The Evolution and Landscape of Under-Resourced Communities in U.S. Metropolitan Areas

Matthew Hall, Cornell University
Howard Wial, Initiative for a Competitive Inner City
Devon Yee, Initiative for a Competitive Inner City

April 21, 2023

This is a lightly edited version of the article accepted[a] by the journal *Economic Development Quarterly*.

Abstract

We introduce a new measure of concentrated disadvantage that captures the spatial clustering of poverty. Using Census data from 1980-2019, we show how under-resourced communities have evolved in U.S. metropolitan areas. The share of metropolitan residents who reside in under-resourced communities has steadily grown over time. This upward trend cannot be explained by changes in residents' economic or demographic characteristics. Yet areas experiencing declining economic conditions, aging populations, and rapid ethnoracial change have had the largest increases. Although under-resourced communities continue to be concentrated in central cities, their incidence in suburban areas has nearly doubled since 1980. Under-resourced communities are becoming more racially diverse, not just because of broader ethnoracial change, but because shrinking shares of Blacks and expanding shares of whites and Hispanics/Latinos reside in these areas. However, Black residents continue to make up a large share of under-resourced community residents. We discuss the broader implications of these patterns.

Considerable academic and policy interest has been directed at the plight of the urban disadvantaged, who are negatively impacted by persistent racial segregation, concentrated poverty, and associated social ills (see Allard and Small 2013; Jargowsky 1997; Small and Newman 2001; Wilson 1987, 1996), partly as a result of state-sanctioned policies of racial and social exclusion (Rothstein 2017, Wilson 2008. Major governmental programs and initiatives have targeted these communities, with place-based funding of underserved areas totaling over $10 billion in each of the last twenty years (Parker et al. 2022). While both policies and scholarship have long focused on the concentrated disadvantage found in the central cities of major urban centers, the broader metropolitan landscape has undergone enormous change brought on by demographic shifts (including rapid immigration and ethnoracial diversification) and

[a] For the version of this article published in *Economic Development Quarterly*, see Matthew Hall, Howard Wial, Devon Yee, The evolution and landscape of under-resourced communities in U.S. metropolitan areas, *Economic Development Quarterly*, 37(4), 302-327, 2023, https://journals.sagepub.com/doi/10.1177/08912424231189654.

economic restructuring (e.g., deindustrialization and the suburbanization of manufacturing). No longer can metropolitan areas be defined by the dichotomy of poor cities and middle-class suburbs; instead, they are mosaics of communities with unique population, economic, and political structures (Hall and Lee 2010). Indeed, many of the social problems that have historically characterized poor central cities are now apparent in suburban and exurban areas, where resources, structures, and supports may be limited (Allard 2017). And these patterns of changes are highly stratified by race/ethnicity, with poverty being both deeper and more concentrated in Black and Latino communities, and the diversification of community 'problems' disproportionately impacting Black and Latino residents (York-Cornwell and Hall 2017).

In this paper, we introduce a new approach to characterizing concentrated disadvantaged that explicitly captures spatial arrangements of clusters of poverty that defined under-resourced communities (URCs). These URCs include the inner cities of major urban centers but, as we show, are increasingly present in the metropolitan periphery. Our focus on these aggregated clusters rather than simply on individual census tracts is designed as a way to identify large communities that resemble traditional inner cities in terms of population critical mass, geographic physical space, and the resulting social depth of disadvantage that emerges in concentrated form.

We chart the incidence, location, and concentration of URCs across the metropolitan landscape, taking a broad view to explore the extent and depth of disadvantage and assess how the proportion of people living in URCs varies by race/ethnicity. In particular, we move beyond past work on concentrated poverty to make several unique contributions. First, we take an expansive and extensive view of concentrated disadvantage, charting URCs in nearly all large metropolitan areas, in both their cities and suburbs, over the last 40 years. We identify not just areas of extreme concentration, but also where the largest changes have occurred. Second, our analysis places URCs in the context of broader economic and demographic changes, seeking to understand the relationship between high-poverty areas and low-poverty areas, which has implications for social service provision, workforce development, and job quality in and out of high poverty areas. Lastly, we examine how all of these dynamics are shaped and stratified by race/ethnicity, considering how the extent and depth of disadvantages differentially impacts racial/ethnic

groups. Across all of this work, we argue for a conceptualization and empirical representation of disadvantage that is spatially explicit, whereby concentrated poverty requires both that poverty be entrenched among residents and agglomerated in space.

Background

Residential environments play important roles in structuring opportunities, forming social relationships, and shaping economic and social well-being. A large and expansive body of both qualitative and quantitative work in sociology, demography, and economics has found that residents of impoverished neighborhoods face a host of social and environmental challenges, including factors related to children's educational achievement, job opportunities, exposure to crime and delinquency, and mental and physical health problems (see Turner and Gourevitch 2017, Galster and Sharkey 2017. Although separating the influences of individual and family experiences from those of neighborhood factors remains a core empirical challenge, results from the large-scale Moving to Opportunity policy experiment reveal that these moves are associated with improved parent and child well-being. Specifically, results indicate that such moves are associated with improved physical and mental health and increases in subjective well-being (Ludwig et al. 2012). Further, when these moves occur at an early age, children in these families saw increased college attendance, higher marriage rates, and increased adult earnings (Chetty, Hendren, and Katz 2016). These neighborhood-level impacts are hypothesized to operate through a variety of channels that include institutional resources and services (e.g., tax base, school quality, and policing practices), the structure and composition of peer and social networks (e.g., processes of social contagion and cohesion), features of the built environment (e.g., physical decay and environmental load), and geographic relationships (e.g., the extent of the match between workers and jobs) (see Galster 2012).

The impacts of neighborhood disadvantage are most profound where poverty is highly concentrated, i.e., in areas where it is deeply entrenched in the social and institutional fabric. Existing estimates of concentrated poverty indicate that its scope has varied considerably over the last several decades. Specifically, using a common threshold whereby 40 percent of a census tract's population lives

in poverty, Iceland and Hernandez (2017) find that the percentage of poor metropolitan residents living in high-poverty neighborhoods rose from 12.7 percent in 1980 to 16.4 percent in 1990 (its highest level between 1980 and the mid-2010s) before falling to 11.4 percent in 2000 (its lowest level during that period) and then rising to 14.1 percent in 2010-2014 in the aftermath of the Great Recession. There are some indications that the growth in concentrated poverty coinciding with the Great Recession has persisted (Jargowsky 2015, Kneebone and Holmes 2016). And although poverty concentration tends to be more pronounced in the largest metropolises, this recent growth has been heightened in smaller metro areas (Kneebone 2017). Similarly, concentrated poverty remains higher in the central cities of metropolitan areas, but it has grown more rapidly in the suburban periphery (Kneebone and Holmes 2016). This expansion of poverty outside of the inner city is an important reflection of evolving social and demographic transformations. These forces include massive demographic change, including immigration and population aging, that has rapidly diversified the population, particularly in U.S. suburbs (Lee, Iceland, and Sharp 2012, Frey 2018). Long-standing economic change that has hollowed out middle-wage jobs and expanded low-wage work has been paralleled by the suburbanization of employment and manufacturing decline (Kalleberg 2013; Raphael and Stoll 2010). Paralleling these demographic and economic drivers has been housing dynamics that have led to urban revitalization in some areas and increased affordability of aging, postwar suburban housing in others.

These overall trends in poverty concentration hide considerable variation between racial/ethnic groups. As with many other forms of social inequality in the U.S., there is exceptionalism to Black Americans' experience with poverty, with estimates consistently showing rates of concentrated poverty three to four times higher than those of white Americans (Jargowsky 2015, Iceland and Hernandez 2017). Concentrated poverty is also heightened for Hispanics/Latinos, whose rates are about twice as high as those of whites. There are some indications that poverty concentration may have grown more rapidly for Hispanics/Latinos in recent years, and that concentrated poverty rates between Black and Hispanic/Latino residents are converging (see Kneebone and Holmes 2016).

Although past research on poverty concentration is informative for detailing these general trends, it is limited in a number of ways. First, with the exception of Dwyer (2010), nearly all previous scholarly research on concentrated poverty within metropolitan areas focuses on individual neighborhoods (census tracts) with high poverty rates and, unlike some of the literature on racial and class segregation, does not examine the extent to which those tracts are spatially clustered into larger high-poverty communities.[1] Although some other studies have included maps showing the geographic clustering of concentrated-poverty neighborhoods in specific metropolitan areas (Jargowsky 2003, 2013; Wilson 1987), none other than Dwyer's have used the spatial clusters themselves as analytical concepts. We do so in this study because the most pernicious consequences of concentrated poverty occur when poverty is not just entrenched within a population but is endemic to it. When the poor live not only in poor neighborhoods but in large parts of a city or metropolitan area that are poor, they are less likely to come into contact and share resources with more advantaged and resourced populations (Dwyer 2010). When poverty agglomerates across space, it has the potential to permeate institutions and markets, to define life in the spaces that individuals navigate, and to structure opportunities for mobility. Hooks, Lobao, and Tickamyer (2016: 463) note that this idea is inherent in the view that poverty is a form of social exclusion: "Poverty in a social exclusion approach is characterized by a lack of participation and integration in social life which by necessity is grounded in particular locales." This conceptualization of disadvantaged communities – which we refer to as "under-resourced communities" – mirrors the 'inner city' spaces that have been the focus of scholarly and policy attention (e.g., Wilson 1987, 1996).

Second, nearly all previous research on concentrated poverty counts tracts with large student populations or low populations as high-poverty tracts if their poverty percentage exceeds a cutoff value. (Kneebone, Nadeau, and Berube (2011), which excludes low-population tracts and those in which more than half of residents are students, is a notable exception.) This limitation is relevant to place-focused antipoverty policies, whose eligibility criteria do not necessarily exclude such tracts.[2] The purpose of these policies has been described in such terms as attracting jobs and businesses, raising employment, reducing poverty and unemployment, and increasing incomes (Neumark and Simpson 2015), stimulating

private investment, job creation, and higher productivity (Duranton and Venables 2018), or reducing unemployment and creating economic growth (U.S. Government Accountability Office 2010). Yet many of the census tracts with the highest poverty rates are spatially isolated or home to special populations such as students that are not generally intended to be the beneficiaries of place-focused policies. For example, among census tracts in New York State with non-trivial populations (1,000+ persons), off-campus housing for Syracuse University and Cornell University students are included among the census tracts with the three highest poverty rates. Place-focused antipoverty policies do not usually address the needs of students living off-campus because they are assumed to be temporary.

Third, extant research has largely focused on relatively short-term trends or explored patterns of change only for the largest metropolitan regions. This mostly reflects limits to data standardization that make comparing census tracts across multiple decades challenging. In this analysis, we utilize data that resolve this issue, allowing us to accurately compare spatial units over a four-decade period and describe long-run trends in under resourced community presence and concentrations within metropolitan America.

Lastly, we seek not only to describe basic trends and patterns of under-resourced communities but also to explore factors that are correlated with levels and trends over time. Our goal here is not to identify causal drivers, but to simply characterize the multiple demographic, economic, and structural features of metropolitan areas that are associated with changes in URC concentrations.

Data and Methods

We use four decades of demographic data from the U.S. Census Bureau's decennial censuses for 1980, 1990, and 2000 and five-year American Community Surveys (ACS) for 2008-2012 and 2015-2019 to identify and characterize URCs within metropolitan areas. For all years, we define metropolitan areas using Office of Management and Budget (OMB) 2009 Core-Based Statistical Area (CBSA) delineations, which were first implemented in Census 2010. While some past work (Jargowsky 2003) has rightly noted the need to study poverty using contemporaneous boundaries for reflecting neighborhoods as they are, because we seek to draw longitudinal comparisons of communities, we use data based on standardized

2010 census tract boundaries from the Longitudinal Tract Data Base (Logan, Xu, and Stults 2014) as implemented by Social Explorer (Social Explorer 2017).[3]

Following Eberhardt, Wial, and Yee (2020), we define URCs as groups of two or more contiguous census tracts that meet the following criteria:

1. Each tract has a poverty rate[4] of at least 20 percent or has a poverty rate of at least 18 percent but is contiguous to a tract with a poverty rate of at least 20 percent. The contiguous tract requirement excludes isolated pockets of poverty that are surrounded by low-poverty areas. The 20 percent poverty cutoff is commonly used in related work (Kneebone et al. 2011, Bishaw 2005, Krivo and Peterson 1996, Ricketts and Sawhill 1988). It is especially relevant for our work because the poorest fifth of metropolitan census tracts had poverty rates of at least 20 percent in 1980, the first year of our study (Galster et al. 2003). In addition, Galster, Cutsinger, and Malega (2008) find that marginal increases in tract-level poverty rates are associated with dramatic declines in property values and rents when poverty rates exceed 20 percent. Although problems with the overall poverty measure are well-documented (Citro and Michael 1995), we use the overall poverty because the Census Bureau's supplemental poverty measure, which takes into account many of the government programs that assist low-income people but are not included in the overall poverty measure (Fox and Burns 2021), is not available at the tract level. The 18 percent cutoff for contiguous tracts plugs "holes" in the geography of under-resourced communities. Based on our contextual knowledge of several large and medium-sized metropolitan areas, these "holes" include areas that local residents typically perceive as part of an under-resourced community or large area of concentrated poverty. We chose not to consider all tracts with a poverty rate greater than 18 percent as part of the under-resourced community because we thought this too inclusive based on contextual knowledge.
2. Each tract has a median household income below the national median. Although the overwhelming majority of census tracts with poverty populations of at least 20 percent also have median incomes below the national median, some do not. Those that do not are located mainly in

high-income tracts in a few high-income metropolitan areas and typically have very high-income residents living in close proximity to poor residents. We exclude these tracts because they are likely to have the kinds of local amenities that are more characteristic of high-income neighborhoods than of the traditional inner city neighborhoods to which URCs are analogous.

3. The contiguous tracts have a combined population of at least 8,000. The 8,000-population minimum corresponds to the combined population of two typical census tracts. It helps ensure that we are identifying large communities of concentrated poverty rather than isolated pockets of poverty.
4. The tracts are located in a metropolitan statistical area whose population is at least 250,000. This requirement excludes nonmetropolitan areas and very small metropolitan areas, whose low population densities make their local economic development problems quite different from the community development problems of central cities and suburbs in large metropolitan areas. The large land areas and low population densities of census tracts in very small metropolitan areas and nonmetropolitan areas also make our contiguous-tract approach less suitable for those geographies, since it is less likely that groups of contiguous tracts in those locations constitute socially meaningful communities. In 2015-2019, the 250,000-population threshold included the 189 largest U.S. metropolitan areas.[5]
5. Each tract has a land area of at most 15 square miles, a population density of at least 100 people per square mile, and primary commuting flow to an urbanized area, i.e., RUCA =1 in the U.S. Department of Agriculture's 2010 Rural-Urban Commuting Area Codes classification (U.S. Department of Agriculture Economic Research Service 2020). These components of the URC definition exclude low-density exurban and semi-rural areas that are often located at the fringes of metropolitan areas, especially in the West. Census tracts in these excluded areas, like those in nonmetropolitan areas, either have populations spread out over large land areas (where our contiguous tract approach is not applicable) or are in small towns that are separated from population centers of large metropolitan areas by large, low-density areas. At the same time, our

exclusion criteria do not eliminate inner and mid-range suburbs. For example, we identify under-resourced communities in Scottsdale, AZ; Apple Valley, CA; College Park, GA; Westland, MI; Ferguson, MO; Spring Valley, NV; Lakewood, NJ; East Cleveland, OH; Upper Darby, PA; and Garland, TX, as well as in many small suburbs in such counties as Cook County, IL (suburban Chicago); Harris County, TX (suburban Houston); Los Angeles County, CA; St. Louis County, MO; Fulton, DeKalb, and Clayton Counties, GA (suburban Atlanta); and Miami-Dade County, FL.

6. No more than 65 percent of the residents of each tract are undergraduate or graduate students and no more than 65 percent live in group quarters. These limits, set at high levels to be conservative, screen out tracts with very large populations that are not intended to benefit from antipoverty or poverty deconcentration policies.

Altogether, our URC definition identifies economically meaningful areas of urban and suburban concentrated poverty that are larger than individual neighborhoods. In addition to identifying neighborhoods with a poverty rate of at least 20 percent and adjacent neighborhoods with a poverty rate of at least 18 percent, it includes only geographic clusters of those neighborhoods, excludes neighborhoods with high student or institutionalized population percentages, and excludes low-density metropolitan fringe areas. Summary statistics for the URC definition are included in Appendix Table A1, providing additional information about URC size and poverty rate composition details.

To distinguish between cities and suburbs, we use operational definitions developed by Kneebone and Garr (2010). These and similar definitions are commonly used in urban scholarship (e.g., Covington 2015, Howell and Timberlake 2014, Madden 2003, Murphy and Wallace 2010). Specifically, central cities are defined as the first named principal city and up to two additional principal cities with populations of at least 100,000. The remainder of the metropolitan area outside of the central-city boundary is classified as suburban. To assign central city or suburb designations to each census tract, we use the tract-to-place crosswalk for the 2010 decennial census from the Missouri Data Center's geographic correspondence engine, 2010 Census population estimates, and the metropolitan and principal

city delineations developed for use in the 2010 Census. To maintain temporal consistency, we use 2010 central city boundaries throughout our entire study period.

To describe features of metropolitan areas related to URC concentrations, we use several indicators related to metropolitan demographic, economic, and housing structures. These include total population (logged), shares of population under age 18 and at least 65, percent foreign-born, population percentages for each of the major racial/ethnic groups, the share of the population 25 years or older with at least a bachelor's degree, median rent, and the percentages of newer housing units (those built in the previous 10 years) and owner-occupied housing units. We also calculate racial residential segregation for all major groups using Theil's H, which reflects the extent to which racial group members are evenly dispersed across the neighborhoods of the metropolitan area. To capture economic opportunity, we include measures of the overall poverty rate, the unemployment rate, and median household income. We characterize economic inequality by taking the ratio of the 80^{th} to 20^{th} income percentiles. To do so, we compute metro-level income distributions using mean-constrained integration over brackets, based on an approximation method developed by Jargowsky and Wheeler (2018). We also include a measure of manufacturing employment shares using harmonized 2012 NAICS Industry Codes from the County Business Patterns Database (Eckert, Fort, Schott, and Yang 2021). Summary statistics for variables used in our analysis are shown in Appendix Table A2.

Analytically, we rely on basic tools of demographic description to document how URC concentrations and intensities have evolved over time, across space, and differ by race/ethnicity. To explore basic associations between URC shares and poverty rates, we use basic regression models. Specifically, we describe cross-sectional features of metropolitan URC populations using OLS and describe features associated with trends in URC characteristics using two-way (metropolitan area and year) fixed effects models that account for features of metropolitan areas that are constant over time. These models can be described generically as:

$$Y_{it} = X_{it}\beta + \gamma_i + \delta_t + \varepsilon_{it}$$

where Y_{it} is the outcome variable of interest (either percentage of population living in URCs or URC poverty rate) for metropolitan area i in year t; X_{it} is a vector of time-varying factors related to metropolitan demographic, economic, and housing structures as described above, γ_i are metropolitan area fixed effects, δ_t are year fixed effects, and ε is an error term.

Our analysis does not include rural areas, where poverty rates are higher than those of metropolitan areas but have also risen during the last four decades (Lichter and Schafft 2016). As we have noted, our methodology is not well suited to those areas. Moreover, rural poverty differs from urban and suburban poverty on several key dimensions including its county-level spatial concentration, county-level persistence over time, greater prevalence among part-time and low-wage workers, greater prevalence among all racial-ethnic groups, greater prevalence among children and female-headed families, and associated with lower receipt of public benefits (other than Social Security) (Lichter and Schafft 2016). Similarly, although the percentage of Indigenous people living in census tracts with a poverty rate of 20 percent or more is comparable to that of Blacks (Bishaw 2014), we are not able to describe trends in Indigenous people's residence in URCs because in 2015-2019 only 51 percent of American Indians and Alaska Natives lived in the metropolitan areas included in our analysis and they were 5 percent or more of the population in only four of the included metropolitan areas (Anchorage, AK; Tulsa, OK; Albuquerque, NM; and Fort Smith, AR).[6]

URCs in Context

Before presenting our findings about how URC concentrations changed over the last four decades, we provide some descriptive information about URCs and about how the URC approach differs from the standard approach of analyzing individual census tracts. Between 1980 and 2015-2019, the total number of census tracts in URCs grew by 83 percent, from 6,166 to 11,255. The mean URC population living in metropolitan areas of 250,000 or more rose by 11 percent, from 53,759 to 59,863. Throughout our 40-year period, the URC population was larger in the Northeast and Midwest than in the South and West, in central cities than in suburbs, and in metropolitan areas with population of a million or more than

in smaller metropolitan areas, but it shifted over time toward geographic areas where it was smaller 40 years ago.

To highlight how our approach differs from the individual-tract approach, we compare URC tracts with high-poverty tracts (those with poverty rates of 20 percent or more) in metropolitan areas with populations of at least 250,000. There is a great deal of overlap between high-poverty tracts and URC tracts. Of the 12,434 high-poverty tracts in 2015-2019, 81 percent were located in URCs. Except for a spike to 85 percent in 2000, this percentage remained between 80 percent and 82 percent during our four-decade period of analysis. Of the 11,255 URC tracts in 2015-2019, 89 percent were high-poverty tracts. This percentage also varied little over time.

Despite these commonalities, exploratory spatial analysis of high-poverty census tracts (using Moran's I, a measure of spatial correction) demonstrates that the spatial dependencies among these tracts weakened over the last four decades, with a growing number of neighborhoods experiencing poverty in isolation.[7] Supplemental work (available on request) detailing the distribution of tracts within URCs, shows not only that the mean number of tracts within each URC has steadily declined over time (from 7.9 in 1980 to 7.0 in 2015-2019 in Appendix Table A1), but that there has been a doubling of URCs that are constituted by only two tracts. The implication is that "clusters" of disadvantage are diffusing away from the traditional tight formation that defined inner city urban disadvantage. The growing emergence of these poverty isolates reinforces the growing need for measures of concentrated poverty to integrate spatial contiguities.

The overlap between URC tracts and high-poverty tracts varied greatly among broad regions of the U.S. It was by far the highest in the Midwest, where 88 percent of high-poverty tracts were in URCs in 2015-2019, followed by the Northeast (82 percent), South (79 percent), and West (77 percent). While this percentage changed little in the Midwest over our four-decade period, it fell substantially in the Northeast (where it was 89 percent in 1980) and somewhat in the West (80 percent in 1980) but rose in the South (from 74 percent in 1980). Similarly, the URC/high-poverty overlap was greater in large metropolitan areas than in smaller ones. In metropolitan areas of at least a million people in 2015-2019,

83 percent of high-poverty tracts were in URCs, compared to 76 percent in metropolitan areas with populations between 250,000 and 500,000. In addition, URC tracts coincided with high-poverty tracts in central cities, where the overlap was 91 percent in 2015-2019, but differed greatly in suburbs, where the overlap was only 65 percent.

The geographic areas in which the overlap is growing (the South, small and mid-sized metropolitan areas, and suburbs) are the ones in which high-poverty neighborhoods are becoming increasingly clustered into URCs. These are the places in which new URCs are most likely to be forming. Policymakers should be especially concerned about reversing this trend in those places.

At the same time, the URC approach offers an *analytical* advantage over the single-tract approach in examining the spatial clustering of concentrated poverty in places where the overlap is relatively low: the South and West, small and mid-sized metropolitan areas, and suburbs—places that were not traditionally the focus of research and policy concern about inner cities. In those places, poverty is less agglomerated overall but it is important to identify and develop policies for the agglomerations that exist. The URC approach is increasingly useful in places where the overlap is declining: the Northeast, large and mid-sized metropolitan areas, central cities; in those locations, and to a lesser extent in the nation as a whole, it is increasingly important to distinguish between clusters of high-poverty neighborhoods and isolated pockets of poverty.

The URC approach also does a better job of capturing policy-relevant concentrations of poverty than the single-tract approach in metropolitan areas where the percentage of the population living in URCs differs markedly from the percentage living in high-poverty tracts. In the 20 metropolitan areas in which this difference was greatest in 2019, the difference ranged from 7 percent (in Shreveport-Bossier City, LA, where 38 percent of residents lived in URCs and 45 percent lived in high-poverty tracts) to 24 percent in Charleston, WV (where 7 percent lived in URCs and 31 percent lived in high-poverty tracts) and was 10 or more percentage points in 10 of the 20 metropolitan areas. The 20 metropolitan areas were overwhelmingly small or medium-sized, only one (Fresno, CA) had a population of a million or more.

The 25 metropolitan areas with the greatest difference varied substantially over time, suggesting that long-term (multi-decade) trends in the share of the metropolitan population living in high-poverty tracts do not always resemble long-term trends in the share of the population living in URCs. [8] If the latter trends are of research and policy interest, as we earlier argued that they should be, then it is essential to measure them directly rather than rely on high-poverty tracts as a proxy.

In the six metropolitan areas that were among the 25 with the largest difference between URC and high-poverty tract percentages in all periods since 1980, the largest single source of the divergence was either the exclusion of tracts with very large student populations from our URC definition or the exclusion of low-density semi-rural or exurban tracts. Thus, the URC approach is especially useful in metropolitan areas with relatively large numbers of students or relatively large low-density fringes.

Trends in URC Population Concentration and Composition

Table 1 shows overall trends in URC population shares, along with poverty rates in both URC and non-URC areas (weighted by total population). As seen there, the aggregate percentage of the population (in metropolitan areas with URCs) living in URCs rose steadily from about 15 percent in 1980 to about 21 percent in 2008-2012 before falling back to 18 percent in 2015-2019.[9] The poverty rate of URCs relative to non-URCs is substantial, being at least three times higher than non-URC areas of metropolitan areas in every decade. However, this relative poverty level declined from about 3.8 in 1980 to about 3.1 in 2015-2019.[10] As shown in the third column, the main reason for the long-term decline in relative URC poverty was a long-term increase in the non-URC poverty rate. The URC poverty rate fluctuated over time within a narrow range, peaking at 32 percent in 1990 and reaching a low of 29 percent (among the years we examined) in 2015-2019, while the non-URC poverty rate increased slightly from its 1980 low of 8 percent (although it was slightly lower in 2015-2019, when it was 9 percent, than in 2008-2012, when it was 10 percent).

Though one might expect URC population percentages and URC and non-URC poverty rates to follow the business cycle, increasing during recessions, and decreasing during recovery, there are some

exceptions. As expected, we see an increase in URC population percentage and non-URC poverty rate from 2000 to 2008-2012 (between a peak business cycle year and the Great Recession) and a decrease in the URC poverty rate from 1990-2000 (between a recession year in 1990 and a cyclical peak year in 2000). However, there were also some notable exceptions. The URC population share rose during the 1990s economic recovery and the non-URC poverty rate was unchanged during that decade. Although the URC population share and non-URC poverty rate fell from 2008-2012 and 2015-2019 as expected, both remained above their levels in 2000, suggesting that the economic recovery from the Great Recession was incomplete with respect to these indicators.

The general trends shown in Table 1 mask variation in URC population shares across the metropolitan landscape. In 2015-2019, the percentage living in URCs ranged from less than one tenth of one percent in Cedar Rapids, IA; Naples-Marco Island, FL; and San Jose-Santa Clara-Sunnyvale, CA; to 70 percent in McAllen-Edinburg-Mission, TX; 58 percent in Brownsville-Harlingen, TX; and 56 percent in Laredo, TX.

Using basic cross-sectional regression analysis to summarize multiple correlations, Table 2 shows the characteristics of metropolitan areas that were associated with the percentage of a metropolitan area's residents who lived in URCs in 2015-2019. Larger metropolitan areas, those with higher poverty rates, and those with larger Black or Hispanic/Latino populations had higher shares of their residents living in URCs. Metropolitan areas in the South and West tended to have lower URC percentages than those in the Northeast and Midwest. As we show below, however, these factors were not necessarily associated with changes in URC shares.

Between 1980 and 2015-2019, the percentage of the population living in URCs rose in 104 metropolitan areas and fell in 31. Table 3 shows the metropolitan areas with the largest increases and decreases in their URC population shares over this time period. In Austin-San Marcos-Round Rock, TX, and San Antonio-New Braunfels, TX, URC population shares fell by about 12 percentage points over this period. Seven other metropolitan areas registered declines of between 4 and 9 percentage points. At the other extreme, Flint, MI, experienced a 26 percentage-point increase in its URC population share and

Scranton-Wilkes Barre, PA; South Bend-Mishawaka, IN; Rockford, IL; and Youngstown-Warren-Boardman, OH-PA also saw increases of more than 20 percentage points. Five other metropolitan areas had increases of between 17 and 20 percentage points. Eight of the ten metropolitan areas with the greatest increases in their URC population percentages had populations under one million in 2015-2019, while eight of the ten with the greatest decreases were larger metropolitan areas. An explanation of the relationship between metropolitan area size and URC population change is beyond the scope of this study and is worthy of further research.

In Table 4, we show estimates from fixed effects models describing the characteristics of metropolitan areas that were associated with growth or decline in the URC population percentage between 1980 and 2015-2019. Metropolitan areas where incomes or the college-educated share of the population were growing saw reductions in the shares of their residents living in URCs. More specifically, holding other covariates at their means, a $1000 increase in median household income was associated with a 1.2 percentage-point reduction in a metropolitan area's URC population share. This means that a one standard deviation difference in median incomes ($17,895) corresponds to a 21 percentage-point difference in URC shares. Metropolitan areas with growing poverty rates similarly saw increases in their URC population shares, to the tune of 1.5 percentage points for each 1 percentage-point increase in poverty. Also associated with increased URC shares are increases in racial residential segregation and in the percentage of residents who were children. Likewise, metropolitan areas with growing populations experienced growth in their URC population shares. Lastly, the estimates indicate a secular increase in the URC population shares, indicating that the descriptive trend shown in Table 1 is not simply spurious to broader economic and demographic change, but reflects general increases in the proportion of metropolitan populations that are residing in under-resourced communities.

The regression results may shed light on the metropolitan areas that had the largest increases in their URC population shares. Five of the ten areas with the greatest increases in URC share are older industrial regions that experienced slow growth of income and the college-educated population percentage and rapid growth of the poverty rate and/or racial segregation, all of which, according to our

regression, are associated with a growing URC population share. These changes outweighed the effects of slow population growth, which is associated with a falling URC population share. Extremely rapid population growth was probably responsible for the increase in the URC share in the remaining five.

URCs in Central Cities and Suburbs

These overall patterns hide substantial differences in the extent of URC shares in the cities and suburbs of metropolitan America, as well divergent trends. In Table 5, we see that large majorities of URC residents lived in central cities throughout our period of analysis but URC populations became increasingly suburban over the last several decades. The percentage of URC residents living in suburbs nearly doubled, from 18 percent in 1980 to 35 percent in 2008-2012, and remained nearly the same in 2015-2019 as in 2008-2012.

Table 5 also shows that the share of residents living in URCs was much higher in central cities than in suburbs throughout our period of analysis but the gap between URC percentages in central cities and suburbs remained the same. In 1980, 32 percent of central city residents lived in URCs, compared to only 4 percent of suburban residents, a gap of 28 percentage points. In 2015-2019, the corresponding figures were 37 percent and 9 percent, respectively, a gap of 28 percentage points as well. Within both central cities and suburbs, the URC share of the population displayed the same general trend as the nation as a whole, rising steadily from 1980 through 2008-2012 and then falling somewhat from 2008-2012 through 2015-2019.

The change in the URC share of the suburban population between 1980 and 2015-2019 varied widely among metropolitan areas. The metropolitan areas with the largest percentage point increases in the share of suburban residents living in URCs were located in retirement destinations (Lakeland-Winter Haven, FL; Las Vegas-Paradise, NV; Orlando-Kissimmee, FL; and Tampa-St. Petersburg-Clearwater, FL), areas that specialized in manufacturing or resource extraction and had difficulty recovering from large job losses in those industries (Youngstown-Warren-Boardman, OH-PA; Scranton-Wilkes Barre, PA; Shreveport-Bossier City, LA; and Flint, MI); and parts of California's Central Valley (Modesto and Bakersfield-Delano, CA). The growth in the share of suburban residents living in URCs in these areas

ranged from 14 percentage points in Tampa to 23 percentage points in Lakeland. At the other extreme, a diverse set of 10 metropolitan areas, including rapidly growing non-retirement areas in the South and West, saw percentage of the suburban population living in URCs decline (Honolulu, HI; San Francisco-Oakland-Fremont, CA; McAllen-Edinburg-Mission-TX; Colorado Springs, CO; Jacksonville, FL; Austin-Round Rock-San Marcos, TX;[11] Virginia Beach-Norfolk-Newport News, VA; Durham-Chapel Hill, NC; Albuquerque, NM; and Mobile, AL). These declines ranged from less than a percentage point in Honolulu, San Francisco, and McAllen to 10 percentage points in Mobile. The metropolitan areas with the largest declines in the URC share of the suburban population were generally larger than those with the largest increases. This finding mirrors our finding about changes in overall URC population shares. An explanation for it is likewise beyond the scope of this study and is worthy of future research.

In terms of the depth of disadvantage, central city URCs tended to have higher poverty rates than suburban URCs throughout our period of analysis. In 1980, 31 percent of central city URC residents had incomes below the poverty level, compared to 27 percent of suburban URC residents. In 2015-2019, the corresponding figures were 30 percent and 26 percent, respectively. Like those of URCs nationwide, the poverty rates of both central city and suburban URCs fluctuated within a narrow range with no clear trend. Meanwhile, the poverty rates of non-URC portions of both central cities and suburbs rose from 1980 through 2008-2012 and fell back somewhat by 2015-2019, although both remained higher than the respective 1980 rates. As was the case nationwide, the poverty rate of URCs relative to that of non-URCs declined from 1980 through 2008-2012 before increasing slightly in 2015-2019. In both central cities and suburbs, the decline in the relative poverty rate of URCs was driven mainly by an increase in the non-URC poverty rate during our period of analysis.

Table 5 also shows notable differences between central cities and suburbs in the responsiveness of URC population percentages and URC and non-URC poverty rates to national economic downturns and recoveries, with central cities outperforming suburbs on two key indicators during recovery periods. While the percentage of the suburban population living in URCs, like its national counterpart, fell during the recovery from the Great Recession (2008-2012 to 2015-2019) but did not return to its level of 2000,

the percentage of the central city population living in URCs responded more strongly to that recovery falling below its level of 2000. During the 1990s recovery, the central city non-URC poverty rate fell but the suburban non-URC poverty rate rose. In other respects, our indicators of economic disadvantage in central cities and suburbs responded to national economic downturns and recoveries in ways that resembled the nationwide patterns shown in Table 1.

URCs by Race/Ethnicity

Table 6 shows trends in the racial/ethnic composition of URC and non-URC populations. From 1980 through 2000, Blacks accounted for the largest share of the URC population. However, that share declined steadily and substantially over time, from 45 percent in 1980 to 30 percent in 2015-2019. In contrast, Blacks were a growing percentage of the non-URC population during this time. The white proportion of the URC population also fell, although less dramatically (from 35 percent in 1980 to 27 percent in 2015-2019) and with an increase in 2008-2012 followed by a decline in 2015-2019. Between 1980 and 2015-2019, the white proportion of the non-URC population fell more rapidly (by 27 percent) than the white proportion of the URC population (which fell by 22 percent), although whites accounted for the largest share of the non-URC population during our entire period of analysis. Both the Asian and Hispanic/Latino shares of the URC population doubled over the period of analysis, from 3 percent to 6 percent for Asians and from 17 percent to 34 percent for Hispanics/Latinos, while the Asian and Hispanic/Latino shares of the non-URC population tripled. Beginning in 2008-2012, Hispanics/Latinos were a plurality of URC residents and the gaps between the Hispanic/Latino, Black, and white shares of the URC population were much smaller than in prior years.

Table 6 also shows the share of all members of each racial/ethnic group (within the metropolitan areas included in this study) who lived in URCs during the period of analysis. The percentage of metropolitan Blacks living in URCs remained well above the percentage of all metropolitan residents living in URCs throughout the period of analysis but fell steadily from 54 percent in 1980 to 39 percent in 2015-2019. In contrast, the share of metropolitan whites living in URCs remained well below the overall share of metropolitan residents living in URCs but generally rose, from 6 percent in 1980 to 10 percent in

2008-2012; it was 9 percent in 2015-2019. The percentage of Asians living in URCs, which exceeded the overall metropolitan percentage in all years except 1980, rose slightly from 14 percent in 1980 to 16 percent in 2008-2012 but dropped to 12 percent in 2015-2019, its lowest level during the period of analysis. The share of Hispanics/Latinos living in URCs climbed from 38 percent in 1980 to 40 percent in 2008-2012 before dropping to 32 percent in 2015-2019.

In Table 7, we show how these racial/ethnic differences are patterned in cities and suburbs. Throughout the period of analysis, Blacks, Asians, and Hispanics were a higher percentage of central city URC residents than of suburban URC residents, while suburban URC residents were more likely to be white. Central city and suburban non-URC residents differed demographically in these same ways. The trends in these shares, however, have diverged, with both Black and white shares of URC residences falling in central cities and suburbs alike, but Black shares growing in non-URC cities and suburbs. This differed from the trends observed for Asians and Hispanics, who increased in shares in all areas – suburban and city URCs and non-URCs.

URC Transitions

While the focus of this analysis is on metropolitan variation in URC populations, it is useful to describe both how neighborhoods have transitioned into and out of URC status, as well as explore the neighborhood changes that are associated with those transitions. Accordingly, Table 8 documents decadal trends in the movement (or statis) of neighborhoods within the 183 metropolitan areas studies here, with the table showing both the number of tracts in/out of URCs at the start (rows) and ends (columns) of each decade between 1990 and 2015-19. The neighborhood level transitions in Table 8 largely mirror the metro-level trends shown in Table 1: since 1990, there has been a steady increase in the number of tracts stably in URCs (in the northeast corner of each matrix) and a corresponding decline in the number of tracts never in URCs (southwest corners). This reflects both the modest increases in the URC population shares, but also the growing number of neighborhoods that are spatially constituent of URC communities. The table also demonstrates that, with the exception of the most recent period, rates of entry into URCs

(southwest corners) exceeded the rates of exits (northeast corners). From 1990 to 2000, for example, about 1.9% of tracts exited URCs, while 4.5% entered over the same period.

In Table 9, we descriptively explore the correlates associated with these transitions using tract-level versions of the same ecological variables in the metropolitan-level regression models. For parsimony, we simply show differences in these variables over corresponding time periods. To calculate differences, we first separate tracts into four categories among each decadal period: “entered URC,” “exited URC,” “never URC," and "stably URC." We then calculate the average proportion (or median in the case of rent) for each of the four groupings of tracts in the beginning and end time period of each decadal change. Finally, we find the difference between these average proportions. For example, among tracts that were not in the URC in 1990 but entered the URC in 2000, the difference in average proportion of immigrants between 1990 and 2000 is .077 (fourth row, first column of Table 9 in the “entered URC” category). In other words, there was a 7.7 percentage point increase in immigrants among tracts that entered the URC in 2000. The results in Table 9 indicate that relative to comparison tracts that were never in a URC during a decade, those that entered URC status, had slower growth in median rents and college-educated populations, steep declines in homeowners, and larger increases in Latino and black populations. Conversely, those tracts that exited URCs – relative to their stably URC counterparts – had increasing rents, growing numbers of homeowners and college graduates, and slower growth (or declines) in Hispanic and black populations.

Descriptive Case Studies: Sacramento, Austin, and Flint

To illustrate the trends described above more concretely and show how the physical location of URCs changed within selected metropolitan areas, we examine three cases: Sacramento-Roseville-Arden Arcade, CA, which represents URC change in a broad general sense; Austin-Round Rock-San Marcos, TX, which had the largest percentage-point decline in the share of its population living in URCs during our period of analysis; and Flint, MI, which had the largest percentage-point increase in its URC population share during that period. Table 10 shows basic trends in URC populations for each area and the metro-specific maps in Figures 1, 2, and 4 show the locations of URCs in 1980 and 2015-2019.

Sacramento

The Sacramento-Roseville-Arden Arcade, CA metropolitan area ("Sacramento") is unique in many ways: home to the capital city of the largest state in the nation, a major educational and health care hub, and one of the most racially diverse metros in the country. It also exemplifies many of the emerging trends in URC populations that characterize the national-level data shown above.

At the start of the study period in 1980, roughly 12 percent of Sacramento's population resided in an URC (compared to 14 percent nationally), and the resulting trends tracked closely with national patterns, spiking to 21 percent in 2008-2012 before subsiding to about 19 percent in the most recent period. Demographic and socioeconomic patterns in Sacramento also mirrored many broader trends in metropolitan America: as in many other areas, Sacramento's elderly population share expanded, the share of the population with college degrees grew, and household incomes increased. Real median household income rose by about 19 percent between 1980 and 2015-2019 in Sacramento, similar to the 23 percent growth in real U.S. median household income over the same period.

Perhaps most noteworthy is that Sacramento experienced extraordinary racial change over the last several decades. The white population share, for example, dropped from 79 percent in 1980 to a bare majority (52 percent) in 2015-2019. At the same time, nonwhite population percentages grew substantially: the Hispanic population share more than doubled (from 10 percent to 22 percent) and the Asian share nearly tripled (from 5 percent to 14 percent). This diversification was due in part to increased foreign-born populations, as it was nationally. The immigrant population share grew especially rapidly in Sacramento, from 7 percent in 1980 to 18 percent by 2015-2019. This growing diversity has not however led to increased residential segregation, has held mostly steady (and relatively low) over the last several decades.

The URC population in Sacramento also exemplifies several broader trends. Emblematic of the region's ethnoracial diversification, URCs in Sacramento underwent considerable racial change. In 1980, the URC population was majority white (53 percent) with approximately equal shares of Black (18 percent) and Hispanic (19 percent) residents. By 2015-2019, the URC population in Sacramento was less

than one-third white and one-eighth Black, but the Asian share grew to 16 percent and the Hispanic share to 33 percent. At the same time, the URC population heavily suburbanized, from just one-quarter suburban in 1980 to nearly two-thirds by 2015-2019.

From 1980 to 2015-2019, the number of URC tracts in the region rose by 123 percent, from 39 to 87, while the total URC population rose by 240 percent, from 129,000 to 437,000. As a result, the average URC tract population grew by 52 percent, from 3308 to 5018.

The map of Sacramento in Figure 1 highlights several key features of URCs in the region. First, URC communities were largely concentrated in the central core in the 1980s, but as the downtown underwent a process of revitalization and/or gentrification in the Midtown and Oak Park neighborhoods, the URC population shifted to West Sacramento and to the east side of the city. Second, the suburbanization of poverty led to substantial growth in suburban URCs, which became especially prevalent in the inner-ring suburbs in the northeast as well as in outlying areas such as Woodland.

Overall, the location of URC tracts in the region changed considerably while the URC area grew and the URC population grew even more rapidly, resulting in an increase in the population density of the region's URCs. The increase in density has both positive and negative implications. It suggests that a growing consumer market may create opportunities for economic development in the URCs. However, because the URC poverty rate rose during the last four decades, it also means that URC residents became more concentrated in neighborhoods with higher levels of poverty.

Austin

The Austin-Round Rock-San Marcos, TX, metropolitan area ("Austin") is home to the state capital and the flagship state university. Over the last several decades, the region experienced very rapid population growth (nearly quadrupling between 1980 and 2015-2019, from 537,000 to 2.1 million), that coincided with considerable growth in information technology industries.[12] Reflecting this growth and its connection to education and governance, Austin has consistently ranked as among the most educated large metropolitan areas in the country (45 percent in both 1980 and 2015-2019).

Austin has historically had a large portion of its population living in URCs (22 percent in 1980 compared to 14 percent for all metro areas). By 2015-2019, however, its URC population share had dropped by about 12 percentage points to 10 percent, well below the overall metro URC share of 18 percent. This remarkable decline in URC share is likely linked to several major trends revealed in our regression analysis. Most important is the income growth in the region: real median household income rose by 55 percent between 1980 and 2015-2019, far outstripping the 23 percent growth in real U.S. median household income over the same period.[13] Similarly, its overall poverty rate fell by about one-third between 1980 and 2015-2019, compared with a national decline of about 18 percent. Demographically, Austin has experienced substantial change, with a growing population and a growing highly educated population (college graduates composed nearly half of adults 25 years and older). Austin has also experienced substantial ethnoracial diversification, with a white population that declined by 50 percent and a substantial increase in the Hispanic/Latino population. Despite this diversity, residential segregation in Austin is comparatively low, with a Theil's H of .16 in 2015-2019 (compared to .25 for the broader set of metropolitan areas).

Unlike the metropolitan U.S. generally, where the URC poverty rate declined relative to the non-URC poverty rate, Austin's relative URC poverty rate was higher in 2015-2019 (when its URC poverty rate was 2.5 times its non-URC poverty rate) than in 1980 (when its URC rate was double its non-URC rate) and fluctuated during the intervening years. Although both URC and non-URC poverty rates in Austin were lower in 2015-2019 than in 1980 (albeit with considerable fluctuation in intervening years), the non-URC poverty rate dropped more rapidly than the URC poverty rate. This contrasts with the metropolitan U.S. as a whole, where an increase in the non-URC poverty rate was primarily responsible for a drop in the relative URC poverty rate.

Like URCs in general, Austin's URCs became less white, less Black, more Asian, and more Hispanic/Latino during our period of analysis. In 1980, Austin's URCs were much less Black (19 percent Black) than those in metropolitan America generally (45 percent Black) and they remained less Black in 2015-2019 (12 percent compared to 30 percent). The very small percentage of their residents who were

Asian doubled between 1980 and 2015-2019 but was about one third that of metropolitan areas as a whole in both years. Hispanics/Latinos were a much higher percentage of the URC population in Austin (35 percent in 1980 and 59 percent in 2015-2019) than in metropolitan America as a whole (17 percent in 1980 and 34 percent in 2015-2019). In metropolitan America generally, Blacks started out (in 1980) as the largest racial/ethnic group in URCs and Hispanics/Latinos as the second largest and these two groups reversed relative sizes later on. In Austin, Hispanics/Latinos were the largest group throughout our period of analysis, followed by whites.

From 1980 to 2015-2019, the number of URC tracts in the region fell slightly from 40 to 38, although the decline occurred after a rapid and steady increase to 71 tracts in 2008-2012. The total URC population rose by 83 percent, from 117,000 to 214,000. As a result, the average URC tract population nearly doubled, from 2925 to 5632. The rapid increase in URC population density may create new economic development opportunities in the URC even as more people were exposed to concentrated poverty.

As shown in Figure 2, the physical location of many of Austin's URCs changed dramatically during our period of analysis even as the URC area increased and the URC population increased even more dramatically. In 1980, Austin's URCs occupied a broad swath of the city of Austin extending from the west side through the central area to the east side. In 2015-2019, some of these areas remained URCs but most of the former URC areas on the west side, some in the central area, and a small portion of the east side were no longer URCs. At the same time, new URCs emerged in the northern, southern and eastern parts of the city, generally further from the center of the region than the original URCs. In addition, a suburban URC existed in San Marcos, south of the city, in both 1980 and 2015-2019. Although its boundaries did not change between those years, its population grew more rapidly than that of Austin's URCs, accounting for the growth in the suburban percentage of the region's URC population.

A closer look at data for individual tracts whose URC status changed between 1980 and 2015-2019 suggests that tracts on Austin's west side and central area may have gentrified and that some of their residents may have been displaced. The tracts that were URCs in 2015-2019 but not in 1980, located

primarily in outlying northern, eastern, and southern parts of Austin, saw an increase in their average poverty rate from 9.6 percent in 1980 to 27 percent in 2015-2019. Tracts 18.05, 18.19, and 18.20, a cluster of tracts in the outlying northern part of Austin, saw increases in their respective poverty rates from 14.8 percent to 30.3 percent, 8.7 percent to 31.4 percent, and 8.7 percent to 31.5 percent, all doubling or tripling their initial poverty rates. These changes in poverty rates were driven by the poverty population growing at a faster rate than total population. Formerly URC tracts in the west and central portions of the city saw a decrease in their average poverty rate from 28.7 percent to 14.4 percent. For example, the poverty rate of tracts 13.05 and 11, western tracts that were in the URC in 2015-2019 but not in 1980, decreased from 29.5 percent to 11.8 percent and from 31.8 percent to 11.7 percent, respectively. For tract 13.05, the drop in poverty rate was driven by the poverty population decreasing at a faster rate than decreasing total population. The decrease in poverty rate for tract 11 was due to the poverty population increasing at a slower rate than total population. Some of the 1980 URC tracts, such as tracts 4.01 and 5, maintained high poverty rates. However, their median household incomes climbed above the metropolitan median, so they were disqualified as URC tracts. Overall, among formerly URC tracts, the total population grew (63,675 to 82,283) and the poverty population fell (17,782 to 11,637). Among tracts that entered the URC after 1980, the total population grew (51,931 to 107,214) and the poverty population grew (4,857 to 28,531). These two trends are suggestive of displacement of people living in poverty from the center and west side to the outlying northern areas of Austin.

Additionally, changes in tract median rent relative to metro median rent in Austin from 1980 to 2015-19 (figure 3) further suggest displacement. In this figure, blue areas represent changes from above metro median rent to below or equal to metro median rent. These blue areas include tracts formerly within the URC in the center and west side of Austin. Changes from below or equal to metro median rent to above metro median rent (pink areas) include the newly added portion of the URC in the outlying northern part of Austin. In addition to the decreasing poverty population in the center and west side of Austin and increasing poverty population in the outlying northern area of Austin, the increasing rent in

the center and west side of Austin and decreasing rent in the outlying northern areas of Austin suggest displacement of people living in poverty as well as a changing rental landscape.

The evolution of Austin's URCs over the last four decades had mixed implications for the well-being of people exposed to concentrated poverty. On the positive side, the share of the population living in URCs fell and the increased population density of URCs may have improved economic development opportunities in those places. At the same time, those who lived in URCs became more concentrated in higher-poverty neighborhoods and some residents of previous URCs may have been displaced as those areas gentrified. URC residents' physical access to jobs also worsened as their commute times increased.[14]

Flint

During our period of analysis, the Flint metropolitan area (which we refer to as "Flint") experienced substantial population loss (from 450,000 in 1980 to 408,000 in 2015-2019), a huge loss of manufacturing jobs (from 51,800 in 1990 to less than 12,500 in 2017 according to Bureau of Labor Statistics Current Employment Statistics data), and some growth in professional and business services (from 8300 to 16,000) and health care and social assistance (from 17,900 to 24,300). It also had a very low immigrant population percentage (2-3 percent throughout period of analysis) and an aging population.

In 1980, Flint had a lower proportion of its population living in URCs (11 percent) than the metropolitan U.S. as a whole (15 percent for the metropolitan areas with URCs) but its URC population share exceeded the overall metropolitan share in all subsequent years of our analysis. Between 1980 and 2015-2019, its URC population share grew by about 26 percentage points to 37 percent, far exceeding the overall metropolitan URC share of 18 percent. Flint displays three of the major trends that our nationwide regression analysis shows were associated with a rising URC population share: falling incomes, a shrinking share of residents with college degrees, and a rising metropolitan-wide poverty rate. More specifically, while median household incomes increased by a modest 23 percent since 1980, they dropped by 25 percent between 1980 and 2015-2019 in Flint. Correspondingly, poverty expanded, increasing from

11 percent to 19 percent over the same period. In terms of demographic composition, Flint is not only one of few metropolitan areas with a population in steady decline, but one in which the older population is growing at an accelerated clip (between 1980 and 2015-2019, Flint's older population (aged 65 and up) share grew by 112 percent compared to 41 percent nationally). Flint's racial composition has also been relatively stable, with a racial distribution that has remained about roughly 70 percent white and 30 percent black for several decades. Flint also remains one of the most segregated metros in the country, with a Theil's H of .36 in 2015-2019, the sixth highest score among the metropolitan areas included in this study).

The poverty rate of Flint's URCs relative to its non-URC areas declined from 2.7 in 1980 to 1.9 in 2015-2019. This decline was proportionally greater than the relative URC poverty rate decline (from 2.7 to 2.3) in metropolitan America as a whole. Both URC and non-URC poverty rates in Flint were higher in 2015-2019 than in 1980, although with some fluctuation in the URC poverty rate in the intervening year intervening years. The increase in the non-URC poverty rate was even more rapid than in the metropolitan U.S. as a whole and was primarily responsible for the drop in Flint's relative URC poverty rate.

Flint started our period of analysis with about the same percentage of its URC population living in suburbs (18 percent) as in U.S. metropolitan areas as a whole (17 percent) and its URC population suburbanized about as much as the URC population of U.S. metropolitan areas as a whole. In 2015-2019, Flint's URC population was 37 percent suburban, slightly above the 35 percent suburban share of the overall U.S. metropolitan URC population.

Like URCs in general, Flint's URCs became markedly less Black and slightly more Hispanic/Latino during our period of analysis. However, in other respects the racial/ethnic composition of Flint's URCs and its trends during our period of analysis were quite different from those of U.S. metropolitan areas as a whole. In 1980, Flint's URC residents were much more likely to be Black (60 percent Black) than those in metropolitan America generally (45 percent Black) and they remained more likely to be Black in 2015-2019 (43 percent compared to 30 percent). Asians and Hispanic/Latinos were

only small percentages of Flint's URC population. Only 1 percent of Flint's URC residents were Asian in 1980 and this percentage fell by half between 1980 and 2015-2019. Hispanics/Latinos were just 3 percent of Flint's URC population in 1980 and just 4 percent in 2015-2019. Most notably, whites were a large and growing share of Flint's URC residents (35 percent in 1980 and 47 percent in 2015-2019) and were the largest racial/ethnic group in Flint's URCs in 2008-2012 and 2015-2019.

In 1980, Flint's URCs were located primarily in the city of Flint in areas north, south, and immediately west of the downtown but they included only a portion of the city (figure 4). They also included a suburban area along the city's northern border. In 2015-2019, all these communities were still URCs. In addition, the 2015-2019 URCs included new communities contiguous to the original URCs but extending considerably further from the city center in all directions. They included almost the entire city of Flint (except for the airport and a residential area in the southern part of the city) as well as additional suburban communities. The general pattern was thus one of expansion of URCs outward from their 1980 locations.

The general outward expansion of the URCs was accompanied by population changes that differed in different URC tracts. In general, the tracts that were part of the 1980 URCs hollowed out during the next 40 years, losing both total population and poverty population (figure 5). A larger middle ring of tracts in the central city and inner suburbs that became URC tracts between 1980 and 2015-2019 saw increases in their poverty population despite declines in total population. A few of the outermost (primarily suburban) tracts that became URC tracts between 1980 and 2015-2019 saw increases in both their poverty population and their total population. This pattern of hollowing out from the core, outward migration of the poverty population into newly formed URCs, and even further outward migration of the poverty population and some of the non-poverty population has especially negative implications for the well-being of both residents who remained in the original URC tracts and those who moved into the middle-ring tracts.

The overall pattern of URC evolution in Flint differed markedly from that in Sacramento and Austin. The outward expansion of Flint's URCs was accompanied by a reduction in URC population

density despite growth in the URC population. Between 1980 and 2015-2019, the number of URC tracts more than quadrupled from 13 to 58, while the URC population approximately tripled, from 51,000 to 152,000. As a result, the average URC tract population fell from 3923 to 2621, creating a substantial challenge for economic development in the URCs, particularly in the vast majority of URC tracts that lost population during the last 40 years.

Discussion

In this paper, we provide a demographic overview of the trends in under-resourced populations in larger metropolitan areas. The approach we use borrows from existing research on concentrated poverty, but importantly incorporates spatial contiguities to capture the clusters of disadvantage that checker the urban and suburban landscape. Our findings demonstrate that under-resourced community population shares have grown steadily since 1980, underscoring the continued salience – if not growing crisis – associated with populations exposed to deep disadvantage in their neighborhoods of residence. National economic recoveries sometimes interrupted this trend but were not sufficient to reverse it. The results of our analysis also pinpoint a number of factors associated with growing URC shares, most importantly those associated with deteriorating economic conditions (i.e., increased poverty and reduced incomes), as well as demographic forces that contribute to growing racial segregation.

At the same time, URC populations have become more racially and ethnically diverse, although Blacks and Hispanic/Latinos continue to make up large shares of URC populations. This suggests that multi-racial and multi-ethnic political coalitions may be important and perhaps necessary to achieve policy changes that would reduce concentrated poverty. At the very least, policymakers interested in combating concentrated poverty should be sensitive to the growing racial diversity of URCs. Our finding that URC populations have become more suburbanized shows that not only poverty and high-poverty neighborhoods but also large geographic concentrations of poverty have been suburbanizing. Allard (2017) documents the paucity of social service supports for low-income residents in suburbs compared to central cities and points out that the suburbanization of poverty is likely reducing low-income residents' ability to access the services they need. The suburbanization of URCs only exacerbates this problem.

Because URCs have more deleterious consequences for their residents than does poverty alone, the residents of suburban URCs need even more social services than they would if they lived in suburbs with less concentrated poverty.

Place-based economic development policies in high-poverty areas have been directed mainly toward central cities and rural areas. Although further piloting and testing of those policies is needed, the growth of suburban URCs suggests that they should be extended to suburbs as well.

Yet a large majority of URC residents still live in central cities and many Black and Hispanic/Latino residents still live in central city URCs. The concerns of the mid- to late 20th century "urban crisis" remain important and need renewed policy attention even as URCs suburbanize and diversify. In view of the layered challenges that central city URCs with large Black and Hispanic/Latino populations face, these communities are likely to continue to need both people-based and place-based policy interventions. In both central cities and suburbs, the URC approach enables policymakers to better target place-based policies to the communities they are intended to serve, excluding neighborhoods with large student and institutionalized populations and focusing on groups of contiguous high-poverty neighborhoods.

Our analysis also suggests that economic development policies and strategies at the metropolitan level can influence the presence and size of URCs. We find that metropolitan areas with more rapid income growth and poverty reduction, slower population growth (driven by out-migration [Rogers and Wilder 2022]), increased shares of college graduates, and reduced racial segregation saw declines or less rapid increases in the relative size of their URCs. This finding may have implications for the two major approaches that local economic development policy has taken: (1) the traditional approach designed to increase the number of jobs and (2) approaches designed to raise regional per capita income by attracting and retaining high earners (Florida 2002). Although our analysis is not causal, it is possible that policies that promote job growth increase the proportion of metropolitan residents living in URCs. while those that promote regional per capita income growth through the attraction and retention of college graduates may reduce that proportion. However, extremely rapid income growth and growth of the college graduate

population may or may not make current residents better off. In extremely high-income regions with very high shares of college graduates (e.g., Washington, San Francisco, San Jose, Austin), it is uncertain whether the growth in the proportion of the population that is made up of high-income college graduates is benefiting existing low-income residents, displacing them into neighboring metropolitan areas or rural areas, or both. Our Austin case study suggests that displacement may be occurring as URCs shift away from what have become higher-income locations. To the extent that displacement is occurring, displaced residents who remain in the same metropolitan area may relocate to areas with fewer social services and weaker community networks.

Although our analysis is not causal, it is consistent with the view that reducing the overall metropolitan poverty rate and reducing racial segregation may be effective policy directions for reducing the number of people who live in URCs without displacing existing residents. Other research (Massey and Fischer 2000, Quillian 2012) has found that racial segregation and the overall poverty rate are major sources of geographic variation in the extent concentrated poverty and, therefore, are also consistent with this view, although Iceland and Hernandez (2017) find that income segregation is more important than racial segregation in accounting for intermetropolitan variation in concentrated poverty rates.

Housing and land use policies, including early 20th century redlining, the earlier absence of and later insufficient enforcement of laws against racial discrimination by real estate brokers and lenders, and zoning and building restrictions played key roles in creating racially segregated neighborhoods (Rothstein 2017). By excluding lower-income residents from many (largely suburban) neighborhoods, they also helped create many of today's URCs. Eliminating exclusionary housing and land use policies that continue to exist and compensating for the ongoing effects of past exclusionary policies should be part of any policy effort to reduce concentrated poverty and expand the residential choices of current URC residents.

Our findings are relevant primarily to the residents of URCs themselves but they are also relevant to residents of the non-URC portions of metropolitan areas. We find that growing poverty rates in non-URC areas were responsible for the decline in the relative poverty rate of URCs. This suggests that there

is a growing need to provide social services and people-based policy interventions (e.g., workforce development, improving job quality) outside of URCs.

Our analysis shows that existing URCs expanded and new URCs emerged over the last 40 years. The increase in poverty rates outside of URCs raises the possibility that even more new URCs will emerge in the future. Although place-based policies in the past were intended to spur economic development in places that already suffered from high concentrations of poverty, our findings suggest that there is also a need for metropolitan-scale or multi-community strategies to prevent existing URCs from expanding and new ones from emerging. These strategies should be implemented on multi-community or metropolitan basis and meet the needs of both current URC residents and non-URC residents who are living in poverty.[15]

Conclusion

If inclusion means increasing access to opportunity for more people, then U.S. metropolitan areas have become less inclusive over the last four decades by the criteria used in our analysis. More people and places have had to deal with concentrated poverty even as some of the spatial and racial/ethnic differences that long framed researchers' and policymakers' understanding of concentrated poverty have changed. Economic disadvantage has become less concentrated in central cities and less concentrated among Blacks even as large concentrations of poverty continue to exist in central cities and Black residents continue to be a large share of URC residents. There is a need to address the new issues of suburbanization and racial diversification of URCs and the growth of suburban poverty outside of URCs in addition to the continuing concentrations of poverty in central city URCs that are disproportionately Black and Hispanic/Latino.

In addition to showing how the geography and demographics of concentrated poverty have changed over the last four decades, we have shown that the URC approach complements existing measures of tract-based measures of concentrated poverty by incorporating the spatial arrangements and clusters that lead to the most pernicious impacts of disadvantage. The URC approach alerts policymakers

to the types of places e.g., the South, small and mid-sized metropolitan areas, and suburbs) where the overlap between URCs and individual high-poverty neighborhoods is growing. In those places, concentrated poverty is becoming increasingly clustered spatially and the need for policies to prevent new URCs from forming is especially great. Analytically, the URC approach is most useful in places where the overlap is low (e.g., the South and West, small and mid-sized metropolitan areas, suburbs, metropolitan areas with large student populations or large semirural or exurban fringes) because those are the places where the single-tract approach is least capable of identifying policy-relevant agglomerations of concentrated poverty. The URC approach is also superior to the single-tract approach for analyzing long-term trends in the extent to which concentrated poverty is spatially clustered.

Our case studies point to the possibility that the spatial evolution of URCs differs in different types of metropolitan areas. To what extent is the Flint pattern of hollowing out of older URC neighborhoods combined with the geographic expansion of the URCs and widespread reduction in URC population density characteristic of other metropolitan areas where the URC share is rising rapidly? To what extent do other regions where the URC population share is declining exhibit the Austin pattern of geographic shifts in the URCs which may be a result of gentrification and displacement, combined with increasing URC population density and reduced access to jobs? These are questions for future research.

References

Allard, S. (2017). Places in need. New York: Russell Sage Foundation.

Allard, S., Small, M. (2013). Reconsidering the urban disadvantaged: The role of systems, institutions, and organizations. Annals of the American Academy of Political and Social Science, 647, 6-20.

Bishaw, A. (2005). Areas with concentrated poverty: 1999. Census 2000 Special Report, https://www.census.gov/content/dam/Census/library/publications/2005/demo/censr-16.pdf.

Bishaw, A. (2014). Changes in areas with concentrated poverty: 2000 to 2010. American Community Survey Report, https://community-wealth.org/sites/clone.community-wealth.org/files/downloads/report-bishaw.pdf.

Chetty, R., Hendren, N., Katz, L. (2016). The effects of exposure to better neighborhoods on children: New evidence from the Moving to Opportunity experiment. American Economic Review, 106, 855-902.

Citro, C., Michael, R. (1995). Poverty thresholds. In Measuring Poverty: A New Approach, ed. C. Citro and R. Michael, 97-98. Washington: National Academies Press.

Covington, K. (2015). Poverty suburbanization: Theoretical insights and empirical analyses. Social Inclusion, 3, 71-90, http://scholarworks.csun.edu/bitstream/handle/10211.3/138604/CovingtonKenya-PovertySuburbanization2015.pdf?sequence=1.

Duranton, G., Venables, A. (2018). Place-based policies for development. Working paper 24562. Cambridge, MA: National Bureau of Economic Research.

Dwyer, R. (2010). Poverty, prosperity, and place: The shape of class segregation in the age of extremes. Social Problems, 57, 114-137.

Eberhardt, P., Wial, H., Yee, D. (2020). The new face of under-resourced communities. Boston: Initiative for a Competitive Inner City.

Eckert, F., Fort, T., Schott, P., Yang, N. (2021). Imputing missing values in the U.S. Census Bureau's County Business Patterns. Working paper 26632. Cambridge, MA: National Bureau of Economic Research.

Eckert, F., Gvirtz, A., Liang, J., Peters, M. (2020). A method to construct geographical crosswalks with an application to U.S. counties since 1790. Working paper 26770. Cambridge, MA: National Bureau of Economic Research.

Florida, R. (2002). The rise of the creative class. New York: Basic.

Fox, L., Burns, K. (2021). The supplemental poverty measure: 2020. Current Population Reports P60-275. Washington: U.S. Census Bureau, https://www.census.gov/content/dam/Census/library/publications/2021/demo/p60-275.pdf.

Frey, W. (2018). Diversity explosion. Washington: Brookings Institution Press.

Galster, G. (2012). The mechanism(s) of neighborhood effects: Theory, evidence, and policy implications. In Neighbourhood effects research: New perspectives, ed. M. van Ham, N. Bailey, L. Simpson, and D. Maclennan, 23-56. Dordrecht: Springer.

Galster, G., Cutsinger, J., Malega, R. (2008). Estimating the costs of concentrated poverty in American neighborhoods. Unpublished paper,

Galster, G., Quercia, R., Cortes, A., Malega, R. (2003). The fortunes of poor neighborhoods. Urban Affairs Review, 39, 205-227.

Galster, G., Sharkey, P. (2017). Spatial foundations of inequality: A conceptual model and empirical overview. RSF: The Russell Sage Foundation Journal of the Social Sciences, 3, 1-33, https://www.rsfjournal.org/content/rsfjss/3/2/1.full.pdf.

Gelfand, H., Looney, A. (2018). Learning from Opportunity Zones: How to improve place-based policies. Washington: Brookings Institution.

Hall, M., Lee, B. (2010). How diverse are U.S. suburbs? Urban Studies, 47, 3-28.

Hooks, G., Lobao, L., Tickamyer, A. (2016), Spatial inequality and rural areas. In Routledge International Handbook of Rural Studies, ed. M. Schucksmith and D. Brown, 462-476. London: Routledge.

Howell, A., Timberlake, J. (2014). Racial and ethnic trends in the suburbanization of poverty, 1980-2010. Journal of Urban Affairs, 36, 79-98.

Iceland, J., Hernandez, E. (2017). Understanding trends in concentrated poverty: 1980–2014. Social Science Research, 62, 75-95.

Jargowsky, P. (2015). Architecture of segregation. New York: Century Foundation.

Jargowsky, P. (2013). Concentration of poverty in the new millennium. New York: Century Foundation and Rutgers Center for Urban Research and Education.

Jargowsky, P. (2003). Stunning progress, hidden problems: The dramatic decline of concentrated poverty in the 1990s. Washington: Brookings Institution.

Jargowsky, P. (1997). Poverty and place. New York: Russell Sage Foundation.

Jargowsky, P., Wheeler, C. (2018). Estimating income statistics from grouped data: Mean-constrained integration over brackets. Sociological Methodology, 48, 337-374.

Kalleberg, A. (2013). Good jobs, bad jobs. New York: Russell Sage Foundation.

Kneebone, E. (2017). The changing geography of U.S. poverty. Testimony before House Ways and Means Committee, Subcommittee on Human Resources, https://www.brookings.edu/testimonies/the-changing-geography-of-us-poverty/.

Kneebone, E., Garr, E. (2010). The suburbanization of poverty: Trends in metropolitan America, 2000 to 2008. Washington: Brookings Institution.

Kneebone, E., Holmes, N. (2016). Concentrated poverty in the wake of the Great Recession. Brookings Metropolitan Policy Program presentation, https://www.housingvirginia.org/wp-content/uploads/2016/06/Richmond-4-18-16.pdf.

Kneebone, E., Nadeau, C., Berube, A. (2011). The re-emergence of concentrated poverty: Metropolitan trends in the 2000s. Washington: Brookings Institution.

Krivo, L., Peterson, R. (1996). Disadvantaged neighborhoods and urban crime. Social Forces, 75, 619-648.

Lee, B., Iceland, J., Sharp, G. (2012). Racial and ethnic diversity goes local: Charting change in American communities over three decades. US2010 Project, https://s4.ad.brown.edu/Projects/Diversity/Data/Report/report08292012.pdf.

Lichter, D., Schafft, K. (2016). People and places left behind: Rural poverty in the new century. In Oxford handbook of the social science of poverty, ed. D. Brady and L. Burton, 317-340. New York: Oxford University Press.

Logan, J., Xu, Z., Stults, B. (2014). Interpolating U.S. decennial tract data from as early as 1970 to 2010: A longitudinal tract database. Professional Geographer, 66, 412-420.

Ludwig, J., Duncan, G., Gennetian, L., Katz, L., Kessler, R., Kling, J., Sanbonmatsu, L. (2012). Neighborhood effects on the long-term well-being of low-income adults. Science, 337, 1505-1510.

Madden, J. (2003). The changing spatial concentration of income and poverty among suburbs of large U.S. metropolitan areas. Urban Studies, 40, 481-503.

Manson, S., Schroeder, J., Van Riper, D., Kugler, T., Ruggles, S. (2020). IPUMS National Historical Geographic Information System: Version 15.0 Household Income and Aggregate Household Income in 1979, 1989, 1999, 2008-2012, and 2015-2019. Minneapolis: IPUMS. http://doi.org/10.18128/D050.V15.0.

Massey, D., Denton, N. (1988). The dimensions of racial segregation. Social Forces, 67, 281-315.

Massey, D., Fischer, M. (2000). How segregation concentrates poverty. Ethnic and Racial Studies, 23, 670-691.

Missouri Census Data Center (2021). Geocorr 2014 census tract to place correspondence list using 2010 Census geography and population weights. Available from https://mcdc.missouri.edu/applications/geocorr2014.html.

Murphy, A., Wallace, D. (2010). Opportunities for making ends meet and upward mobility: Differences in organizational deprivation across urban and suburban poor neighborhoods. Social Science Quarterly, 91, 1164-1186.

Neumark, D., Simpson, H. (2015). Place-based policies. In Handbook of regional and urban economics, vol. 5B, ed. G. Duranton, J. Henderson, and W. Strange, 1197-1287. Amsterdam: North-Holland.

Parker, Emily, Laura Tach, and Cassandra Robertson. (2022). "Do Federal Place-Based Policies Improve Economic Opportunity in Rural Communities?" *RSF: The Russell Sage Foundation Journal of the Social Sciences*.

Partridge, M., Rickman, D. (2006). The geography of American poverty. Kalamazoo, MI: W.E. Upjohn Institute for Employment Research.

Peters, D. (2009). Typology of American poverty. International Regional Science Review, 32, 19-39.

Quillian, L. (2012). Segregation and poverty concentration: The role of three segregations. American Sociological Review, 77, 354-379.

Raphael, S., Stoll, M. (2010). Job sprawl and the suburbanization of poverty. Washington: Brookings Institution.

Ricketts, E., Sawhill, I. (1988). Defining and measuring the underclass. Journal of Policy Analysis and Management, 7, 316-325.

Rogers, L. and K. Wilder. (2022). Domestic Migration Plays Larger Role in Population Growth of Many Counties in Recent Years. America Counts: Stories. U.S. Census Bureau.

Rothstein, R. (2017). The color of law. New York: Liveright

Small, M., Newman, K. (2001). Urban poverty after *The Truly Disadvantaged*: The rediscovery of the family, the neighborhood, and culture. Annual Review of Sociology, 27, 23-45.

Social Explorer (2017). Reallocating Census data: How Social Explorer makes cross-decade comparisons possible.

Turner, M., Gourevitch, R. (2017). How neighborhoods affect the social and economic mobility of their residents. U.S. Partnership on Mobility from Poverty Memo. Washington: Urban Institute, https://www.mobilitypartnership.org/publications/how-neighborhoods-affect-social-and-economic-mobility-their-residents.

Turner, M., Edelman, P., Poethig, E., Aron, L. (2014). Tackling persistent poverty in distressed urban neighborhoods. Washington: Urban Institute, https://www.urban.org/sites/default/files/publication/22761/413179-tackling-persistent-poverty-in-distressed-urban-neighborhoods_0.pdf.

U.S. Census Bureau. (2021). Substantial changes to counties and county equivalent entities 1970-present. Washington: U. S. Census Bureau, https://www.census.gov/programs-surveys/geography/technical-documentation/county-changes.html.

U.S. Department of Agriculture Economic Research Service. (2020). Rural-urban commuting area codes. Washington: U.S. Department of Agriculture Economic Research Service, https://www.ers.usda.gov/data-products/rural-urban-commuting-area-codes.aspx.

U.S. Government Accountability Office (2010). Revitalization programs: Empowerment Zones, Enterprise, Communities, and Renewal Communities. GAO-10-464R. Washington.

Wilson, W. (2008). The political and economic forces shaping concentrated poverty. Political Science Quarterly, 123, 555-571.

Wilson, W. (1996). When work disappears. New York: Knopf.

Wilson, W. (1987). The truly disadvantaged. Chicago: University of Chicago Press.

York-Cornwell, E., Hall, M. (2017). Neighborhood problems across the rural-urban continuum: Geographic trends and racial and ethnic disparities. Annals of the American Academy of Political and Social Science, 672, 238-256.

Table 1. Trends in URC Population and Poverty Rate

	Proportion of Population in URC	URC Poverty Rate	Non-URC Poverty Rate	URC Poverty Rate/Non-URC Poverty Rate
1980	.147	.302	.079	3.841
1990	.160	.317	.082	3.876
2000	.172	.294	.082	3.590
2008-2012	.213	.310	.099	3.136
2015-2019	.180	.289	.094	3.082

Note: Weighted by total population.

Table 2. OLS Estimates of Percent of Metro Residents in URCs, 2015-2019

Metro population (ln)	.0134	(.0049)	**
Median Household Income	-.0013	(.0009)	
Income Inequality (80/20)	.0216	(.0132)	
Poverty Rate	.0152	(.0025)	***
Percent Under Age 18	-.0006	(.0029)	
Percent Age 65 or Older	-.0017	(.0023)	
Percent Non-Hispanic Black	.0022	(.0006)	***
Percent Non-Hispanic Asian	.0011	(.0009)	
Percent Hispanic or Latino	.0020	(.0005)	***
Racial Segregation (H)	-.0009	(.0007)	
Percent Foreign-Born	-.0004	(.0011)	
Percent College Educated	-.0006	(.0009)	
Unemployment Rate	-.0043	(.0035)	
Percent Manufacturing Jobs	-.0007	(.0009)	
Percent Homeowners	.0005	(.0011)	
Percent New Housing Units	.0009	(.0016)	
Median Rent	-.0001	(.0000)	
Region (Northeast=ref)			
Midwest	-.0061	(.0125)	
South	-.0519	(.0148)	***
West	-.0293	(.0147)	*
Constant	-.1219	(.1370)	

Notes: Standard errors in parentheses; N=188; R^2=.85;
*** p< .001; ** p< .01; * p< .05

Table 3. Absolute Change in Proportion of Metropolitan Population Living in URCs

Biggest Declines (of 31 Metros with Declines)	Change in Share	1980	2015-2019
Austin-Round Rock-San Marcos, TX	-.116	.217	.101
San Antonio-New Braunfels, TX	-.115	.367	.252
El Paso, TX	-.087	.536	.449
Baltimore-Towson, MD	-.068	.191	.123
Baton Rouge, LA	-.068	.266	.199
Virginia Beach-Norfolk-Newport News, VA-NC	-.064	.204	.140
San Francisco-Oakland-Fremont, CA	-.052	.126	.074
Washington-Arlington-Alexandria, DC-VA-MD-WV	-.052	.087	.035
Birmingham-Hoover, AL	-.044	.224	.179
San Jose-Sunnyvale-Santa Clara, CA	-.039	.045	.005
Biggest Increases (of 104 Metros with Increases)			
Flint, MI	.260	.112	.373
Scranton--Wilkes-Barre, PA	.224	.031	.255
South Bend-Mishawaka, IN-MI	.208	.085	.292
Rockford, IL	.207	.058	.265
Youngstown-Warren-Boardman, OH-PA	.206	.108	.313
Tucson, AZ	.200	.157	.357
Las Vegas-Paradise, NV	.196	.079	.275
Fresno, CA	.186	.154	.340
Lakeland-Winter Haven, FL	.177	.110	.287
Bakersfield-Delano, CA	.172	.143	.315

Table 4. Fixed Effects Estimates of Percent of Metro Residents in URCs, 1980 to 2015-2019

Metro population (ln)	.0230	(.0117)	*
Median Household Income	-.0012	(.0005)	*
Income Inequality (80/20)	.0080	(.0077)	
Poverty Rate	.0150	(.0011)	***
Percent Under Age 18	.0040	(.0011)	***
Percent Age 65 or Older	.0016	(.0013)	
Percent Non-Hispanic Black	.0011	(.0010)	
Percent Non-Hispanic Asian	-.0007	(.0011)	
Percent Hispanic or Latino	.0002	(.0006)	
Racial Segregation (H)	.0014	(.0004)	***
Percent Foreign-Born	.0001	(.0011)	
Percent College Educated	-.0016	(.0006)	*
Unemployment Rate	.0013	(.0011)	
Percent Manufacturing Jobs	-.0005	(.0004)	
Percent Homeowners	-.0016	(.0008)	
Percent New Housing Units	-.0003	(.0003)	
Median Rent	.0000	(.0000)	
Year (1980=ref)			
1990	.0125	(.0132)	
2000	.0497	(.0157)	**
2008-2012	.0772	(.0197)	***
2015-2019	.0924	(.0245)	***
Constant	-.3738	(.1801)	*

Notes: Standard errors in parentheses; N=831 (189 Metros); R^2=.96; *** p< .001; ** p< .01; * p< .05

Table 5. Trends in URC Population and Poverty Rate, for Central Cities and Suburbs

Central Cities

	Proportion in URC	URC Poverty Rate	Non-URC Poverty Rate	URC Poverty Rate/Non-URC Poverty Rate
1980	.320	.312	.164	1.895
1990	.350	.330	.180	1.832
2000	.374	.302	.178	1.701
2008-2012	.430	.321	.206	1.555
2015-2019	.366	.297	.181	1.638

Suburbs

	Proportion in URC	URC Poverty Rate	Non-URC Poverty Rate	URC Poverty Rate/Non-URC Poverty Rate	Proportion of URC Population in Suburbs
1980	.043	.265	.081	3.289	0.178
1990	.058	.276	.086	3.198	0.227
2000	.070	.263	.088	2.992	0.252
2008-2012	.112	.277	.114	2.443	0.349
2015-2019	.094	.262	.104	2.524	0.346

Note: Weighted by total population.

Table 6. Trends in URC and non-URC Populations by Race/Ethnicity

	Racial Composition of URC Population				Racial Composition of non-URC Population			
	Non-Hispanic White	Non-Hispanic Black	Non-Hispanic Asian	Hispanic or Latino	Non-Hispanic White	Non-Hispanic Black	Non-Hispanic Asian	Hispanic or Latino
1980	.350	.446	.027	.169	.842	.071	.023	.060
1990	.333	.395	.040	.223	.794	.081	.035	.084
2000	.286	.368	.045	.271	.722	.089	.048	.117
2008-2012	.302	.300	.052	.319	.665	.092	.064	.153
2015-2019	.273	.298	.056	.336	.615	.093	.072	.178

	Proportion of Racial Group Living in URC				
	Non-Hispanic White	Non-Hispanic Black	Non-Hispanic Asian	Hispanic or Latino	Proportion of Overall Metro Population in URC
1980	.057	.539	.143	.376	.147
1990	.067	.478	.157	.393	.160
2000	.065	.444	.162	.394	.172
2008-2012	.104	.456	.162	.398	.213
2015-2019	.085	.393	.122	.319	.180

Note: Weighted by total or group population.

Table 7. Trends in URC and non-URC Populations by Race/Ethnicity in Cities and Suburbs

	Racial Composition of Central City URC Population				Racial Composition of Central City Non-URC Population			
	Non-Hispanic White	Non-Hispanic Black	Non-Hispanic Asian	Hispanic or Latino	Non-Hispanic White	Non-Hispanic Black	Non-Hispanic Asian	Hispanic or Latino
1980	.312	.461	.026	.192	.766	.122	.026	.080
1990	.297	.404	.040	.249	.705	.137	.045	.107
2000	.258	.362	.049	.301	.617	.145	.063	.146
2008-2012	.265	.303	.059	.346	.575	.136	.080	.181
2015-2019	.236	.299	.064	.359	.520	.139	.087	.209

	Racial Composition of Suburban URC Population				Racial Composition of Suburban Non-URC Population			
	Non-Hispanic White	Non-Hispanic Black	Non-Hispanic Asian	Hispanic or Latino	Non-Hispanic White	Non-Hispanic Black	Non-Hispanic Asian	Hispanic or Latino
1980	.441	.359	.022	.169	.873	.051	.021	.051
1990	.438	.293	.033	.228	.827	.063	.032	.074
2000	.353	.303	.035	.277	.757	.073	.043	.105
2008-2012	.379	.232	.042	.320	.691	.082	.059	.143
2015-2019	.345	.228	.048	.346	.645	.089	.066	.166

	Proportion of Racial Group Living within URC, in Central Cities			
	Non-Hispanic White	Non-Hispanic Black	Non-Hispanic Asian	Hispanic or Latino
1980	.146	.673	.279	.534
1990	.173	.638	.294	.568
2000	.178	.626	.300	.573
2008-2012	.253	.659	.304	.590

2015-2019	.206	.591	.235	.493

Proportion of Racial Group Living within URC, in Suburbs

	Non-Hispanic White	Non-Hispanic Black	Non-Hispanic Asian	Hispanic or Latino
1980	.019	.240	.041	.181
1990	.027	.212	.054	.216
2000	.028	.201	.066	.237
2008-2012	.058	.251	.078	.261
2015-2019	.047	.211	.058	.203

Note: Weighted by total or group population.

Table 8. Decadal Transitions in URC Status, 1990 to 2015-2019

		in URC	not in URC
		2000	
1990	in URC	7,006	972
		(.135)	(.019)
	not in URC	2,311	41,509
		(.045)	(.801)
		2008-2012	
2000	in URC	8,068	1,249
		(.156)	(.024)
	not in URC	4,328	38,153
		(.084)	(.737)
		2015-2019	
2008-12	in URC	9,168	3,228
		(.177)	(.062)
	not in URC	1,660	37,742
		(.032)	(.729)

Note: For comparison purposes, decadal changes between 1980 and 1990 are excluded due to untracted areas in 1980. Additionally, only tracts within metros of at least 250,000 in the remaining the three decadal periods are included so that URC changes do not reflect increase or decrease in metro size. Parentheses indicate number of tracts in cells as share of all tracts. Decadal transition years are italicized.

Table 9
. Correlates of Decadal Transitions in URC Status, 1990 to 2015-2019

	Entered URC			Exited URC		
	1990 to 2000	*2000 to 2008-12*	*2008-12 to 2015-19*	*1990 to 2000*	*2000 to 2008-12*	*2008-12 to 2015-19*
Δ Median rent	-51.3	43.3	52.1	73.3	265.8	139.7
Δ Proportion older population	-.017	-.008	.013	-.014	-.001	.017
Δ Proportion college grads	.001	.008	.022	.050	.090	.053
Δ Proportion immigrant	.077	.034	.009	.037	-.003	-.001
Δ Proportion Hispanic	.107	.085	.028	.049	.024	.012
Δ Proportion homeowners	-.024	-.049	-.053	.021	.029	-.010
Δ Proportion manufacturing	-.038	-.036	-.007	-.042	-.031	-.007
Δ Proportion non-Hispanic Asian	.009	.005	.005	.007	.018	.005
Δ Proportion non-Hispanic black	.025	.026	.009	-.008	-.042	-.008
Δ Proportion child population	.029	-.001	.001	-.012	-.045	-.027
Δ Unemployment rate	.014	.062	-.042	-.012	.006	-.060

	Never URC			Stably URC		
	1990 to 2000	*2000 to 2008-12*	*2008-12 to 2015-19*	*1990 to 2000*	*2000 to 2008-12*	*2008-12 to 2015-19*
Δ Median rent	15.0	115.7	135.9	0.0	138.6	59.3
Δ Proportion older population	.001	.008	.027	-.011	-.001	.014
Δ Proportion college grads	.047	.043	.039	.015	.032	.030
Δ Proportion immigrant	.034	.023	.009	.056	.016	.003
Δ Proportion Hispanic	.035	.042	.017	.077	.057	.021
Δ Proportion homeowners	.020	-.005	-.014	-.002	-.022	-.027
Δ Proportion manufacturing	-.038	-.029	-.006	-.041	-.041	-.008
Δ Proportion non-Hispanic Asian	.012	.016	.009	.004	.007	.003
Δ Proportion non-Hispanic black	.015	.014	.006	-.034	-.033	-.015
Δ Proportion child population	.007	-.014	-.013	.005	-.029	-.016
Δ Unemployment rate	-.003	.037	-.035	-.006	.032	-.063

Note: For comparison purposes, decadal changes between 1980 and 1990 are excluded due to untracted areas in 1980. Additionally, only tracts within metros of at least 250,000 in the remaining the three decadal periods are included so that URC changes do not reflect increase or decrease in metro size. Median rent is standardized using 2019 dollars.

Table 10. Trends in URC Populations in Sacramento, Austin, and Flint Case Studies

Sacramento--Arden-Arcade--Roseville, CA MSA

	Proportion in URC	URC Poverty Rate	Non-URC Poverty Rate	Proportion of URC in Suburbs	Racial Composition of URC Population			
					Non-Hispanic White	Non-Hispanic Black	Non-Hispanic Asian	Hispanic or Latino
1980	.117	.260	.094	.281	.535	.178	.087	.188
1990	.147	.286	.091	.347	.460	.170	.152	.202
2000	.194	.283	.092	.428	.374	.157	.161	.248
2008-2012	.213	.299	.106	.513	.346	.135	.161	.304
2015-2019	.189	.281	.102	.615	.316	.128	.163	.325

Austin-Round Rock-San Marcos, TX MSA

	Proportion in URC	URC Poverty Rate	Non-URC Poverty Rate	Proportion of URC in Suburbs	Racial Composition of URC Population			
					Non-Hispanic White	Non-Hispanic Black	Non-Hispanic Asian	Hispanic or Latino
1980	.217	.304	.109	.109	.436	.190	.012	.352
1990	.220	.312	.124	.083	.428	.183	.035	.349
2000	.179	.269	.082	.090	.298	.159	.032	.491
2008-2012	.190	.337	.109	.076	.273	.123	.026	.560
2015-2019	.101	.281	.095	.137	.248	.118	.022	.592

Flint, MI MSA

	Proportion in URC	URC Poverty Rate	Non-URC Poverty Rate	Proportion of URC in Suburbs	Racial Composition of URC Population			
					Non-Hispanic White	Non-Hispanic Black	Non-Hispanic Asian	Hispanic or Latino
1980	.112	.291	.083	.184	.352	.602	.010	.034
1990	.293	.359	.085	.246	.470	.485	.003	.032
2000	.237	.323	.072	.221	.303	.627	.003	.030
2008-2012	.368	.364	.103	.362	.468	.451	.005	.036
2015-2019	.373	.361	.090	.365	.465	.433	.005	.043

Figure 1. Under-Resourced Communities in the Sacramento—Arden-Arcade—Roseville, CA Metropolitan Area, 1980 and 2015-2019

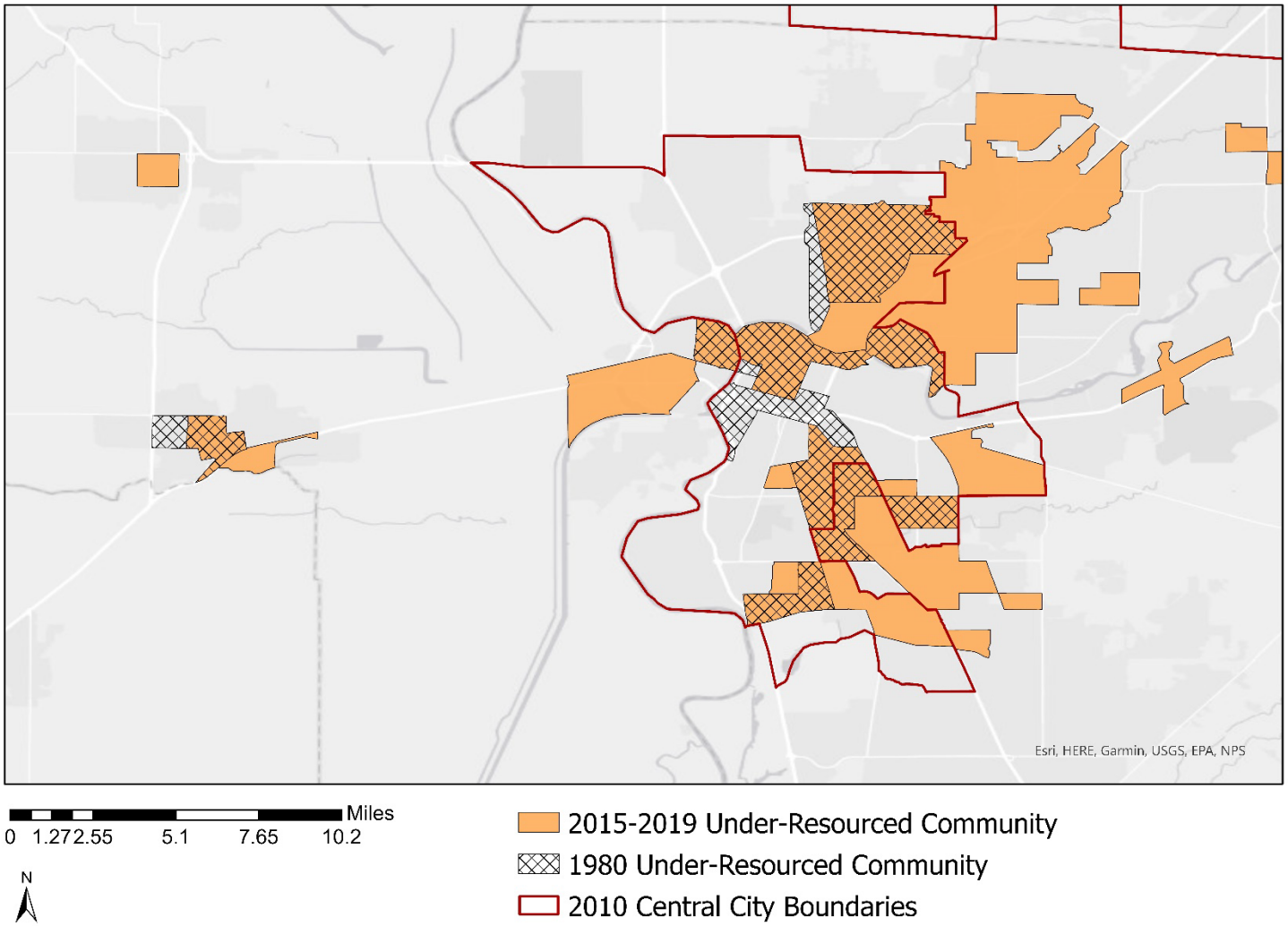


Figure 2. Under-Resourced Communities in the Austin-Round Rock-San Marcos, TX, Metropolitan Area, 1980 and 2015-2019

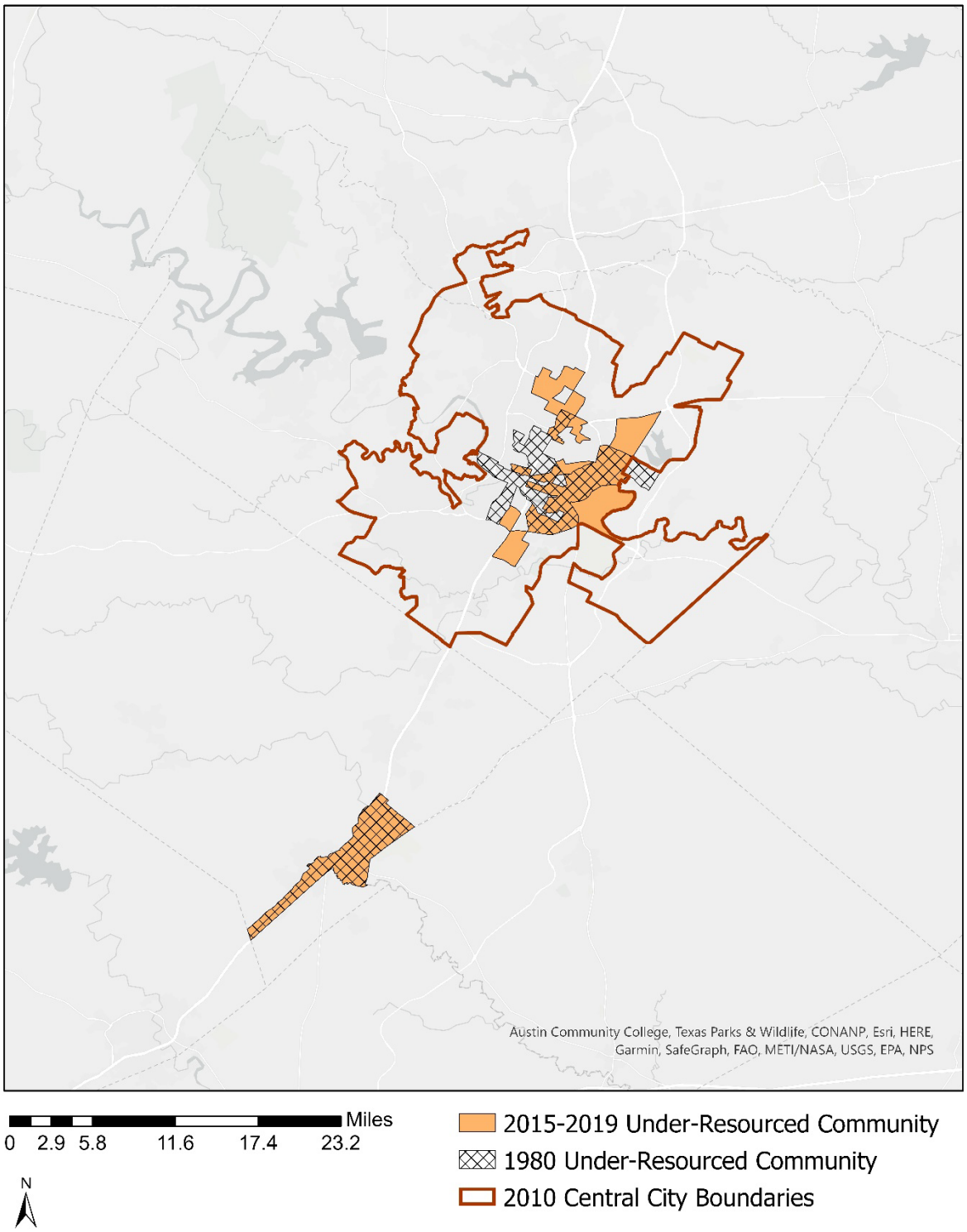
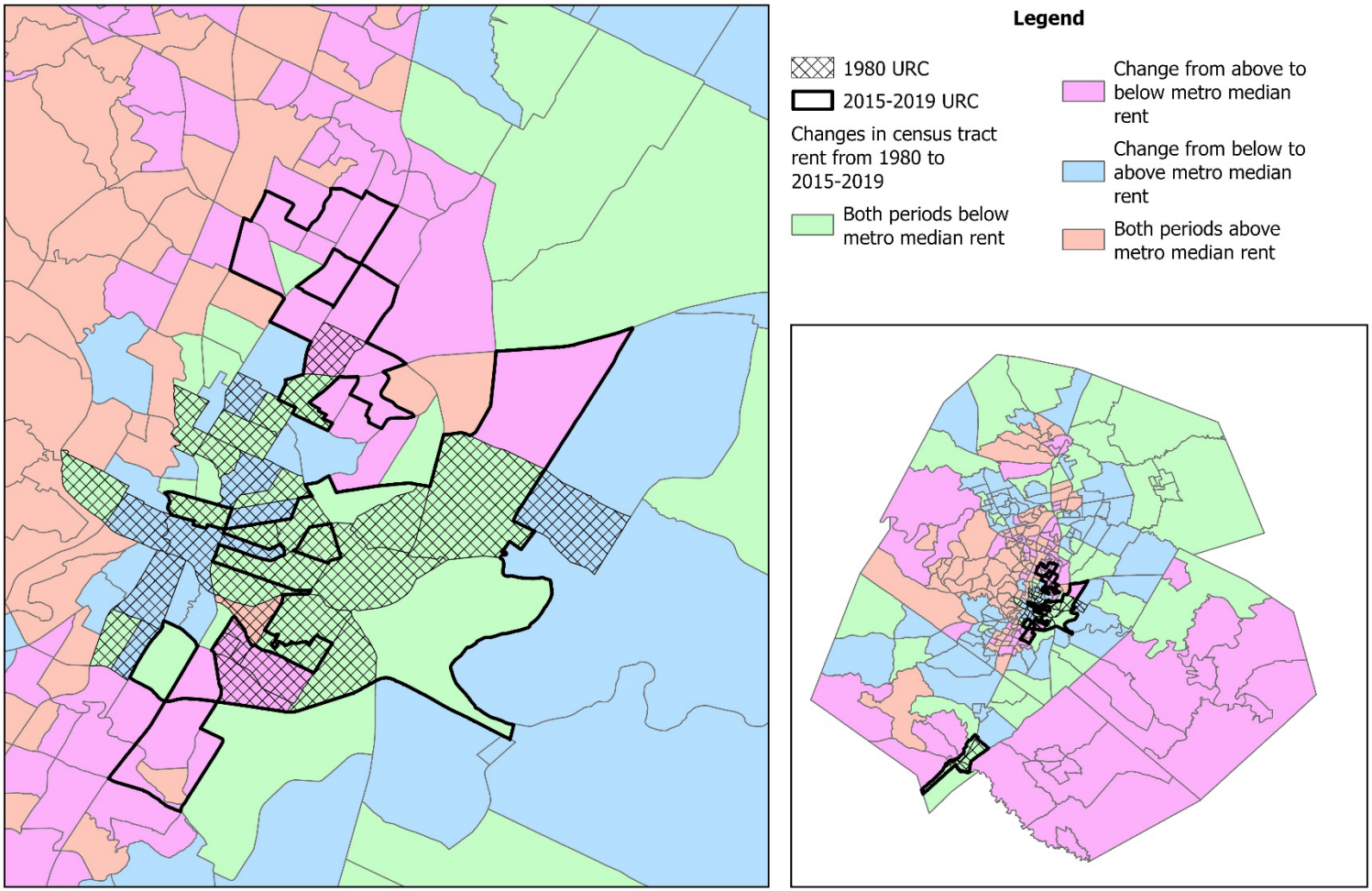


Figure 3. Rent Changes in the Austin-Round Rock-San Marcos, TX, Metropolitan Area, 1980 to 2015-2019



The left figure provides a close-up of the under-resourced community within Austin; the right figure shows the Austin metro as a whole.

Note: "Below metro median rent" includes census tracts whose median rent is less than or equal to metro median rent.

Figure 4. Under-Resourced Communities in the Flint. MI, Metropolitan Area, 1980 and 2015-2019

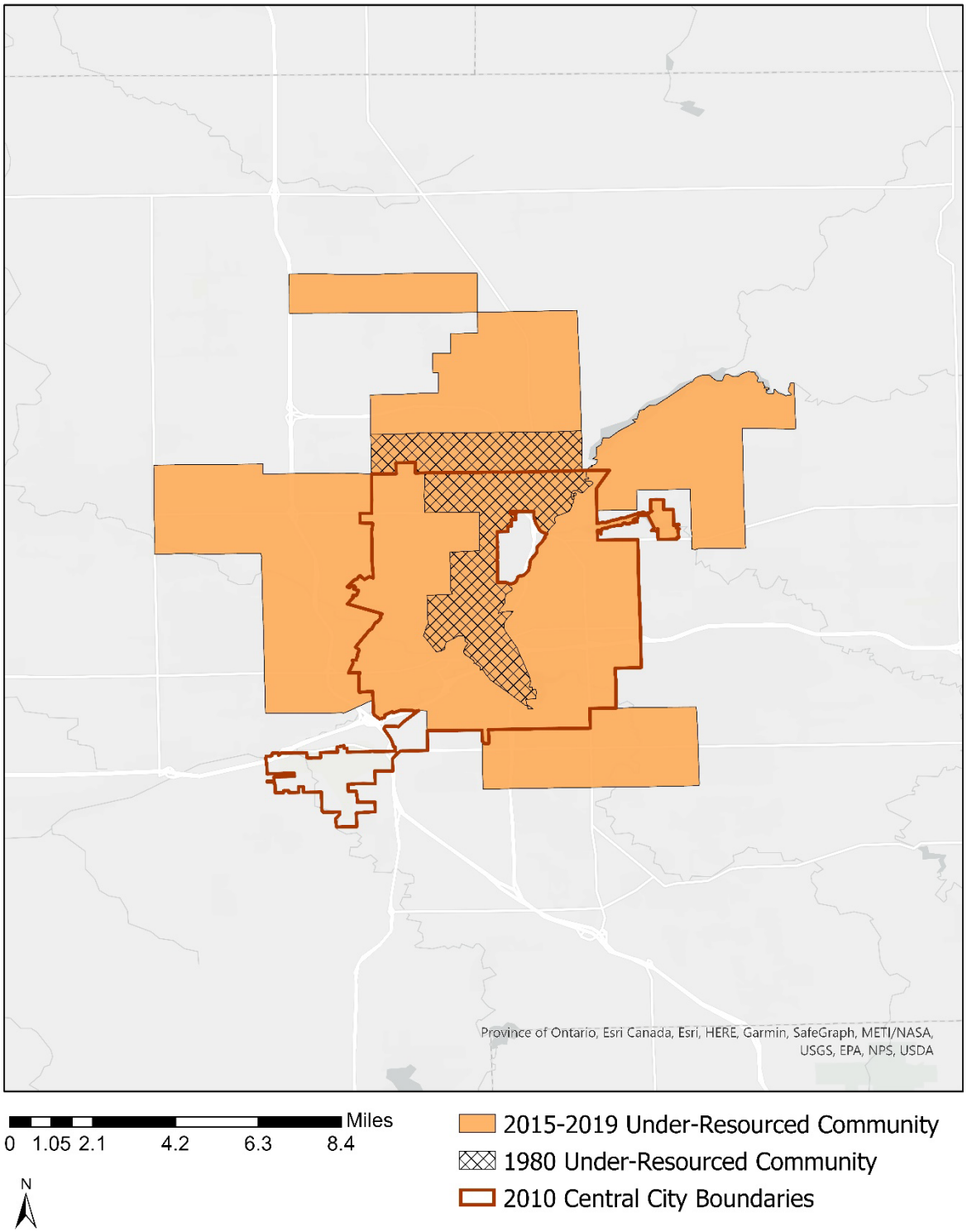
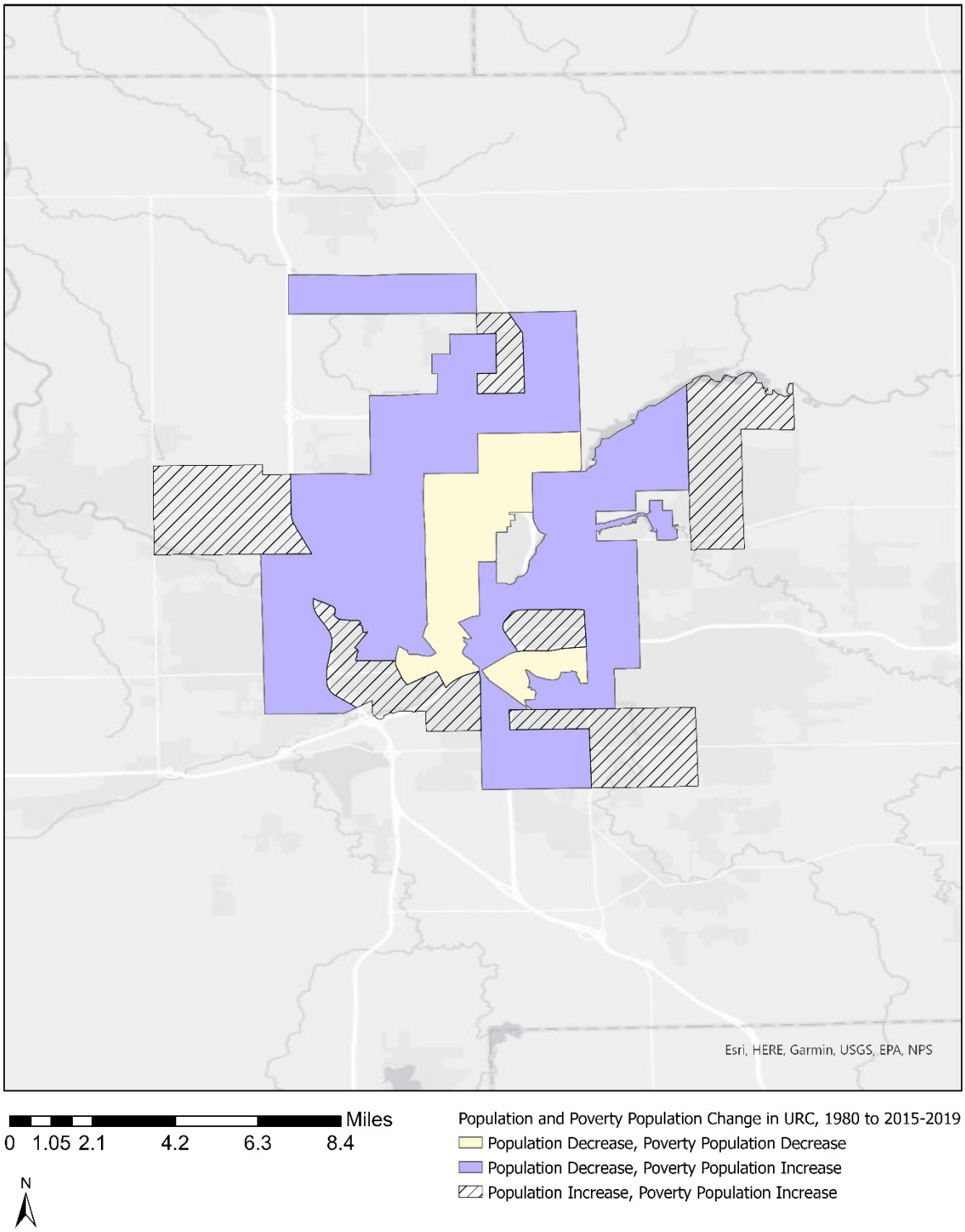


Figure 5. Population and Poverty Population Change in Flint URC Tracts, 1980 to 2015-2019



Note: Figure shows 2015-2019 URC tracts, which include all 1980 URC tracts.

Appendix Table A1. Summary Statistics for URC Definition

Number of Tracts within a URC

	Median	Mean	STD	Min	Max
1980	7	7.938	43.259	2	449
1990	6	7.265	40.702	2	467
2000	6	7.411	46.873	2	587
2008-2012	6	7.006	43.019	2	484
2015-2019	6	6.996	36.525	2	401

URC Land Area (in square miles)

	Median	Mean	STD	Min	Max
1980	5.721	6.318	22.373	0.270	283.234
1990	6.075	6.532	31.501	0.080	458.948
2000	6.078	6.421	29.811	0.253	387.947
2008-2012	7.659	7.081	38.466	0.128	438.455
2015-2019	6.832	6.741	31.671	0.085	374.674

URC Population

	Median	Mean	STD	Min	Max
1980	23,234	27,685	155,735	8,077	1,415,966
1990	23,112	26,784	151,794	8,000	1,789,560
2000	27,006	28,822	183,489	8,016	2,345,212
2008-2012	25,435	28,000	164,173	8,018	1,950,187
2015-2019	24,130	28,687	141,430	8,009	1,686,479

Note: Outliers are removed. In this table, we report the size of a group of contiguous URC tracts. This table does not describe measurements of size for all URC tracts within the boundaries of a metropolitan area.

URC Breakdown of Tracts with Poverty Rates of at Least 20% and Adjacent Tracts with Poverty Rates of at Least 18%

	Tracts with poverty rates ≥ 20%	Adjacent tracts with poverty rates ≥ 18%	Proportion adjacent tracts
1980	5,546	620	.101
1990	7,288	699	.088
2000	8,427	1,000	.106
2008-2012	11,672	1,138	.089
2015-2019	10,073	1,182	.105

Appendix Table A2. Summary Statistics for Variables in Regression Analysis

	Mean	SD	Min	Max
Proportion in URC	.168	.102	.000	.752
Metro population (ln)	13.466	.897	12.430	16.775
Median Household Income	42.895	17.895	11.232	124.055
Income Inequality (80/20)	4.311	.521	3.164	6.252
Poverty Rate	13.046	4.339	5.854	41.877
Percent Under Age 18	25.267	3.665	16.389	39.302
Percent Age 65 or Older	13.057	3.644	3.806	31.714
Percent Non-Hispanic Black	11.376	10.148	.000	48.712
Percent Non-Hispanic Asian	3.163	5.232	.000	60.114
Percent Hispanic or Latino	11.826	15.933	.000	95.596
Racial Segregation (H)	24.112	10.500	3.290	59.048
Percent Foreign-Born	8.271	7.105	.555	40.699
Percent College Educated	27.617	8.258	11.372	62.077
Unemployment Rate	6.626	2.319	2.633	16.117
Percent Manufacturing Jobs	13.664	9.294	.424	55.805
Percent Homeowners	65.597	5.570	45.057	79.793
Percent New Housing Units	19.233	11.789	1.331	64.310
Median Rent	668.242	328.360	168.000	2268.000

Notes

[1] The literature on poverty at the state, county, and municipal levels (e.g., Peters 2009, Partridge and Rickman 2006) pays more attention to the spatial clustering of poverty but these levels of analysis do not enable the fine-grained analysis of spatial clustering within metropolitan areas with which we are concerned. The rural poverty literature does so as well (Hooks, Lobao, and Tickamyer 2016) but generally uses the county as the unit of analysis. Massey and Denton (1988) examine the spatial clustering of metropolitan census tracts by racial composition but we are not aware of any literature that uses their approach to examine the spatial clustering of high-poverty tracts in metropolitan areas.

[2] The federal Opportunity Zone program, for example, has been criticized for including tracts with large college campuses (Gelfand and Looney 2018).

[3] Most of our data are aggregated from the tract to the metropolitan level using standardized 2010 census tract boundaries. Industry employment data are aggregated from the county to the metropolitan level; to ensure consistent county boundaries and names for those data, we refer to Census notes on county name changes from 1980 to 2017 (U.S. Census Bureau 2021) and use area-weighted county crosswalks for boundary changes (Eckert, Gvirtz, Liang, and Peters 2020).

[4] Due to data constraints on earlier decennial censuses, we use the poverty rate as our primary indicator for URCs rather than the non-student poverty rate used by Eberhardt, Wial, and Yee (2020).

[5] There were 366 metropolitan areas defined in the 2015-19 ACS. Of these, 133 had URCs in 1980, 150 in 1990, 165 in 2000, 184 in 2008-12, and 186 in 2015-19. Without the 250,000 metropolitan population threshold but applying all our other URC criteria, there would have been 269 metropolitan areas with URCs in 1980, 316 in 1990, 315 in 2000, 354 in 2008-12, and 341 in 2015-19.

[6] Although a much higher percentage (61 percent) of Native Hawaiians and other Pacific Islanders lived in the included metropolitan areas in 2015-2019, they were 5 percent or more of the population only in Honolulu, HI.

[7] To examine trends in spatial dependence we calculated the Moran's *I* of tracts where 20 percent or more of their population resided in poverty. At the national level – for metros with population of at least 250,000 in all five time periods – Moran's *I* declined from .57 to .45, a decline that is marginally significant at the .10 alpha level.

[8] While 13 of the 25 with the greatest difference in 2015-2019 were also among the 25 with the greatest difference in 2008-2012 and only six (Ann Arbor, MI; Augusta-Richmond County, CA-SC; Bakersfield-Delano, CA; Corpus Christi, TX; Fresno, CA; and McAllen-Edinburg-Mission, TX) were among the top 25 in all five time periods we examined.

[9] Because the Great Recession likely influenced poverty rates and the percentages of people living in URCs in 2008-2012, the statistics we report for 2008-2012 should be viewed with caution in assessing long-term trends.

[10] Median household incomes grew at approximately the same rate in URCs and non-URCs during the period of analysis.

[11] Though the Austin-Round Rock-San Marcos, TX saw a decrease in the percentage of suburban residents living in the URC (i.e. the concentration of under-resourced community within suburbs), the suburban share of the URC population increased due to faster growth in the suburban URC population as compared to urban URC population growth.

[12] County Business Patterns data show that information technology industries (software publishing; data processing, hosting, and related services; computer systems design and related services) in the Austin metropolitan area grew from 0.5 percent of total employment in 1980 to 7.2 percent in 2017. Nationwide, employment in information technology industries rose from 0.3 percent of total employment to 2.6 percent during this time period.

[13] Nominal median household income deflated by the Consumer Price Index for All Urban Consumers over the period 1980-2019. Median household income in ACS five-year estimates is expressed in final-year dollars.

[14] Decennial Census and ACS data show that the share of URC residents with commutes of less than 30 minutes fell from 84 percent in 1980 to 67 percent in 2015-2019, the share with commutes of 30-59 minutes rose from 13 percent to 26 percent, and the share with commutes of at least an hour rose from 3 percent to 8 percent. The increased commute times of URC residents may have been due to shifts in the location of URCs over the last four decades and/or increased traffic congestion resulting from the region's rapid growth.

[15] Turner et al. (2014) have proposed strategies of this type.