

Questions and Answers

General

1. How do transportation corridors affect population and employment?

The physical transportation corridors will be described for various parts of the region called subregions coupled with a general observation about population and employment.

When a new highway is constructed one would expect a disproportionate amount of immediate growth. However, I-190 connecting Worcester to Rte 2 never spawned much growth. Rte 146 connecting Worcester to Providence, RI seems to be more likely to increase growth in population, households and employment. The relative attractiveness of an individual town is partially a function of its location and its access to other desirable locations. To a large extent the degree to which a town encourages or discourages development, either consciously or unconsciously, also affects its growth. To examine the relationship between transportation corridors and growth we will examine each subregion within our region.

The *west subregion* (Brookfield, East Brookfield, Hardwick, Leicester, New Braintree, North Brookfield, Spencer, Warren, West Brookfield) has I-90 clipping the extreme southwest corner and has no exits located within the subregion. It has the lowest projected growth in population and employment.

Worcester alone is considered the *central subregion*. I-290 traverses from the south in a north-south direction and then at I-190 turns abruptly east and exits on the east border connecting to I-495, the second loop around Boston. I-190 continues from I-290 to the northern boundary of the City to Rte 2 in the Leominster/Fitchburg area. Rte 2 traverses the northern half of the state in an east-west direction. The Massachusetts Turnpike passes to the south of the City with three relatively easy access points. Rte 146 traverses the City through the south-southeast side connecting Worcester to Providence, RI. The central subregion is expected to be home to the largest increase in jobs, although not the largest percent increase in jobs as it already includes 44% of the jobs for the entire region. The central subregion is the only subregion where jobs are expected to grow at a faster rate than population.

Rte 146 almost mathematically bisects the *southeast subregion* (Blackstone, Douglas, Grafton, Hopedale, Mendon, Millbury, Millville, Northbridge, Sutton, Upton, Uxbridge), in a northwest to southeast direction, providing increasingly easy access to Worcester and relatively easy access to Providence, RI. The Massachusetts Turnpike skirts the northern portion of this subregion making a direct connection to Boston and Springfield. I-495 is situated just to the east of this subregion and I-395 is situated just to the west of this subregion. The southeast subregion has the easiest access to several of New England's largest cities and other major destinations than any other subregion. For that reason population is expected to grow faster, by number and percent, than in any other subregion in the Central Massachusetts Region. Past trends indicate that employment in the southeast will grow the second fastest of the six subregions. The towns in this subregion

have worked cooperatively with each other. As one example, several towns have united to create a Route 146 multi-town overlay district.

The Massachusetts Turnpike traverses the northern portion of the *southwest subregion* (Auburn, Chariton, Dudley, Oxford, Southbridge, Sturbridge, Webster). It has two interchanges: one on the eastern side of the subregion at I-395 which connects Worcester to Norwich, CT and on to the southeastern Connecticut coast with several interchanges along it's route, and one on the western side of the subregion at I-84 which connects to Hartford. Moderate population and employment growth is expected in this subregion.

I-190 skirts the eastern edge of the *north subregion* (Barre, Holden, Oakham, Paxton, Princeton, Rutland, West Boylston), as it's only interstate highway. In the year 2000 the population in the north subregion was the lowest of all subregions. It now has the second lowest and is expected to keep that position through the year 2030. Population is expected to outpace employment for the foreseeable future in this subregion.

I-290 nearly bisects the *northeast subregion* (Berlin, Boylston, Northborough, Shrewsbury, Westborough) and I-495 nips its eastern edge. The Massachusetts Turnpike traverses in an east-west direction just south of the subregion, crossing into its southeastern corner with an interchange at I-495. I-190 passes to the west of the northeast subregion. It is currently the second largest home to jobs in the region, with one town, Westborough, employing more people than it has residents, and is expecting moderate employment growth between 2000 and 2030. Current trends would indicate that population growth will outpace employment growth in this subregion.

2. How does the capacity of the municipal and private water and sewage systems limit population and employment and how have the buildout analyses affected the population and employment projections?

Factors like water availability and on- and off- site sewage disposal as well as other factors could limit or prevent development in some areas. Although the amount of water required to meet buildout conditions was documented in the buildout analysis, neither the water supply nor the sewage capacity was used to limit the projections. The buildout analysis was a systematic attempt to document the maximum amount of different types of development that could occur given the zoning regulations in place around the year 2000. The results of the buildout analyses were considered in the projections.

3. How confident is CMRPC in the validity of its projections, of what value are the projections, and who is expected to use them and how?

Projections are derived from past data trends and represent the best information available at a given moment in time. Between now and 2030, markets and aspects of the work environment will undoubtedly change. Once trends can be identified and patterns established, CMRPC could include them in future projections. The demographic projections provide information, based on trends, to decision makers who can then make decisions that could indeed influence the future result. Projections are different than

predictions, or foretelling. CMRPC staff hopes that communities will look at their future projections, and communicate with CMRPC if they have questions or concerns, and then adjust zoning bylaws and/or change town policies if necessary to effect a more desired outcome.

Business owners, local officials, planners, developers, investors and economic analysts all use demographic projections. The labor force is increasing in Central Massachusetts, which is driving the development of new housing units, and is providing a more favorable environment for potential future job growth. Communities and state officials need to work together to provide a variety of housing and employment so that all, especially our children and recent college graduates, can afford to live in Massachusetts if they choose. The ability to provide a wide range of housing opportunities is important to sustaining a healthy economic infrastructure.

Population

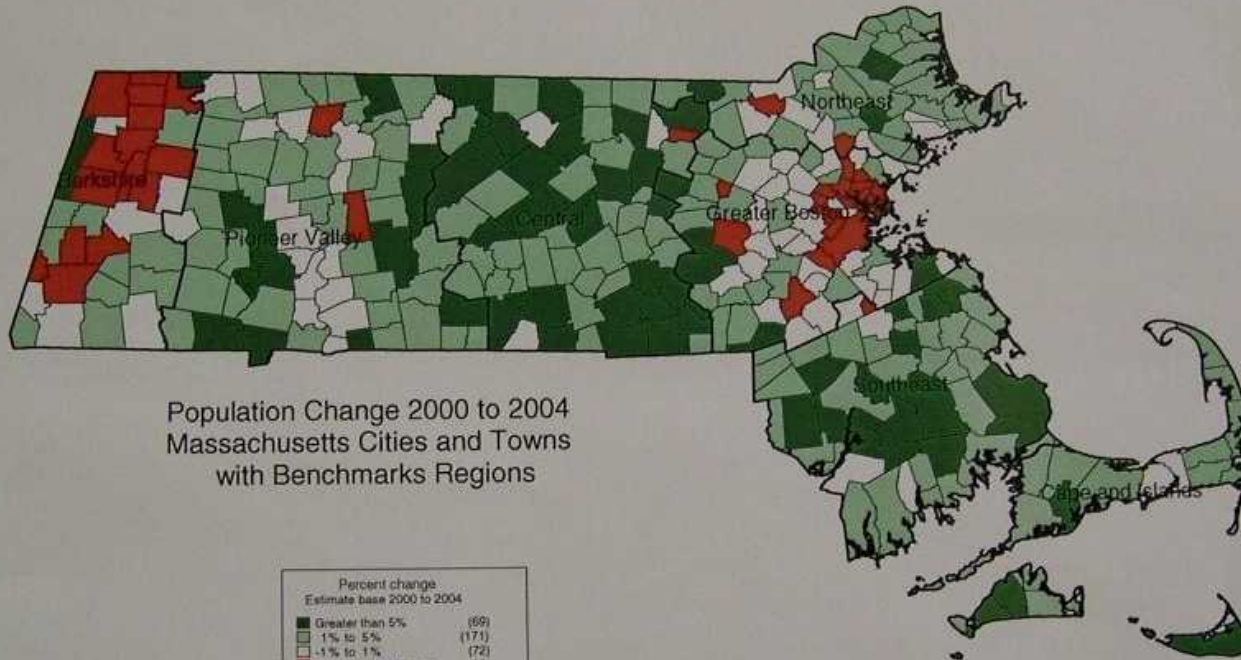
- 4. The most current Town Census figures often indicate a higher population than CMRPC has projected for future years. Please justify your population projections.**

Although having similar goals, the town census yields different results than does the US Census due to different methods. For one example the town census counts students in college at their home address whereas the US Census counts students based upon where they sleep at night on April 1st. The US Census asks the same questions of everyone where the town census are free to ask their own questions. CMRPC based its information on the US Census because of its consistency from one town to the next. Uxbridge, Northbridge and Upton have claimed that the US Census undercounted their towns. CMRPC used the US Census number to report year 2000 population for these towns and considered the difference when projecting future population.

- 5. How does the population growth rate in Central Massachusetts compare with Massachusetts and the country as a whole?**

Population in the Central Massachusetts region is growing at a faster rate than is Massachusetts as a whole, but growing at a slower rate than the United States as a whole. The chart below is based upon population projections provided by the US Census Bureau for the US and by Massachusetts Executive Office of Transportation for Massachusetts and by CMRPC staff for the Central Massachusetts region.

In contrast to Boston and the Berkshires, Central Massachusetts is growing.



Population Change 2000 to 2004
Massachusetts Cities and Towns
with Benchmarks Regions

Percent change	
Estimate base 2000 to 2004	
Greater than 5%	(69)
1% to 5%	(171)
-1% to 1%	(72)
Greater than 1% loss	(19)

Massachusetts 1.06%

Source: U.S. Census Bureau Population Estimates, June 2005. UMass Donahue Institute analysis.



University of Massachusetts
Donahue Institute

Source: US Census Bureau, prepared by the Massachusetts State Data Center, UMass Donahue Institute

Employment

6. Where are different employment clusters located? *

Agriculture, including farming, forestry, fishing, hunting and mining, is found in isolated pockets mostly in rural areas of the region.

The greatest number of *Construction* jobs, including building, heavy and civil engineering construction, and specialty contractors, is located in Worcester, Auburn and Shrewsbury.

Worcester, Westborough and Shrewsbury, followed by Southbridge have the most *Manufacturing* in the region including food, beverages, mills, textiles, wood, paper, chemical, plastics, materials, machinery, several high technology categories, transportation, furniture, etc.

Worcester, Auburn and Westborough have the most *Wholesale* jobs in the region, including durable and nondurable goods.

Worcester, Auburn, Westborough and Shrewsbury have the most *Retail* jobs in the region, including motor vehicle, furniture, electronics and appliances, building materials, food and beverages, health and personal care, general merchandise, etc.

Shrewsbury, Worcester and Northborough have the highest employment in *Transportation* including utilities, air, water, rail, truck, transit, pipeline, scenic and sightseeing transportation, postal service, couriers, warehousing and storage.

Worcester, Westborough and Millbury have the largest amount of *Information* employment including publishing, motion picture and sound recording, broadcasting, telecommunications, Internet service providers, etc.

Worcester followed by Webster and Westborough have the greatest number of *Finance* jobs including monetary, credit, securities, insurance, funds, trusts and other financial vehicles, real estate, retail and leasing services, etc.

Worcester and Westborough have the greatest number of *Professional* jobs in the region including scientific and technical services, management, administrative and support services, and waste management and remediation services.

Worcester is home to more than 60% of the region's *Education and Health care* jobs, including elementary and secondary schools, training, junior colleges, colleges, universities and professional schools, hospitals, nursing and residential care facilities and social assistance.

Leisure employment including performing arts, spectator sports, museums, historical sites, amusement, recreation, accommodation, food services and drinking places, etc., is highest in Worcester, Sturbridge and Westborough.

The *Other Service* sector, including repair and maintenance, personal and laundry services, religious, grantmaking, civic, professional organizations, and private households, is lead by Worcester with Auburn as a distant second.

Public Administration, including executive, legislative, and other general government support, justice, public order, safety activities, administration of human resource and environmental quality, housing, urban planning, community development economic programs, space research and technology, national security and international affairs, is lead by Worcester and Westborough with Northbridge as a distant third.

* Based on data provided by Mass DUA for 2004.

7. Which employment category is expected to grow the fastest and the slowest between 2000 and 2030?

The largest increase in employment for the region is expected to be the education and health care category with over 22,000 new jobs. Unfortunately, the data required to separate health care from education is not readily available. Our best estimate is that about 40% of the jobs are in education and 60% in health care in the year 2000. The next largest increase is expected to be the Leisure category with over 7,000 new jobs anticipated.

The largest decline is expected to be in the Manufacturing employment sector with approximately 20,000 jobs lost. The number could be larger if the past proves to be good guide. We have slowed the decline in our projections based on predictions that some possible increases in the high technology manufacturing will offset some of the decreases. This turnaround has not yet been witnessed when looking at the region as a whole.

8. Which employment sectors provide the greatest number of jobs in different parts of the region?

The table below shows the top three employment sectors in year 2000 and the projected top three employment sectors in 2030.

Region/ Subregion	Employment Category (year 2000 jobs)		
	Top	Second	Third
North	Education (3,211)	Retail (1,619)	Public Admin. (1,261)
Northeast	Professional (10,413)	Manufacturing (7,661)	Retail (6,241)
Southeast	Education (6,137)	Manufacturing (4,108)	Retail (2,695)
Southwest	Retail (8,215)	Manufacturing (7,477)	Education (6,815)
West	Manufacturing (3,113)	Education (2,087)	Retail (1,328)
Central	Education (38,491)	Professional (13,578)	Manufacturing (11,304)
First Ring*	Retail (9,047)	Education (8,463)	Manufacturing (7,093)

Total Region Education (62,609) Manufacturing (34,749) Professional (29,943)

Region/ Subregion	Employment Category (projected 2030 jobs)		
	Top	Second	Third
North	Education (4,225)	Retail (1,918)	Leisure (1,831)
Northeast	Professional (13,213)	Education (8,371)	Retail (6,989)
Southeast	Education (8,181)	Retail (4,274)	Construction (3,096)
Southwest	Retail (9,273)	Education (9,253)	Leisure (6,656)
West	Education (2,844)	Manufacturing (1,612)	Retail (1,509)
Central	Education (52,016)	Professional (14,131)	Retail (11,289)
First Ring*	Retail (12,213)	Retail (10,431)	Transportation (5,289)

* First Ring towns around Worcester include Paxton, Holden, West Boylston, Boylston, Shrewsbury, Grafton, Millbury, Auburn and Leicester.

Journey to Work

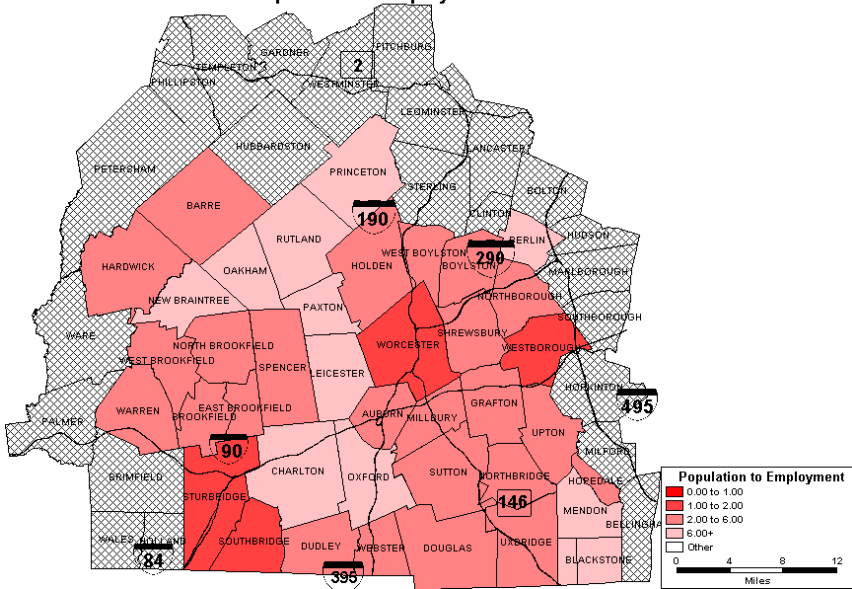
9. “When are you guys going to fix the roads so I don’t have to spend so much time waiting in traffic?”

“Fixing the roads,” that is, adding new lanes or building new roads, is at best an expensive and ultimately futile way to try to improve mobility. Most experts agree that it’s no longer practical, especially in the northeastern United States, to build our way out of our current traffic congestion. There are simply too many people and too many vehicles on the roads, and building more roads, will only increase that trend.

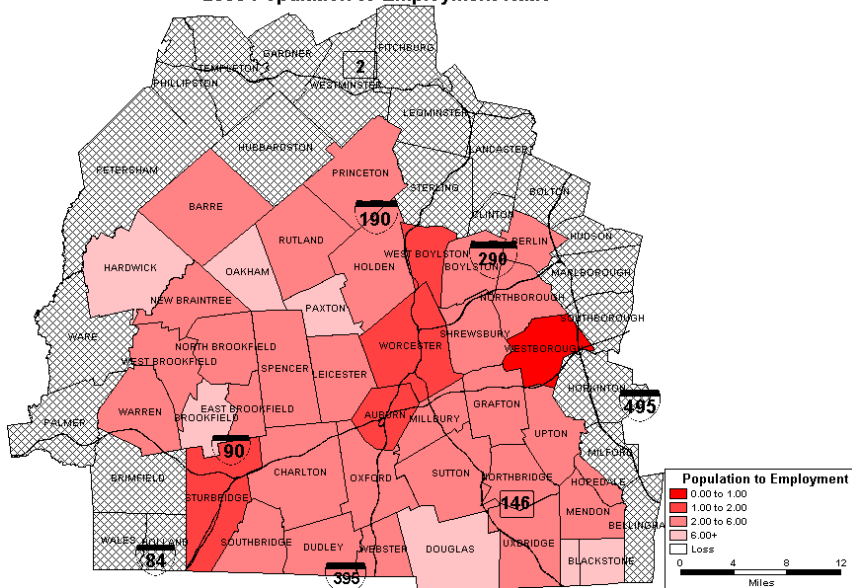
Our demographic projections cannot tell us why things are happening but they can tell us where and how. For example, data from the 1990 and 2000 US Census have shown that the number of workers living in Central Massachusetts and commuting to jobs in the greater Boston area increased by almost 15,000 commuters which represents more than a 40 percent increase during that ten-year period. By 2000 almost 30% of workers living in Central Massachusetts left the region to go to work. In times past, people often lived and worked in the same community, but the trend seems to be toward longer commutes.

One way to examine this trend is to examine changes in the municipal ratio of population to employment. If there was a job for every man, woman and child in a community, that ratio would be one; the current average for Massachusetts is about two. Communities that have more job opportunities than residents would exhibit a ratio less than one, while the ratio would be greater than one for communities with fewer jobs than residents. The following three maps show the population-to-employment ratios for communities in Central Massachusetts for 1980, 2000, and projected to 2030. The regional trend, according to past data and CMRPC projections, is toward higher ratios and that means there are more people living in the region and working elsewhere. Major roads and surrounding towns are shown to provide context.

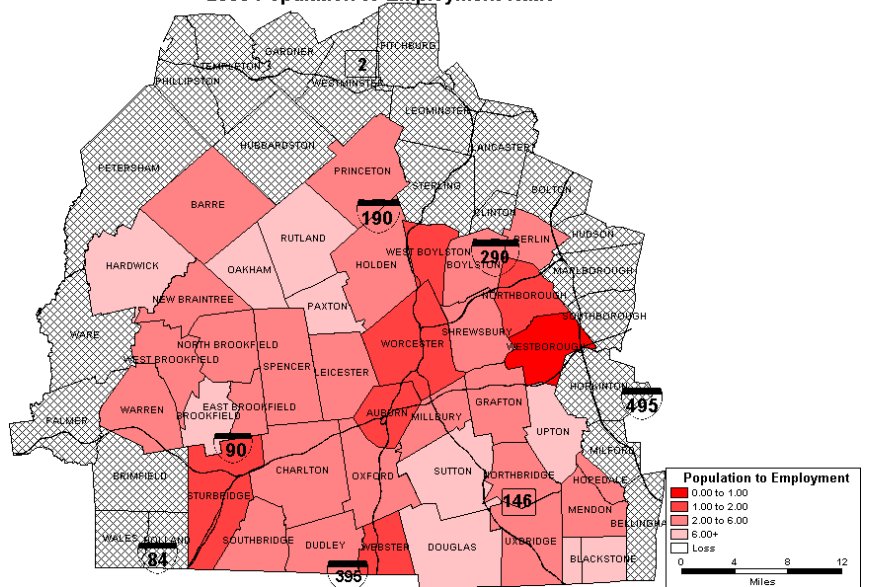
1980 Population to Employment Ratio



2000 Population to Employment Ratio



2030 Population to Employment Ratio



There is no single or simple answer to increasing highway congestion, but “smart growth” advocates have suggested that increasing the availability of public transit – moving more people with fewer vehicles – would be a positive step forward. Encouraging communities to provide more opportunities for job growth in appropriate areas, through appropriate zoning and commercial/industrial development incentives, is also an important step. The demographic projections only indicate the results of continuing current trends in residential and employment patterns. It will require significant changes to current trends to decrease future highway congestion.

10. How will CMRPC handle challenges and disagreements to their projections and how will CMRPC use the projections?

This report could be followed by many observations and challenges, which can be used, along with the release of additional data, to strengthen the next update. The applications of demographics could include planning for schools, quantifying the amount of building that will likely occur between now and the year 2030, and understanding the importance of balancing employment with population in order to reduce congestion and keep our region economically viable, etc. At CMRPC the demographics are part of the arsenal of information used to model traffic flow in our region. The modeling enables decision makers to identify locations most deserving of a more detailed study and prioritize transportation projects. The demographic projections are also used in master plans and to help our local communities in land use planning.