



The Research Bureau

REINVENTING WORCESTER

Changes in the community and the economy
over the decades through Decennial Census
data

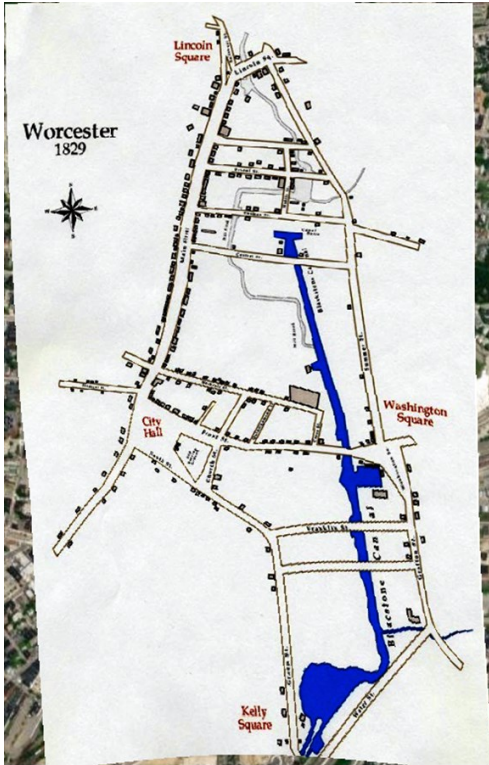
REPORT 23-06

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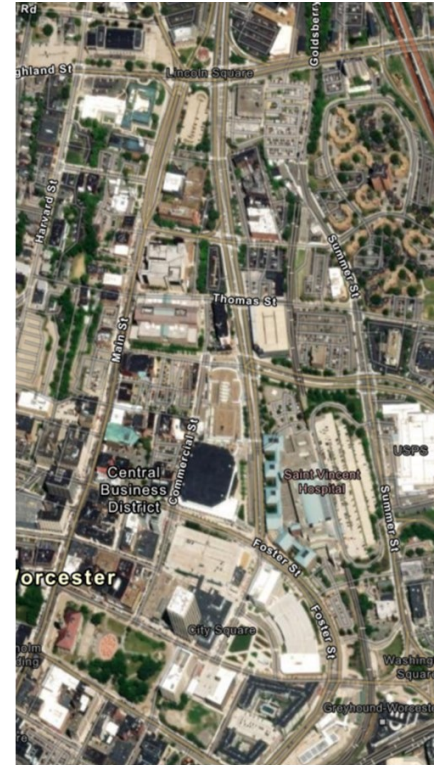
Worcester Downtown in three centuries



1829



1970s



2020s

Source: Historical maps provided by the Worcester Historical Museum. Current image by ArcGIS

INTRODUCTION

Over the past few decades, the City of Worcester has undergone substantial demographic and economic changes. As an economic and population hub in central Massachusetts, studying past changes helps us to better understand the current regional conditions and to think in a more informed way about the future.

This report corresponds with the online StoryMap, [Reinventing Worcester](#), which The Research Bureau presented at the 2023 [Governmental Research Association](#) annual conference, hosted in Worcester and attended by research organizations from across the country. Both of these resources use decennial census data to analyze the changes that Worcester has undergone in the last 30 years in terms of population, demographics, and its economic fabric.

The City's physical changes, especially downtown, parallel significant shifts in the population and economic fabric. The above images show the evolution of the Downtown over the course of three centuries.

This report aims to be a resource for individuals, organizations, institutions, and urban planning

professionals seeking a clearer understanding of the new Worcester. By exploring the data, readers can appreciate the complex dynamics that have molded the City's landscape.

Throughout the past three decades, Worcester has remained a youthful city with a growing population, increasing in demographic diversity and academic achievement. The City's professional workforce has grown and it has become a leader in the life sciences industry.

"On June 14, 1722, Worcester was incorporated as a town under the laws of Massachusetts Bay (...) In the early days, it was poised for the evolution from an agrarian society to an industrial giant to today's biomedical center."

**City of Worcester. 300 Years.
1722-2022 Tercentennial**



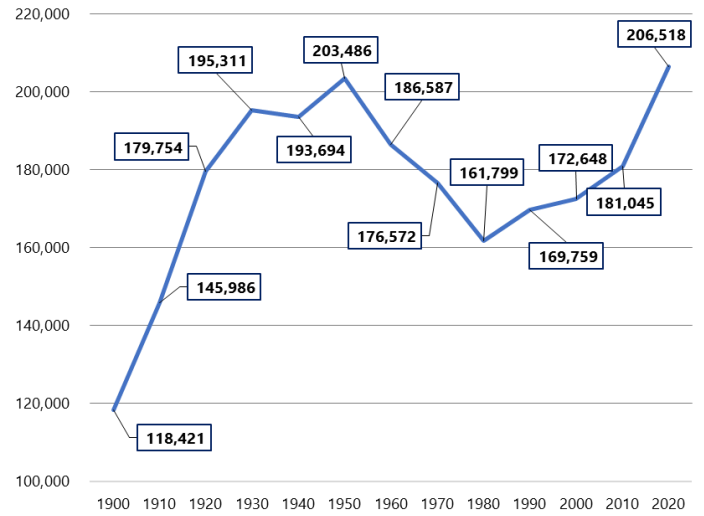
THE CHANGING FACE OF A YOUNG CITY

By 1980, Worcester's population had reached its lowest point in the second half of the twentieth century. **Between 1980 and 2020, the population increased by almost 45,000**, or 27.6%, reaching above 206,500, making the current Worcester population the largest in its history with Worcester retaining its status as the second largest city (by population) in New England.

This remarkable growth can be partially attributed to the city's appeal as a hub for workers, students, and individuals seeking opportunity. Worcester's magnetic draw has resulted in a dynamic and youthful population, as exemplified by the trends depicted in Graph 2.

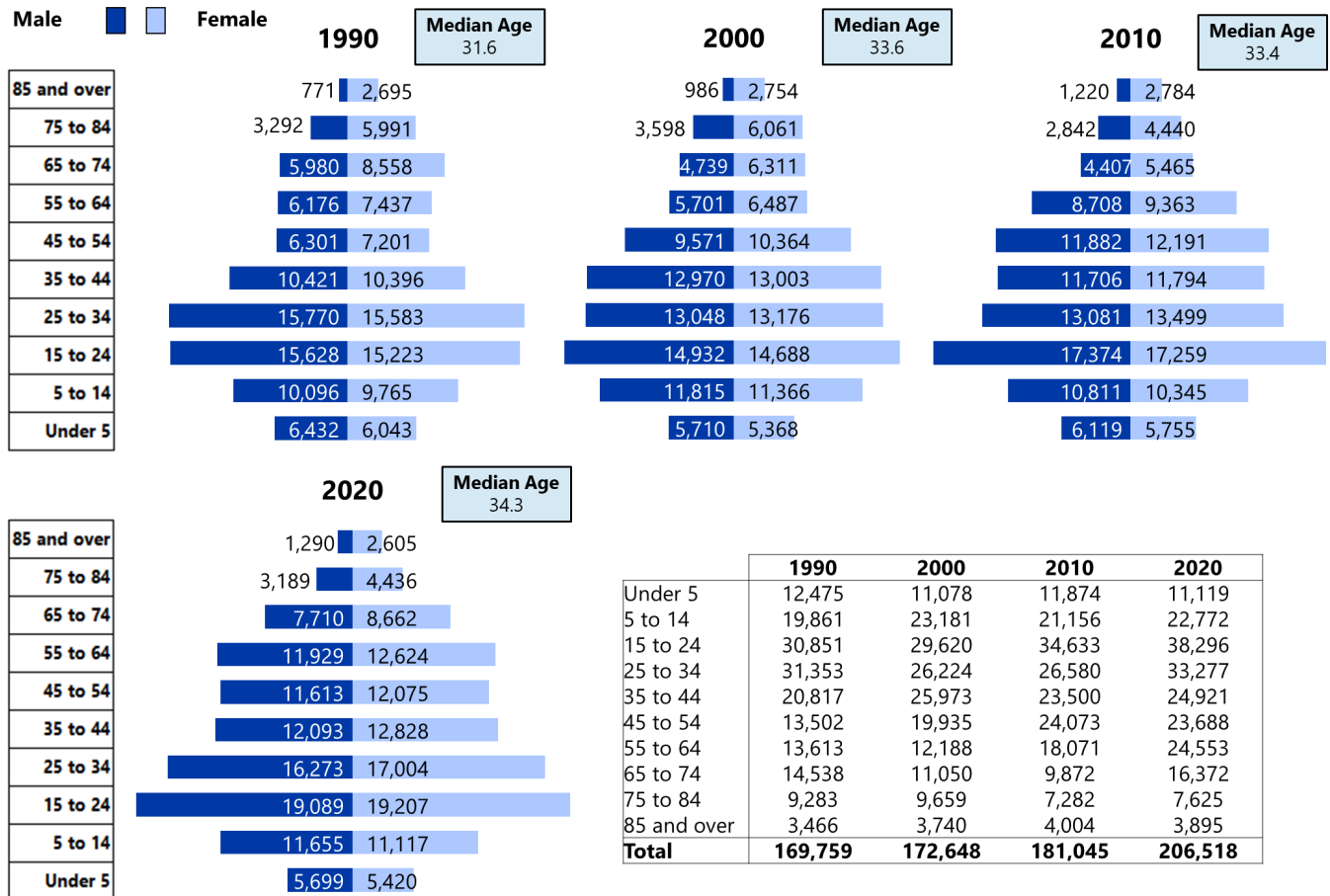
The city's ability to attract and retain a significant cohort of 15 to 35-year-olds, and **to maintain a median age below 35 years old, for over three decades**, reflects the constant and fluid internal movements within the region, shaping Worcester's demographic landscape over these years.

Graph 1: City of Worcester's Population



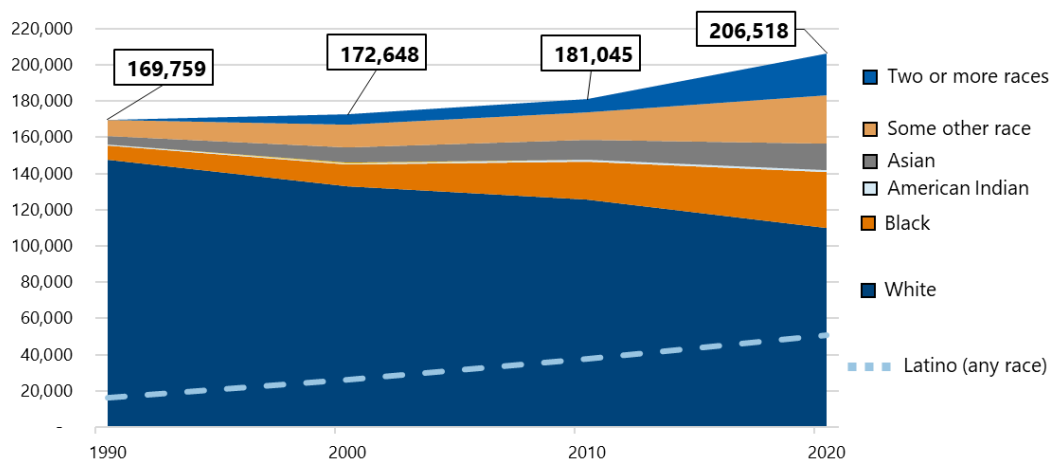
Source: Decennial Censuses of 1920, 1940, 1990, 2000, 2010, and 2020

Graph 2: City of Worcester's Age and Sex Distributions



Source: Decennial Censuses of 1990, 2000, 2010, and 2020

Graph 3: City of Worcester’s Race and Ethnicity Distributions



	1990	2000	2010	2020
Two or more races		5,861	7,214	23,421
Some other race	8,953	12,504	15,195	26,666
Asian	4,770	8,402	11,034	14,688
Pacific Islander		96	85	81
American Indian	540	769	755	1,019
Black	7,669	11,892	21,056	30,485
White	147,827	133,124	125,706	110,158
<i>Latino of any race</i>	16,258	26,155	37,818	50,736
Total	169,759	172,648	181,045	206,518

Source: Decennial Censuses of 1990, 2000, 2010, and 2020

Over the years, **Worcester has also experienced a significant increase in the diversity of its population.** Graph 3 illustrates the evolution of population dynamics by race and ethnicity.

Graph 3 displays the racial classification used by the Census Bureau, which includes individuals who report belonging to two or more races—a category introduced in the 2000 census. Additionally, **the graph incorporates the number of individuals who identify as Latinos, an ethnic group that can correspond to any other racial category. It is due to this overlap that the total population sum corresponds to the racial categories excluding Latinos,** which is why this number is reflected separately in Graph 3.

The evolution of racial and ethnic composition of the population reflects the ongoing interactions between different communities, which enriches the city's social fabric and has been key in shaping the productive landscape, while maintaining the city's median age below 35 for four decades.

FROM FACTORIES TO SPECIALIZATION

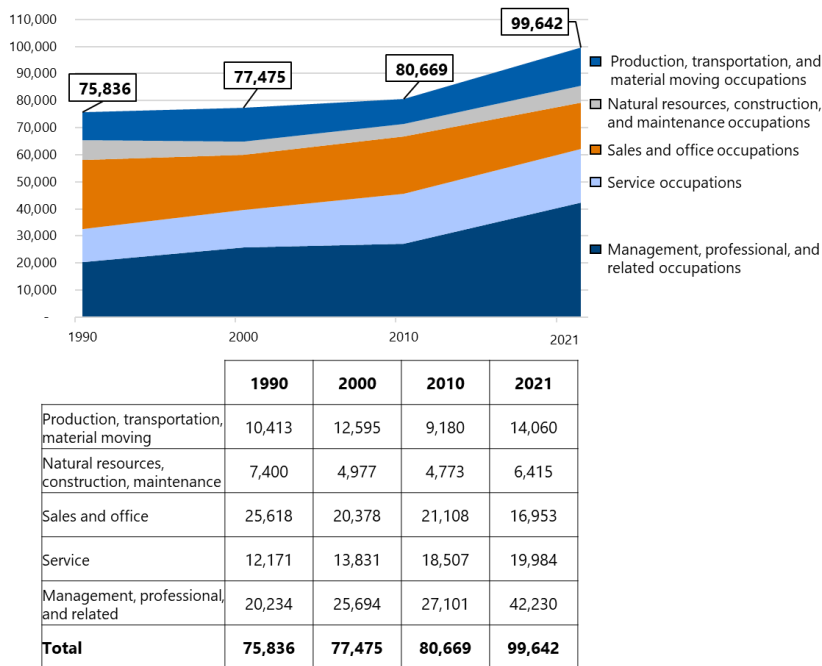
Alongside the changes in demographic patterns, **the city has undergone profound transformations in its economic landscape.**

This section will cover these economic changes in Worcester, utilizing data from the decennial census as well as the American Community Survey (ACS), which provides results based on sample estimates. This decision was made because, for 2010 and 2020, census economic data has not been published. The ACS provides 5-Year Estimates, which aggregate data for the corresponding year plus the four previous years, and 1-Year estimates, whose sample uses fewer data points. To maintain temporal consistency with the decennial census, the following analyses use 1-Year Estimates.

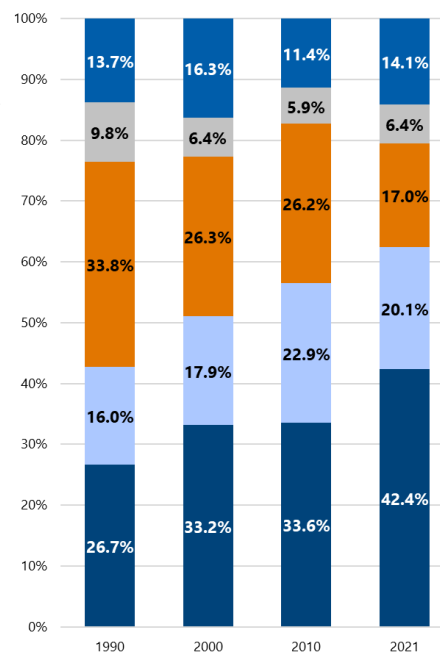
For employment and income variables, we opted to use 2021, instead of 2020, for two reasons: first, only the 5-Year Estimates are available for 2020, and second, the Covid-19 pandemic made 2020 an extraordinary and statistically non-representative year, particularly affecting these economic variables.



Graph 4: City of Worcester's Occupations Distributions



Occupations (%)



Source: Decennial Censuses of 1990 and 2000. American Community Surveys of 2010 and 2020

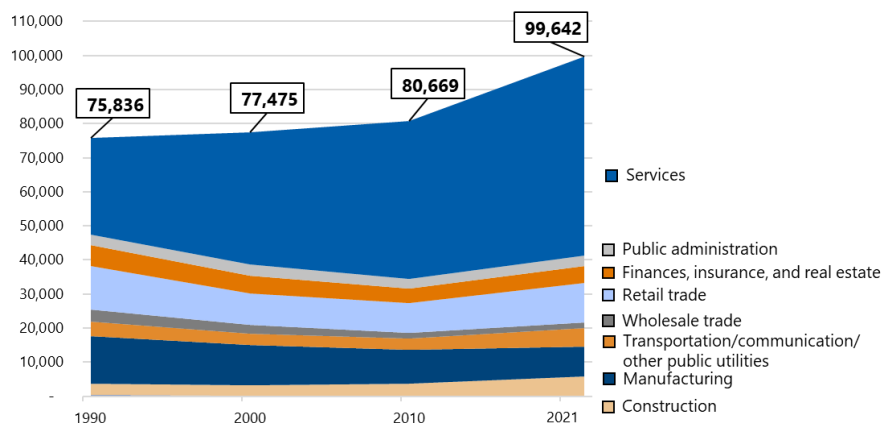
A good starting point for analyzing the city's economic profile is to examine the types of jobs held by its residents. Graphs 4 and 5 illustrate this data categorized by occupation and industry, respectively.

Graph 4 shows that only Sales and Office Occupations have decreased while the rest have experienced growth. Particularly noteworthy is **the significant increase of nearly 56% (more than 15,000 jobs) in Management, Professional, and Related Occupations, compared to**

2010. This indicates a clear shift towards specialization that the economy has undergone.

Graph 5 classifies jobs according to industry. Despite small reductions in sectors like Wholesale Trade and Manufacturing, **the substantial increase in employment has been primarily driven by the Service sector**, with over 12,000 new jobs (a 26% increase) over the last decade.

Graph 5: City of Worcester's Industries Distributions

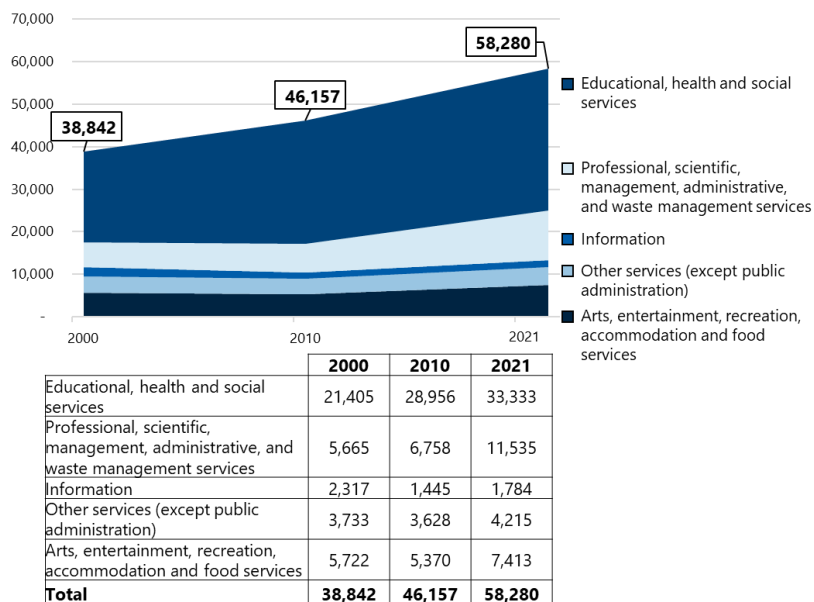


	1990	2000	2010	2021
Services	28,494	38,842	46,157	58,280
Public administration	3,030	3,304	3,044	3,081
Finance, insurance, and real estate	6,053	5,138	4,119	5,118
Retail trade	12,869	9,156	8,671	11,601
Wholesale trade	3,402	2,736	1,761	1,650
Transport, communications, public utilities	4,326	3,374	3,411	5,329
Manufacturing	14,073	11,636	9,934	8,863
Construction	3,193	3,166	3,404	5,654
Agriculture, forestry, fishing and hunting, and mining	396	123	168	66
Total	75,836	77,475	80,669	99,642

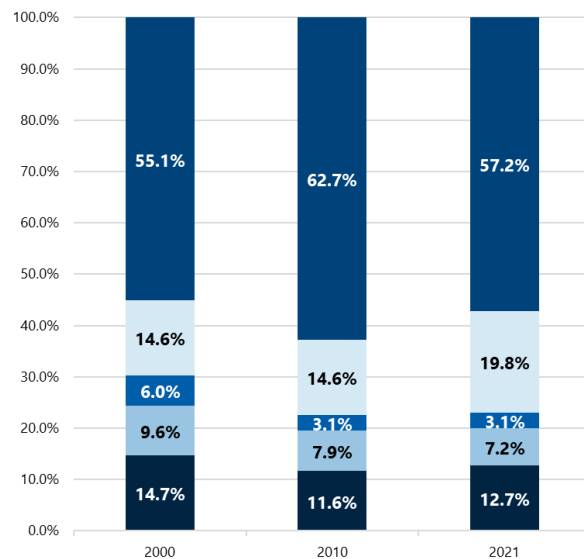
Source: Decennial Censuses of 1990 and 2000. American Community Surveys of 2010 and 2020



Graph 6: City of Worcester's Service Industry Breakdown



Service Industry Breakdown (%)



Source: Decennial Censuses of 1990 and 2000. American Community Surveys of 2010 and 2020

Graph 5 showed how the Service industry is the city's main industry, experiencing significant growth since the 1990s. However, "Service" is a broad category that by itself limits a deeper analysis of what this growth entails. Fortunately, starting in 2000, the decennial census disaggregated this category into more specific subcategories, as shown in Graph 6.

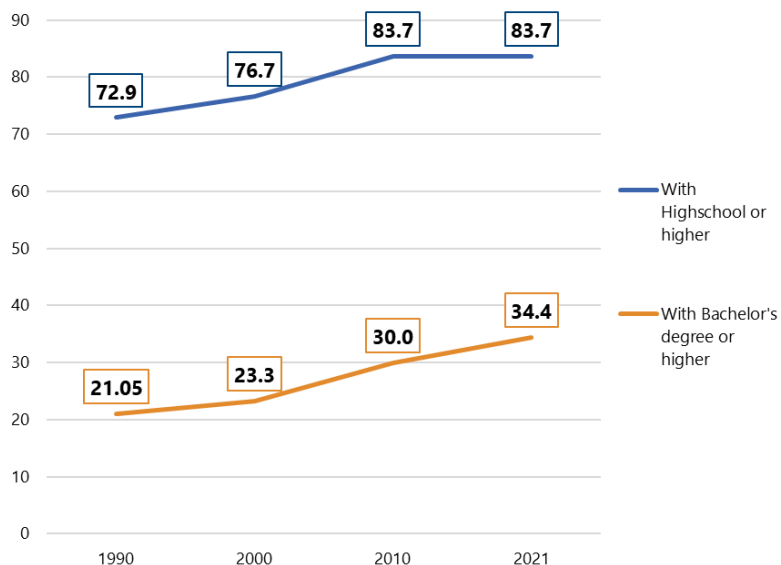
With over 12,000 new jobs overall, it is evident that each of the subcategories has experienced increases, with **particular emphasis on Professional, Scientific, Management, and Administrative roles, as well as Educational, Health, and Social Services**, each showing an increase of almost 5,000 jobs in the last decade. The latter, Educational, Health, and Social Services, is also the leading subcategory within the Service industry, encompassing 57.2% of the total jobs in this sector.

Although a transformation of this magnitude in a city's economy is a complex and multi-causal process that warrants deeper analysis, **a crucial condition for such a change is the professionalization of the workforce.**

Graph 7 illustrates this process, showcasing how **Worcester has consistently increased the educational attainment of its population since the 1990s.** Using the population aged 25 and

older as a reference point, the graph demonstrates a significant rise in the proportion of individuals with a high school diploma or higher, with an increase of over 10 percentage points. Moreover, the percentage of those holding a bachelor's degree or higher has surged by more than 13 percentage points, surpassing one-third of the analyzed population in 2021.

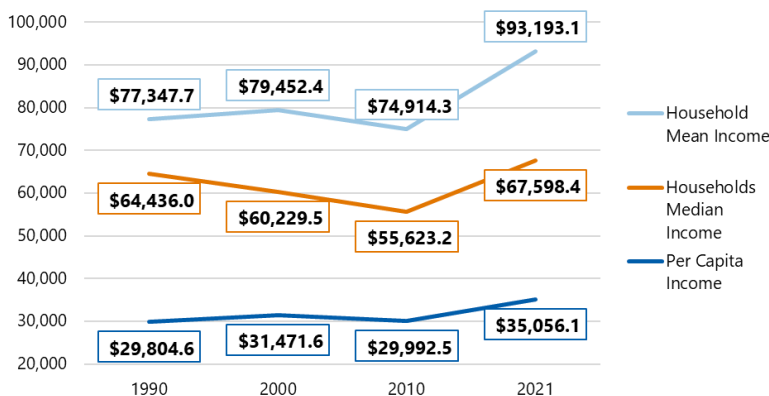
Graph 7: City of Worcester's Educational Attainment



Source: Decennial Censuses of 1990 and 2000. American Community Surveys of 2010 and 2020



Graph 8: City of Worcester’s Income (Adjusted for inflation. Expressed in 2022 dollars)



Nominal Values				
Measure	1990	2000	2010	2021
Household Mean Income	\$ 34,757.00	\$ 46,992.50*	\$ 57,761.00	\$ 87,121.00
Households Median Income	\$ 28,955.00	\$ 35,623.00	\$ 42,887.00	\$ 63,194.00
Per Capita Income	\$ 13,393.00	\$ 18,614.00	\$ 23,125.00	\$ 32,772.00
Adjusted for Inflation (2022 Dollars)				
Measure	1990	2000	2010	2021
Household Mean Income	\$ 77,347.71	\$ 79,452.43	\$ 74,914.34	\$ 93,193.05
Households Median Income	\$ 64,436.03	\$ 60,229.48	\$ 55,623.19	\$ 67,598.42
Per Capita Income	\$ 29,804.58	\$ 31,471.56	\$ 29,992.45	\$ 35,056.10

Source: Decennial Censuses of 1990 and 2000. American Community Surveys of 2010 and 2020

* Own calculation based on income distributions due to unavailability of data point

Graph 8 presents three key indicators of income in the City. While the Household Median and Mean Incomes provide an aggregated view of income, the Per Capita Income divides the city's total income by all its inhabitants, including those without personal income, such as children, institutionalized individuals, or those residing in college dormitories.

Following a downturn in all variables in 2010, which is understandable given the 2008 recession, **by 2021, all indicators, adjusted for inflation and expressed in 2022 dollars, show an improvement** compared to previous years. However, a closer examination of these variables reveals an intriguing story.

Unlike Per Capita Income and Household Mean Income (which increased in 2000, declined in 2010, and reached a peak in 2021), Median Household Income experienced a sustained decline until a notable rise in 2021, but still relatively close to its value in 1990. Furthermore, while Per Capita Income is understandably lower due to the inclusion of individuals without personal income, it fluctuates less compared to Household Mean Income, which exhibits the most significant increase among all the indicators. Notably, the gap between Median and Mean Household Incomes has continuously widened over these 40 years, reaching its peak in 2021. Taking all these

factors into account, it can be concluded that while the city now boasts higher average incomes, this is primarily driven by outliers on the high-income side, skewing the average upward, while over 50% of the population earns less than the average, indicating that **these income improvements have not been evenly distributed among the population.**

CONCLUSION

In light of these transformative changes, Worcester appears to have a promising future. However, it also underscores the imperative for Worcester to prioritize ongoing efforts to sustain and build upon these achievements. Investing in equitable and high-quality education is a crucial cornerstone among these priorities. The city can empower its workforce, foster innovation, and drive economic growth by ensuring that every resident has access to quality education, regardless of background or socioeconomic status. Education catalyzes social mobility, breaking cycles of inequality and opening doors of opportunity for future generations.



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