

Greater MetroWest Economic Profile 2016[©]



24TH ANNUAL CONFERENCE

Expansion in MetroWest: Headwinds and Tailwinds

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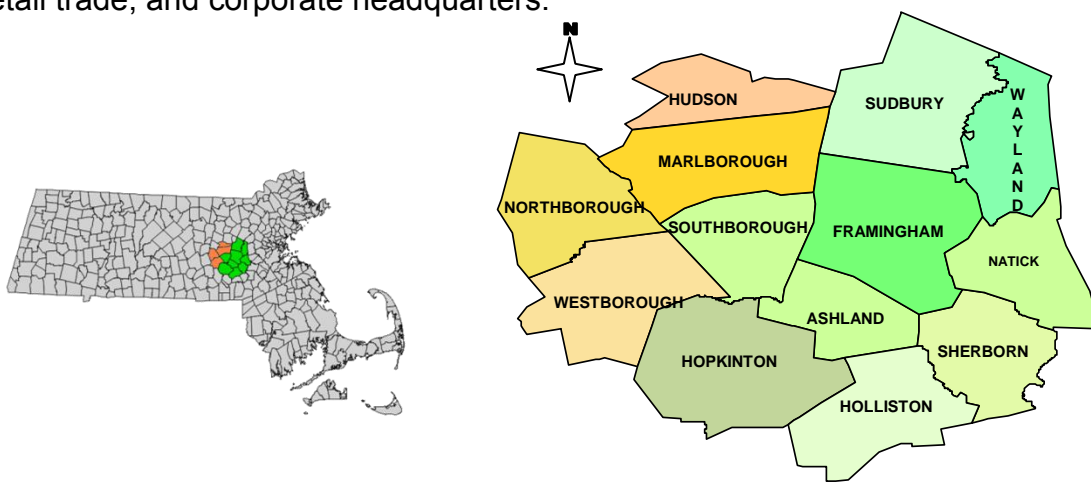
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INTRODUCTION

Greater MetroWest (GMW) includes thirteen communities located between Boston and Worcester: the nine towns of the MetroWest Cohesive Commercial Statistical Area (CCSA), and the four communities of the Greater Marlborough Region. With a population of over 285,000, the region hosts a well educated and highly skilled labor force of more than 159,000 individuals who reside in households with high incomes when compared to the state and the nation. Strategically located between Boston and Worcester, GMW benefits from four major highways serving the region's residents and businesses: Interstate 495, Interstate 90 (Massachusetts Turnpike) and U.S. routes 9 and 20.

Greater MetroWest businesses generated more than 185,000 jobs and a payroll exceeding \$13.5 billion in 2014. The region provided 4.5% of the Massachusetts labor force, 5.5% of Massachusetts employment, and 6.2% of Massachusetts payroll. Home to thousands of small and medium sized businesses as well as large national firms like Astra Zeneca, Bose, Boston Scientific, Cumberland/Gulf, EMC, Genzyme, Intel, Mathworks, Raytheon, Staples, TJX, and the internationally known U.S. Army Natick Laboratories, GMW is a recognized center of research and development, wholesale and retail trade, and corporate headquarters.



The *2016 Greater MetroWest Economic Profile* includes the most recent economic data for the region and its individual communities, and trends over several years as well as comparisons with the state and the nation. This comprehensive publication provides economic data and analyses of labor force and unemployment, employment (including payroll, wages and establishments), housing permits, existing home sales, cost of living, municipal revenue, municipal taxes, and K-12 public school enrollment.

The MetroWest Economic Research Center (MERC) at Framingham State University creates and maintains economic databases on a number of regional economies in the state. For more information on the data and analyses in this report, please contact MERC.

2016 Greater MetroWest Economic Profile

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GREATER METROWEST – UNEMPLOYMENT

UNEMPLOYMENT¹

Each month the MetroWest Economic Research Center (MERC) at Framingham State University calculates a composite unemployment rate for the Greater MetroWest region, which includes MetroWest and the Greater Marlborough Region. The unemployment rate is household-based and reflects the labor market status of the **residents** of the regions. The information for the rate is obtained from the Massachusetts Executive Office of Labor and Workforce Development (MA EOLWD) which provides monthly estimates of the size of the local labor force, the number of employed and unemployed residents, and the unemployment rates for all Massachusetts cities and towns.

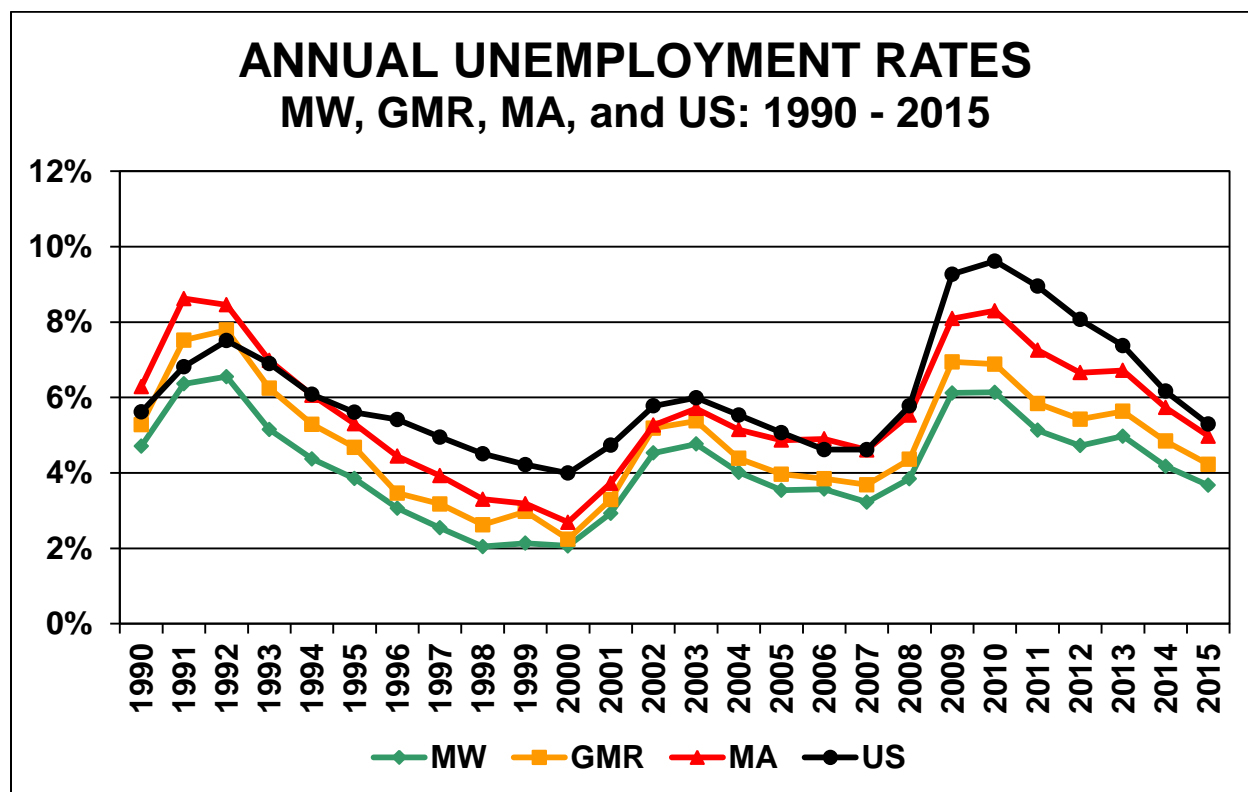
The unemployment rate is a measure of the amount of unutilized labor in the economy. The rate represents the proportion of unemployed individuals in the labor force. The **labor force** is defined as all civilian non-institutionalized persons age 16 and over who are either employed or unemployed. The **employed** are those individuals who work as paid employees, are self-employed, or who work 15 hours or more as unpaid workers in a family-operated enterprise. Also included as employed are people who did not work but who had a job from which they temporarily were absent due to vacation, illness, childcare problems, or other personal obligations, whether or not they were paid during their absence. The **unemployed** are those who did not hold a job during the survey period but were actively seeking employment. For example, the February 2016 unemployment rate in Framingham of 3.5% was based on the following information: the size of the labor force was **estimated** at 38,933 workers, the sum of 37,577 residents who were employed and 1,356 residents who were unemployed. The rate, expressed as a percentage, was obtained by dividing the unemployed (1,356) by the labor force (38,933) and multiplying by 100 to get the unemployment rate of 3.5%.

Not everyone in the working age population is included in the labor force. Individuals who were in the working age population but who could not be classified as employed or unemployed (a fulltime homemaker, for example) would not be counted in the labor force.

The local area unemployment rates for the cities and towns are not seasonally adjusted and are subject to periodic revision and re-benchmarking. For purposes of comparison, the state and national unemployment rates shown in this report are likewise not seasonally adjusted.

¹The definition of terms such as labor force, employed, and unemployed are based on those in *The BLS Handbook of Methods*, U.S. Bureau of Labor Statistics, 2015.

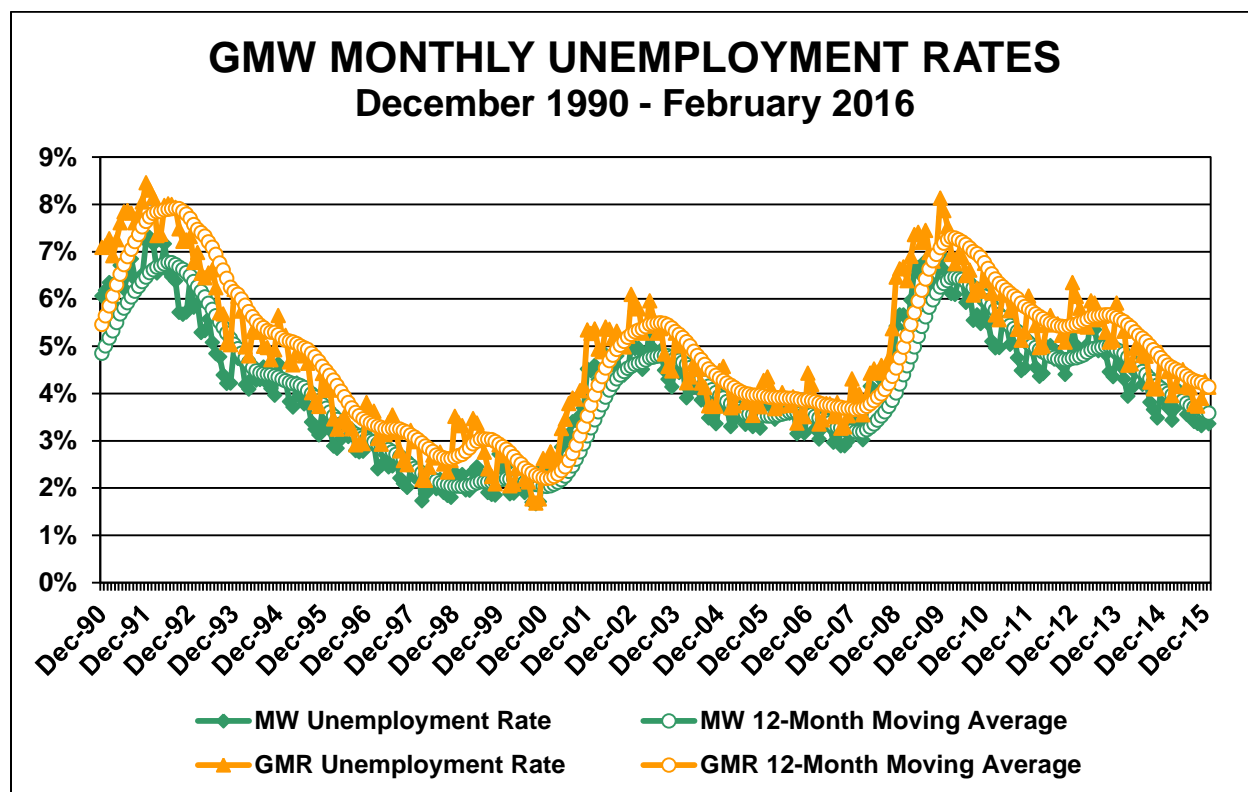
GREATER METROWEST – UNEMPLOYMENT



Source: MA EOLWD and MERC

- The annual unemployment rates for MetroWest (MW), the Greater Marlborough Region (GMR), Massachusetts, and the United States from 1990 to 2015 are calculated by averaging the monthly employment rates for each year.
- In 2015, MetroWest and the Greater Marlborough Region posted unemployment rates of 3.7% and 4.2%, lower than the United States' and Massachusetts' rates of 5.3% and 5.0%, respectively. In all regions, the rates in 2015 were lower than the previous rates in 2014.
- In the last two decades, the sharpest increase in unemployment rates in MetroWest, the Greater Marlborough Region, Massachusetts, and the United States occurred from 2008 to 2009. The nation witnessed the largest increase, from 5.8% to 9.3%, followed by Massachusetts which posted an increase of 5.5% to 8.1%. The increases for MetroWest and the Greater Marlborough Region were similar to the state's.
- Historically, MetroWest and the Greater Marlborough Region have had lower annual unemployment rates than the state and the nation except in 1991 and 1992 when GMR had rates above the nation's rate. The rates in MetroWest have consistently been lower than the rates in the Greater Marlborough Region.

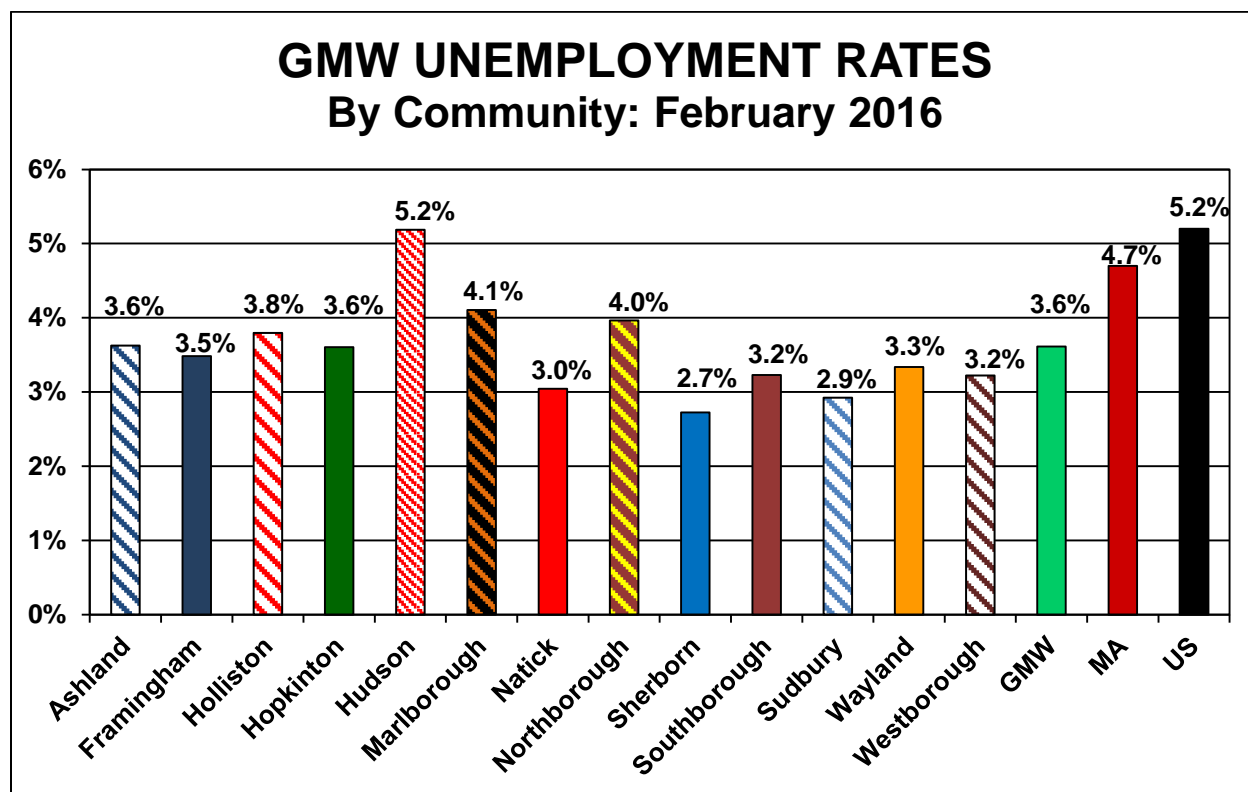
GREATER METROWEST – UNEMPLOYMENT



Source: MA EOLWD and MERC

- This graph shows the monthly unemployment rates and the twelve-month moving average rates for MetroWest (MW, shown in green) and the Greater Marlborough Region (GMR, shown in orange) from December 1990 to February 2016. The twelve-month moving average evens out the seasonal variation in the data.
- In February 2016, MW had an unemployment rate of 3.4%, a decrease from the previous month's rate of 3.5%. GMR's unemployment rate during February 2016 was 4.1%, a decrease from the previous month's rate of 4.3%.
- During this time period, MetroWest reached its peak unemployment rate of 7.3% in February 1992, while the Greater Marlborough Region reached its peak rate of 8.5% in January 1992. MetroWest and the Greater Marlborough Region reached their lowest unemployment rate of 1.7% in April 1998 and November 2000, respectively.
- The twelve-month moving averages in both MW and GMR followed a similar pattern with their monthly rates from December 1990 through February 2016.

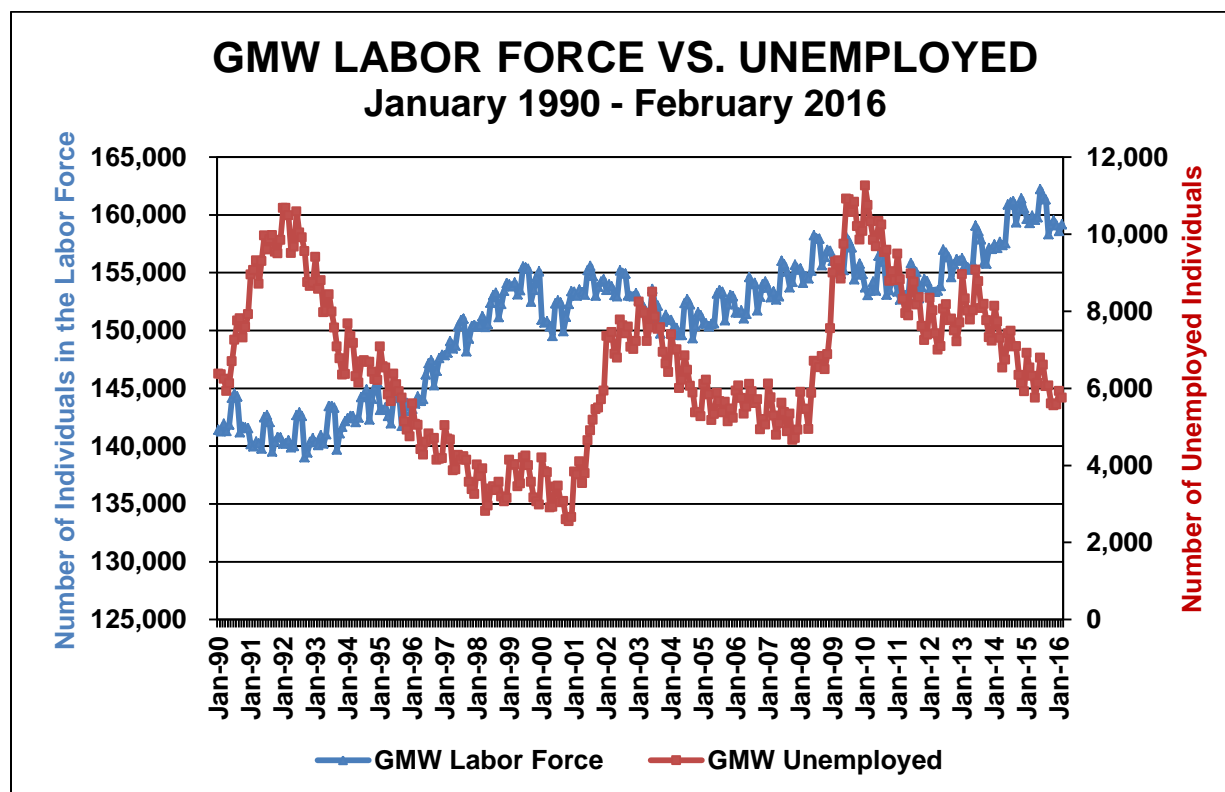
GREATER METROWEST – UNEMPLOYMENT



Source: MA EOLWD and MERC

- In February 2016, Greater MetroWest (GMW) and twelve of its thirteen communities had unemployment rates lower than those of the state and the nation of 4.7% and 5.2%, respectively.
- Among the thirteen communities in the region, Sherborn posted the lowest rate at 2.7%, followed by Sudbury at 2.9% and Natick with 3.0%.
- Hudson posted the highest unemployment rate in the region at 5.2%, greater than that of Massachusetts and the same as that of the United States. Marlborough had the second-highest unemployment rate at 4.1%, followed by Northborough at 4.0%.
- Holliston, Hudson, Marlborough, and Northborough were the four communities in the region which posted unemployment rates higher than the rate in Greater MetroWest at 3.6%.

GREATER METROWEST – UNEMPLOYMENT



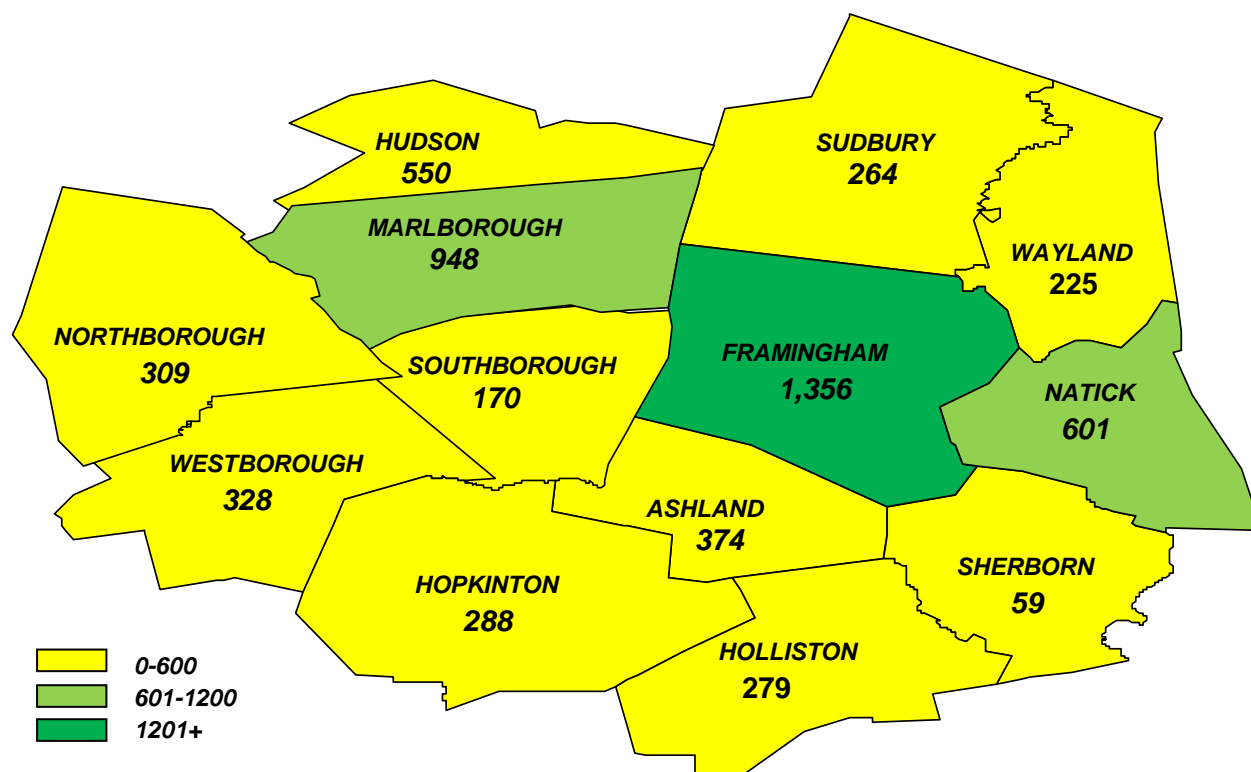
Source: MA EOLWD and MERC

- This graph uses two different scales to compare the labor force, shown in blue on the left-hand scale, to the number of unemployed individuals, shown in red on the right-hand scale, in Greater MetroWest (GMW) from January 1990 to February 2016. The labor force includes individuals aged 16 years and older who were either employed or unemployed. An individual is unemployed if he or she did not have a job but was actively seeking employment.
- GMW posted the lowest number of individuals in the labor force in September 1992 at 139,027 individuals. The data trend has been upward since that time, peaking during the month of June 2015 at 162,233 individuals. In February 2016, GMW recorded 159,208 individuals in the labor force.
- The number of unemployed individuals reached the peak in January 2010 at 11,258 individuals. The region's smallest number of unemployed individuals of 2,545 was recorded in November 2000. In February 2016, GMW reported 5,751 unemployed individuals.

GREATER METROWEST – UNEMPLOYMENT

GMW NUMBER OF UNEMPLOYED

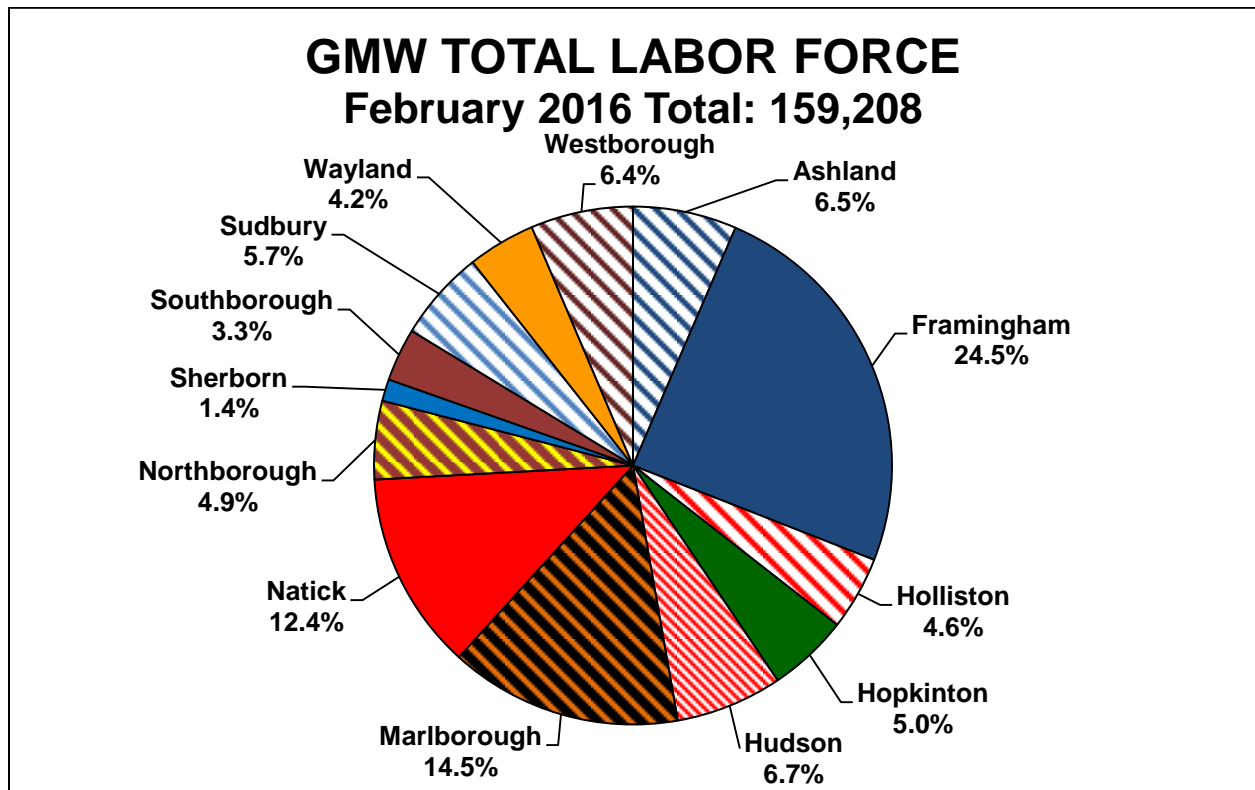
February 2016 Total: 5,751



Source: MA EOLWD and MERC

- In February 2016, the total number of unemployed individuals in Greater MetroWest (GMW) was 5,751.
- The three communities with the largest number of unemployed were Framingham with 1,356 unemployed individuals, Marlborough with 948 unemployed individuals, and Natick with 601 unemployed individuals. Together, these three communities accounted for about half of all of total unemployed in GMW.
- Sherborn, Southborough, and Wayland had the smallest numbers of unemployed individuals at 59, 170, and 225 persons, respectively. That totals only about 7.9% of unemployed in GMW.

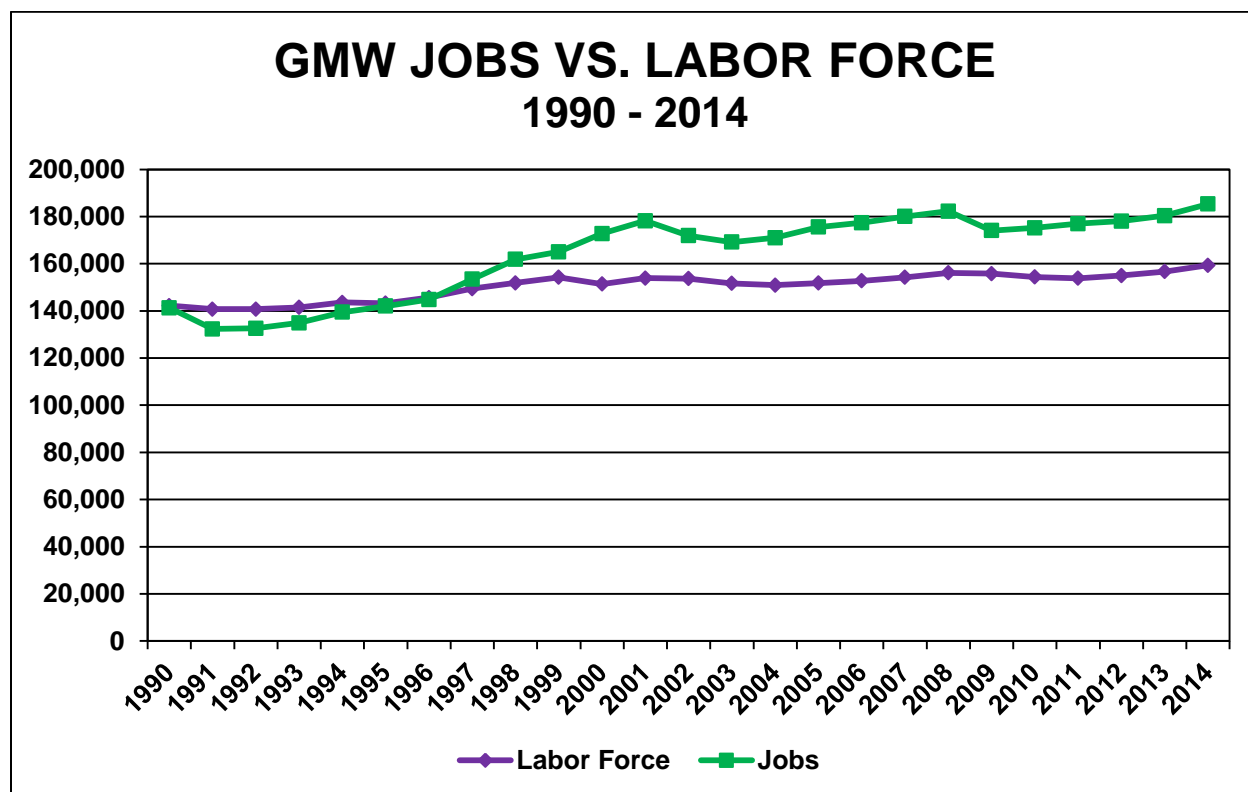
GREATER METROWEST – UNEMPLOYMENT



Source: MA EOLWD and MERC

- Greater MetroWest (GMW) had a total labor force of 159,208 individuals in February 2016.
- The nine communities which make up MetroWest (MW) accounted for 107,534 individuals or almost two-thirds of the total labor force in GMW. The four communities which make up the Greater Marlborough Region (GMR), on the other hand, accounted for 51,674 individuals or about one-third of GMW's total labor force.
- Framingham led with the largest portion of GMW's labor force, 24.5% or 38,933 individuals. Marlborough and Natick were the second- and third-largest contributors to the region's labor force with 14.5% or 23,095 individuals and 12.4% or 19,737 individuals, respectively. Together, these three communities accounted for over half of the region's total labor force.
- Sherborn was the smallest contributor to GMW's total labor force with only 1.4% or 2,165 individuals. Southborough followed Sherborn with 3.3% or 5,263 persons, and then came Wayland with 4.2% or 6,744 persons. These three communities together accounted for less than 9% of the region's total labor force.

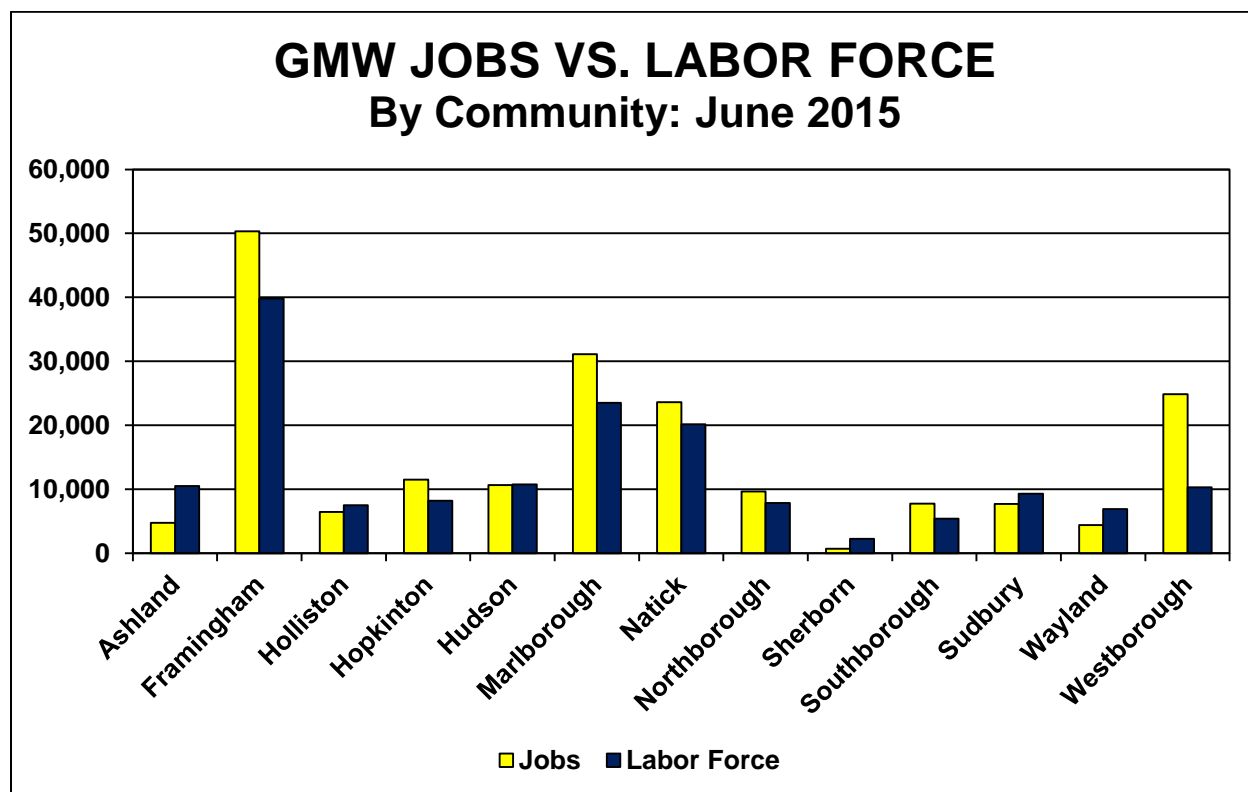
GREATER METROWEST – UNEMPLOYMENT



Source: MA EOLWD and MERC

- Greater MetroWest's (GMW) total number of jobs, in green, denotes the total number of jobs in establishments located in the region. GMW's total number of individuals in the labor force, in purple, is comprised of residents in the region who currently are employed or unemployed.
- From 1990 through 2014, the total number of jobs reached its peak in 2014 with 185,285 jobs, and the number of individuals in the labor force reached its peak in the same year with 159,345 individuals. In 2014, there were 25,940 more jobs than individuals in the labor force.
- Between 1990 and 1996, the number of jobs was less than the number of individuals in the labor force, implying that the region was a net exporter of labor. During this period, the greatest difference between the number of jobs and the number of individuals in the labor force was 8,466 in 1991.
- Between 1997 and 2014, the number of jobs exceeded the number of individuals in the labor force. This implies that the region became a net importer of labor. Throughout this period, the largest gap between the total number of jobs and the total labor force was recorded in 2008 with 26,123 more jobs than workers.

GREATER METROWEST – UNEMPLOYMENT



Source: MA EOLWD and MERC

- Jobs, shown in yellow, refer to the total number of jobs in the establishments located within each community in Greater MetroWest (GMW). The labor force, shown in blue, consists of the residents in each community in the region who currently are employed or unemployed.
- In June 2015, GMW had a total of 193,201 jobs. Framingham had the highest number of jobs available during this month, with 50,302 jobs. Marlborough followed Framingham with 31,110 jobs, and then came Westborough and Natick with 24,828 and 23,595 jobs, respectively. These four communities combined made up two-thirds of the total available jobs in the region.
- Framingham, Hopkinton, Marlborough, Natick, Northborough, Southborough, and Westborough had more jobs available than individuals in the labor force, indicating that these seven communities were net importers of labor.
- The remaining six communities, however, had more individuals in the labor force than number of jobs available, indicating that these six communities were net exporters of labor.

GREATER METROWEST – EMPLOYMENT

EMPLOYMENT¹

The MetroWest Economic Research Center (MERC) at Framingham State University maintains an employment database for the MetroWest CCSA™, the Greater Marlborough Region, the South Shore CCSA™, the 495/MetroWest Region, the Blackstone Valley Region, and other substate economies. MERC has documented major changes in regional employment, industrial structure and wages since 1980. For this 2016 publication MERC has developed data for the Greater MetroWest Region (GMW).

MERC research relies on the Massachusetts Executive Office of Labor and Workforce Development (MA EOLWD), ES-202 series to develop time series for employment, payroll, wages and establishments in the Greater MetroWest Region. ES-202 data are derived from quarterly census reports filed by all employers subject to unemployment laws, both state and federal, and cover 98% of all U.S. jobs. More than 150,000 MA employers subject to unemployment compensation laws participate in the quarterly census.

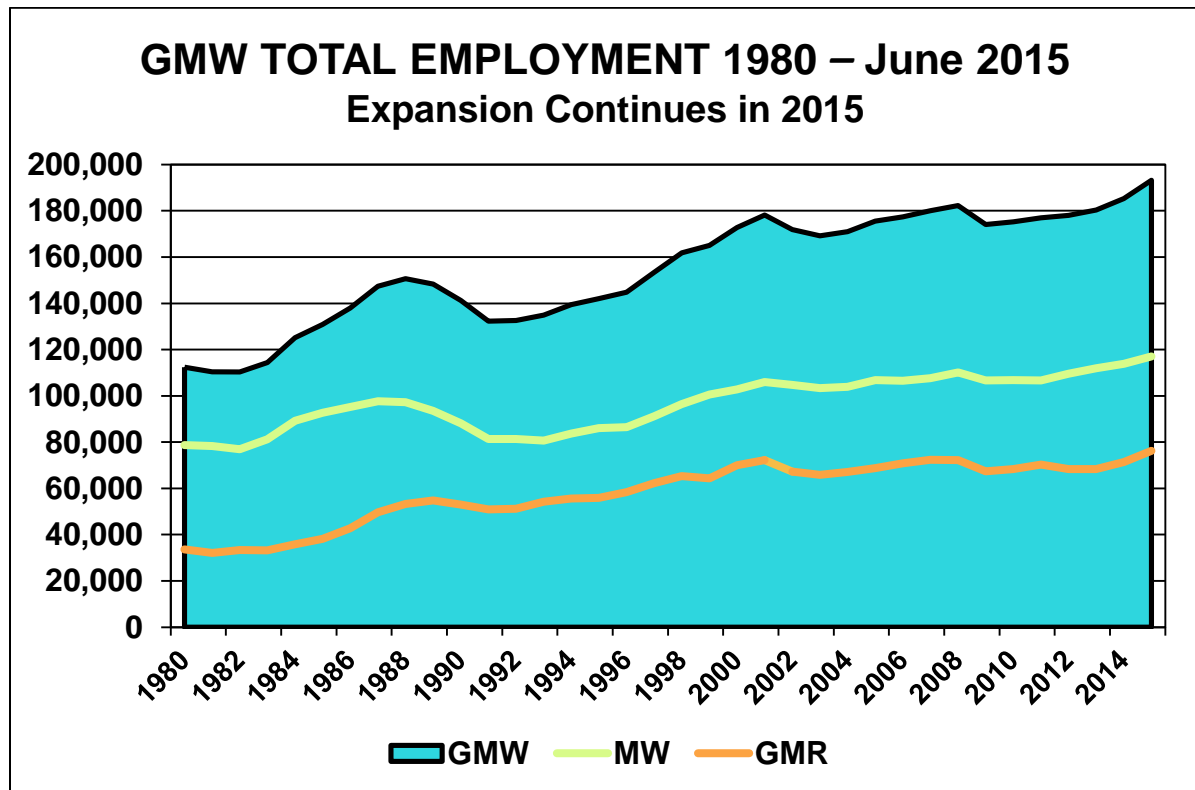
For the first time in 2002, employers were classified by industry solely in accordance with the North American Industry Classification System (NAICS). NAICS groups together establishments that use the same processes to produce goods and services. NAICS has permanently replaced the Standard Industrial Classification (SIC) system, which was in use for the previous 70 years. Because the criteria for the classification of establishments differs between NAICS and the SIC system, time series data for industrial sectors prior to 2001 cannot be provided. For a more detailed description of NAICS categories as used in this publication, please see the Appendix.

In the ES-202 series **employment** refers to the count of all persons on the payroll of establishments subject to the law, who worked full-time or part-time within the 13 communities of Greater MetroWest. Annual **payroll** includes all wages and salaries paid to covered employees including commissions, bonuses, stock options, overtime and sick pay. The **average annual wage** is derived by dividing the gross annual payroll by the average annual employment. **Establishment** or place of work refers to an economic unit that produces goods or services at a single location and is engaged in one type of economic activity. A firm therefore may have one or more establishments where work is produced. More complete definitions are included in the Appendix.

Please note that all data and analysis included in this section (*Greater MetroWest - Employment*) refer to business establishments, *not* residents, located within the 13 communities. Please also note that totals may not always add due to rounding.

¹The definitions of terms are based on those in the *Handbook of U.S. Labor Statistics* (1998), *Employment and Wages in Massachusetts and the Major Metropolitan Statistical Areas Annual Averages 1993-1996*, the *North American Industry Classification System - United States, 2002*, www.bls.gov/cew, and MA EOLWD, Employment and Wages by Industry and Area (ES202).

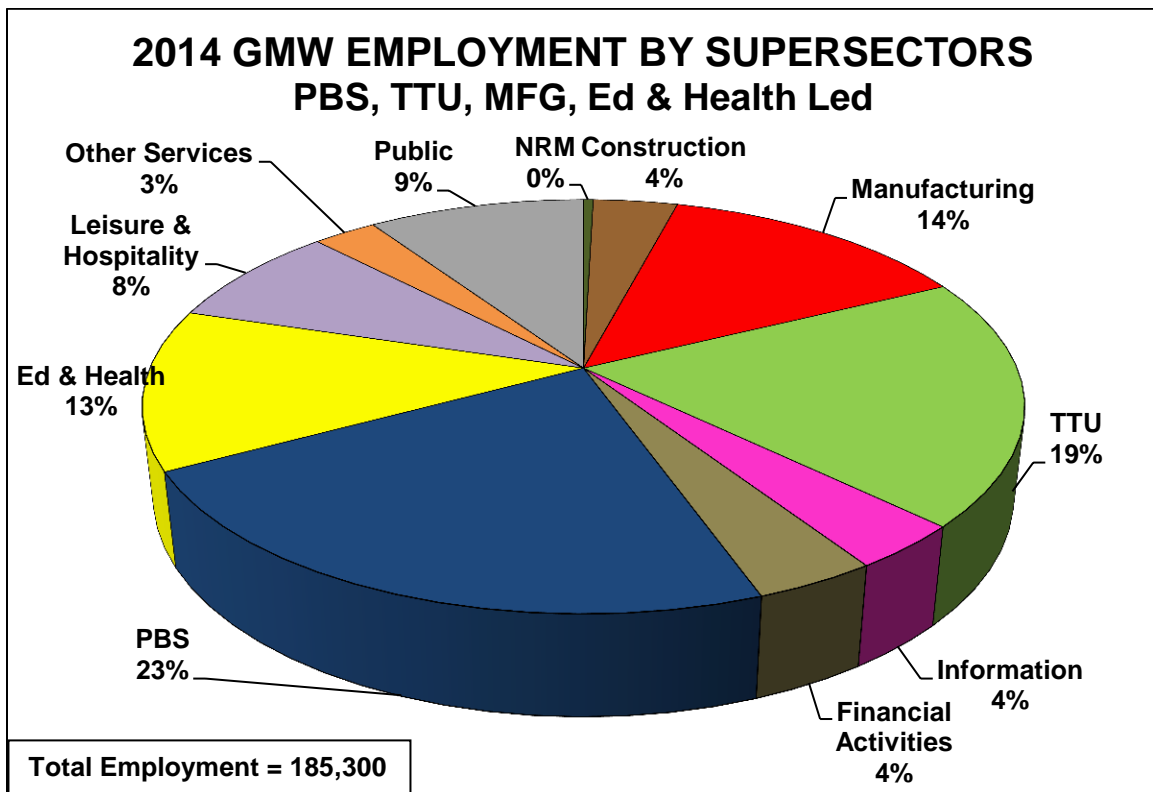
GREATER METROWEST – EMPLOYMENT



Source: MA EOLWD and MERC

- In 2014 Greater MetroWest (GMW) annual employment totaled a record 185,300 jobs, an increase of 5,000 jobs or 2.7%, surpassing its previous employment peak in 2008.
- MetroWest (MW) employment totaled 113,900 jobs in 2014, up 1.8% from 2013; Greater Marlborough (GMR) employment totaled 71,400 jobs in 2014, a 4.3% gain from 2013.
- GMW, MW, and GMR all reached new peaks in monthly employment in June 2015. GMW recorded 193,200 jobs, up 4,600 jobs from June 2014. MW reported 117,000 jobs, 1,100 more jobs than in June 2014; and GMR totaled 76,200 jobs, 3,400 jobs higher than in June 2014.
- Since the trough of the Great Recession in 2009, GMW added 11,200 jobs, a gain of 6.4%, as employment rose from 174,100 in 2009 to 185,300 in 2014.
- In 1980 GMW's annual employment totaled 112,400 jobs; MW contributed 70% and GMR, 30%. By 2014 MW accounted for 61.5% of GMW's annual employment, while GMR produced the remaining 38.5%.
- GMW experienced four recessions from 1980 to 2014, occurring in 1982, 1991, 2003, and 2009. Peaks occurred in 1988, 2001, and 2008.

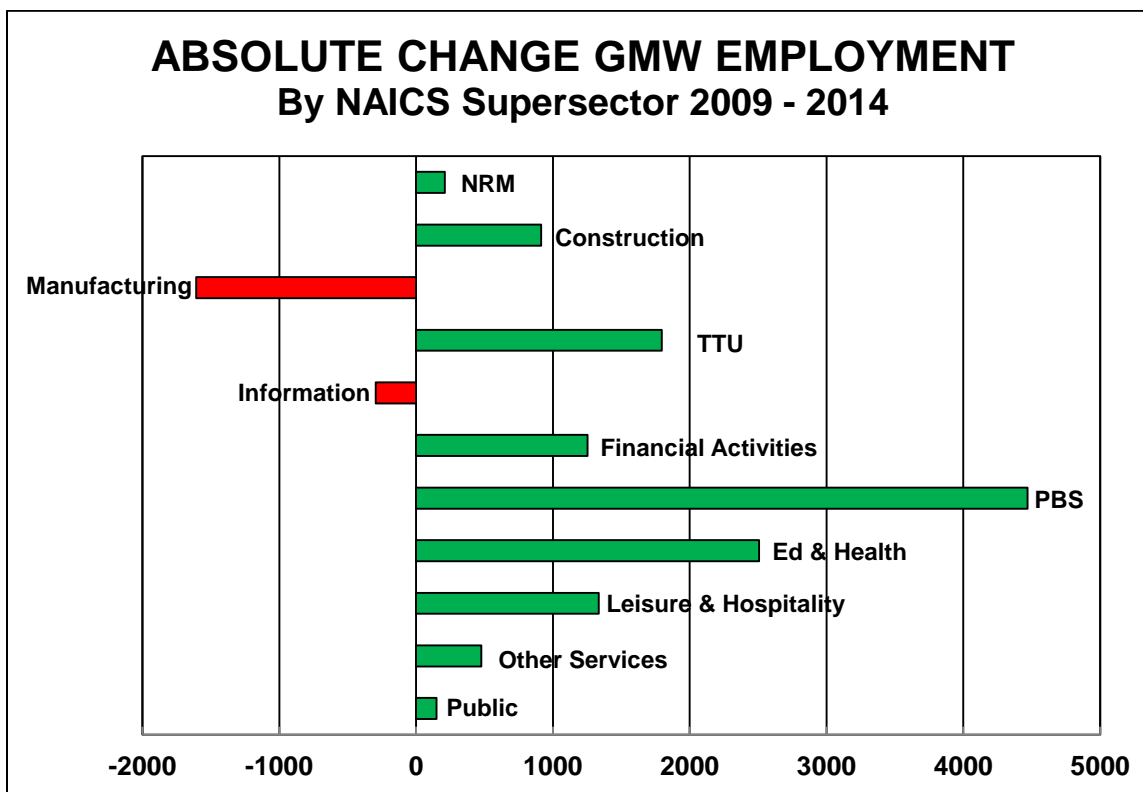
GREATER METROWEST – EMPLOYMENT



Source: MA EOLWD and MERC

- In 2014 Greater MetroWest (GMW) employment reached a record 185,300 jobs, up 2.7% since 2013.
- Among all NAICS supersectors Professional and Business Services (PBS) produced the largest share of GMW employment at 42,100 jobs or 23% of the regional total. Trade, Transportation and Utilities (TTU) followed with 36,000 jobs or 19%. Manufacturing produced the third largest share at 25,300 jobs or 14%, followed by Education and Health Services (Ed & Health) with 23,300 or 13%.
- Together four supersectors: PBS, TTU, Manufacturing and Ed & Health, combined to generate 126,600 jobs, two-thirds of regional employment.
- Two supersectors provided between 5% and 10% of regional employment: Public at 9% or 17,300 jobs and Leisure and Hospitality at 8% or 14,900 jobs.
- The remaining supersectors each contributed less than 5% of regional employment.
- Over 90% of all GMW employment is in the private sector; 9% is in the public sector.

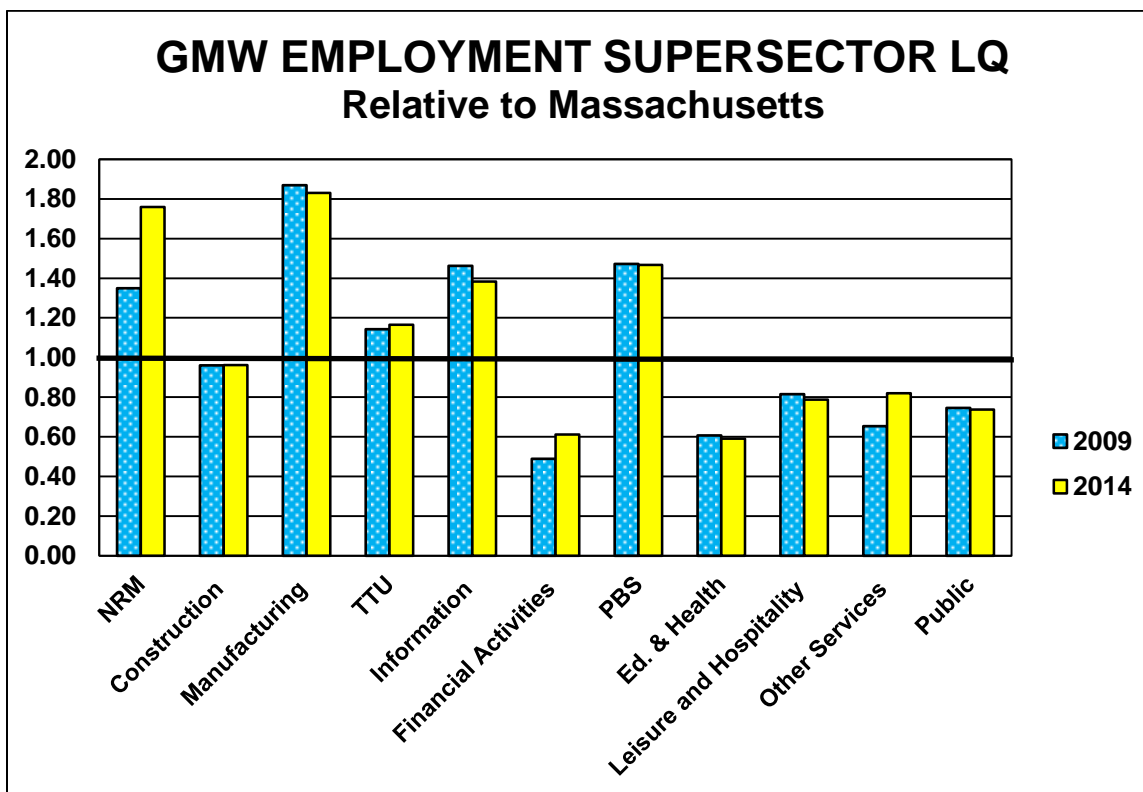
GREATER METROWEST – EMPLOYMENT



Source: MA EOLWD and MERC

- Total employment in Greater MetroWest (GMW) rose from 174,100 in 2009 to 185,300 in 2014, an increase of 11,200 jobs or 6.4%.
- From 2009 to 2014 nine NAICS supersectors gained employment. However the two highest wage supersectors, Manufacturing and Information, lost jobs.
- Among all supersectors Professional and Business Services (PBS) generated the largest absolute gain adding 4,470 jobs or 11.9%. Education and Health Services provided the second highest absolute gain of 2,510 jobs or 12.1%.
- Trade, Transportation & Utilities provided the next largest absolute gain adding 1,800 jobs or 5.2%, followed by Leisure & Hospitality with 1,340 jobs or 9.8% and Financial Activities gaining 1,250 jobs or 21.6%.
- Manufacturing had the largest absolute and percentage decline, losing 1,610 jobs or -6.0%. The only other supersector to experience an absolute and percentage decline was Information (-300 jobs or -4.3%).

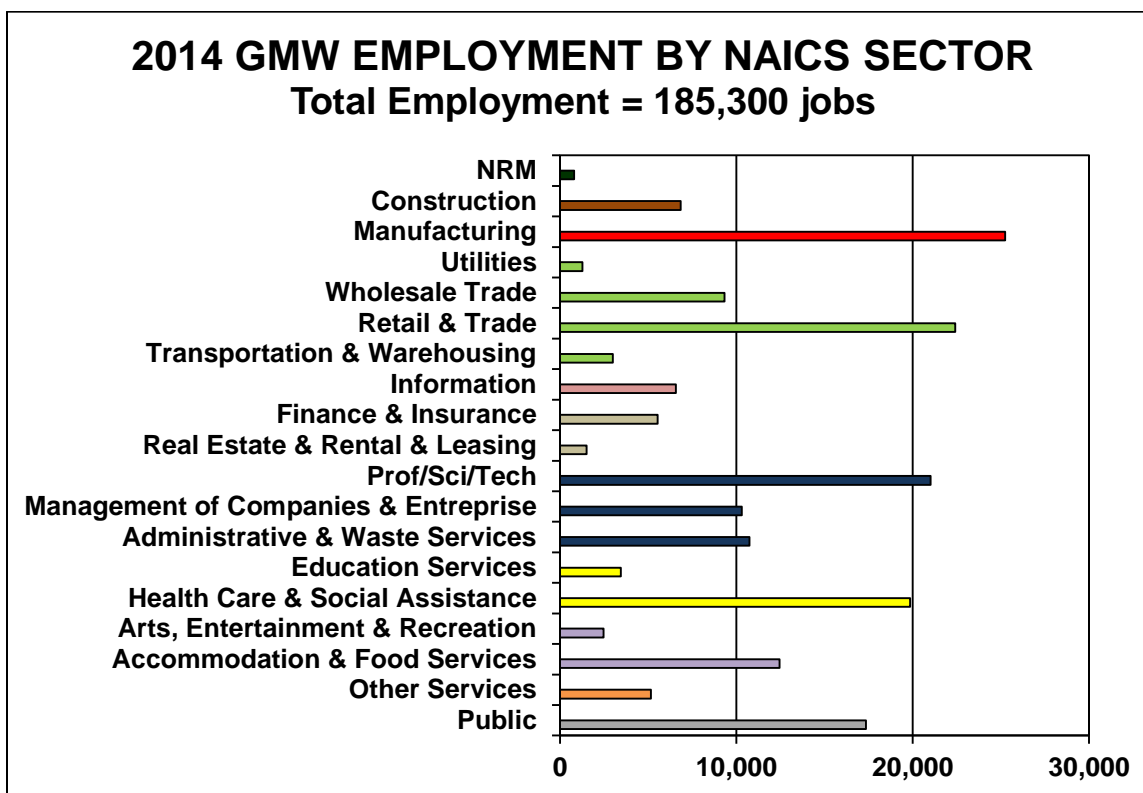
GREATER METROWEST – EMPLOYMENT



Source: MA EOLWD and MERC

- Location quotients (LQ) compare the regional industry share of total private employment to the state share for the same industry in the same year. A regional LQ greater than 1.0 shows an industry concentration higher than that of the state.
- In both 2009 and 2014 five Greater MetroWest (GMW) supersectors had LQs exceeding 1.0: Manufacturing, Natural Resources & Mining (NRM), Professional Business Services (PBS), Information, and Trade, Transportation & Utilities (TTU).
- In both 2009 and 2014 Manufacturing achieved the highest LQ with 1.87 and 1.83, or an 87% and 83% greater concentration of Manufacturing jobs in GMW than existed statewide.
- The region's three largest employment supersectors: Manufacturing, PBS and TTU all had high LQs, which confirm the importance of these supersectors to the GMW economy.
- A regional LQ less than 1.0 shows an industry concentration lower than that of the state. In both 2009 and 2014 GMW had six supersectors with LQs less than 1.0: Construction, Financial Activities, Education & Health Services, Leisure & Hospitality, Other Services and Public.

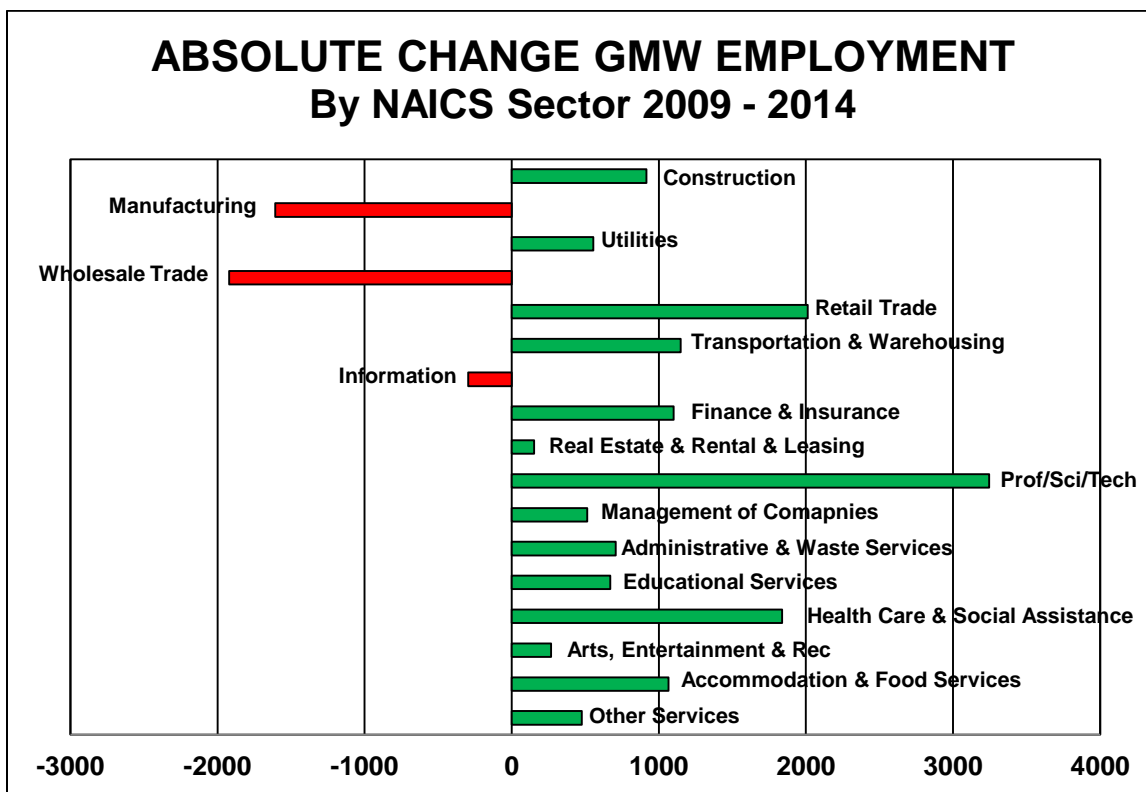
GREATER METROWEST – EMPLOYMENT



Source: MA EOLWD and MERC

- In 2014 Greater MetroWest (GMW) employment totaled 185,300 jobs, up 2.7% from 2013.
- Five NAICS sectors: Manufacturing, Retail Trade, Professional, Scientific and Technical Services (Prof/Sci/Tech), Health Care & Social Assistance and Public together produced 105,900 jobs or 57% of total GMW employment.
- The largest sector, Manufacturing, supplied 25,300 jobs or 14% of GMW jobs. The second largest sector, Retail Trade, produced 22,400 jobs or 12%, followed by Prof/Sci/Tech at 21,000 jobs or 11%, Health Care & Social Assistance at 19,900 jobs or 11% and Public with 17,300 jobs or 9%.
- Four sectors generated between 9,000 and 13,000 jobs: Accommodation & Food Services (12,400 jobs or 7%), Administrative & Waste Services (10,700 jobs or 6%), Management of Companies & Enterprise (10,300 jobs or 6%) and Wholesale Trade (9,300 jobs or 5%).
- The remaining ten sectors each produced fewer than 7,000 jobs.

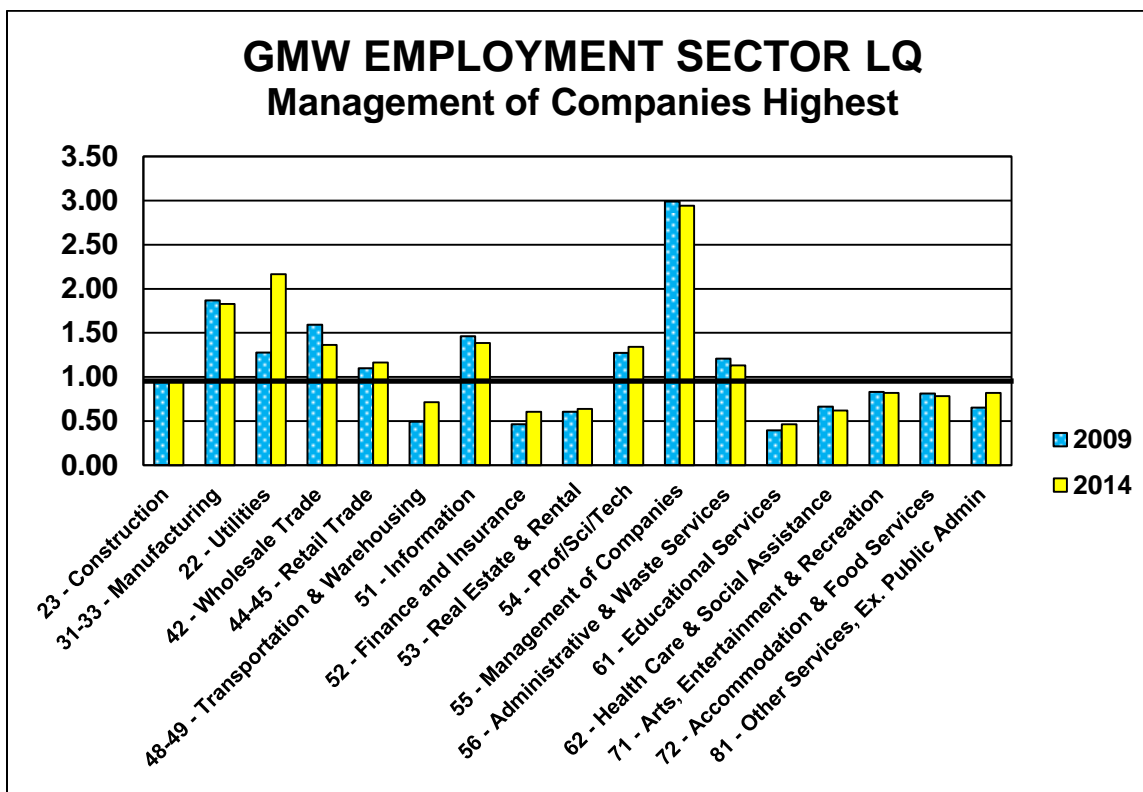
GREATER METROWEST – EMPLOYMENT



Source: MA EOLWD and MERC

- Total employment in Greater MetroWest (GMW) rose from 174,100 in 2009 to 185,300 in 2014, an increase of 11,200 jobs or 6.4%.
- From 2009 to 2014, six NAICS sectors increased employment by more than 1,000 jobs: Professional, Scientific and Technical Services (Prof/Sci/Tech), Retail Trade, Health Care & Social Assistance, Transportation & Warehousing, Finance & Insurance and Accommodation & Food Services.
- Prof/Sci/Tech led all NAICS sectors up 18% with an absolute gain of 3,250 jobs, followed by Retail Trade, up 2,010 jobs (10%), and Health Care & Social Assistance, up 1,840 jobs (10%). Transportation & Warehousing added 1,150 jobs (62%), followed by Finance & Insurance up 1,100 jobs (25%) and Accommodation & Food Services, up 1,070 jobs (9%).
- Employment declined in three high wage sectors. Wholesale Trade suffered the largest absolute and percentage decline, losing 1,920 jobs or -17%. Manufacturing lost 1,610 jobs or -6%, and Information lost 300 jobs or -4%.

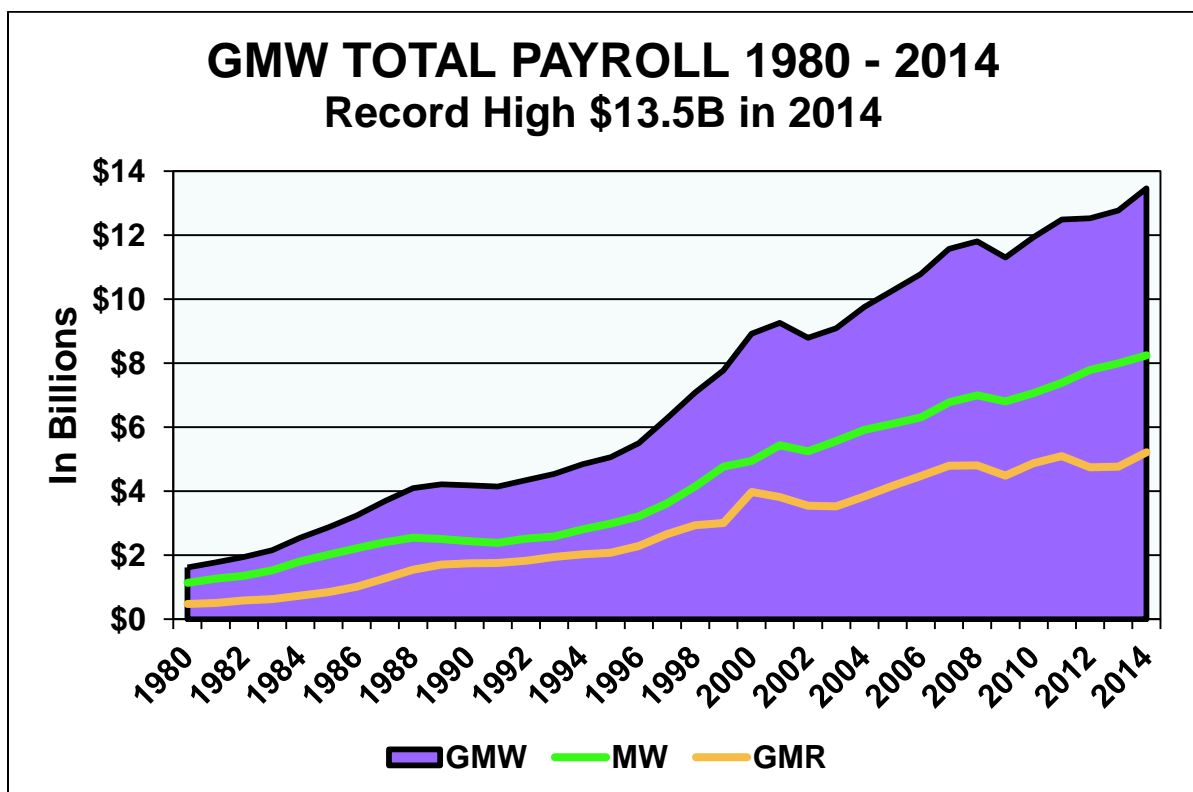
GREATER METROWEST – EMPLOYMENT



Source: MA EOLWD and MERC

- Location Quotients (LQ) compare the regional industry share of total private employment to the state share for the same industry sector in the same year. Industry supersectors are subsidized into smaller sectors for this analysis. A regional LQ greater than 1.0 shows an industry concentration higher than that of the state.
- In both 2009 and 2014 eight Greater MetroWest (GMW) NAICS sectors had LQs exceeding 1.0: Management of Companies, Manufacturing, Information, Wholesale Trade, Utilities, Retail Trade, Professional Scientific & Technical Services (Prof/Sci/Tech) and Administrative & Waste Services.
- Management of Companies had an exceptionally high concentration of employment in GMW, almost 3 times the state in both years.
- Seven sectors had an increase in LQ from 2009 to 2014: Utilities, Retail Trade, Transportation & Warehousing, Finance & Insurance, Real Estate & Rental & Leasing, Prof/Sci/Tech, Educational Services and Other Services.
- A regional LQ less than 1.0 shows an industry concentration in GMW lower than that of the state. In 2009 and 2014 GMW had nine sectors with LQs less than 1.0, including Health Care & Social Assistance, the fourth largest sector in terms of employment.

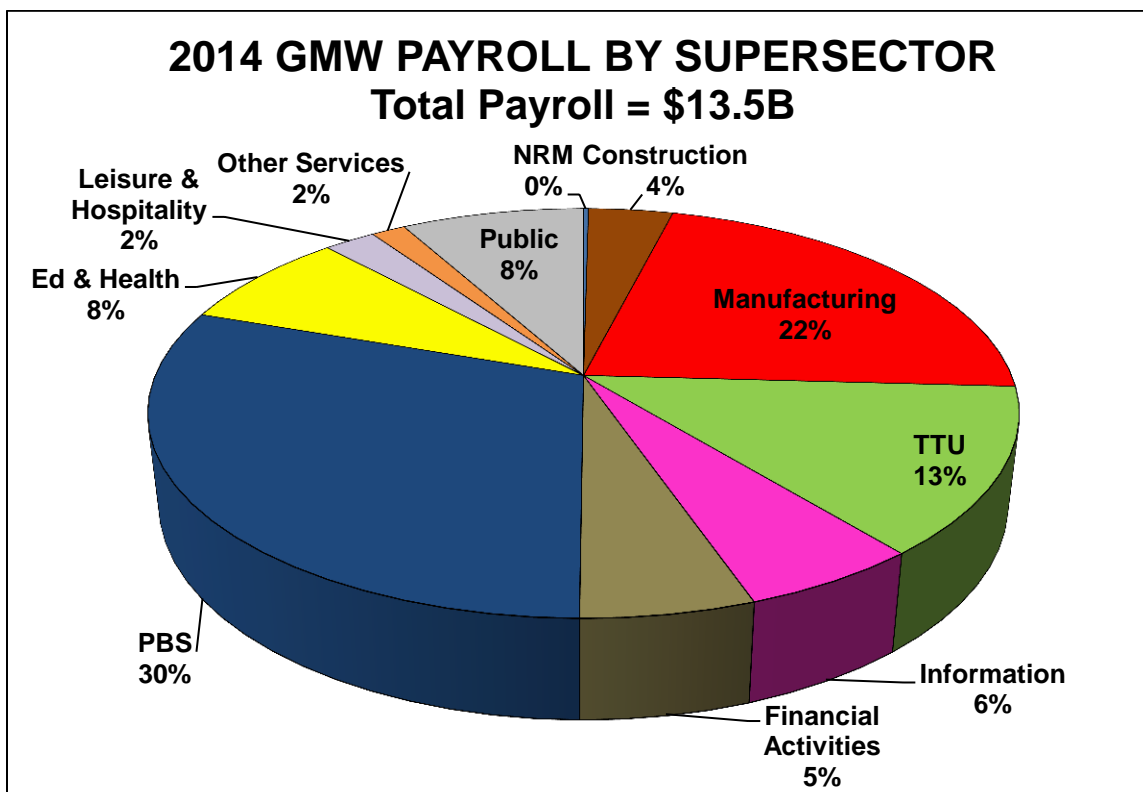
GREATER METROWEST – EMPLOYMENT



Source: MA EOLWD and MERC

- The Greater MetroWest (GMW) payroll reached a historical high of \$13.5 billion in 2014, up \$693 million or 5.4% from 2013.
- GMW payroll totaled \$1.6 billion in 1980. Since then the regional payroll increased eightfold to \$13.5 billion. Despite four recessions during this period, total payroll dipped in only four years: 1990, 1991, 2002, and 2009.
- In 1980 MetroWest (MW) total payroll was \$1.2 billion. MW total payroll rose sevenfold to a record \$8.2 billion in 2014, up 3.1% from 2013. MW experienced four recessions since 1980 with payroll declining in 1989-91, 2002 and 2009.
- Greater Marlborough's (GMR) total payroll rose eleven-fold from \$484 million in 1980 to a record \$5.2 billion in 2014, up 9.4% from 2013. Despite four recessions over the past 35 years, GMR payroll declined in only 2001-03, 2009, and 2012.
- In 1980 MW generated 70% of GMW's total payroll, and GMR produced the remaining 30%. By 2014 MW's share of GMW's total payroll had declined to 61%, while GMR's share had climbed to 39%.

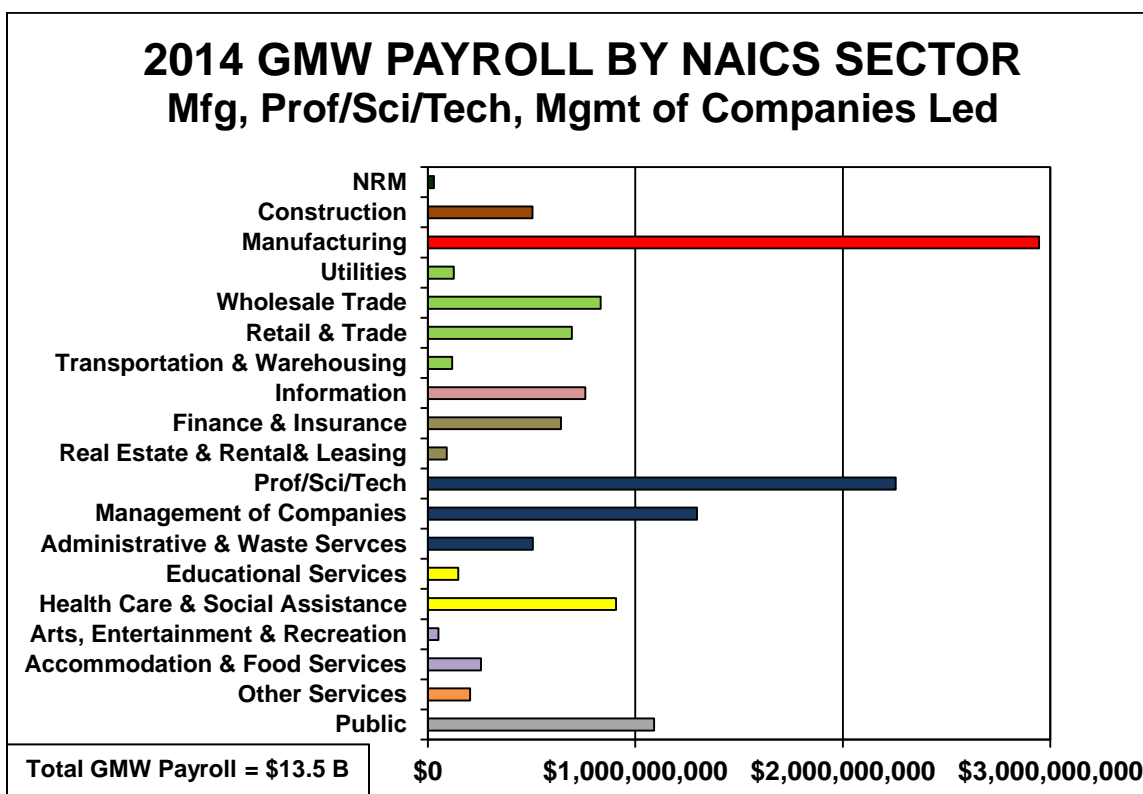
GREATER METROWEST – EMPLOYMENT



Source: MA EOLWD and MERC

- In 2014 Greater MetroWest (GMW) total payroll reached a historical high of \$13.5 billion, increasing by \$693 million or 5.4% from 2013.
- Three supersectors dominated GMW payroll in 2014. Professional and Business Services (PBS) generated the largest share with \$4.1 billion or 30% of regional payroll. Manufacturing produced \$2.9 billion or 22% of regional payroll. Trade, Transportation & Utilities (TTU) followed with \$1.8 billion or 13% of GMW payroll. Together these three supersectors generated \$8.8 billion or 65% of regional payroll.
- Education & Health Services, with 13% of GMW employment, contributed a much smaller share of regional payroll at 8%. In contrast Manufacturing, with 14% of GMW employment, generated 22% of GMW payroll.
- Four supersectors provided between 5% and 10% of GMW payroll: Public (8%), Education & Health Services (8%), Information (6%) and Financial Activities (5%).
- The remaining supersectors: Construction, Leisure & Hospitality, Other Services and Natural Resources & Mining each contributed less than 5% of regional payroll.

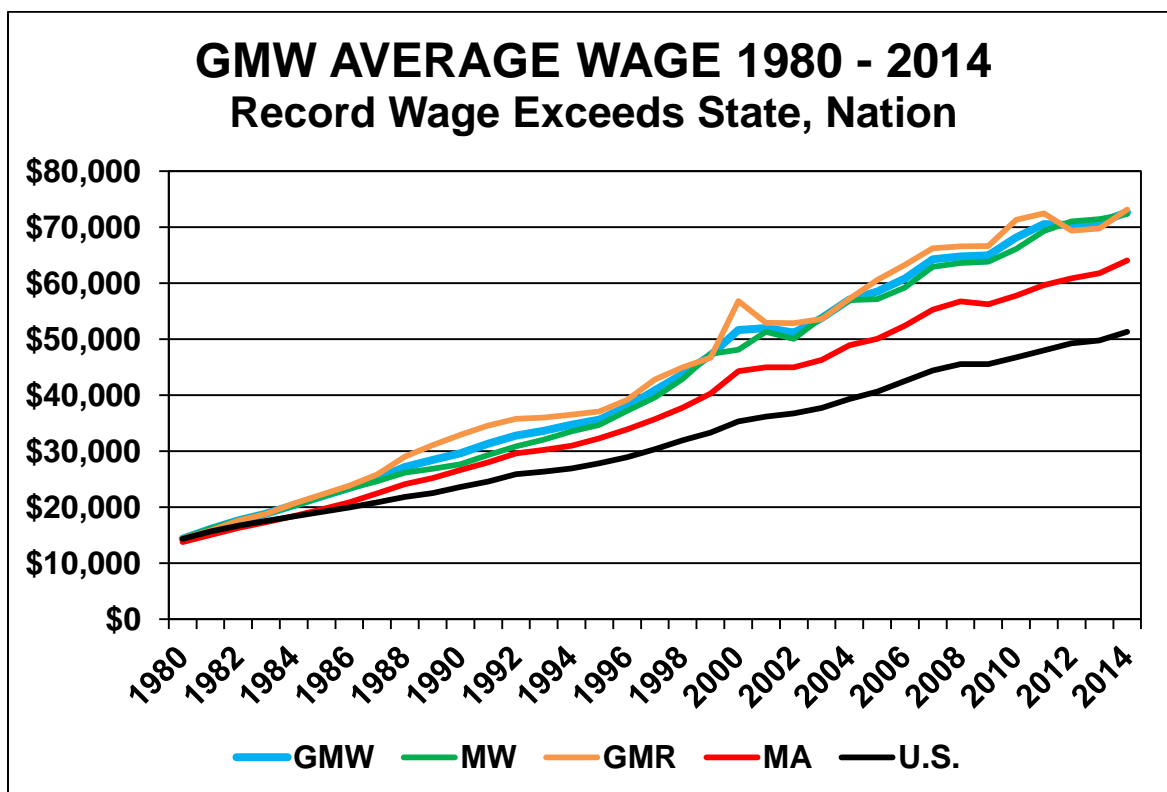
GREATER METROWEST – EMPLOYMENT



Source: MA EOLWD and MERC

- In 2014 payroll in Greater MetroWest (GMW) totaled \$13.5 billion, up 5.4% from 2013.
- Among NAICS sectors, Manufacturing generated the largest share of payroll in GMW at \$2.9 billion or 22% of regional payroll. Professional, Scientific & Technical Services (Prof/Sci/Tech) produced the second largest share at \$2.3 billion or 17% of regional payroll, followed by Management of Companies at \$1.3 billion or 10% and Public at \$1.1 billion or 8%.
- The top four payroll sectors together produced a combined payroll of \$7.6 billion or 56% of the region's total payroll.
- Seven sectors: Health Care & Social Assistance, Wholesale Trade, Information, Retail Trade, Finance & Insurance, Construction, Administration & Waste Services each generated a payroll between \$500 million and \$1 billion.
- The remaining eight sectors each contributed less than \$500 million in payroll.

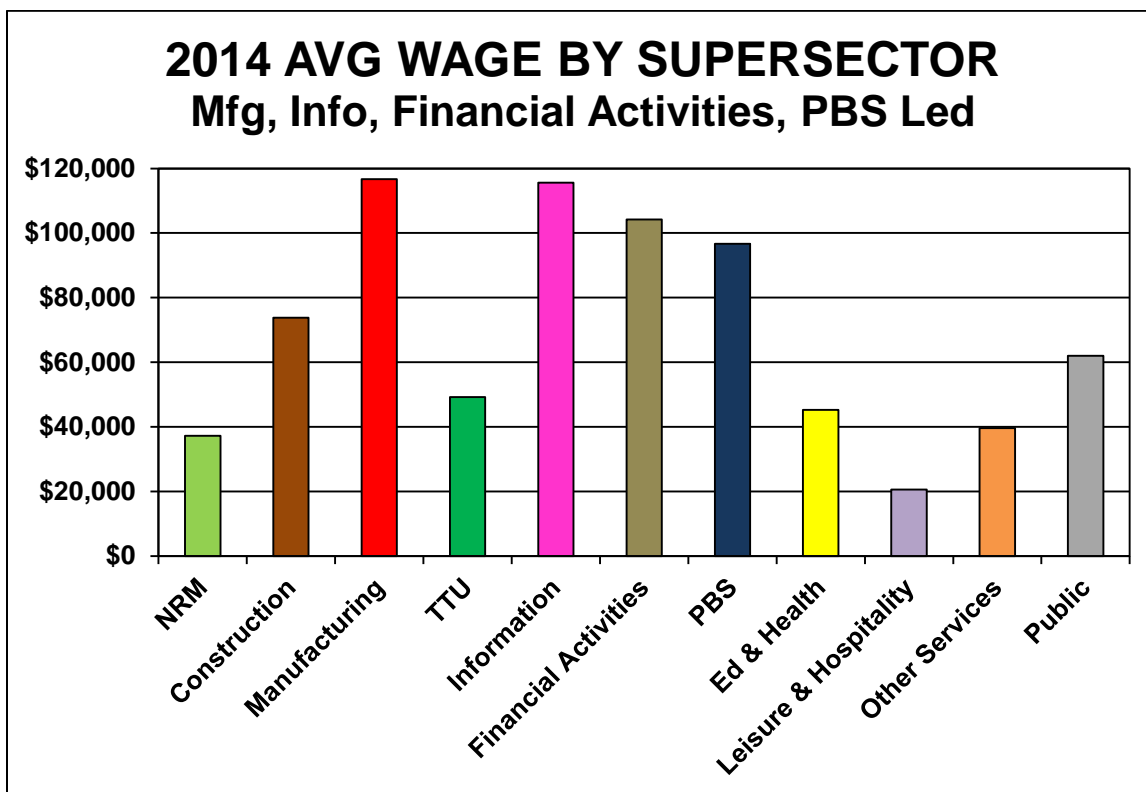
GREATER METROWEST – EMPLOYMENT



Source: MA EOLWD and MERC

- Since 1980 the average annual wage rose steadily in Greater MetroWest (GMW), GMW's two sub-regions, MetroWest (MW) and Greater Marlborough Region (GMR), Massachusetts and the United States.
- In 1980 all five geographies offered similar average annual wages between \$13,800 and \$14,400; over the next 35 years, the gap between them widened.
- By 2014 the GMW average wage had climbed to a record high of \$72,700, up 2.6% from \$70,800 in 2013. The 2014 GMW average annual wage exceeded both the Massachusetts average wage of \$64,100 by 13.4%, and the U.S. average wage of \$51,400 by 41.4%.
- In 2014 both MW and GMR reported historical highs in average annual wage. MW's average wage reached a record \$72,400, up 1.3% from \$71,500 in 2013. GMR's 2014 record average wage was \$73,200, up 4.9% from \$69,800 in 2013.
- GMW's average wage increased 405% since 1980, whereas MW's increased by 403% and GMR's by 408%. The Massachusetts' average wage increased by 364%, and the nation's by 257%.

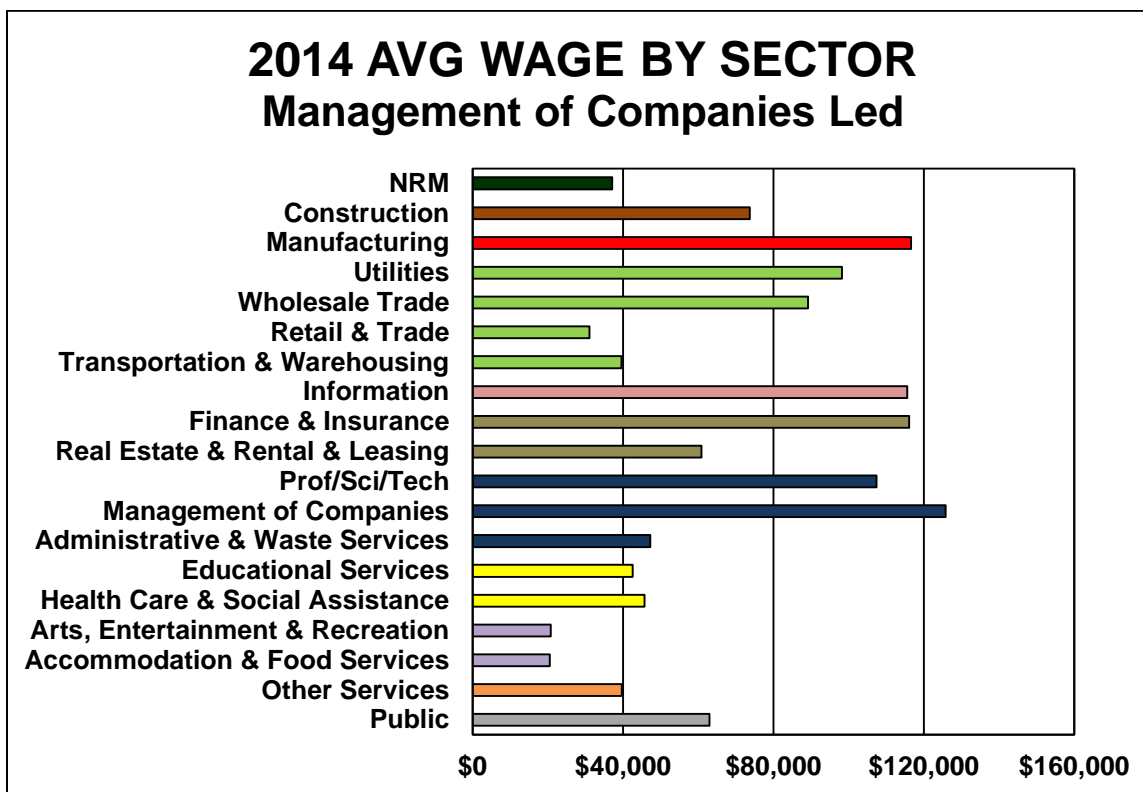
GREATER METROWEST – EMPLOYMENT



Source: MA EOLWD and MERC

- In 2014 the Greater MetroWest (GMW) average annual wage was \$72,700, up \$1,900 or 2.6% from 2013.
- Among all supersectors Manufacturing provided the highest average annual wage in GMW at \$116,600. Information offered the region's second highest wage at \$115,600, followed by Financial Activities (\$104,300), Professional and Business Services (\$96,600) and Construction (\$73,700).
- Three supersectors produced average annual wages between \$45,000 and \$63,000: Public (\$63,000), Trade Transportation & Utilities (TTU) (\$49,200) and Education and Health Services (\$45,200).
- Among all supersectors Leisure & Hospitality posted the lowest average annual wage, \$20,600, in the region. Natural Resources & Mining (NRM) offered the next lowest wage, \$37,200, followed by Other Services at \$39,700.
- In 2014 the average Manufacturing wage was over five times higher than the average wage in Leisure & Hospitality.

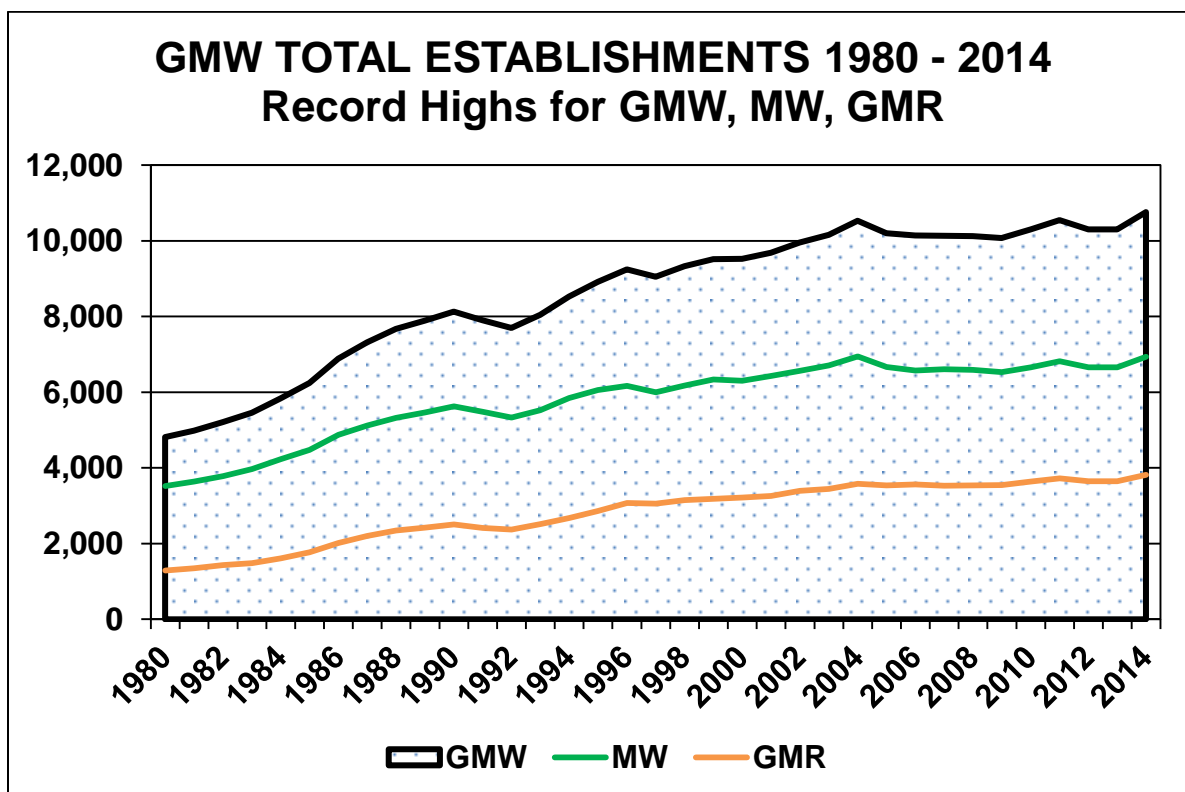
GREATER METROWEST – EMPLOYMENT



Source: MA EOLWD and MERC

- In 2014 the average annual wage in Greater MetroWest (GMW) was \$72,700.
- Among all NAICS sectors Management of Companies offered the highest average annual wage in GMW at \$125,800. Four other sectors generated average wages exceeding \$100,000: Manufacturing (\$116,600), Finance & Insurance (\$116,100), Information (\$115,600) and Professional, Scientific & Technical Services (Prof/Sci/Tech) (\$107,500).
- Five sectors recorded an average annual wage between \$60,000 and \$100,000: Utilities (\$98,200), Wholesale Trade (\$89,200), Construction (\$73,700), Public (\$63,000) and Real Estate & Rental & Leasing (\$60,900).
- Three sectors produced an average annual wage between \$40,000 and \$48,000: Administrative & Waste Services (\$47,300), Health Care & Social Assistance (\$45,700) and Educational Services (\$42,600).
- The remaining six sectors generated average annual wages less than \$40,000: Other Services, Transportation & Warehousing, Natural Resources & Mining, Retail Trade, Arts, Entertainment & Recreation and Accommodation & Food Services.

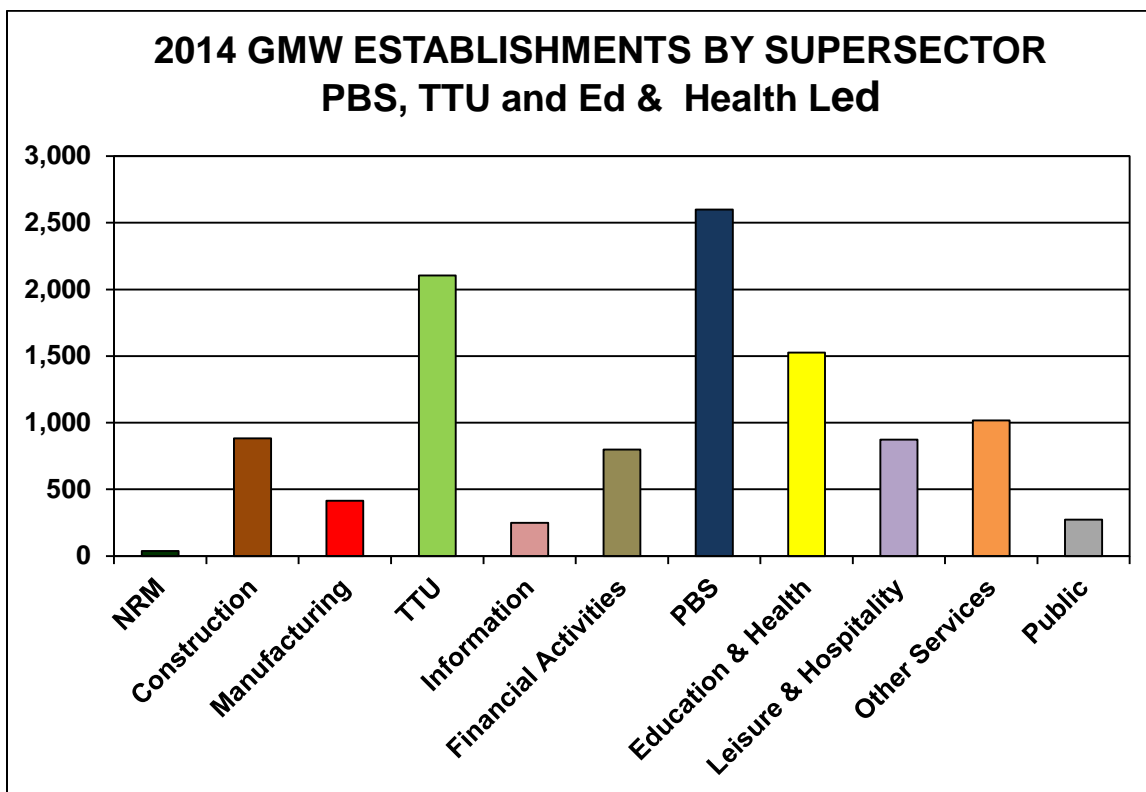
GREATER METROWEST – EMPLOYMENT



Source: MA EOLWD and MERC

- In 2014 Greater MetroWest (GMW) had a record total of 10,760 establishments or separate places of work, up 455 or 4.4% from 2013. MetroWest (MW) and Greater Marlborough (GMR), which comprise GMW, had 6,940 and 3,830 establishments, respectively, in 2014. This represented a gain of 4.2% for MW and 5% for GMR from 2013.
- GMW's total establishments rose from 4,820 in 1980 to 10,760 in 2014, a gain of 123%. From 1980 until 2004 the region saw a steady increase in total establishments with the exceptions of 1990-92 and 1997. The number of establishments then remained stable from 2004-13 with 2014 showing the first major gain in a decade.
- In 1980 MW was home to 3,525 establishments and GMR, 1,290 establishments. Since 1980 the number of MW establishments has risen by 97% and the number of GMR establishments rose by 196%.
- In 1980 MW accounted for 73% of GMW's total establishments, while GMR accounted for 27%. By 2014 MW made up 64% of GMW's total establishments, while GMR made up for 36%.

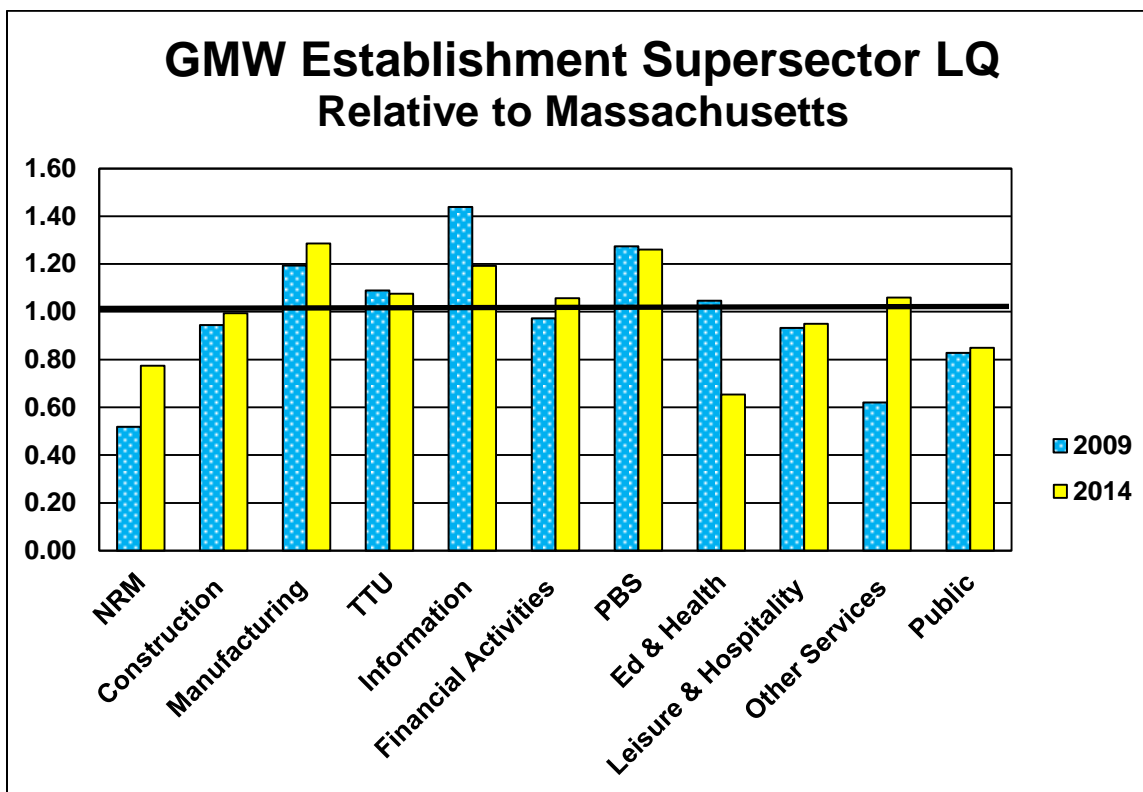
GREATER METROWEST – EMPLOYMENT



Source: MA EOLWD and MERC

- In 2014 the total number of establishments or separate places of work in Greater MetroWest (GMW) totaled 10,760.
- Professional and Business Services (PBS) generated the highest number of establishments in GMW at 2,600, followed by Trade, Transportation & Utilities (TTU) with 2,100 establishments and Education & Health Services with 1,520 establishments. Combined, these three supersectors produced 58% of all establishments in GMW.
- Four supersectors: Other Services, Construction, Leisure & Hospitality and Financial Activities each reported between 790 and 1,020 establishments. Together these supersectors produced 33% of GMW establishments.
- The remaining four supersectors each contributed fewer than 420 establishments: Manufacturing (415 establishments), Public (270 establishments), Information (250 establishments) and Natural Resources & Mining (40 establishments).

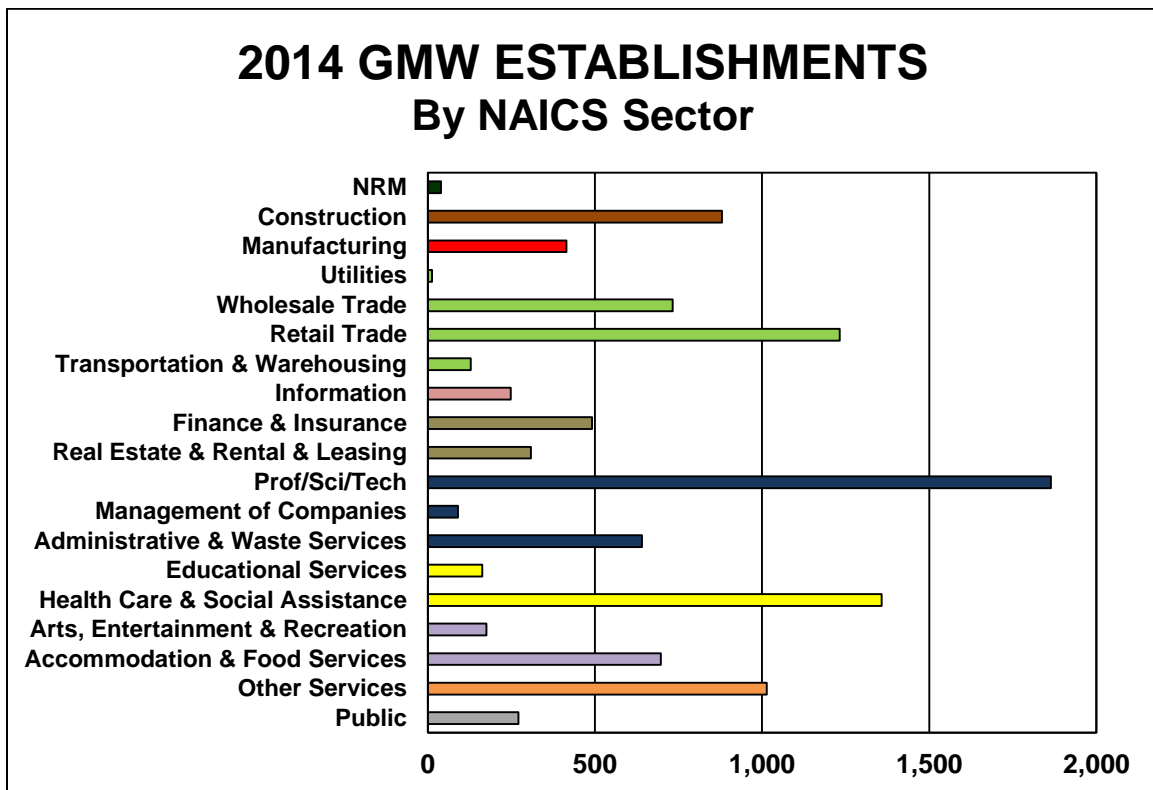
GREATER METROWEST – EMPLOYMENT



Source: MA EOLWD and MERC

- Location quotients (LQ) compare the regional industry share of total private establishments to the state share for the same industry in the same year. A regional LQ greater than 1.0 shows an establishment concentration higher than that of the state.
- Four Greater MetroWest (GMW) supersectors had LQs exceeding 1.0 in both 2009 and 2014: Manufacturing, Trade, Transportation & Utilities (TTU), Information, and Professional Business Services (PBS).
- In 2009 Information achieved the highest LQ with 1.44, or 44% greater concentration of Information establishments in GMW than existed statewide. In 2014 Manufacturing had the highest LQ at 1.29 or a 29% greater concentration of establishments than the state.
- Two supersectors: Financial Activities and Other Services had LQs exceeding 1.0 in 2014 but not in 2009. Education and Health Services had an LQ exceeding 1.0 in 2009 but not 2014, declining from 1.05 to 0.65.
- A regional LQ less than 1.0 shows an establishment concentration lower than that of the state. Four supersectors offered LQs less than 1.0 in 2009 and 2014: Natural Resources & Mining (NRM), Construction, Leisure and Hospitality, and Public.

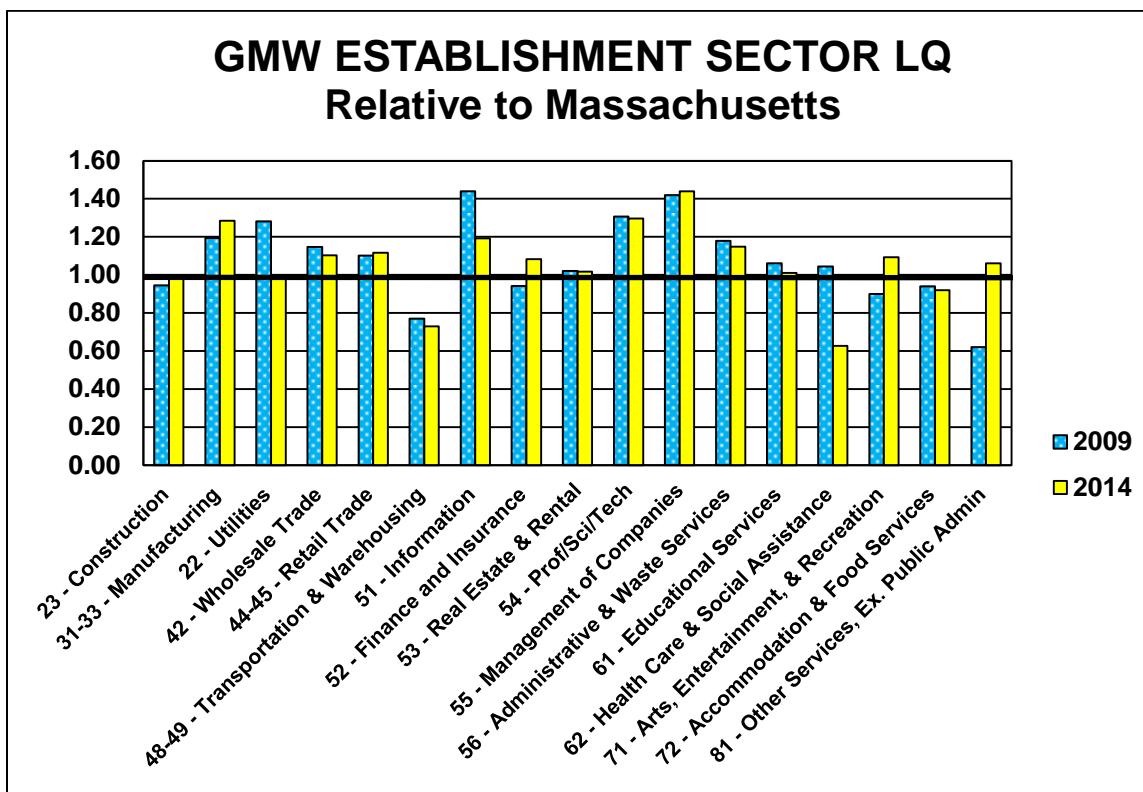
GREATER METROWEST – EMPLOYMENT



Source: MA EOLWD and MERC

- In 2014 the total number of establishments or separate places of work in Greater MetroWest (GMW) totaled 10,760.
- Among NAICS sectors, Professional, Scientific and Technical Services (Prof/Sci/Tech) offered the highest number of establishments in GMW at 1,860, followed by Health Care & Social Assistance at 1,360 establishments, Retail Trade at 1,230 establishments and Other Services at 1,010. Combined, these four sectors produced half of all establishments in GMW.
- Four sectors each reported between 600 and 900 establishments: Construction (880), Wholesale Trade (730), Accommodation & Food Services (700) and Administrative & Waste Services (640).
- Five sectors: Finance & Insurance, Manufacturing, Real Estate & Rental & Leasing, Public and Information each reported between 200 and 500 establishments.
- The remaining six sectors each contributed fewer than 200 establishments.

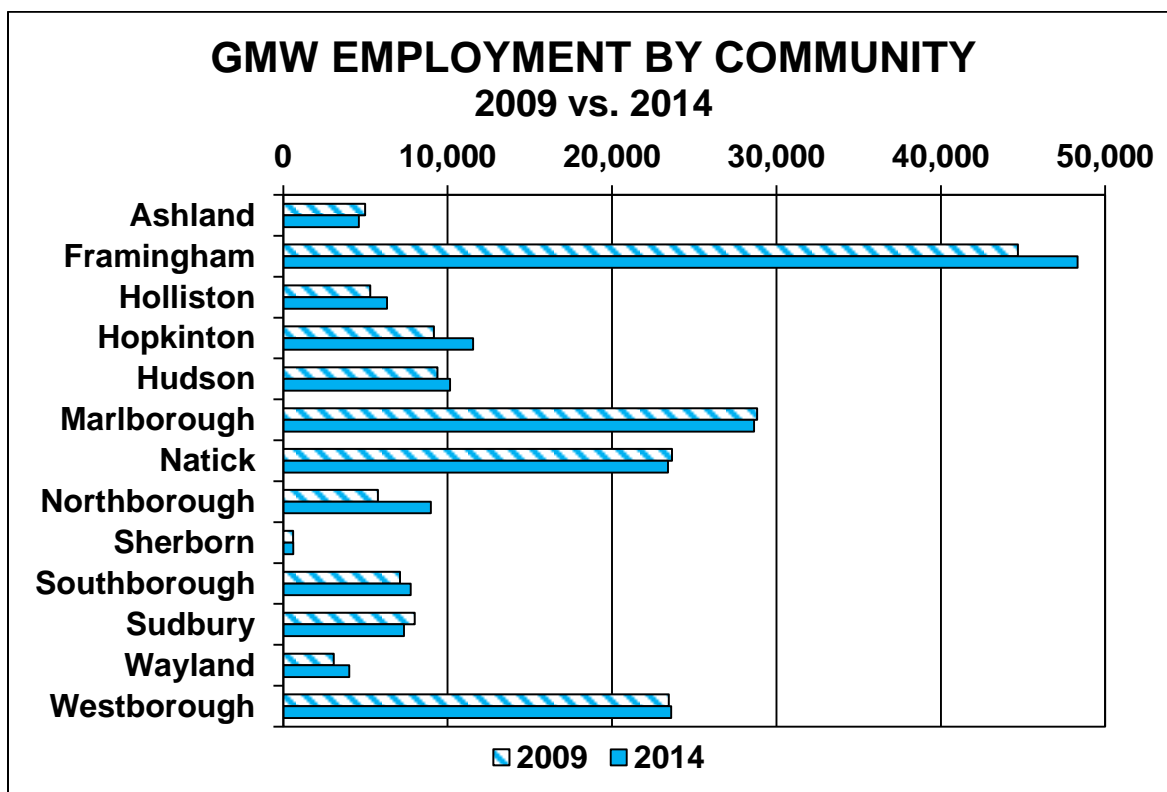
GREATER METROWEST – EMPLOYMENT



Source: MA EOLWD and MERC

- Location Quotients (LQ) compare the regional industry share of total private establishment to the state share for the same industry in the same year. A regional LQ greater than 1.0 shows an establishment concentration higher than that of the state.
- Nine sectors: Manufacturing, Wholesale Trade, Retail Trade, Information, Real Estate & Rental, Professional, Scientific & Technical (Prof/Sci/Tech), Management of Companies, Administrative & Waste Services and Educational Services achieved establishment LQs greater than 1.0 in both 2009 and 2014.
- A regional LQ less than 1.0 shows a concentration of establishments in GMW lower than that of the state. Three sectors: Construction, Transportation & Warehousing and Accommodation & Food Services had LQs below 1.0.
- Two sectors: Utilities and Health Care & Social Assistance achieved LQs greater than 1.0 in 2009 but not 2014. Three sectors: Finance & Insurance, Arts, Entertainment & Recreation and Other Services displayed establishment LQs below 1.0 in 2009 but above 1.0 in 2014.

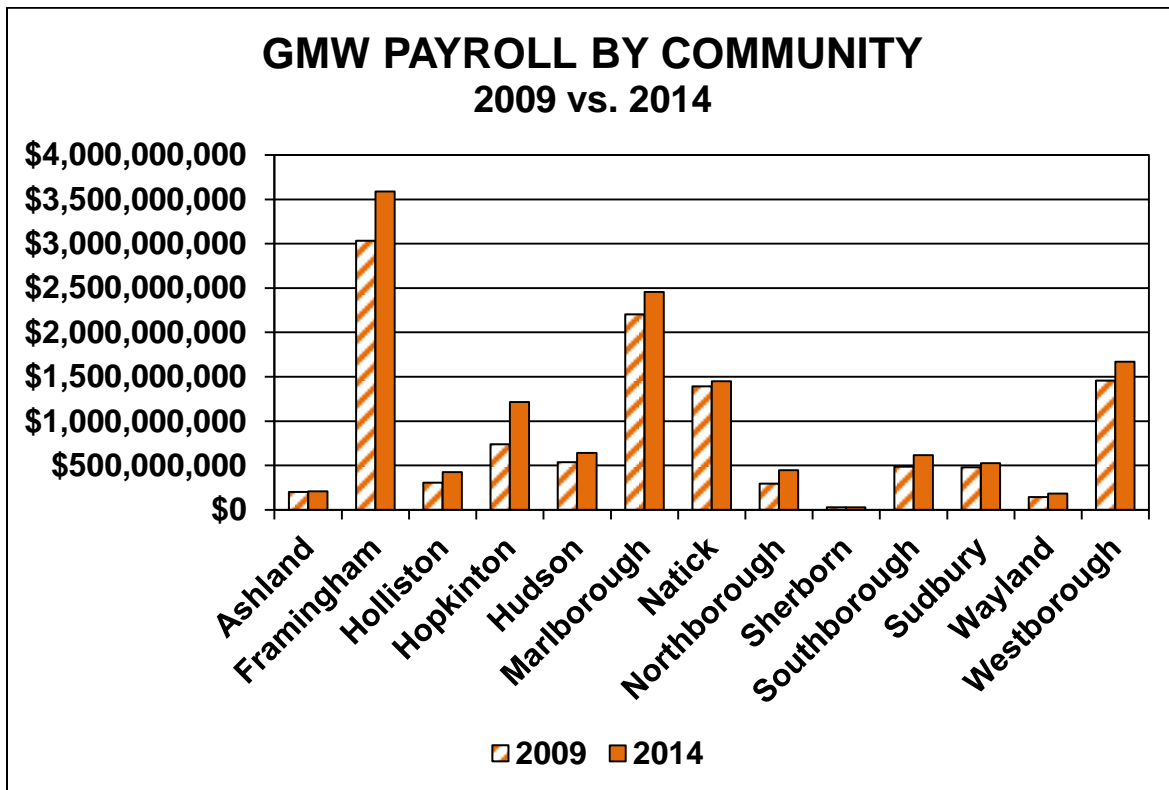
GREATER METROWEST – EMPLOYMENT



Source: MA EOLWD and MERC

- Greater MetroWest (GMW) totaled 185,300 jobs in 2014, up from 174,100 jobs in 2009, an increase of 6.4%, or 11,200 jobs.
- In 2014 Framingham generated 48,300 jobs, followed by Marlborough (28,600), Westborough (23,600), and Natick (23,400).
- From 2009 to 2014 nine GMW communities increased employment. Framingham had the largest absolute gain, 3,600 more jobs, a gain of 8.1% since 2009. Northborough and Hopkinton followed, up 3,200 or 55.8% and 2,400 or 25.7%, respectively. Northborough had the largest percentage gain since 2009, followed by Wayland with 29.9% and Hopkinton.
- Employment in four communities declined between 2009 and 2014: Ashland, Marlborough, Natick, and Sudbury. Sudbury suffered the largest absolute loss, down 650 jobs (-8.1%) from 2009, followed by Ashland down 400 jobs (-7.9%) and Natick down 200 (-1%) jobs. Sudbury also suffered the largest percentage loss, followed again by Ashland and Natick.

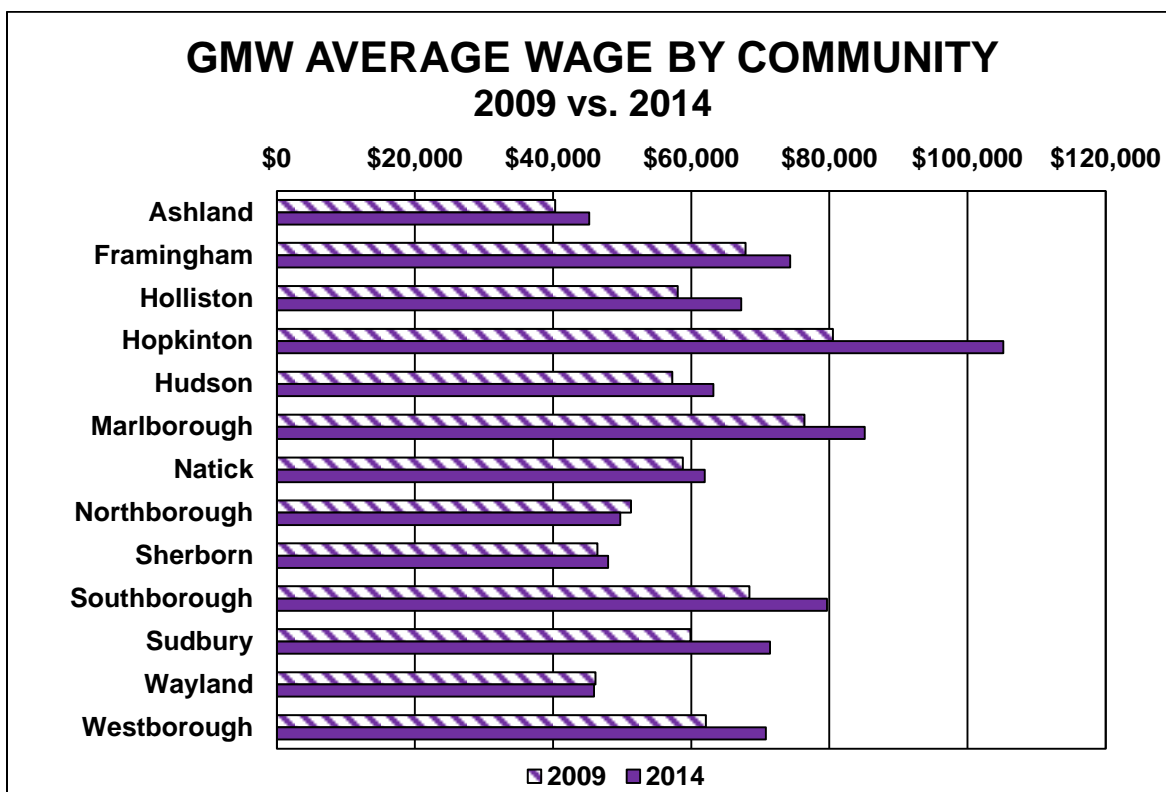
GREATER METROWEST – EMPLOYMENT



Source: MA EOLWD and MERC

- In 2014 Greater MetroWest (GMW) produced a total payroll of \$13.5 billion, up 19% or \$2.2 billion from the trough of the Great Recession in 2009.
- Among all GMW communities in 2014, Framingham led with a \$3.5 billion payroll followed by Marlborough (\$2.5 billion), Westborough (\$1.7 billion), Natick (\$1.5 billion) and Hopkinton (\$1.2 billion). The top five communities in payroll generated 77% of regional payroll.
- The remaining eight communities each produced less than \$650 million in payroll in 2014 ranging from \$641 million in Hudson to \$30 million in Sherborn.
- Payroll in all 13 GMW communities climbed from 2009 to 2014. Framingham recorded the largest absolute gain, up \$558 million or 18.4%. Hopkinton, up \$474 million or 64.1%, and Marlborough, up \$259 million or 11.7%, followed. Hopkinton recorded the largest percentage gain followed by Northborough at 50.9% and Holliston at 38%.
- The three communities with the smallest absolute changes from 2009 to 2014 were Sherborn, up \$1 million or 3.7%, Ashland, up \$7 million at 3.4% and Wayland, up \$42 million or 29%. The communities with the smallest percentage gains were Natick at 4.3%, Sherborn and Ashland (4.3%).

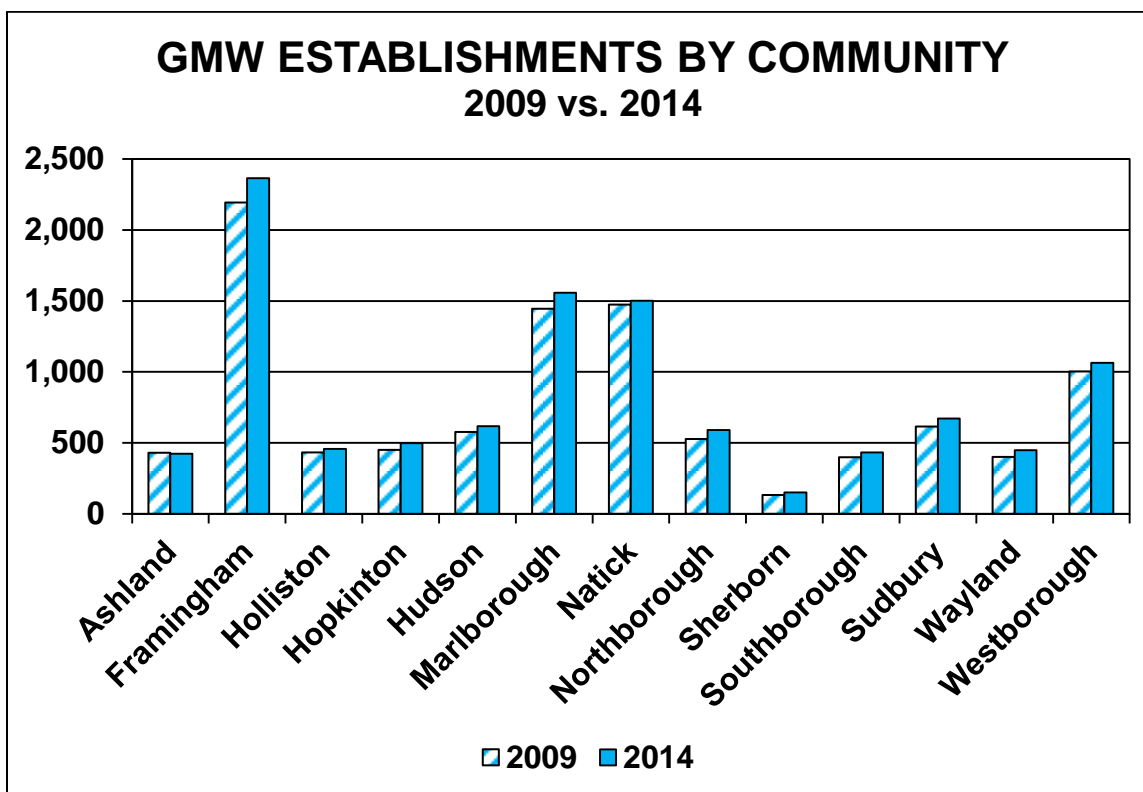
GREATER METROWEST – EMPLOYMENT



Source: MA EOLWD and MERC

- Greater MetroWest (GMW) produced an average wage of \$72,700 in 2014, up 11.9% or \$7,700 from the trough of the Great Recession in 2009.
- Among the 13 GMW communities Hopkinton (\$105,200), Marlborough (\$86,000), Southborough (\$79,700) and Framingham (74,300) generated the four highest average annual wages in 2014, as they had done in 2009. Ashland reported the lowest wage, \$45,300, in 2014.
- Eleven of the thirteen GMW communities had higher average wages in 2014 than they had in 2009. Hopkinton had the largest absolute increase of \$24,600 (30.6%), followed by Sudbury, up \$11,500 (19.2%) and Southborough, up \$11,200 (16.4%). They also recorded the highest percentage gains.
- Wages in two communities suffered declines: Northborough and Wayland. Northborough had an absolute loss of \$1,600 (-3.1%), and Wayland followed with a loss of \$200 (-0.5%).
- In 2014 average wages in nine GMW communities exceeded \$60,000: Framingham, Holliston, Hopkinton, Hudson, Marlborough, Natick, Southborough, Sudbury, and Westborough. Only five of these communities exceeded \$60,000 in 2009.

GREATER METROWEST – EMPLOYMENT



Source: MA EOLWD and MERC

- In 2014, Greater MetroWest (GMW) had a total of 10,760 establishments, up from 10,080 establishments in 2009, a gain of 680 establishments or 6.7%.
- Framingham (2,360), Marlborough (1,550), Natick (1,500) and Westborough (1,060) led with the highest number of establishments in 2014. Combined these top four communities generated 60% of regional establishments.
- The remaining nine communities ranged from 670 establishments in Sudbury to 150 in Sherborn in 2014.
- Twelve of the thirteen communities in GMW added establishments from 2009 to 2014. Framingham had the largest absolute gain of 170 establishments or 7.8%, followed by Marlborough with 110 establishments (7.5%). Northborough, Sudbury, and Westborough each added approximately 60 establishments. Sherborn recorded the largest percentage gain, up 12.8%, followed by Wayland (12%), Northborough (11.8%), and Hopkinton (10.4%).
- Only one community, Ashland, declined from 2009, losing 7 establishments, a -1.6% decrease.

GREATER METROWEST – EMPLOYMENT

Employment Comparison Greater MetroWest Region By Community 2014

Community/ Region	Number of Jobs*	Average Wage	Total Payroll* (millions)	Number of Establishments*	Largest Supersector (Employment)
Ashland	4,600	\$45,300	\$208	420	TTU **
Framingham	48,300	\$74,300	\$3,592	2,360	PBS ***
Holliston	6,300	\$67,200	\$424	460	PBS
Hopkinton	11,500	\$105,200	\$1,214	500	Manufacturing
Hudson	10,200	\$63,200	\$642	620	Manufacturing
Marlborough	28,600	\$86,000	\$2,462	1,550	PBS
Natick	23,400	\$62,000	\$1,450	1,500	TTU
Northborough	9,000	\$49,700	\$446	590	TTU
Sherborn	600	\$48,000	\$30	150	Public
Southborough	7,800	\$79,700	\$618	430	Education & Health
Sudbury	7,300	\$71,400	\$525	670	Public
Wayland	4,000	\$45,900	\$184	450	Leisure & Hospitality
Westborough	23,600	\$70,800	\$1,671	1,060	PBS
MetroWest CCSA	113,900	\$72,400	\$8,245	6,940	PBS
Greater Marlborough Region	71,400	\$73,200	\$5,221	3,820	PBS
Greater MetroWest	185,300	\$72,700	13,466	10,760	PBS
Massachusetts	3,363,000	\$64,100	\$215,551	235,200	Education & Health

Source: MA EOLWD, MERC

*Rounded

**Trade, Transportation and Utilities (TTU)

***Professional and Business Services (PBS)

GREATER METROWEST – HOUSING

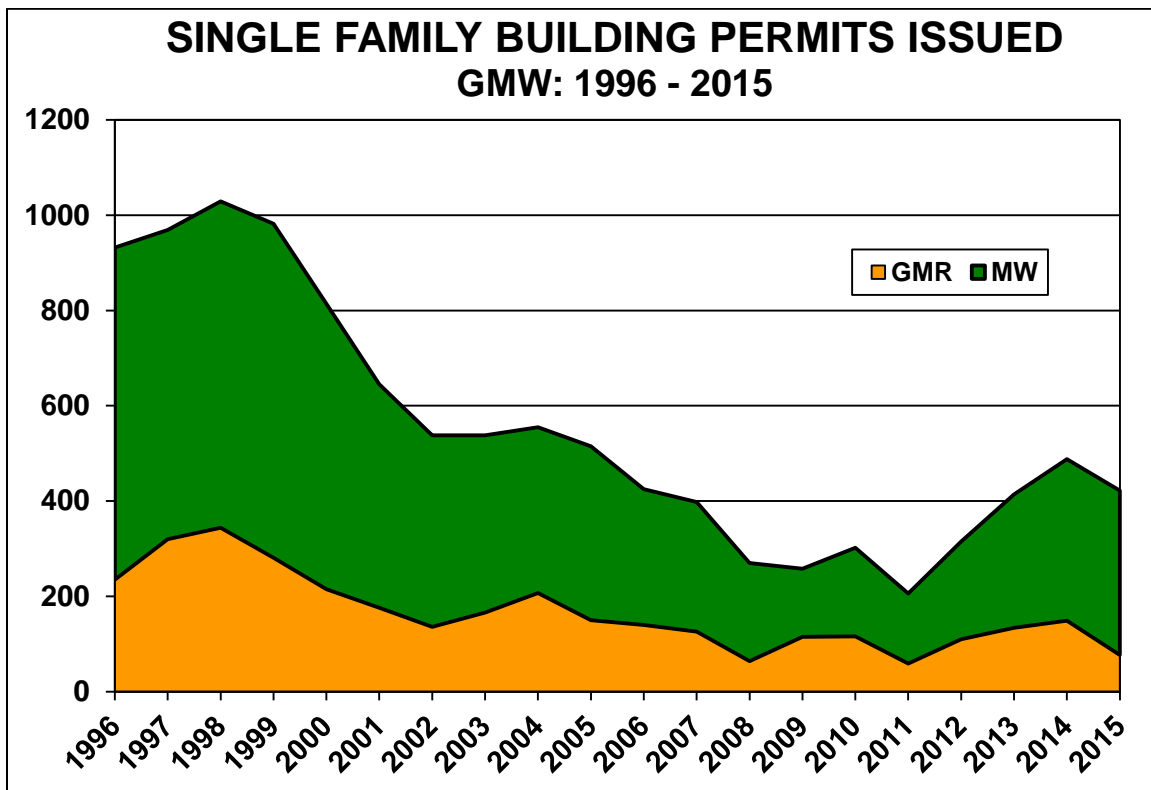
HOUSING

The MetroWest Economic Research Center (MERC) at Framingham State University collects and analyzes data on housing permits issued and existing home sales for Greater MetroWest (GMW), the aggregated MetroWest CCSA and Greater Marlborough Region. The MetroWest CCSA includes Ashland, Framingham, Holliston, Hopkinton, Natick, Sherborn, Southborough, Sudbury and Wayland. The Greater Marlborough Region includes Hudson, Marlborough, Northborough, and Westborough. MERC gathers housing data for these thirteen communities from several sources.

Data on new building permits issued for single family homes are collected by MERC using information from the U.S. Census. Annual data for permits issued in the cities and towns for 2015 are estimated using the December year-to-date values, and information provided by the city or town building departments. Building permits data for Massachusetts and the United States are based on estimates published by the Federal Reserve Bank of Boston (FRBB).

Information on existing home sales is based on data published by The Warren Group for *Banker & Tradesman*. Most of these data are available from 1987 forward, and were significantly revised in the spring of 2008 in order to better capture market activity. Hence some of the housing figures in this report are not directly comparable to the values reported in previous MERC publications. Data are collected on single and multi-family residences sold in the thirteen communities. Median house price is measured at the 50th percentile in each town; that is, half the homes sold for more than the median price and half sold for less than the median price. Median prices for the regions are estimated. It is important to remember that a change in median price does not reflect appreciation or depreciation in the value of individual homes. Rather, there is a different mix of homes sold each year.

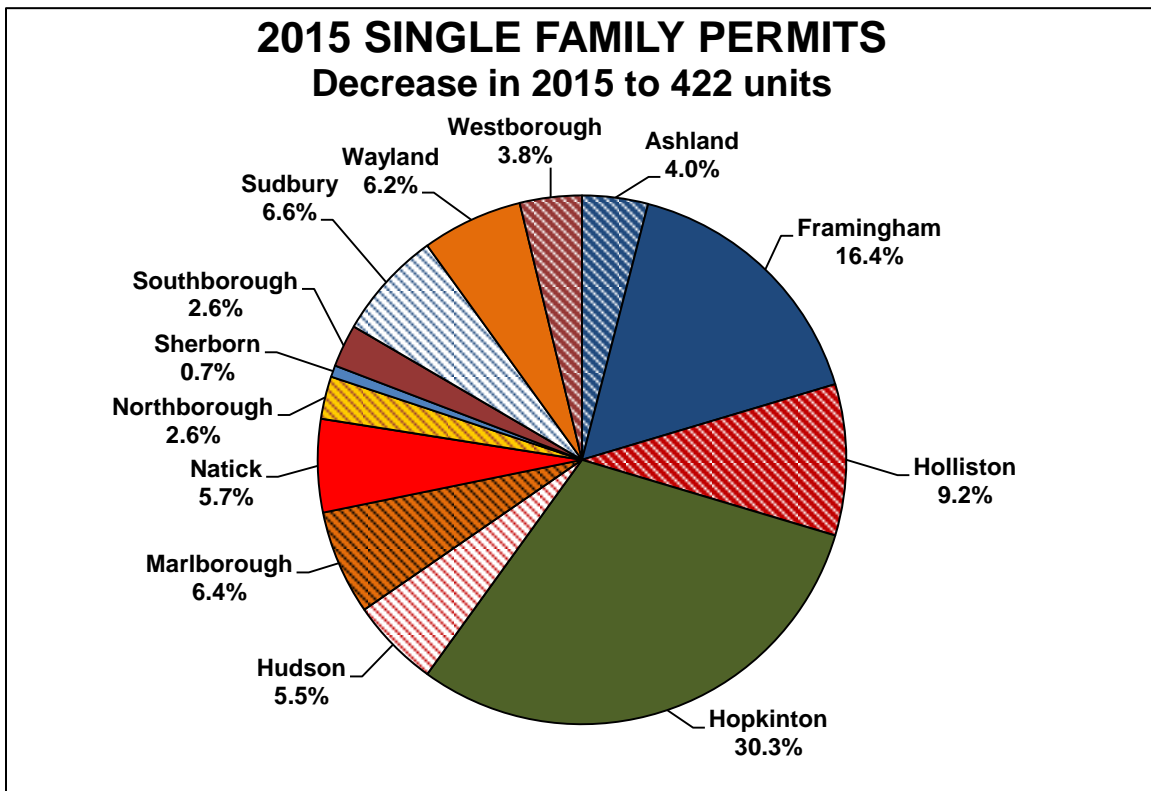
GREATER METROWEST – HOUSING



Source: U.S. Census Bureau and MERC

- New residential housing permits issued each year for single family homes in Greater MetroWest (GMW), indicated by the height of the graph above, peaked at more than 1,000 units in 1998. After increasing in 2010 for the first time since 2004, the number of permits issued in Greater MetroWest fell again in 2011, and then rose once again in 2012, 2013 and 2014. In 2015, however, Greater MetroWest experienced a decrease in new permits issued to an estimated 422 units.
- MetroWest (MW), depicted in green, accounts for about 70% of the total permits issued in Greater MetroWest over the time period. Greater Marlborough (GMR), depicted in orange, accounted for the remaining 30%.
- From 2014 to 2015, MetroWest permits issued increased by about 2%, while Greater Marlborough permits issued decreased by about 48%. Overall, Greater MetroWest experienced a decrease in permits issued by about 13.5%.

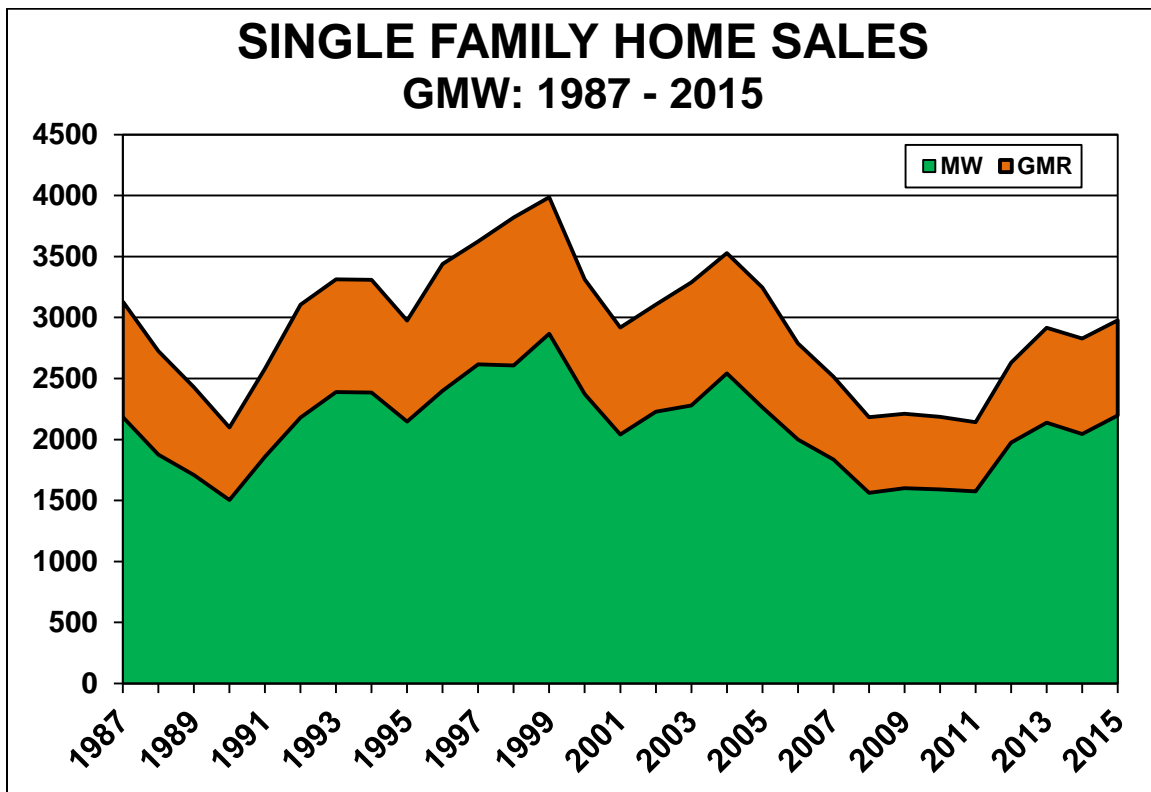
GREATER METROWEST – HOUSING



Source: U.S. Census Bureau and MERC

- In 2015, building permits issued for new single family homes in Greater MetroWest decreased to an estimated 422 permits.
- MetroWest towns issued 345 permits in 2015, while communities in the Greater Marlborough Region issued only 77 permits in 2015.
- Hopkinton and Framingham were the two largest contributors of permits issued, accounting for 30.3% and 16.4% of the region, respectively. Together, they account for 46.7% of the regions permits issued.
- Sherborn contributed the smallest number of housing permits at three units, or 0.7% of the regional total. Therefore, Sherborn accounts for only one out of every 140 permits issued in Greater MetroWest.

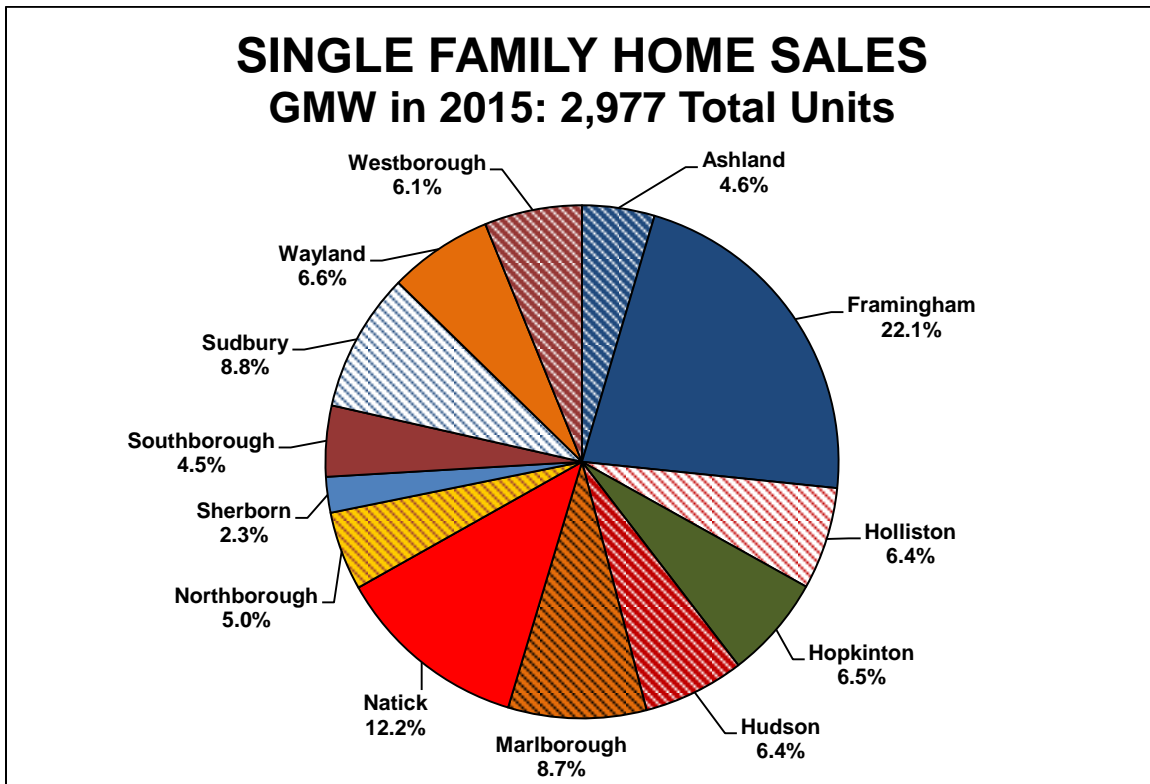
GREATER METROWEST – HOUSING



Source: The Warren Group and MERC

- Sales of existing single family homes are shown for Greater MetroWest (GMW) by the height of the graph depicted above. The data is shown for a 29-year period from 1987 to 2015. These sales consist of a different mix of homes sold each year, and do not represent a change in value of the homes. The green area shows the sales of existing homes in the nine towns of MetroWest (MW) while the orange area refers to the four communities of the Greater Marlborough Region (GMR). Comparably, MW has a greater number of single family home sales than GMR.
- The largest number of single family homes sold annually in Greater MetroWest occurred in 1999 at 3,986 units sold. The smallest number of single family homes sold annually occurred in 1990 at 2,099 units sold.
- Single family home sales in GMR were lowest in 2011 at 567 units sold. Single family home sales in MW were lowest in 1990 at 1,504 units sold.
- From 2014 to 2015, MW experienced an increase of 152 units sold, representing a 7.4% increase. GMR experienced a decrease of three units sold, representing a decrease of less than -1% in the same period.

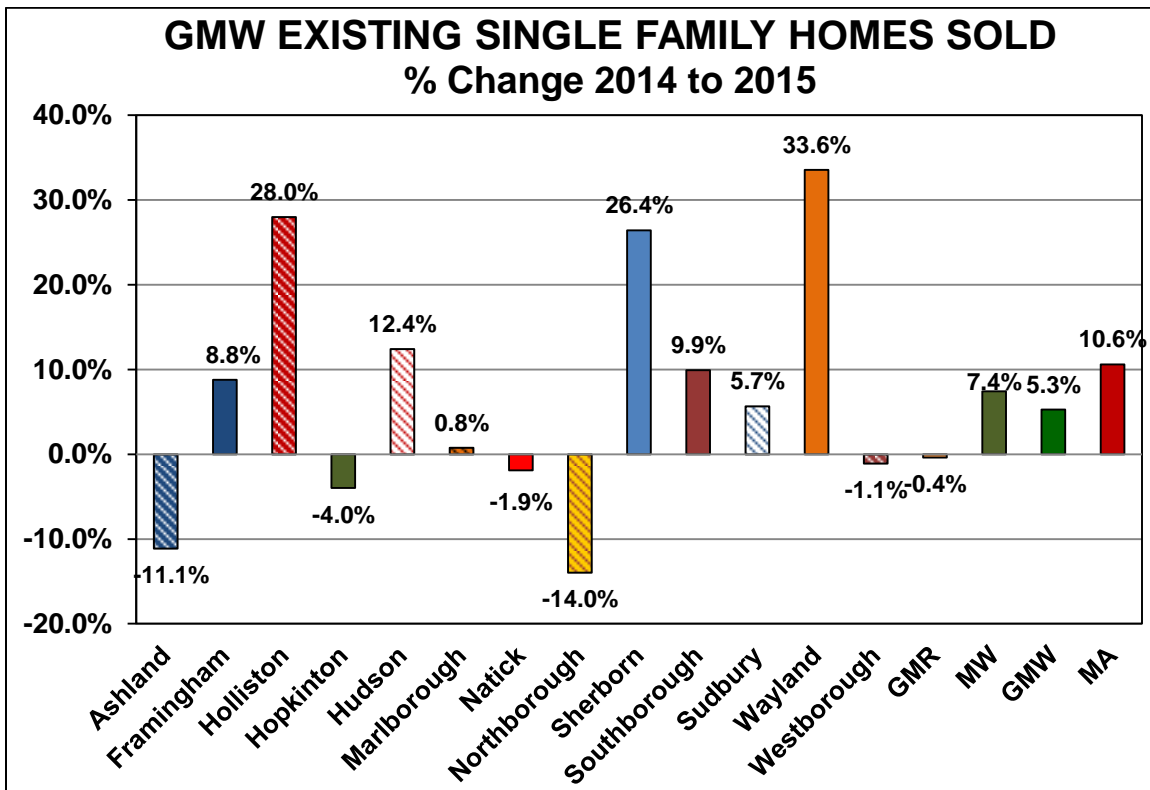
GREATER METROWEST – HOUSING



Source: The Warren Group and MERC

- In 2015 2,977 existing single-family homes were sold in Greater MetroWest (GMW). This represents a one-year increase of about 149 homes.
- Together, Framingham and Natick made up 34.3% of the region's existing homes sold. This was about 1 out of every three homes sold in the region. Framingham had the largest proportion with 22.1% or 657 units sold, followed by Natick with 12.2% or 363 units sold.
- Ashland, Southborough and Sherborn all contributed less than 5% to existing single family home sales in GMW in 2015. In Sherborn, only 67 single family homes were sold in this particular year.
- In 2015, there were 791 more single-family homes sold than in 2010. This represents a 36.1% increase from the 2010 total to the 2015 total homes sold.

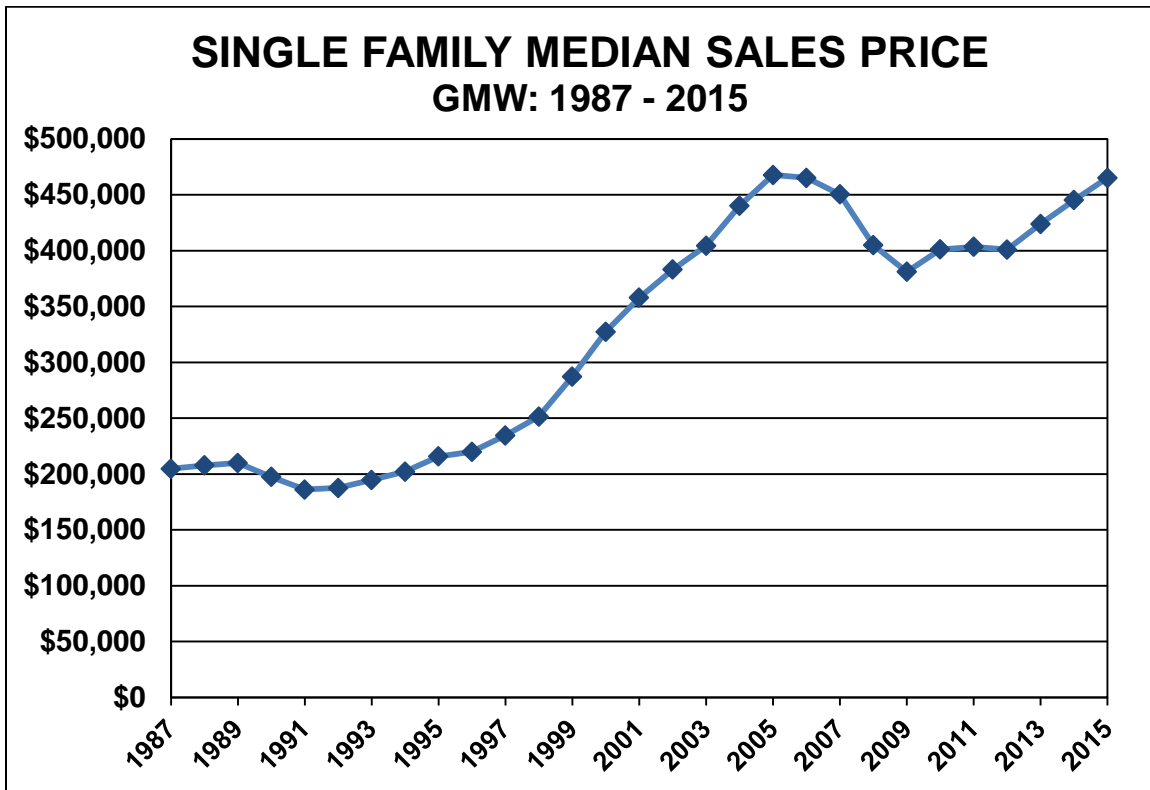
GREATER METROWEST – HOUSING



Source: The Warren Group and MERC

- The above graph shows the percent change in existing single family home sales from 2014 to 2015 in Greater MetroWest (GMW) and in each of its thirteen communities, as well as MetroWest (MW), the Greater Marlborough region (GMR) and Massachusetts (MA).
- In 2015 there were 149 more units sold in GMW, then in 2014, a 5.3% increase. This is converse to the change from 2013 to 2014 of -3.2%.
- From 2014 to 2015, MW, GMW and MA all recorded increases in units sold as follows: +152 units in MW, +149 units in GMW and +5,243 units in MA.
- Wayland, Holliston and Sherborn registered the largest percentage increases in units sold. Wayland had an increase of 49 units sold, a 33.6% increase. Holliston had an increase of 42 units sold, a 28% increase. Sherborn had an increase of 14 units sold, a 26.4% increase.
- Ashland and Northborough each had percent decreases greater than -10%. Ashland recorded -11.1% and Northborough registered -14%.

GREATER METROWEST – HOUSING

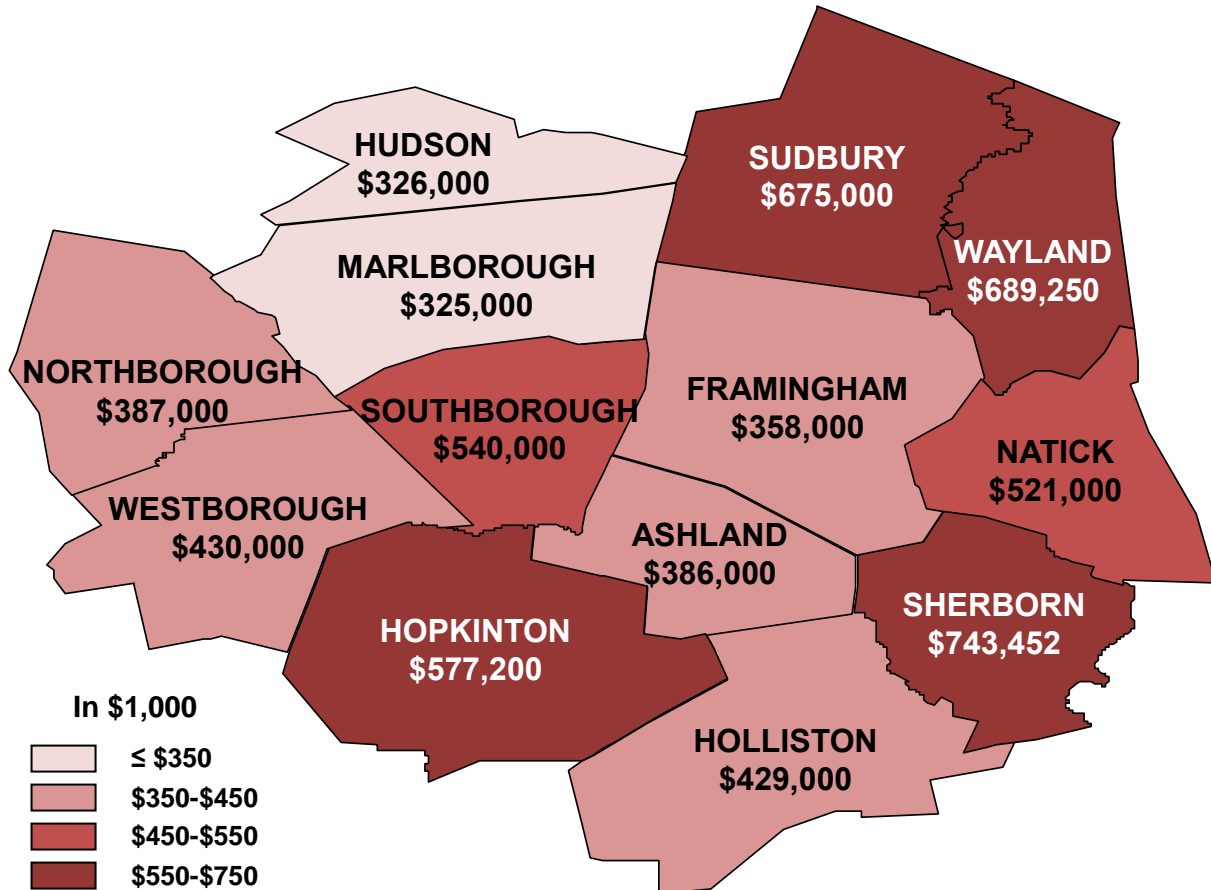


Source: The Warren Group and MERC

- The graph above shows the estimated median sale price of existing single family homes in Greater MetroWest (GMW) during the 29-year period of 1987 to 2015. Please note that these sales represent a different mix of homes each year and, therefore, do not reflect the changes in the values of individual homes.
- The data series reached a peak in 2005 with an estimated median sales price of \$467,723, representing a 128% increase from the 1987 median sales price of \$204,758.
- The estimated median sales price for single family homes of \$465,194 in GMW in 2015 was about 15% higher than the recent low in 2008 of \$404,822.
- In 2015, the estimated median sale price in this region was approximately \$465,194, representing an increase of about 4.5% from the median sale price in 2014 of \$445,242. Comparably, the estimated median sale price in 2015 still lower than the 2005 peak of \$467,723.

GREATER METROWEST – HOUSING

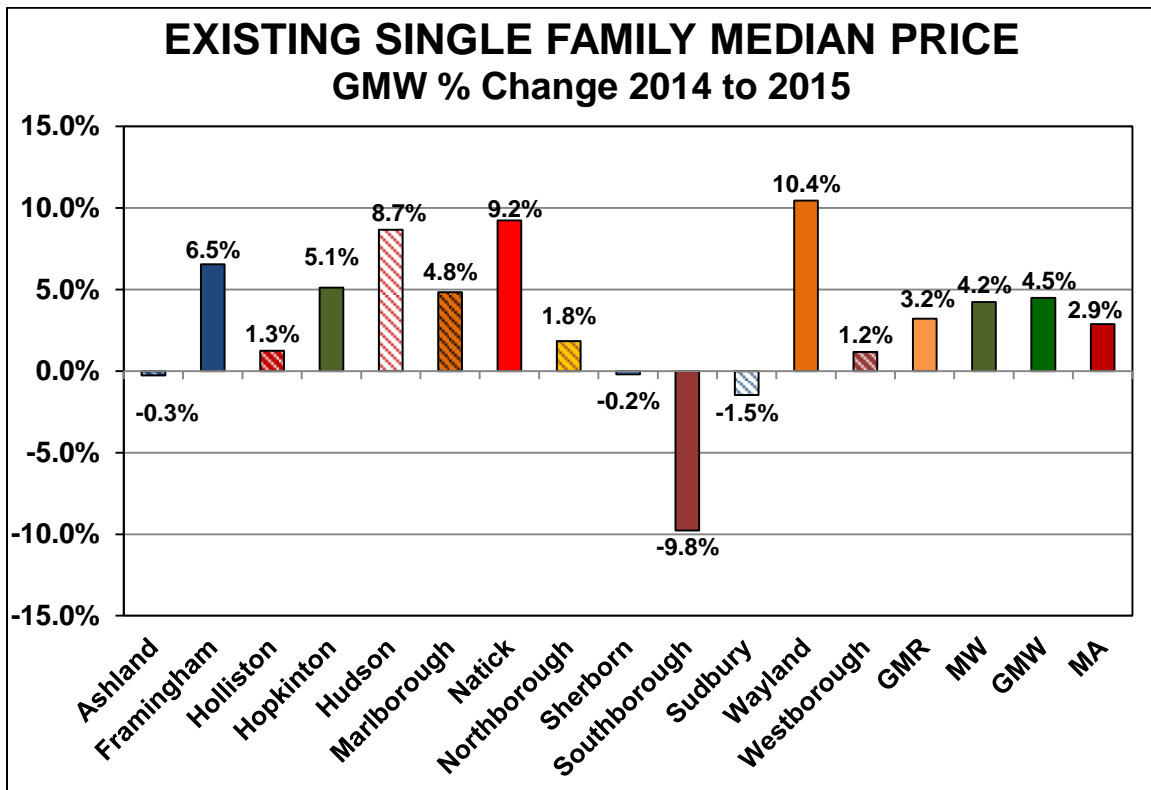
2015 SINGLE FAMILY EXISTING HOME PRICES Greater MetroWest Communities



Source: The Warren Group and MERC

- The map above shows the 2015 median sales prices for existing single family homes in the 13 communities in Greater MetroWest (GMW). Median sales prices ranged from a low of \$325,000 in Marlborough to a high of \$743,452 in Sherborn.
- Seven of the thirteen communities had median sales prices under \$450,000. Among these communities, only Hudson and Marlborough posted median sales prices between \$250,000 and \$350,000. Framingham, Holliston, Ashland, Northborough, and Westborough all registered median sales prices between \$350,000 and \$450,000.
- The remaining six communities had median sales prices above \$450,000. Southborough had a median sales price of \$540,000 and Natick had a median sales price of \$521,000. Hopkinton, Sherborn, Sudbury and Wayland posted the highest median sales prices at \$577,200, \$743,452, \$675,000 and \$689,250, respectively.

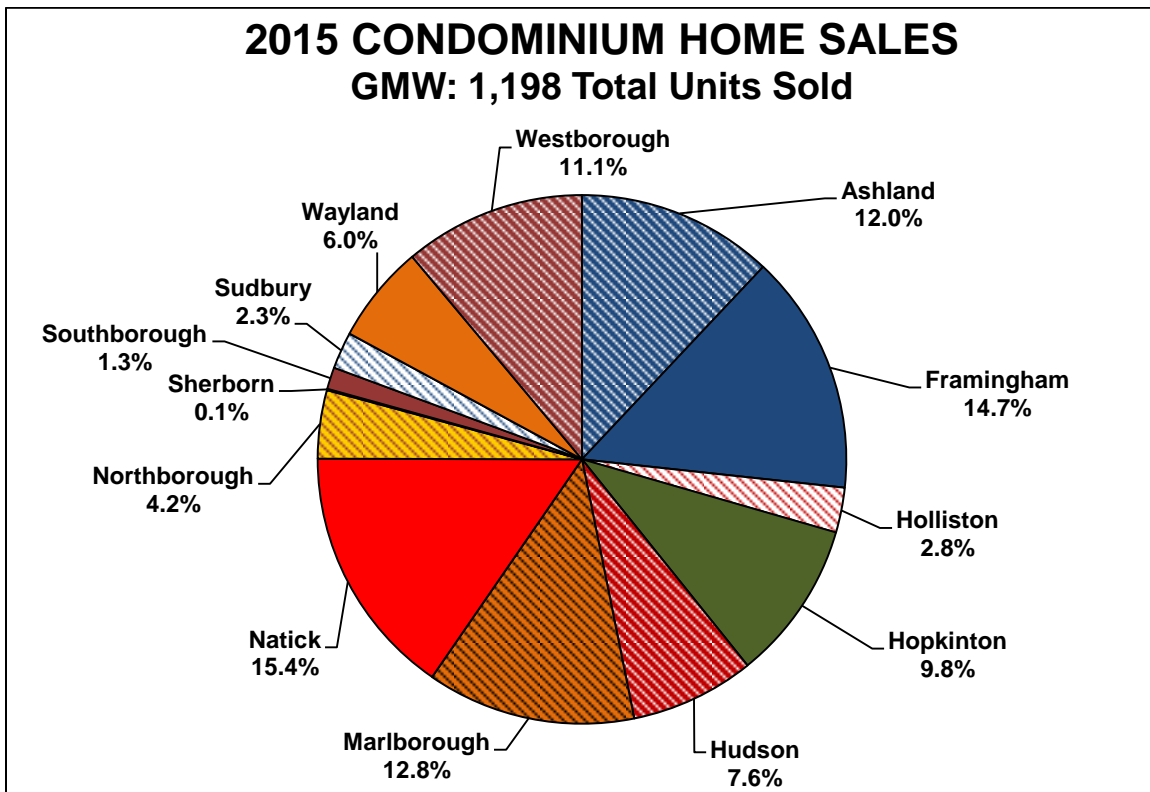
GREATER METROWEST – HOUSING



Source: The Warren Group and MERC

- The estimated median sales price for existing single family homes in Greater MetroWest (GMW) increased 4.5% from \$445,242 in 2014 to \$465,194 in 2015. Comparably, the median price in Massachusetts increased 2.9% from the 2014 median sale price of \$330,500 to the 2015 median sale price of \$340,000.
- Between 2014 and 2015, four communities experienced a decrease in median price for single family homes: Ashland with -0.3%, Northborough with -0.2%, Sudbury with -1.5%, and Southborough with -9.8%.
- The remaining communities in GMW experienced percent increases in median price. Wayland recorded the largest median price percent increase of 10.4% from \$624,120 in 2014 to \$689,250 in 2015 followed by Natick with the second largest median price percent increase of 9.2% from \$477,000 in 2014 to \$521,000 in 2015.
- Greater MetroWest, MetroWest and Greater Marlborough all experienced a percentage increase of estimated single family median sale price greater than that of the state.

GREATER METROWEST – HOUSING

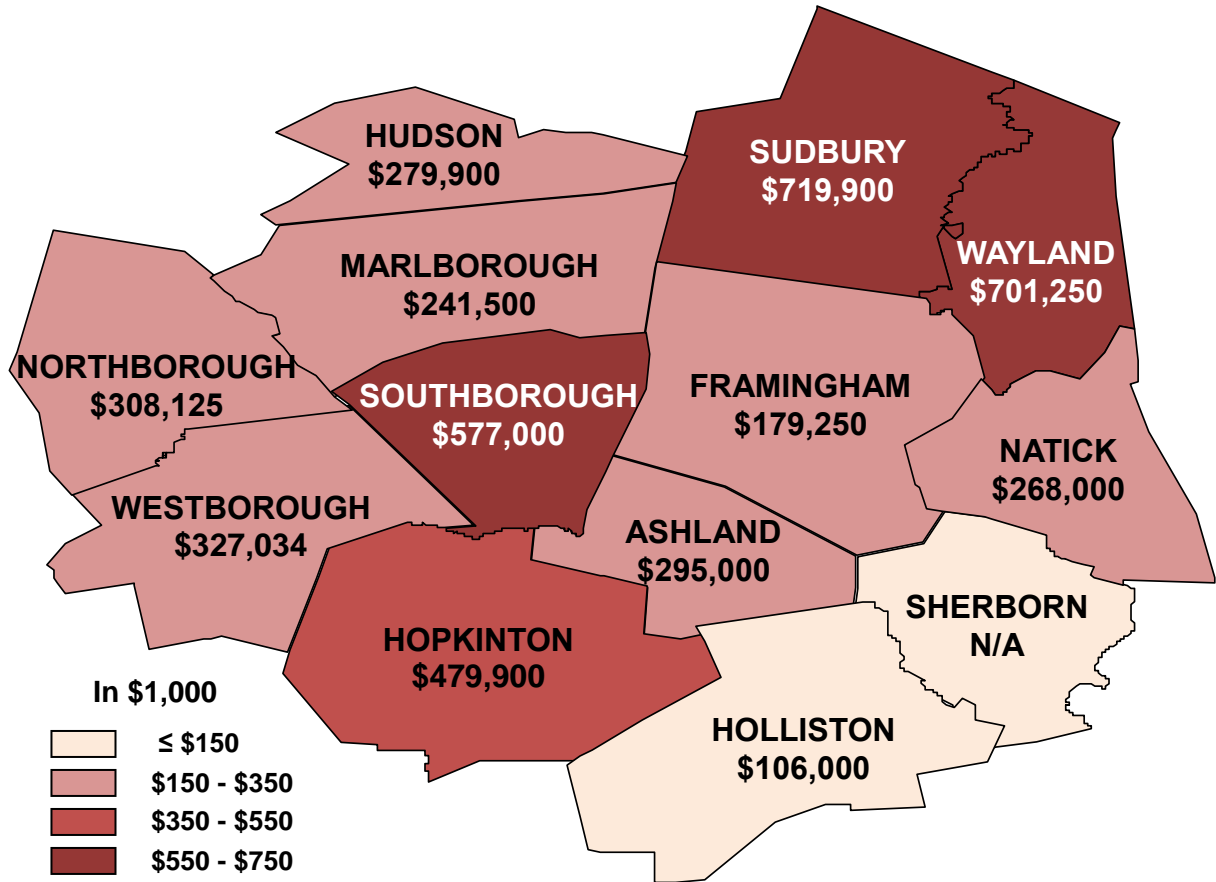


Source: The Warren Group and MERC

- In 2015, 1,198 condominiums were sold in the thirteen communities of Greater MetroWest (GMW).
- Condo sales in four of the communities, Ashland, Framingham, Marlborough and Natick accounted for over half or 54.9% of total units sold in GMW. Natick contributed 15.4%, Ashland, Framingham and Marlborough accounted for 12%, 14.7% and 12.8%, respectively.
- Holliston, Northborough, Sherborn, Southborough and Sudbury each contributed 5% or less. Sherborn contributed the smallest number of sales with only one condominium sold in 2015, accounting for less than 1% of the regional condominium sales.
- In 2015, the estimated median sale price in this region was approximately \$320,314, a 3.2% increase from the 2014 median sale price of \$310,405.

GREATER METROWEST – HOUSING

2015 CONDOMINIUM PRICES Greater MetroWest Communities



Source: The Warren Group and MERC

- In 2015, the estimated median price for condominium sales in Greater MetroWest was about \$320,314, a 3.2% increase compared to 2014.
- Holliston was the only community that had a median condominium price under \$150,000. Seven of the communities, Ashland, Framingham, Hudson, Marlborough, Natick, Northborough, and Westborough had median sales prices ranging from \$150,000 to \$350,000.
- Three communities: Southborough, Sudbury and Wayland each recorded higher median condominium prices in 2015 than median price for single family homes.

GREATER METROWEST – COST OF LIVING

MEASURING THE COST OF LIVING IN METROWEST

The MetroWest Economic Research Center (MERC) tracks the cost of living in the MetroWest¹ CCSA area by calculating the average cost of a “market basket” of 57 items that are representative of the items typically purchased by professional and executive households. The items in this “market basket” were selected by The Council for Community and Economic Research (C2ER - formerly ACCRA) based on a survey of consumer spending patterns done by the U.S. Bureau of Labor Statistics. The 57 items are grouped into six categories: grocery items, housing, utilities, transportation, health care and miscellaneous goods and services.

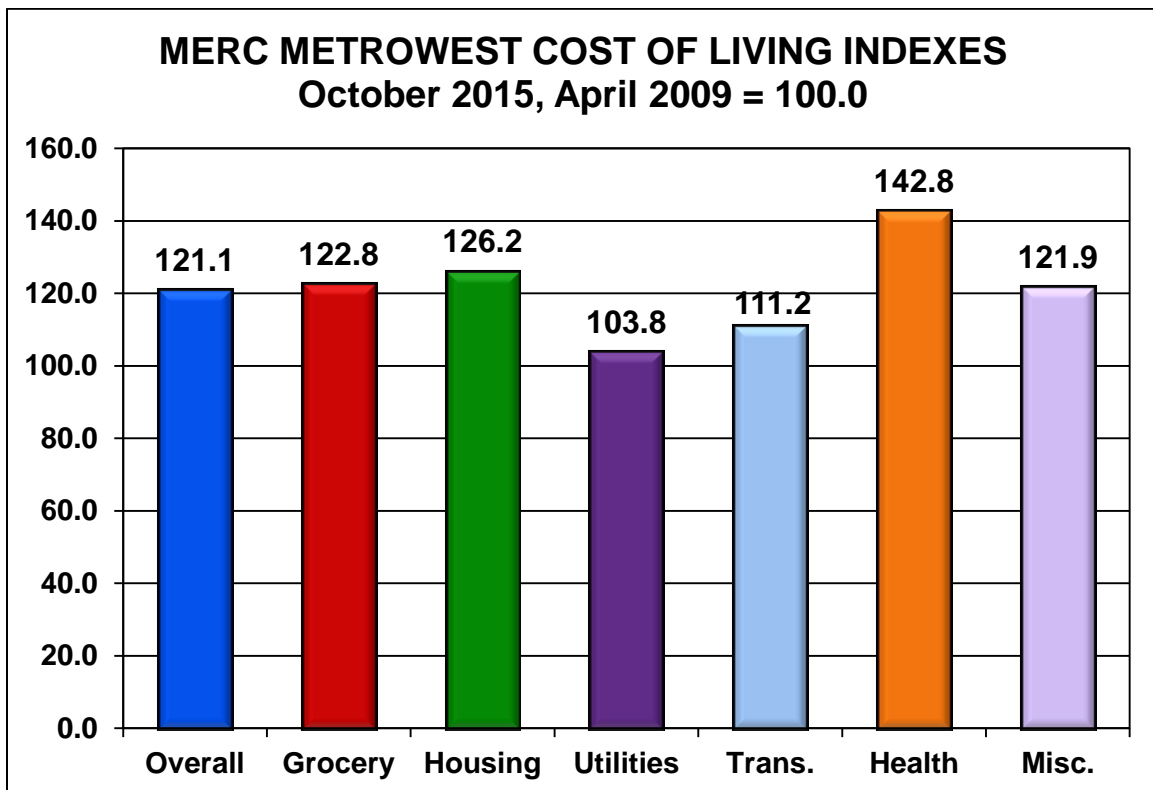
During each survey period, MERC gathers data on the prices of these items from over 100 businesses in the MetroWest area and calculates the average price of each item. These average prices are then used to calculate an index for each of the six categories afore mentioned and, from them, the overall Cost of Living Index for the area. When calculating each sub-index, every item is assigned a weight that reflects the relative importance of the item within its category. The overall cost of living index is then a weighted average of the six sub-indexes, with the weights here reflecting the relative importance of each of the six sub-groups in the overall cost of living. The weights, like the items in the “market basket”, are also determined by C2ER based on the information obtained in the Bureau of Labor Statistics survey mentioned previously. Please note that the MERC indexes have been revised since last year’s conference.

In addition to using this data to track the cost of living in MetroWest over time, MERC also sends its survey results to C2ER to be included in that group’s survey of living costs across the nation. The data from MetroWest are combined with the same data from approximately 300 other U.S. communities to calculate the overall average cost of the “market basket” of goods and services. C2ER calls this the “national average” and then calculates a cost of living index (still called the ACCRA index) for each community as a percentage of this national average. The overall index for each city or town is also broken down into the same six sub-indexes described above and is calculated using the same weighting process. These results make it possible to compare the relative cost of living across the country.

Because these indexes are calculated from the prices of a relatively small sample of the many goods and services which middle-management households actually purchase, they are only estimates of the true cost of living in any given area. As with any figure calculated from sample data, there is a margin of error in the estimate. Since the items in the market basket were not randomly chosen, however, it is not possible to calculate exactly what that margin of error is. In its literature, C2ER suggests that small differences in these indexes (up to 3 or 4 percentage points) do not necessarily mean that differences in the true cost of living actually exist.

¹ MetroWest CCSA includes the towns of Ashland, Framingham, Holliston, Hopkinton, Natick, Sherborn, Southborough, Sudbury, and Wayland.

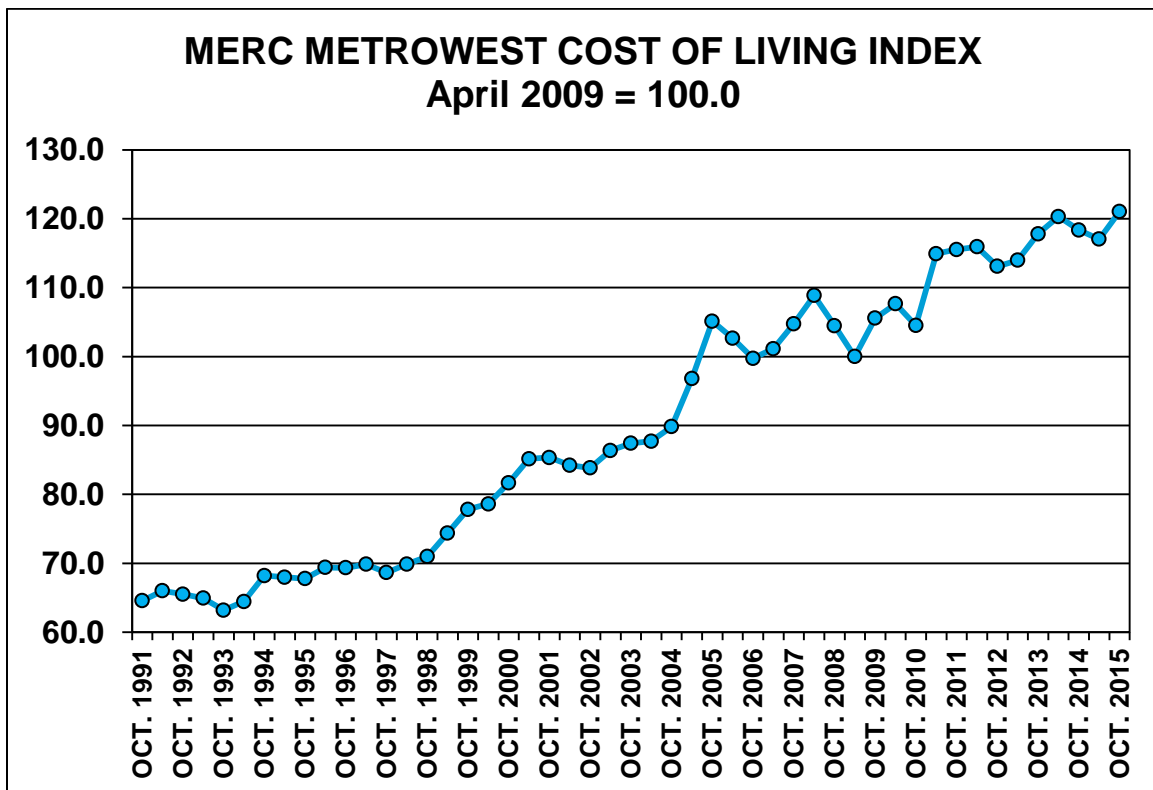
GREATER METROWEST – COST OF LIVING



Source: MERC

- The MERC Overall Cost of Living Index for MetroWest was 121.1 in October 2015. This indicates that the cost of living in MetroWest was approximately 21% higher in October of last year than it was in April of 2009, when the index was 100.0. This is about a 2% increase from one year earlier.
- The Health Care Index had a significantly higher value than the other indexes, with a value of 142.8. Health care costs were roughly 43% more last October than they were in April of 2009. The Health Care Index was up almost 3.5% from its previous October 2014 value.
- With a value of 103.8, the Utilities Index had the lowest value of all the indexes. Even with the lowest value, the Utilities Index was still higher in 2015 than in 2009.
- All of the indexes had values above the base year. Excluding the base year, all of the indexes had values of 100.0 or greater since April of 2014.

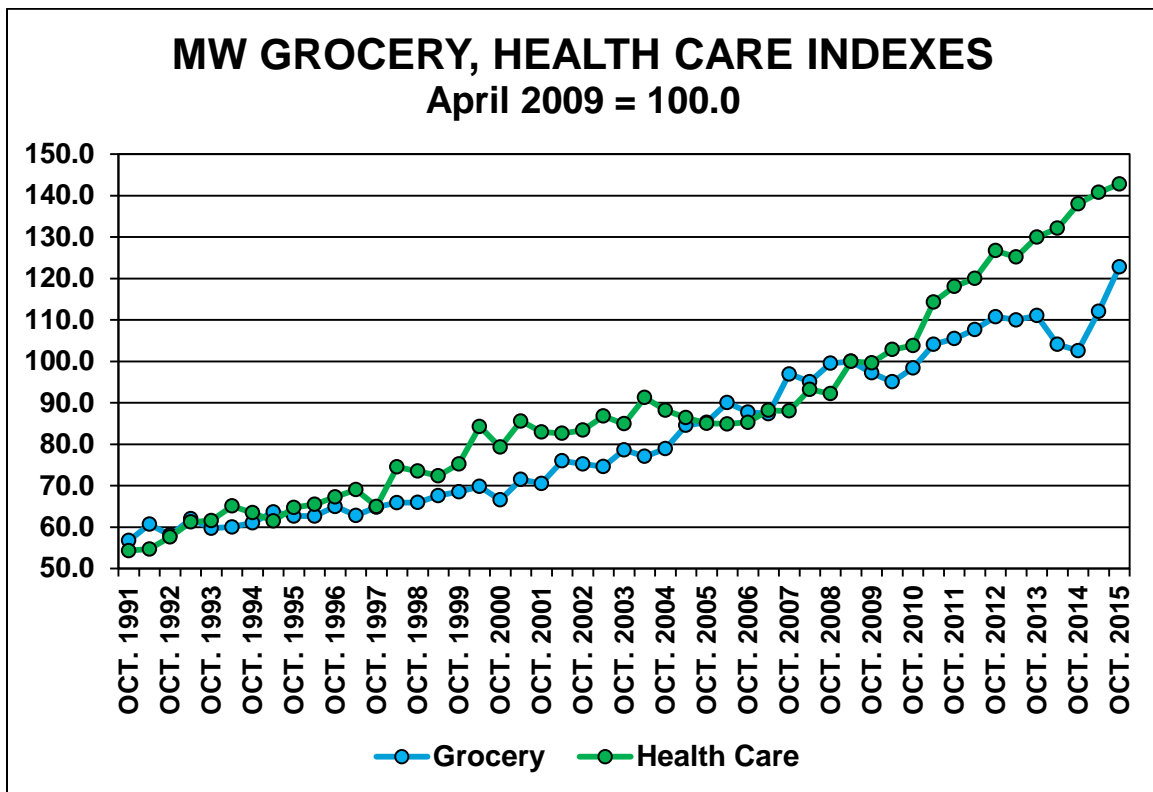
GREATER METROWEST – COST OF LIVING



Source: MERC

- This graph shows the values of the MERC Overall Cost of Living Index from October 1991 to October 2015. April 2009 is the base period for the index. Its value in April 2009 was 100.0.
- From October 2014 to October 2015, the MERC MetroWest Cost of Living Index rose by 2.3% to a value of 121.1. This is the highest value the Overall index has seen since October 1991.
- The Overall Index had an average annual increase of roughly 2.7% from October 1991 to October 2015.
- The largest 12-month increase was 17.1% and occurred from October 2004 to October 2005. The largest decrease was 8.2% from April 2008 to April 2009.
- The MERC Cost of Living index increased steadily from when MERC began collecting the data in 1991 to October 2004. After October 2004, the index experienced increased volatility. The index has had 4 peaks and 5 troughs since October 2004.

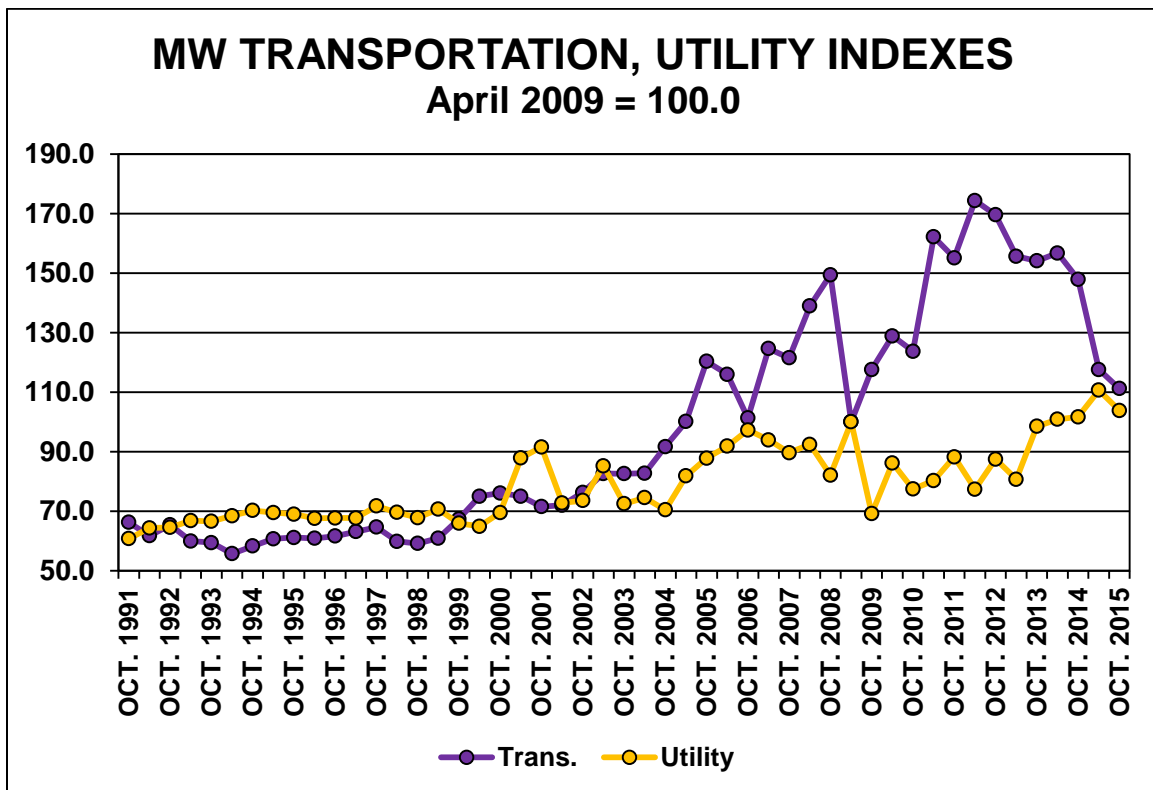
GREATER METROWEST – COST OF LIVING



Source: MERC

- Over the 24 years between October 1991 and October 2015, the Grocery Items Index and the Health Care Index both rose at a steady rate and had less volatility than almost all of the other indexes.
- The Grocery Items Index had the largest overall increase among the six indexes from October 2014 to October 2015. The Grocery Items Index grew almost 20%.
- The Health Care Index saw a minor increase of about 3% from October 2014 to October 2015. Even with this slight increase, the Health Care Index is still roughly 12% higher than the next highest index. The base period for the two indexes, when the indexes were equal to 100.0, is April 2009.
- In October 2015, the Health Care Index was the highest of the six sub-indexes with a value of 142.8. The third highest was the Grocery Items Index at 122.8. These values are referenced to the base period of April 2009, when the index equaled 100.0.
- From 1991 to 2015, the Grocery Items Index saw an average annual increase of 3.3% while the Health Care Index saw an average annual increase of 4.1%.

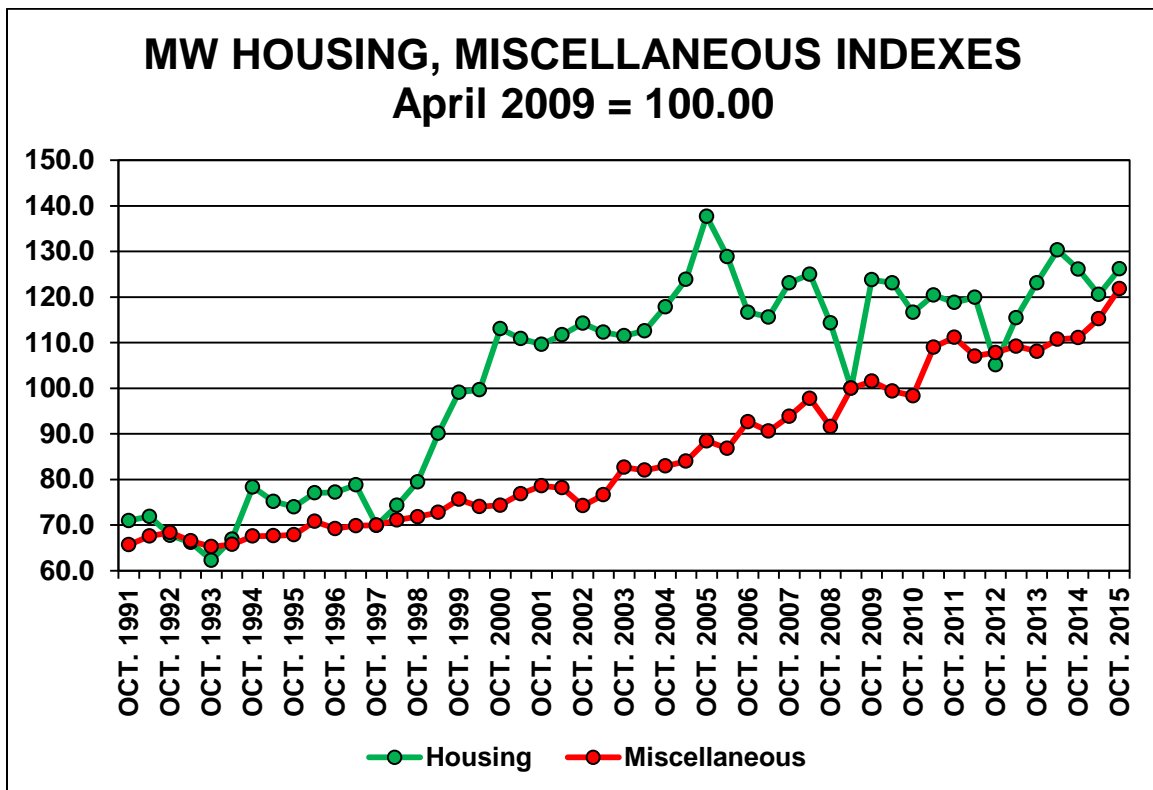
GREATER METROWEST – COST OF LIVING



Source: MERC

- For the first 15 years until October 2006, the Transportation Index and the Utility Index fluctuated in similar patterns. After 2006, the index fluctuations began to move inversely; when Transportation saw a peak, the Utility Index saw a trough, and vice-versa.
- The Transportation Index was the most volatile of all indexes; however, it had the smallest average annual increase at 2.2%.
- Between October 1991 and October 1999, the Transportation Index only rose about 1.8%. Since then, the Index more than doubled, reaching an all-time high of 174.4 in April 2012; April 2009 being the base period with a value of 100.0.
- Since the all-time high of 174.4 occurred in April 2012, the Transportation Index fell to a value of only 111.2 in October 2015; a decrease of approximately 36% in 3 years.

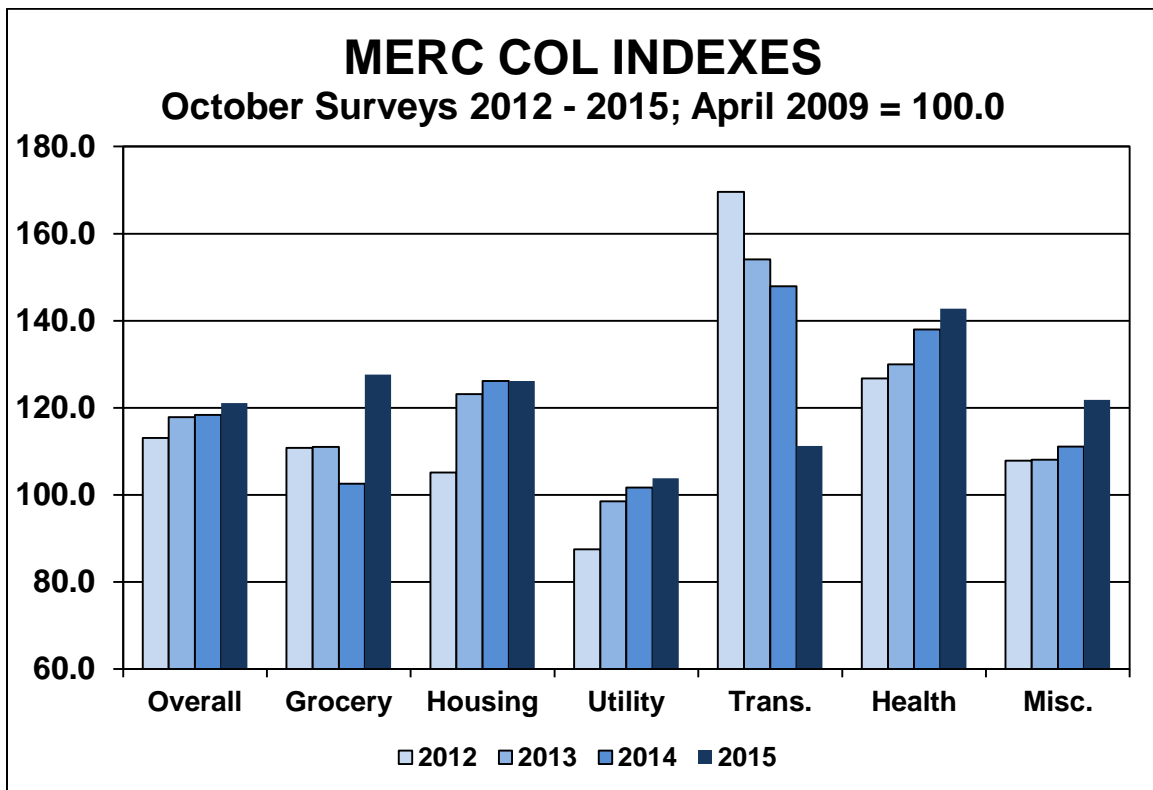
GREATER METROWEST – COST OF LIVING



Source: MERC

- The Housing Index had a value of 126.2 in October 2015. This means that housing costs in MetroWest were approximately 26% higher in October of 2015 than the base period in April 2009.
- The Housing Index reached its peak in October 2005 with a value of 137.7. The Miscellaneous Goods and Services Index reached its peak in October 2015 with a value of 121.9.
- From October 1991 to October 2015, the average annual increase for the Housing Index was 2.4%, while the Miscellaneous Goods and Services Index saw a 2.6% average annual increase.
- The Miscellaneous Goods and Services Index has reached new peaks in 7 of the last 8 surveys.

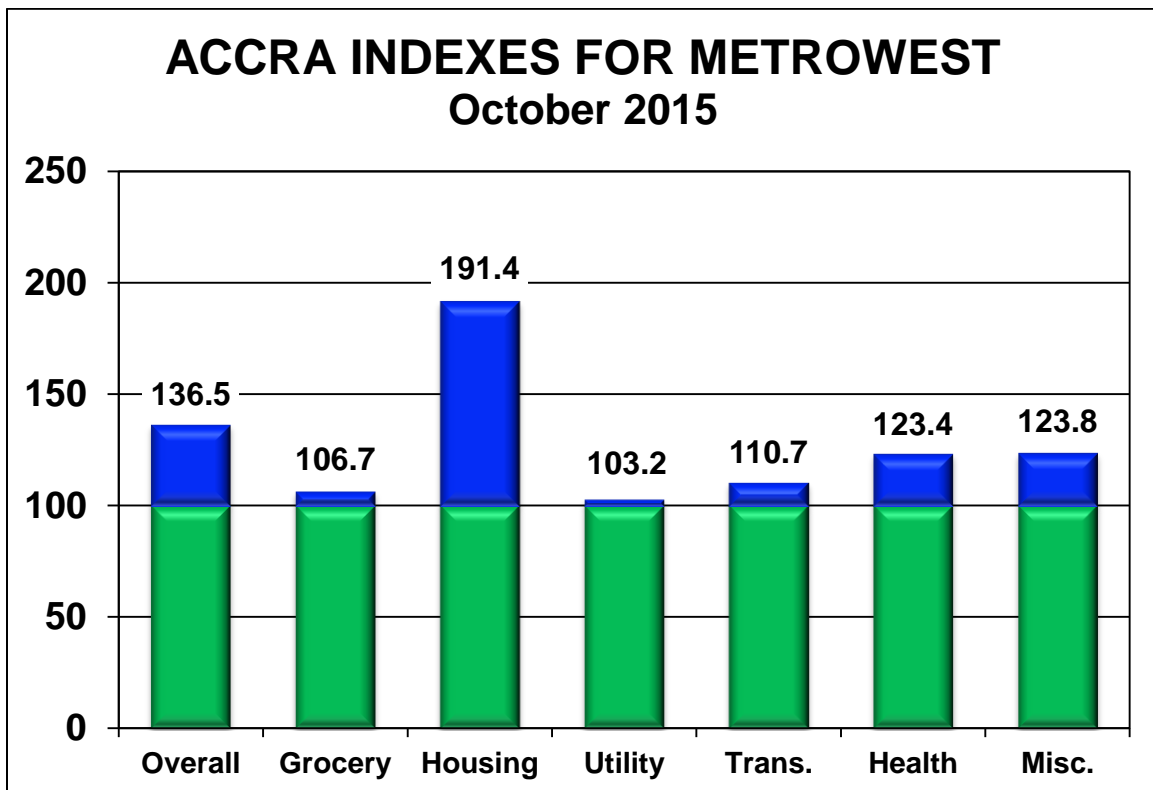
GREATER METROWEST – COST OF LIVING



Source: MERC

- The graph shows all of the indexes from the October surveys of each year, from 2012 to 2015. The base period for the two indexes is April 2009, at which time each index had a value of 100.0.
- The general trend is that the indexes are growing by year. However, the Transportation Index was the exception; It was the only index to show any decrease for more than 2 consecutive surveys.
- From the four most recent October surveys, gasoline prices were \$3.98, \$3.46, \$3.36 and \$2.33 per gallon, respectively. Gas prices are currently below the previous price of \$2.33 per gallon, so the Transportation Index may continue to fall. The Transportation Index went from being ranked the highest to fifth highest in one year.
- From October 2012 to October 2015: Gas prices recorded a 41% decrease; the Transportation Index experienced a 34% decrease.
- In October 2012, the Transportation Index had a value of 169.9, which was almost double the value of the Utilities Index at 87.5.

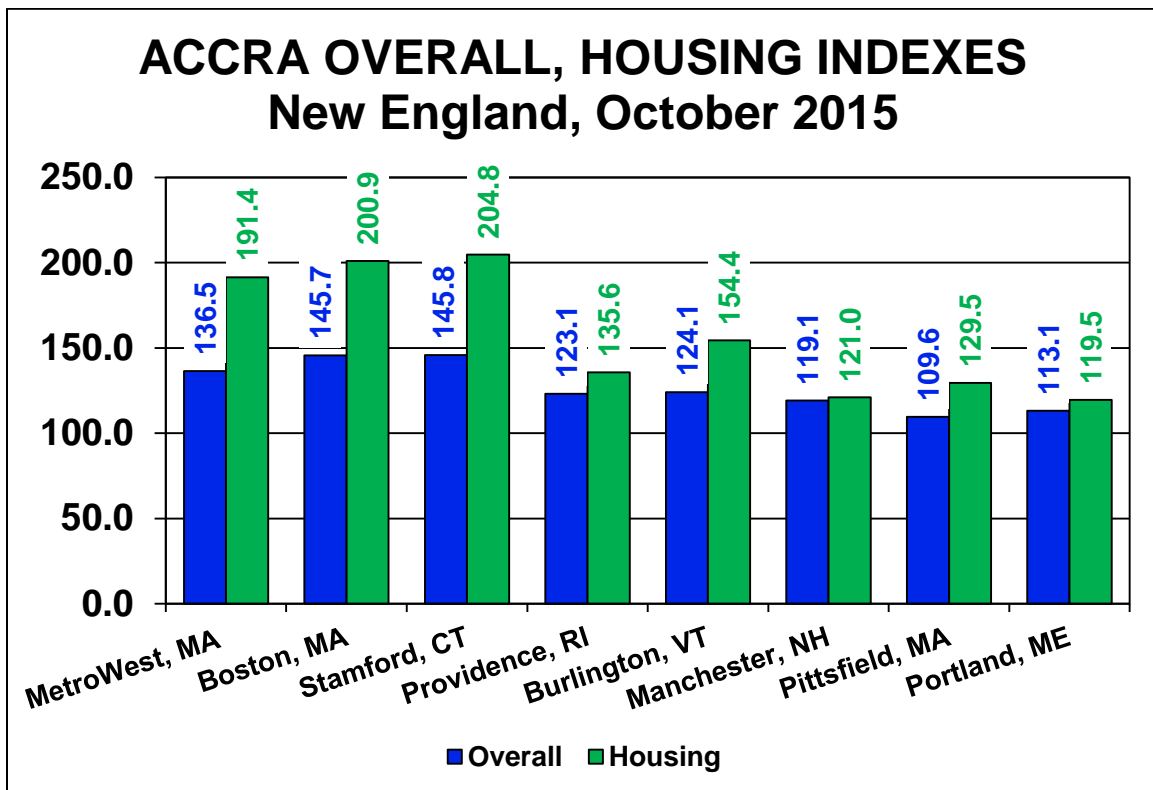
GREATER METROWEST – COST OF LIVING



Source: C2ER and MERC

- In the graph above, the green segment of each bar represents the national average cost of living, which has a value of 100.0. In October 2015, the ACCRA Overall Cost of Living Index for MetroWest was 136.5; about 37% above the national average.
- All of the sub-indexes were higher than the national average; this has been consistent throughout almost every ACCRA report since MERC began participating in 1991.
- The Housing Index was the highest of six sub-indexes with a value of 191.4. This means that the price of housing in MetroWest was nearly double the national average this past October.
- The Utility Index had the lowest value of all six sub-indexes with a value of 103.2, still 3% higher than the national average. It was followed closely by the Grocery Index at 106.7.
- Housing was the only sub-index greater than the Overall Index.

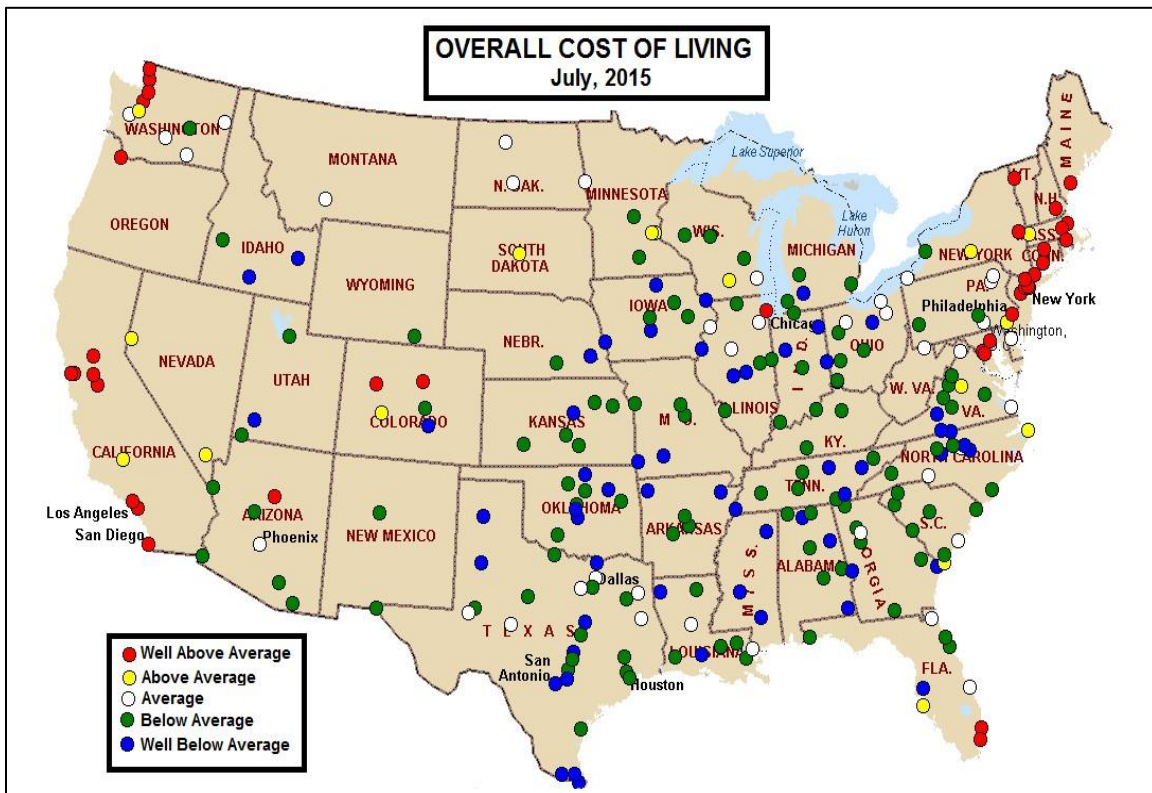
GREATER METROWEST – COST OF LIVING



Source: C2ER and MERC

- The graph above shows the Overall Cost of Living indexes (in blue) and the Housing Indexes (in green) for MetroWest, Boston, and six other New England communities that participated in the October 2015 C2ER survey. Every area had both Overall and Housing Indexes greater than the national average.
- Among the eight areas studied in the graph above, Stamford, CT had the highest Overall Index and the highest Housing Index in October 2015. The Overall index had a value of 145.8, signifying that living in Stamford, CT was roughly 46% more expensive than the national average. Stamford's Housing Index had a value of 204.8; Housing costs in Stamford were more than double the national average.
- The lowest Overall Index value belonged to Pittsfield, MA. However, even having the lowest value of the eight areas, it still recorded a value almost 10% greater than the national average.
- In all of the New England communities surveyed, the Housing Index was higher than the Overall Index; suggesting that the cost of housing is a significant contributor to the high cost of living in the region.

GREATER METROWEST – COST OF LIVING

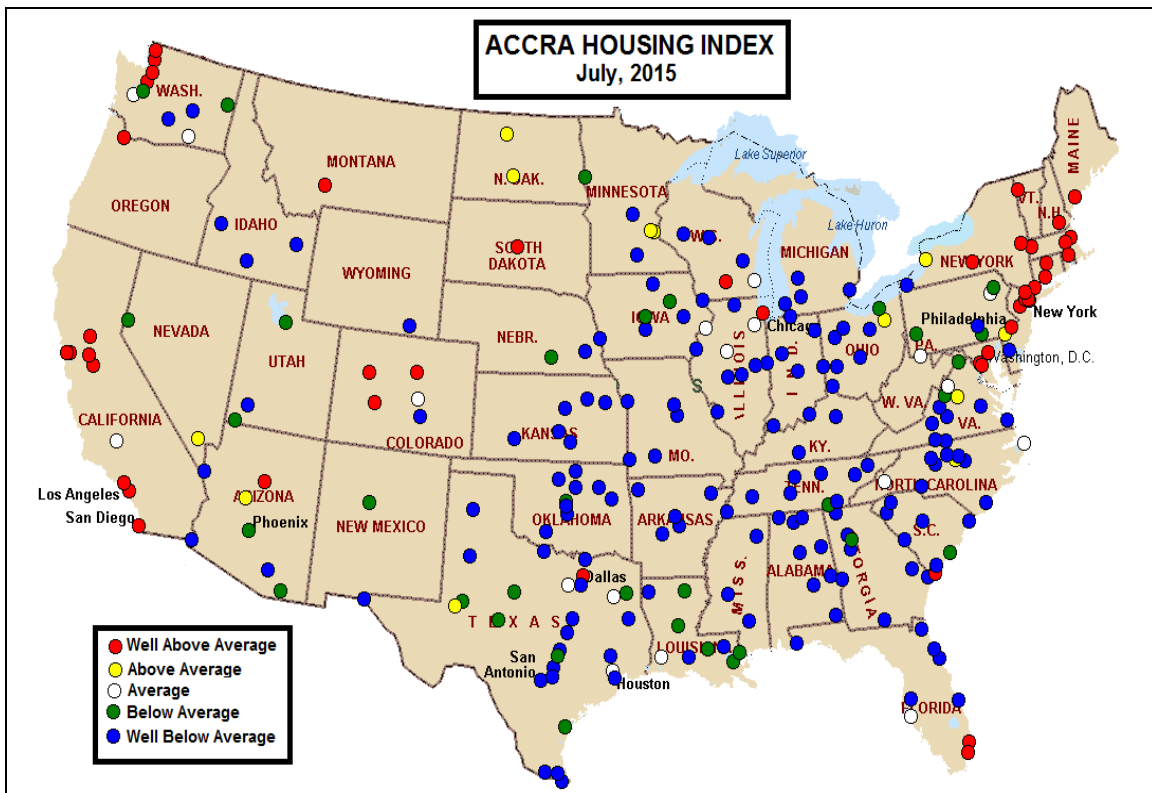


Source: C2ER and MERC

- In July of 2015, the participating communities with the highest living costs (red dots) were mostly located in the Northeast and on the West Coast. Manhattan, NY (236.1) had the highest Overall Index, nearly 2.4 times the national average. It was followed by Honolulu, HI (188.6) and San Francisco, CA (178.1). Boston ranked 11th at 145.7 and MetroWest ranked 14th at 136.5.
- McAllen, TX had the lowest Overall Index in July 2015 with a value of 77.8, implying that the overall cost of living in McAllen was around 22% below the national average. The next two lowest Overall Indexes were seen in Harlingen, TX (79.3) and Richmond, IN (80.1).
- Fifty-eight of the 265 communities (21.9%) had Overall Indexes below 90.0 (represented by blue dots), while 44 of 265 communities (16.6%) had Overall Indexes greater than 110.0 (represented by red dots).

Note: The Overall ACCRA Index was used for this classification. Average means that the index was between 97.0 and 103.0; Above Average is an index between 103.1 and 110.0; Well Above Average is an index higher than 110.0. A community with an index below 90.0 is classified as Well Below Average, while Below Average is an index between 90.0 and 96.9.

GREATER METROWEST – COST OF LIVING



Source: C2ER and MERC

- The Housing Indexes from the July 2015 survey exhibited a similar pattern to that seen in the Overall Indexes. The highest housing costs are mostly seen in the Northeast and on the West Coast, with some scattered in the Midwest.
- The highest Housing Index was 497.6 in Manhattan, NY, implying that housing costs in Manhattan are roughly five times the national average. The next highest indexes were San Francisco, CA (320.3) and Honolulu, HI (307.8). Boston ranked 11th at 200.9, and MetroWest ranked 13th at 191.4.
- The lowest Housing Index was found in Ashland, OH at 57.0, nearly 43% lower than the national average. The next two lowest Housing Indexes were Idaho Falls, ID (58.5) and Savannah, GA (63.8).
- Fifty-two of 265 communities (19.6%) had indexes greater than 110.0; well above the national average. Majority of the communities in the survey had indexes well below the national average: 150 of 265 communities (56.6%) had Housing Indexes below 90.0 (represented by the blue dot).

Note: The Overall ACCRA Index was used for this classification. Average means that the index was between 97.0 and 103.0; Above Average is an index between 103.1 and 110.0; Well Above Average is an index higher than 110.0. A community with an index below 90.0 is classified as Well Below Average, while Below Average is an index between 90.0 and 96.9.

GREATER METROWEST – MUNICIPAL REVENUE

MUNICIPAL REVENUE

Municipalities report budgeted revenue, actual revenue and actual expenditures to the Massachusetts Department of Revenue (DOR), Division of Local Services (DLS) on form Schedule A which includes a tax recapitulation report. The DLS of the DOR prepares many analyses from these reports. The MetroWest Economic Research Center (MERC) at Framingham State University uses the underlying information as well as DLS reports to prepare analyses for the local region.

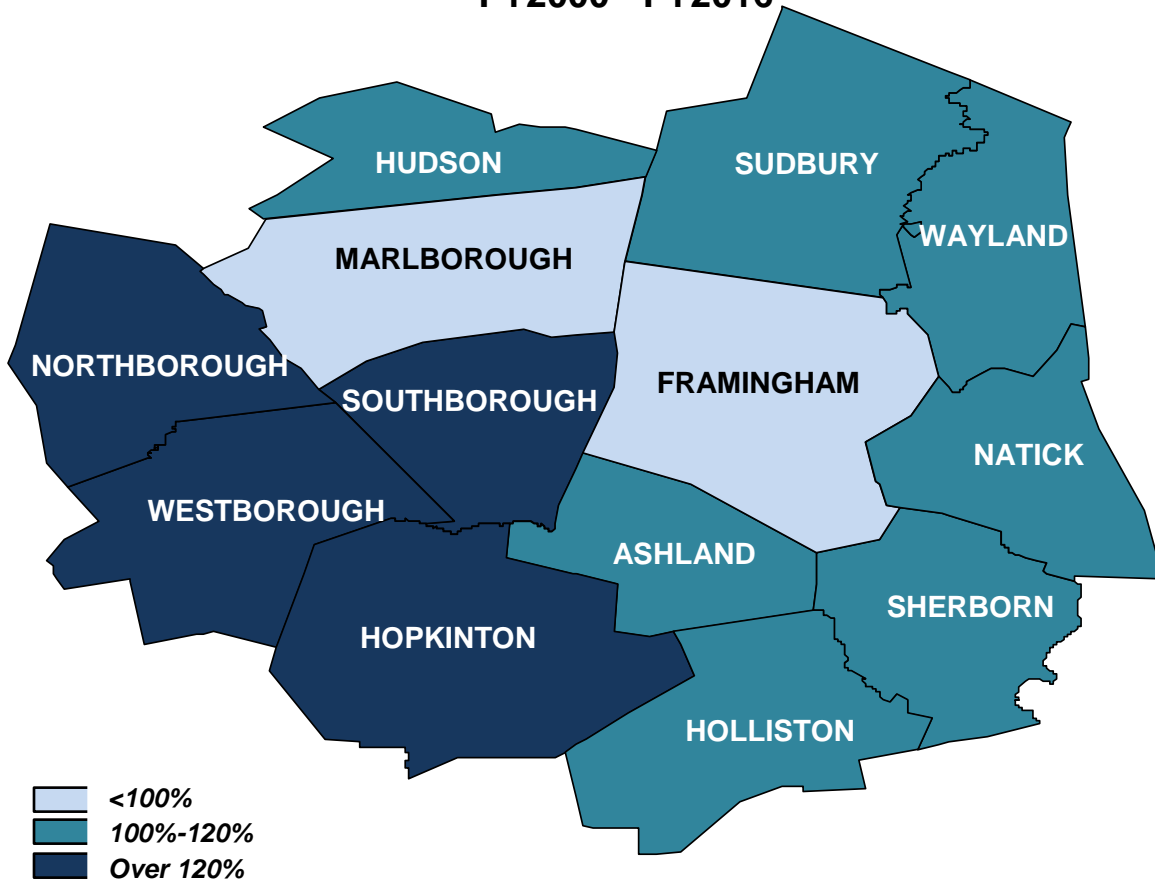
Unless otherwise stated, revenue presented in this report represents budgeted revenue reported to the Massachusetts Department of Revenue, Division of Local Services by the respective municipalities. It consists of the total tax levy, state aid, local receipts and an “all other” category. The tax levy consists of assessments on personal property, industrial, commercial, open space and residential real estate. Personal property includes furnishings of second homes and some inventories and equipment of unincorporated businesses. On-site vehicles of utility companies are generally included in this category as well. State aid is earmarked as state aid for education and state aid for general government. Local receipts include motor vehicle excise taxes, licenses and charges for services. The “all other” category includes free cash and other available funds. Budgeted revenue and actual revenue differ very little.

Tax levies are subject to limitations imposed by related legislation. In any given year, the tax levy cannot exceed 2½ percent of the total assessed value of the property of the community. In addition, the tax levy cannot increase by more than 2 ½ percent of the prior year tax levy limit plus new growth without voter approval of an operating budget override or a debt exclusion override. An operating budget override constitutes a permanent adjustment to the tax levy base that is used for subsequent year calculation limits while a debt exclusion override is in effect only for the life of the bond for which it was approved. It does not become a permanent adjustment to the tax levy base. Individual communities are also able to determine the extent to which property taxes will be borne by residential taxpayers or commercial and industrial (C&I) taxpayers. Some communities choose to tax residential, commercial and industrial property at the same rate while others use split rates. Personal property is generally taxed at C&I rates imposed by the respective community.

With the residential exemption, the tax burden shifts within the residential class from owner-occupied, and relatively lower valued properties, to relatively higher valued ones and to those not eligible for the exemption, such as vacant land, rental properties and seasonal homes. The small commercial exemption is a similar shift within the class in that it excludes a percentage of the assessed value of each eligible parcel. It covers commercial real property valued at less than \$1 million that is occupied by certified small business (10 or fewer employees).

GREATER METROWEST – MUNICIPAL REVENUE

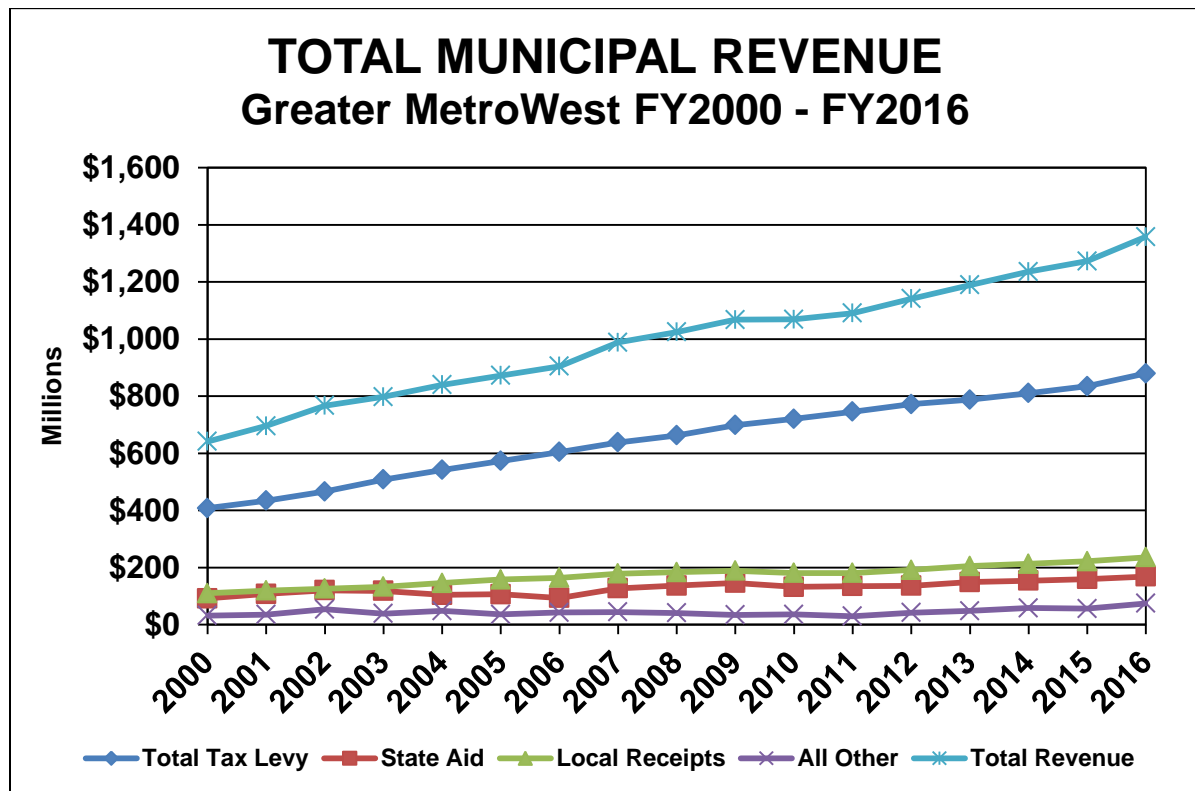
GREATER METROWEST GROWTH IN MUNICIPAL REVENUE FY2000 - FY2016



Source: MA Department of Revenue, DLS, and MERC

- Municipal revenue percentage growth from FY2000 to FY2016 in Greater MetroWest (GMW) is divided into three intervals: Under 100%, 100% to 120%, and greater than 120%.
- From FY2000 to FY2016, total GMW municipal revenue increased from \$641.3 million to approximately \$1.4 billion, a gain of 111.8%.
- The seven communities of Ashland, Holliston, Hudson, Natick, Sherborn, Sudbury, and Wayland experienced growth in the 101% to 120% range. Framingham and Marlborough experienced growth at slightly below 100%. The remaining four communities experienced growth of more than 120%.
- Westborough and Hopkinton experienced the largest percentage growth throughout the period, 157.2% and 147.3% increases, respectively. Southborough and Northborough experienced growth increases from FY2000 through FY2016 of 129.1% and 127.1%, respectively.

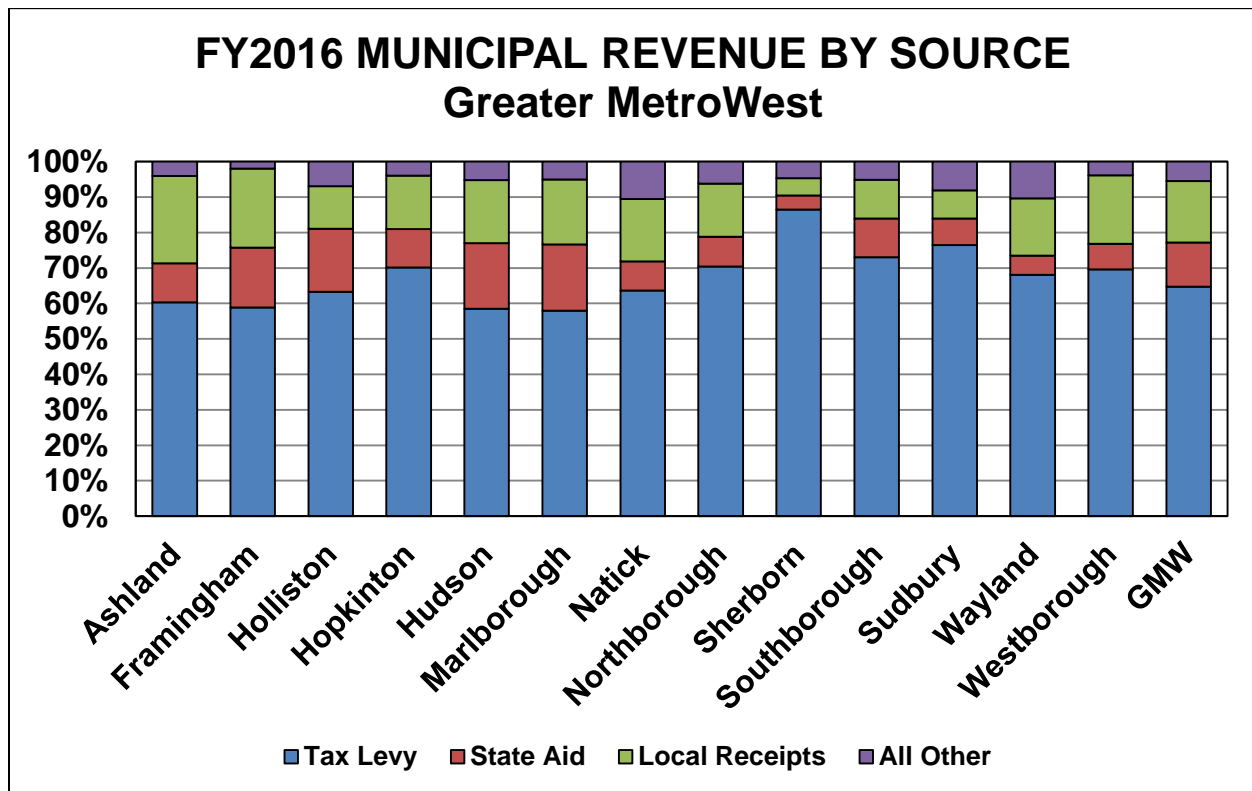
GREATER METROWEST – MUNICIPAL REVENUE



Source: Department of Revenue, DLS, MERC

- Total municipal revenue for Greater MetroWest (GMW) rose from \$641.3 million in FY2000 to \$1,358.3 million in FY2016, an increase of 111.8%.
- The tax levy for the region grew every year for an overall increase of 115.6%; the tax levy increased from \$407.8 million in FY2000 to \$879.3 million in FY2016. The tax levy rose by 5.3% from FY2015 to FY2016.
- Local receipts reached the highest value in FY2016 at \$235.8 million, an increase of 6.2% from FY2015 and an increase of 114.4% since the start of the period in FY2000.
- State aid for GMW was one of the lowest contributors to Total Revenue, rising from \$91.8 million in FY2000 to \$168.7 million in FY2016, an increase of 83.7%. State aid increased 5.8% from FY2015 to FY2016.
- The “all other” category was the lowest contributor in the period. In FY2000 “all other” stood at \$31.7 million. By 2016 it reached its peak of \$74.5 million, an increase of 135.1% from the start of the period in FY2000.

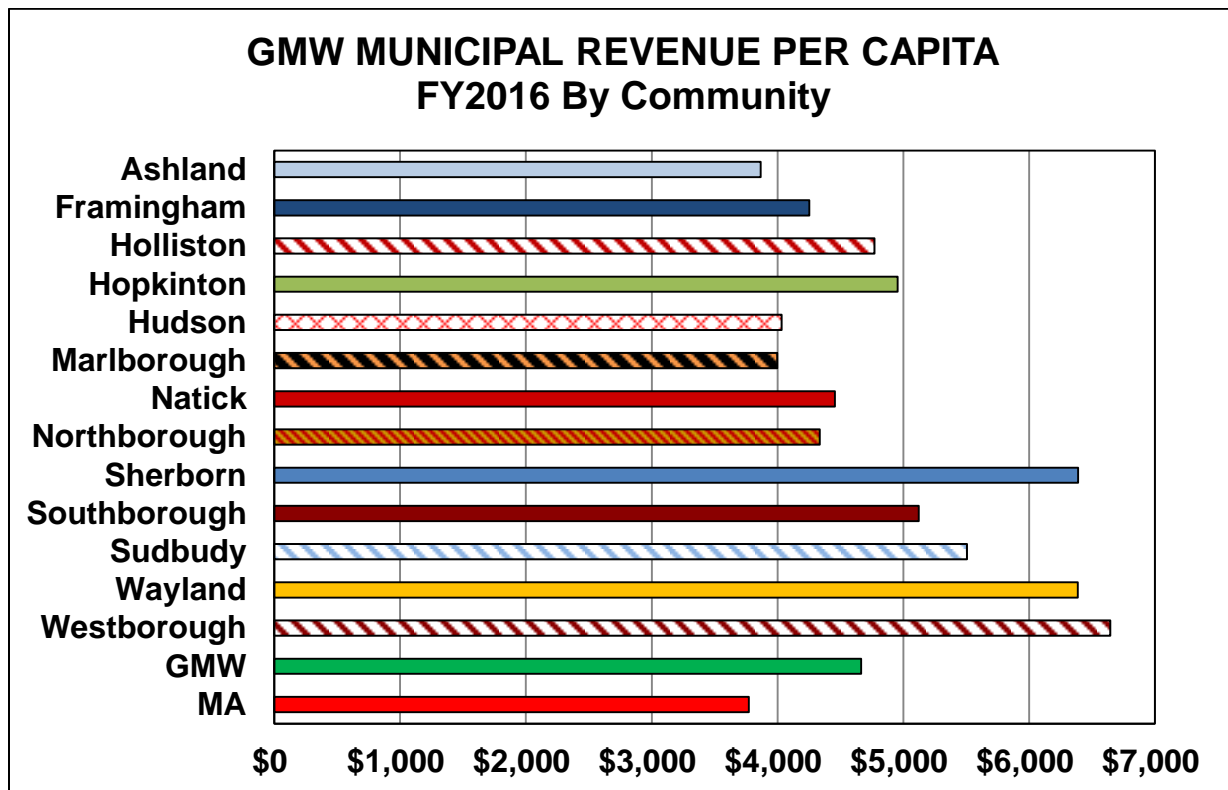
GREATER METROWEST – MUNICIPAL REVENUE



Source: MA Department of Revenue, DLS, and MERC

- In FY2016 the municipal revenue components for Greater MetroWest (GMW) varied by community. The total tax levy represented the largest contributor in each of the thirteen communities and the region. The percent of revenue contributed by the tax levy ranged from a low of 58.0% in Marlborough to a high of 86.5% in Sherborn.
- State aid as a percentage of total revenue varied from a low of 4.0% in Sherborn to its highest percentage in Marlborough at 18.7%.
- Local receipts ranged from 4.9% in Sherborn to a high of 24.6% in Ashland, a difference of close to 20 percentage points.
- “All other” had the smallest contribution to municipal revenue with a low of just 1.9% in Framingham. The highest percentage was in Natick where 10.5% of municipal revenue came from the “all other” category.

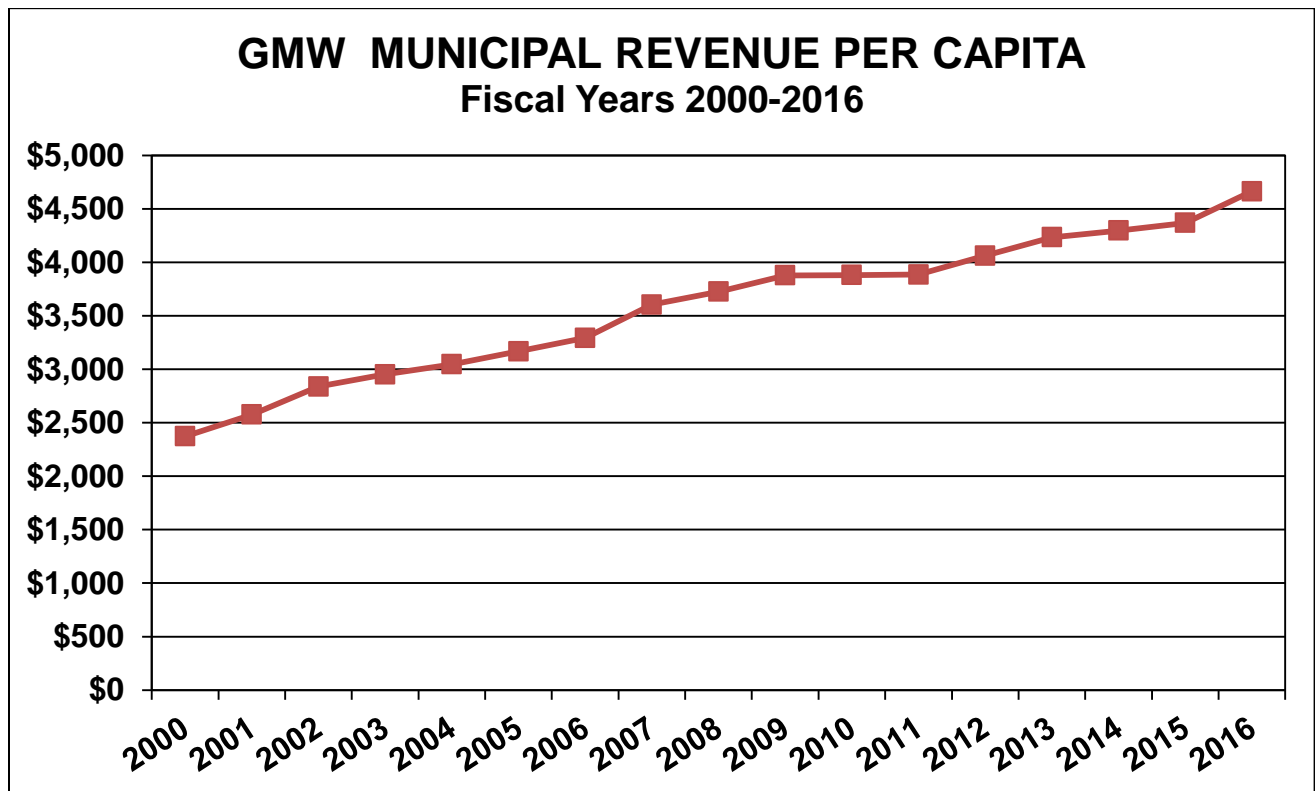
GREATER METROWEST – MUNICIPAL REVENUE



Source: MA Department of Revenue, DLS, and MERC

- Municipal revenue per capita for Greater MetroWest (GMW) communities, the region, and the state for FY2016 can be viewed as spending per capita as communities are required to balance their budgets.
- Of the thirteen GMW communities, Westborough had the highest revenue per capita at \$6,644; this was higher than Sherborn which had the second highest municipal revenue per capita at \$6,388. Wayland followed closely behind with the third largest revenue per capita at \$6,385. Ashland had the lowest with \$3,867, just slightly above the state per capita revenue of \$3,771, and slightly below Marlborough at \$3,997. In this graph the number used for the Massachusetts per capita average of \$3,771, was from FY2015, as the data for FY2016 for the state was unavailable at the time of publication.
- Six of the thirteen communities fell below the GMW municipal revenue per capita average of \$4,664: Ashland, Framingham, Hudson, Marlborough, Natick, and Northborough.
- Each of the remaining seven communities was above the GMW municipal revenue per capita average.

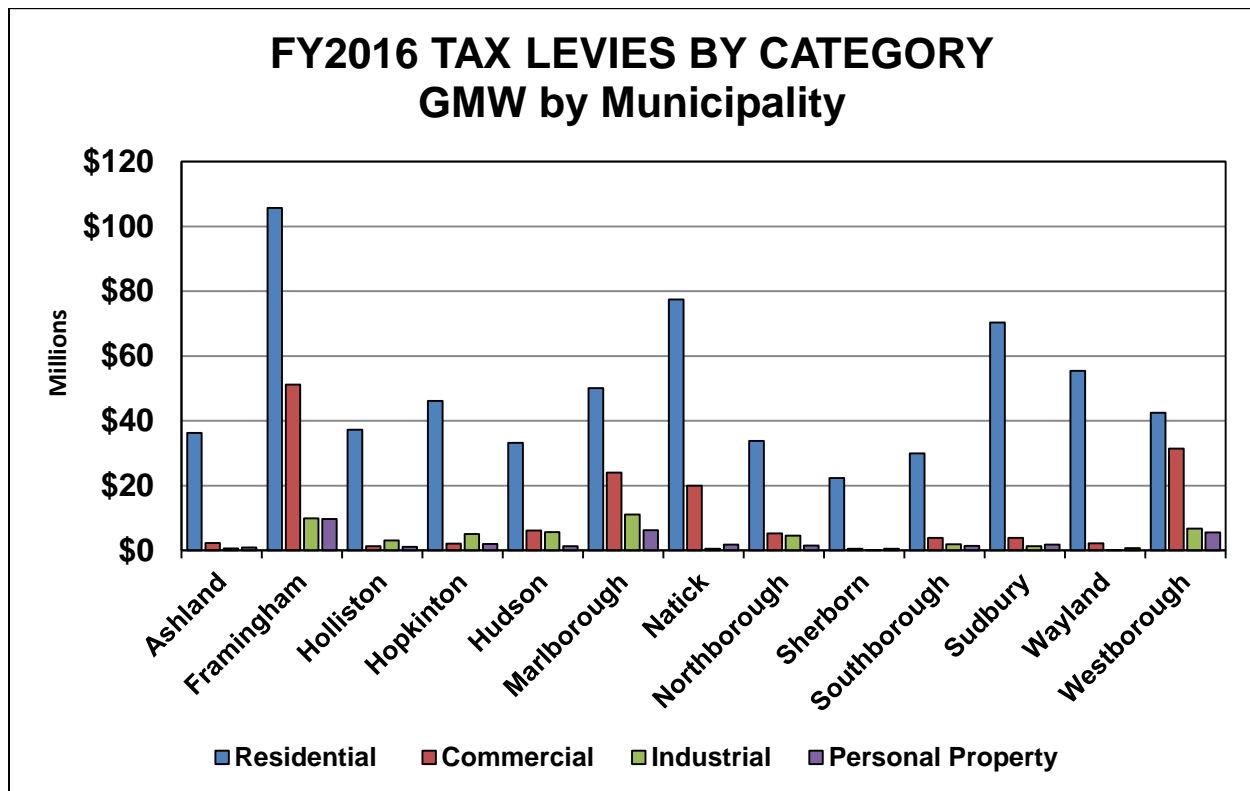
GREATER METROWEST – MUNICIPAL REVENUE



Source: MA Department of Revenue, DLS, and MERC

- Municipal revenue per capita for Greater MetroWest (GMW) increased from \$2,373 in FY2000 to \$4,664 in FY2016. This represented an average annual rate of increase of approximately 4.9% over the 16 year period.
- This statistic can also be viewed as spending per capita as communities work with balanced budgets.
- An increase of 0.1% occurred twice between FY2009 and FY2010 as well as between FY2010 and FY2011. These were the smallest increases seen for the region within the 14 year period.
- The largest increase of 10.2% occurred between FY2001 and FY2002 when municipal revenue per capita rose from \$2,576 to \$2,838.
- Between FY2015 and FY2016, the municipal revenue per capita rose from \$4,370 to \$4,664, or an increase of about 6.7% for the one year period.

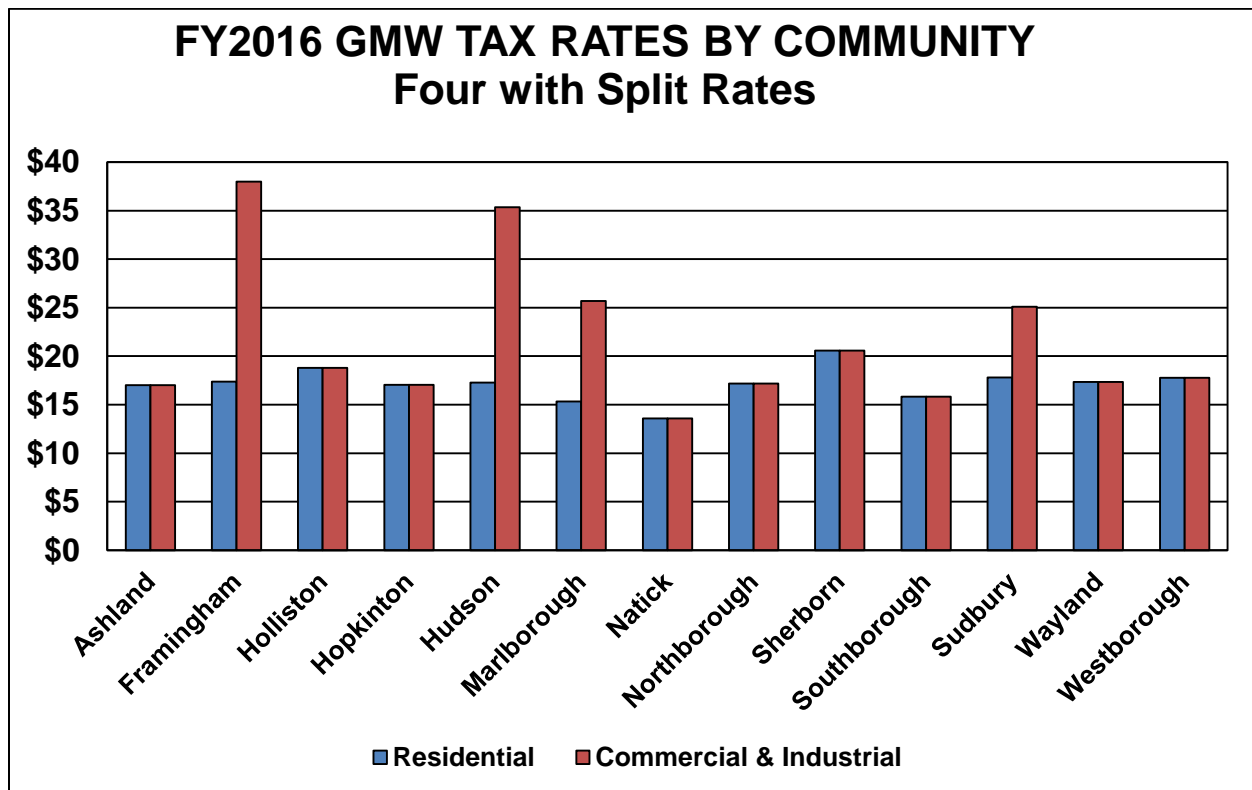
GREATER METROWEST – MUNICIPAL REVENUE



Source: MA Department of Revenue, DLS, and MERC

- Residential taxes produced the largest portion of the tax levy for all communities in the Greater MetroWest region. Absolute amounts varied considerably, ranging from \$106 million in Framingham to \$22 million in Sherborn. The total tax levy for the region was \$879 million.
- The commercial tax levy fell between \$51 million in Framingham and \$0.5 million in Sherborn. Westborough had the second highest commercial tax levy at \$31 million.
- The industrial tax levy was the highest in Marlborough and Framingham at \$11 and \$10 million, respectively. Sherborn and Wayland had the lowest industrial tax levy at \$59,137 and \$79,296, respectively.
- The personal property tax levy was \$10 million in Framingham followed by \$6 million in Marlborough and \$6 million in Westborough, the third highest in the region.
- The total tax levy rose by \$44 million in FY2016, from its previous year in FY2015. Increasing from \$835 million up to \$879 million.

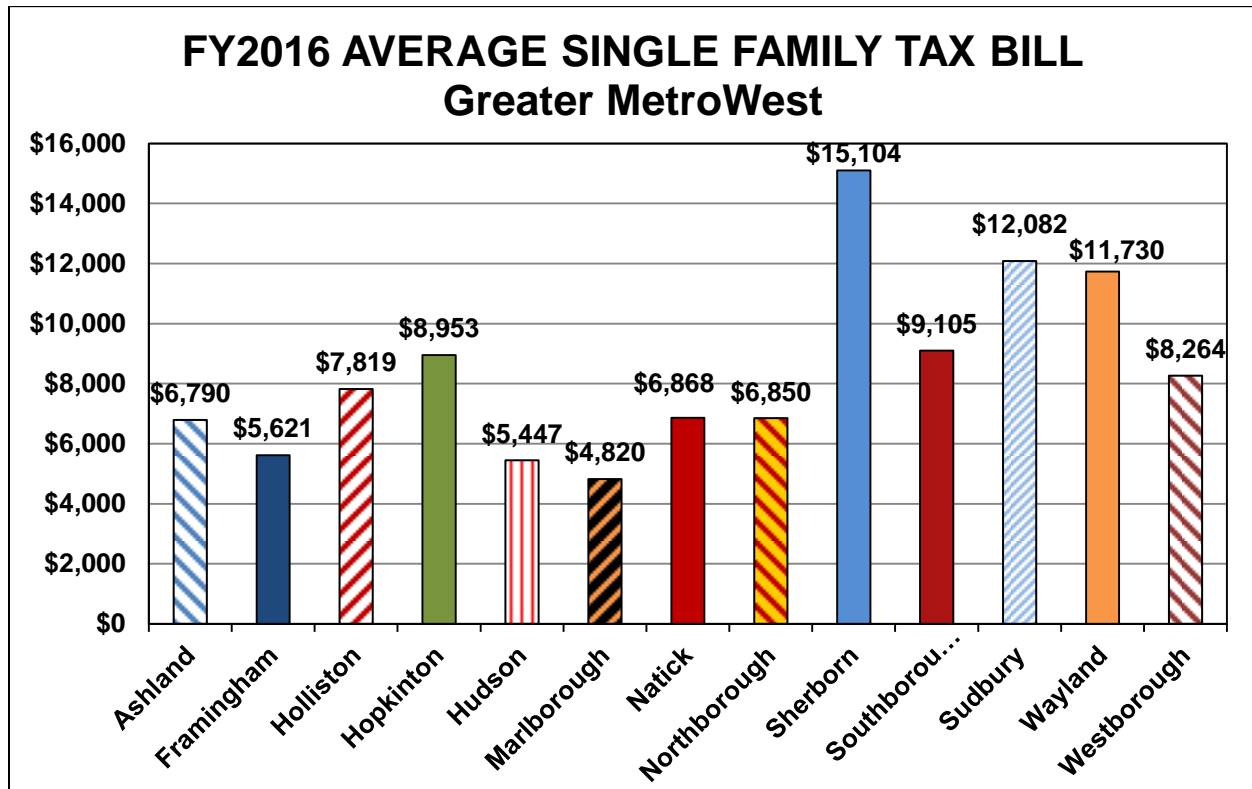
GREATER METROWEST – MUNICIPAL REVENUE



Source: MA Department of Revenue, DLS, and MERC

- The graph above compares the FY2016 residential and commercial & industrial tax rates per \$1,000 of assessed value for the thirteen Greater MetroWest (GMW) communities.
- In the region, nine of the thirteen communities had the same rates for both residential and commercial & industrial property. These communities include: Ashland, Holliston, Hopkinton, Natick, Northborough, Sherborn, Southborough, Wayland, and Westborough.
- The four communities with split rates in GMW were Framingham, Hudson, Marlborough, and Sudbury. These four communities had the highest commercial and industrial rates at \$37.98, \$35.37, \$25.69, and \$25.11, respectively.
- Natick had the lowest rates for both residential and commercial & industrial tax property at \$13.57.
- Residential rates ranged from Sherborn at \$20.57, which was the highest among the thirteen communities, to the lowest residential tax rate in GMW at \$13.57 in Natick.

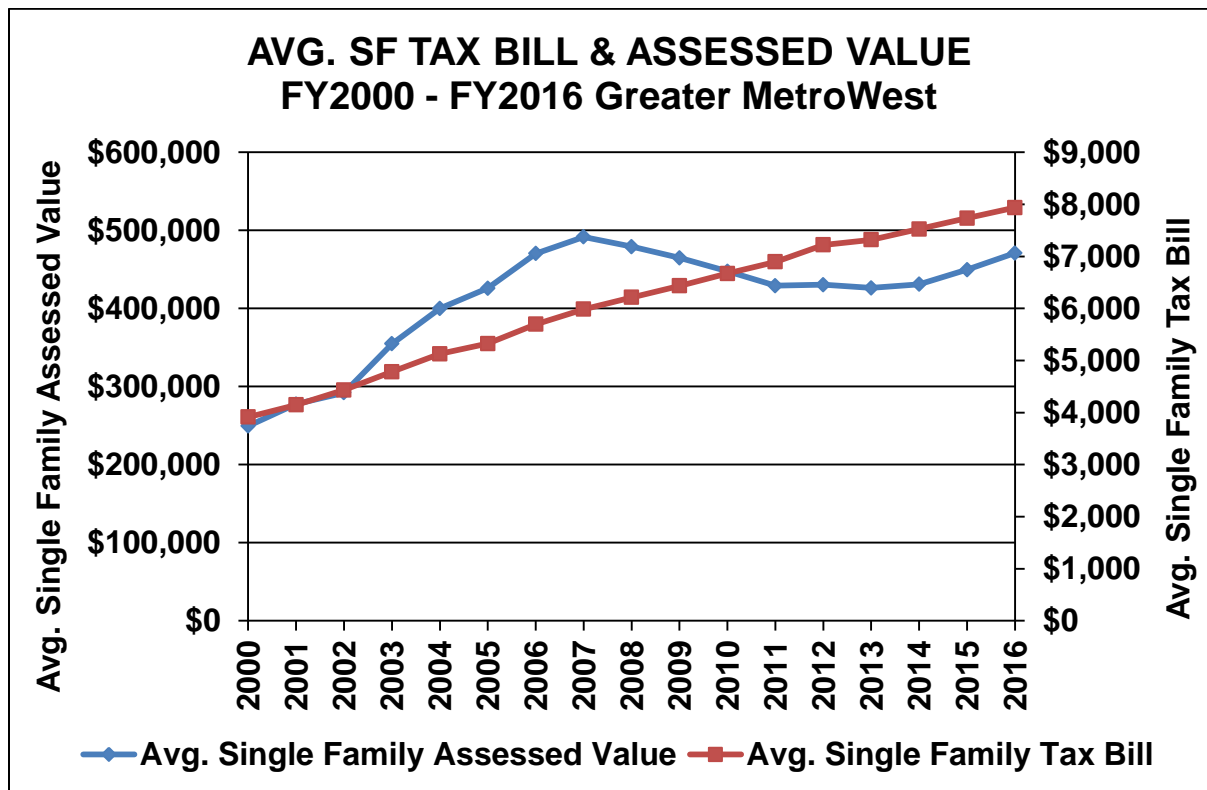
GREATER METROWEST – MUNICIPAL REVENUE



Source: MA Department of Revenue, DLS, and MERC

- The average single family residential tax bill in FY2016 differed by community from a low of \$4,820 in Marlborough to a high of \$15,104 in Sherborn.
- Sherborn's average single family tax bill was more than triple the average single family tax bill in Marlborough.
- Among the remaining eleven communities, the average single family tax bill ranged from \$5,447 in Hudson to \$12,082 in Sudbury with communities such as Hopkinton (\$8,953), Westborough (\$8,264), and Holliston (\$7,819) all falling in the middle.
- The average assessed value for the single family homes is arrived at by dividing the total single family assessed value for each community by the number of single family parcels in that community.
- The average single family tax bill is determined by applying the respective residential tax rate to the average single family assessed value for each community.

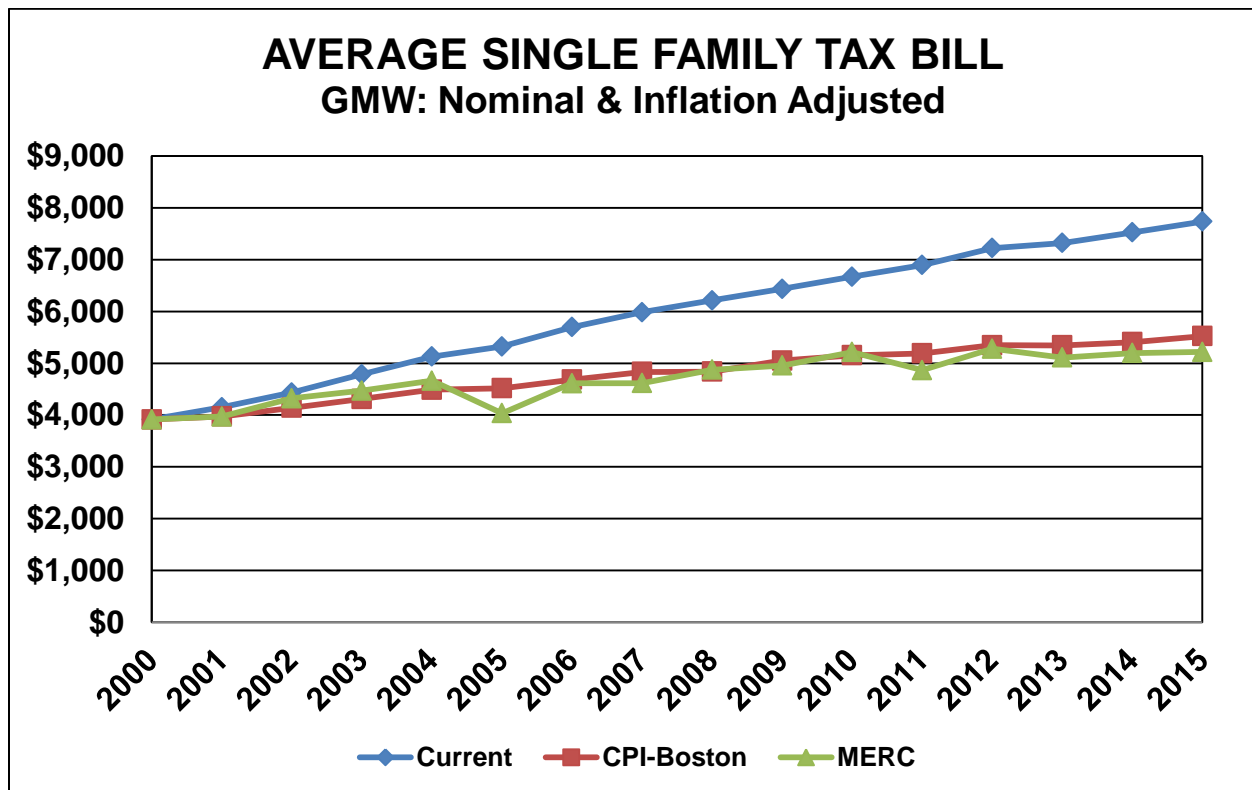
GREATER METROWEST – MUNICIPAL REVENUE



Source: MA Department of Revenue, DLS, and MERC

- The average single family assessed value for Greater MetroWest (GMW), excluding Marlborough, is shown in blue and measured on the left vertical axis. The average single family tax bill, excluding Marlborough, is shown in red and on the right vertical axis.
- The average single family tax bill increased from a low of \$3,915 in FY2000 to a high of \$7,338 in FY2016. This showed an increase of 102.7% over the period. For each year shown on the graph the average single family tax bill increased.
- From FY2000 to FY2016, the average single family assessed value fluctuated. The lowest value occurred in FY2000 at \$249,490 while the highest value was \$491,631 in FY2007. From there it fell until FY2011, increasing marginally in FY2012, and dipping again in FY2013. The average single family assessed value experienced an increase of 4.7% in FY2016 to \$470,882.
- The average single family tax bill for the region was determined by calculating a residential tax rate for the region and applying this to the average single family assessed value. The rate was determined by dividing the residential tax levy by the residential assessed value for the region. The average single family assessed value for the region was determined by dividing the total single family assessed value by the total single family dwellings.

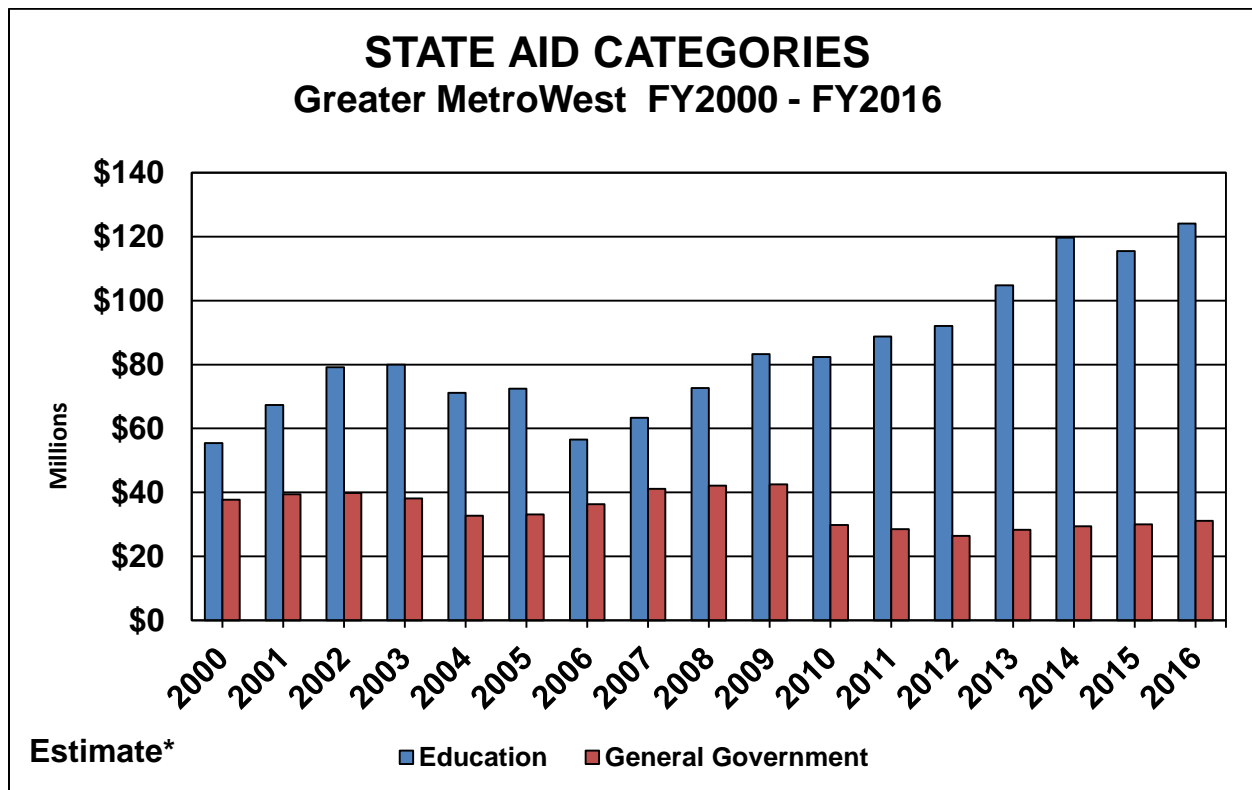
GREATER METROWEST – MUNICIPAL REVENUE



Source: MA Department of Revenue, DLS, and MERC

- This graph depicts the average single family tax bill in Greater MetroWest (GMW), excluding Marlborough, for FY2000 to FY2015. The values are measured in nominal or current dollars and also adjusted for inflation.
- The actual single family tax bill, shown in blue, increased every year during this time period from \$3,915 in FY2000 to \$7,735 in FY2015, an increase of \$3,820 or almost 98%.
- Two different price indexes were used to calculate the inflation-adjusted real dollar value of the average single family tax bill: MERC's MetroWest Cost of Living Index and the Boston Consumer Price Index (CPI).
- Each of the two inflation adjustments yielded higher total tax bills in FY2015 than in FY2000. The Boston CPI produced a larger increase in the tax bill over the period, an increase of \$1,608, while the MERC index generated an increase of \$1,303.

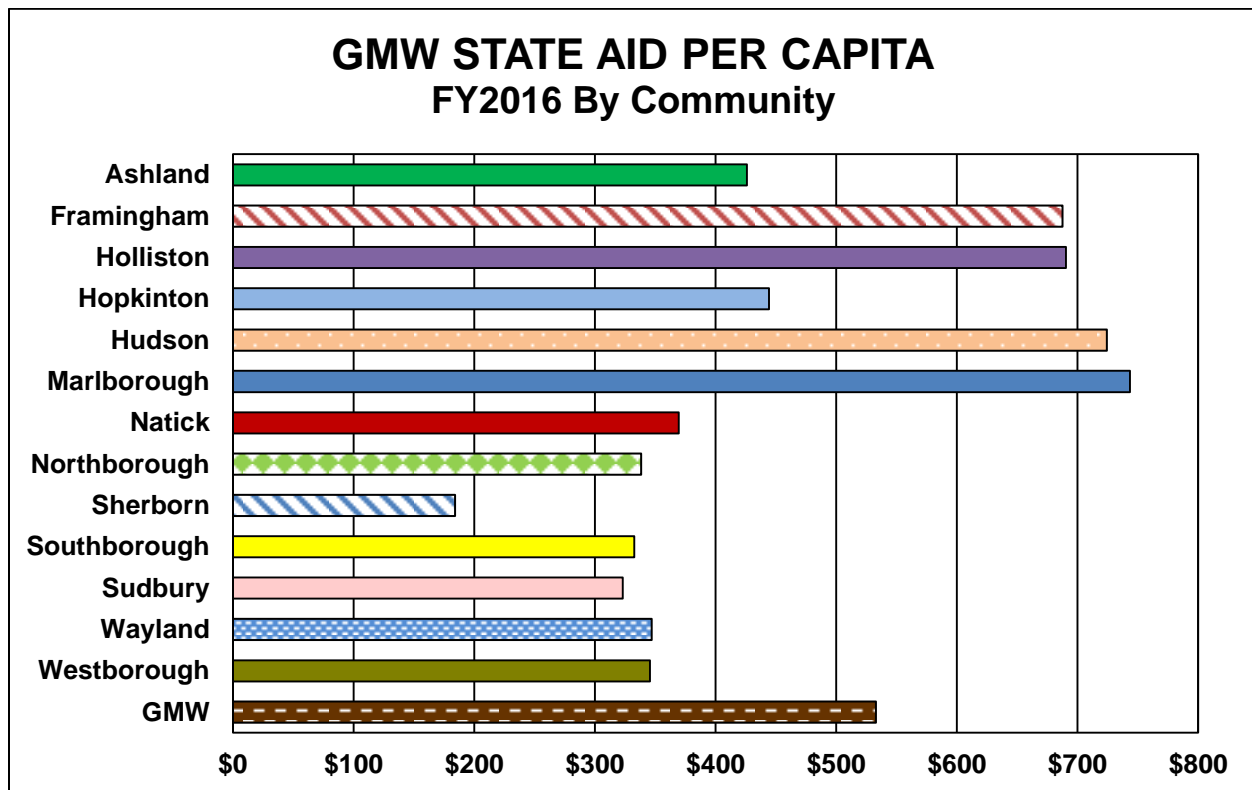
GREATER METROWEST – MUNICIPAL REVENUE



Source: MA Department of Revenue, DLS, and MERC

- State aid for education in Greater MetroWest (GMW) increased from \$55.5 million in FY 2000 to an estimated \$124.1 million in FY2016, more than double the earlier amount. Over the period, there were four cases where state aid for education decreased while the remaining years showed an increase. State aid for education increased steadily from FY2010 through FY2014 and decreased slightly in FY2015, before increasing again in FY2016.
- Note that the amount from FY2006 forward does not include estimated continuing school construction aid that is now accounted for separately by the Massachusetts School Building Authority (MSBA). State aid for education on this page is comprised of Chapter 70, charter tuition assessment reimbursement, school lunch and school choice receiving tuition programs.
- State aid for general government in the GMW communities for the same period had a much lower range with a high of \$42.5 million in FY2009 to a low of \$26.5 million in FY2012. State aid for general government in GMW for FY2016 was estimated at \$31.2 million, an increase of 3.6% from FY2015.
- Total state aid has varied over time with periods of increase then decline. Total state aid has increased each year from FY2010 through FY2014, and decreased in FY2015. Total state aid is estimated to increase from \$145.5 million in FY2015 to \$155.2 million in FY2016.

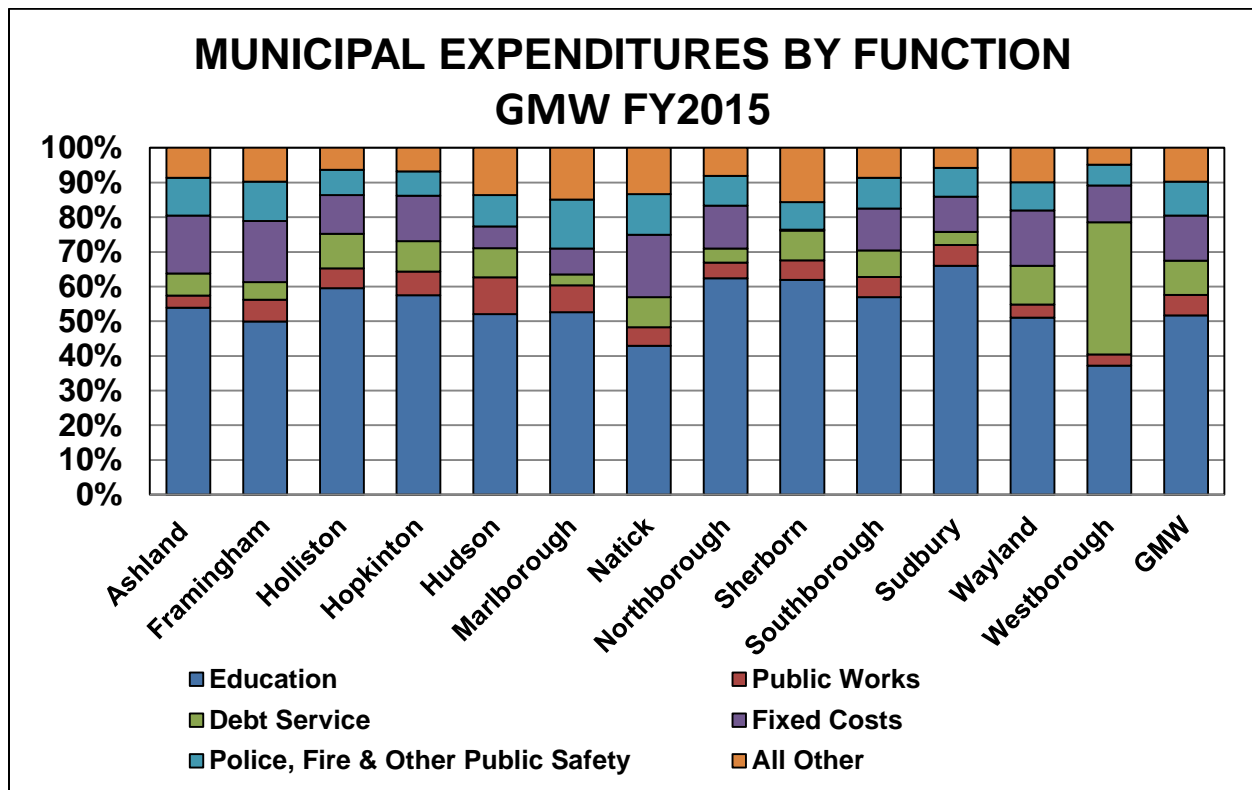
GREATER METROWEST – MUNICIPAL REVENUE



Source: MA Department of Revenue, DLS, and MERC

- The graph shows per capita state aid given directly to each of the thirteen communities in Greater MetroWest as well as the region for FY2016. State aid per capita is calculated by dividing the sum of the aid given to a community by the population of the community.
- Per capita state aid given to the communities ranged from a low of \$184 in Sherborn to a high of \$744 in Marlborough. Communities in the region received an average of \$533 per capita in state aid for FY2016.
- State aid reflected in this graph consists of both state aid for education as well as state aid for general government given directly to the respective communities. Total state aid given to all of the communities shown above was \$155,225,786.
- State aid given directly to regional school districts is not included in the above calculations.

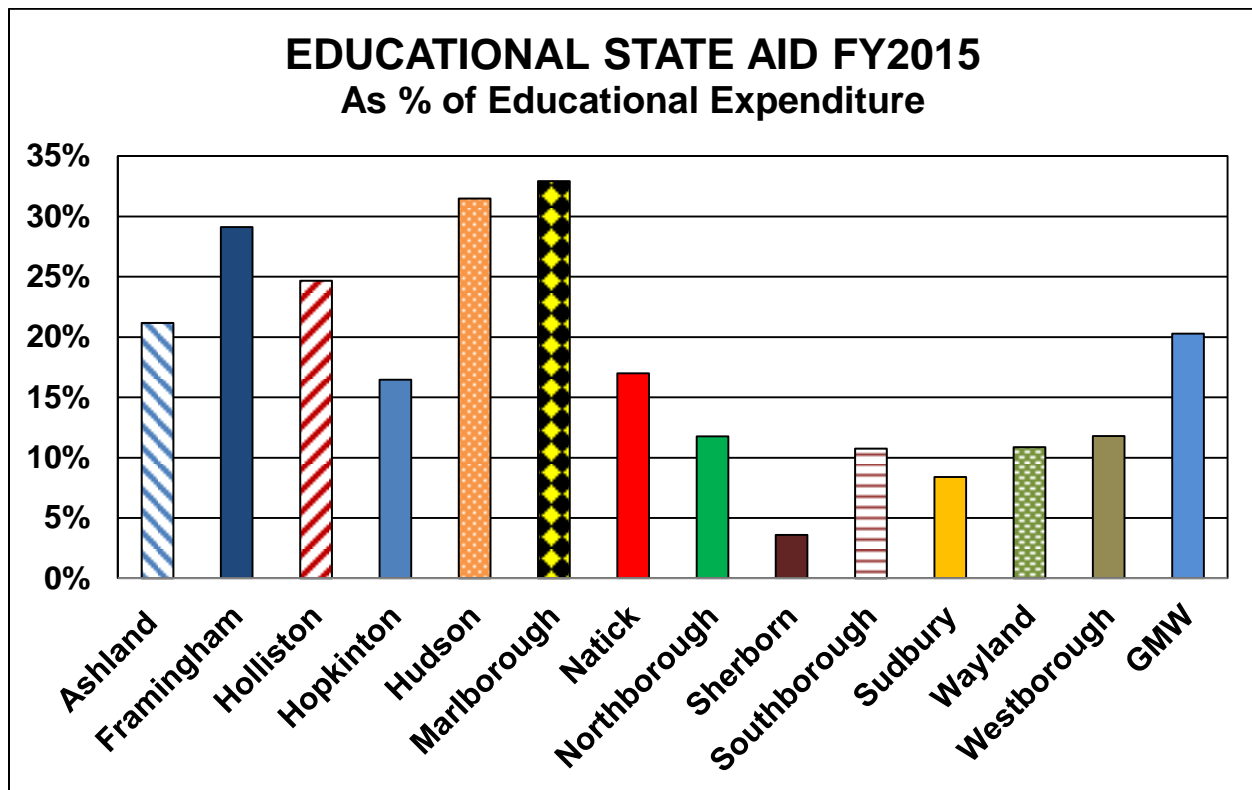
GREATER METROWEST – MUNICIPAL REVENUE



Source: MA Department of Revenue, DLS, and MERC

- Municipal expenditures are classified into six main categories: education, public works, debt service, fixed costs, police, fire & other public safety and “all other.” Fixed employee benefits for all municipal employees are included in fixed costs. (FY2014 general fund expenditures were used for Hopkinton, Hudson, Sherborn, Sudbury, Wayland and Westborough as FY2015 data was not yet available.) Total general fund expenditures in FY2015 in Greater MetroWest (GMW) were over a billion dollars, at \$1,102 million.
- Of the thirteen communities, only Framingham, Natick and Westborough had less than 50% of their municipal expenditures go to education with 49%, 43%, and 37% respectively. The other ten communities had education shares ranging from 51% in Wayland to 66% in Sudbury with a GMW average of 52%.
- The remaining categories varied by community. Sherborn had the lowest fixed cost expenditures at 0.3%, compared to a GMW average of 12.9%. Public works was the lowest expenditure percentage in Westborough at 3.2% with a GMW average of 5.9%. Westborough had the highest debt services expenditure at 38.1%. Police, fire & other public safety and “all other” both had percentages of 9.8%, respectively, for the region.

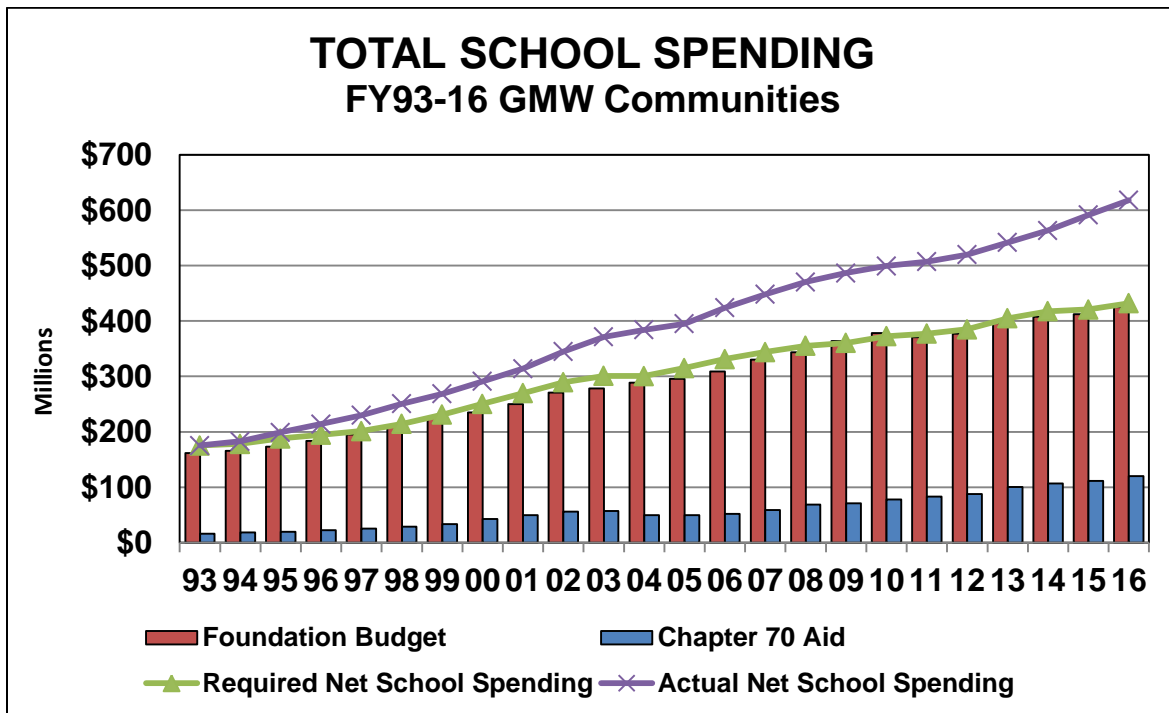
GREATER METROWEST – MUNICIPAL REVENUE



Source: MA Department of Revenue, DLS, and MERC

- Marlborough had the largest educational state aid as a percentage of educational expenditure at 32.9%, Hudson (31.5%), Framingham (29.1%), and Holliston (24.7%) followed closely behind Marlborough. These four communities and Ashland were the only communities to surpass the GMW average of 20.3%. (FY2014 educational expenditures were used for Hopkinton, Hudson, Sherborn, Sudbury, Wayland and Westborough as FY2015 data was not yet available.)
- Sherborn had the lowest percentage at 3.6% while Sudbury had the second lowest with 8.4%; more than double the percentage for Sherborn. Noteworthy, Sherborn is a part of a regional middle school and high school district. State aid given directly to regional schools is not included in this calculation.
- The remaining communities of Ashland, Natick, Northborough, Southborough, Wayland, and Westborough had percentages ranging from a low of 10.7% in Southborough to a high of 21.2% in Ashland.
- Educational expenditures in this graph are those reported in the general fund. State aid for education in this graph includes Chapter 70 state aid for education, charter tuition assessment reimbursement, and school lunch programs.

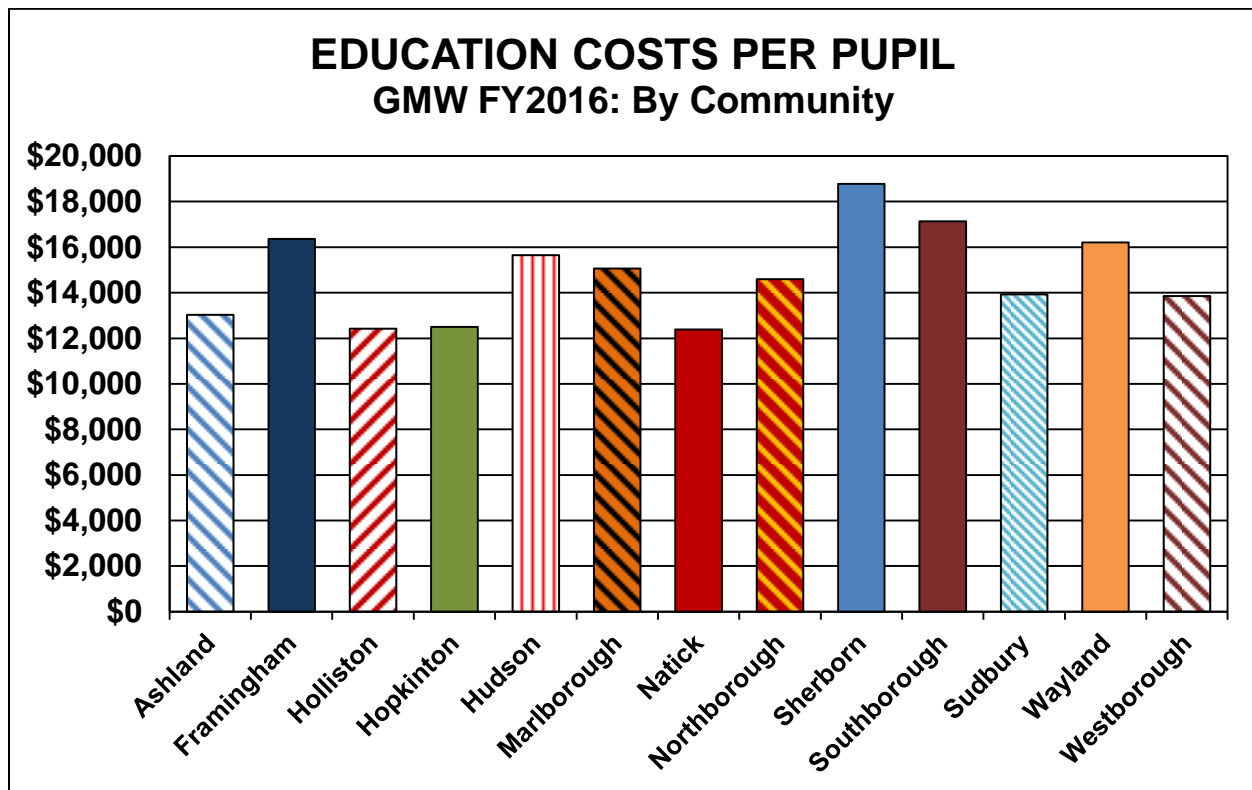
GREATER METROWEST – MUNICIPAL REVENUE



Source: MA Department of Revenue, DLS, DOE and MERC

- The above chart shows school spending totals over time for the thirteen communities in Greater MetroWest (GMW). Amounts are indicated for the foundation budget, required net school spending, Chapter 70 state aid for education and actual net school spending. Required net school spending is defined as the sum of a district's minimum contribution(s) plus Chapter 70 aid.
- The red bars represent the foundation budget which is a measure of the amount needed to provide the respective students in any given community an adequate, but not excessive, education. Amounts for the foundation budget are determined by student enrollment classification categories and related costs. For FY2016 the total foundation budget for the GMW communities was \$425 million, while the required net school spending (green line), which includes some additional items, was \$432 million.
- The blue bars represent Chapter 70 state aid educational assistance given to the communities. FY2016 Chapter 70 state aid educational assistance provided to the region totaled approximately \$120 million. The difference between the heights of the red and blue bars represents the required local contributions to school spending which was about \$312 million for FY2016 for all GMW communities combined.
- Actual net spending (purple line) is comprised of the required local contribution, Chapter 70 state aid and additional amounts communities choose to spend on education. FY2016 actual net spending totaled \$618 million. The communities in GMW actually spent \$186 million more educating their students than required.

GREATER METROWEST – MUNICIPAL REVENUE



Source: MA Department of Education, and MERC

- The graph on this page shows the thirteen municipalities that make up the Greater MetroWest (GMW) region, and how much they spent per K-12 student in FY2016. The graph shows education costs per pupil for public schools as reported by the Massachusetts Department of Elementary and Secondary Education (DESE).
- Spending on education ranged from \$12,382 per pupil in Natick to \$18,780 per pupil in Sherborn. Nine municipalities spent between \$12,000 and \$16,000 per pupil while Wayland, Framingham, Southborough, and Sherborn spent \$16,213, \$16,369, \$17,136, and \$18,780 respectively.
- No municipality spent less than \$12,000 per pupil and Southborough and Sherborn were the only two communities to spend more than \$17,000 per pupil in FY2016.
- The education costs on this graph represent actual net school spending per pupil. To find the cost per pupil, the actual net spending amount is divided by the number of students enrolled for each community.
- Framingham had the largest student enrollment of the GMW communities and had the third highest cost per pupil. Sherborn, the community with the highest education cost per pupil had the smallest student enrollment.

GREATER METROWEST – K-12 PUBLIC SCHOOL ENROLLMENT

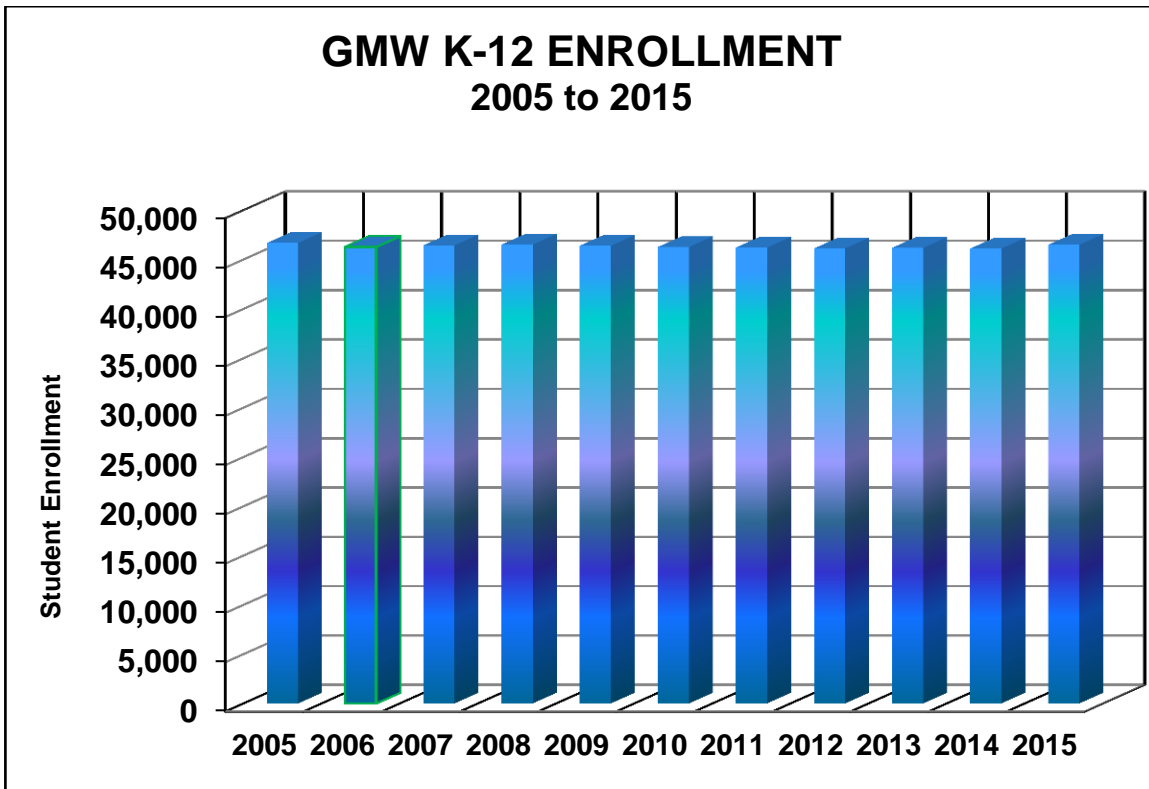
K-12 PUBLIC SCHOOL ENROLLMENT

The MetroWest Economic Research Center (MERC) at Framingham State University annually collects data on K-12 public school enrollment for several sub-state regions. Greater MetroWest public school enrollment is calculated for kindergarten through grade 12 using the annual state student census conducted in October of each year. Included in the data are all public school students in regular education, special education, ELL (English Language Learners), regional charter schools and regional vocational high schools. MERC contacts the region's charter schools, McAuliffe Regional Charter School and the Advanced Math and Science Academy, to obtain their enrollment figures.

In many communities, kindergarten enrollment typically increases 10% upon entry into the first grade.

The Massachusetts Department of Elementary and Secondary Education implemented a student enrollment database, the Student Information Management System (S.I.M.S.) in 2000. The MERC K-12 data presented in this report are obtained from both the October 2015 S.I.M.S. student census and data provided directly to MERC by the local school districts.

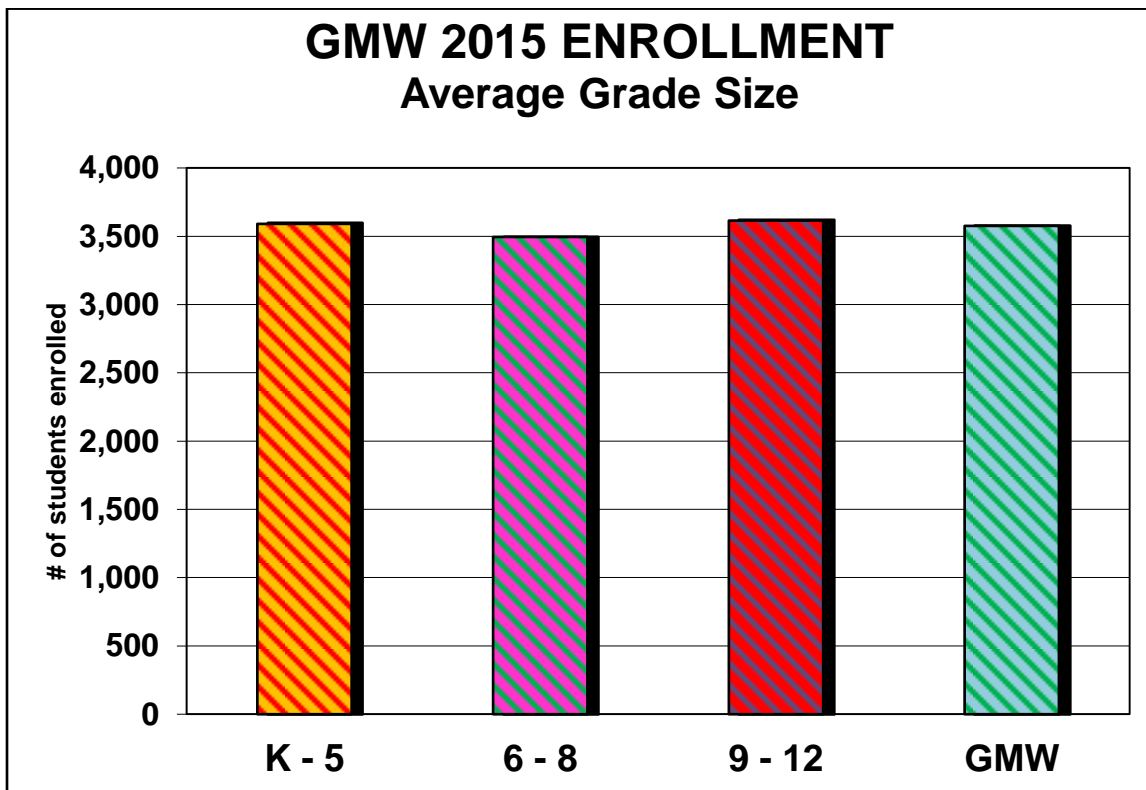
GREATER METROWEST – K-12 PUBLIC SCHOOL ENROLLMENT



Source: MA Department of Elementary and Secondary Education and MERC

- Public school student enrollment in Greater MetroWest (GMW) experienced a slight increase from 2005 to 2015. The student enrollment in 2005 was at 46,464 students, and rose to 46,495 in 2015. This number includes vocational school enrollments but does not include charter school enrollments.
- Vocational school enrollment rose from 1,370 students, to 1,409 in the ten year period, or an increase of 2.8%.
- Enrollments in vocational schools within the Greater MetroWest region are included in the above graph; however charter school enrollment is not included.
- The charter school student enrollment increased by 179% from 499 students in 2005, to 1,391 ten years later, in 2015.

GREATER METROWEST – K-12 PUBLIC SCHOOL ENROLLMENT

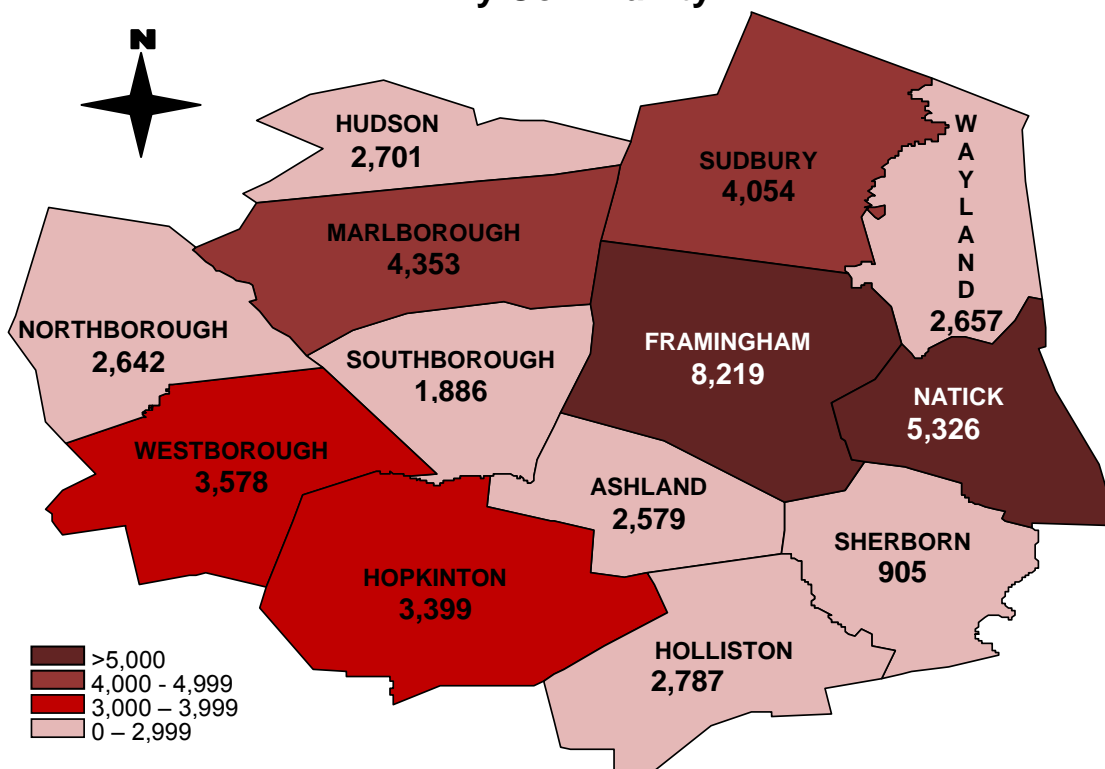


Source: MA Department of Elementary and Secondary Education and MERC

- The 2015 Greater MetroWest (GMW) K-12 public school enrollment averaged 3,577 students per grade. The regional average grade enrollment increased 0.83% from 2014.
- In 2015 the average number of students per grade at the elementary school level, kindergarten through fifth grade, was 3,591. This represents an increase of 1.1% from 2014.
- At the middle school level, grades 6 through 8, the average number of students per grade was 3,495, a decrease of 0.36% compared to 2014.
- The average number of students per grade at the high school level was 3,615, an increase of 1.32% from 2014.
- Charter school enrollment is not included in the average grade size calculations.

GREATER METROWEST – K-12 PUBLIC SCHOOL ENROLLMENT

GMW 2015 PUBLIC SCHOOL ENROLLMENT By Community

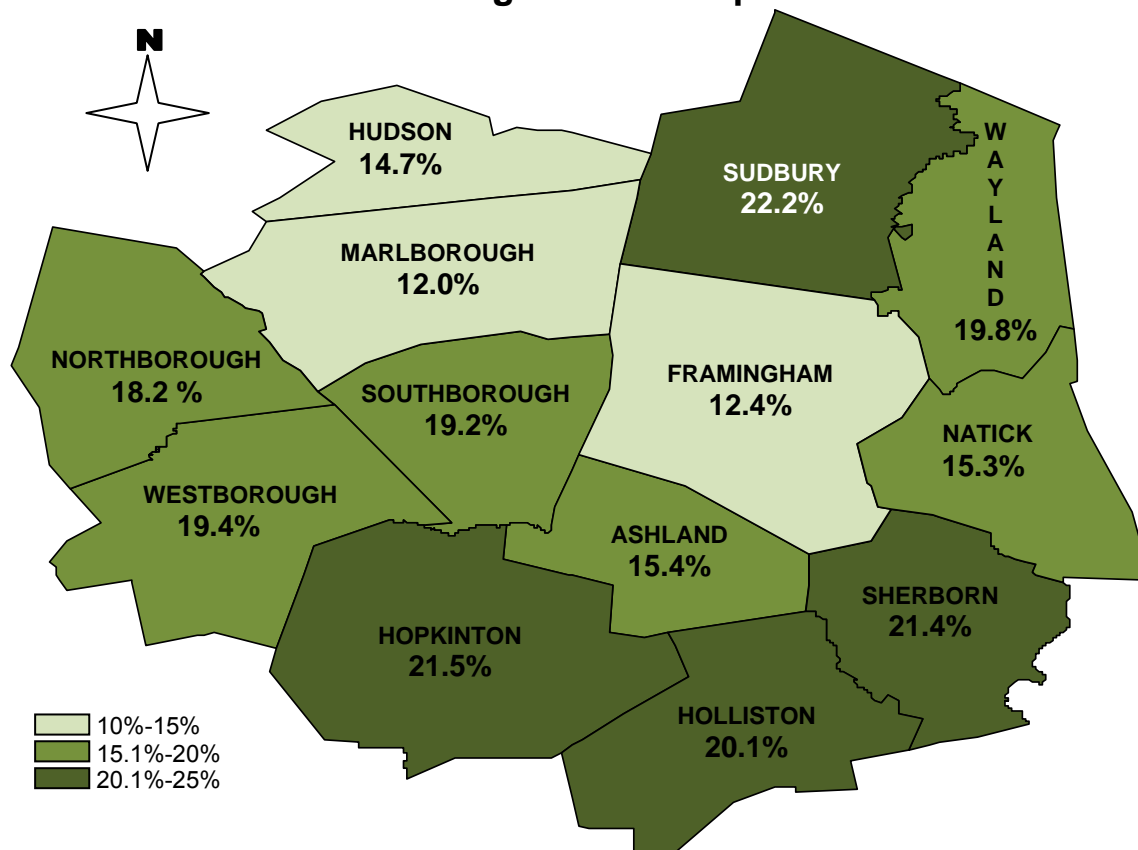


Source: MA Department of Elementary and Secondary Education and MERC

- K-12 public school enrollment in Greater MetroWest (GMW) in 2015 totaled 45,086 students. This figure does not include students enrolled in charter schools and vocational schools.
- The community reporting the highest enrollment was Framingham having a student enrollment of 8,219. The communities of Marlborough, Sudbury and Natick had enrollments between 4,000 and 5,400 students.
- Ashland, Holliston, Hudson, Northborough, and Wayland had enrollments between 2,000 and 3,000 students. Sherborn reported the smallest enrollment with 905 students.
- Enrollment in vocational high school for GMW totaled 1,409 students in 2015. These students are not included in the figures reported in the map above. Vocational student enrollment has increased by 4.2% from 2014.
- Enrollment in the charter schools totaled 1,391 students in 2015, down by less than 1% from 2014.

GREATER METROWEST – K-12 PUBLIC SCHOOL ENROLLMENT

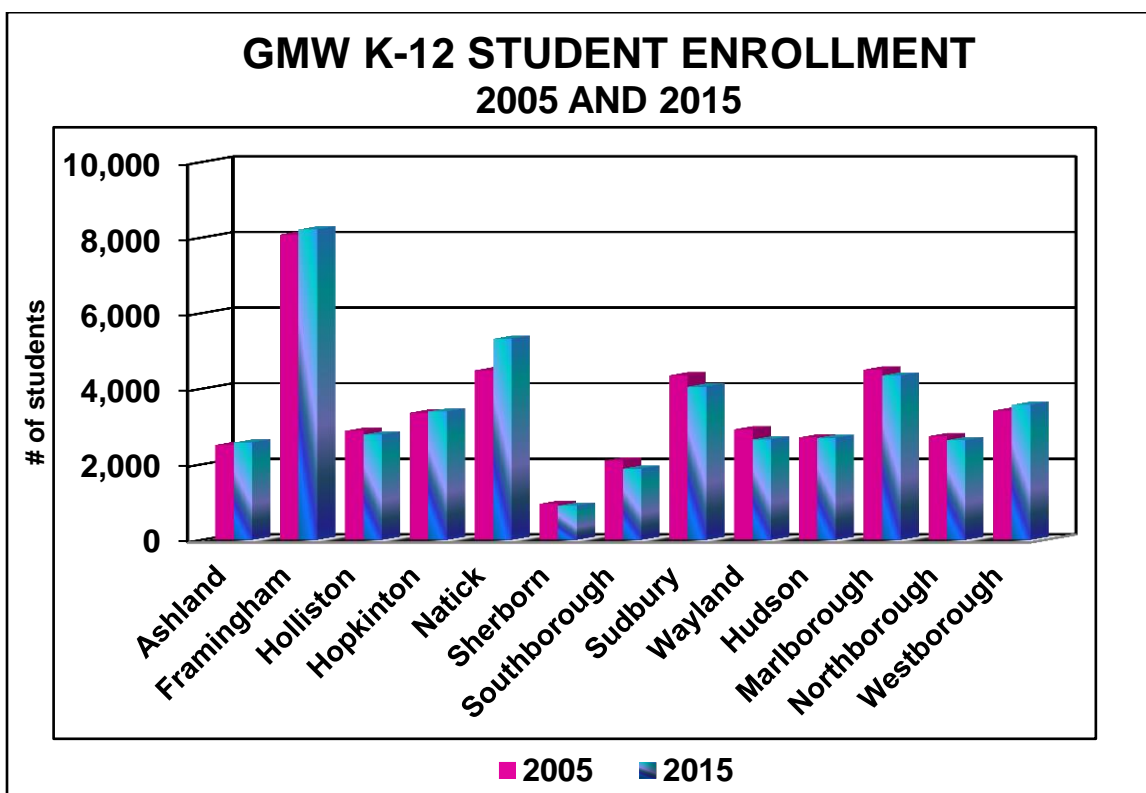
GMW PUBLIC SCHOOL ENROLLMENT As Percentage of 2015 Population



Source: U. S. Census and MERC

- K -12 public school enrollment in the Greater MetroWest Region (GMW) for 2015 was 46,495 students. This figure does not include students enrolled in charter schools.
- This map measures the proportion of the community enrolled in public school. Public school enrollment in 2015 is given as a percentage of 2015 population an estimate of the most recent census data available. The highest enrollment as percentage of population occurred in Sudbury, followed by Hopkinton, Holliston and Sherborn. In these communities, slightly more than 1 in 5 residents were in public schools.
- About 20% of the population in the communities of Northborough, Southborough, Wayland, and Westborough attend public school. The remaining communities of Ashland, Hudson, and Natick had public school enrollment of 15% of the total population.
- Framingham and Marlborough, the communities with the largest populations and public school enrollment, also reported a small percentage of the population in school.

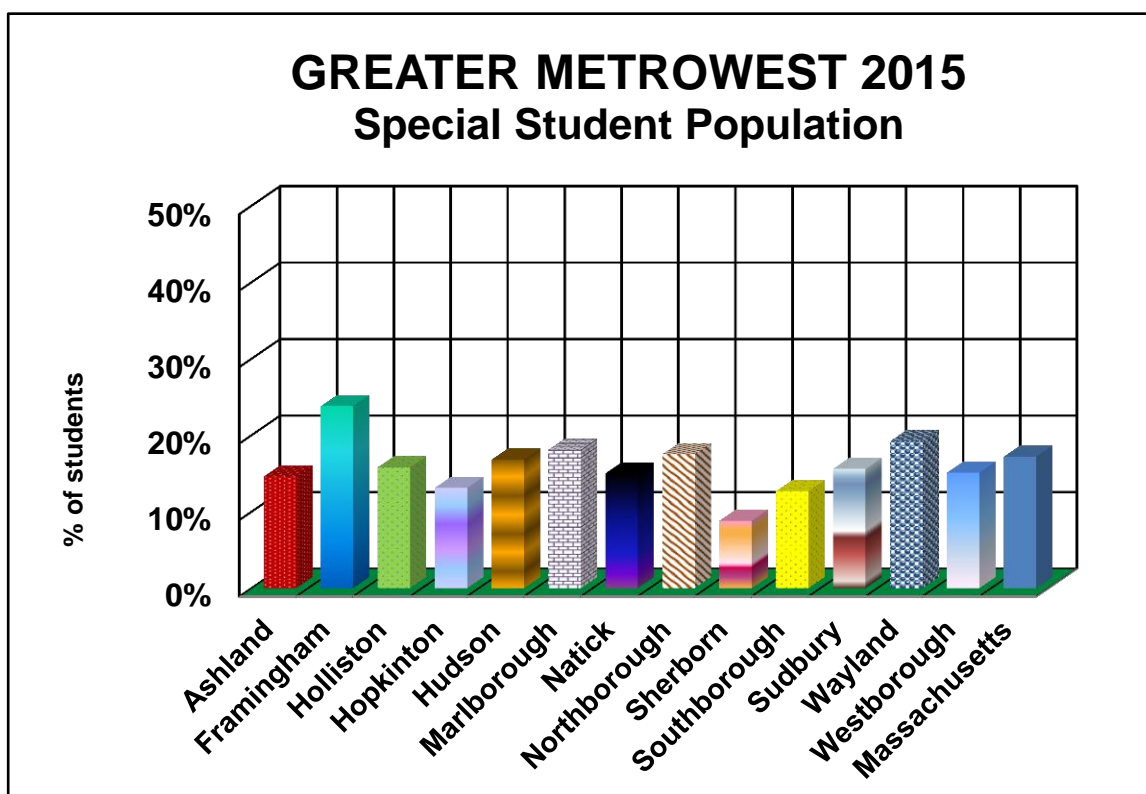
GREATER METROWEST – K-12 PUBLIC SCHOOL ENROLLMENT



Source: MA Department of Elementary and Secondary Education and MERC

- Public school student enrollment in Greater MetroWest (GMW) for 2005 was 46,464 and increased slightly to 46,495 in 2015. Student enrollments for vocational schools are included and charter schools are not included in the above numbers.
- The town of Natick saw the largest increase of 18.6% in student enrollment followed by Westborough with a 4.5% increase.
- Southborough had the largest decrease in student enrollment of 10.3%, followed by Wayland at 9.3% and Sudbury at 7.0%.
- Hopkinton had the smallest increase with less than a 1% increase in student enrollment, while Hudson had the smallest decrease with 0.5% from 2005 through 2015.

GREATER METROWEST – K-12 PUBLIC SCHOOL ENROLLMENT



Source: MA Department of Elementary and Secondary Education and MERC

- The graph shows the number of students with disabilities divided by the number of students enrolled by town.
- According to the Massachusetts Department of Elementary and Secondary Education (DESE) students with disabilities include the following populations: autism, communication impairment, development delay, emotional impairment, health impairment, intellectual impairment, neurological impairment, physical impairment and sensory impairment.
- The percentage of students with disabilities ranges between 23.8% in Framingham to 8.8% in Sherborn as reported by the DESE.
- The Commonwealth of Massachusetts reported that the percentage of students with disabilities statewide was 17.2% as a percentage of student enrollment.

SOURCES

- The Council for Community and Economic Research (C2ER) (formerly ACCRA)
- *Banker & Tradesman*; The Warren Group
- Bureau of Labor Statistics, U. S. Department of Labor (U.S.B.L.S.)
- Federal Reserve Bank of Boston
- Massachusetts Department of Elementary and Secondary Education
- Massachusetts Department of Revenue, Division of Local Services (DLS)
- Massachusetts Executive Office of Labor and Workforce Development (MA EOLWD)
- MetroWest Economic Research Center (MERC)
- United States Census Bureau, U. S. Department of Commerce

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- Office staffs of the public school districts serving the towns of Ashland, Framingham, Holliston, Hopkinton, Hudson, Marlborough, Natick, Northborough, Sherborn, Southborough, Sudbury, Wayland, Westborough
- Massachusetts Department of Elementary and Secondary Education, Data Collection staff
- Area merchants who participate in the MetroWest Cost of Living Survey
- Commonwealth of Massachusetts
- **The Conference Sponsors:** Gatehouse/MetroWest Daily News, Middlesex Savings Bank, Eversource, Coan Heating & Air Conditioning, Marlborough Savings Bank, Marlborough Regional Chamber of Commerce, MetroWest Chamber of Commerce, and Framingham State University

GREATER METROWEST – EMPLOYMENT

APPENDIX

North American Industry Classification System (NAICS)

In 2001 the North American Industry Classification System (NAICS) permanently replaced the Standard Industrial Classification (SIC) system in use for seventy years. NAICS is an industrial classification system that groups establishments into industries based on the activities in which they are primarily engaged. It is a comprehensive system covering the entire field of economic activities, both producing and non-producing. NAICS has twenty separate industrial sectors that are described in this appendix. These twenty sectors are grouped into eleven supersectors. NAICS data used in this publication are presented by supersectors and by sectors.

NAICS Supersectors*

Goods-Producing Domain (GPD)

Natural Resources and Mining Supersector (NRM)

- 11 Agriculture, Forest, Fishing and Hunting
- 21 Mining

Construction Supersector

- 23 Construction

Manufacturing Supersector

- 31-33 Manufacturing

Service Producing Domain (SPD)

Trade, Transportation and Utilities Supersector (TTU)

- 22 Utilities
- 42 Wholesale Trade
- 44-45 Retail Trade
- 48-49 Transportation and Warehousing

Information Supersector

- 51 Information

Financial Activities Supersector

- 52 Finance and Insurance
- 53 Real Estate and Rental and Leasing

Professional and Business Services Supersector ** (PBS)

- 54 Professional, Scientific and Technical Services
- 55 Management of Companies and Enterprises
- 56 Administrative and Support and Waste Management and Remediation Services

Education and Health Services Supersector

- 61 Educational Services
- 62 Health Care and Social Assistance

Leisure and Hospitality Supersector

- 71 Arts, Entertainment, and Recreation
- 72 Accommodation and Food Services

Other Services Supersector

- 81 Other Services (except Public Administration)

Public Supersector* as used in this publication, includes the Public Administration NAICS sector defined below, plus all other jobs in federal, state and local government.

GREATER METROWEST – EMPLOYMENT

NAICS Sectors

Natural Resources and Mining Supersector:

11-Agriculture, Forestry, Fishing and Hunting comprises establishments primarily engaged in crop growing, animal raising, and timber and fish harvesting.

21-Mining comprises establishments that extract naturally occurring mineral solids, liquid minerals, and gases.

Construction Supersector:

23-Construction comprises establishments primarily engaged in the construction of buildings or engineering projects.

Manufacturing Supersector:

31-33-Manufacturing comprises establishments engaged in the mechanical, physical, or chemical transformation of materials, substances, or components into new products.

Trade, Transportation and Utilities Supersector:

22-Utilities comprises establishments engaged in the provision of the following utility services: electric power, natural gas, steam supply, water supply and sewage removal, through a permanent infrastructure of lines, mains, and pipes.

42-Wholesale Trade comprises establishments engaged in wholesaling merchandise, generally without transformation, and rendering services incidental to the sale of merchandise, including the outputs of agriculture, mining, manufacturing, and certain information industries, such as publishing. The wholesaling process is an intermediate step in the distribution of merchandise.

44-45-Retail Trade comprises establishments engaged in retailing merchandise, generally without transformation, and rendering services incidental to the sale of merchandise. The retailing process is the final step in the distribution of merchandise; retailers are, therefore, organized to sell merchandise in small quantities to the general public. This sector comprises two main types of retailers: store and nonstore retailers.

48-49-Transportation and Warehousing comprises industries providing transportation of passengers and cargo, warehousing and storage for goods, scenic and sightseeing transportation, and support activities related to modes of transportation (air, rail, water, road, and pipeline).

Information Supersector:

51-Information comprises establishments engaged in producing and distributing information and cultural products, providing the means to transmit these products, and processing data.

GREATER METROWEST – EMPLOYMENT

Financial Activities Supersector:

52-Finance and Insurance comprises establishments primarily engaged in financial transactions (transactions involving the creation, liquidation, or change in ownership of financial assets) and/or in facilitating financial transactions.

53-Real Estate and Rental and Leasing comprises establishments primarily engaged in renting, leasing, or otherwise allowing the use of tangible or intangible assets.

Professional and Business Services Supersector:**

54-Professional, Scientific, and Technical Services comprises the performing of professional, scientific, and technical activities for others. These activities require a high degree of expertise and training. Some activities performed include: legal advice and representation, accounting, engineering services, computer services, research services, advertising services, and veterinary services.

55-Management of Companies and Enterprises comprises establishments that either hold the securities of companies for the purpose of owning a controlling interest or influencing management decisions, or establishments that administer, oversee, and manage establishments of the company and that normally undertake the organizational planning and decision making role of the company.

56-Administrative and Support and Waste Management and Remediation Services include establishments performing routine support activities for the day-to-day operations of other organizations. Activities performed include: office administration, hiring and placing of personnel, document preparation and similar clerical services, solicitation, collection, security and surveillance services, cleaning, and waste disposal services.

Education and Health Services Supersector:

61-Educational Services comprises establishments that provide instruction and training to a wide variety of subjects. This instruction and training provided by specialized establishments, such as schools, colleges, universities, and training centers.

62-Health Care and Social Assistance comprises establishments that provide health care and social assistance for individuals.

Leisure and Hospitality Supersector:

71-Arts, Entertainment, and Recreation comprises a wide range of establishments that operate facilities or provide services to meet varied cultural, entertainment, and recreational interests of their patrons.

72-Accommodation and Food Services comprises establishments providing customers with lodging and/or preparing meals, snacks, and beverages for immediate consumption.

Other Services Supersector:

81-Other Services (except Public Administration) comprises establishments engaged in providing services not specifically provided for elsewhere in the classification system. Establishments in this sector are primarily engaged in activities, such as equipment repairing, administering religious activities, grantmaking, advocacy, and providing laundry services, personal care services, death care services, pet care services, photofinishing services, temporary parking services, and dating services.

GREATER METROWEST – EMPLOYMENT

Public Supersector* as used in this publication, includes the Public Administration NAICS sector defined below, plus all other jobs in federal, state and local government.

Public Administration The Public Administration sector consists of establishments of federal, state, and local government agencies that administer, oversee, and manage public programs and have executive, legislative, or judicial authority over other institutions within a given area.

****Professional and Business Services Supersector:** In this and other MERC publications MERC uses the acronyms **PBS** and **BPS** interchangeably to refer to this NAICS supersector.



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