct result of the Exit 46 interchange. Economically, the impacts of a roadway performing below a D level of service are significant. When arterial congestion leads to heavy traffic, difficult left turns, and poor sight clearance, commercial businesses suffer lost business due to their limited accessibility. For regional customers traveling on I-93, the common perception of the Exit 46 rotary as congested and difficult to maneuver could be a disincentive to exit the interstate and patronize businesses along Haverhill Street.

Other LOS analyses of the Exit 46 interchange reflect its poor performance during commuting peaks; the I-93 southbound ramp operates at a LOS D during the morning peak, and the I-93 northbound ramp operates at an F during the evening peak. These findings support anecdotal reports that the interchange traffic on the ramps routinely backs up onto the highway as vehicles struggle to enter the congested, unsignalized rotary.

Based on the study’s findings on congestion and collisions at the Exit 46 rotary, VHB recommended significantly re-engineering the exit. VHB generated seven alternative reconfigurations, and the Methuen Department of Community Development and MVPC have indicated that VHB’s Alternative 7 (see Figure 10) is at this point the most likely scenario. MassHighway is in the process of selecting a consultant to conduct further study and an environmental impact assessment of the rotary reconfiguration, but sources at the City and MVPC confirm that the reconfiguration will likely bear a close resemblance to Alternative 7 and that construction will likely occur within the next ten years.

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4 Interstate 93 Corridor Traffic Study, Andover and Methuen, MA, Vanasse Hangen Brustlin, Inc. October 2003, Chapter 2 – Existing Conditions
According to VHB, Alternative 7 eliminates the existing rotary and replaces it with a new single point interchange that includes three signalized intersections of I-93 off-ramps with Routes 110/113. These intersections include a central intersection with the left-turns from both off-ramps, an eastern intersection with the right turn from the northbound off-ramp, and a western intersection with the right turn from the southbound off-ramp. Two signalized intersections of Route 110 and Route 113 would be located farther east and west of the interchange. Longer exit ramps would increase the capacity of the rotary to accommodate the extensive queuing which currently occurs on the off-ramps and backs up onto the interstate, reducing this safety hazard.

This reconfiguration involves substantially less demolition, construction, and takings than other alternatives. The improvements to the interchange will occur largely within the existing footprint, although improvements to the southeastern corner of the interchange may require some takings in the residential neighborhood just south of Route 113 in that area. No parcels large enough for significant development will open up or be created by the reconfiguration, and traffic flow will primarily be impacted within the interchange and on the interstate, rather than on the surrounding and intersecting Routes 110 and 113.
ANALYSIS OF GROWTH IMPACTS OF ROTARY RECONFIGURATION

Redesigning the Exit 46 interchange into the VHB Corridor Study’s Alternative 7 scenario will have varied impacts on the local and regional transportation and economic network. The current minimally acceptable and failing Levels of Service on and around the rotary create significant barriers to the perception and reality of mobility in neighborhood. The rotary is widely perceived as a difficult, confusing, congested place, and in particular, the Haverhill Street approach to I-93 is already a stretch to be avoided by commuters whenever possible.

Informal interviews with long-time residents, area business persons, transportation experts, and local planners strongly suggest that any perceived improvement in safety, navigability, and congestion would spur even more use of the interchange by both area residents and regional neighbors. This increase in desirability and use of the interchange has the potential to impact the focus area in significant ways negative and positive; this section discusses how the improvement will impact the traffic and economic profiles of the area.

A significant redesign of the Exit 46 rotary, as with Alternative 7 presented in the VHB Corridor Study, would substantially affect the neighborhoods immediately east and west of I-93. The direct changes to the infrastructure are expected to improve safety and reduce congestion at the interchange, which will likely induce greater use of the rotary and impact the traffic patterns and economic profile of the study and focus areas.

Traffic Impacts

While the central focus area along the commercial corridor of Haverhill Street is adjacent to the existing rotary and will benefit economically from increased ease of access to and from the interstate, the traffic patterns of the two areas are distinctly separate. Congestion and dangerous conditions at the rotary are a result of the cars entering and exiting the unsignalized rotary, and peak hour rotary traffic does not tend to back up down Haverhill heading east along the commercial corridor, as it does heading west away from the rotary and towards the neighboring town of Dracut.

Difficulties with traffic flow occur in the commercial area on Haverhill Street largely because of the narrow width of the road, which is one lane in each direction with infrequent and short dedicated turn lanes. According to MVPC, this section of Haverhill Street does not technically operate at full capacity, however left turns at the many unsignalized intersections are difficult during morning and evening peak hours. As such, the planned intervention upon and improved congestion around the interchange will not solve the existing traffic issues along Haverhill Street, and site specific interventions are suggested in the Recommendations discussed later in this report. What will occur within the commercial corridor as a result of the interchange reconfiguration is a likely increase in both through and local traffic volume. This would exacerbate existing traffic problems within the commercial corridor, which would eventually result in economic impacts on local businesses as convenience and accessiblity are compromised.
Economic Impacts

The commercial corridor of Haverhill Street developed and exists as it is today because of the confluence of a variety of factors that make it ideally suited for such development. The simplest explanation is the zoning for highway and neighborhood commercial on the south side of the street. The existence of large, flat parcels, intersection with a convenient and well-traveled through road (Burnham), location on State Route 113, proximity to Lawrence, Dracut, I-93, and downtown Methuen, and the distance to The Loop, Methuen’s other major shopping district across the City, have all coalesced to make the commercial corridor well-suited for profitable commercial development.

The narrow width of Haverhill Street, however, is already exposing the limitations on commercial growth. The incremental development of individual lots has, as it tends to with strip commercial development, generated a surplus of curb cuts for individual businesses. This style of development can be sustained until density intensifies to a certain level, at which point the growing number of curb cuts and vehicular turning movements begin to conflict with the intended function of arterials, which is to move people and goods safely, quickly, and efficiently. When development along an arterial surpasses this point and access systems lack sufficient coordination, more car trips are forced out onto the road. This causes traffic flow conflicts to multiply due to increased turning (especially unsignalized left turning, as occurs as vehicles exit the commercial uses on Haverhill Street and drive west toward the interstate), and congestion increases as a result, impacting the roadway’s capacity to serve both local and regional traffic.

The profitability of businesses in the corridor suffers when congestion and poor access lead to heavy traffic, difficult left turns, and poor sight clearance, because both the perception and reality of these conditions deter customers. These issues factor into business decisions to relocate to more accessible locations, which causes a rise in vacancies and a decline in property values. Conversely, commercial corridors that have comprehensive access plans, which regulate curb cuts, lot type and density development, frontage and dimensional requirements, are capable of sustaining higher levels of density and commercial activity and meeting the demands of the

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5 “Land Development and Subdivision Regulations that Support Access Management,” Center for Urban Transportation Research, University of South Florida 1993
commercial market while maintaining the essential functions of the artery. With such development, the corridor becomes attractive to investment and competitive for future growth. The use of developable land is maximized, and the strength and diversity of local businesses is increased.

The development scenarios found in the Recommendations section of this report aim to embody this theory of dense commercial development coupled with carefully planned access management. The Haverhill Street commercial corridor is at a stage of development where this planning is appropriate, since high traffic volumes, excessive curb cuts, difficult left turns, and several underutilized and undeveloped lots exist.

The north side of Haverhill Street is zoned residential and the uses, with only a few exceptions, are predominately single and two family residences. The commercial conversion of these structures into small commercial space is unlikely because of current zoning and citizen opposition to the variances this type of conversion would require, the density of residential development already existing, the lack of any viable lots for parking, and high residential real estate values.

**Regional Impacts**

Exit 46 is the first I-93 exit in Methuen and acts as the southern gateway to the City. The Town of Andover is located just south of Methuen over the Merrimack River. Because of Methuen’s unique bow-tie shape, Exit 46 lies within two and a half miles of two other neighbors on either side of the city. East of the rotary down Route 113 is the City of Lawrence, and west down Routes 110 and 113 is the Town of Dracut. This convenient access to the interstate via state routes brings a significant amount of traffic into Methuen, and the planned improvements to the interchange would likely encourage even greater usage by regional commuters and commercial travelers. Because of its reliance on the interstate as a shipping arterial, commercial traffic from neighboring areas is especially likely to respond to a reduction in the congestion at the rotary. Development trends in Dracut and Lawrence, both of which have significant light manufacturing histories, support the theory that eased accessibility to the interstate from state routes would increase the appeal of the Exit 46 interchange to commercial trucking. This, in turn, would increase the amount of larger vehicles using the interchange intersections and passing through the commercial corridor of the focus area.

**Development Opportunities**

Within the focus area, five parcels totaling 7.1 acres stand out as development opportunities. (See Figure 11) These parcels are currently undeveloped or have vacant structures. Four of the parcels (37N, 37P, 37Q, 37R) are owned by the same owner. Only parcel 37R could be developed by right. Parcels 37N, 37P, and 37Q are land-locked, and parcel 37A lacks sufficient frontage. Our client informed us that these lots could be developed with either a variance for frontage from the Board of Appeals, or a special permit to have two buildings on one lot from the Planning Board (assuming the nonconforming lot was combined with a conforming lot). In these circumstances, neither a variance nor a special permit would be considered a major impediment to development.
Table 5: Development Opportunities

<table>
<thead>
<tr>
<th>Parcel ID</th>
<th>Acreage</th>
<th>Zoning</th>
<th>Current Use</th>
<th>Property Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>516-153A-37A</td>
<td>2.570</td>
<td>BH</td>
<td>Undeveloped</td>
<td>$355,600</td>
</tr>
<tr>
<td>516-153A-37N</td>
<td>0.985</td>
<td>BH</td>
<td>Vacant Warehouse</td>
<td>$210,300</td>
</tr>
<tr>
<td>516-153A-37P</td>
<td>0.589</td>
<td>BL</td>
<td>Parking lot</td>
<td>$157,900</td>
</tr>
<tr>
<td>516-153A-37Q</td>
<td>0.609</td>
<td>BL</td>
<td>Parking lot</td>
<td>$142,400</td>
</tr>
<tr>
<td>516-153A-37R</td>
<td>0.591</td>
<td>BL</td>
<td>Parking lot</td>
<td>$192,700</td>
</tr>
</tbody>
</table>

Figure 11: Development Opportunities

= Development Opportunities
Development Constraints

As Figure 12 illustrates, the overall study area contains a number of relatively fixed or undevelopable land uses, including:

- A municipal park with ball fields and tennis courts
- Park Gardens, a 130 unit elderly/disabled affordable housing complex
- Laurel Woods, a 41 unit Chapter 40B condominium development containing affordable and market-rate housing
- Valley Office Park, a 270,000+ sf office complex
- A large wetland at the western edge of the overall study area

Much of the remainder of the study area consists of well-established residential neighborhoods. These land uses are less likely to be redeveloped.

Within the focus area, the residences along the north side of Haverhill Street can be considered a partial development constraint. There has been speculation about converting some of these residences into small retail or office uses. However, the lack of developable land for parking is a significant development constraint. High property values would discourage developers from purchasing two homes and leveling one to create parking. Additionally, small retail/office development with parking would interrupt the residential streetscape on this side of Haverhill Street, creating an unpleasing aesthetic.
Figure 12: Development Constraints
DEVELOPMENT SCENARIOS

Scenario #1: No Intervention

Summary of Conditions:
Under scenario #1, the Haverhill Street Corridor will experience commercial expansion and a worsening of the current traffic congestion. The auto-dependent fast food franchises and drive-thru banks will continue to exit onto Haverhill Street, adding traffic volume and slowing traffic speed on the arterial. New businesses will likely increase the number of curb cuts along the narrow street, increasing vehicular conflict points and decreasing visibility and access. Pressure on residential owners on the north side of Haverhill Street to sell their properties for commercial conversion will increase as demand grows for small office space near Interstate 93. Commercial uses will encroach on the dense residential neighborhood north of Haverhill Street, exacerbating tensions between residential and commercial interests. Commercial growth will be haphazard and unlikely to accommodate workable pedestrian access to retail and recreational facilities. The Merrimac Plaza shopping complex will remain a retail hub with no real identity and little potential to accommodate desirable future growth.

Changes in Land Use
Under a no intervention scenario, there would be relatively few changes in land use, except for the few underdeveloped parcels that will be developed. Each of these parcels will require its own separate access, increasing traffic congestion and the number of curb cuts along Haverhill Street. These uses will likely be auto-dependent, further aggravating traffic congestion.

There is already a growing pressure on the residential side of Haverhill Street to convert to commercial use. However, many in the residential area are firmly opposed to any commercial development or zoning changes in their neighborhood. Proposed commercial projects such as the expansion of the Mobil gas station into a larger “Mobil-On-The-Run” convenience store are frequently opposed and defeated by local residents. As a result, commercial expansion becomes more difficult and costly for developers, who then seek opportunities elsewhere, and growth stagnates in the corridor.

Improvements to traffic flow patterns at the rotary will not translate directly into traffic benefits along the Haverhill Street corridor. The traffic patterns of the two areas are distinctly separate, with difficulties occurring around the commercial area of Haverhill Street largely because of the narrow width of the road and infrequency of dedicated turn lanes. Improvements to the rotary may encourage more through traffic trips to the interstate via Haverhill Street. This will increase the volume of traffic in the Corridor, maintaining, if not substantially worsening, the existing level of congestion.
Scenario #1 – No Intervention

New Buildings
Existing Parcels
New Roads
Existing Signal

Scale: 1” = 180’
Scenario #2: Moderate Intervention

Summary of Conditions:
Under scenario #2, the Haverhill Street Corridor would become less traffic congested. Some of the auto-dependent fast food restaurants and drive-thru banks would be replaced by uses that generate less traffic, such as professional office space. Small parcels would be consolidated into one larger parcel, making them more attractive to developers. There would be fewer curb cuts and more shared entrances/exits. The end result would be a commercial corridor that better serves the surrounding community.

Changes in land use
The three small parking lot parcels to the west of Burger King could be consolidated with the Burger King lot and vacant building behind Burger King to form one lot. These five parcels are owned by the same owner, which will facilitate their consolidation. The KFC/Taco Bell/Pizza Hut, the BankNorth, and the flag lot behind them could be consolidated. This would make it much easier to develop the flag lot, which is almost landlocked at this point. The flag lot and the KFC/Taco Bell/Pizza Hut are owned by the same owner. Consolidating parcels provides the opportunity to develop larger buildings, such as a professional office building or a mid-sized retailer. These uses would likely be less auto-dependent than the existing fast food restaurants and drive-thru banks. Parcel consolidation would also lead to fewer curb cuts via shared entrances and exits, which would reduce traffic congestion on Haverhill Street.

Table 6: Potential Parcel Consolidation Opportunities

<table>
<thead>
<tr>
<th>Parcel ID</th>
<th>Address</th>
<th>Zoning</th>
<th>Use</th>
<th>Land Area (acres)</th>
</tr>
</thead>
<tbody>
<tr>
<td>516-153A-37R</td>
<td>Haverhill St.</td>
<td>BL</td>
<td>Parking Lot</td>
<td>0.591</td>
</tr>
<tr>
<td>516-153A-37Q</td>
<td>Haverhill St.</td>
<td>BL</td>
<td>Parking Lot</td>
<td>0.609</td>
</tr>
<tr>
<td>516-153A-37P</td>
<td>Haverhill St.</td>
<td>BL</td>
<td>Parking Lot</td>
<td>0.589</td>
</tr>
<tr>
<td>516-153A-37F</td>
<td>248 Haverhill St.</td>
<td>BH</td>
<td>Burger King</td>
<td>1.468</td>
</tr>
<tr>
<td>516-153A-37N</td>
<td>Haverhill St.</td>
<td>BH</td>
<td>Vacant Warehouse</td>
<td>0.985</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><strong>Subtotal</strong></td>
<td><strong>4.242</strong></td>
</tr>
<tr>
<td>516-153A-37A</td>
<td>Haverhill St.</td>
<td>BH</td>
<td>Developable Land</td>
<td>2.570</td>
</tr>
<tr>
<td>516-153A-37J</td>
<td>228 Haverhill St.</td>
<td>BH</td>
<td>BankNorth</td>
<td>0.570</td>
</tr>
<tr>
<td>516-153A-37</td>
<td>216 Haverhill St.</td>
<td>BH</td>
<td>Pizza Hut/KFC/Taco Bell</td>
<td>1.000</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><strong>Subtotal</strong></td>
<td><strong>4.140</strong></td>
</tr>
</tbody>
</table>

Regulatory approaches and funding
Two new ordinances are needed. The first is a commercial parcel consolidation incentive ordinance. This ordinance would offer incentives to encourage the consolidation of several smaller lots into one larger lot. The incentives could include density bonuses, modifications to dimensional requirements, or reductions in required parking. For example, The City of Campbell’s (CA) parcel consolidation ordinance combines density disincentives for parcels smaller than 3 acres with parking consolidation incentives. (See Appendix 4) Parcel consolidation incentives could be offered by right or by special permit. In either case, there
should be clear guidelines on situations where the incentive can and cannot be used. For instance, there would be limits on the number and size of lots that could be combined, and a requirement that the consolidation of lots would not impair public health, safety, or welfare.

The second new ordinance would be an access management ordinance. Access management refers to regulating the flow of traffic in and out of land uses located along an arterial road. A major component of access management is regulating curb cuts. If there are too many curb cuts along a road, especially in a commercial district, traffic becomes congested and it is difficult to enter/exit businesses. Poor access management hurts businesses and encourages them to relocate elsewhere. Access management ordinances typically regulate the number and location of curb cuts. For example, the Michigan Access Management Guidebook’s sample ordinance allows only one curb cut per lot and requires a minimum of 400 feet of frontage per curb cut (See Appendix 5). Joint access driveways and parking lot cross access are also popular access management techniques. An access management ordinance ties in nicely with the parcel consolidation incentive ordinance and could have a significant impact on traffic congestion on Haverhill Street.

No changes are recommended to the city’s signage and parking ordinances. No changes to the zoning ordinance’s use regulations are needed either, as business and professional offices are allowed by right in the BL and BH zones, and business complexes (multiple buildings on one lot or multiple businesses within one building) are allowed by special permit.

No major outside funding sources would be needed to implement this scenario. There would be some relatively small consulting fees and/or Department of Planning and Community Development staff time associated with drafting and adopting access management and parcel consolidation incentive ordinances.
Scenario #2 - Moderate Intervention

- New Buildings
- Existing Parcels
- New Roads
- New Parcels
- Existing Signal
- Parking
- New Signal

Scale: 1” = 180’
Scenario #3: Major Transformation

Summary of Conditions:
Scenario 3 transforms the Haverhill Street Corridor into a unified, pedestrian-friendly, mixed-use neighborhood. New roads, traffic signals, professional office space, and shared entrances/exits significantly reduce traffic congestion on Haverhill Street. The commercial land uses west and east of Burnham Street are connected via a shared access road and the creation of a new business complex. A major signalized crosswalk and pedestrian walkways throughout the commercial plazas reconnect the residential and commercial sides of Haverhill Street. The Haverhill Street Corridor gains a strong neighborhood identity, enhancing its role as a gateway to Methuen from both Interstate 93 and the City of Lawrence.

Changes in land use
There are four major categories of land use change: road network, new business complex, Merrimac Plaza, and pedestrian access.

Road network: The most dramatic change is the addition of a new access road and two new traffic signals on Haverhill Street. The new road provides direct access to the commercial land uses, easing a significant amount of the traffic congestion on Haverhill Street. The new road formalizes the existing traffic pattern within the Merrimac Plaza, as traffic currently flows between the Burnham Road curb cut and the McDonald’s/Dunkin’ Donuts curb cut. It extends this traffic pattern across Burnham Road, through the commercial uses west of Burnham Road, and back out to Haverhill Street at Forest Street. A traffic signal is added where the access road bisects Burnham Road, and two new signals are added where the access road connects with Haverhill Street. These signals would have dedicated left turn cycles, and would be timed to maximize traffic flow along Haverhill Street. These changes would greatly reduce traffic congestion on Haverhill Street, enhancing accessibility to the business along the corridor.

New business complex: The addition of a new road between Forest Street and Burnham Road creates the opportunity for the commercial properties west of Burnham Road to be redeveloped into one unified complex. Like Merrimac Plaza, the businesses would be oriented in toward the center of the plaza, rather than out toward Haverhill Street. Traffic would enter the plaza from the new Forest Street traffic signal and from Burnham Street. All other curb cuts would be eliminated, greatly reducing the congestion on Haverhill Street associated with entering/exiting the present uses. The complex could contain up to five buildings, including a professional office building and retail uses that complement the office building. The buildings would share parking in centrally located lots. The small existing parcels would be consolidated into three larger parcels, each of which could be owned and developed separately as long as the owners agreed to share parking.

Merrimac Plaza: Some of the buildings in the Merrimac Plaza would be reconfigured to take advantage of the new access road. The large building at the southern end of the plaza, which currently houses the Market Basket and other stores, would not be changed. The smaller buildings at the northern end would be realigned to cluster around a new pedestrian gateway plaza. This arrangement serves two purposes: it creates a consistent streetscape along Haverhill
Street and the new access road, while also creating an inviting pedestrian space between the buildings that connects to the new pedestrian gateway and signalized crosswalk. These businesses would share parking between the buildings.

Pedestrian access: There would be an emphasis on pedestrian accessibility in all future development along Haverhill Street. Sidewalks would be required throughout all new development, ensuring that pedestrians can walk safely from one building to another. Landscaping would make pedestrian walkways more inviting. The current main entrance to the Merrimac Plaza (between Sovereign Bank and Bank of America) would be closed to cars, and a grand, landscaped, pedestrian-only gateway, serviced by a signalized crosswalk would be created at the intersection of Haverhill and Burnham. Safe, convenient, attractive pedestrian access is critical to reconnecting the residential and commercial sides of Haverhill Street.

Regulatory approaches/funding
Scenario 3 builds upon the regulatory reforms presented in Scenario 2, namely the access management and parcel consolidation incentive ordinances. In addition to these ordinances, development design guidelines would be drafted and adopted. The City drafted design guidelines for the downtown area in 1996, but these design guidelines were never officially adopted. The design guidelines under this scenario would emphasize streetscape and pedestrian access. Buildings should be placed along the street edge to create a consistent setback and a visually pleasing streetscape. Curb cuts, driveways, and parking should be shared wherever possible. Pedestrian access, including sufficient signalized crosswalks and safe, inviting, well-identified pedestrian corridors, should be a priority for all new major development. Landscaping should be encouraged to bisect large parking lots and create safe pedestrian walkways.
Significant funding will be needed to create the infrastructure improvements proposed by Scenario 3, such as the new access roads, the two new traffic signals, and the signalized pedestrian crosswalks. A number of state grant funding sources are available for this type of work, including:

- **For new roads/traffic lights**: Community Development Block Grant (CDBG) mini-entitlement program; Public Works for Economic Development (PWED)
- **For pedestrian access/landscaping**: CDBG mini-entitlement program; PWED
- **For mixed-use development**: a number of CDBG programs, including mini-entitlement, Ready Resource Program, Massachusetts Community Capital Fund, and Section 108 loan guarantees

Methuen is a CDBG mini-entitlement community, meaning the city is entitled to $600,000 of CDBG funds annually, or may choose to apply competitively for up to $800,000 in CDBG funds per year. Methuen spends the majority of its CDBG funds on housing rehabilitation. CDBG funding is also used for social programs such as the YMCA, first-time homebuyer counseling, after-school programs, code enforcement, and adult literacy. CDBG funds have been used for small projects such as constructing parking lots downtown, creating signs for downtown businesses, and building façade loans.
Scenario #3 – Major Transformation


Scale: 1” = 180’
CONCLUSION

As described in the Scope of Services (Appendix 1), the City of Methuen’s Department of Planning and Community Development asked the University of Massachusetts Amherst studio team to examine the future growth impacts of a proposed Interstate 93 Exit 46 interchange reconfiguration. Our inventory and analysis reveal that the Haverhill Street corridor is under significant growth pressure. Economic growth is likely to occur, with an associated increase in traffic volume. Three scenarios are presented in this report illustrating how such growth and development could occur. Scenario #1 shows a market-driven pattern of commercial growth if the city allows development to occur under existing regulations. In this case future development is likely to continue to be fragmented, increasing traffic congestion and further straining the relationship between the commercial and the residential sides of the corridor. Scenarios #2 and #3 accommodate future growth and development in a more unified, complementary manner, reducing traffic congestion, increasing pedestrian access, and creating a strong sense of place that transforms this corridor into a gateway.

Our primary recommendation is Scenario #3, which would result in a more dramatic transformation of the corridor. However, because Scenario #3 builds upon the recommendations of Scenario #2, the city may choose to adopt Scenario #2 before moving on to implementing part or all of Scenario #3. Regardless of the scenario chosen, there are several action items the City’s Department of Planning and Community Development can undertake. These steps are:

1) Pass a city resolution formally adopting this plan
2) Begin a series of forums with property owners along the Haverhill Street Corridor to discuss the plan and opportunities for future development.
3) Affirm which of the proposed scenarios or variations thereof the City wants to implement.
4) Decide whether to create an overlay zone or make citywide ordinance changes for implementation of the plan.
5) Draft and adopt an access management ordinance and a parcel consolidation incentive ordinance
6) Reexamine and formally adopt development design guidelines
7) Begin identifying and applying for state grant funding programs for infrastructure improvements.

The I-93 Exit 46 interchange reconfiguration will increase growth pressures in the City of Methuen, especially along the Haverhill Street Corridor. In order to facilitate growth that is desirable to local interests and beneficial to the larger community, a comprehensive growth plan is necessary that takes into consideration the development pressures on the neighborhood. This will begin the process for planning growth that meets the needs and demands of both residents
and commercial interests. Implementing the action items recommended in this report will ensure that the City is well prepared to accommodate the impacts of the I-93 Exit 46 interchange reconfiguration.
APPENDIX 1: SCOPE OF SERVICES

Scope of Services -- Haverhill Street (Route 110) Corridor Study

This Scope of Services
- Describes the planning issue presented to Team Methuen of UMASS Regional Planning Studio I Spring 2005 by the City of Methuen
- Outlines Team Methuen’s approach to addressing this planning problem

Overview of Planning Issue
As developable land in the metropolitan Boston area becomes more scarce, communities along the Interstate 495 corridor face increasing growth pressures. The City of Methuen, MA, located 27 miles north of Boston, is especially likely to experience these growth pressures because both Interstates 93 and 495 traverse the city.

At I-93 Exit 46 in Methuen, the four on/off ramps converge with Routes 110 and 113 at a large rotary. In its 2003 Regional Transportation Plan, the Merrimack Valley Planning Commission (MVPC) identified this rotary as one of the most severely congested locations in the region. During the afternoon rush-hour, traffic often backs up onto I-93 northbound. In addition to congestion, MVPC has identified this rotary as the worst automobile crash location in the region. Several options for improving the Exit 46 interchange/rotary have been proposed. MassHighway recently hired a consultant to further study the issue and propose an improvement action plan. It is likely the interchange will be reconfigured within the next ten years.

The City is concerned about the growth impacts of the Exit 46 interchange improvements, especially on the Haverhill Street Corridor (Route 110), which is already heavily congested. Haverhill Street is located directly east of the Exit 46 rotary, and is one of the major commercial corridors in Methuen. The north side of the Haverhill Street Corridor is predominantly residential, while the south side is exclusively commercial, including several gas stations, fast-food restaurants, banks, and a large shopping plaza.

Study Goal and Objectives
The goal of this study is to project and analyze the growth impacts of the proposed I-93 Exit 46 interchange reconfiguration. The overall study area consists of properties along Routes 110 and 113 west of the rotary, and Haverhill Street and Riverside Drive east of the rotary, bounded by Moffett Street to the west and Woodland Street to the east. However, our primary focus area will be on properties along the Haverhill Street Corridor, due to the higher-intensity of land uses here. (See attached map)

Specific objectives include:

Transportation Improvements and Impacts
- Identify which interchange improvement alternative(s) are preliminarily most likely to be endorsed by the City and presented to MassHighway for approval and funding
• Examine the transportation impacts (traffic volume, congestion, rate of speed, etc.) of the proposed alternative(s) on the Haverhill Street Corridor and other corridors leading from the interchange.

Land Use and Economic Development
• Compile land use data on parcels along the Haverhill Street Corridor
• Analyze recent development and investment trends along the Haverhill Street Corridor and project future growth trends
• Analyze the economic impact of the proposed interchange improvements on the Haverhill Street Corridor and other roads leading from the interchange
• Analyze above data to identify parcels likely to be developed/redeveloped
• Recommend zoning and/or design ordinance changes to promote desirable development/redevelopment of corridor parcels

The final product will be a written report addressing the above goals and objectives.

Methods
• Field observations and photography
• Consultation with City of Methuen Department of Economic and Community Development staff and other planning experts
• Review of Town documents, maps, and data, including:
  o 1997 Land Use Plan
  o 1996 Economic Development Plan
  o 2001 Open Space Plan
  o 2004 Downtown Revitalization Study
  o City Zoning Ordinance
  o Downtown Design Guidelines (unofficial)
  o Plat maps
  o Tax Assessor’s parcel data
  o Building Division data
• Use of County and/or Zip Code Expenditure and Business Pattern data
• Geographic Information Systems (GIS) analysis, using available MassGIS data
• Library and internet research
• Review of comparable corridor studies
• Interviews with local residents, community leaders, business owners, etc.
• Use of Merrimack Valley Planning Commission’s regional econometric model

Deliverables
One (1) reproducible hard copy of final written report and associated maps
One (1) digital copy of final written report and maps, on CD
Project Timeline

<table>
<thead>
<tr>
<th>Date</th>
<th>Progress</th>
</tr>
</thead>
<tbody>
<tr>
<td>February 11, 2005</td>
<td>Scope of Services finalized</td>
</tr>
<tr>
<td>March 3, 2005</td>
<td>Midterm findings presented to client</td>
</tr>
<tr>
<td>April 22, 2005</td>
<td>Draft written report to client</td>
</tr>
<tr>
<td>May 6, 2005</td>
<td>Final product delivered to client</td>
</tr>
</tbody>
</table>

The client is invited to attend Team Methuen’s midterm (March 10, 2005) and final (May 6, 2005) presentations to the UMASS Amherst Landscape Architecture and Regional Planning Department.
## APPENDIX 2: RESIDENTIAL PARCEL DATA

<table>
<thead>
<tr>
<th>Parcel ID</th>
<th>Address</th>
<th>Zoning</th>
<th>Use</th>
<th>Land Area (acres)</th>
<th>Total Value</th>
<th>Year Built</th>
<th>Building Area (SF)</th>
</tr>
</thead>
<tbody>
<tr>
<td>516-151-143H</td>
<td>165 Haverhill St. RD</td>
<td>One Family Home</td>
<td>1.150</td>
<td>$390,500</td>
<td>1735</td>
<td>3,387</td>
<td></td>
</tr>
<tr>
<td>516-151-143G</td>
<td>175 Haverhill St. RD</td>
<td>18 Apartments</td>
<td>0.461</td>
<td>$844,700</td>
<td>1970</td>
<td>12,833</td>
<td></td>
</tr>
<tr>
<td>516-151-142</td>
<td>185 Haverhill St. RD</td>
<td>One Family Home</td>
<td>0.230</td>
<td>$208,000</td>
<td>1993</td>
<td>1,400</td>
<td></td>
</tr>
<tr>
<td>516-151-134</td>
<td>189 Haverhill St. RD</td>
<td>One Family Home</td>
<td>0.324</td>
<td>$158,100</td>
<td>1950</td>
<td>850</td>
<td></td>
</tr>
<tr>
<td>516-151-133</td>
<td>193 Haverhill St. RD</td>
<td>One Family Home</td>
<td>0.130</td>
<td>$176,900</td>
<td>1915</td>
<td>1,256</td>
<td></td>
</tr>
<tr>
<td>516-151-132</td>
<td>195 Haverhill St. RD</td>
<td>Residential/ Commercial</td>
<td>0.275</td>
<td>$317,700</td>
<td>1915</td>
<td>1,632</td>
<td></td>
</tr>
<tr>
<td>516-151-120</td>
<td>205 Haverhill St. RD</td>
<td>One Family Home</td>
<td>0.149</td>
<td>$178,500</td>
<td>1915</td>
<td>1,478</td>
<td></td>
</tr>
<tr>
<td>516-151-119</td>
<td>207 Haverhill St. RD</td>
<td>One Family Home</td>
<td>0.138</td>
<td>$169,600</td>
<td>1915</td>
<td>1,228</td>
<td></td>
</tr>
<tr>
<td>516-151-110</td>
<td>213 Haverhill St. RD</td>
<td>One Family Home</td>
<td>0.375</td>
<td>$183,800</td>
<td>1915</td>
<td>2,126</td>
<td></td>
</tr>
<tr>
<td>516-151-109</td>
<td>215 Haverhill St. RD</td>
<td>One Family Home</td>
<td>0.185</td>
<td>$185,300</td>
<td>1915</td>
<td>1,940</td>
<td></td>
</tr>
<tr>
<td>516-151-103</td>
<td>217 Haverhill St. RD</td>
<td>Residential/ Commercial</td>
<td>0.149</td>
<td>$327,300</td>
<td>1915</td>
<td>2,913</td>
<td></td>
</tr>
<tr>
<td>516-151-102</td>
<td>223 Haverhill St. RD</td>
<td>One Family Home</td>
<td>0.184</td>
<td>$218,400</td>
<td>1985</td>
<td>1,805</td>
<td></td>
</tr>
<tr>
<td>516-151-100</td>
<td>227 Haverhill St. RD</td>
<td>Two Family Home</td>
<td>0.372</td>
<td>$269,200</td>
<td>1915</td>
<td>2,300</td>
<td></td>
</tr>
<tr>
<td>516-151-99</td>
<td>231 Haverhill St. RD</td>
<td>Three Family Home</td>
<td>0.188</td>
<td>$214,000</td>
<td>1915</td>
<td>2,220</td>
<td></td>
</tr>
<tr>
<td>516-143A-38</td>
<td>241 Haverhill St. RD</td>
<td>Two Family Home</td>
<td>0.466</td>
<td>$257,700</td>
<td>1915</td>
<td>2,070</td>
<td></td>
</tr>
<tr>
<td>516-143A-43</td>
<td>247 Haverhill St. RD</td>
<td>One Family Home</td>
<td>0.310</td>
<td>$198,500</td>
<td>1915</td>
<td>1,818</td>
<td></td>
</tr>
</tbody>
</table>

**Median**  
- Land Area: 0.253 acres  
- Total Value: $203,250  
- Year Built: 1915  
- Building Area: 1,811 SF
## APPENDIX 3: COMMERCIAL PARCEL DATA

<table>
<thead>
<tr>
<th>Parcel ID</th>
<th>Address</th>
<th>Zoning</th>
<th>Use</th>
<th>Land Area (acres)</th>
<th>Total Value</th>
<th>Year Built</th>
<th>Building Area (SF)</th>
</tr>
</thead>
<tbody>
<tr>
<td>516-153A-37R</td>
<td>Haverhill St.</td>
<td>BL</td>
<td>Parking Lot</td>
<td>0.591</td>
<td>$192,700</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>516-153A-37Q</td>
<td>Haverhill St.</td>
<td>BL</td>
<td>Parking Lot</td>
<td>0.609</td>
<td>$142,400</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>516-153A-37P</td>
<td>Haverhill St.</td>
<td>BL</td>
<td>Parking Lot</td>
<td>0.589</td>
<td>$157,900</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>516-153A-37F</td>
<td>248 Haverhill St.</td>
<td>BH</td>
<td>Burger King</td>
<td>1.468</td>
<td>$1,766,200</td>
<td>1972</td>
<td>29,368</td>
</tr>
<tr>
<td>516-153A-37N</td>
<td>Haverhill St.</td>
<td>BH</td>
<td>Vacant Warehouse</td>
<td>0.985</td>
<td>$210,300</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>516-153A-37A</td>
<td>Haverhill St.</td>
<td>BH</td>
<td>Developable Land</td>
<td>2.570</td>
<td>$355,600</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>516-153A-44</td>
<td>245 Haverhill St.</td>
<td>BH</td>
<td>Getty gas station</td>
<td>0.691</td>
<td>$364,500</td>
<td>1965</td>
<td>2,184</td>
</tr>
<tr>
<td>516-153A-37J</td>
<td>228 Haverhill St.</td>
<td>BH</td>
<td>BankNorth</td>
<td>0.570</td>
<td>$595,600</td>
<td>1976</td>
<td>2,807</td>
</tr>
<tr>
<td>516-153A-37</td>
<td>216 Haverhill St.</td>
<td>BH</td>
<td>Pizza Hut/KFC/Taco Bell</td>
<td>1.000</td>
<td>$1,056,000</td>
<td>1989</td>
<td>3,322</td>
</tr>
<tr>
<td>516-153A-37C</td>
<td>204 Haverhill St.</td>
<td>BH</td>
<td>Mobil gas station</td>
<td>0.463</td>
<td>$376,900</td>
<td>1970</td>
<td>1,438</td>
</tr>
<tr>
<td>516-153A-37H</td>
<td>5 Burnham Rd.</td>
<td>BH</td>
<td>Interstate Gymnastics and Dance</td>
<td>0.597</td>
<td>$480,200</td>
<td>1976</td>
<td>10,062</td>
</tr>
<tr>
<td>516-153A-37E</td>
<td>15 Burnham Rd.</td>
<td>BH</td>
<td>Dental Health Professionals</td>
<td>0.781</td>
<td>$799,500</td>
<td>1968</td>
<td>7,800</td>
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<tr>
<td>516-153A-37B</td>
<td>21 Burnham Rd.</td>
<td>BH</td>
<td>Merrimac Car Wash and Laundry</td>
<td>0.918</td>
<td>$498,400</td>
<td>1970</td>
<td>7,140</td>
</tr>
<tr>
<td>516-153A-36CC</td>
<td>200 Haverhill St.</td>
<td>BH</td>
<td>Sovereign Bank</td>
<td>0.871</td>
<td>$671,700</td>
<td>1986</td>
<td>3,240</td>
</tr>
<tr>
<td>516-153A-36BB</td>
<td>194 Haverhill St.</td>
<td>BH</td>
<td>Bank of America/UPS Store</td>
<td>0.257</td>
<td>$661,800</td>
<td>1964</td>
<td>4,910</td>
</tr>
<tr>
<td>516-153A-36DD</td>
<td>190 Haverhill St.</td>
<td>BH</td>
<td>McDonald's</td>
<td>0.924</td>
<td>$959,300</td>
<td>1986</td>
<td>4,769</td>
</tr>
<tr>
<td>516-153A-36</td>
<td>180 Haverhill St.</td>
<td>BH</td>
<td>Merrimac Plaza*</td>
<td>17.520</td>
<td>$11,581,200</td>
<td>1970</td>
<td>155,006</td>
</tr>
<tr>
<td>516-153A-36X</td>
<td>188 Haverhill St.</td>
<td>BH</td>
<td>Dunkin' Donuts</td>
<td>0.435</td>
<td>$538,900</td>
<td>1985</td>
<td>2,168</td>
</tr>
<tr>
<td>516-153A-36AA</td>
<td>148 Haverhill St.</td>
<td>BH</td>
<td>Shell gas station</td>
<td>0.483</td>
<td>$459,400</td>
<td>1961</td>
<td>3,123</td>
</tr>
</tbody>
</table>

* As of April 2005, Merrimac Plaza had the following tenants: Market Basket, Liberty Tax Service, a liquor store, Payless ShoeSource, Dollar Tree, Dots, AJ Wright, Brooks, a dance studio, Papa Gino’s, Royal Dry Cleaners, Aspen Dental, and a nail salon. A separate building to the east houses Super Cuts, an insurance agency, a Christian book store, an eye care office, and a travel agency.
APPENDIX 4: MODEL PARCEL CONSOLIDATION INCENTIVE ORDINANCE

From the City of Campbell (CA) General Plan 2002, Land Use and Transportation Element

Policy LUT-14.4: **Parcel Consolidation:** Encourage the consolidation of properties to obtain more logical building sites and coordinated development opportunities in the Pruneyard/Creekside Area.

**Strategy LUT-14.4a:** **Floor Area Ratio:** Allow sites of greater than 3 acres to maximize densities of up to 2.0 FAR for non-residential uses and up to a maximum residential density of 27 units per gross acre. Project densities on parcels of smaller size will be reduced on a sliding scale as indicated below:

<table>
<thead>
<tr>
<th>Minimum Acres</th>
<th>Maximum FAR</th>
<th>Allowable Density Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to .99</td>
<td>.30</td>
<td>Up to 8 du/acre</td>
</tr>
<tr>
<td>1.0 to 1.99</td>
<td>.50</td>
<td>8 to 16</td>
</tr>
<tr>
<td>2.0 to 2.99</td>
<td>1.0</td>
<td>8 to 21</td>
</tr>
<tr>
<td>3.0 and above</td>
<td>2.0</td>
<td>8 to 27</td>
</tr>
</tbody>
</table>

**Strategy LUT-14.4b:** **Parcel Consolidation:** Consolidated or larger parcels will also be permitted to mix residential and non-residential uses up to the maximum densities allowed.

**Strategy LUT-14.4c:** **Density Bonus:** A density bonus of up to 25% may be permitted for projects which provide below market rate housing or housing which meets a special community-wide need such as housing for the disabled or housing for the elderly.

**Strategy LUT-14.4d:** **Parking Facilities:** Joint use of parking facilities may be utilized with mixed-use development formats on larger parcels.
APPENDIX 5: MODEL ACCESS MANAGEMENT ORDINANCE

From the Michigan Access Management Guidebook, produced by Planning and Zoning Center, Inc.

*Below are the section headers of the Michigan Access Management Guidebook’s model ordinance. This excerpt is intended to give a sense of the types of topics covered by an access management ordinance. The full model ordinance is available online at http://www.pzcenter.com/chapter8.doc*

CHAPTER 2 ACCESS MANAGEMENT REGULATIONS
Section 2.0 Purpose, Intent and Application
Section 2.1 Roadways Subject to Access Management Regulations
Section 2.2 Driveway and Related Access Standards
Section 2.3 Service Drives and Other Shared Access Standards
Section 2.4 Temporary Access Permits
Section 2.5 Nonconforming Driveways
Section 2.6 Incentives
Section 2.7 Waivers and Variances