

FRAMINGHAM

Employment Report 2020[©]



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Framingham
State University

MetroWest Economic
Research Center



Framingham State University

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FRAMINGHAM EMPLOYMENT REPORT 2020

INTRODUCTION

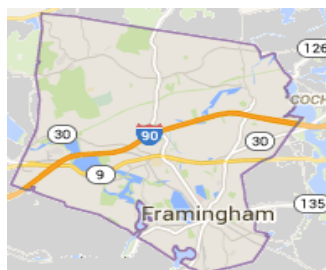
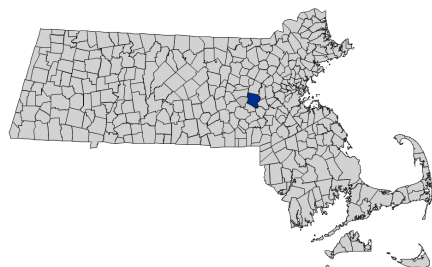
A major player in the powerful innovation economy of the Greater MetroWest region* (GMW), Framingham boasts a highly skilled labor force, high wage employment, and a diversified industrial base built on corporate headquarters, professional, scientific and technical services, health services, trade, manufacturing, and public educational institutions.

With an estimated resident population of 71,232, the city of Framingham offers a highly educated, skilled labor force. Nearly half of the population 25 years and older, 47% or 23,400 residents, holds a Bachelor's degree, exceeding the Massachusetts (40%) and the U.S. (30%) rates. One fifth of this population, 20% or 9,800 residents, possesses a graduate or professional degree, similar to the state (19%) and higher than the nation (12%). In 2018 the Framingham labor force included 41,514 individuals. The 2018 Framingham annual unemployment rate of 2.7% fell lower than the Massachusetts (3.4%) and U.S. (3.9%) rates.

Located halfway between Boston and Worcester, Framingham is well serviced by two exits on I-90 (Massachusetts Turnpike) and Routes 9, 30, 126 and 135, Amtrak, and MBTA commuter rail train stops, and Logan Express bus service to/from Logan airport. Framingham provides convenient access for residents, businesses, and employees.

In 2018 Framingham's record 2,570 establishments generated 49,220 jobs and a record total payroll of \$4.0 billion and average annual wage of \$81,400. Framingham ranked first in the Greater MetroWest region in employment, payroll, and establishments.

A highly diversified economy, five different industry supersectors: Professional and Business Services, Education and Health, Trade, Transportation, and Utilities, Manufacturing and Public, produce 82% of the city's employment and 87% of total payroll. Framingham establishments include: Ameresco, BOSE, Boston Heart Diagnostics, DetraPel, Exhibit A and Jack's Abby breweries, Framingham State University, Massachusetts Bay Community College, MetroWest Medical Center, Sanofi Genzyme, Shoppers World, Staples and TJX headquarters.



This *Framingham Employment Report 2020* prepared for the Framingham Economic Development and Industrial Corporation and the Framingham Planning and Community Development Division includes the most recent annual data for the city of Framingham on employment, payroll, wages, and establishments as well as comparisons with the region and state.

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

**The Greater MetroWest region (GMW) includes: Ashland, Framingham, Holliston, Hopkinton, Hudson, Marlborough, Natick, Northborough, Sherborn, Southborough, Sudbury, Wayland, Westborough.*

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UNDERSTANDING EMPLOYMENT DATA¹

The MetroWest Economic Research Center (MERC) at Framingham State University maintains an employment database for the Greater MetroWest Region (GMW), MetroWest CCSA™, the Greater Marlborough Region, the South Shore CCSA™, the 495/MetroWest Region, and other substate economies. MERC has documented remarkable growth in regional employment and wages as well as major changes in industrial structure and employment since 1980. For this 2020 publication MERC has developed employment data for the City of Framingham.

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 located in Framingham. 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.

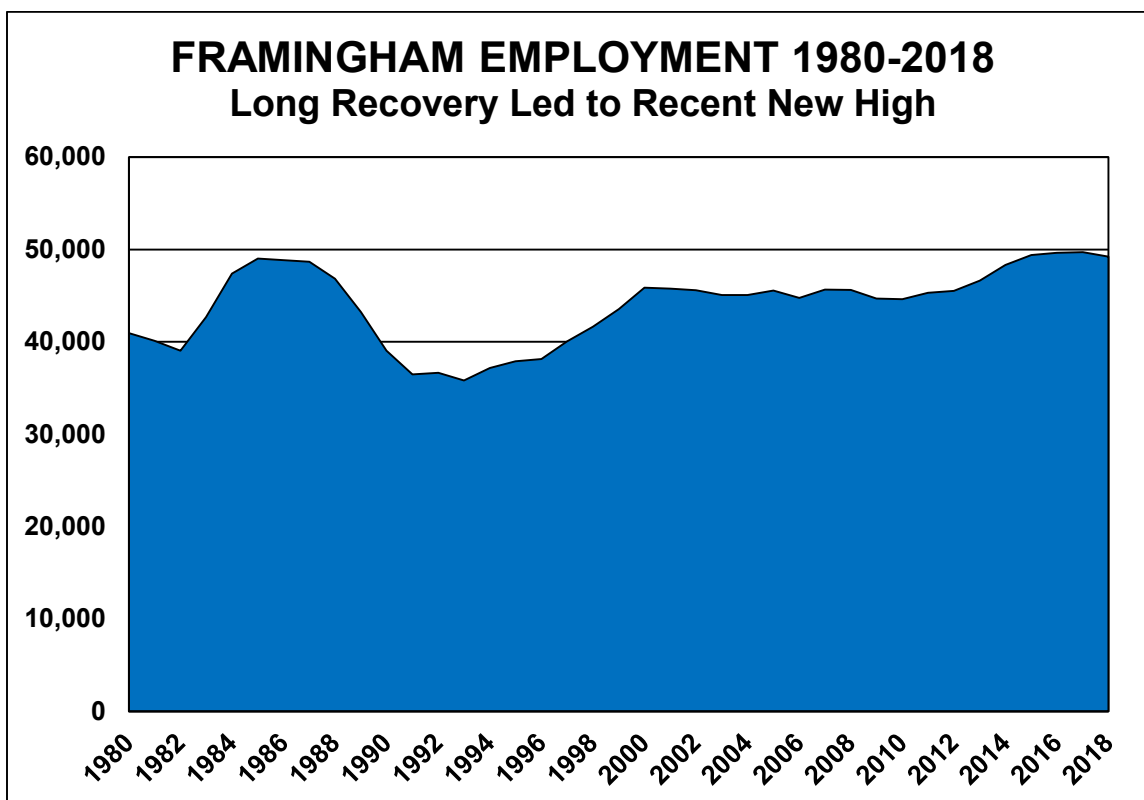
For the first time in 2002 employers were classified by industry solely in accordance with the North American Industry Classification System (NAICS). NAICS groups together establishments that use the same processes to produce goods and services. NAICS permanently replaced the Standard Industrial Classification (SIC) system which was in use for the previous 70 years. Since 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 for establishments sited within Framingham. 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 data and analysis included in this report refer to business establishments, *not* residents, located within Framingham or a larger region. 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).

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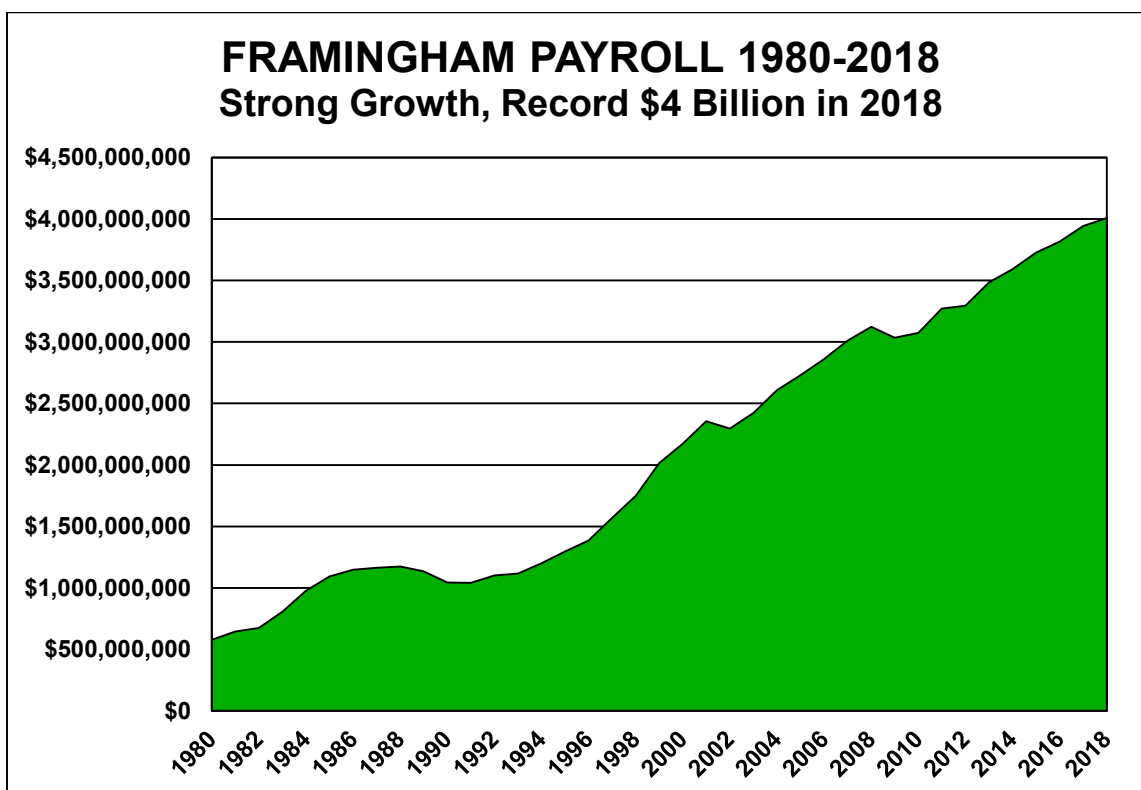


Source: MA EOLWD, MERC

- Total Framingham employment rose from 40,950 jobs in 1980 to 49,220 jobs in 2018, a gain of 8,260 jobs or 20%. Framingham reached its historical peak of 49,710 jobs in 2017.
- Between 1980 and 2018 employment in the city grew at an average annual rate of 0.5%. This was lower than the rates for Greater MetroWest (1.4%), Massachusetts (0.9%), and the nation (1.3%).
- After initially climbing to a peak of 49,030 jobs in 1985, Framingham entered the 1985-93 recession. Employment plunged to 35,830 in 1993, a devastating loss of 13,200 jobs or -27%.
- Over the next 24 years Framingham reinvented itself with new industries. Between 1993-2000 Framingham steadily added 10,000 jobs; then employment remained stable during the 2002 dot-com and 2009 Great Recessions. Since 2010 Framingham has added over 5,000 jobs to reach a new historical high in 2017 before a slight decline in 2018.

Year	Number of Jobs	Year	Number of Jobs
1980	40,950	2000	45,880
1985	49,030 (peak)	2005	45,540
1990	39,050	2010	44,630
1993	35,830 (low)	2017	49,710 (historical peak)
1995	37,890	2018	49,220

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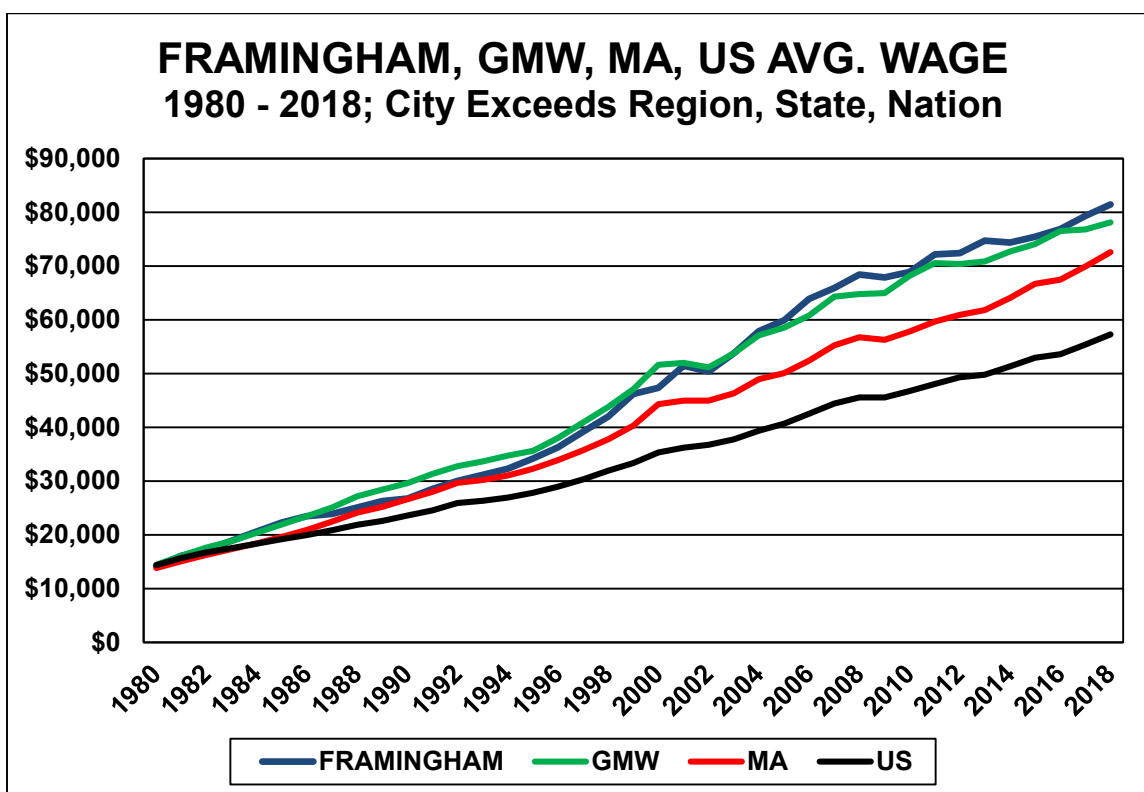


Source: MA EOWLD, MERC

- Framingham's total nominal payroll, or payroll not corrected for inflation, climbed from \$578.9 million in 1980 to a record \$4.0 billion in 2018, a seven-fold increase over the 38 years. In contrast, total payroll in Greater MetroWest (GMW) increased by a factor of 9.3, while payrolls at the state and national levels were 7.3 times and 6.5 times larger, respectively.
- Total nominal payroll in Framingham grew at an annual average rate of 5.2% over this period, below the rate of the Greater MetroWest region at 6.0%, and comparable to the state (5.4%) and the nation (5.1%).
- Framingham's total payroll rose steadily in 33 of the 38 years, the exception being five years of decline during three recessions. In the first and worst recession Framingham total payroll fell 11.4% in 1988-91. Framingham's total payroll declined by lesser amounts, 2.5%, in the dot-com recession of 2001-02, and 2.8%, in the Great Recession of 2008-09

Year	Total Payroll	Year	Total Payroll
1980	\$578.9 million	2005	\$2.7 billion
1990	\$1.0 billion	2010	\$3.1 billion
1995	\$1.3 billion	2015	\$3.7 billion
2000	\$2.2 billion	2018	\$4.0 billion (high)

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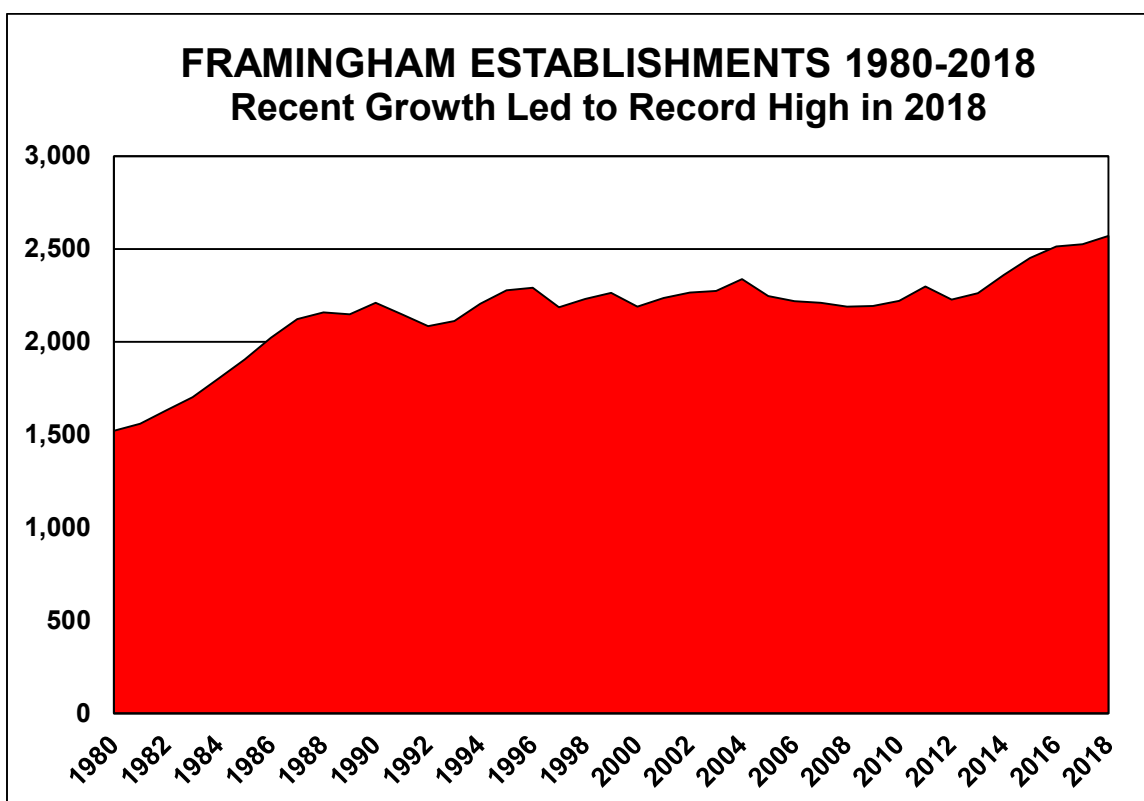


Source: MA EOLWD, MERC

- Since 1981 the average annual wage in Framingham has exceeded those of the state and the nation. Since 2004 it has also exceeded the Greater MetroWest region's (GMW) average wage.
- The Framingham average annual wage rose from \$14,100 in 1980 to a record \$81,400 in 2018, a gain of 476%. Over the 38-year period the average wage in the city rose at a 4.7% annual rate, exceeding the rates for the region (4.5%), the state (4.5%), and the nation (3.7%).
- In 2018 the Framingham average annual wage was 4% above the GMW average wage, 12% above the MA average wage, and 42% higher than the US average annual wage.

Year	Framingham	GMW	MA	US
1980	\$14,100	\$14,400	\$13,800	\$14,400
1990	\$26,800	\$29,600	\$26,700	\$23,600
2000	\$47,300	\$51,600	\$44,300	\$35,300
2010	\$68,900	\$68,200	\$57,800	\$46,800
2018	\$81,400(high)	\$78,100	\$72,600	\$57,300

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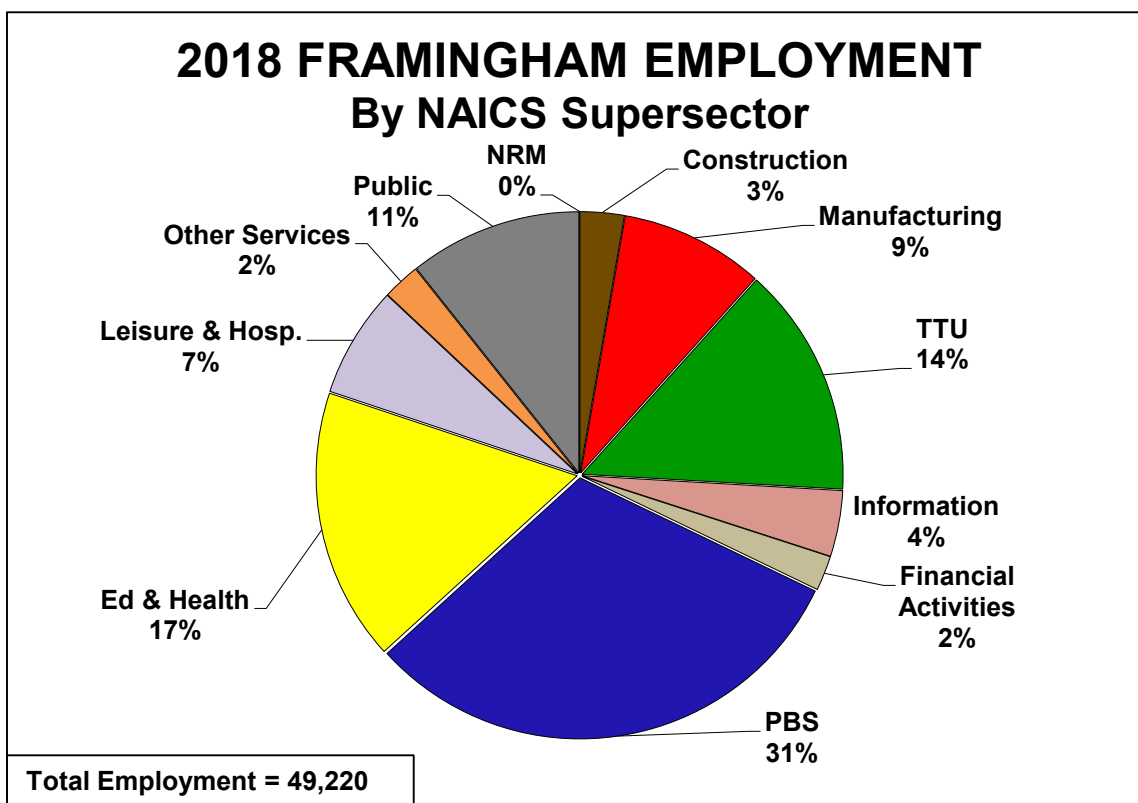


Source: MA EOLWD, MERC

- The total number of establishments or separate places of work in Framingham rose from 1,520 establishments in 1980 to a record high 2,570 establishments in 2018, a gain of 1,050 establishments or 69%.
- This 1.4% average annual increase in the number of establishments in the city was below the corresponding rates of the Greater MetroWest region (2.3%), Massachusetts (2.1%), and the United States (2.0%).
- The number of Framingham establishments expanded in two distinct periods: 1980-1990 and 2008-2018 decades, up 45% and 17% respectively. In the intervening decades the number of establishments hovered around 2,200 as Framingham coped with three recessions.

Year	Number of Establishments	Year	Number of Establishments
1980	1,520 (low)	2005	2,250
1990	2,210	2010	2,220
1995	2,280	2015	2,450
2000	2,190	2018	2,570 (historical high)

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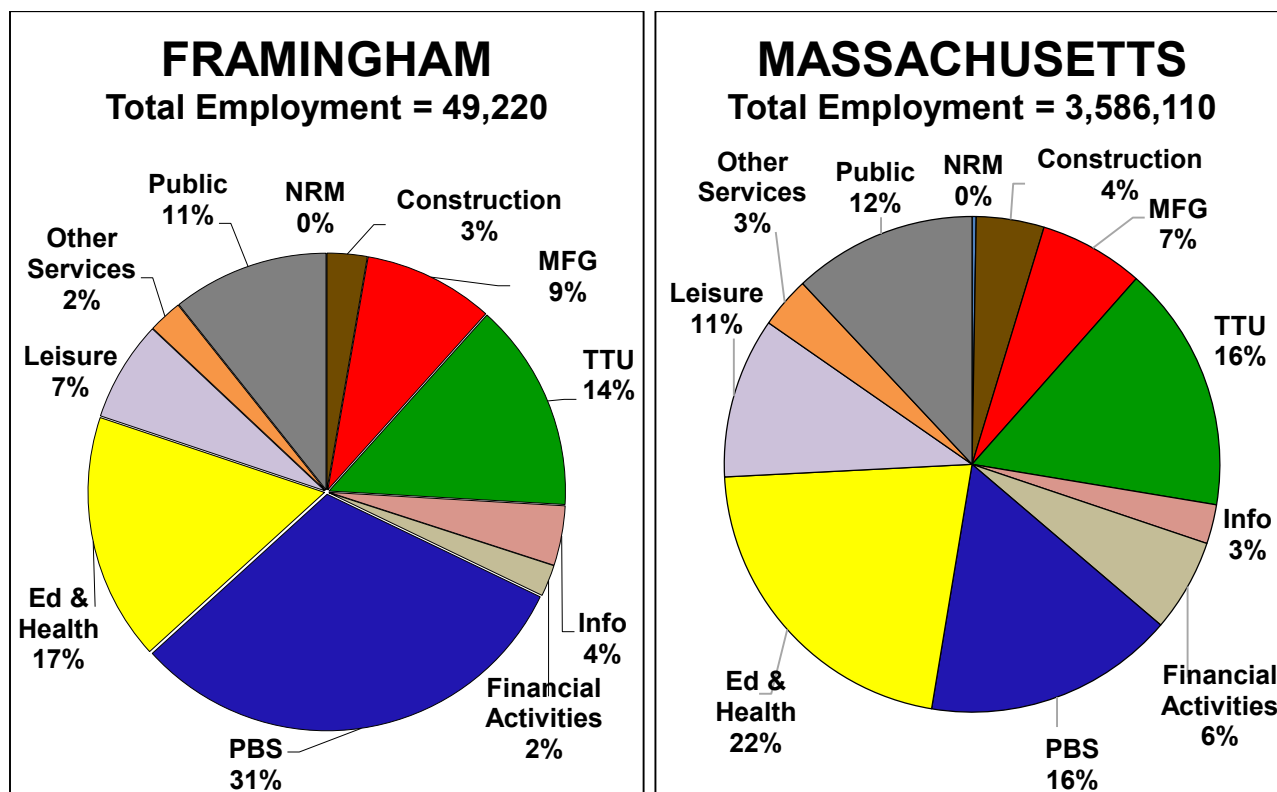
Source: MA EOLWD, MERC

- In 2018 Framingham employment totaled 49,220 jobs. This represented a decrease of 500 jobs, a 1.0% fall, from 2017.
- Four NAICS supersectors each provided more than 10% of the city's jobs, with a fifth close behind.
- Professional and Business Services (PBS) generated the largest percentage of Framingham employment at 31% or 15,310 jobs, followed by Education & Health with 8,310 jobs (17%), Trade, Transportation, and Utilities (TTU) at 7,020 jobs (14%) and Public at 11% or 5,260 jobs.
- These four supersectors combined to produce 73% of the city's jobs. If the next largest supersector, Manufacturing, is included then that figure rises to 82% of total Framingham employment.
- In 2018, 89% of Framingham jobs (43,960 jobs) were in the private sector.

Supersector	Employment	Supersector	Employment
PBS	15,310	Information	2,010
Education & Health	8,310	Construction	1,340
TTU	7,020	Other Services	1,140
Public	5,260	Financial Activities	1,060
Manufacturing	4,380	Natural Resources (NRM)	0
Leisure & Hospitality	3,380	Total Framingham	49,220

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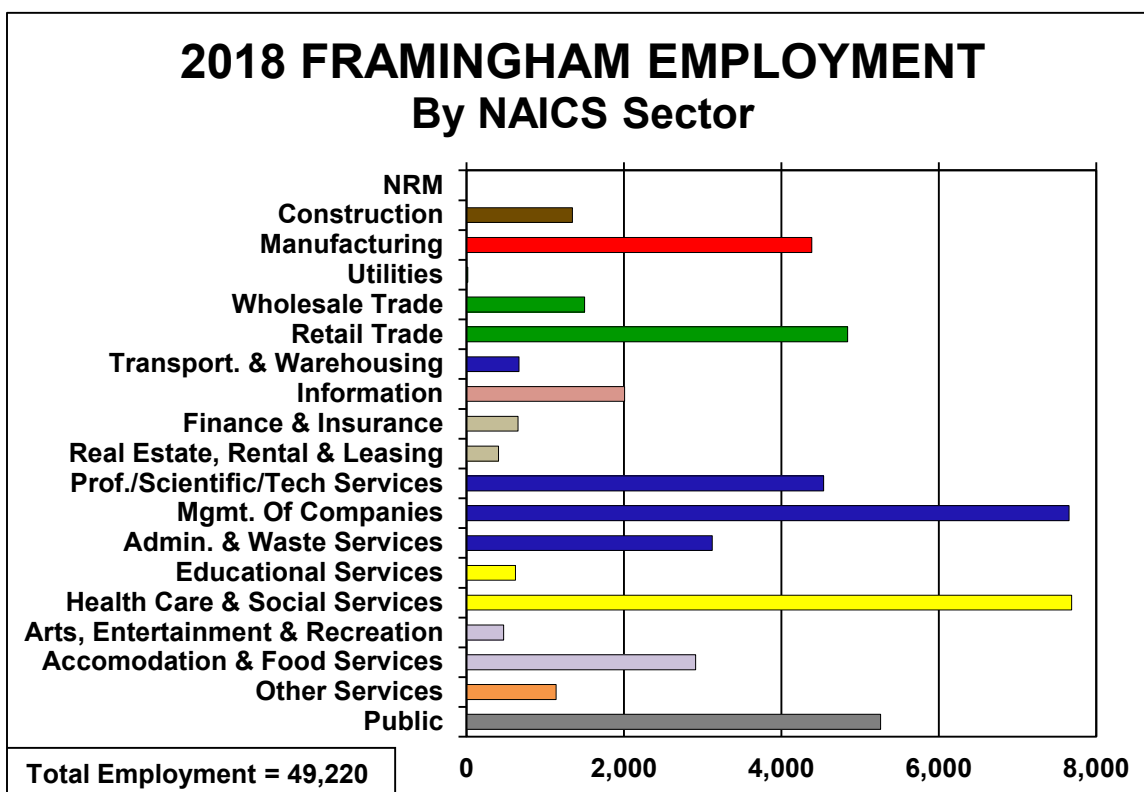
2018 EMPLOYMENT BY NAICS SUPERSECTORS Framingham vs. Massachusetts



Source: MA EOLWD, MERC

- In 2018 49,220 jobs were located in Framingham, slightly below (-1.0%) the 2017 figure of 49,710 jobs. In contrast, Massachusetts employment totaled 3,586,110 jobs in 2018, an increase of 1.2% from the previous year.
- Four NAICS supersectors produced almost three-fourths of total Framingham employment: Professional and Business Services (PBS) (31%), Education & Health (17%), Trade Transportation & Utilities (TTU) (14%), and Public (11%).
- Over half of the state's jobs came from three NAICS supersectors: Education & Health (22%), TTU (16%), PBS (16%). Following closely were Public (12%) and Leisure & Hospitality (11%).
- The share of PBS jobs in Framingham (31%) was almost double that of the state (16%). The only other supersectors where the city's share of jobs was larger than the state's were Manufacturing and Information.
- In 2018 Massachusetts had higher percentage shares of employment compared to Framingham in all the other nine supersectors, the biggest difference being in Education & Health: 22% in the state vs. Framingham's 17%.

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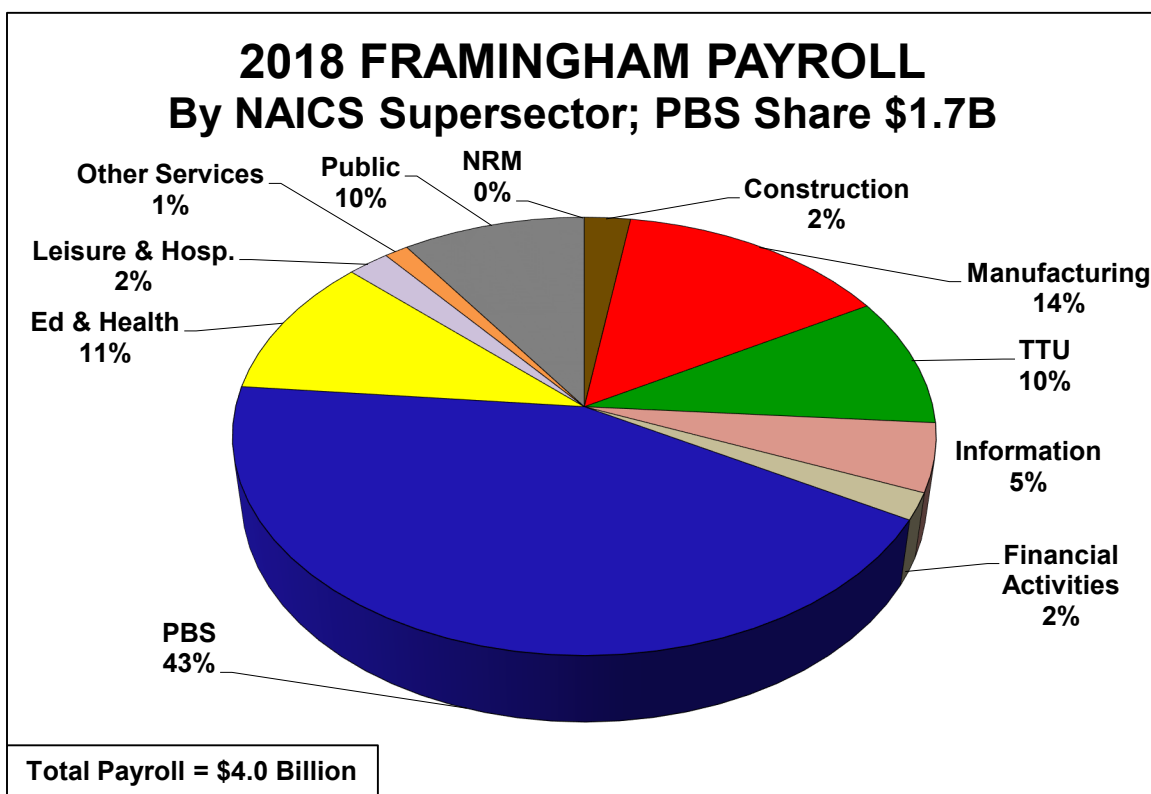
Source: MA EOLWD, MERC

- The 11 NAICS supersectors are further subdivided into 19 NAICS sectors shown here.
- In 2018 Framingham employment totaled 49,220 jobs. The Health Care & Social Assistance sector led with 7,690 jobs or 16% of community employment followed by Management of Companies at 7,650 jobs (also 16%) and Public with 5,260 jobs or 11%.
- Three other sectors, Retail Trade, Professional, Scientific and Technical (Prof/Sci/Tech), and Manufacturing each provided more than 4,000 jobs
- In total, employment in nine of the 19 NAICS sectors exceeded 2000 jobs, and these nine sectors together provided over 86% of the jobs in Framingham. The remaining sectors produced 14% of Framingham jobs.

NAICS Sector	Number of Jobs	Percentage of Total
Health Care & Social Assistance	7,690	16%
Management Of Companies	7,650	16%
Public	5,260	11%
Retail Trade	4,840	10%
Prof/Sci/Tech	4,540	9%
Manufacturing	4,380	9%
Admin. & Waste Services	3,120	6%

Note: Complete NAICS sector data is on page 39.

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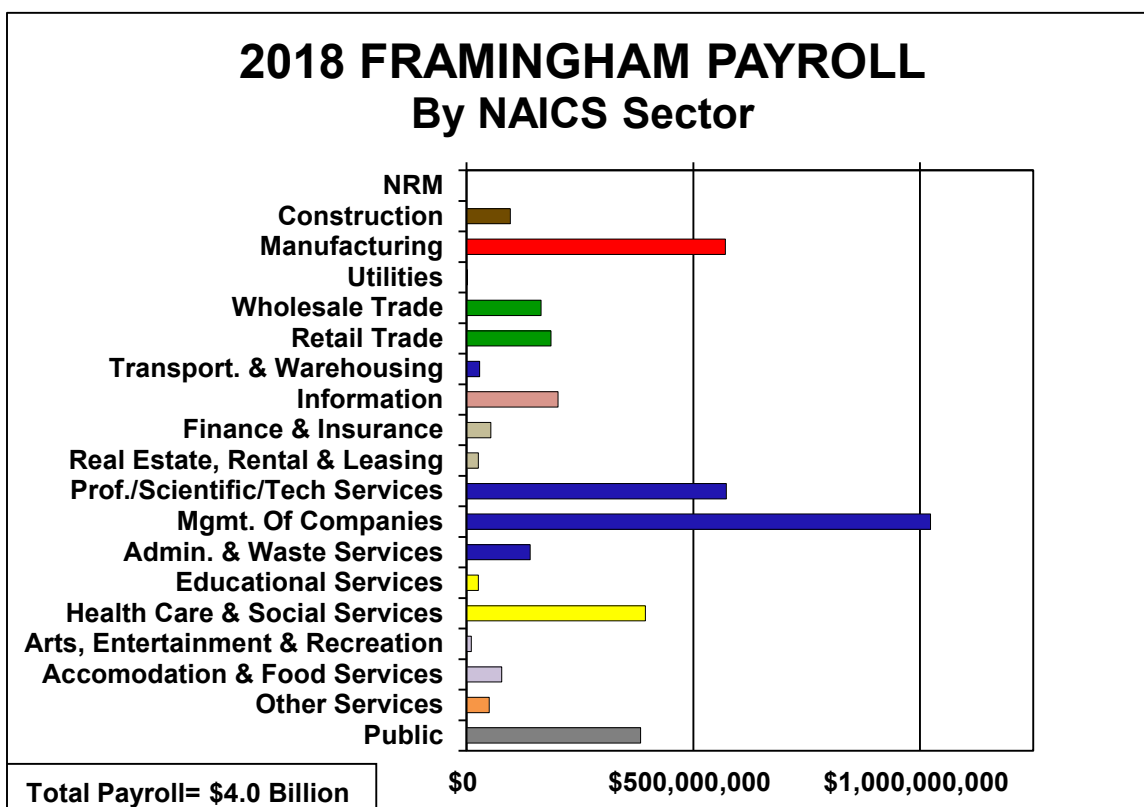
Source: MA EOLWD, MERC

- In 2018 Framingham employers generated a total payroll of \$4.0 billion, up 1.6% from 2017.
- Among the NAICS supersectors Professional and Business Services (PBS) generated the highest payroll, \$1,736 million or 43%, followed by Manufacturing with \$571 million (14%). Together, these two supersectors generated over half (57 %) of the city's total payroll.
- Four additional supersectors each paid more than \$200 million in total payroll. They were Education & Health, Public, Trade, Transportation and Utilities (TTU) and Information. These four combined to produce an additional 36% of total Framingham payroll.
- The remaining five supersectors each supplied less than 3% of the city's payroll.

Supersector	Payroll (Millions)	Supersector	Payroll (Millions)
PBS	\$1,736	Construction	\$97
Manufacturing	\$571	Leisure & Hospitality	\$88
Education & Health	\$420	Financial Activities	\$79
Public	\$384	Other Services	\$50
TTU	\$381	Natural Resources (NRM)	\$0*
Information	\$202	Total Framingham	\$4,007

*Note: 2018 Natural Resources and Mining (NRM) payroll was less than \$5,000.

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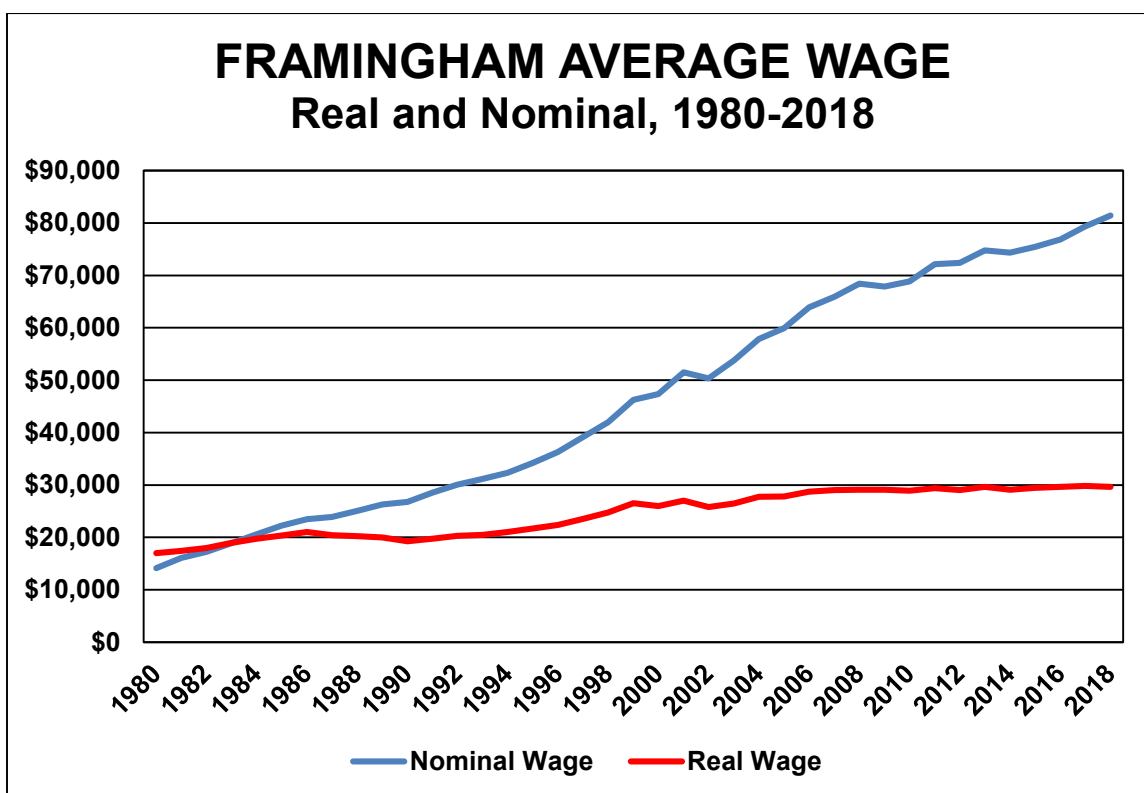
Source: MA EOLWD, MERC

- In 2018 the total payroll generated by Framingham firms was \$4.0 billion, up 1.6% from 2017.
- Among the 19 NAICS sectors Management of Companies, Professional, Scientific and Technical Services (Prof/Sci/Tech) and Manufacturing generated the largest shares of payroll at \$1,023 million (26%), \$573 million (14%) and \$571 million (14%), respectively. Combined they produced 54% of Framingham's payroll.
- Three other sectors, Health Care & Social Services (\$394 million), Public (\$384 million), and Information (\$202 million), followed. Together these sectors produced another one-fourth of the city's payroll (\$980 million).
- The remaining sectors each contributed less than \$187 million to payroll. Their shares of total payroll were all less than 5%.

NAICS Sector	Payroll (Millions)	Percentage of Total
Management of Companies	\$1,023	26%
Prof/Sci/Tech	\$573	14%
Manufacturing	\$571	14%
Health Care & Social Services	\$394	10%
Public	\$384	10%

Note: Complete NAICS sector data is on page 39.

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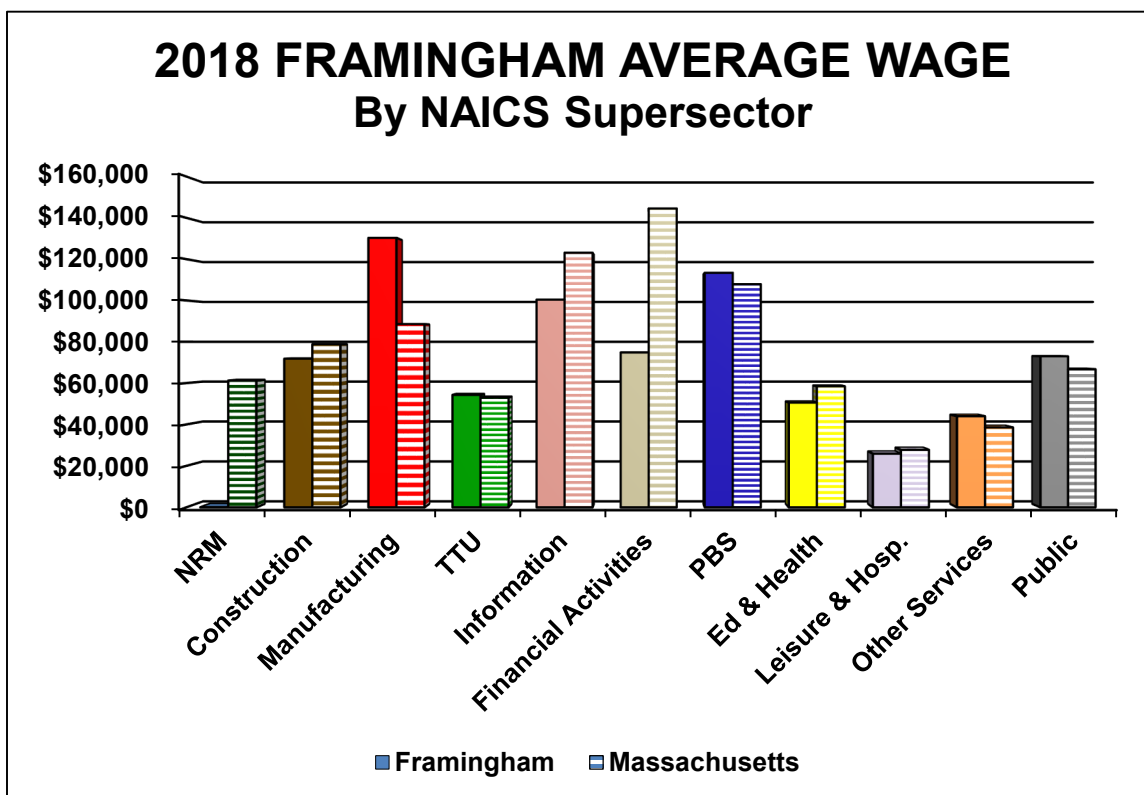


Source: U.S. BLS, MA EOLWD, MERC

- The nominal (not adjusted for inflation) average annual wage in Framingham increased from \$14,100 in 1980 to a historical peak of \$81,400 in 2018, an average increase of 4.7% per year
- The city's real (inflation adjusted) average annual wage increased from \$17,000 in 1980 to \$29,600 in 2018, a gain of 74%. This represents an average rate of increase of 1.5% per year. Framingham's real wage is calculated using the Boston Consumer Price Index (CPI) for all Urban Wage Earners and Clerical Workers, which uses 1982-1984 as the base year in correcting for inflation.
- Framingham's real average wage fell by 8.3% between 1986 and 1990. It rose above \$29,000 for the first time in 2007 and has been relatively constant since then. The city's real average wage reached an all-time peak of \$29,900 in 2017.

Framingham	1980	1990	2000	2005	2010	2018
Nominal Wage	\$14,100	\$26,800	\$47,300	\$59,900	\$68,900	\$81,400
Real Wage	\$17,000	\$19,300	\$26,000	\$27,800	\$28,900	\$29,600

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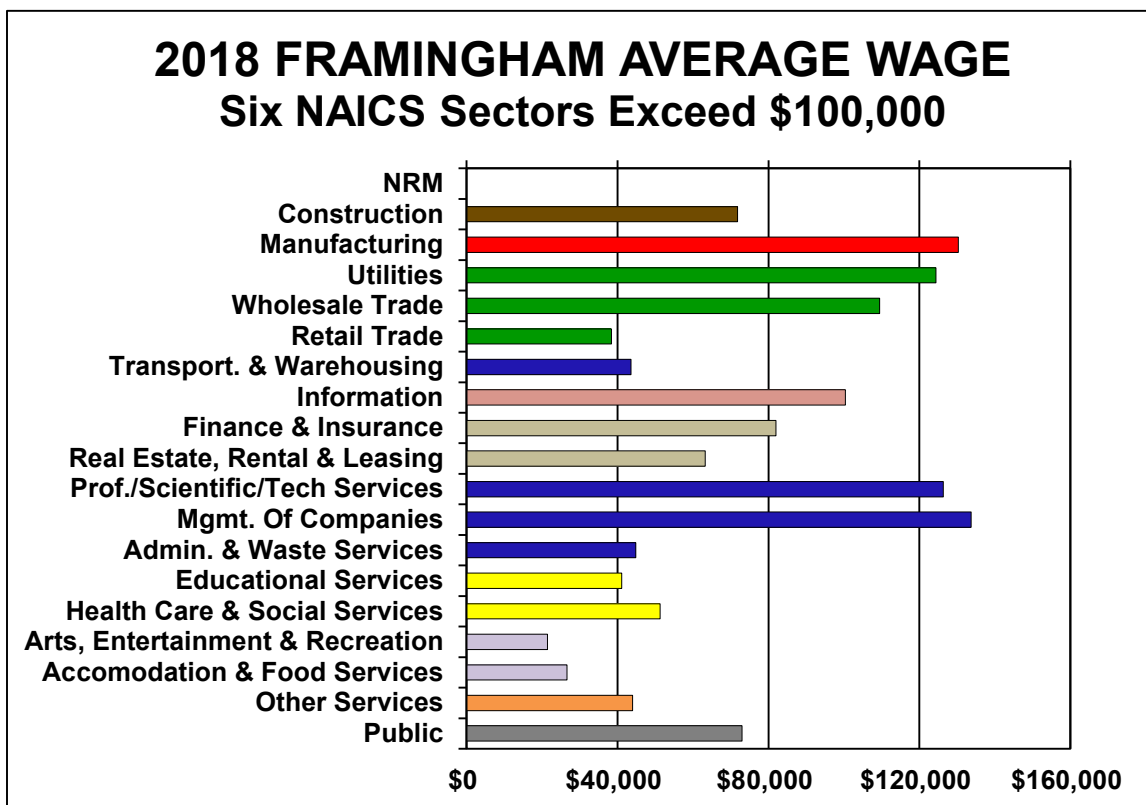
Source: MA EOLWD, MERC

- In 2018 the average annual wage in Framingham was \$81,400, 12.1% or \$8,800 above the state average annual wage of \$72,600.
- In Framingham (solid bars), three of the eleven supersectors paid an average annual wage above \$100,000: Manufacturing (\$130,300), Professional & Business Services (PBS) (\$113,400), and Information (\$100,400). Financial Activities (\$74,800), Public (\$73,000) and Construction (\$71,800) followed. Leisure and Hospitality offered the lowest average wage, \$25,900.
- For the state (striped bars), Financial Activities led with an average annual wage of \$144,500, followed by Information (\$123,100), and PBS (\$107,900).
- The city's average annual wage was above the state figure in five supersectors: Manufacturing, Trade, Transportation & Utilities (TTU), PBS, Other Services and Public.

Supersector	Framingham Average Wage	Supersector	Framingham Average Wage
Manufacturing	\$130,300	TTU	\$54,300
PBS	\$113,400	Education & Health	\$50,600
Information	\$100,400	Other Services	\$44,000
Financial Activities	\$74,800	Leisure & Hospitality	\$25,900
Public	\$73,000	Natural Resources	*
Construction	\$71,800	Total Framingham	\$81,400

*Note: Natural Resources and Mining (NRM) had no employment in Framingham in 2018.

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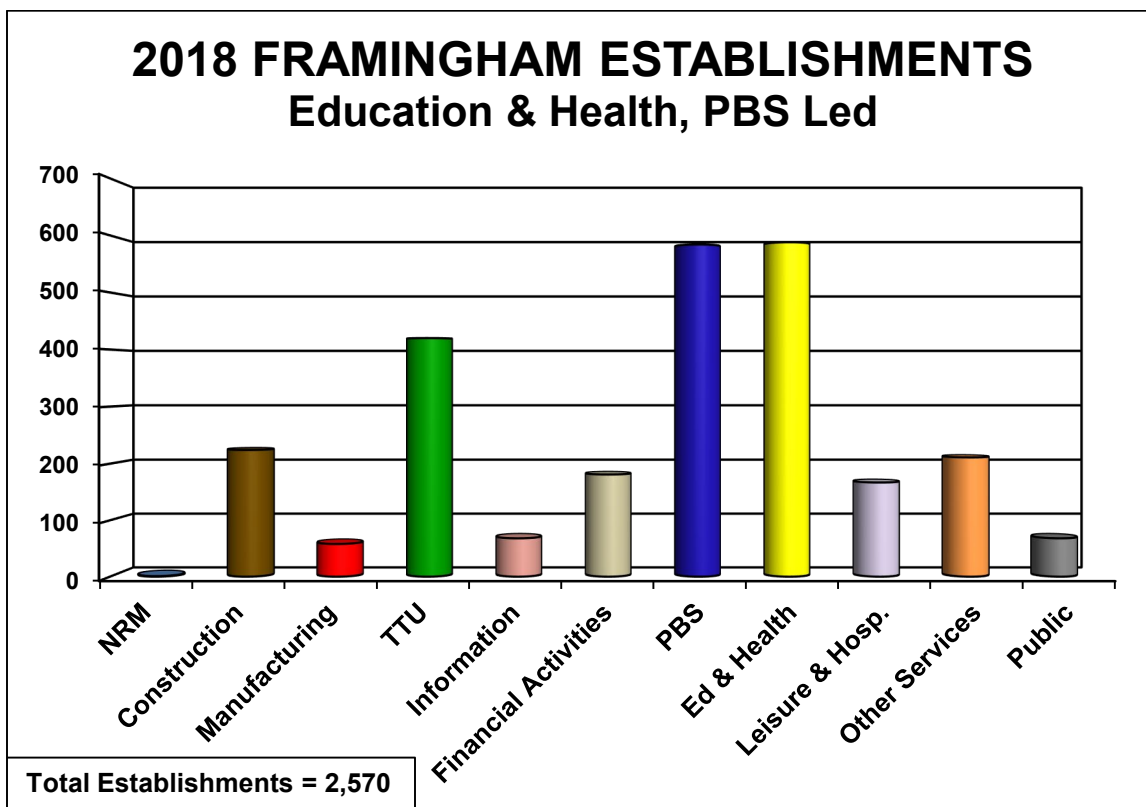
Source: MA EOLWD, MERC

- The average annual wage in the city of Framingham reached a historical high of \$81,400 in 2018. This was an increase \$2,100 (2.6%) from 2017.
- Management of Companies at \$133,700 offered the highest wage among the NAICS sectors followed by Manufacturing (\$130,300) and Professional/Scientific/Technical Services (Prof/Sci/Tech) (\$126,300).
- Average wages also exceeded \$100,000 in three additional sectors: Utilities at \$124,400, Wholesale Trade at \$109,500 and Information with an average annual wage of \$100,400.
- In contrast, three NAICS sectors offered average annual wages below \$40,000: Arts, Entertainment & Recreation, Accommodation & Food Services, and Retail Trade.
- Average wages in the remaining sectors ranged from \$41,100 to \$82,000.

NAICS Sector	Average Wage
Management of Companies	\$133,700
Manufacturing	\$130,300
Prof/Sci/Tech	\$126,300
Utilities	\$124,400

Note: Complete NAICS sector data is on page 39.

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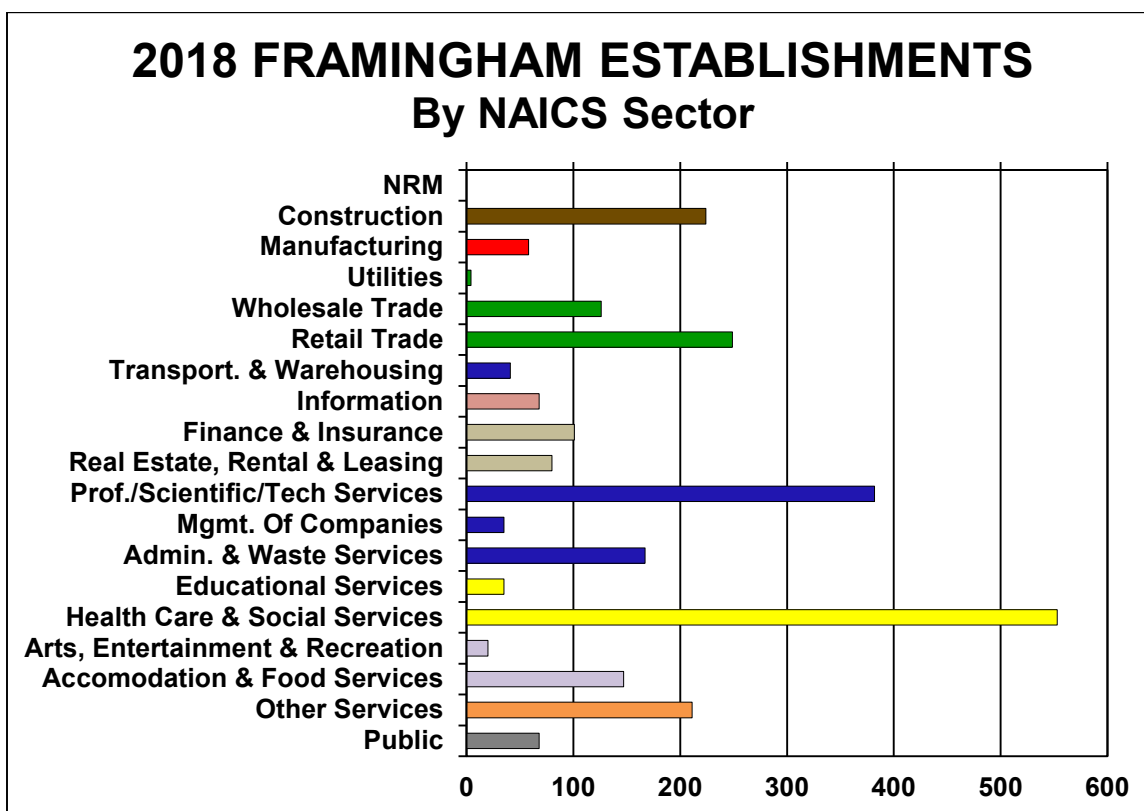


Source: MA EOLWD, MERC

- In 2018 the total number of establishments or separate places of work in Framingham was 2,570, a gain of 45 establishments (1.8%) from 2017.
- Three NAICS supersectors combined generated 62% percent of the city's establishments: Education & Health (590), Professional and Business Services (PBS) (580) and Trade, Transportation and Utilities (TTU) (420).
- Construction, Other Services, Financial Activities, and Leisure & Hospitality all had between 230 and 160 establishments, accounting for another 30% of all places of work in Framingham.
- The four smallest supersectors, with only 200 establishments combined, were Manufacturing, Information, Public, and Natural Resources and Mining (NRM).

Supersector	Establishments	Supersector	Establishments
Education & Health	590	Leisure & Hospitality	170
PBS	580	Public	70
TTU	420	Information	70
Construction	220	Manufacturing	60
Other Services	210	NRM	0
Financial Activities	180	Total Framingham	2,570

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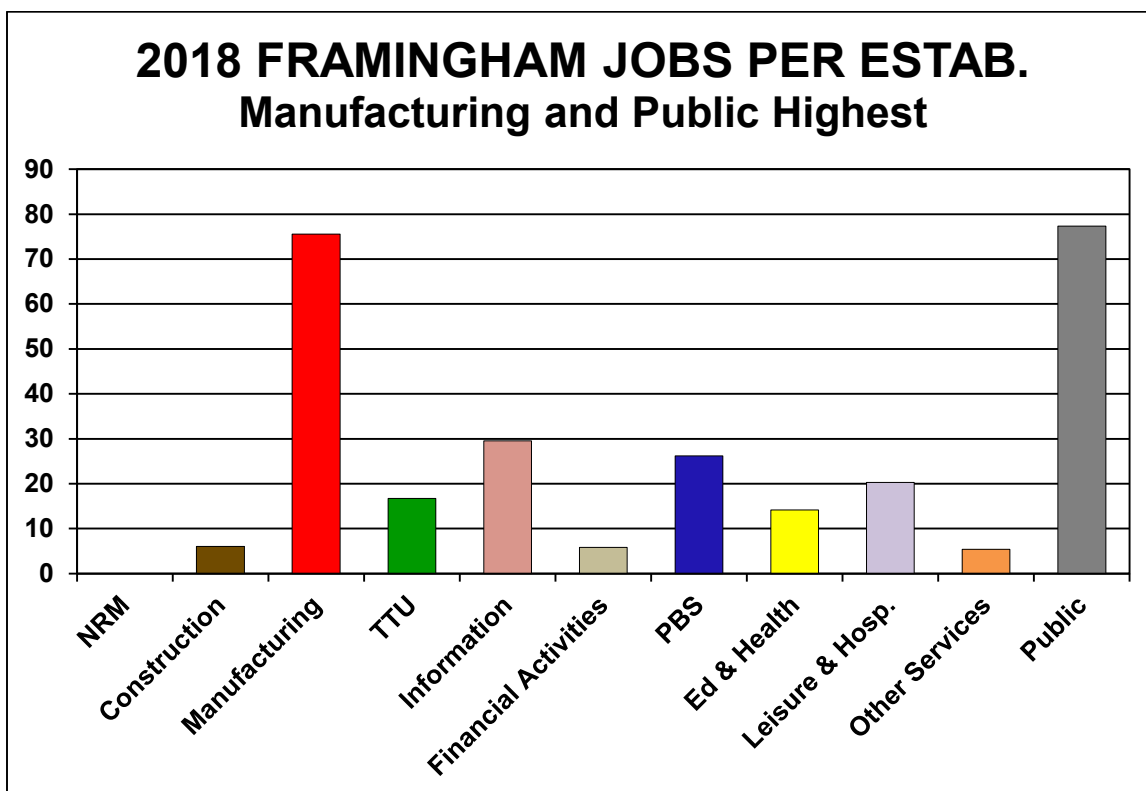
Source: MA EOLWD, MERC

- In 2018 there were 2,570 establishments or separate places of work in Framingham, a gain of 1.8% (45 establishments) from 2017.
- The Health Care & Social Assistance sector with 550 establishments and the Professional, Scientific and Technical Services (Prof/Sci/Tech) with 380 establishments provided over one-third (36%) of the city's establishments.
- Three other sectors with more than 200 establishments: Retail Trade (250), Construction (220), and Other Services (210) provided 27% of Framingham establishments. Nine of the remaining sectors each had fewer than 100 establishments. The smallest sector, Utilities, had only 4 establishments.

NAICS Sector	Establishments	% of Total
Health Care & Social Assistance	550	22%
Prof/Sci/Tech	380	15%
Retail Trade	250	10%
Construction	220	9%
Other Services	210	8%
Administration & Waste Services	170	7%

Note: Complete NAICS sector data is on page 39.

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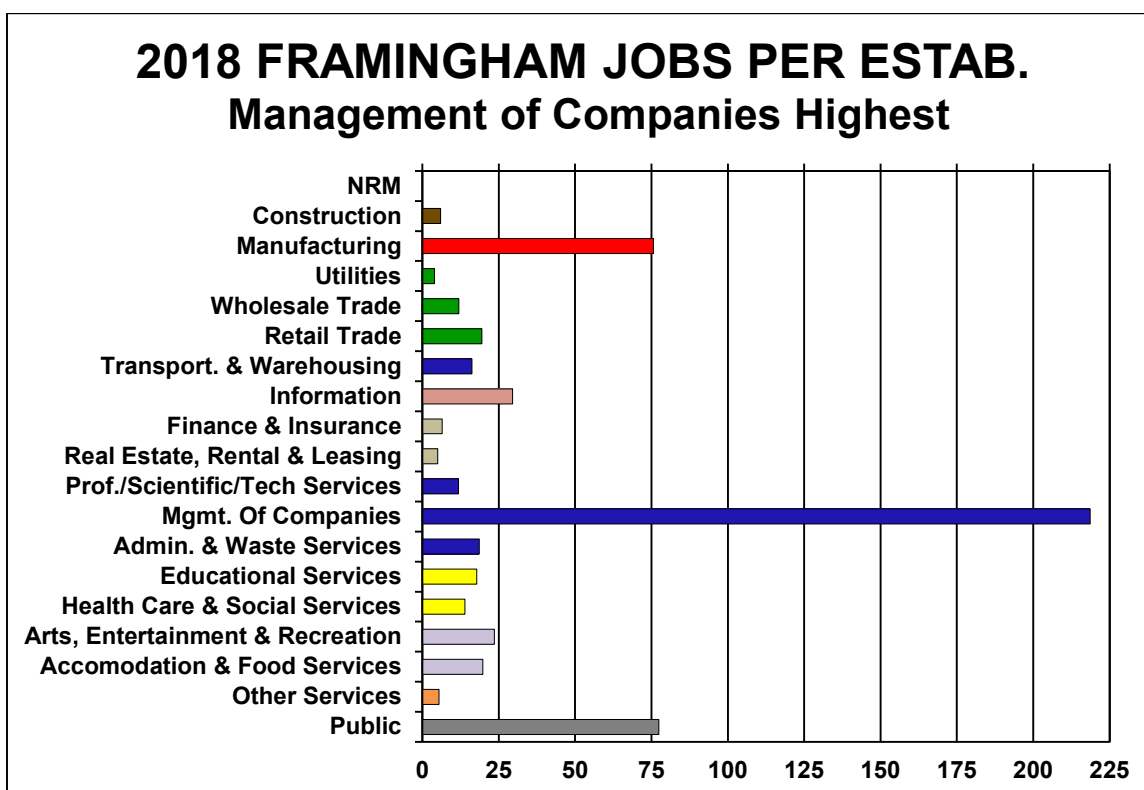


Source: MA EOLWD, MERC

- In 2018 the average number of jobs in establishments or separate places of work in Framingham was 19.2 jobs per establishment. This was higher than the average for the Greater MetroWest region (GMW) (16.6), Massachusetts (13.8), and the United States (14.6).
- Public and Manufacturing averaging 77 and 76 jobs per establishment, respectively, led all supersectors in 2018. Information with 30 jobs per establishment and Professional and Business Services (PBS) with 26 jobs followed.
- Leisure & Hospitality, Trade, Transportation & Utilities (TTU) and Education & Health all had between 10 and 20 jobs per establishment, with the 4 remaining supersectors averaging fewer than 10.

Supersector	# Jobs per Establishment	Supersector	# Jobs per Establishment
Public	77	Ed & Health	14
Manufacturing	76	Construction	6
Information	30	Financial Activities	6
PBS	26	Other Services	5
Leisure & Hospitality	20	Natural Resources & Mining (NRM)	0
Trade, Transportation & Utilities (TTU)	17	Framingham	19

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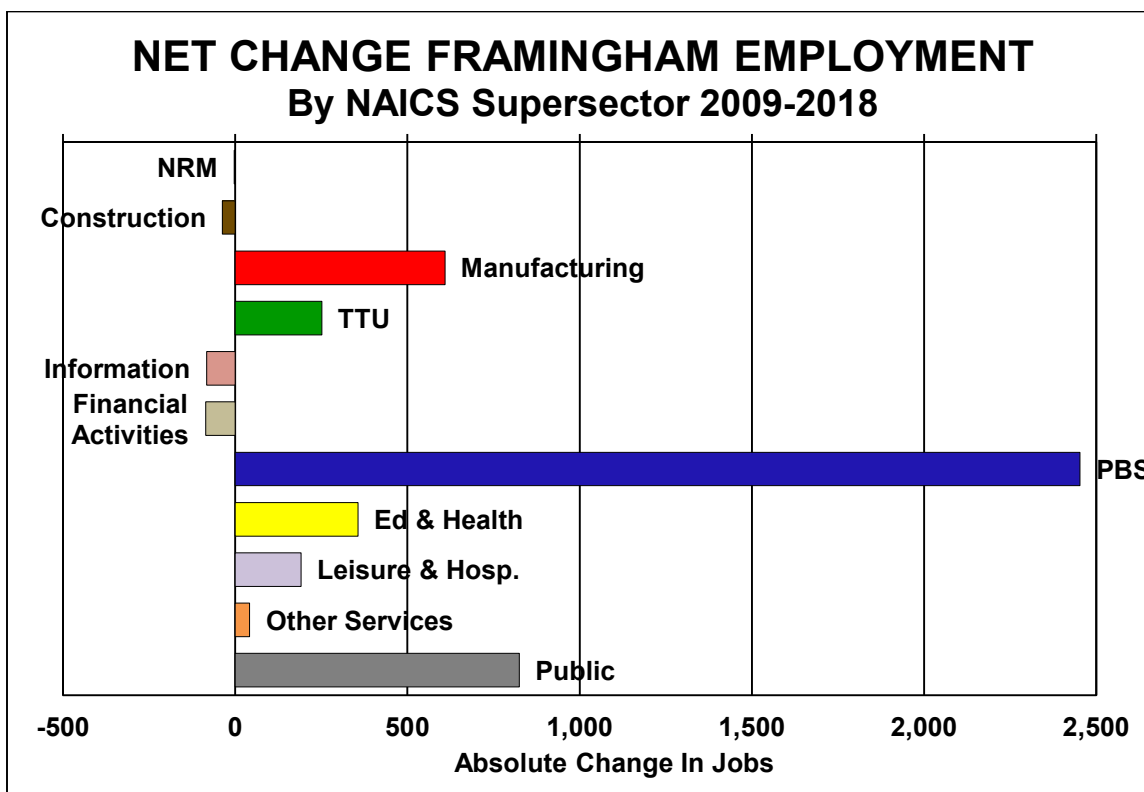
Source: MA EOLWD, MERC

- In 2018 the 2,570 establishments or separate places of work located in Framingham averaged 19.2 jobs per establishment.
- Among the 19 NAICS sectors, Management of Companies provided by far the most jobs per establishment (219). Public (77) and Manufacturing (76) were the next largest.
- Four sectors, Information, Arts, Entertainment & Recreation, Accommodation & Food Services and Retail Trade, had between 20 and 30 jobs per establishment.
- The number of jobs per establishment in the remaining sectors ranged from 19 in Administrative & Waste Services to 4 in Utilities.

NAICS Sector	# Jobs per Establishment
Management of Companies	219
Public	77
Manufacturing	76
Information	30
Arts, Entertainment & Recreation	24
Accommodation & Food Services	20

Note: Complete NAICS Sector data is on page 39.

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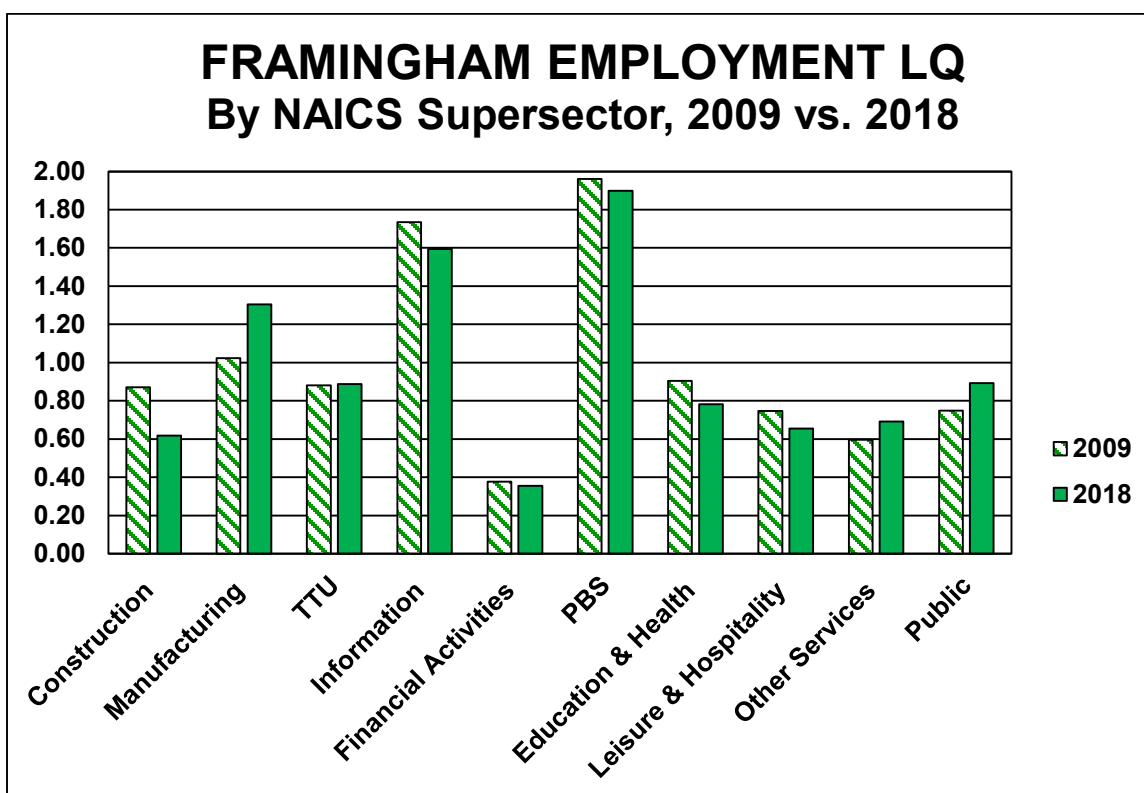
Source: MA EOLWD, MERC

- In 2018 there were 49,220 jobs in Framingham, 10% higher than the number of jobs in 2009 at the lowest point in the Great Recession.
- Seven supersectors added jobs. The largest absolute gains occurred in Professional and Business Services (PBS) adding 2,450 jobs (19%), followed by Public, up 830 jobs (19%), and Manufacturing with 610 new jobs (16%).
- Each of the supersectors that lost jobs over this period lost fewer than 100 jobs. Financial Activities lost 90 jobs or -8%, Information was down 80 jobs, a 4% loss, while Construction lost only 40 jobs or -3%.

Supersector	Absolute Change	% Change	Supersector	Absolute Change	% Change
Construction	-40	-3%	PBS	2,450	19%
Manufacturing	610	16%	Ed. & Health	360	5%
TTU	250	4%	Leisure & Hospitality	190	6%
Information	-80	-4%	Other Services	40	4%
Financial Activities	-90	-8%	Public	830	19%

Note: Natural Resources and Mining (NRM) had no employment in Framingham in 2018 and is not included.

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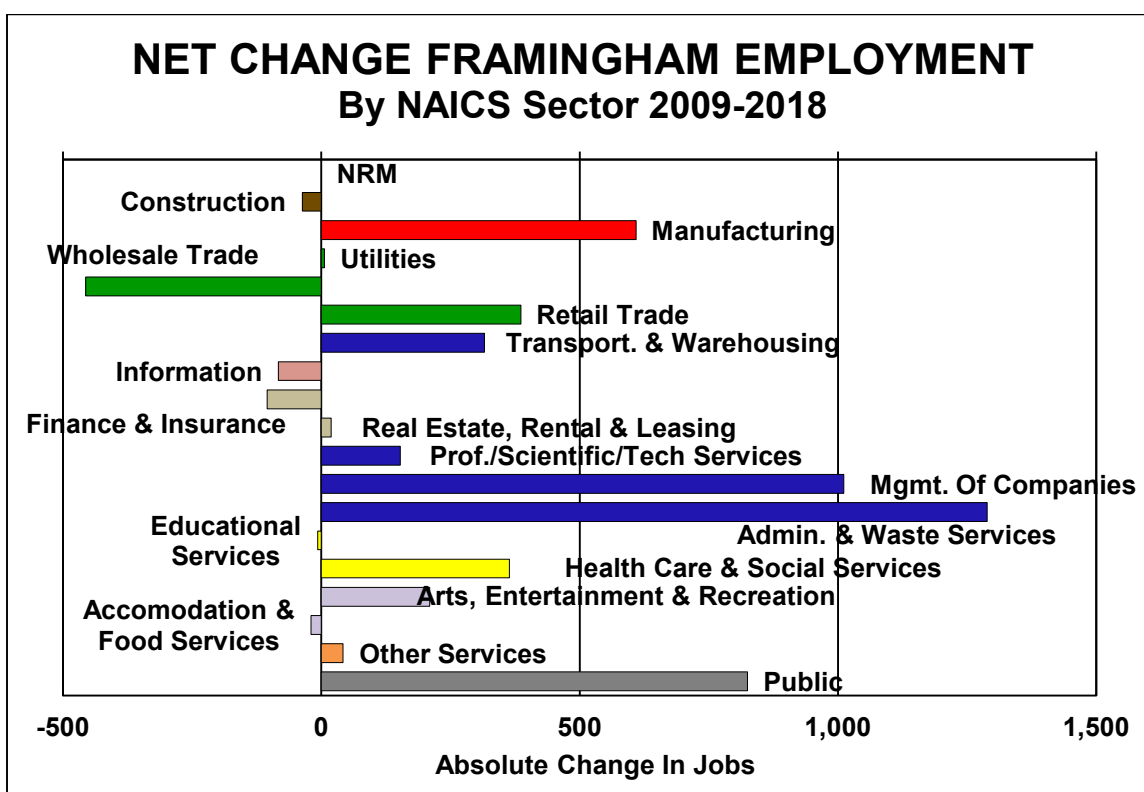
Source: MA EOLWD, MERC

- 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 three Framingham supersectors had LQs exceeding 1.0: Professional and Business Services (PBS), Information, and Manufacturing.
- In both 2009 and 2014 PBS achieved the highest LQ at 1.96 and 1.90, respectively, or a 96% and 90% greater concentration of PBS jobs in Framingham than existed statewide. Manufacturing had the largest increase in LQ, climbing to 1.30 in 2014, or a 30% greater concentration of Manufacturing jobs in Framingham than existed statewide.

Supersector	2009 LQ	2014 LQ
PBS	1.96	1.90
Information	1.73	1.59
Manufacturing	1.02	1.30
TTU	0.88	0.89
Public	0.75	0.89

Note: Complete NAICS supersector data on page 38. Interpretation of Location Quotients on page 46.

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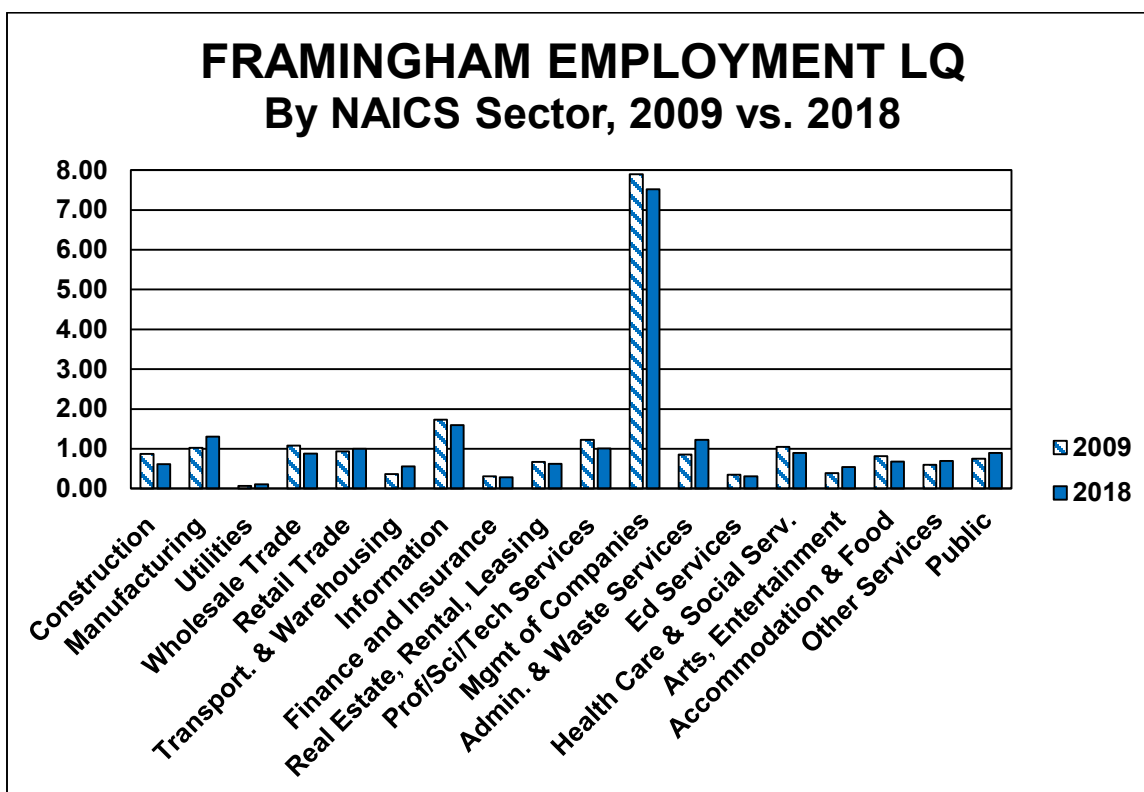
Source: MA EOLWD, MERC

- Total Framingham employment increased from 44,700 jobs in 2009 to 49,220 jobs in 2018, rising over 4,500 jobs or a 10% increase.
- Employment rose in 12 NAICS sectors between 2009 and 2018. The largest absolute gain was in Administrative & Waste Services, which added 1,290 jobs, a 70% increase. The next largest absolute increases were in Management of Companies with 1,010 additional jobs (15%) and Public where employment grew by 830 jobs (19%). The largest percentage gain, 90%, occurred in the Transportation & Warehousing sector, a gain of 320 jobs.
- A total of six sectors lost jobs. The biggest absolute drop, 460 jobs (-23%) occurred in Wholesale Trade with smaller falls in Finance & Insurance, down 110 jobs (-14%), and Information, which lost a total of 80 jobs (-4%).

Sector	Absolute Change	% Change
Administrative & Waste Services	1,290	70%
Management of Companies	1,010	15%
Public	830	19%
Manufacturing	610	16%
Retail Trade	390	9%

Note: Complete NAICS sector data on page 41.

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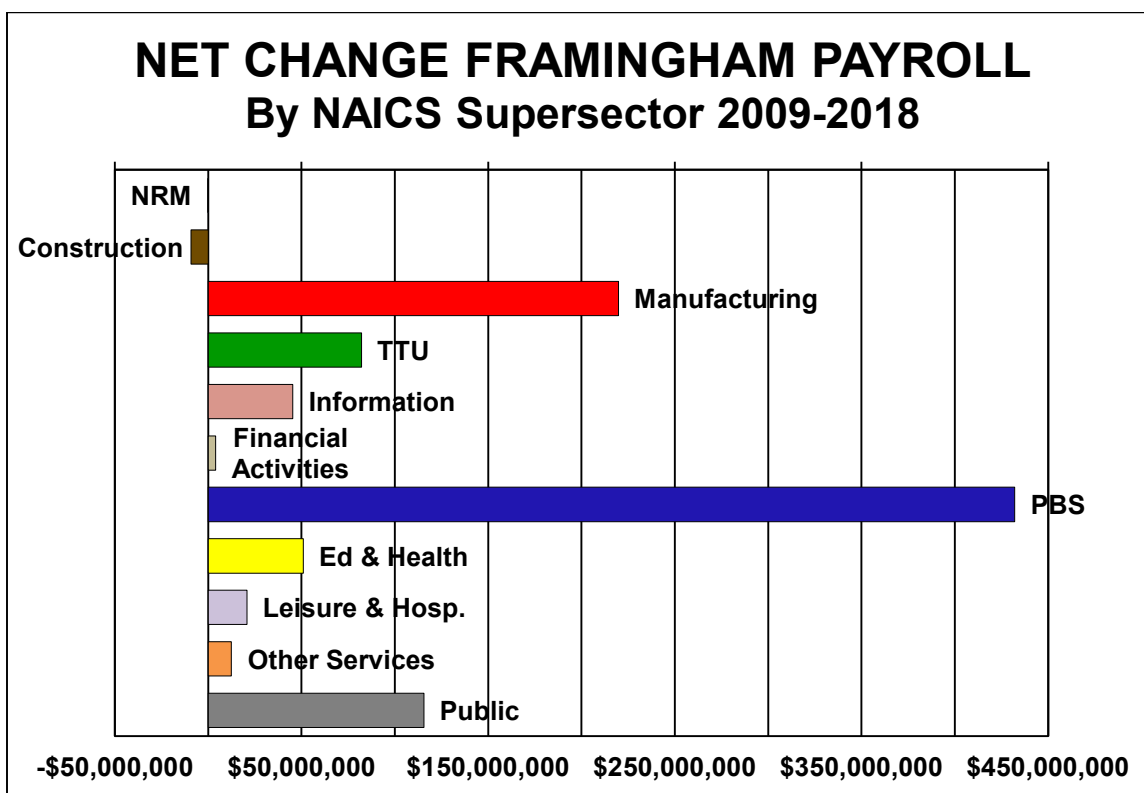
Source: MA EOLWD, MERC

- 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 2014 five Framingham sectors had LQs exceeding 1.0: Management of Companies, Information, Manufacturing, Administrative & Waste Services, and Professional, Scientific and Technical Services (Prof/Sci/Tech). Notably, Management of Companies had nearly eight times the concentration of jobs in Framingham than existed statewide.
- A regional LQ less than 1.0 shows an industry concentration lower than that of the state. Framingham had 10 sectors with LQs less than 1.0 in both years.
- Framingham LQs rose in eight sectors between 2009 and 2018, but declined in ten sectors.

Sector	2009 LQ	2014 LQ
Management of Companies	7.90	7.52
Information	1.73	1.59
Manufacturing	1.02	1.30
Administrative & Waste	0.86	1.23
Prof/Sci/Tech	1.22	1.01
Retail Trade	0.94	1.00

Note: Complete NAICS sector data on page 40. Interpretation of Location Quotients on page 46.

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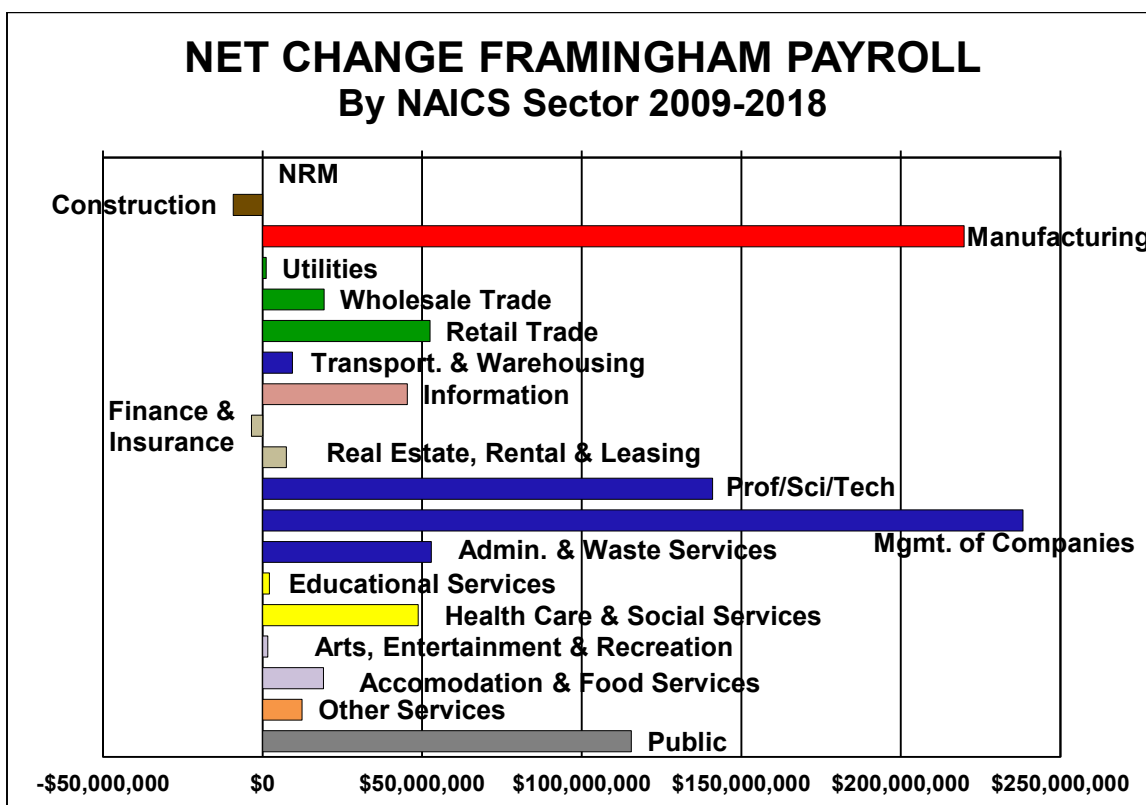


Source: MA EOLWD, MERC

- Total payroll in Framingham rose from \$3.0 billion in 2009 to \$4.0 billion in 2018, an increase of \$974 million or 32%.
- Nine NAICS supersectors gained payroll. Professional and Business Services (PBS) produced the largest increase in payroll, \$432 million or 33%, followed by Manufacturing, up \$220 million or 63%. Together these two supersectors produced two-thirds of the entire Framingham net gain in total payroll. The Public supersector had the third largest increase, \$116 million or 43%, followed by Trade, Transportation and Utilities (TTU), up \$82 million or 27%.
- The Construction supersector suffered a net decline in payroll of \$9.2 million or -9% over the period.

Supersector	Absolute Change	% Change	Supersector	Absolute Change	% Change
Construction	-\$9 million	-9%	PBS	\$432 million	33%
Manufacturing	\$220 million	63%	Ed. & Health	\$51 million	14%
TTU	\$82 million	27%	Leisure & Hospitality	\$21 million	31%
Information	\$45 million	29%	Other Services	\$12 million	33%
Financial Activities	\$4 million	5%	Public	\$116 million	43%

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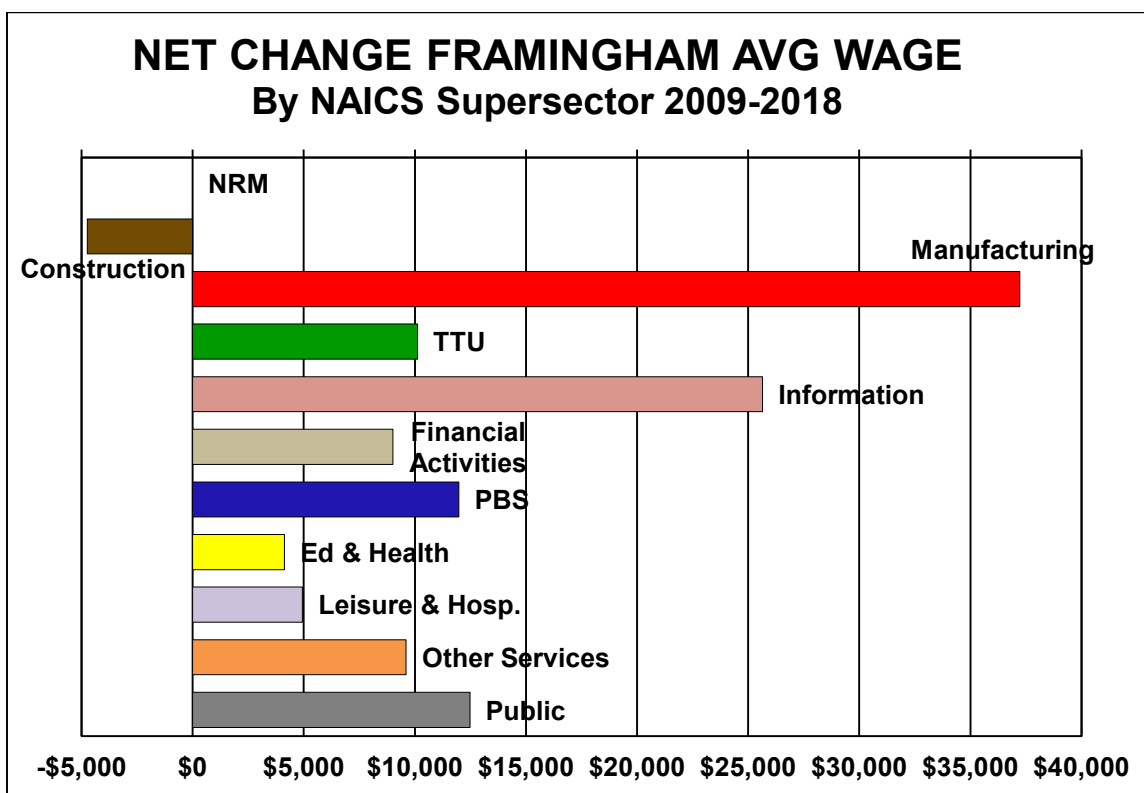
Source: MA EOLWD, MERC

- Total payroll in Framingham climbed from \$3.0 billion in 2009 to \$4.0 billion in 2018, an increase of \$974 million or 32%.
- Sixteen NAICS sectors gained payroll. Management of Companies led with the largest absolute gain, \$238 million or 30%. Manufacturing produced the second largest net payroll gain, \$220 million or 63%, followed by the Professional, Scientific and Technical Services sector (Prof/Sci/Tech), up \$141 million or 33%. The Utilities sector had the highest percentage gain, \$1.1 million or 125%.
- Two NAICS sectors lost payroll: Construction with a loss of \$9 million or -9%, and Finance and Insurance with a loss of \$3 million or -6%.

Sector	Absolute Change	% Change
Management of Companies	\$238 million	30%
Manufacturing	\$220 million	63%
Prof/Sci/Tech	\$141 million	33%
Public	\$116 million	43%
Administrative & Waste Services	\$53 million	61%
Retail Trade	\$52 million	39%

Note: Complete NAICS sector data on page 41.

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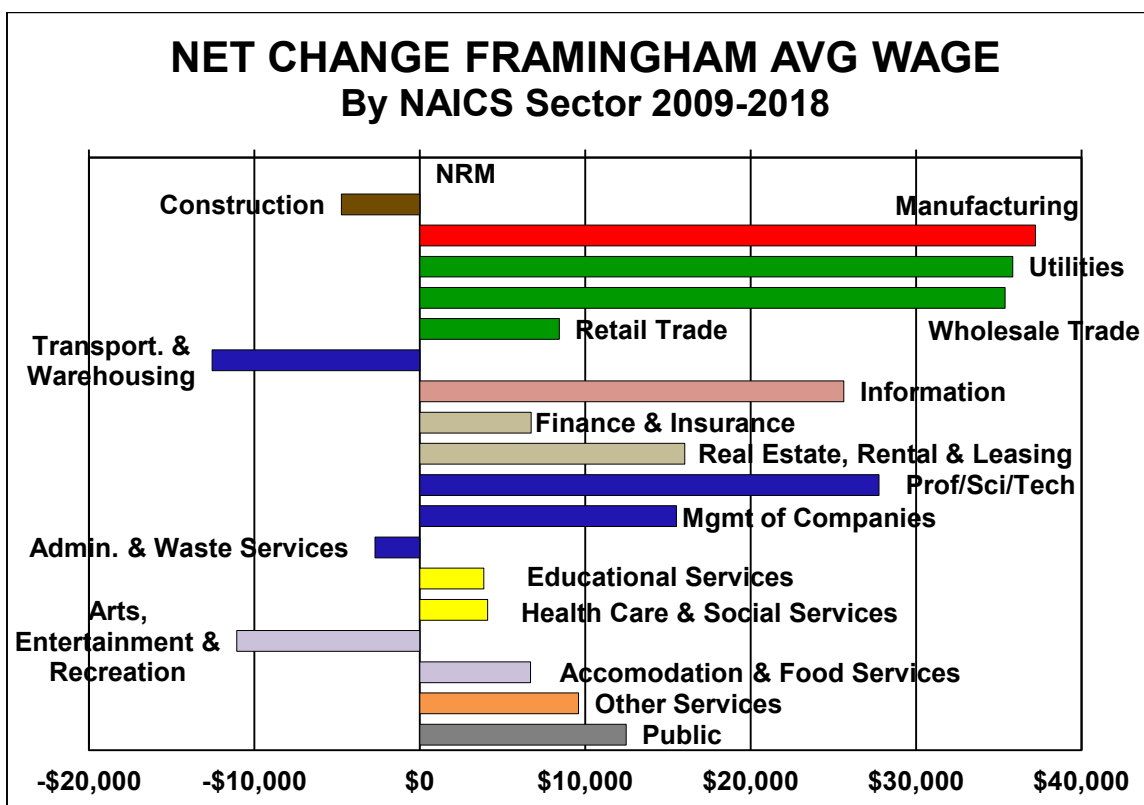


Source: MA EOLWD, MERC

- The Framingham average annual wage rose from \$67,900 in 2009 to \$81,400 in 2018, an increase of \$13,500 or 20%.
- The average annual wage in nine supersectors rose. The largest absolute and percentage increases occurred in the Manufacturing supersector, up \$37,200 or 40%, followed by Information, up \$25,600 or 34%, Public, up \$12,500 or 21%, and Professional and Business Services (PBS), up \$12,000 or 12%.
- Construction was the only NAICS supersector to experience a loss in average annual wage over the period, declining by \$4,700, or -6%.

Supersector	Absolute Change	% Change	Supersector	Absolute Change	% Change
Construction	-\$4,700	-6%	PBS	\$12,000	12%
Manufacturing	\$37,200	40%	Ed. & Health	\$4,100	9%
TTU	\$10,100	23%	Leisure & Hospitality	\$4,900	24%
Information	\$25,600	34%	Other Services	\$9,600	28%
Financial Activities	\$9,000	14%	Public	\$12,500	21%

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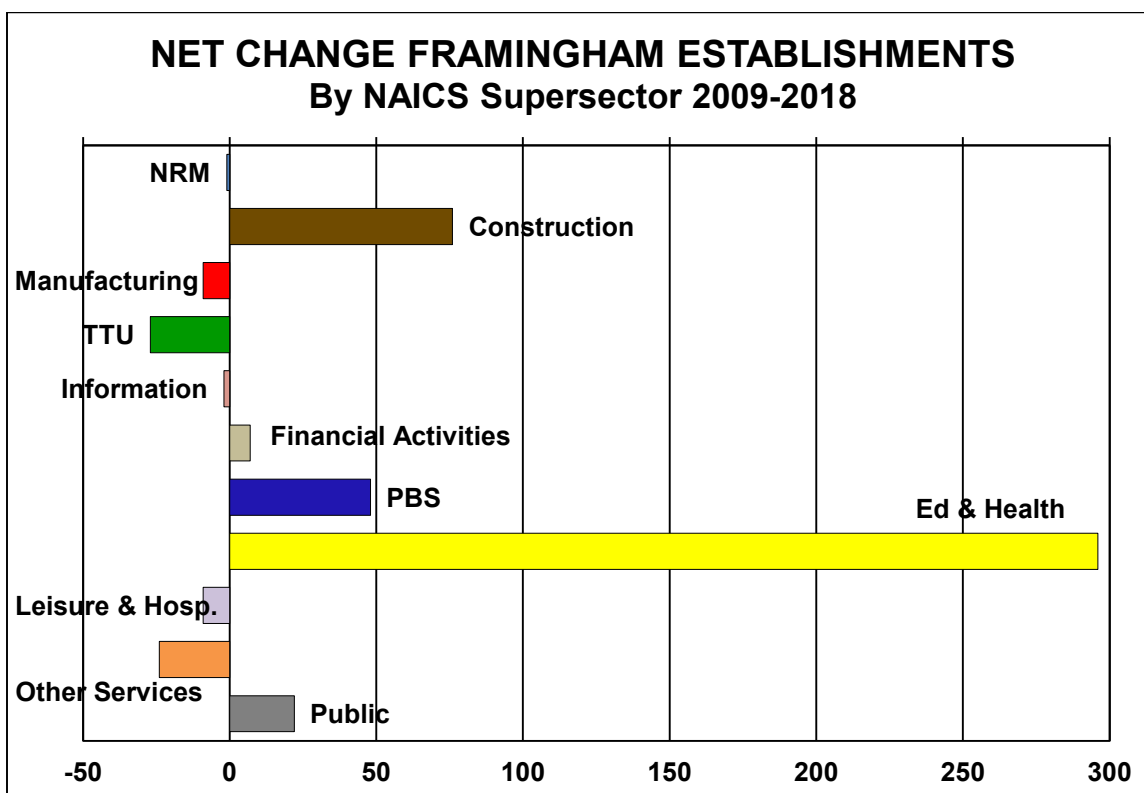
Source: MA EOLWD, MERC

- The Framingham average annual wage climbed from \$67,900 in 2009 to \$81,400 in 2018, an increase of \$13,500 or 20%.
- Fourteen NAICS sectors generated gains in average wage. Manufacturing produced the highest absolute increase, up \$37,200 or 40%, followed by Utilities with the highest percentage increase, up \$35,800 or 41%. Wholesale Trade recorded the third highest wage gain, up \$35,400 or 48%.
- Four NAICS sectors suffered declines in average wage. Transportation & Warehousing experienced the largest absolute decline, -\$12,600 or -34%, followed by Arts Entertainment & Recreation with the largest percentage decline of -34%, Construction, and Administrative & Waste Services.

Sector	Absolute Change	% Change
Manufacturing	\$37,200	40%
Utilities	\$35,800	41%
Wholesale Trade	\$35,400	48%
Professional/Scientific/ Technical	\$27,800	28%
Information	\$25,600	34%

Note: Complete NAICS sector data on page 42.

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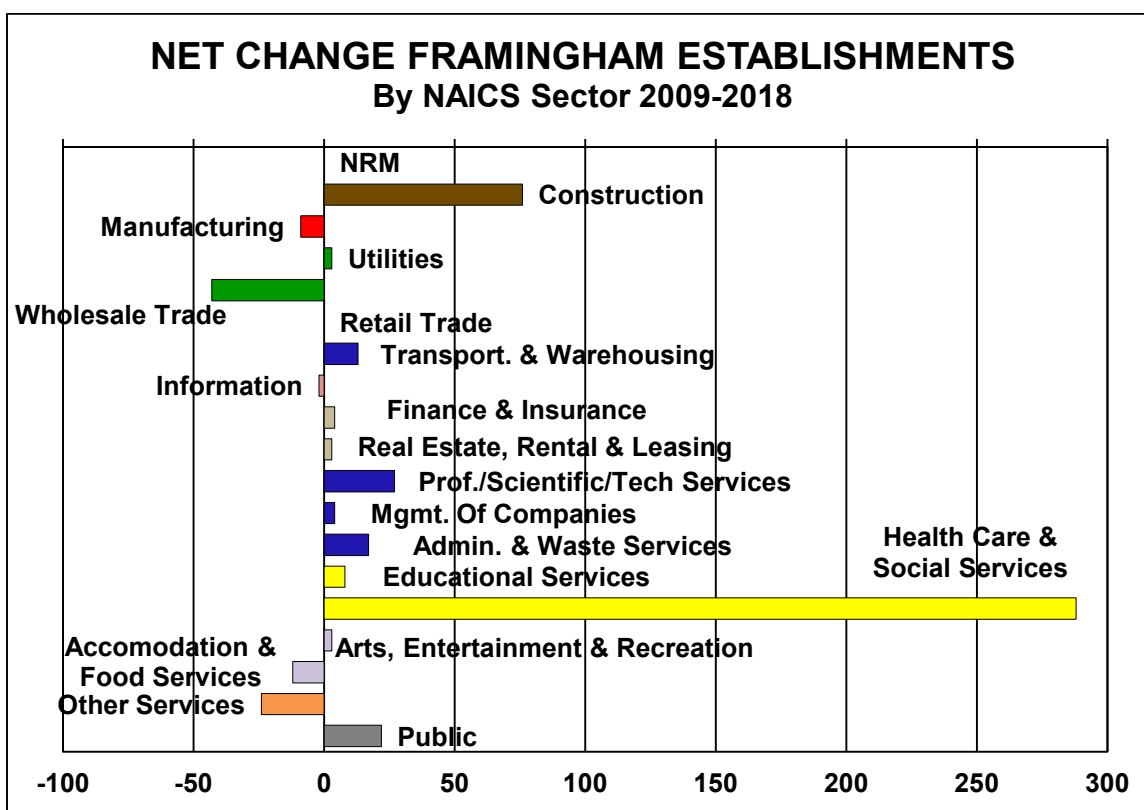


Source: MA EOLWD, MERC

- From 2009 to 2018 the number of establishments in Framingham rose from 2,190 to 2,570, an increase of 380 establishments or 17%.
- Among all NAICS supersectors Education & Health Services generated the largest absolute and percentage net gains, increasing by 300 establishments or 101%. Construction and Professional and Business Services (PBS) followed with gains of 80 establishments (51%) and 50 establishments (9%), respectively.
- Six supersectors experienced declines in numbers of establishments. Trade, Transportation and Utilities (TTU) lost 30 establishments or -6%, followed by Other Services, Leisure and Hospitality, Manufacturing and Information.

Supersector	Absolute Change	% Change	Supersector	Absolute Change	% Change
Construction	80	51%	PBS	50	9%
Manufacturing	-10	-13%	Ed. & Health	300	101%
TTU	-30	-6%	Leisure & Hospitality	-10	-5%
Information	-2	-3%	Other Services	-20	-10%
Financial Activities	10	4%	Public	20	48%

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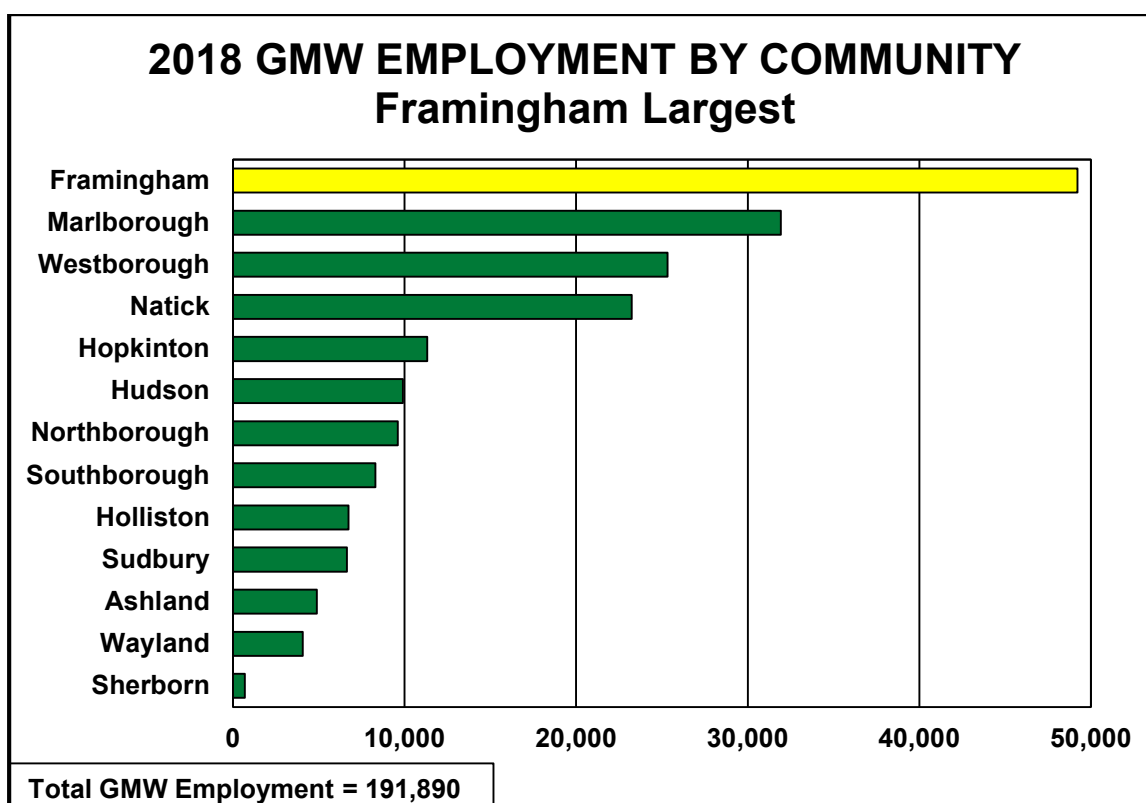
Source: MA EOLWD, MERC

- From 2009 to 2018 Framingham added 380 establishments, up 17%, as the number of establishments increased from 2,190 to 2,570.
- Twelve NAICS sectors gained establishments. Health Care & Social Assistance more than doubled, adding 290 establishments, the highest absolute and percentage increase (109%) among all sectors. Construction followed with 80 more establishments, up 51%, and Professional, Scientific and Technical Services (Prof/Sci/Tech) rose by 30 establishments, an 8% increase.
- Five NAICS sectors lost establishments. Wholesale Trade suffered the largest absolute and percentage decline, losing 40 establishments, or -25%. Other Services followed, losing 20 establishments (-10%). Retail Trade remained stable with no net change over the period.

Sector	Absolute Change	% Change
Health Care & Social Assistance	290	109%
Construction	80	51%
Prof/Sci/Tech	30	8%
Public	20	48%
Administrative & Waste Services	20	11%

Note: Complete NAICS sector data on page 42.

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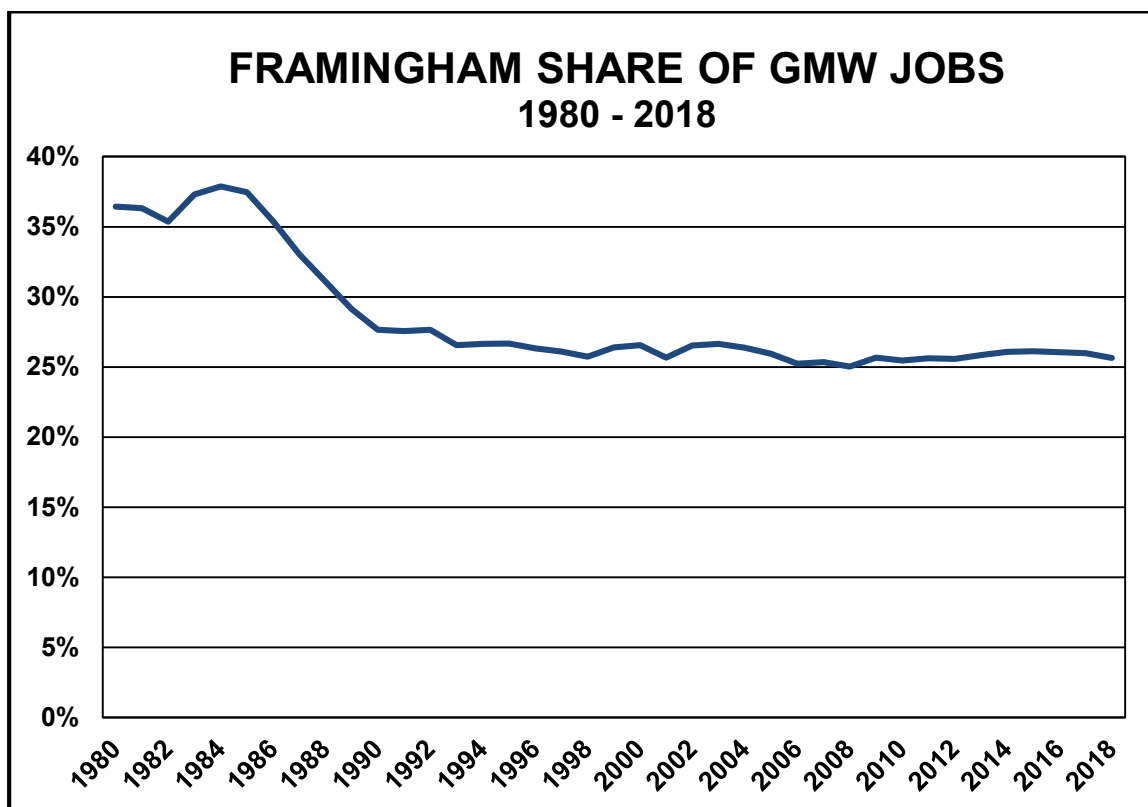


Source: MA EOWLD, MERC

- In 2018 Greater MetroWest region (GMW) employment totaled 191,890 jobs, up 2.7% from 2017.
- Among the thirteen GMW communities in 2018, Framingham generated the the largest number of jobs, 49,220 jobs, or 25.6% of regional employment. Framingham's employment exceeded that of the second largest city, Marlborough, by over 50%.
- Four GMW communities, Framingham, Marlborough, Westborough and Natick, each produced more than 20,000 jobs. The almost 130,000 jobs located in these communities comprised over two-thirds of the region's total jobs. The remaining nine communities combined provided the remaining one-third of regional employment.

Communities	Number of Jobs	Communities	Number of Jobs
Framingham	49,220	Southborough	8,300
Marlborough	31,920	Holliston	6,740
Westborough	25,340	Sudbury	6,640
Natick	23,230	Ashland	4,900
Hopkinton	11,320	Wayland	4,070
Hudson	9,910	Sherborn	690
Northborough	9,620	GMW	191,890

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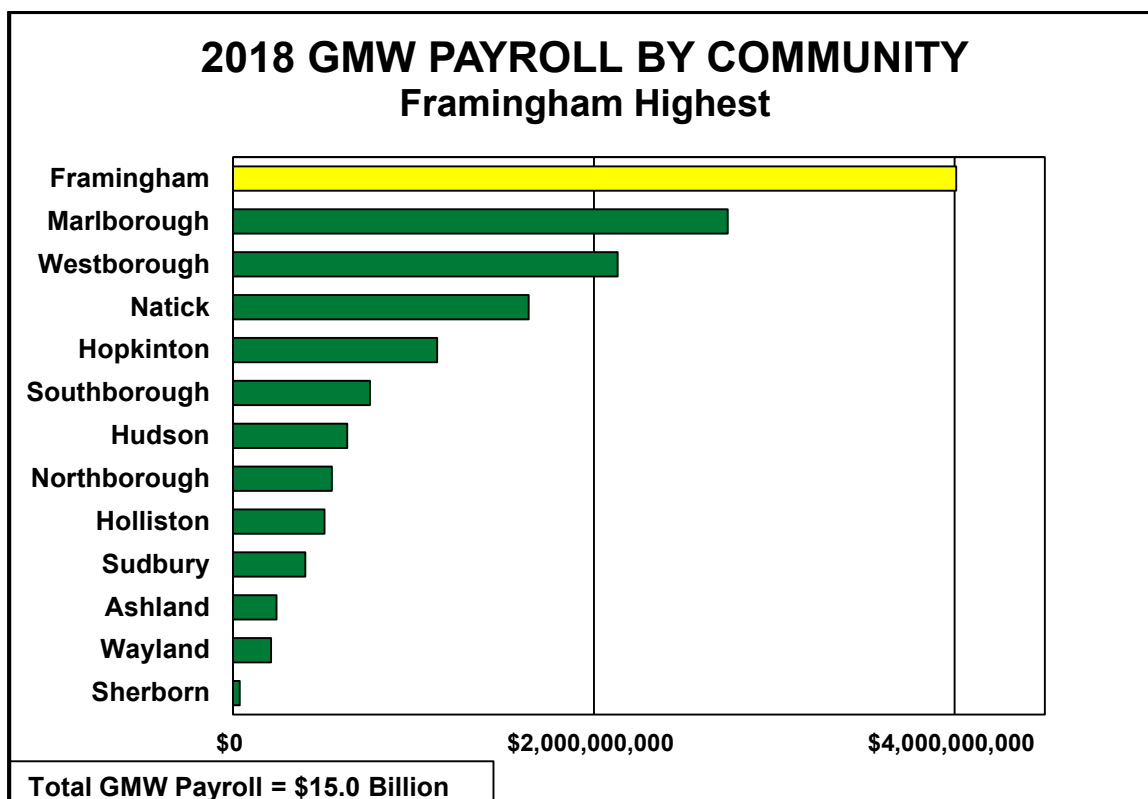


Source: MA EOLWD, MERC

- In 2018, business establishments located in Framingham provided 49,220 jobs. This number represented 25.6% of the 191,890 jobs in establishments located within the 13 Greater MetroWest region (GMW) communities.
- Framingham's share of GMW employment stood at 36.4% in 1980, fell slightly in the next two years and then rose to its historical peak of 37.9% in 1984.
- Over the next two decades, Framingham's regional share of employment declined quite sharply to 27.6% in 1990 and then more gradually to 25.7% in 1998. Since that time Framingham's share of GMW jobs has been quite stable, fluctuating between 25% and 27%.

Year	Framingham Employment	GMW Employment	Framingham's Share of GMW Employment
1980	40,950	112,390	36.4%
1990	39,050	141,250	27.6%
2000	45,880	172,790	26.6%
2010	44,630	175,240	25.5%
2018	49,220	191,890	25.6%

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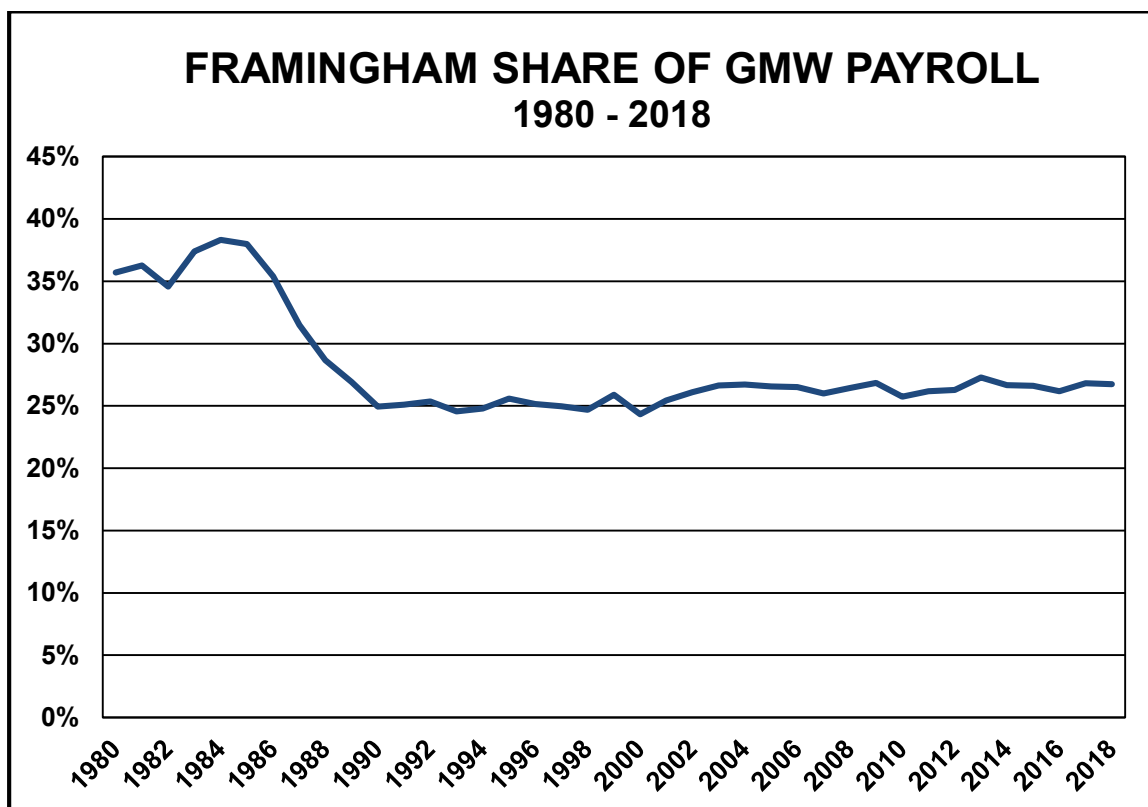


Source: MA EOLWD, MERC

- In 2018 employers in the Greater MetroWest region (GMW) generated a total payroll of \$15.0 billion, 2.0% higher than the 2017 figure.
- Among the thirteen communities Framingham establishments produced the largest share of the region's payroll, \$4.0 billion, or over one fourth of regional payroll.
- The total payroll in five GMW communities, Framingham, Marlborough, Westborough, Natick, and Hopkinton, each topped \$1.0 billion, and combined they generated over \$10 billion in payroll. This was almost 78% of the total payroll produced by establishments in the entire region.

Communities	Payroll	Communities	Payroll
Framingham	\$4.0 billion	Northborough	\$548 million
Marlborough	\$2.7 billion	Holliston	\$507 million
Westborough	\$2.1 billion	Sudbury	\$401 million
Natick	\$1.6 billion	Ashland	\$241 million
Hopkinton	\$1.1 billion	Wayland	\$212 million
Southborough	\$759 million	Sherborn	\$37 million
Hudson	\$633 million	GMW	\$15.0 billion

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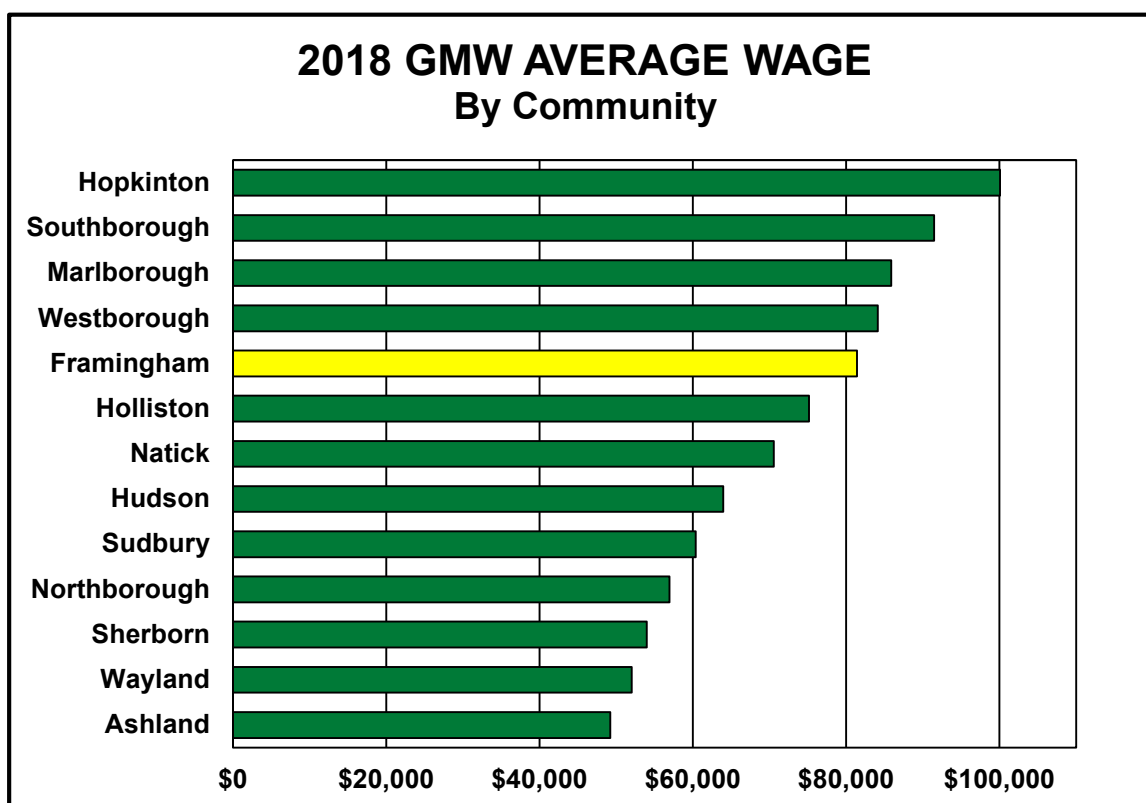


Source: MA EOLWD, MERC

- In 1980 almost 36% of the total payroll of \$1.6 billion generated by businesses located in the 13 communities in the Greater MetroWest region (GMW) was produced by Framingham's establishments.
- Thereafter, Framingham's share of payroll rose to a peak of 38.3% in 1984 and then fell to 25% in 1990. The lowest payroll share (24.3%) occurred in 2000.
- In the 18 years since this low, the share of GMW payroll produced by Framingham establishments has been very stable. It has been above 25% in every single year and rose above 27% only once, reaching 27.3% in 2013.

Year	Framingham Payroll	GMW Payroll	Framingham's Share of GMW Payroll
1980	\$579 million	\$1.6 billion	35.7%
1990	\$1.0 billion	\$4.2 billion	25.0%
2000	\$2.2 billion	\$8.9 billion	24.3%
2010	\$3.1 billion	\$11.9 billion	25.7%
2018	\$4.0 billion	\$15.0 billion	26.7%

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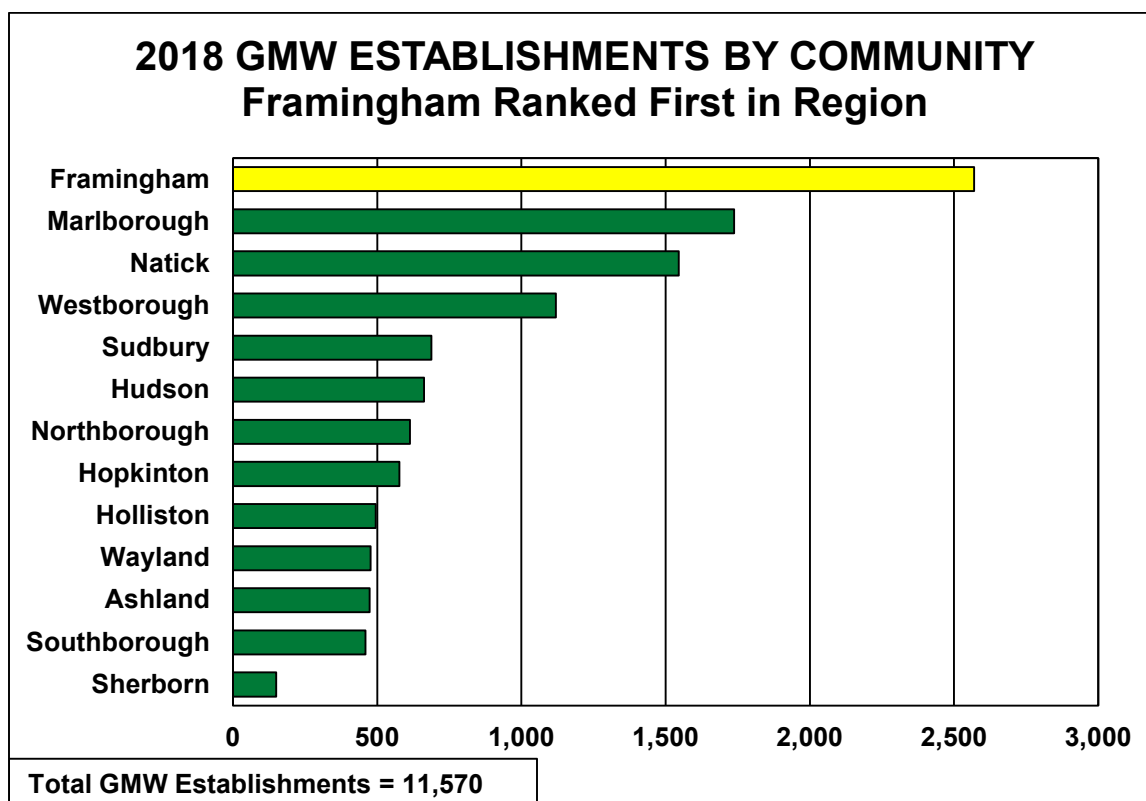


Source: MA EOWLD, MERC

- The average annual wage in the Greater MetroWest region (GMW) which was \$76,800 in 2017, increased 1.7% to \$78,100 in 2018.
- The record \$81,400 average wage paid by Framingham employers in 2018 ranked 5th among the thirteen GMW communities. This average wage was up \$2,100 or 2.7% from the previous year.
- In 2018 the average annual wage in Framingham was 4.2% above the GMW average wage of \$78,100, 12.2% higher than the Massachusetts average wage of \$72,600, and exceeded the U.S. average wage of \$57,300 by 42.2%.

Communities	Average Wage	Communities	Average Wage
Hopkinton	\$100,100	Sudbury	\$60,400
Southborough	\$91,500	Northborough	\$57,000
Marlborough	\$85,900	Sherborn	\$54,000
Westborough	\$84,100	Wayland	\$52,000
Framingham	\$81,400	Ashland	\$49,200
Holliston	\$75,200	GMW	\$78,100
Natick	\$70,600	MA	\$72,600
Hudson	\$64,000	U.S.	\$57,300

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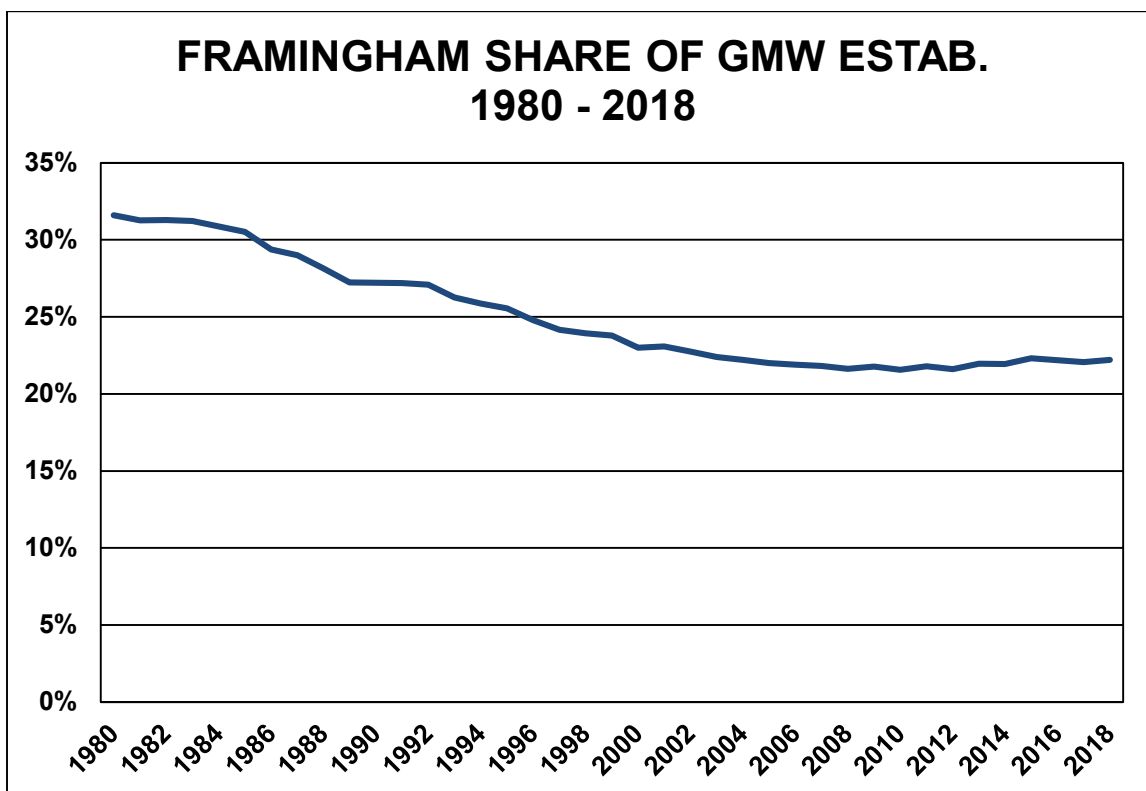


Source: MA EOWLD, MERC

- There were a total of 11,570 establishments or separate places of work, located in the Greater MetroWest region (GMW) in 2018. This was an increase of 120 establishments (1.0%) over the prior year.
- A record 2,570 establishments were located in Framingham, 22.2% of the total establishments sited within the thirteen GMW communities.
- Slightly more than 60% of all GMW establishments were located in four communities: Framingham, Marlborough, Natick, and Westborough. Each of the four had more than 1,000 business establishments. Each of the remaining nine GMW communities had fewer than 700 establishments.

Communities	Establishments	Communities	Establishments
Framingham	2,570	Hopkinton	580
Marlborough	1,740	Holliston	500
Natick	1,550	Wayland	480
Westborough	1,120	Ashland	470
Sudbury	690	Southborough	460
Hudson	660	Sherborn	150
Northborough	620	GMW	11,570

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Source: MA EOLWD, MERC

- In 1980 Framingham was home to more than 1,500 of the Greater MetroWest region's (GMW) 4,820 establishments or separate places of work. This gave Framingham a larger share of GMW establishments than any of the other communities in the region. In fact, Framingham's 31.6% share was twice as large as the next largest community, Natick at 16%.
- From 1980 to 2008 Framingham's share of GMW establishments declined slowly and steadily to 21.6%. The city had the same 21.6% share in both 2010 and 2012. Since that time the city's share of GMW establishments has risen only very slightly.
- Framingham's falling share of GMW establishments was due to the fact that the total number of establishments in the region increased by 2.3% per year on average compared to only 1.4% per year in Framingham.

Year	Framingham Establishments	GMW Establishments	Framingham's Share of GMW Establishments
1980	1,520	4,820	31.6%
1990	2,210	8,130	27.2%
2000	2,190	9,520	23.0%
2010	2,220	10,300	21.6%
2018	2,570	11,570	22.2%

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NAICS Employment Data By Supersector Framingham 2018

NAICS Supersector	Number of Jobs*	Average Wage*	Total Payroll* (Millions)	Number of Establishments*
Natural Resources & Mining (NRM)	0	\$0	\$0	0
Construction	1,340	\$71,800	\$97	220
Manufacturing	4,380	\$130,300	\$571	60
Trade, Transportation & Utilities (TTU)	7,020	\$54,300	\$381	420
Information	2,010	\$100,400	\$202	70
Financial Activities	1,060	\$74,800	\$79	180
Professional & Business Services (PBS)	15,310	\$113,400	\$1,736	580
Education & Health	8,310	\$50,600	\$420	590
Leisure & Hospitality	3,380	\$25,900	\$88	170
Other Services	1,140	\$44,000	\$50	210
Public	5,260	\$73,000	\$384	70
Total Framingham	49,220	\$81,400	\$4.0 Billion	2,570
Greater MetroWest Region (GMW)	191,890	\$78,100	\$15.0 Billion	11,570
Massachusetts (MA)	3,586,110	\$72,600	\$260.4 Billion	260,360
United States	146,131,750	\$57,300	\$8,368.4 Billion	10,011,040

Source: MA EOLWD, MERC *Rounded

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NAICS Employment Data by Sector Framingham 2018

NAICS Sector	Number of Jobs*	Average Wage*	Total Payroll* (Millions)	Number of Establishments*
Natural Resources & Mining (NRM)	0	\$0	\$0	0
Construction	1,340	\$71,800	\$97	220
Manufacturing	4,380	\$130,300	\$571	60
TTU**-Utilities	20	\$124,400	\$2	4
TTU**-Wholesale Trade	1,500	\$109,500	\$164	130
TTU**-Retail Trade	4,840	\$38,400	\$186	250
TTU**-Transportation & Warehousing	670	\$43,500	\$29	40
Information	2,010	\$100,400	\$202	70
Financial Activities**- Finance & Insurance	650	\$82,000	\$54	100
Financial Activities**- Real Estate & Rental & Leasing	410	\$63,300	\$26	80
PBS**-Professional/Scientific/Technical	4,540	\$126,300	\$573	380
PBS**-Management of Companies	7,650	\$133,700	\$1,023	40
PBS**-Administrative & Waste Services	3,120	\$44,900	\$140	170
Ed & Health**- Educational Services	620	\$41,100	\$26	40
Ed & Health**- Health Care & Social Assistance	7,690	\$51,300	\$394	550
Leisure & Hospitality**- Arts, Entertainment & Recreation	470	\$21,500	\$10	20
Leisure & Hospitality**- Accommodation & Food Service	2,910	\$26,600	\$77	150
Other Services	1,140	\$44,000	\$50	210
Public	5,260	\$73,000	\$384	70

Sources: MA EOLWD, MERC * Rounded ** 5 NAICS supersectors are further subdivided into sectors: TTU (Transportation, Trade & Utilities), Financial Activities, PBS (Professional & Business Services), Ed & Health (Education & Health Services), Leisure & Hospitality.

FRAMINGHAM EMPLOYMENT REPORT 2020

NAICS Employment Location Quotients by Sector Framingham 2009 vs. 2018

NAICS Sector	2009	2014
Natural Resources & Mining (NRM)	-	-
Construction	0.87	0.62
Manufacturing	1.02	1.30
TTU*-Utilities	0.07	0.11
TTU*-Wholesale Trade	1.08	0.88
TTU*-Retail Trade	0.94	1.00
TTU*-Transportation & Warehousing	0.37	0.55
Information	1.73	1.59
Financial Activities*-Finance & Insurance	0.31	0.28
Financial Activities*-Real Estate & Rental & Leasing	0.67	0.62
PBS*-Professional/ Scientific/Technical	1.22	1.01
PBS*-Management of Companies	7.90	7.52
PBS*-Administrative & Waste Services	0.86	1.23
Ed & Health*-Educational Services	0.35	0.31
Ed & Health*-Health Care & Social Assistance	1.05	0.89
Leisure & Hospitality*-Arts, Entertainment & Recreation	0.39	0.54
Leisure & Hospitality*-Accommodation & Food Service	0.81	0.68
Other Services	0.60	0.69
Public	0.75	0.89

*Sources: MA EOLWD, MERC *5 NAICS supersectors are further subdivided into sectors: TTU (Transportation, Trade & Utilities), Financial Activities, PBS (Professional & Business Services), Ed & Health (Education & Health Assistance), Leisure & Hospitality.*

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NAICS Net Changes by Sector for Employment, Payroll Framingham 2009-2018

NAICS Sector	Employment Absolute*	Employment % Change*	Payroll Abs.* (Millions)	Payroll % Change*
Natural Resources & Mining (NRM)	-	-	-	-
Construction	-40	-3%	\$-9	-9%
Manufacturing	610	16 %	\$220	63%
TTU**-Utilities	10	60%	\$1	125%
TTU**-Wholesale Trade	-460	-23%	\$19	13%
TTU**-Retail Trade	390	9%	\$52	39%
TTU**-Transportation & Warehousing	320	90%	\$9	48%
Information	-80	-4%	\$45	29%
Financial Activities**- Finance & Insurance	-110	-14%	-\$3	-6%
Financial Activities**- Real Estate & Rental & Leasing	20	5%	\$7	41%
PBS**-Professional/Scientific/Technical	150	4%	\$141	33%
PBS**-Management of Companies	1010	15%	\$238	30%
PBS**-Administrative & Waste Services	1290	70%	\$53	61%
Ed & Health**- Educational Services	-10	-1%	\$2	9%
Ed & Health**- Health Care & Social Assistance	360	5%	\$49	14%
Leisure & Hospitality**- Arts, Entertainment & Recreation	210	80%	\$2	19%
Leisure & Hospitality**- Accommodation & Food Service	-20	-1%	\$19	33%
Other Services	40	4%	\$12	33%
Public	830	19%	\$116	43%

Sources: MA EOLWD, MERC *Rounded; based on 2009 vs. 2018 data **5 NAICS supersectors are further subdivided into sectors: TTU (Transportation, Trade & Utilities), Financial Activities, PBS Professional & Business Services), Ed & Health (Education & Health Assistance), Leisure & Hospitality.

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NAICS Net Changes by Sector for Avg. Wage, Establishments Framingham 2009-2018

NAICS Sector	Avg. Wage Absolute*	Avg. Wage % Change*	Establishments Absolute Chg.	Establishments % Change*
Natural Resources & Mining (NRM)	-	-	-	-
Construction	-\$4,700	-6%	76	51%
Manufacturing	\$37,200	40%	-9	-13%
TTU**-Utilities	\$35,800	41%	3	300%
TTU**-Wholesale Trade	\$35,400	48%	-43	-25%
TTU**-Retail Trade	\$8,400	28%	0	0%
TTU**-Transportation & Warehousing	-\$12,600	-22%	13	46%
Information	\$25,600	34%	-2	-3%
Financial Activities**- Finance & Insurance	\$6,700	9%	4	4%
Financial Activities**- Real Estate & Rental & Leasing	\$16,000	34%	3	4%
PBS**-Professional/Scientific/Technical	\$27,800	28%	27	8%
PBS**-Management of Companies	\$15,500	13%	4	13%
PBS**-Administrative & Waste Services	-\$2,700	-6%	17	11%
Ed & Health**- Educational Services	\$3,900	10%	8	30%
Ed & Health**- Health Care & Social Assistance	\$4,100	9%	288	109%
Leisure & Hospitality**- Arts, Entertainment & Recreation	-\$11,100	-34%	3	18%
Leisure & Hospitality**- Accommodation & Food Service	\$6,700	34%	-12	-8%
Other Services	\$9,600	28%	-24	-10%
Public	\$12,500	21%	22	48%

Sources: MA EOLWD, MERC *Rounded; based on 2009 vs. 2018 data **5 NAICS supersectors are further subdivided into sectors: TTU (Transportation, Trade & Utilities), Financial Activities, PBS (Professional & Business Services), Ed & Health (Education & Health Services), Leisure & Hospitality.

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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

- 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

- 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 **

- 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.

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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.

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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. Please note that this sector includes private educational establishments. Public educational establishments are included in the Public supersector.

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, grant making, advocacy, and providing laundry services, personal care services, death care services, pet care services, photofinishing services, temporary parking services, and dating services.

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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.

Interpretation of Location Quotients

Employment patterns differ from place to place across the country. For example, the percentage of New York City jobs in banking and finance is much higher than the share of those jobs nationwide. Likewise, the concentration of agricultural employment is much lower in NY City than it is for the entire country. Location quotients provide a way of quantifying differences like these. A location quotient is just the percentage of a particular region's employment in a specific industry divided by the portion of the larger region's total employment in that same industry.

Illustrating with some of the 2018 data in this report:

The largest employment supersector in Framingham was Professional & Business Services (PBS), providing 15,300 jobs, or 31.1% of the 49,710 jobs located within Framingham. Statewide only 16.4% of jobs were in PBS (587,500 out of 3,586,100 total MA jobs). The location quotient for PBS in Framingham was thus 1.90 ($31.1/16.4$). This implies that the concentration of PBS jobs in Framingham was almost double that of the state. This suggests not only that Framingham may have some type of comparative advantage relative to the state in attracting employers in this supersector, but also that the city is an important provider of services produced by this supersector to the state.

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SOURCES

- United States Bureau of Labor Statistics, U. S. Department of Labor (BLS)
- Massachusetts Executive Office of Employment and Workforce Development (MA EOLWD), ES 202 Series
- MetroWest Economic Research Center (MERC), Framingham State University
- United States Census Bureau, U. S. Department of Commerce (US CENSUS), American Community Survey 2017 (5 year estimate, 2013-2017)

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