

**A SPATIAL ANALYSIS OF SOCIOECONOMIC AND  
DEMOGRAPHIC CHANGE IN THE LOWER  
MERRIMACK VALLEY AND LAWRENCE, MA  
1980 - 1990**

by

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**Submitted to the Department of Urban Studies and Planning  
in partial fulfillment of the requirements for the degree of  
Masters of Science in Urban Studies and Planning**

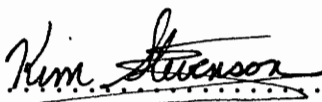
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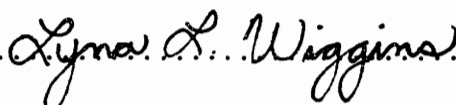
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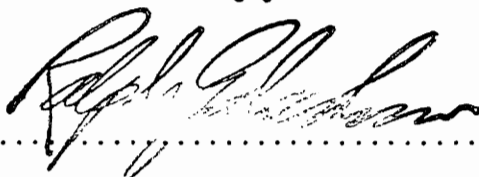
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**ABSTRACT**

The U.S. economy has experienced dramatic economic changes since the late 1960's including a decline in low-skill manufacturing jobs that once supported a substantial middle-class. Many of these jobs have migrated south, out of the central cities of the Northeast. Many others have moved out of the U.S. entirely. According to much of the current urban poverty debate, these changes have adversely affected the welfare of populations living in central cities, particularly low-income Blacks and Latinos in the Northeast. As a result, these groups have grown increasingly more isolated, both physically and economically, from the mainstream.

Using the Lower Merrimack Valley as a case study, a region located in the northeastern corner of Massachusetts, this thesis applies the thematic mapping capabilities of a Geographic Information System (GIS) and uses spatial analysis techniques to identify and describe socioeconomic and demographic changes in this region between 1980 and 1990. This regional analysis illustrates dramatic patterns of ghettoization and spatial isolation taking place in the city of Lawrence, Massachusetts relative to the surrounding working-class and high-income municipalities. The results of this analysis also indicate that growing poverty and spatial isolation in this small city are explained only in part by economic restructuring. Other complex forces behind these patterns include an enormous influx of Dominican and Puerto Rican immigrants to the region, uneven growth in the regional economy, and dynamics within the regional housing market.

Thesis Supervisor: Lyna Wiggins  
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## ACKNOWLEDGMENTS

The creative process never takes place in isolation. It can be as frustrating as it is stimulating -- particularly a process that attempts to understand complex changes in the global economy, untangle the intricate issues of urban poverty, and explore the capabilities of a new computer technology. This thesis has made some small strides in these directions, but not without the help and support of many friends and colleagues.

I thank Lyna Wiggins, Kelly Robinson, and Leticia Rivera-Torres for their patient help and support directing this thesis. My approach and the new ideas synthesized in this thesis evolved out of many a late night turned early morning with Ricardo Mireles. Thanks to the Lawrence community for the time they spent with me during the summer of 1991 while I was working in Lawrence. It was during this time that I grew to know and better understand this complex city. The numbers and statistics presented in this thesis do not come devoid of an understanding of the people behind them. Thanks also to those who have provided me with the data to complete this thesis: the librarians at MIT's Roach and Dewey libraries, Todd Maio at the Massachusetts Department of Public Welfare, the economists at the Massachusetts Department of Employment and Training, and the staff at the MISER State Data Center. Thanks to all my friends and professors at DUSP have made this experience a memorable one.

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## FOREWORD

This thesis documents socioeconomic and demographic changes that have taken place in Lawrence, Ma. and the Lower Merrimack Valley between 1980 and 1990. I grew up in the region - in Essex County and on the North Shore of which Lawrence and the Lower Merrimack Valley is a part. The region is home for me.

The images that first come to mind when I think of home are cold, white New England winters, hot summers, and the spectacular colors of fall foliage. I think of long, rolling hills and open farmland slowly being encroached upon by growing suburban developments. I think of white, colonial architecture, quaint village centers, and large red brick mill buildings. I think of Lawrence as an important industrial center, home to the Industrial Revolution. I also think of it as a city with a large, blue-collar, Anglo-European immigrant population that works in the textile mills and shoe factories.

I have always been curious about cultures and ways of life different from my own. This curiosity to understand the complexities of many new worlds that opened up for me after I left the borders of my youth, have guided my life and my work since. While I was still in college, I spent a month traveling and hiking through some of the remotest areas of Mexico. This was my first exposure to a "Third World" country. I have wonderful memories of the people I met and some of the beautiful land I traveled through.

In 1986 I spent a month and a half in Nicaragua. I lived in the town of Esteli in northern Nicaragua - a region that was considered part of the war zone at the time. I had read and heard so many conflicting stories about the situation in Nicaragua that I wanted to

discover the reality for myself. I experienced first hand the cruelty of a country both at war with itself and a pawn to greater economic and military forces. In 1988 and 1989 I traveled and worked in Bulgaria, India, Nepal, Thailand, Bangladesh, Philippines, Papua New Guinea, and China. I also spent a year and a half living and working with the Salvadoran refugee community in San Francisco.

These experiences have made me acutely aware of the permeable, and sometimes not so permeable boundaries, that separate people and nations. If we have money, we can jump on a plane and find ourselves half way around the world in eight or ten hours. Children in the remotest areas of Papua New Guinea, living without running water and electricity in their villages or a road that connects them to the capital city, watch Rambo at a theater in the nearest town. The sounds of Bob Marley jam in a disco in south-central China as the youth painfully try to emulate Western music and fashions from songs, images, and styles that are slowly leaking into their country. Refugees, economic and political, are flooding national borders and are migrating to the large, international cities around the world. For these refugees, international boundaries are ones of economics and opportunity. Other people, with information and affluence move global capital between London, Tokyo, and New York at the speed of light, rapidly changing the structure of the world's economy. For them, telecommunications have folded both time and space.

Seven years ago I left home for the first time to explore the rest of the world. Two years ago I returned to complete my Masters in City Planning at MIT. In this short period of time many changes have taken place in the Boston area. Many more immigrants from all walks of life now live in Boston. Salvadorans and Puerto Ricans make their homes in Chelsea. Large numbers of Latinos now live in Springfield, Holyoke, and Worcester.

Lawrence and Lowell are no longer home to Anglo-European immigrants, instead, Lowell is home to eleven thousand Cambodians, Laotians, Asian Indians, and other Asians. Twenty nine thousand Hispanics, mainly Dominicans and Puerto Ricans, now live in Lawrence. Aspects of my image of home have completely changed.

Without exception, wherever I have traveled, the communities and the people I have lived with or stayed briefly have welcomed me with open arms. I have shared their food, their homes, and their friendship. We have both learned a great deal from each other. Sadly, that hospitality is often not reciprocated to recent newcomers who have come to make my home their own. They often face a hostile environment of discrimination and misunderstanding, language barriers, and a declining window of opportunity as low-skill manufacturing jobs that have traditionally provided a stepping stone to upward mobility have gradually dwindled. High expectations in the "Land of Opportunity" often become shattered dreams as immigrants face high unemployment, under-employment, or simply struggle to survive.

In the current and highly charged environment of economic downturn, limited jobs, and dwindling opportunity, fear and insecurity can exacerbate racism, discrimination, and hostility. For those with jobs and opportunity, it is easy to blame the victim. Those without opportunity often remain powerless to forces beyond their control.

It is my strong belief that planners, policy makers, and those in positions to institute change must move away from a mentality of "blame the victim" to one of "understand the complexity of the victim's situation." We must all have faith in the power of human potential and must work to better understand how to harness that potential. Everybody

loses in a society of growing income polarization and poverty. Anger and racism will become more violent and the divisions between the have's and the have not's will deepen. We deny ourselves the potential richness of engaged and shared human diversity. By ignoring, ostracizing, or blaming those we don't understand or whose situation we fear, development, human or economic, will not take place. This does not mean the importance of individual responsibility should be disregarded nor that those who are unemployed or disempowered cannot create opportunity for themselves, instead it means that all sides must work together towards creating an environment that creates opportunity, offers hope, and rewards initiative.

Through this thesis I hope to shed light on the complex socioeconomic changes that have taken place in Lawrence and the Merrimack Valley from a local, regional, national, and global perspective. Growing unemployment and poverty in the region can seem intractable at times, particularly in the current economic environment. A step away from "blame the victim" towards a more complex understanding of the situation, will hopefully be a step towards solution.



# CHAPTER 1

## INTRODUCTION

### **1.1 Spatial Polarization of Poverty Within the Lower Merrimack Valley**

Powerful forces of polarization are at work on the American urban and suburban scene perhaps serving to maintain concentrated poverty in a growing number of poor areas. Using spatial analysis techniques, including the thematic mapping capabilities of a geographic information system (GIS), I show that the Lower Merrimack Valley, a region located in the Northeastern corner of Massachusetts, is no exception to this trend.

My research reveals striking patterns of ghettoization and concentrated poverty within Lawrence. It also reveals the growing spatial polarization and isolation of poverty in Lawrence relative to the surrounding region. For example, between 1980 and 1990 the number of persons living in poverty in Lawrence grew from 19.3% to 27.5%, representing an increase of 8.2 percentage points. This was in sharp contrast to the other municipalities in the region that either maintained their 1980 poverty levels or experienced declines. Other socioeconomic indicators including per-capita income; total employment, joblessness and unemployment; and welfare dependency showed similar trends.

Because socioeconomic conditions in Lawrence are much more severe than those in any of the surrounding municipalities, I have chosen to analyze patterns of ghettoization in Lawrence from a regional perspective. I compare changes in poverty rates, rates of female headship, employment, housing variables, and other socioeconomic indicators

between Lawrence and the surrounding cities and towns from 1980 to 1990. I also examine socioeconomic changes at a micro level within Lawrence, using census block groups as the unit of analysis. This approach reveals several important regional and structural factors contributing to the growth and concentration of poverty in Lawrence.

## 1.2 Identifying the Urban Poverty Literature

The urban poverty literature discussed in this thesis and used to structure my research, largely refers to work that has contributed to the *urban underclass* debate. This debate has been led by influential academics including William J. Wilson and John Kasarda. According to these academics, growing and concentrated urban poverty is primarily explained by economic restructuring, including the loss of manufacturing jobs in central cities and employment growth within the service sector. Central cities have experienced growth in high-skill service sector jobs, whereas growing numbers of low-skill service jobs have moved mainly to the suburbs. These dynamics have created both a skills and a spatial mismatch between the low-skilled, inner-city labor force and the job supply. They have resulted in high rates of joblessness, unemployment and concentrated poverty. Because high proportions of inner-city Blacks and Latinos were traditionally employed in manufacturing jobs, they have been the groups hardest hit by these economic changes.

Many other explanations for growing urban poverty have also been offered and debated, particularly the importance of labor market and residential discrimination. In addition, theories of global economic restructuring, more complex than those offered by Wilson and Kasarda, have been proposed to explain fundamental changes in the organization of production globally and changes in the use of labor in large, central cities. Relationships

between these structural changes, recent immigration from lesser developed countries, and urban poverty have been discussed by academics including Castells, Portes, Mollenkopf, Sassen, and others.

In addition, most of the urban poverty debate and the economic restructuring literature is based largely on cross-metropolitan studies and studies in large metropolitan areas or large central cities including New York, Boston, Chicago, and Los Angeles. Very little work has been done to understand concentrated poverty in other urban settings including small, central cities and their corresponding regions. The Lower Merrimack Valley, which consists of three cities and twelve towns, is a small region. It had a 1990 population of 288,280. Lawrence is the largest city in the region with a 1990 population of 70,207. Although Lawrence is considered a central city, it is not a large, central city - as Boston is to the Boston metropolitan area, for example. Because of these characteristics, much of the urban poverty literature and the economic restructuring literature is limited in its ability to explain the patterns of ghettoization taking place in Lawrence.

These bodies of literature describe conditions of growing and concentrated poverty in cities where the ghetto poor live segregated from, but in close proximity to, thriving commercial districts (like Wall Street and Boston's Financial district) and old established or newly gentrified residential neighborhoods (like the Upper East and now West Side of New York or Boston's Back Bay). Although large segments of these cities suffer from severe and growing poverty and economic decline, many also have segments of their economies that are strong, specifically their financial and producer services industries. In the case of Lawrence, no segment of the economy is particularly vital. In addition,

Lawrence has no opulent commercial districts or gentrified residential areas. Instead, the pattern of ghettoization taking place in Lawrence is best described as one in which the entire city is rapidly becoming an urban ghetto relative to the surrounding municipalities.

### **1.3 Understanding Ghettoization and Uneven Economic Development in Terms of Politically and Socially Defined Places**

Because of the complexity of the issues involved and the uniqueness of every urban setting, important limitations will always be found in any body of literature that tries to generalize situations. In the case of Lawrence, for example, an important and perplexing question remains unsatisfactorily explained by the urban poverty or the economic restructuring literature:

*Why do people continue to move into a city where conditions are bad and getting worse, particularly when socioeconomic conditions in the surrounding municipalities are significantly better and appear to be improving?*

Lawrence lost a total of 7,000 jobs between 1980 and 1990, while its population experienced a net increase of 7,000 persons or 11%. Upon closer inspection detailed demographic data show that the Hispanic population (primarily Dominicans and Puerto Ricans) grew by 18,900 persons, whereas the non-Hispanic white population declined by 13,000 persons.

I believe that if we also incorporate an additional approach, one not usually followed in the literature I have just described, we will begin to find some more satisfactory answers to this question. We must begin to pay more attention to the role that politically defined places and socially defined spaces play in perpetuating the growth of concentrated

poverty and uneven economic development. This route involves exploring a theory of urban form (which I refer to as stratified place theory) that has been developed by urban planners, sociologists, and geographers including Logan, Molotch, Feagin, and others. Here I refer to *politically defined places* as cities and towns that have their own local governments, tax codes, public spending policies, zoning regulations, etc. *Socially defined places* include geographic areas that are characterized by high concentrations of certain racial, ethnic, or religious groups, or areas where custom and tradition binds people together in significant ways. Specific examples include Chinatown in San Francisco; Amish communities in Pennsylvania; and the growing Dominican and Puerto Rican communities in Lawrence. In many cases these two types of space will share common boundaries, in others, the boundaries may be more ambiguous.

An understanding of space, defined as such, helps us to understand changing social conditions in Lawrence for several reasons. First, dynamics in the regional housing market, influenced by municipal zoning regulations and tax codes, play an important role in determining where people live. For example, because most immigrants do not have the income or savings to purchase housing, they must rent. Because the majority of the region's rental units exist in Lawrence, in addition to important networks for helping welfare dependent households find housing, most poor immigrants to the region have no choice but to live in Lawrence. Also, between 1980 and 1990, regional housing values increased at a significantly higher rate than did per-capita incomes in Lawrence, indicating the declining ability of poorer residents to move out of the city. Furthermore, many immigrants choose to live in Lawrence because of kin-and-friend networks; a cultural environment that they know and understand; important social services in the city

that cater to their needs and do not exist in the surrounding municipalities; and language barriers in other cities and towns.

For these and other reasons, the poor, many of whom are immigrants, choose or are forced to live in Lawrence. Those higher income individuals who can leave, do so - - as the massive out-migration of non-Hispanic whites between 1980 and 1990 from the city suggests. As the city's financial resources decline, education and other important public services, tied to its tax base cannot be provided adequately, consequently growing disinvestment within the city continues to take place. A cycle of poverty gets perpetuated, creating an environment that offers little hope.

These issues will be discussed in greater detail later in the thesis, however it is important to understand that only after performing a regional, spatial analysis of socioeconomic, demographic, and housing variables was I able to visualize and more clearly understand some of the important trends described here. GIS provides a powerful tool which allows us to visualize urban problems from a new perspective and to begin redefining some of the important policy questions. The thematic maps and figures shown in this thesis will speak for these statements.

## **1.4 An Outline of This Thesis**

In the next chapter (*Chapter 2*), I present a brief background and history of Lawrence and the Merrimack Valley. This enables me to more easily identify points made in the literature review (*Chapter 3*) that are of particular importance to the case of Lawrence. The review covers the urban poverty literature, relevant economic restructuring literature, and introduces the literature that discusses stratified places. *Chapter 4* presents

my research methodology. Using primarily census data, I develop a geographic information system (GIS) of Lawrence and the Lower Merrimack Valley to show spatial changes in poverty rates, rates of female headship, demographic changes, and selected housing variables between 1980 and 1990. In *Chapters 5, 6, 7, and 8*, I present the results of my analysis including computer generated thematic maps illustrating the socioeconomic and demographic changes that took place in the region. As I present my analysis, I identify limitations in much of the urban poverty and economic restructuring literature for explaining these changes. I also show why politically and socially defined places are central to our understanding of growing poverty in Lawrence. *Chapter 9* concludes the thesis with directions for further research and the policy implications of this work.

## CHAPTER 2

### REGION OF STUDY AND HISTORICAL BACKGROUND

This chapter provides a brief introduction to the Lower Merrimack Valley, the region examined in this case study. It locates the Lower Merrimack Valley, places the region in historical perspective, and introduces the city of Lawrence.

#### 2.1 The Lower Merrimack Valley Service Delivery Area and Lawrence, Massachusetts

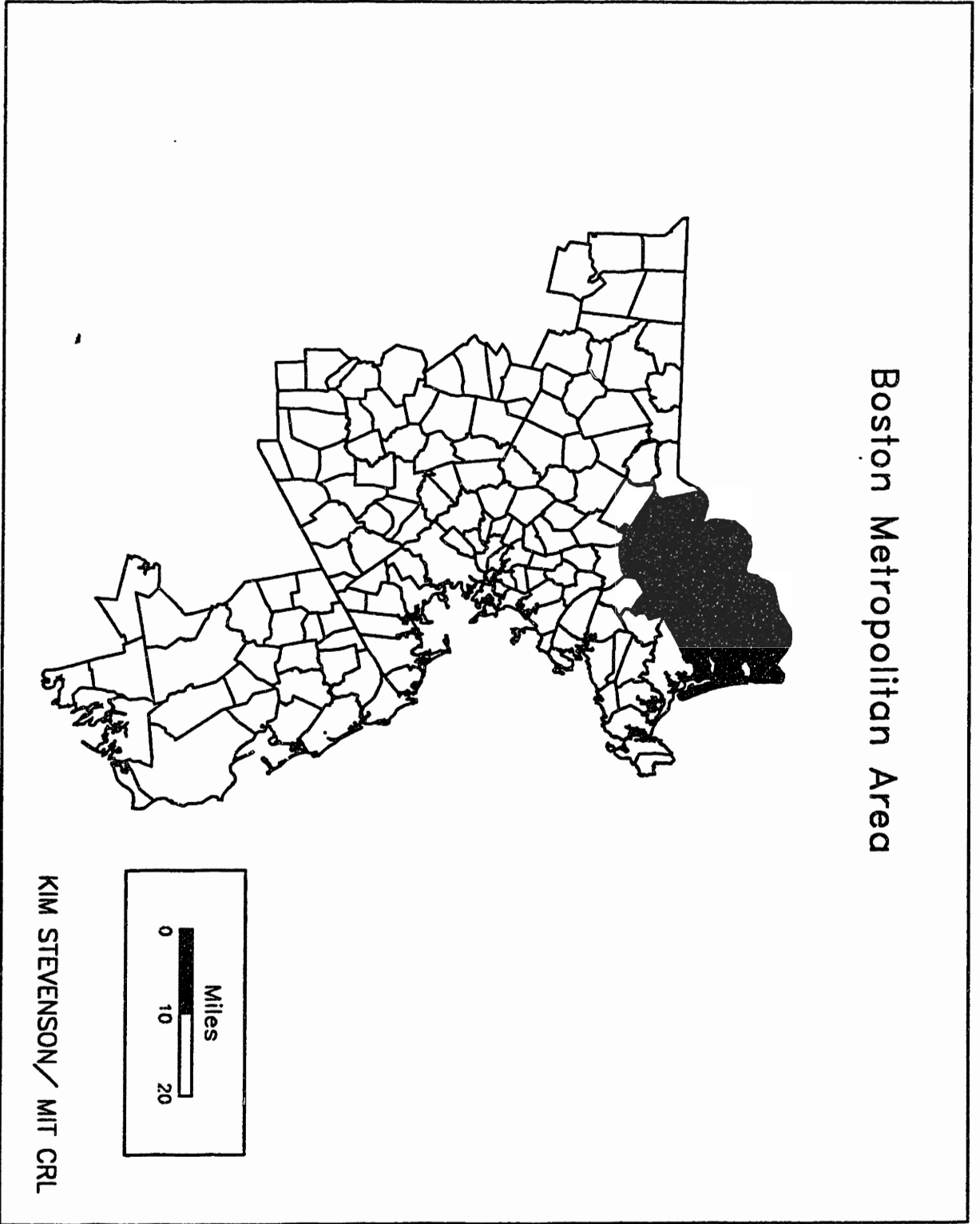
The Lower Merrimack Valley Service Delivery Area is located in the northeastern corner of Massachusetts approximately thirty miles north of Boston. It consists of three cities including Haverhill, Lawrence, and Newburyport; and twelve towns including Amesbury, Andover, Boxford, Georgetown, Groveland, Merrimack, Methuen, Newbury, North Andover, Salisbury, West Newbury, and Rowley.<sup>1</sup> These specific cities and towns were chosen to define the region of study because they represent a geographic area with a large population nucleus in Lawrence, together with adjacent communities having a high degree of economic and social integration. This specific area was defined by the Massachusetts Department of Employment and Training which provides aggregate employment and industry data for the region. The Lower Merrimack Valley Service Delivery Area is illustrated in *Figure 2.1*.

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<sup>1</sup>The Lower Merrimack Valley Service Delivery Area is referred to as the "Lower Merrimack Valley" or the "region" from this point on.



**Figure 2.1**



According to 1990 census data, the Lower Merrimack Valley has a total population of 288,280 persons. Lawrence is the largest and most densely populated municipality in the region with a 1990 population of 70,707, representing 24% of the region's total population. It had a 1990 population density of 10,325 persons per square mile. In contrast, Newbury and Rowley had the smallest densities, both with 24 persons per square mile in 1990. *Table 2.1* presents the total populations, land areas, and population densities in 1990 for each of the cities and towns in the region.

**Table 2.1**

***Total Population, Land Area, and Population Density by City and Town  
Lower Merrimack Valley Service Delivery Area: 1990***

	<b>Population (1990)</b>	<b>Land Area (Sq Mi)</b>	<b>Pop Density (Pop/Sq Mi)</b>	<b>Population as (% of SDA Pop)</b>
<b>Lawrence</b>	70,207	6.8	10,325	24.4%
<b>Newburyport</b>	16,317	8.3	1,966	5.7%
<b>Methuen</b>	39,990	22.4	1,785	13.9%
<b>Haverhill</b>	51,418	33.1	1,553	17.8%
<b>Amesbury</b>	14,997	12.7	1,181	5.2%
<b>Andover</b>	29,151	31.1	937	10.1%
<b>North Andover</b>	22,792	26.6	857	7.9%
<b>Merrimac</b>	5,166	8.7	594	1.8%
<b>Groveland</b>	5,214	8.9	586	1.8%
<b>Georgetown</b>	6,384	13.1	487	2.2%
<b>Salisbury</b>	6,882	15.7	438	2.4%
<b>Boxford</b>	6,266	23.8	263	2.2%
<b>West Newbury</b>	3,421	13.9	246	1.2%
<b>Rowley</b>	4,452	19.0	234	1.5%
<b>Newbury</b>	5,623	24.0	234	2.0%
<b>LMVSDA</b>	288,280	268.1	1,075	100.0%

Source: 1990 Census of Population and Housing

## **2.2 Immigrant City: The Industrial Revolution and its Immigrant Work Force**

The city of Lawrence and the Lower Merrimack Valley hold a unique place in American History. The U.S. Industrial Revolution began in the region, harnessing the hydro-power of the Merrimack River that flows through the region. Lawrence was a national center for shoe and textile manufacturing in the 1800's and early 1900's -- employing a large European immigrant workforce. The city was founded in 1847 and named after Abbott Lawrence, principal owner and president of the Essex Company.

Between 1845 and 1850 and for a few years thereafter Lawrence was a model town. Conceived, built, and directed by Boston Brahmins, it was designed to produce cottons and woolens, but do it in an environment that was physically and morally sound. To Lawrence would come sturdy mechanics to do the city's work and be uplifted in the process. This was the way the founders looked on Lawrence. As more and more immigrants came, however, the model town soon changed to an immigrant city (Cole, 1963, p. 26).

The first immigrant workers to come to Lawrence were the Irish who fled the potato famine of 1846. Twenty years later, at the end of the U.S. Civil War, the Arlington Mill was built and large numbers of Canadians, Germans, Englishmen, and Scots came to work in Lawrence. By the early 1900's the city's immigrant population had expanded to include a significant number of Russians, Italians, French, Austrians, Turks, and other European groups. Immigrants came to Lawrence in search of work and hope of a better life. As each new group moved into the city, many endured long hours, difficult working conditions, poor health, and racial and ethnic strife in the Immigrant City.<sup>2</sup> More recently the city's Anglo-European population has been replaced by large numbers of immigrants from the Dominican Republic and Puerto Rico.

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<sup>2</sup>The history of Lawrence and its earlier immigrant work force is vividly told in *Immigrant City Lawrence, Massachusetts, 1845 - 1921* by Donald B. Cole.

### **2.3 Economic Cycles and the In- and Out-Migration of Industries in the Region**

The first immigrant workers in Lawrence sustained a vital "mill-based" industrial economy that gradually declined and has now all but disappeared. The textile mills and shoe manufacturers moved out of Lawrence and the region -- to the South and out of the United States where labor costs were cheaper and unions were weak or non-existent. According to a report published by the Central Merrimack Valley Regional Planning District Commission (CMVRPDC, 1968), by the mid 1960's, the regional economy had made the transition from one based on textile and leather industries to a more diversified employment base, including both high-technology and service based industries.

It is unclear to me exactly how much Lawrence actually participated in the regional diversification that took place. Certainly during the 1960's, 1970's, and 1980's overall employment grew steadily the region. However, Lawrence continued to lose jobs throughout this period, particularly manufacturing jobs. As *Chapter 6* will show in greater detail, Lawrence lost 6,976 jobs between 1980 and 1990, from a total of 30,393 jobs in 1980. The city declined from holding 30% of the region's total employment in 1980 to 20% in 1990.

### **2.4 Automobiles, Malls, and Suburban Homes: The Move to the Suburbs**

In addition to changes in the economic base of the region and shifts in the location of jobs, the two largest cities, Lawrence and Haverhill, have experienced outmigration and population decline since the 1920's. In Lawrence, for example, the population of the city peaked in 1920 at 94,270 persons (Cole, 1963, p. 209). It declined, by one third of its

1920 peak, to 63,175 persons in 1980. More recently, however, the population has increased. Between 1980 and 1990 it grew a moderate 11%, to 70,207 persons in 1990, reflecting the large numbers of Dominicans and Puerto Ricans who moved to the city.

Outmigration from the central city to the surrounding suburbs can explain much of the population migration within the region and can account for most of the population decline in the cities of Lawrence and Haverhill throughout the 1950's and 1960's (CMVRPDC, 1968, p. 29-32). *Table 2.2*, illustrates population change, natural increase, and net migration for the cities of Lawrence and Haverhill between the years of 1950 and 1965.

*Table 2.2*

***Population Changes in Lawrence and Haverhill, MA***

***1950 - 1960***

	<b>Population Change</b>	<b>Natural Increase</b>	<b>Net Migration</b>
<b>Lawrence</b>	-9,603	5,641	-15,244
<b>Haverhill</b>	-934	3,264	-4,198

***1955 - 1965***

	<b>Population Change</b>	<b>Natural Increase</b>	<b>Net Migration</b>
<b>Lawrence</b>	-7,024	5,107	-12,131
<b>Haverhill</b>	-2,187	3,802	-5,989

**Source: Central Merrimack Valley Regional Planning District. 1968. *Population Report*.**

Several factors probably explain why people moved to the suburbs throughout the 1950's and later. These factors include job losses and financial problems in Lawrence and Haverhill, particularly in Lawrence, and preferences for the lifestyle and amenities offered in suburban communities. Life in the suburbs was made possible by widespread use of the automobile, highway systems, and suburban shopping malls, among many other developments. For many people the suburbs offered a better option to crowded and declining city neighborhoods. These trends of outmigration continue today in Lawrence. Higher <sup>A</sup> income non-Hispanic whites have left the city as poorer Hispanic immigrants have moved in.

This chapter has located and presented a brief history on the the Lower Merrimack Valley region. The literature review that follows in *Chapter 3* covers the current urban poverty debate and the economic restructuring literature. I will often refer back to this chapter in order to place points made in the literature review within the context of Lawrence and the Lower Merrimack Valley.