The Research Bureau

Static Income, Rising Costs

Renting in the Heart of the Commonwealth

Report 22-09

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Research in the Public Interest

Worcester Regional Research Bureau, Inc.

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Executive Summary

This report examines the state of cost-burdened renter-households in Worcester. Cost-burden, defined as spending more than 30% of one's gross monthly income on housing, has grown among Worcester renter-households. This report focuses on the period between 2010 and 2020, using 5-year estimates from the American Community Survey.

- Demographically, renters in Worcester have much different backgrounds than owners. Renters tend to skew younger, which is typical, and renters are much more likely to be people of color. Renters in Worcester generally have less than a Bachelor's degree, and tend to move more often. Finally, renters in Worcester are more likely to live in a non-family setting and tend to have only one car. It should be noted that, according to Pew Research Center, these renter characteristics are not unusual nationwide.
- Worcester renter-households (which make up about 58% of all housing units) have become increasingly cost-burdened since 2010. In 2010, 47.7% of renter-households were cost-burdened, growing to 50.5% by 2020. In comparison, owner-households have fared well, decreasing from 39.1% in 2010 to 28.5% in 2020. These numbers are reflected in both the median income and median housing cost: using 2020-dollars, median income for renter-households has increased by 1.45%, while for owner-households it has increased by 1.73%. Costs, however, differ significantly. Again, using 2020-dollars, renter-households have seen their costs grow by 8.85%, while owner-households have seen their own costs decrease by 17.23%.
- Two income ranges among renter-households have become increasingly cost-burdened since 2010: households making between $35,000 and $49,999 and households making between $50,000 and $74,999. Households below these two ranges have remained largely cost-burdened (between 70 and 80%) and households above have remained un-burdened.
- Whether compared to cities nearby, like Fitchburg, Framingham, Leominster, and Marlborough, or cities further out throughout the region like Lowell, New Bedford, Quincy, Springfield, Providence, RI and Rochester, NY, Worcester renter-households are not faring well. The growth in median household income is among the lowest compared to each other city (this is true for owner-households as well). While costs haven't risen as much as in a few other cities, the percentage growth is still among the highest. Overall, with two exceptions, these other cities have seen the percentage of cost-burdened renter-households decrease, while Worcester has seen this percentage grow.
- The final section of this report presents the Federal Home Owners' Loan Corporation 1936 redlining map of Worcester. Using a data technique known as geographic apportionment, the report maps income, poverty, race, and percentage of renter-households onto the 1936 redlining zones. The report finds that many of the areas that were originally red- or yellow- zoned remain highly renter-centric, largely non-white, and have generally higher rates of poverty. According to the CDC's 2020 Social Vulnerability Index, many of these areas remain socially vulnerable across a composite of metrics.

Renter-households in Worcester have become increasingly cost-burdened over time, potentially pricing many long-time residents out of the city. Owner-households have not experienced a similar rise in costs. The City continues to put attention towards this issue, with both public and private investment in new housing, including the creation of Worcester's Affordable Housing Trust Fund and the discussion over inclusionary zoning.

There are accompanying online maps, visualizations, and other interactive features online: https://www.wrrb.org/reports/2022/12/static-income-rising-costs-renting-in-the-heart-of-the-commonwealth

There is accompanying coverage on rent issues from the Worcester Business Journal here: www.wbjournal.com

Introduction

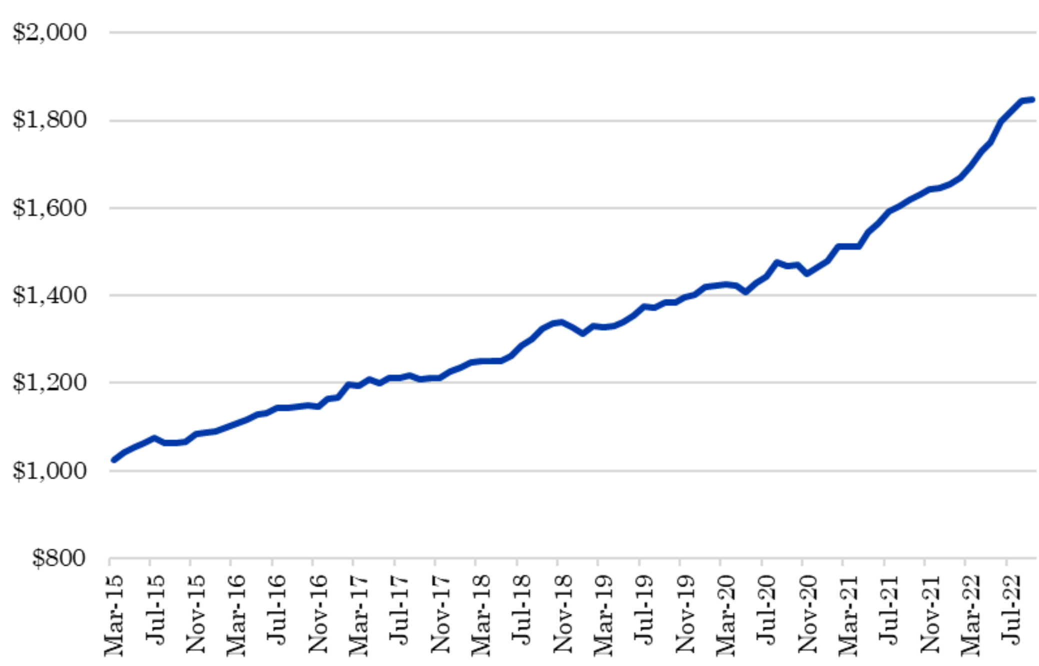
Housing affordability has been a real public concern in Worcester for quite some time. According to the 2022 National Low Income Housing Coalition's "Out of Reach" report, a person working for minimum wage in the Worcester Metropolitan Area would have to work 63 hours in order to afford a one-bedroom apartment without spending more than 30% of their income on rent (NLIHC, 2022). In April 2021, the City of Worcester Executive Office of Economic Development, Barrett Planning Group, LLC, and the Central Massachusetts Regional Planning Commission released a report titled an "Analysis of Impediments to Fair Housing Choice," in which more than 50% of respondents to a Worcester Fair Housing Survey agreed that there was an "Extreme Need" for affordable housing in Worcester. That same report indicated the lack of a regional housing strategy, where none of the towns surrounding Worcester have more than 10% of their homes on the Subsidized Housing Inventory (in comparison to Worcester's own 13.5%). Indeed, even in the City itself, the "Analysis of Impediments" indicated that there is public sentiment that "the City lacks a comprehensive policy or vision about furthering fair housing in Worcester" (Analysis 2021, 70).

Since that report was published in 2021, the City made some strides towards creating such a policy. For example, the City established an Affordable Housing Trust Fund, with the mission to "promote and finance the development of affordable rental and first-time homeownership housing." Grants from this program will fund either 25% of the cost of an affordable unit or $150,000, whichever is less. Applications for funding from the Trust Fund recently opened. In addition, beginning in May 2022 the City Council began exploring an Inclusionary Zoning Ordinance, one which would mandate that new developments with greater than 12 units reserve some percentage of those units for households making 60-80% of Area Median Income. The Research Bureau released its own report about inclusionary zoning during those discussions.

Still, while the City of Worcester continues to build out an affordable housing strategy of some kind, the plight of renters remains. Between 2010 and 2020, the percentage of renter-occupied units in the city that were cost-burdened—that is, households that spend more than 30% of their monthly income on housing costs—grew to more than 50%. Data from the Zillow Observed Rent Index, which tracks typical observed market rate rent, from March 2015 through August 2022 shows **observed rent increasing from just over $1,000 to just over $1,800 in that time frame, an 80% increase**.

Worcester is not alone, of course, in having concerns with affordability. According to the Joint Center for Housing Studies at Harvard University and the American Community Survey, **in 2019 nearly 46% of renter-occupied units nation-wide were cost-burdened** (JCHS Rent, 2022). That same report noted that nearly 61% of renter households meet HUD's definition of low

Observed Rent, Worcester, March 2015—July 2022



Source: Zillow Observed Rent Index (ZORI). Data Provided by Zillow Group income, i.e., earning no more than 80% of Area Median Income (JCHS America's Rental Housing, 2022).

This report seeks to analyze the state of renter households in Worcester, and does so in addition through both space and time. The report largely uses data from the American Community Survey 5-Year Estimates, from 2010-2020 because of the interoperability of that data across a variety of categories.

Static Income, Rising Costs: Renting in the Heart of the Commonwealth proceeds in four parts. The first section looks briefly at renter demographics in Worcester, compared to the demographics of home ownership. It also looks at differences between physical characteristics of the buildings themselves—that is, what does a rental unit look like vs. an owned home?

The second section of the report focuses exclusively on cost-burden, and especially the change in cost-burden over time. **More than 50% of renter-occupied units in Worcester are cost-burdened in some way.** The report's analysis of cost-burden centers on five income ranges: households making $20,000 or less, $20,000 to $34,999, $34,999 to $49,999, $50,000 to $74,999, or $75,000 or more. While the number of cost-burdened units at the lowest income ranges has remained relatively similar across the period studied, the number of households between $34,999 and $74,999 that are cost-burdened has experienced a dramatic increase. In addition, part two uses maps of Worcester organized by Census Tract to show where most of the cost-burdened units are located.

The third section compares Worcester to other cities in the region. First, it compares Worcester to Fitchburg, Framingham, Leominster, and Marlborough, as a follow up to the Bureau's previous report, *Achieving the American Dream* from May 2021. Second, it compares Worcester to Lowell, New Bedford, and Quincy, as well as Springfield, Providence, RI, and Rochester, NY. Each of these cities were picked for greater similarity to Worcester in terms of total renter-occupied units. **What it finds is that in comparison, Worcester has fared poorly between 2010 and 2020**. For example, of these eleven cities, only three saw an increase in the amount of cost-burdened renter units. The rest saw a decrease. Of those three, Worcester had the second highest percentage increase. **Compared to these ten cities on median household income, Worcester had the smallest percentage increase in renter-occupied units, lower, too, than the increase in owner-occupied units, which is not true for any of the other cities profiled**.

The final section of the report compares the Worcester of today with the redlined map of Worcester drawn by the Federal Home Owners' Loan Corporation in 1936, as part of its nationwide credit-rating project. Thanks to the help of Dr. Robert Nelson of the University of Richmond, and his Digital Scholarship Lab's project "Mapping Inequality: Redlining in New Deal America," **the Research Bureau was able to obtain an image of the map of redlined Worcester directly from the National Archives**. A digitized version of the original 1936 map, as well as current day Census tracts mapped onto the original map zones, is presented here. **A number of variables—whether percent of poverty, or non-White population, or renter-occupied household, or even median household income—mirror the original redlined areas from the 1930s.** Uplifting these areas, through sustained engagement and the creation of affordable housing, is crucial to see economic prosperity continue to improve in the City of Worcester.

We encourage readers to view an online interactive dashboard and maps created for this report at https://www.wrrb.org/reports/2022/12/static-income-rising-costs-renting-in-the-heart-of-the-commonwealth.

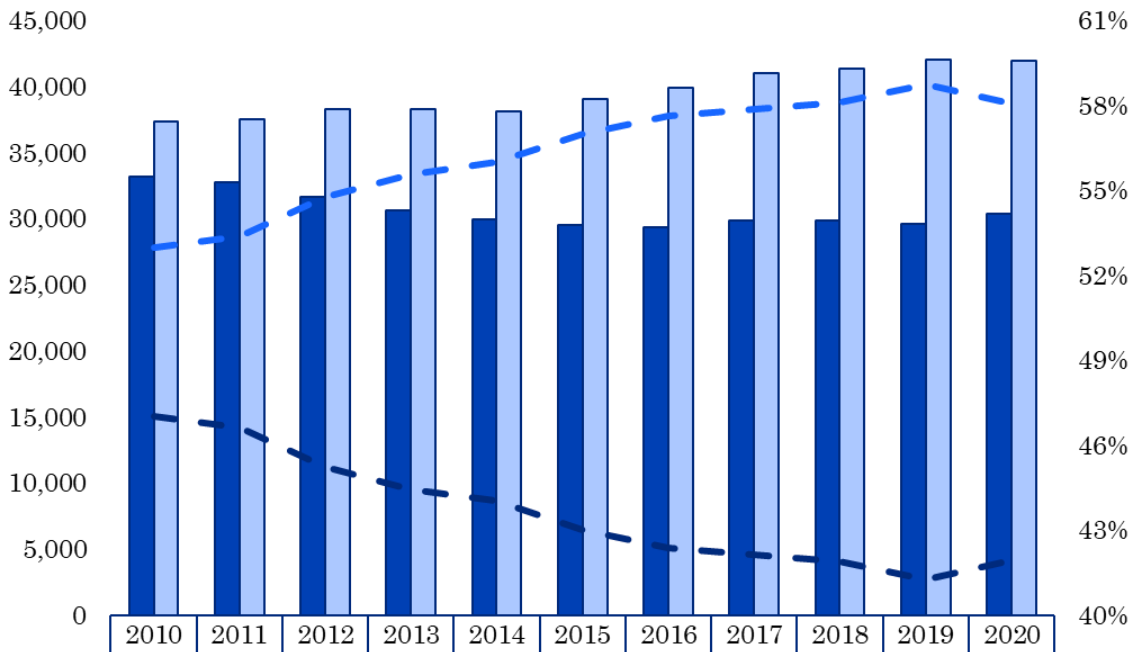
Section One: Renter-Household Profiles

Over the ten-year period between 2010 and 2020, according to the Census Bureau's American Community Survey (ACS), the total number of renter-occupied housing units in Worcester has increased, while there has been a corresponding decrease in the total number of owner-occupied units. As a result, **renter-occupied units make up an increasingly higher percentage of the total occupied units in Worcester each year**. While renter-occupied units did exceed owner-occupied units in 2010, by 2020 this gap widened, from 53% and 47% to 58% and 42% respectively.

Worcester is overwhelmingly a city of renters, and this is simply not true in the County, Massachusetts, or the United States as a whole. Indeed, while renter-occupied units have increased everywhere over the 2010-2020 period, wider trends show that fewer than 40% of units are renter-occupied. Worcester is majority renter-occupied units. The United States, or even Massachusetts, is not.

Still, Worcester is not unlike other major cities in New England in being a majority renter-occupied city—Boston, for example, is 64.7% renter-

Chart 1A: Change in Owner-Occupied and Renter-Occupied Units in Worcester, 2010-2020



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Owner-occupied units	33,129	32,743	31,602	30,589	29,936	29,499	29,320	29,825	29,807	29,553	30,327
Renter-occupied units	37,312	37,505	38,257	38,261	38,064	39,077	39,884	40,967	41,338	42,042	41,962
% Owner-occupied units	47.0%	46.6%	45.2%	44.4%	44.0%	43.0%	42.4%	42.1%	41.9%	41.3%	42.0%
% Renter-occupied units	53.0%	53.4%	54.8%	55.6%	56.0%	57.0%	57.6%	57.9%	58.1%	58.7%	58.0%

Source: American Community Survey, 2010-2020 5-Year Estimates

Table 1A: Change in Number of Owner- and Renter-Occupied Units, Worcester - United States, 2010-2020

	Owner-Occupied Units			Renter-Occupied Units		
Place	*2010*	*2020*	*% Change of Total #*	*2010*	*2020*	*% Change of Total #*
Worcester	33,129 (47%)	30,327 (42%)	–8.46%	37,312 (53%)	41,962 (58%)	12.46%
Worcester County	201,656 (68%)	206,343 (66%)	2.32%	96,506 (32%)	107,738 (34%)	11.64%
Massachusetts	1,608,474 (64%)	1,654,892 (63%)	2.89%	904,078 (36%)	992,088 (37%)	9.73%
United States	76,089,650 (67%)	78,801,376 (64%)	3.56%	38,146,346 (33%)	43,552,843 (36%)	14.17%

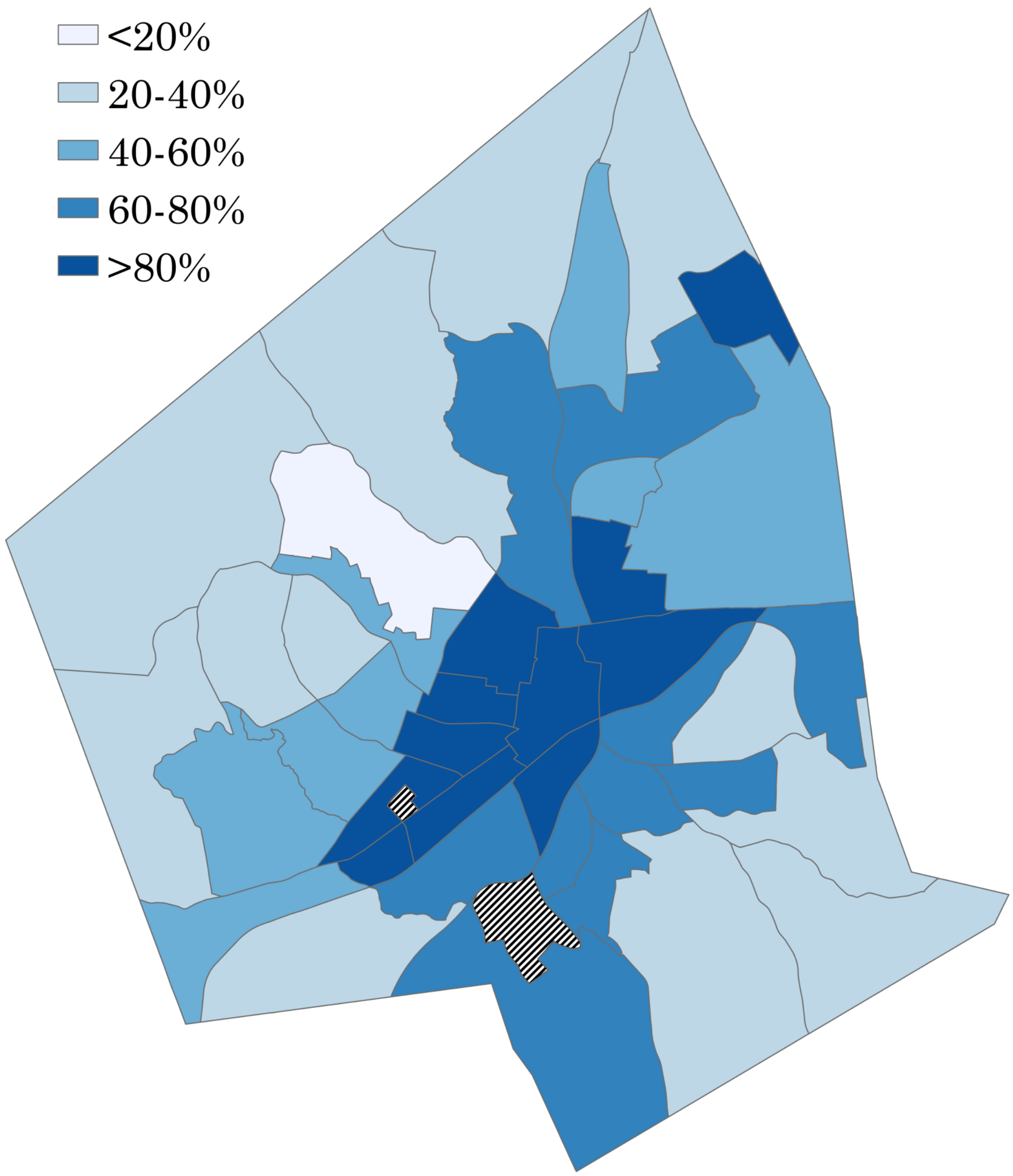
Source: American Community Survey, 2010-2020 5-Year Estimates

occupied units in 2020, 65.1% in 2010, while Providence is at 62.2% in 2020, 63.1% in 2010.

Where are most of these renter-occupied units found? While these units are not uniformly distributed across the entire city, there are concentrated areas of renter-occupied units running through the center of Worcester. The map on this page shows the distribution of renter-occupied units by Census Tract, as a percentage of total occupied units, using data from the 2020 ACS.

While a higher proportion of renters is found in the center and northeastern parts of Worcester, the **distribution of renters is otherwise highly dispersed**, with the percentage of renter-occupied units ranging from 19% to 99%. Given

Map 1A: Percentage of Renter-Occupied Units by Census Tract, 2020



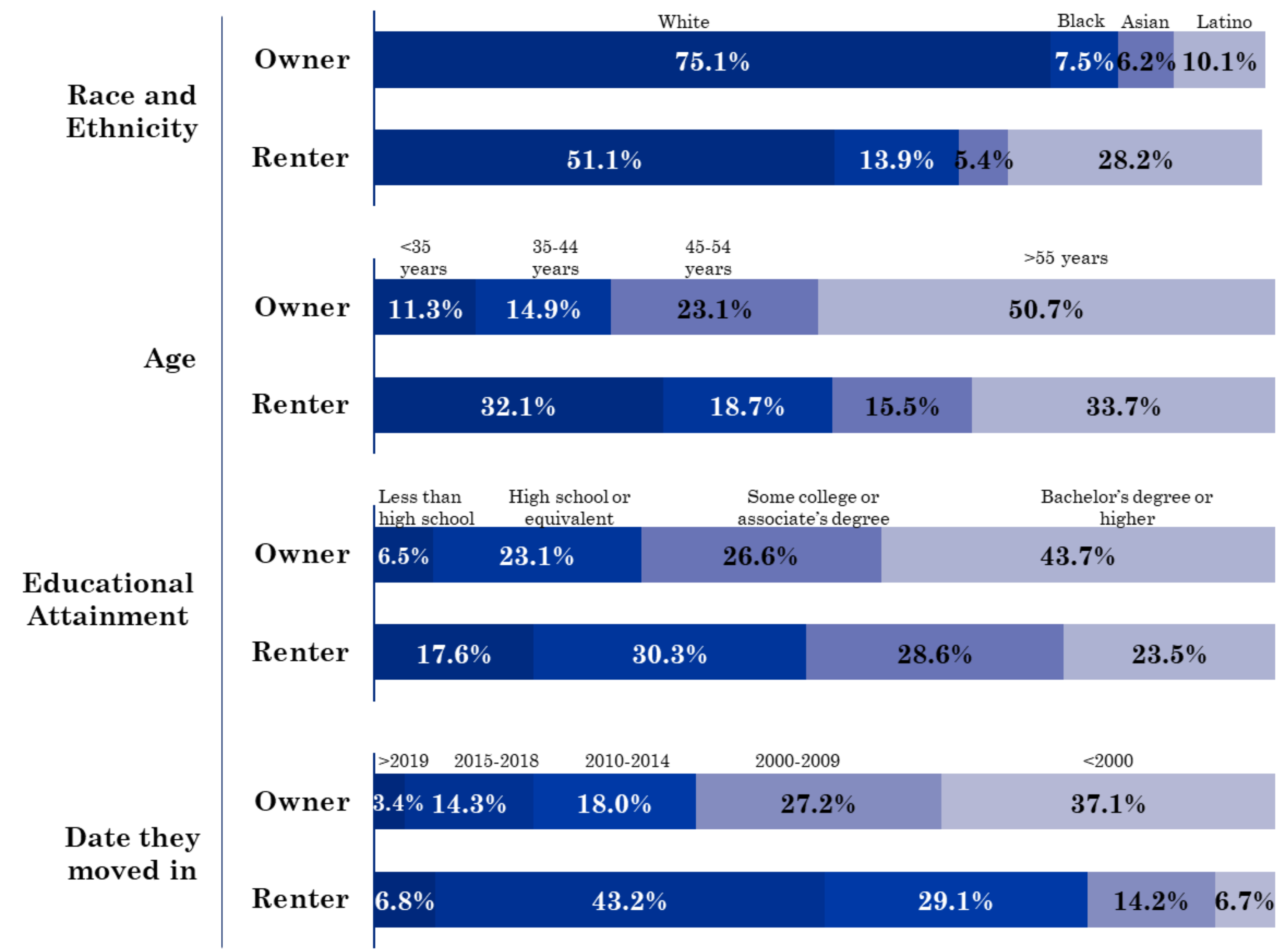
Source: American Community Survey, 2020 5-Year Estimates

that the percentage is calculated from the total occupied units, the map of owner-occupied units would look perfectly inverted compared to this map.

The following two charts, with data from the 2020 ACS, show who, exactly, is renting in Worcester. Chart 1B shows how, in renter-occupied units, non-white young persons with less than a bachelor's degree who moved in 2015 or later are overrepresented when compared to homeowners. Overall, you are more likely to find that **renter-occupied units in Worcester are younger (66.3% younger than 55, 50.8% younger than 45) than owners (50.7% older than 55), and those units are much more likely to be non-white than owner units (48.9% vs. 24.9%)**. Renter-occupied units have generally less educational attainment, at 76.5% with less than a bachelor's degree, compared to 56.3% owner-occupied units with less than a bachelor's degree. Finally, nearly 79.1% of renters have moved into their current units in the last 12 years, compared to 35.7% of owners.

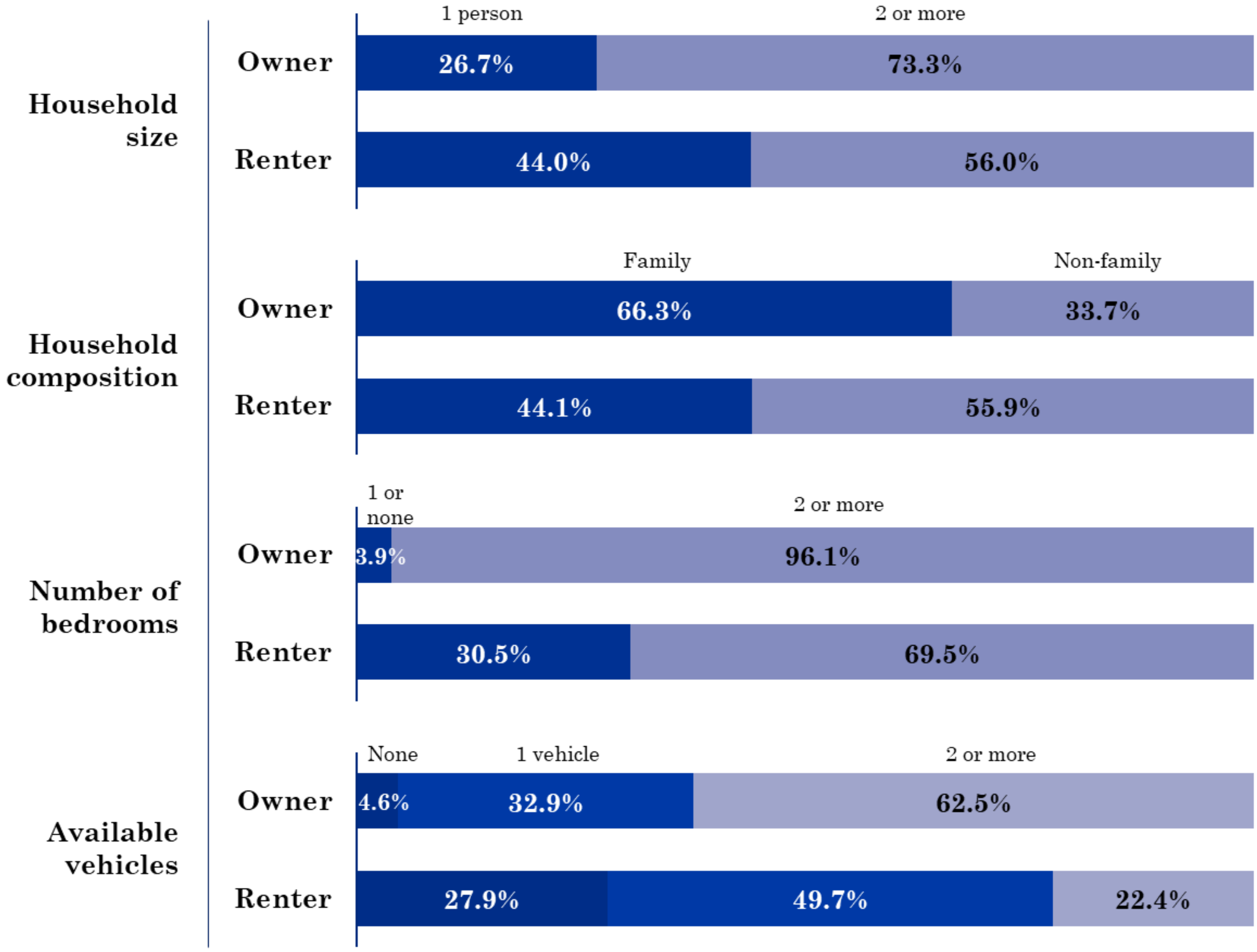
Chart 1C shows differences in other unit characteristics. **On the renter side, it is more usual to find units occupied by one person, and if more than one person then usually non-family groups**, and, in comparison with owner units, more likely to have one or no bedrooms and no vehicles available. Owners, on the other hand, are more likely to live in family households with two or more bedrooms.

Chart 1B: Selected Household Demographics, Owner– and Renter-Occupied Units



Source: American Community Survey, 2020 5-Year Estimates

Chart 1C: Physical and Compositional Characteristics of Owner– and Renter– Occupied Units, 2020



Source: American Community Survey, 2020 5-Year Estimates

Section Two: Cost Burdens in Worcester

A common piece of financial advice is to keep total housing costs beneath 30% of one's income. Someone spending above this amount is generally considered to be "cost-burdened," whereas someone spending more than 50% of their income on housing is considered to be "severely cost-burdened."

According to HUD User, a housing research office managed by the Federal Department of Housing and Urban Development's Office of Policy Development and Research, the 30% threshold can be traced back to the 1969 Brooke Amendment to the Housing Act of 1937. The Brooke Amendment capped public housing at 25% of a resident's income. This was subsequently updated to 30% in 1981. It has since become the standard by which housing costs are measured.

However, a fixed standard is not without some controversy. For example, a fixed threshold like 30% means very different things to different householders. A householder with an income of $30,000 a year has a much different experience spending 30% of their income on housing than a householder with an income of $100,000. The calculus changes again when you consider additional family members or other burdens a householder might have (Sharma and Samarin, 2022). A fixed standard also does not take into account differing local markets and resources.

As householders spend higher and higher percentages of their income on household costs, they necessarily must make trade-offs in other areas of their lives. Thus, cost-burden has the effect of exacerbating income inequality and inhibiting asset growth; people need a place to live, and may cut back on other areas of spending (like food, clothing, or education) in order to pay increasingly high household costs (Sharma and Samarin, 2022). There is some evidence, too, that cost-burden weighs heavily on other aspects of life in the household, including childhood development. **Notably, cost-burden affects all householders, both owners and renters**, though most of the research on cost-burden has focused almost exclusively on owners rather than renters.

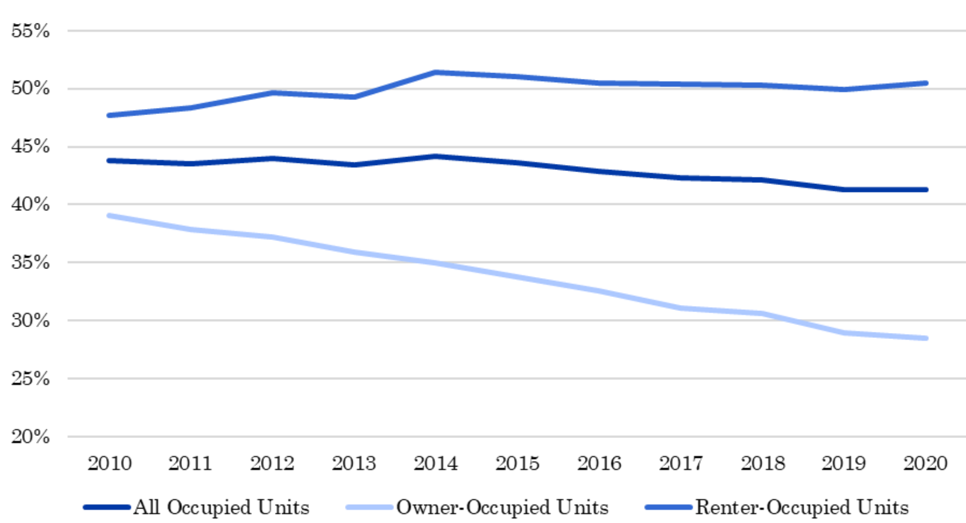
Even if a fixed standard of 30% is sometimes controversial, based on its common and legal usage, and in tune with local conversations, *Static Income, Rising Costs* focuses its attention on Worcester's cost-burdened renters, using data from the American Community Survey and elsewhere to illustrate the extent of cost-burden in Worcester. Renters and owners face very different experiences, for a variety of reasons—often including, for example, the lack of generational wealth that may come from homeownership.

Looking at just Worcester from 2010 to 2020 reveals that cost-burdened renters and owners have been on very different trajectories. While the overall percentage of cost-burdened occupied units has decreased slightly over time, **the percentage of renter occupied units that are cost burdened has increased from 47.7% to 50.5% in 2020, a 5.9% increase** (the last year for which American Community Survey 5-year estimates are available). **However, the largest change in cost-burden, in fact a decrease, has been for homeowners in Worcester, from 39.1% in 2010 to 28.5% in 2020, a 27.1% decrease.** What accounts for homeowners being increasingly less cost-burdened, and renters increasingly more so?

One way to look at this change is to compare the rate of change of household income and monthly costs over the same time period. Charts 2B and 2C on the following page show all owner and renter occupied units, rather than just cost-burdened units. Although the median household income itself shows quite a stark difference between owners and renters, incomes for both groups increased at about the same rate.

The household median income for owner-occupied units increased by 1.73%, while for renters it increased by about 1.45%, when taking into account inflation using 2020 dollars. What is really striking about these values is how little income has grown between 2010 and 2020, though that growth is still about even for owners and renters. Where owners and renters really diverge, however, is in household costs. The U.S. Census Bureau defines "Selected Monthly Owner Costs" as the total costs of debts on the home, real estate taxes, fire, hazard, and flood insurance, and payment for utilities and fuels. Monthly Gross Rent is defined as the total costs of contracted rent, plus estimates for utilities and fuels (to account for rental units where utilities are included in the total rent). Despite the greater amount of factors in the "Monthly Owner Costs" variable, the differences between these two in terms of percent change is striking.

Chart 2A: Percentage of Occupied Units that are Cost-Burdened



Source: American Community Survey, 2010-2020 5-Year Estimates

From 2010-2020, according to the ACS, **owner-occupied units experienced a**

decrease in their total monthly costs of 17.23%, again using 2020-dollars to compare across this range. Renter-occupied units, however, experienced an increase in their total monthly costs of 8.85%. While both groups increased their incomes at about the same rate, both have sharply diverged on costs.

While the percentage of cost-burdened renters has increased since 2010, the percentage of cost-burdened owners has decreased. Similarly, the median costs of renters have increased while the median costs of owners have decreased. Maps showing Census Tracts throughout Worcester demonstrate the relatively wide-spread nature of cost-burden. Map 2A shows the percentage of cost-burdened renters in each Census tract in 2010 and 2020. Many, though of course not all, of the Census tracts in Worcester that were cost-burdened in 2010 have become more cost-burdened over time.

It should be noted that while these maps represent all renter-occupied units, the Census also collects information about housing costs as a percentage of income for renters, separated into five yearly income ranges. These include: Less than $20,000, $20,000 to $34,999, $35,000 to $49,999, $50,000 to $74,999, and $75,000 or more.

Chart 2B: Median Household Income in 2020 Inflation-Adjusted Dollars, Occupied Units

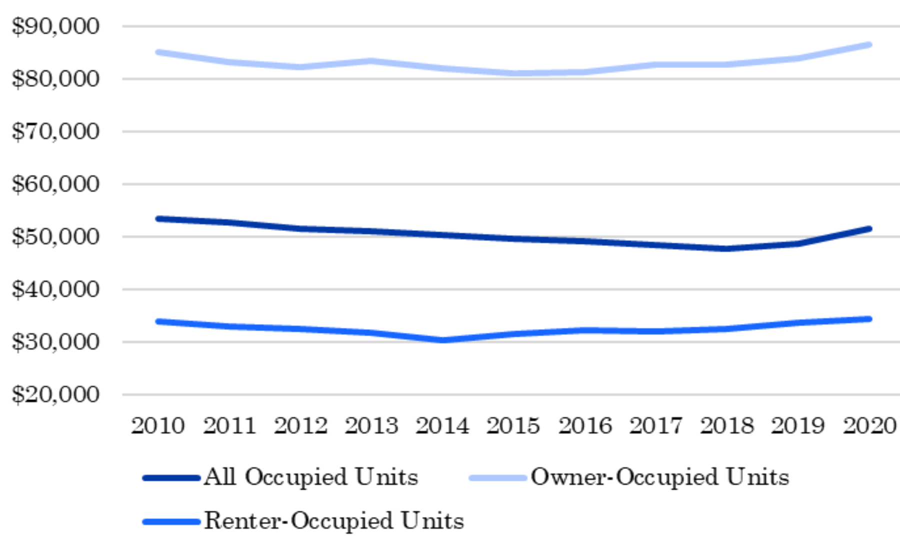
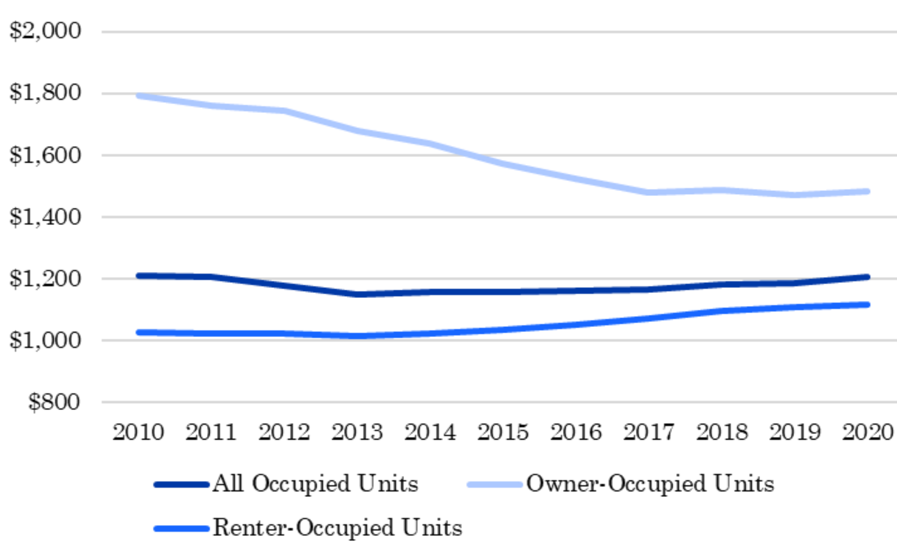


Chart 2C: Median Monthly Household Costs in 2020 Inflation-Adjusted Dollars, Occupied Units



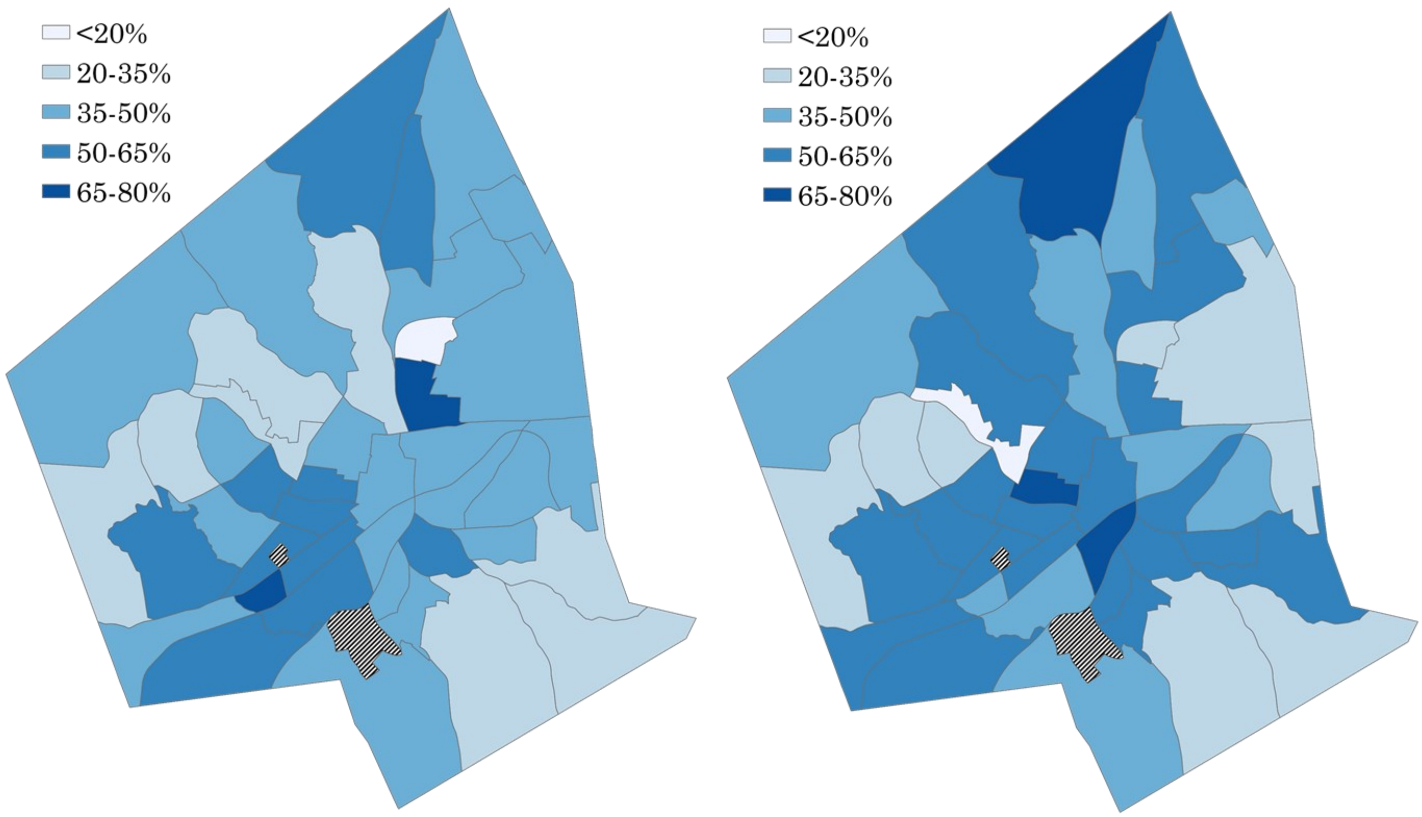
Source: American Community Survey, 2010-2020 5-Year Estimates

Cost-burden for renters looks very different depending on the income range in which the renter-occupied units fall. Chart 2D shows the number of cost-burdened renter-occupied units by income range.

By far, the group with the largest share of cost-burden are those units with an income less than $20,000. However, as will be shown shortly, this number is a small decrease from numbers in 2010; each other income range has actually slightly increased over the same time period. Indeed, the change in cost-burden among renters differs significantly between income ranges, as evidenced by Charts 2E and 2F.

While the top and bottom ranges have remained relatively stable in terms of percentage of renters who are cost-burdened between 2010 and 2020, the middle ranges have changed significantly. While it is true that a significant amount of renters at the lowest two ranges are cost-burdened, **the next two ranges—renter-households with income between $35,000 and $49,999 and those between**

Map 2A: Percentage of Cost-Burdened Renter-Occupied Units, 2010 (Left) - 2020 (Right)

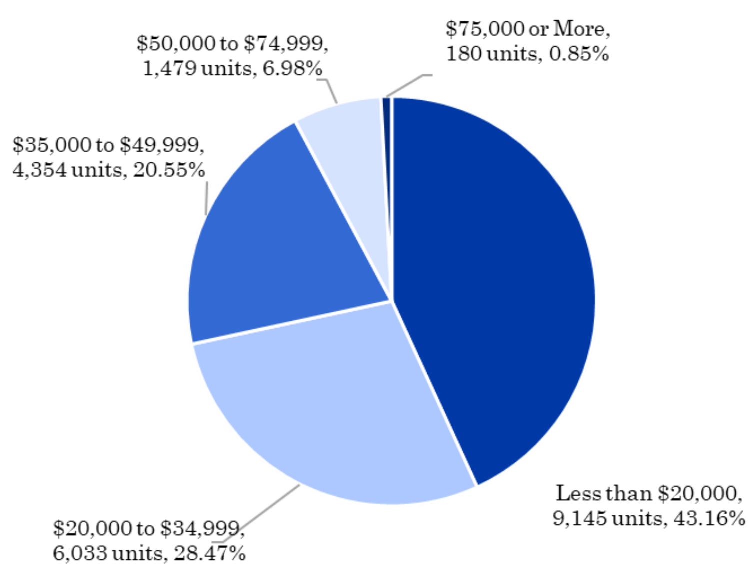


Source: American Community Survey, 2010-2020 5-Year Estimates

$50,000 and $74,999—experienced the greatest amount of change between 2010 and 2020. There are significantly higher rates of renters with a household income between $35,000 and $49,999 that are cost-burdened in 2020 than there were in 2010; in 2010, 33.57% of these renters were cost-burdened and in 2020, 72.05%. That's an increase of 38.48 percentage points, or a **total percentage change of 114.65%. Renters with incomes between $50,000 and $74,999 that are cost-burdened also increased**; in 2010, 9.22% of renters in this category were cost-burdened, as compared to 23.29% in 2020, an increase of 14.08 percentage points, or **a total percentage change of 152.7%.** If you look at the number of renters in this category, rather than simply the percentage, the increase is even starker.

Table 2A shows the total number of cost-burdened renters by selected income range, rather than simply the percent. **The $35,000 to $49,999 income range experienced a growth**

Chart 2D: Number of Cost-Burdened Renter-Occupied Units by Income Range in Worcester, and as a Percentage of all Cost-Burdened Renter-Occupied Units, 2020



Source: American Community Survey, 2020 5-Year Estimates

Chart 2E: Number of Cost-Burdened Renter-Occupied Units by Income Range

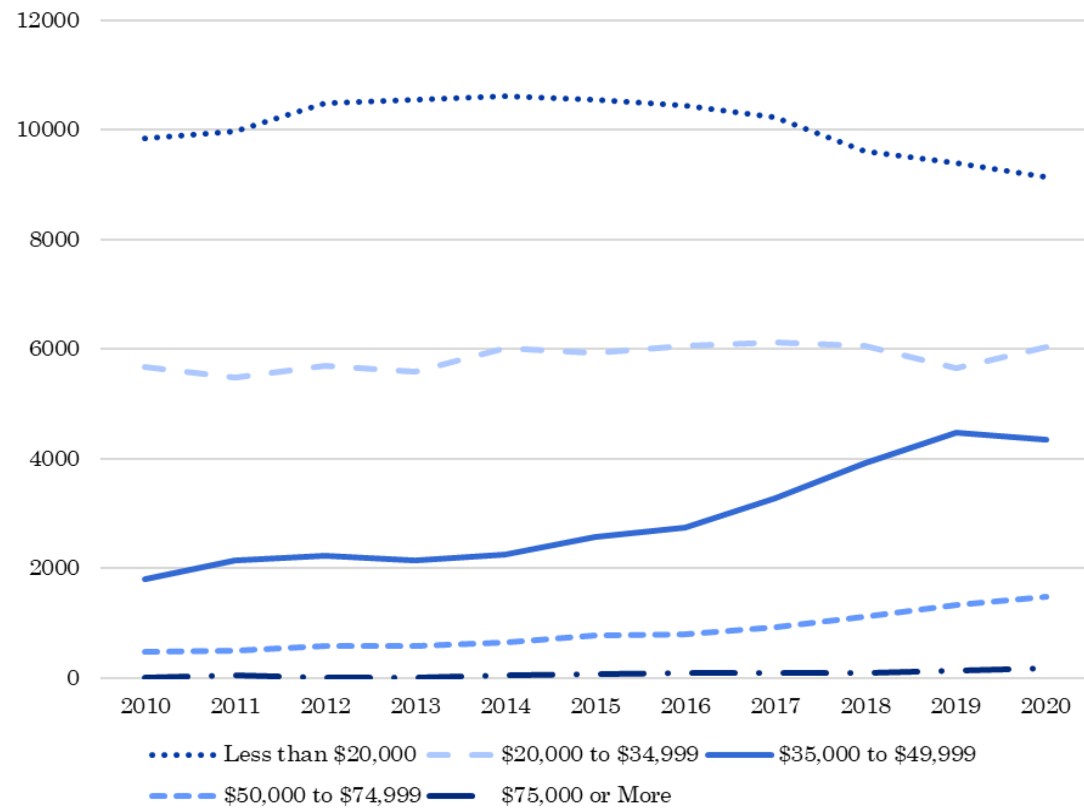
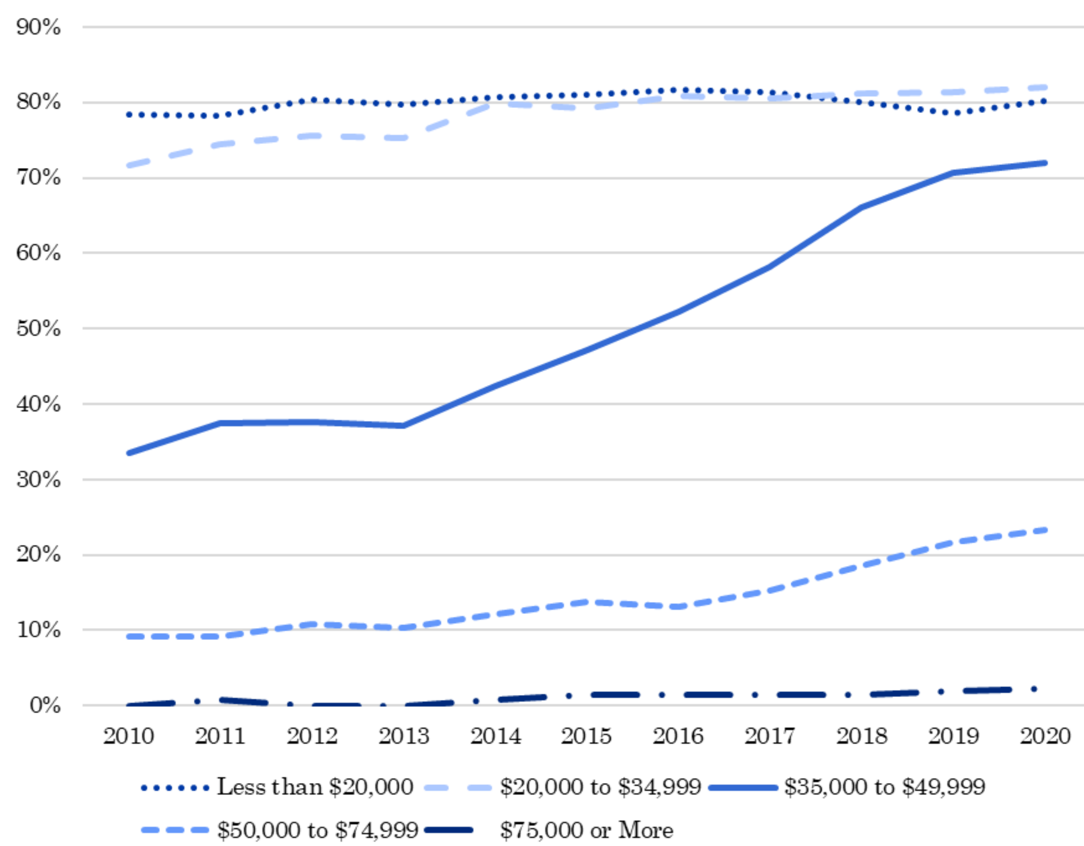


Chart 2F: Percentage of Cost-Burdened Renter-Occupied Units by Income Range



Source: American Community Survey, 2010-2020 5-Year Estimates

of 2,563 cost-burdened renters between 2010 and 2020, or a 143% increase in the total number of cost-burdened renters. This change is not accounted for in the growth in the number of units at this income range. From 2010 to 2020, the total number of renters in this range increased by 707, from 5,336 to 6,043, a 13.26% increase. **The number of cost-burdened renters in the next category, $50,000 to $74,999, increased by 994 units, or 205%. Compare to the total number of renters in this category, which increased by 1,088 or a 20.68% increase**.

The remaining three income ranges had very different experiences. In terms of the number of renter-occupied units, those earning less than $20,000 and those earning between $20,000 and $34,999 actually experienced a decrease in units, or 1,167 and 550 units, respectively. The largest change in number of units was actually a 3,684 increase in those earning more than $75,000 a year. When considering cost-burden, there are actually fewer cost-burdened units in the lowest range, a decrease of 705, or 7.2%, over this time period (of course, the difference is between 9,850 and 9,145 units, a still significant amount of units and the largest grouping of cost-burdened homes). Both of the remaining categories increased slightly, by 362 for those earning between $20,000 and $34,999 and by 180 for those earning more than $75,000 (an increase from 2010, which was zero).

These numbers have reflected the City of Worcester as a whole, but examining maps of cost-burden across each Census tract in the city suggests that cost-burden is actually relatively widespread, and they reveal just how much cost-burden has increased for the two selected income ranges (Maps 2B and 2C). **In 2010, for the Census tracts for which there is data at the $35,000 to $49,999 income range, fifteen tracts had fewer than 20% of residents in this range as cost-burdened**. Only five tracts had greater than 80% of residents in this income range as cost-burdened. By 2020, the situation in that range had changed. The number of tracts in which less than 20% of residents are cost-burdened decreased to just one, but the number of tracts in which greater than 80% of residents are cost-burdened increased to fifteen.

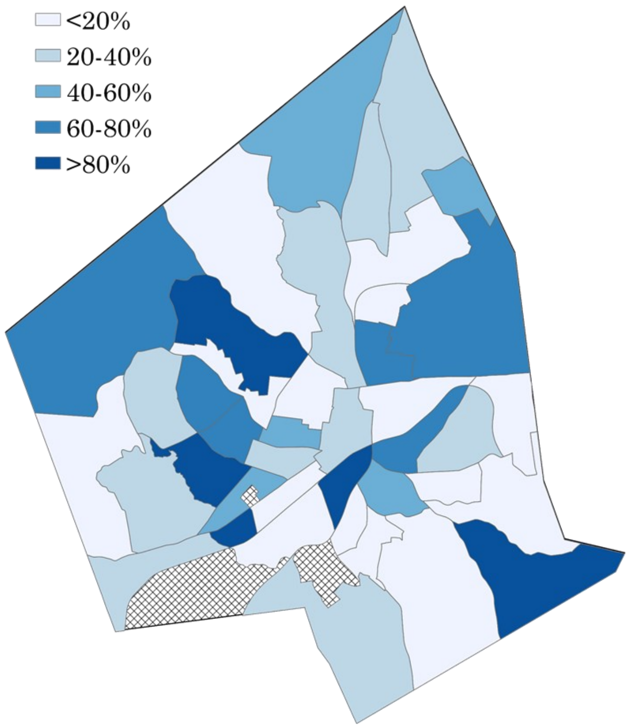
Renters with income between $50,000 and $74,999 fared a little better in 2010. There were 27 tracts where less than five percent of renter-occupied units were cost-burdened and none where greater than 75% were cost-burdened. But in 2020, again, a significant difference. **The number of tracts where fewer than 5% of residents are cost-burdened decreased to ten, while each other range increased. Most notably, there were now three tracts where greater than 75% of residents were cost-burdened.**

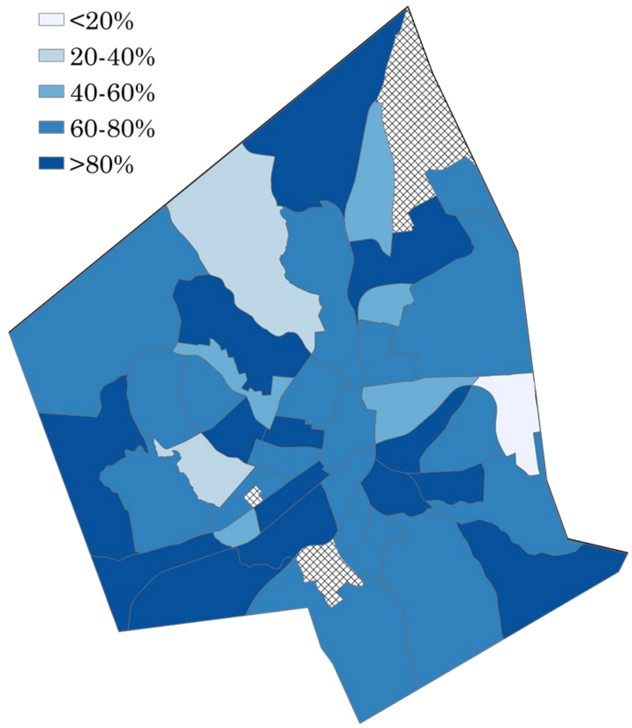
Table 2A: Number of Cost-Burdened Renter Units, Selected Income Ranges

Year	Income Between $35,000 and $49,999		Income Between $50,000 and $74,999	
	Total Renter Occupied Units	Renter Occupied Units that are Cost-Burdened	Total Renter Occupied Units	Renter Occupied Units that are Cost-Burdened
2010	5,336	1,791	5,261	485
2011	5,701	2,138	5,326	488
2012	5,892	2,219	5,318	574
2013	5,777	2,143	5,548	574
2014	5,291	2,246	5,329	647
2015	5,471	2,579	5,705	782
2016	5,265	2,752	6,062	798
2017	5,636	3,279	6,122	930
2018	5,951	3,930	5,961	1,107
2019	6,329	4,471	6,095	1,325
2020	6,043	4,354	6,349	1,479
Percent Change, 2010 to 2020	13.2%	143.1%	20.7%	204.9%

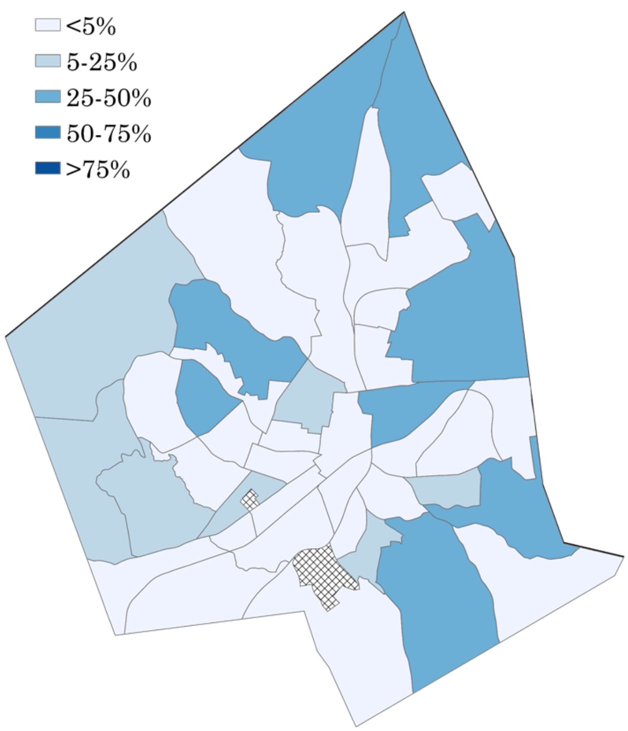
Source: American Community Survey, 2010-2020 5-Year Estimates

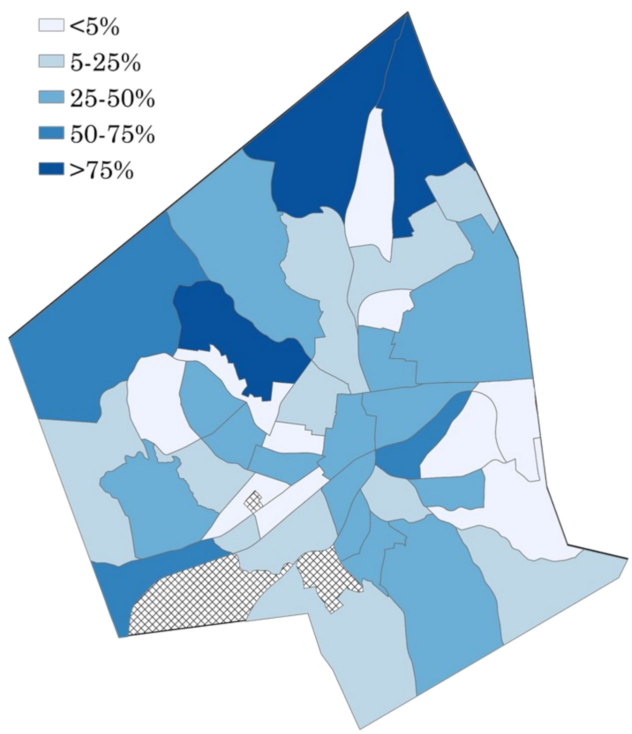
Map 2B: Percentage of Cost-Burdened Renter-Occupied Units with Incomes Between $35,000 and $49,999, 2010 (left) and 2020 (right)





Map 2C: Percentage of Cost-Burdened Renter-Occupied Units with Incomes Between $50,000 and $74,999, 2010 (left) and 2020 (right)





Source: American Community Survey, 2010 5-Year Estimates (Left), American Community Survey, 2020 5-Year Estimates (Right)

Finally, Table 2B shows the top ten Census tracts (from 2020) in terms of the percentage of occupied units that are renter-occupied. **On average, the number of renter-occupied units in these areas grew, from 84.49% to 89.22%. The percentage of units in these areas that are cost-burdened also increased, from 50.89% to 56.47%.**

In a city in which 58% of housing units are renter-occupied, cost-burden for renters is a real concern. As previously noted, the number of cost-burdened owners has decreased since 2010, but the number of cost-burdened renters has increased over time. Indeed, despite the fact that the median income for both groups has increased at the same rate, median monthly household costs for owners decreased significantly while median monthly household costs for renters increased by nearly 9%.

As the new construction projects in the city continue to build housing for renters, cost-burden should remain a core part of the conversation. Additionally, although residents with income less than $20,000 make up the largest share of cost-burdened renters, **residents at other income levels are increasingly cost-burdened**; in 2020, all other income ranges combined have 2,900 more cost-burdened renters than the lowest income range. Compare this to 2010, in which renters in the lowest income range outnumbered the combination of all other ranges by 1,903.

Table 2B: Top Ten Census Tracts in Terms of Percentage of Renters (2020 Inflation-Adjusted Dollars)

Year	Census Tract Number	Total Renter-Occupied Units	Renter-Occupied Units that are Cost-Burdened	Renter-Occupied Units as a Percentage of Occupied Units	Percent of Renter-Occupied Units that are Cost-Burdened	Median Household Income of Renter-Occupied Units	Median Gross Rent of Renter-Occupied Units
2010	7312.03	1,868	1,123	91.66%	60.10%	$20,753	$842
2020	7312.03	1,863	965	86.57%	51.80%	$19,921	$1,040
2010	7313	1,025	575	80.58%	56.10%	$19,050	$961
2020	7313	1,294	754	87.08%	58.27%	$27,680	$1,103
2010	7314	1,363	793	85.51%	58.20%	$19,913	$840
2020	7314	1,475	810	92.01%	54.92%	$24,345	$938
2010	7315	1,682	982	89.52%	58.40%	$17,380	$863
2020	7315	1,864	1,232	87.02%	66.09%	$20,895	$1,027
2010	7316	1,625	626	74.95%	38.50%	$32,156	$927
2020	7316	2,153	1,245	91.97%	57.83%	$24,236	$1,069
2010	7317	955	399	88.02%	41.80%	$31,281	$947
2020	7317	1,447	822	93.78%	56.81%	$35,389	$1,197
2010	7318	2,132	1,028	77.61%	48.20%	$23,097	$740
2020	7318	2,656	1,268	90.80%	47.74%	$23,493	$863
2010	7319	1,475	993	72.66%	67.30%	$28,598	$1,123
2020	7319	1,595	882	81.67%	55.30%	$36,832	$1,137
2010	7320.01	1,119	426	93.41%	38.10%	$17,518	$405
2020	7320.01	1,191	558	99.33%	46.85%	$20,757	$615
2010	7325	536	226	91.00%	42.20%	$35,738	$849
2020	7325	650	449	81.97%	69.08%	$23,167	$1,016

*Source: American Community Survey, 2010-2020 5 Year Estimates. *Note: Census Tracts 7316 and 7318 were split in 2020 into 7316.01 and .02, and 7318.01 and .02. For ease of analysis, we have combined these two tracts in 2020 in order to consistently show the changes in them across time.* ***Please see the online resources accompanying this report to locate these Census Tracts on the map of Worcester.***

Key Takeaways:

- Cost-burden is increasingly a problem for renters in Worcester. While homeowners have become less cost-burdened over time, renters have become even more so, to the point where more than 50% of renter-occupied units are cost-burdened.
- These cost-burdens affect renters at every level of income, but the number of cost-burdened units with income between $35,000 and $75,000 has increased the most.
- Median household income for owner-occupied and renter-occupied units increased between 2010 and 2020 at about the same rate, but even then less than 2% over the period of 2010-2020. Coupled with the very different change in costs (owner-occupied units saw their costs decrease by about 17.23%, and renter-occupied units saw theirs increase by nearly 8.85%), the increase in cost-burdened renter-units as compared to cost-burdened owner-units makes some sense.
- Cost-burdened renter-occupied units exist in all areas of the city, and are not simply concentrated in one place or another.

Section Three: Cost Burdens in the Region

Worcester does not exist in a vacuum. Cost-burdened householders exist across the whole region. So how does Worcester compare to other cities within and just outside of Worcester County?

In 2021, The Research Bureau released *Achieving the American Dream: Disparities in Worcester Homeownership*, which compared data from Worcester to other cities in the region. The Bureau continues those comparisons in 2022, choosing in this section to compare renter-occupied units in Fitchburg, Framingham, Leominster, and Marlborough with the data presented in previous areas of the report.

Importantly, these cities differ significantly from Worcester in that in each the number of owner-occupied units is greater than the number of renter-occupied units. Unlike Worcester, these are not majority renter-occupied cities.

However, there are still common trends between all five places. First, each city has experienced large growth of renter-occupied units; averaging all five together shows a change of 12.61% over 2010. Concurrently, however, there has been a decline in the number of owner-occupied units, an average decrease of 1.3%, though two of the five actually increased the number of owner-occupied units. Framingham, for example, increased the amount of owner-occupied units since 2010 by 4.44%, while Worcester decreased them by 8.46%.

Second, median household income increased across the board for renters. **However, while income in Worcester for owner-occupied and renter-occupied units increased by about the same rate, the same is not true in the other four cities.** Using 2020 dollars, in Fitchburg, for example, owner-occupied units saw a decrease in their income of 5.15%, but renter-occupied units increased their income by 20.5%. In Framingham, the median owner-occupied household income increased by 13.55%, and renter-occupied units increased their income by 24.93%. **In all but Worcester, renter-occupied units increased their income by a greater rate than owners. Worcester does not do well if considering the number alone, either. Each other city sees median household income for renters increasing from between $2,000 and $10,000. In Worcester, that increase is just under $500, when accounting for inflation.**

Median housing costs reveal stark disparities between owner-occupied and renter-occupied units. **In Worcester, the median monthly**

Table 3A: Number of Units, Local Region						
	Owner-Occupied Units			Renter-Occupied Units		
City	*2010*	*2020*	*% Change*	*2010*	*2020*	*% Change*
Fitchburg	8,338	8,279	–0.71%	6,277	7,276	15.92%
Framingham	15,258	15,936	4.44%	10,952	12,465	13.81%
Leominster	10,179	10,262	0.82%	6,012	6,721	11.79%
Marlborough	9,540	9,292	–2.60%	6,192	6,752	9.04%
Worcester	33,129	30,327	–8.46%	37,312	41,962	12.46%

Table 3B: Median Household Income, Local Region						
	Owner-Occupied Units			Renter-Occupied Units		
	2010	*2020*	*% Change*	*2010*	*2020*	*% Change*
Fitchburg	$80,417	$76,275	–5.15%	$27,769	$33,463	20.50%
Framingham	$112,021	$127,200	13.55%	$44,066	$55,052	24.93%
Leominster	$91,477	$91,986	0.56%	$36,960	$43,719	18.29%
Marlborough	$115,217	$105,412	–8.51%	$50,549	$52,729	4.31%
Worcester	$85,206	$86,684	1.73%	$33,990	$34,484	1.45%

Table 3C: Median Monthly Housing Costs, Local Region						
	Owner-Occupied Units			Renter-Occupied Units		
	2010	*2020*	*% Change*	*2010*	*2020*	*% Change*
Fitchburg	$1,779	$1,425	–19.89%	$976	$964	–1.19%
Framingham	$2,280	$2,006	–12.00%	$1,278	$1,421	11.21%
Leominster	$1,743	$1,519	–12.85%	$996	$1,006	1.02%
Marlborough	$2,276	$1,853	–18.59%	$1,225	$1,498	22.24%
Worcester	$1,792	$1,483	–17.23%	$1,024	$1,115	8.85%

Table 3D: Percentage of Cost-Burdened Units, Local Region						
	Owner-Occupied Units			Renter-Occupied Units		
City	*2010*	*2020*	*% Change*	*2010*	*2020*	*% Change*
Fitchburg	38.20%	30.58%	–19.94%	55.50%	50.41%	–9.17%
Framingham	42.90%	34.12%	–20.46%	52.40%	45.81%	–12.58%
Leominster	33.90%	25.39%	–25.09%	51.40%	38.88%	–24.36%
Marlborough	32.70%	26.60%	–18.64%	42.80%	48.16%	12.53%
Worcester	39.10%	28.47%	–27.19%	47.70%	50.50%	5.87%

Source: American Community Survey, 2010-2020 5-Year Estimates,. Note: Tables are in 2020 Inflation-Adjusted Dollars

housing cost for owner-occupied units decreased by 17.23%, but increased for renter-occupied units by 8.85%. But the differences between owners and renters holds in every other city examined. Marlborough has the starkest difference: the median monthly housing cost for owner-occupied decreased by 18.59%, but increased for renter-occupied units by 22.24%.

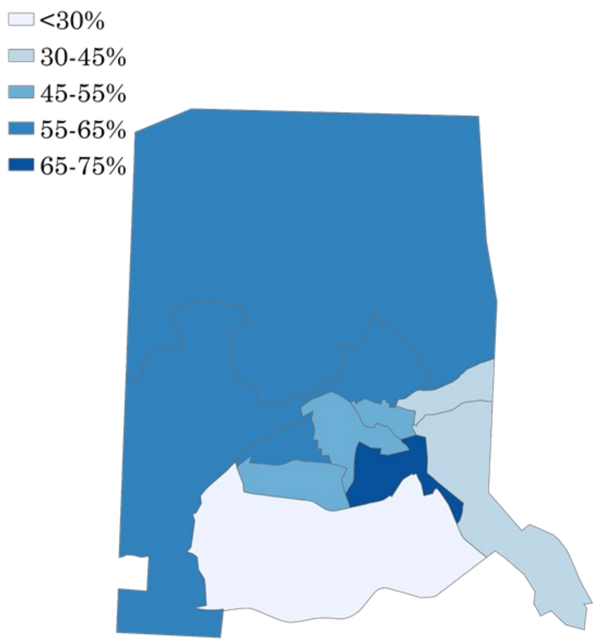
Finally, in all five locations the percentage of cost-burdened owner-occupied units decreased from 2010 to 2020. In three of these five, the same holds true for cost-burdened renter-occupied units, especially in Leominster which had a remarkable 24.36% decrease from 2010 to 2020. **In Marlborough and Worcester, however, the percentage of renter-occupied units actually increased over this time period. Overall, Worcester has a higher percentage of cost-burdened renter -occupied units than other cities in the region.**

Overall, considering that there are fewer renters than owners in all four locations than Worcester, and, that, for the most part median incomes for renter-occupied units are higher than in Worcester, the cost-burden maps look much different for these other cities. The maps on **page 18** show the geographic distribution of cost-burdened renters across these four comparison cities.

Map 3A: Percentage of Cost-Burdened Renter-Occupied Units, 2020

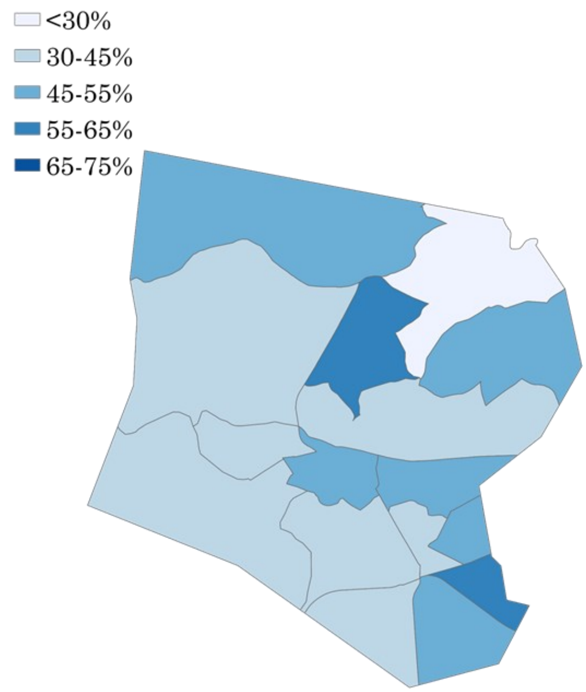
Fitchburg
Population: 41,946

Total Renter-Occupied
Units: 7,276



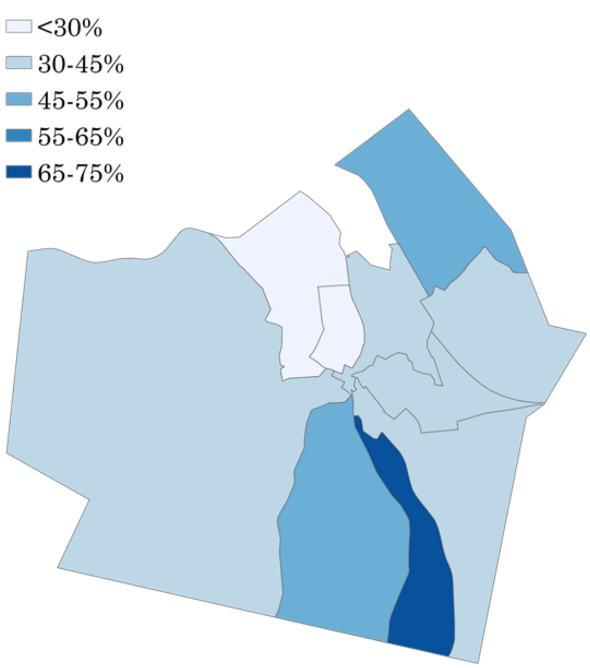
Framingham
Population: 72,362

Total Renter-Occupied
Units: 12,465



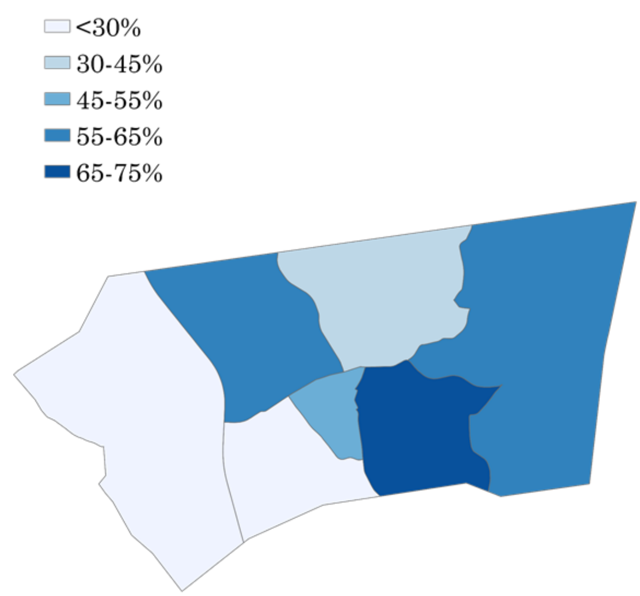
Leominster
Population: 43,782

Total Renter-Occupied
Units: 6,721



Marlborough
Population: 41,793

Total Renter-Occupied
Units: 6,752



Source: American Community Survey, 2020 5-Year Estimates

Comparisons to these four cities demonstrate quite a few differences from renters in Worcester. One of the biggest differences is, of course, that these are cities in which most units are owner-occupied. So, how does Worcester stack up when compared to cities where the majority of units are renter-occupied?

For this next section, the Bureau selected six cities to compare: Lowell, New Bedford, Quincy, Springfield, Providence, RI, and Rochester, NY. Lowell, New Bedford, and Quincy were selected because they are Gateway Cities in which 55% to 60% of occupied units are renter-occupied, and they have more than 100,000 residents. Springfield was selected as the next largest Gateway City after Worcester.

In order to compare Worcester to other cities in the Northeast (in this report, classified as New England and New York), the Bureau searched for cities with population between 20,000 more or less than Worcester, and with more than 55% of units renter-occupied. Discounting cities on Long Island (as communities that are going to be influenced heavily by the New York City market), only Providence and Rochester fit this description.

As with the previous cities in the comparison, Worcester stands out compared to its peers on a number of metrics. Readers can find all four tables on the following page.

Interestingly, **in each city except Worcester, between 2010 and 2020 median household income in renter-occupied units increased more than in owner-occupied units**. Although the median income increased in both types of unit in Worcester, the percentage increase in owner-occupied units was slightly greater. Compare this to the change in New Bedford or Quincy. In New Bedford, the median income in owner-occupied units increased by 14.46%, and in renter-occupied units by 36.15%. Quincy was 4.43% and 25.57%, respectively. Even Rochester, which has a similar total population to Worcester and an even higher percentage of renters than owners, saw a decrease in the median household income in owner-occupied units of 1.7% and in renter-occupied units an increase of 11.72%. **In terms of the numbers themselves, Worcester has the third-lowest median household income for renter-occupied units, with only Rochester and Springfield as lower. Regardless, every city on this list increased median household income for renters by a greater *number* amount than Worcester.** This does lead to a natural question: why is it that in Worcester, the second-largest city in New England, median household income for both owners and renters is not increasing in the same way as in other cities? And why is renter-occupied household income lagging in growth behind owner-occupied income, when that simply isn't the case in comparable cities across both the micro and macro region?

Consider, too, median monthly housing costs for occupied units. **Although owner-occupied units fare better in Worcester than its Gateway City peers, with costs decreasing significantly, it ranks third highest in terms of percentage increase in the median monthly housing cost for renter-occupied units.** Providence and Rochester, again closest to Worcester in terms of population size, saw the largest percentage decreases in the median monthly housing costs for owner-occupied units, and in Providence renter-occupied units actually saw their costs decrease by nearly 5.5%. Worcester seemingly follows the trend seen across most of the cities compared in this report: owner-occupied units are seeing their costs decrease, while renter-occupied units have seen the opposite.

Finally, comparing these cities in terms of cost-burden shows that, again, the percentage of owner-occupied units that are cost-burdened has decreased fairly significantly in each city. **However, while five of the seven cities have seen a decrease in the percentage of cost-burdened renter-occupied units, two, Lowell and Worcester, experienced an increase. And of these two, Worcester experienced a far greater increase**. It's true that Rochester has a higher percentage of cost-burdened units over all, but it, unlike Worcester, experienced a percentage decrease.

Table 3E: Number of Units, Gateway Cities and Northeast						
	Owner-Occupied Units			Renter-Occupied Units		
City	*2010*	*2020*	*% Change*	*2010*	*2020*	*% Change*
Lowell	19,405	17,461	–10.02%	19,573	22,799	16.48%
New Bedford	17,096	15,536	–9.12%	21,633	23,523	8.74%
Quincy	20,042	18,342	–8.48%	20,558	22,980	11.78%
Springfield	28,868	26,933	–6.70%	27,361	29,871	9.17%
Worcester	33,129	30,327	–8.46%	37,312	41,962	12.46%
Providence, RI	22,872	24,291	6.20%	39,061	39,899	2.15%
Rochester, NY	35,716	31,882	–10.73%	49,873	56,124	12.53%

Table 3F: Median Household Income, Gateway Cities and Northeast						
	Owner-Occupied Units			Renter-Occupied Units		
City	*2010*	*2020*	*% Change*	*2010*	*2020*	*% Change*
Lowell	$83,067	$90,412	8.84%	$37,332	$42,250	13.17%
New Bedford	$67,173	$76,889	14.46%	$26,026	$35,435	36.15%
Quincy	$95,124	$99,341	4.43%	$52,221	$65,573	25.57%
Springfield	$67,097	$68,550	2.17%	$22,508	$24,535	9.01%
Worcester	$85,206	$86,684	1.73%	$33,990	$34,484	1.45%
Providence, RI	$74,059	$80,235	8.34%	$30,709	$35,234	14.74%
Rochester, NY	$59,889	$58,871	–1.70%	$24,363	$27,217	11.72%

Table 3G: Median Monthly Housing Costs, Gateway Cities and Northeast						
	Owner-Occupied Units			Renter-Occupied Units		
City	*2010*	*2020*	*% Change*	*2010*	*2020*	*% Change*
Lowell	$1,838	$1,590	–13.50%	$1,092	$1,229	12.52%
New Bedford	$1,515	$1,278	–15.62%	$873	$869	–0.49%
Quincy	$1,998	$1,910	–4.39%	$1,358	$1,659	22.21%
Springfield	$1,411	$1,249	–11.48%	$877	$908	3.55%
Worcester	$1,792	$1,483	–17.23%	$1,024	$1,115	8.85%
Providence, RI	$1,906	$1,529	–19.78%	$1,072	$1,015	–5.32%
Rochester, NY	$1,079	$829	–23.18%	$849	$875	3.00%

Table 3H: Percentage of Cost-Burdened Units, Gateway Cities and Northeast						
	Owner-Occupied Units			Renter-Occupied Units		
City	*2010*	*2020*	*% Change*	*2010*	*2020*	*% Change*
Lowell	39.80%	27.92%	–29.85%	48.70%	48.77%	0.13%
New Bedford	43.70%	30.19%	–30.91%	50.60%	43.52%	–13.99%
Quincy	39.50%	35.47%	–10.22%	44.50%	43.91%	–1.33%
Springfield	38.80%	30.97%	–20.17%	56.70%	56.02%	–1.20%
Worcester	39.10%	28.47%	–27.19%	47.70%	50.50%	5.87%
Providence, RI	48.00%	34.94%	–27.21%	53.50%	44.34%	–17.12%
Rochester, NY	30.80%	22.52%	–26.89%	59.30%	53.19%	–10.31%

Source: American Community Survey, 2010-2020 5-Year Estimates. Note: Tables are in 2020 inflation-adjusted dollars.

Compared to the Gateway Cities in this report and to Providence and Rochester, **Worcester has had the third highest percentage increase in renter-occupied units, the lowest percentage increase in median household income for renters (and close to parity with owner-occupied units, unlike every other city in the four tables above), the third highest percentage increase in median monthly housing costs, and the by far the highest percentage increase in terms of the percentage of cost-burdened units.** Again, compared to cities in the micro and macro region, Worcester is increasingly cost-burdened and, increasingly unaffordable for the renters who live here.

Key Takeaways:

- Across the region, the number of renter-occupied units has risen since 2010 while owner-occupied units have decreased.
- Although the median household income for renters and homeowners has increased in nearly every city in this report, *only* in Worcester has the median household income for renters had a smaller percentage increase than owners.
- Even if the monetary value of the renter-household median income increase is compared, Worcester fares worse than every other city in the list.
- Coupled with the lowest percentage increase in median household income, Worcester ranks fifth highest in terms of percentage increase in monthly costs for renters since 2010.

Section 4: Worcester and Redlining

So far, this report has compared Worcester's renter-occupied units in terms of time, between 2010 and 2020, and space, by looking at other cities. But, in a housing context where the gap between owner- and renter-occupied housing units has continued to grow, and in parallel with the increasing number and percentage of cost-burdened renter-units, exploring deeper into time can help to better understand these trends.

Although all the potentially explanatory variables behind Worcester's housing distribution are numerous and exceed the scope of this report, one practice whose effects might be closely related to the current housing state is **"redlining."** Since equal homeownership opportunity requires equal financial access, **redlining, which was a practice of denying fair access to credit based largely on the race of the residents of a neighborhood, seems a plausible variable in this analysis, especially if you consider it in the context of generational wealth-building.**

In the 1930s, the Federal Home Owners' Loan Corporation (HOLC), after consultation with local real estate professionals and local policymakers, categorized neighborhoods in hundreds of cities in the United States into four types: Best (A), Still Desirable (B), Definitely Declining (C), and Hazardous (D). So-called "hazardous" zones were colored red on these maps. These zones were then used to approve or deny credit-lending and mortgage-backing by banks and the Federal Housing Administration. The descriptions provided by HOLC in their reports rely heavily on race and ethnicity as critical elements in assigning these grades. According to Mapping Inequality, "Arguably the HOLC agents in the other two hundred-plus cities graded through this program adopted a consistently white, elite standpoint or perspective. HOLC assumed and insisted that the residency of African-Americans and immigrants, as well as working-class whites, compromised the values of homes and the security of mortgages" (Mapping Inequality). HOLC's classifications were one contributory factor in underinvestment in a neighborhood, and generally, although not always, closed off many, especially people of color, from the credit necessary to purchase their own homes.

The descriptions used by HOLC to classify 15 Worcester neighborhoods are included at the end of this report as an appendix, and are available through the Bureau's online tools as well. It should be stressed that these are the exact descriptions used by HOLC in 1936, and therefore may contain some disturbing language.

Redlining Maps and Their Legacy Today

Many scholars and institutions have focused their efforts on tracking the effects the 1930s redlining maps still have today. One academic effort, Mapping Inequality by the University of Richmond, has collected and analyzed a comprehensive set of redlining maps for more than 200 cities in the U.S. One of their conclusions is that, for most cities, there are striking and persistent geographic similarities between redlined zones and currently vulnerable areas even after eighty years.

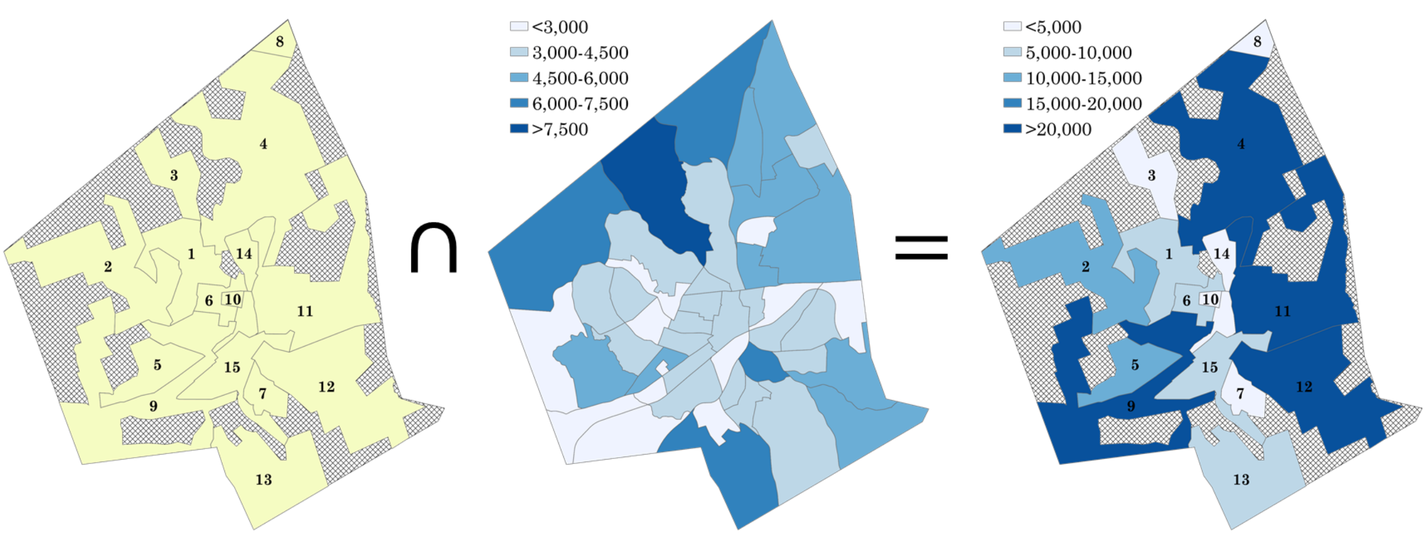
Unfortunately, up until now, there was no accessible version of Worcester's redlining map outside of the National Archives. **On the next page, the Bureau presents the first digitized version of Worcester's redlining map. This digitized version was based on a scanned copy from the National Archives, obtained thanks to Dr. Robert Nelson, the Digital Scholarship Lab, and the rest of his team at "Mapping Inequality" at the University of Richmond.** Dr. Nelson worked with The Research Bureau directly to track it down in the Archives. To access a downloadable digital version of Worcester's redlining map, with the original detailed description of each zone, go to https://www.wrrb.org/reports/2022/12/static-income-rising-costs-renting-in-the-heart-of-the-commonwealth.

Even with the redlining map in hand, the Bureau had to undertake an additional geographic apportionment process to directly compare it with current Census tract data. Map 4A below demonstrates the transformation of modern Census tracts into the zones delineated by HOLC in 1936, using population as an example. A fuller explanation of this process can be found in the appendix as well as in the online features the Bureau has created to accompany this report.

On the next pages, you will find the digitized version from ArcGIS of the original redlining map from 1936. The 1936 map is surrounded by four maps with 2020 ACS data about Worcester, using geographic apportionment to reshape the Census tract data into the original 1936 map polygons. These new maps include data on demographics, poverty, income, and percentage of renter-occupied units. **Many of the areas that were considered "Declining" or "Hazardous" by HOLC are, today, areas with high poverty, low income, and are largely made up of renters—indicating a correlation between the lack of investment and credit in the past with the contemporary situation.**

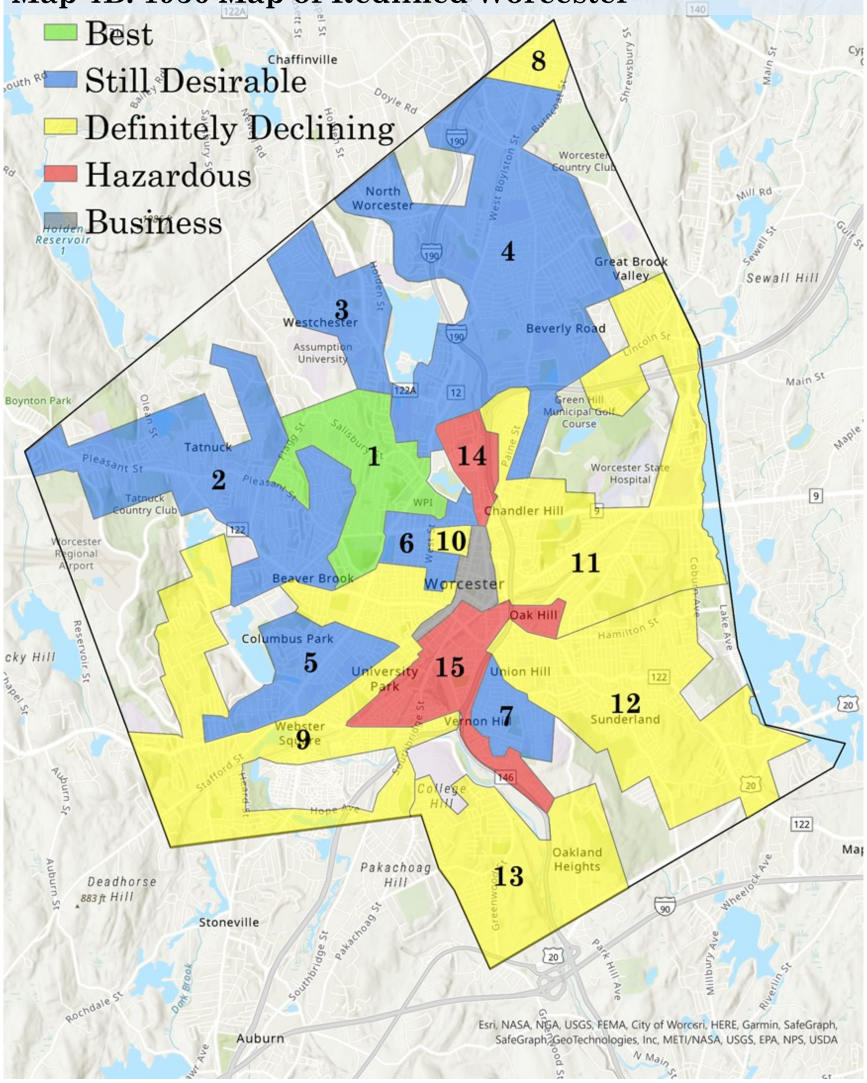
Although Maps 4B—4F show the continued relationship of redlined zones with the percentage of renter-occupied units, which is the focus of this report, as well as poverty, income, and non-white population, there are other variables which may correlate with these zones, such as the Center for Disease Control's Social Vulnerability Index (SVI). The report, here, is inspired by the University of Richmond's own use of SVI to compare modern data with the redlined zones. The index itself is composed of four thematic measures: Socioeconomic, Household Composition & Disability, Minority Status & Language, and Housing Type & Transportation. The index ranges from zero to one, with zero meaning no vulnerability at all, and with one signifying the maximum level of vulnerability.

Map 4A: Original Redlined Zones (Left) Intersect with Worcester's Total 2020 Population by Census Tract (Center) Creating a Population Map using Original Redlined Shapes (Right)



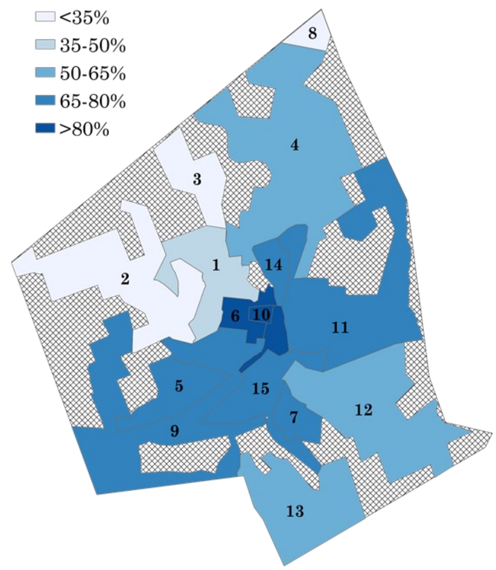
Source: American Community Survey, 2020 5-Year Estimates (Census Tract Data)

Map 4B: 1936 Map of Redlined Worcester

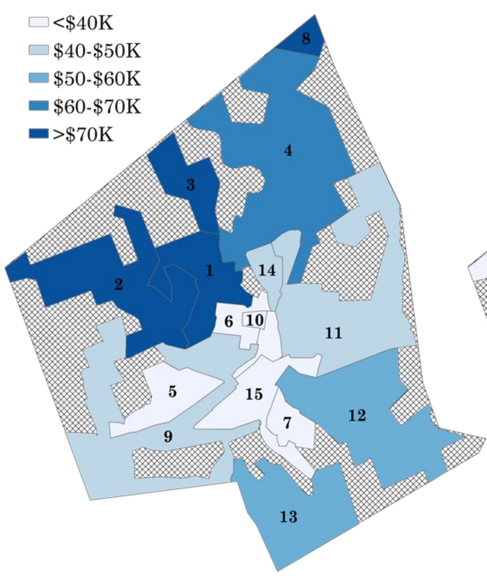


This comparison shows that being graded with a "C" or a "D" in 1936 (here, zones 9 to 15) is today associated with higher poverty rates, a higher non-white population, a lower median income, and a higher percentage of renter-occupied units even after more than 80 years.

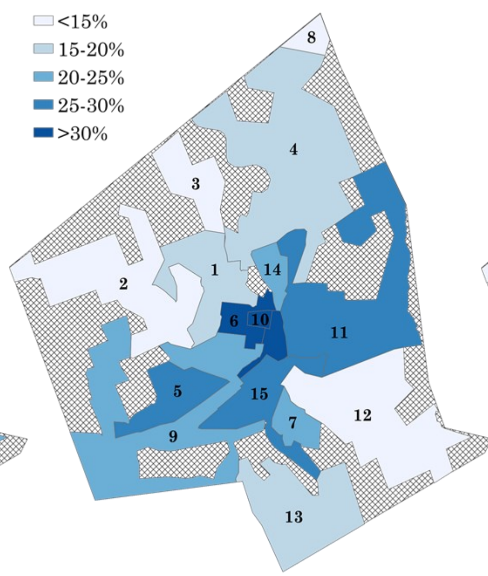
Map 4C: Percentage of Renter-Occupied Units, 2020



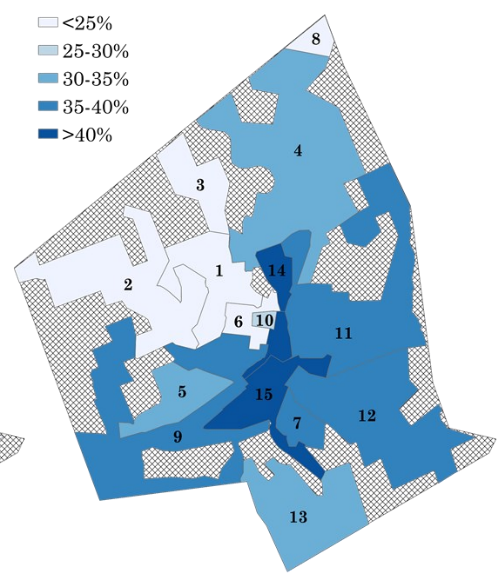
Map 4D: Median Income, 2020



Map 4E: Percentage of Population Below the Poverty Level, 2020



Map 4F: Percentage of Non-White Population, 2020



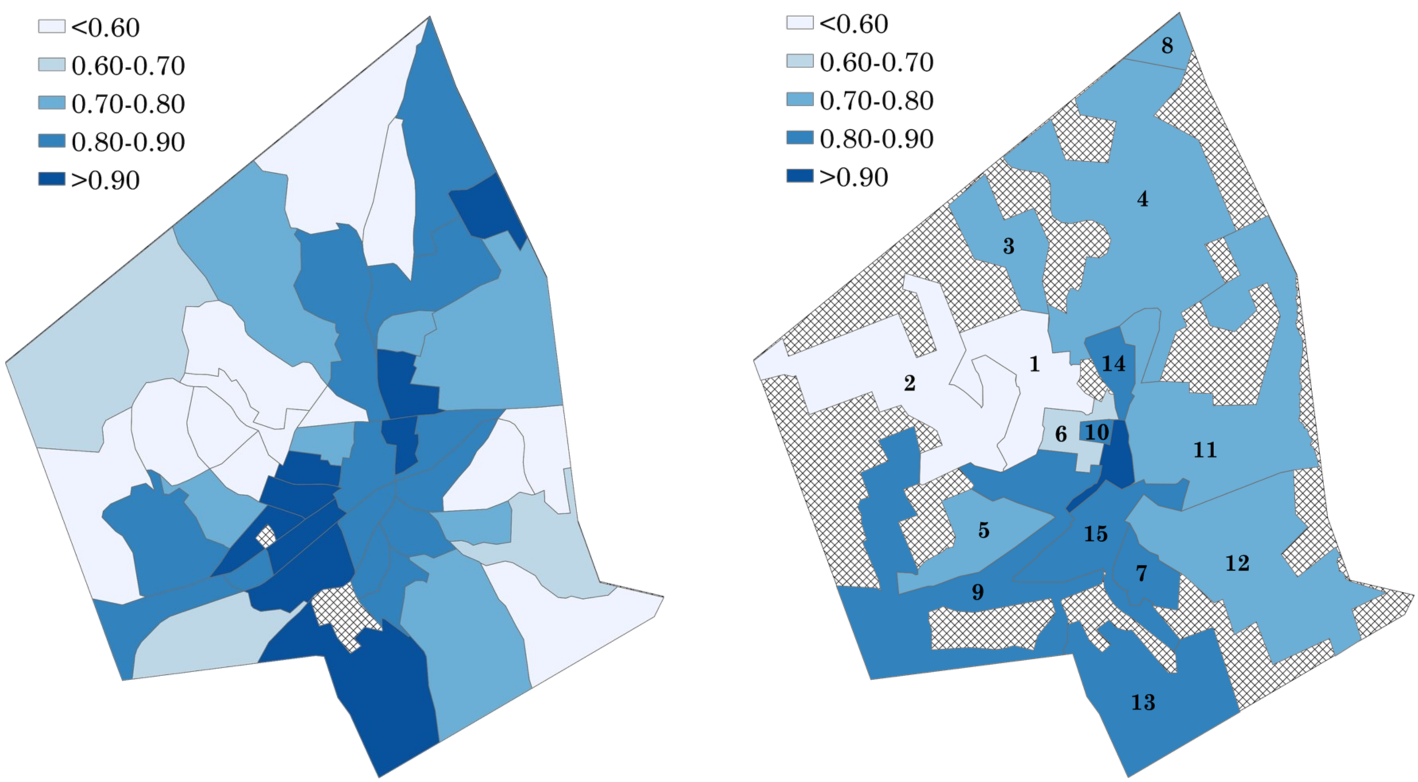
Source: United States National Archives and American Community Survey, 2020 5-Year Estimates

Using the most recent CDC calculation of this comprehensive index (from 2020), the maps below show a close relationship between redlining and general vulnerability. A weighted average was calculated with the geographic apportionment process for the map with the redlining zones.

In general terms, the 1936 redlining map aligns very well with the 2020 Social Vulnerability Index values. Nevertheless, when analyzing zone by zone, one can identify interesting dynamics. An alternative way to see this evolution 80 years later is Chart 4A on the following page, directly inspired by the University of Richmond's [Not Even Past]() visualization. Contrasting the original desirability ranking, according to the redlining map, with the 2020 SVI ranking for each zone shows how different zones have experienced improvements or deteriorations in their conditions.

In this context, **while the zones that were severely redlined 80 years ago do persist in having higher rates of renters, the rest of the well-being variables' behavior seems to show a cycle that has fed itself for decades, keeping these communities isolated, in which lacking their own houses, in the face of an ongoing increase in cost-burdening, is only one of their multiple problems.**

Map 4G: Social Vulnerability Index, 2020. Mapped onto Census Tracts (Left); Mapped onto Redlining Zones using Geographic Apportionment (Right)

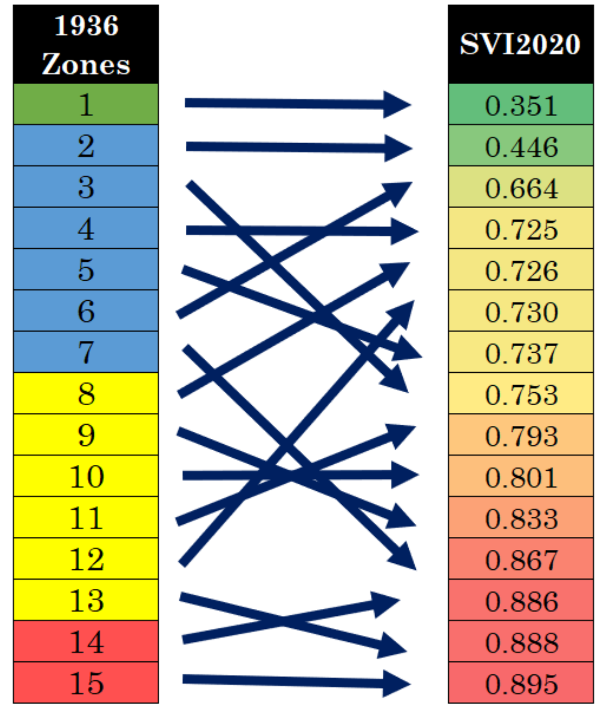


Source: Centers for Disease Control, 2020 Social Vulnerability Index

Key Takeaways:

- The original 1936 redlining map of Worcester from the Home Owners' Loan Corporation—used to help banks and mortgage insurers decide to approve or decline credit—presented here for the first time.
- Mapping contemporary Census data onto the original redlined zones shows persistent disparities in income and rent between originally "Desirable" and "Hazardous" zones.
- Mapping the CDC's 2020 Social Vulnerability Index onto the original redlined zones shows that even on other variables, the decision not to approve credit in certain zones in the 1930s and 1940s correlates with social vulnerability today.

Chart 4A: Transformation of 1936 Redlining Zones to 2020, Using the CDC's Social Vulnerability Index



Source: Centers for Disease Control, 2020 Social Vulnerability Index

Conclusions

Worcester renters are increasingly cost-burdened. That much is clear. Between 2010 and 2020, more and more renter-occupied units in Worcester have become cost-burdened, while the number of cost-burdened units occupied by their owners has gone steadily down. In Worcester, rising costs for renters coupled with low income growth seem to be major contributors to this increasing cost-burden.

When compared to cities locally and similar cities across the Massachusetts and the Northeast, Worcester's renters are not faring particularly well either, seeing some the lowest income growth among peers and the one of the highest rates of growing costs.

Why are renter-occupied units so cost-burdened compared to Worcester's peers? A major factor here would seem to be the low-income growth and rising costs. The low vacancy rate in Worcester, 3.4% in 2020 according to the ACS, could also play a role (compare to Providence, for example, at 6.7%). But of course those aren't the only variables at play. For example, Section Four indicates that there may be some correlation between decisions about home-lending and credit made in the 1930s and the situations of renters and owners today.

Homeownership is a key driver of wealth and asset growth, and the denial of credit for mortgages, based on the redlined map in the 1930s, has had clear and consistent impacts on Worcester. The red and yellow zones from 1930 largely remain the most socially vulnerable, even in 2020, despite a difference in time of more than 80 years. And that's not even accounting for the ramifications of the COVID-19 pandemic.

Even other variables can still easily be tracked in contemporary maps of redlined zones. Areas outlined in yellow and red in 1936 have, for example, a large non-white population. HOLC used racial and immigrant biases to mark these zones as "declining" or "hazardous" in 1936; perhaps these biases, and lack of subsequent housing credit, have prevented some in these areas from buying or acquiring the wealth that comes from homeownership elsewhere in the City. These same zones have higher rates of poverty, overall income, and higher rates of rentership than the areas of the city that HOLC rated as "desirable." **This is through no fault of the residents in these areas, but consistent structural biases.** Housing affordability is going to be a key issue across the entire city, but especially in these areas.

One reason that costs may rise—and with them, of course, more cost-burdened renters—occurs when the demand for a place to rent outstrips the amount of available rental housing. Indeed, in 2010, according to the ACS, Worcester had a rental vacancy rate of about 7.3%. In 2020, that decreased to 3.4%. Consider, too, that Worcester's overall population increased by about 20,000 in the same time period. One way to help manage rising costs is simply to build more units in which people can live, especially if the community relies on the market to set the prices of units. In that vein, there has been a boom in recent development in Worcester. According to the Worcester Regional Chamber of Commerce, there are about 24 proposed or under-way housing projects in Worcester lined up for the next few years, creating hundreds of new units.

However, as some may point out, the costs of some of these units may be out of reach for many Worcester residents. **In thinking about affordability going forward:**

- The City has currently proposed an inclusionary zoning ordinance, which would require developers to set aside some percentage of units as affordable units.
- The City has created an "Affordable Housing Trust Fund," to help fund affordable developments for both renters and first-time home owners.
- 13.5% (more than 10,000 units) of Worcester's households are on Massachusetts' Subsidized Housing Inventory, which is a greater percentage than any of Worcester's closest neighbors.
- While generally a market-rate program, the statewide Housing Development Incentive Program provides for the construction of more housing units in Worcester. construction of all kinds is necessary. Currently there is a backlog of projects across Massachusetts that require a higher state funding cap, which is currently $10 million. The State could address this backlog by raising the funding cap from $10 to $30 million, as requested earlier in 2022 by a number of Gateway Cities.
- As this report illustrates, the static income and rising costs for renters in the second-largest City in the Commonwealth merits special look by all stakeholders—whether local, State, or private sector—to continue strong economic growth and development.

Rental affordability may continue to be a problem for some time. **However, with a concerted and concentrated effort by key stakeholders and policymakers across the State, using the information and data provided in this report, addressing this problem should be possible.** Concentrating on raising household incomes, slowing cost-growth, addressing the concerns of the most vulnerable residents, and increasing the number of available units should go a long way to ensuring that Worcester's housing and economy remains strong in the future.

Please visit https://www.wrrb.org/reports/2022/12/static-income-rising-costs-renting-in-the-heart-of-the-commonwealth for interactive maps and dashboards of the information found in this report.

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Appendix A: Notes on Data

A Note on the Data Used in this Report:

Unless otherwise stated, all the data in this report is courtesy of the U.S. Census Bureau's American Community Survey. The ACS reflects the completest source of data about American life over the longest period of time. However, the 2020 ACS release did experience a bit of a decline in the number of completed interviews, due in part to the pandemic (see this link here for more information).

The Bureau chose to use ACS 5-Year estimates. These 5-Year estimates cover, as the name suggests, five-year intervals of data. Thus, data labelled "2010" in this report covers 2006-2010; data labelled 2015 covers 2011-2015. While this means that there is some overlap between consecutive comparison points, using 5-year estimates provides a few benefits. First, it allows the examination of data down to the Census Tract level, which other estimate-intervals do not. Second, it provides more precision in the data, with smaller margins of error compared to the 1-year levels. These smaller margins of error are due to the use of a larger sample size than the 1-year estimate intervals. In addition, the ACS automatically corrects dollar amounts in these intervals to the inflation factor of the last year in that range. In other words, median household income for the 2010 5-Year Estimates uses values adjusted to 2010-dollars.

For some data points, like monthly housing costs, there may be some differences from other data sources, such as Zillow estimates of rental market data. You can view the methodology of how Zillow collects and tabulates its rent data here. You can find information about what the Census asks and how it asks about rent values here. In addition, the use of ACS data for housing costs allows interoperability with other ACS data, including additional details down to the Census tract level, allowing for a more granular view of all residents in the city. The ACS uses a wide array of survey data, across the entire community. Moreover, responses to the ACS are mandatory for those who receive the survey.

All direct financial data, unless otherwise stated, from the ACS in this report has been adjusted to 2020-dollars to allow for comparisons between disparate time periods and to account for inflation. This means that, especially, median household incomes and median household costs are all expressed in 2020-dollars, using the Bureau of Labor Statistics All Items CPI-U-RS Annual Averages to make this conversion, following the methodology described here. Dollar *ranges* (for example, "households making more than $75,000") have been left unchanged, as the data reflects the snapshot of these households and their living situations at a particular point in time (i.e., reflecting that in 2012 a particular household may have reported being cost-burdened).

A Note on Maps:

Any maps with striped zones indicate that there is no data for that Census Tract. At least two of these zones are college campuses. A few maps have one or two other Tracts without data; ACS did not provide a reason why.

A Note on the Geographic Apportionment Method for Redlining Maps (page 23):

The geographic boundaries used by the Census do not match the boundaries used by HOLC in the 1930s. To standardize the data, a method known as "geographic apportionment" was applied to the Census Tracts. Each polygon on the redlining map overlaps portions of the Census tracts. Each of these portions contain a fraction of that tract's population, and contributes its corresponding value of the population to the new shape. These proportional values contribute to the aggregated value of the new shape. Essentially, proportional data from overlapping Census tracts and redlining zones were factored into aggregate variables to create new "polygons."

For variables like rates or central tendency measures (like median income), the aggregation method uses weighted averages, using the percentage of the intersected Census tract as weights.

Appendix B: HOLC's Original Descriptions in its 1936 Redlining Map

The following text contains the *original* descriptions used by HOLC to describe Worcester's neighborhoods in 1936. In no way does it reflect the opinions of the Worcester Regional Research Bureau. It may contain some disturbing language.

Zone	Classification	Description
1	A - Best	High class residential section. Many of the more well-to-do live in the Hill section (M-12) in homes costing from $40,000 to $75,000. Within the last year or two several new dwellings have been built north of Hancock Hill in the $20,000 class and up. There is a trend of this development toward the north and west. Other homes of brick and frame construction in this area in the $15,000 to $20,000 class are occupied by professional men and business executives. Some houses in the southern portion of the area are 20-25 years old, but many of the residences are less than 10 years old. There are no detrimental influences except that the nearest fire station is about one mile away from Hancock Hill, but a station is to be built within the area in the near future
2	B - Still Desirable	This probably would be classed as the second best residential area. It is occupied by business and professional men. Mostly single houses in about the $10,000 class and a few of the better type two family houses. Some new single houses were built in 1935 south of the State Normal School. There is still a demand for houses costing $6,000 to $7,500 in the neighborhood as well as the area eastward around Morningside (J-15) and Amherst Road (K-14). In the western portion there are some two and three family homes. All are maintained in a good state of repair. No detrimental influences are apparent. Some of the better class Jewish people are concentrated in the portion around S. Lenox Street (I-15), and pride of home ownership maintains the section in good condition.
3	B - Still Desirable	Not greatly built up, but mostly single homes in good condition. In the path of possible future extension of #1 area now to the south of it.
4	B - Still Desirable	A Swedish concentration in the Greendale area (T-8) extending eastward to Burncoat Street (V-9) and southward to Wildey ave. (S-10). The large Norton Company, manufacturers of grinding machinery and abrasives, is located on New Bond Street (R-8), and although many of these people are employed here, they are skilled artisans and office workers for the most part. Many of the unskilled laborers live in #11 and #13 areas. There are homes here of the one, two, and three family type in fair to good condition. Many dwellings are 20 years old or more, there has been some new home construction in the last 10 years. In 1935, about 10 new single houses were built in the Barnard Road section (S-13), and 2 or 3 in each of the sections around Burncoat Park (T-13) and Clark Street (W-9). These were in the $4,000 to $5,000 class. The Boston and Maine Railroad runs through this area, but it does not have a detrimental influence on property values except for the locations immediately adjacent to the tracks.
5	B - Still Desirable	Residents mostly business men and office workers, and around Clark University (I-21) college professors. One and two family houses predominate, and there are some three-deckers. Improvements are from 20 to 50 years old in the main, and fair to good condition. Several new single and two family homes have been built within the last two years near Columbus Park (G-19), and east of the University near Norwood Street (J-21).
6	B - Still Desirable	One of the older sections of the city, containing many fine old residences 50 years old or more, but well kept up and still occupied by descendants of the original owners. Some of the better class two family houses are located here, renting from $65 to $80 a floor. Elm Park in the west end is an asset, and the area is convenient to the downtown business section.
7	B - Still Desirable	There is a concentration of Irish in the western section and of Jewish in the southeastern section of this area. Most occupants of the area belong to the middle class. The newer type of two and three family houses predominates, now renting for $30 to $35 a unit, but formerly these were rented for about $60. The majority of these structures are less than 10 years old, and are in a good state of repair. Vernon Hill playground, about 15 acres in extent, is located on high ground in the center of the area.

Zone	Classification	Description
8	C - Definitely Declining	A small sparsely settled section housing some of the poorer class. Cottages and small homes not in good repair. Although beyond the limit of Worcester Street car lines, transportation service by motor coach is available on the Worcester Oakdale line.
9	C - Definitely Declining	There is a small concentration of negroes southeast of Beaver Brook playground (J-19) although it is not spreading to adjacent streets. The area contains many of the poorer classes. In the eastern section three-decker houses predominate, many of which are 40 years old or more, and in a poor to fair state of repair. The western and southern sections are mostly built up with one and two family houses. The area is fairly well served by street car and motor coach lines.
10	C - Definitely Declining	Many industrial workers live in this area as well as a few negroes. The three-decker type of house predominates; and there are some two family houses. Many of the structures are from 50 to 75 years old. Some houses are in a good state of repair, but the majority are in poor condition. There is very little tendency for the area to spread beyond its present limits.
11	C - Definitely Declining	There is a concentration of Swedish industrial workers north and east of the intersection of Belmont Street and Eastern ave. (R-18). Negroes live in a small section around Clayton Street (P-19) and Liberty Street (Q-18). The section along Shrewsbury Street (Q-20) eastward from Mulberry Street (P-20) and including Bloomingdale (U-20) is inhabited by Italian industrial workers and the laboring class. Toward the business district there is a scattering of Syrians and Armenians. There are many three deckers and two family houses in the area from 40 to 50 years in a poor to fair state of repair. Summer cottages and other small single houses predominate along the lake front and in the Lake View section (W-22). Some of these are in the $3,500 to $5,000 class and in fair condition. The railroad yards are located just north and west of Oak Hill (R-22), and it is thought the yards now located in #15 area will be consolidated here.
12	C - Definitely Declining	The Union hill section (P-23) is principally inhabited by Jewish people of the poorer class. South of Oak Hill (R-22) between Dartmouth and Grafton Streets is the French section. Much of this section, especially toward the east in the neighborhood of Bedford Avenue and Revere Street (S-24) is low lying land even swampy in some places. The area is mostly composed of the poorer class. There are many old three-deckers built from 30 to 50 years ago, a number of which have no central heating system, and lack other modern conveniences. Small single houses are scattered through the area, many in need of repair.
13	C - Definitely Declining	The majority of the residents of this area are Swedish industrial workers of the poorer class. Three-deckers and small single houses in poor to fair state of repair. The American Steel and Wire Company has a rolling mill located in the area, and the Sewage Purifying Works have a detrimental influence, although little obnoxious odor escapes from the plant.
14	D - Hazardous	Inhabited by the poorer class. Industrial workers. Cheap tenements in poor condition. Contains a wire mill, Atlantic Refinery storage yards and a foundry.
15	D - Hazardous	A concentration of French industrial workers on both sides of the B. & A. Railroad in the neighborhood of Canterbury Street (I-23) and a Polish settlement north of Compton Park as far as Lamartine Street (M-22), and southeastward to Ward Street (N-23). Lithuanians occupy the area down as far as Maxwell Street (M-25). The majority are industrial workers and laborers of the poorer class. Three deckers from 40 to 75 years old predominate. They are in poor condition and mostly without central heating plants. Many other modern conveniences are lacking. A number of similar structures have been razed in this area because of obsolescence. There is a gas production plant and a railroad yard near the center of the area.

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