

Central Massachusetts Regional Planning Commission

2006 Updates to Central Massachusetts Regional Demographics

March, 2006

CMRPC provides periodic updates to projections of population, households and employment for Central Massachusetts at the regional and municipal levels. State, regional, and local officials may use these projections for a variety of planning purposes so it is important that the results be as accurate as possible and that the rationale behind them be well understood. For the 2007 update to the Central Massachusetts Regional Transportation Plan (RTP), the long-range transportation plan for the region, new updates to the regional demographic projections have been made. The 2000 US Decennial Census and data from the Massachusetts Division of Unemployment Assistance (DUA, formerly DET) provide the best estimates of current and historic population and employment. The projections are based on forecasts by the Executive Office of Transportation/Office of Transportation Planning (EOT/OTP) and adjusted based on past trends, comments from the 40 municipalities in the Region and consultation with EOT/OTP.

Rationale for Population Projections

The municipal population for year 2000 was taken from the US Bureau of the Census Standard File 1 (SF-1). The population projections for 2005, 2010, 2015, 2020, 2025, and 2030 were based upon the year 2000 US Census, the trend of historical annual town-by-town changes, residential building permit data, the Executive Office of Environmental Affairs (EOEA) build-out analyses, and trends in surrounding towns. CMRPC staff most familiar with the Region reviewed the initial results and recommended changes. Those changes were discussed with EOT/OTP and ultimately endorsed by the full Regional Planning Commission. The Central Massachusetts Metropolitan Planning Organization also approved the projections for use in the transportation planning process.

Rationale for Household Projections

The number of municipal households, i.e., occupied housing units, for the year 2000 was taken from the US Bureau of the Census, Standard File 1 (SF-1). The number of municipal households projected for 2005, 2010, 2015, 2020, 2025, and 2030 was derived from population projections with the estimated institutionalized population removed, divided by the average number of persons in each household for each individual town recorded in the year 2000 US Census. National population/household trends were considered by the CMRPC staff to establish a regional average target of 2.5 persons/household in the year 2010 and 2.45 in 2030. The population/household ratios for any individual municipality could deviate significantly from the regional average, so the following formula was used to develop the number of households in any individual

$$\text{municipality: } HH_{\text{future(Mun)}} = HH_{\text{past(Mun)}} + (\text{Pop}_{\text{future(Mun)}} - \text{Pop}_{\text{past(Mun)}}) * \frac{(HH_{\text{future(CMReg)}} - HH_{\text{past(CMReg)}})}{(\text{Pop}_{\text{future(CMReg)}} - \text{Pop}_{\text{past(CMReg)}})}$$

Note: Future is the year to be projected. Past is closest previous year to that being projected, of the following: 2000, 2010 or 2020. Mun and Reg refer to Municipal and Regional, respectively.

Rationale for Employment Projections

The Commonwealth Executive Office of Transportation/Office of Transportation Planning (EOT/OTP) and Massachusetts Division of Unemployment Assistance (DUA) municipal employment figures were used as a basis for year 2000 estimates of total employment. The employment for 2005, 2010, 2015, 2020, 2025, and 2030 was projected based upon the DUA annual summary of employment for each municipality through 2004, EOT/OTP regional projections, and the trend of historical employment sector changes. DUA provides data for workers covered by unemployment insurance, in a tabulation called ES-202. Some data are withheld to prevent disclosure of confidential information; therefore the Census Transportation Planning Package (CTPP) was used to estimate employment in categories where data was withheld by DUA. The 13 employment categories are summarized from the 2-digit North American Industrial Classification System (NAICS) data, plus an estimate of Armed Forces employment provided by the CTPP, were also used for this analysis. The DUA provides the most comprehensive municipal-level data, updated and published quarterly by municipality and employment sector. The ES-202 data set excludes some elected government officials, railroad workers, religious leaders, some student workers, and a few other employment categories totaling between 3 and 6 percent of the total work force. EOT/OTP increased ES-202 employment data by slightly over 6% to generate the region-level estimates of total employment for year 2000.

Employment data reported from government sources changed from U.S. Standard Industrial Classification (SIC) system, developed in the 1930s, to the North American Industrial Classification System (NAICS) developed in the 1990s. DUA changed its reporting from SIC to NAICS at the end of the year 2000 and reported 2001 in both SIC and NAICS. CMRPC examined the trends for the major SIC employment sectors for 1980-2001, when the reporting was consistent, and calculated trends for the categories of Manufacturing, Service, Retail (&Wholesale), and All Others. The total employment projections were based on the year-by-year sum of those four categories, increased by 6% to account for jobs not covered by the DUA reporting system. This method resulted in regional totals that were somewhat higher than earlier projections and discussions with EOT/OTP led to an acceptable compromise in the regional control totals for future years.