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# Suburban Poverty and Racial Segregation

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## SUMMARY

Over the past thirty years, increasing numbers of low-income people live in suburbs in the United States, with an increased proportion of racial and ethnic minorities among them (Covington, Freeman, & Stoll, 2011; Frey, 2011; Howell & Timberlake, 2014; Puentes & Warren, 2006). In urban areas, increases in poverty rates have been marked by increases in racial and ethnic segregation among people living in poverty (Logan & Stults, 2010; Massey, 1990; Orfield & Luce, 2012). What is less clear from the research on suburban poverty is how much racial segregation exists. For example, some research indicates that there is more segregation among black people in the suburbs than in urban areas (Darden & Kamel, 2002) whereas other research finds that black people in the suburbs are less likely to live in segregated communities than black people in urban areas (Alba, Logan, & Stults, 2000).

This paper presents findings from a new set analyses, using data from the U.S. Census Bureau's American Community Survey, to first examine the distribution of poverty across different kinds of suburban communities and then the degree of racial and ethnic segregation within and across different kinds of suburban communities. The goal of the analyses is to better understand how policy solutions might best address racial and economic inequality in the suburbs.

Our findings, guided by a typology that distinguishes suburbs based on the era and type of their housing construction, indicate that racial segregation among low-income people in the suburbs exists largely *between* suburbs rather than *within* suburbs. First, the analysis find that the majority of low-income people living outside of our urban areas live in jurisdictions that are not what we typically view as suburbs but rather "quasi-urban" areas outside of Central Cities. Second, the racial and ethnic proportion of low-income people living in the suburbs varies considerably across different types of suburbs, with the low-income black population residing in "quasi urban" areas outside of Central Cities and low-income white and low-income Hispanic populations more widely dispersed. Overall segregation is largely driven by the differences in the racial/ethnic composition of these different jurisdictions.

Racial residential segregation among low-income people in the suburbs is caused by a number of factors, including housing discrimination, housing policies that steer black people to specific neighborhoods, and white flight out of racially diverse communities. Although housing discrimination against racial/ethnic minority groups is prohibited by the Fair Housing Act, research shows it continues to persist through discrimination by landlords, steering by real estate agents, and discrimination in mortgage lending and insurance companies. Moreover, housing policies that result in a lack of affordable housing options and racially segmented housing markets can constrain the ability of low income families to move. Finally, constrained housing choices coupled with the movement of white people from older, inner suburbs to newer, less densely populated suburban communities result in racially segregated suburban communities.

Racially segregated suburbs create inequities for low-income people of color that have consequences for their employment, health, education, and overall well-being. Racially segregated suburbs have fewer resources available to address poverty and low-income people living in racially segregated communities must contend with a host of challenges, including less access to jobs, high crime rates, barriers to good health, and negative school outcomes for children. Understanding the causes and consequences of racial segregation is important for outlining strategies for addressing segregation among suburban low-income populations. Potential solutions include both practices that eliminate the segregation of racial and ethnic minority groups into specific suburban communities as well as practices that increase access to services and opportunities in low-income communities overall. More promising practices are those that address housing discrimination, regulate zoning and growth, foster regional planning, and promote racially integrated school zones.

## INTRODUCTION

Fueled by job decentralization, shifts in the location of affordable and subsidized housing, and a growth in new immigrant populations, poverty rates in American suburbs have increased dramatically over the past three decades (Covington, Freeman, and Stoll, 2011; Frey, 2011). Today, suburbs are home to about 40 percent of all low-income people in the country, an increase from 25 percent in 1980 (Rog, Hexter, Henderson, Hubble, Haight, Reed, & Boxler, 2014).

The Office of the Assistant Secretary for Planning and Evaluation (ASPE) of the U.S. Department of Health and Human Services (HHS) seeks to better understand this growth in suburban poverty and determine whether suburban social service delivery systems have been able to keep up with the growing demand. To that end, ASPE commissioned Westat, in collaboration with the Center for Community Planning and Development (CCPD) at Cleveland State University, to write a framing paper to review and synthesize existing research, analyze the characteristics and service needs of those living in poverty in the suburbs, and identify information and research needed to more fully understand and guide efforts to address suburban poverty.

The framing paper, *Poverty and Service Delivery in Suburban America*, served as a springboard for a roundtable discussion, held on January 14, 2014, between researchers, policy experts, practitioners, and federal staff on emergent issues of poverty and service delivery in suburban America. One of the themes from the roundtable discussion focused on the interplay between race, ethnicity, and poverty in suburban communities. In particular, there was considerable discussion on how the increase in the suburbanization of poverty and the concomitant growth in suburban minority poor populations affected racial segregation in urban and suburban communities and what strategies could be used to address racial and economic inequality in the suburbs.

The goal of this paper is to examine the extent to which racial segregation exists within and across different types of suburban communities to better understand how policy solutions might best address racial and economic inequality in the suburbs. This paper reviews existing research on segregation and poverty and presents findings from new analyses examining the degree of segregation within and between jurisdictions in metropolitan areas. The paper also discusses the consequences of racial segregation among low-income populations in suburban communities, and closes with some policy recommendations for addressing this racial/ethnic segregation.

### HOW MUCH RACIAL SEGREGATION EXISTS AMONG SUBURBAN LOW-INCOME POPULATIONS?

From 1980 to 2010, an increasing proportion of racial and ethnic minorities lived in poverty in the suburbs (Covington, Freeman, & Stoll, 2011; Frey, 2011; Howell & Timberlake, 2014; Puentes & Warren, 2006). By 2010 the racial and ethnic makeup of the suburban low-income population closely resembled the national distribution of the population by race and ethnicity, with Hispanic residents accounting for more than a quarter of the low-income population and black residents representing just under one in five (Kneebone and Berube, 2013). By this time, more than half of all minority groups in large metropolitan areas resided in suburbs (Frey, 2011). In particular, there has been a significant increase in the proportion of Hispanics living in poverty in the suburbs (Frey, 2011).

What is less clear is whether the increased suburbanization of racial and ethnic low-income minorities in the last 20 years has resulted in suburban communities that are racially and economically integrated or segregated. In urban areas in the United States, increases in poverty rates have been accompanied by increases in the rates of racial and ethnic segregation among people living in poverty (Logan & Stults, 2010; Massey, 1990; Orfield & Luce, 2012). In fact, some experts argue that residential segregation is a primary cause of the geographic concentration of poverty in U.S. cities (Massey & Fischer, 2000; Massey, Gross, & Eggers, 1991).

With respect to suburbs and racial segregation, the research to date is less clear. Some research indicates that black people living in the suburbs are more segregated than blacks in urban areas (Darden & Kamel, 2002) whereas other research finds that black people in the suburbs are less likely to live in segregated communities than black people in urban areas (Alba, Logan, & Stults, 2000). To inform this debate, the first author conducted a set of analyses for this paper, using data from the U.S. Census Bureau's American Community Survey to examine the degree of racial and ethnic segregation that exists within and across different kinds of suburban communities<sup>1</sup>.

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<sup>1</sup> The authors would like to acknowledge the assistance of Spencer Clayton, from Rutgers University, Camden for his assistance with this analysis.

***Unpacking the Diversity of Suburbs.*** In order to understand racial segregation, we first “unpack” the diversity among areas labeled “suburbs”. In metropolitan areas, all jurisdictions other than the Central Cities are classified as suburbs and encompass a wide range of communities. Two constructs that help to understand some of the diversity among suburbs is the era when the housing was developed in a jurisdictions as well as the type of housing developed. The era of construction, in particular, helps to understand “why” certain suburbs were created and may relate to the degree of segregation within them. The earliest suburbs expanded from the urban areas and were formed along street car lines, such as the “Main Line” in Philadelphia (Warner 1962). After World War II, the proliferation of the automobile and the construction of interstate highways opened up much greater possibilities for commuter suburbs (Gans 1967; Jackson 1985). After the race riots of the 1960s and increasing urban crime in the 1970s and 1980s, white flight was a primary cause in the development of new suburbs (Frey 1979). Thus, newer suburbs are hypothesized to have greater racial segregation. In addition, housing type is a proxy measure of housing density and provides the ability to distinguish between more densely populated suburban communities that have larger populations and less densely populated communities with smaller populations.

We categorized the jurisdictions within 384 metropolitan areas<sup>2</sup> according to the period of development housing constructed, measured by the median year of construction of the jurisdiction’s housing units and the form of the housing (i.e., the percent of the jurisdiction’s housing units that are detached single-family homes. Jurisdictions within metropolitan areas vary considerably on both these measure (see text box below). Suburbs were created as early as the 1940s and continue through today, with a peak in the mid to late 1970s. Variability also exists among suburbs with respect to housing type, though most suburbs have more than three-fourths of their housing stock in single family homes.

We first distinguished between Central Cities and the suburban areas surrounding them within each metropolitan area. Central Cities include the largest principal city in a metropolitan area as well as up to two more principal cities if they 1) have at least 25,000 inhabitants; 2) have a median era of construction earlier than 1970; and 3) are comprised of less than 75 percent detached single family homes. Suburban areas are all of the remaining areas within the metropolitan areas. This standard identifies 435 Central Cities and 25,480 suburban communities within the 384 metropolitan areas. Rural areas, by definition, are outside of metropolitan areas and are thus excluded from this analysis.

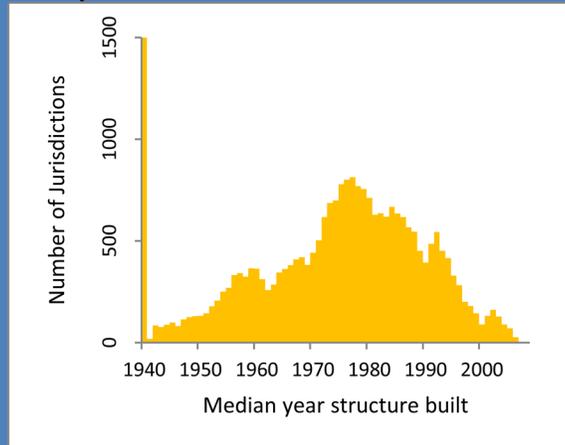
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<sup>2</sup> These 384 metropolitan areas include a combination of standalone metropolitan areas and metropolitan divisions within consolidated metropolitan areas. For example, the Dallas metropolitan area and the Ft. Worth metropolitan are included separately.

## Examining Communities' Housing Development

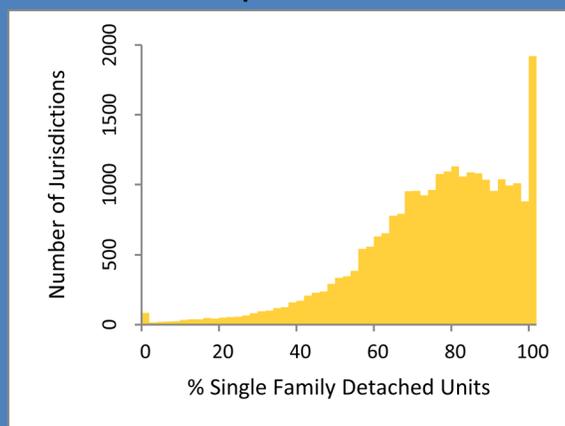
The era of construction, represented by the median year the jurisdictions' housing units were built, escalated steadily in the years after World War II. Starting about 1970, there was a boom in the construction of suburbs. Peaking in the mid- to late 1970s, the pace of construction of new suburbs fell off. Many existing suburbs may have continued to add new units, but not enough units to establish a median year of construction in the 1990s.

**Figure 1: Era of Construction for All Jurisdictions in Metropolitan Areas**



Metropolitan jurisdictions also vary in the percentage of detached single-family homes. Few jurisdictions have low percentages, with many more having 75-80 percent of their housing stock as detached single-family homes and a large number comprised entirely of detached single-family homes.

**Figure 2: Percent Single Family Housing Units for All Jurisdictions in Metropolitan Areas**



The 25,840 suburban jurisdictions encompass enormous variation. While all are technically suburbs, many of them are more urban and industrial than the name implies. A general term, commonly used in Europe and the developing nations but virtually unknown in U.S. scholarship, is “peri-urban,” referring to everything on the periphery of urban areas, including areas outside of principle cities within a metropolitan area. These peri-urban areas can be further divided by their structural form and era of development (see Table 1). Four categories emerge: two that are considered quasi-urban largely due to having less than three-fourths of their housing in single family homes; and two that fit more traditional concepts of suburbs, both having more

than three-fourths of their housing stock in single family homes, but differing on whether the median age of construction was before or after 1970, again serving as a possible measure of a suburb being created in the era of “white flight”.

**Poverty and Race in Diverse Communities.** Using this typology of peri-urban jurisdictions, we conducted several analyses to better understand how the low-income people living in the suburbs are distributed within and across different types of suburban communities<sup>3</sup>. We first examined whether poverty is distributed equally across all suburban communities and whether the composition of the low-income population within each community type differs by race and ethnicity. We then examined which communities have the highest concentrations of low-income people, overall and by race.

**Table 1: Types of Peri-Urban Areas**

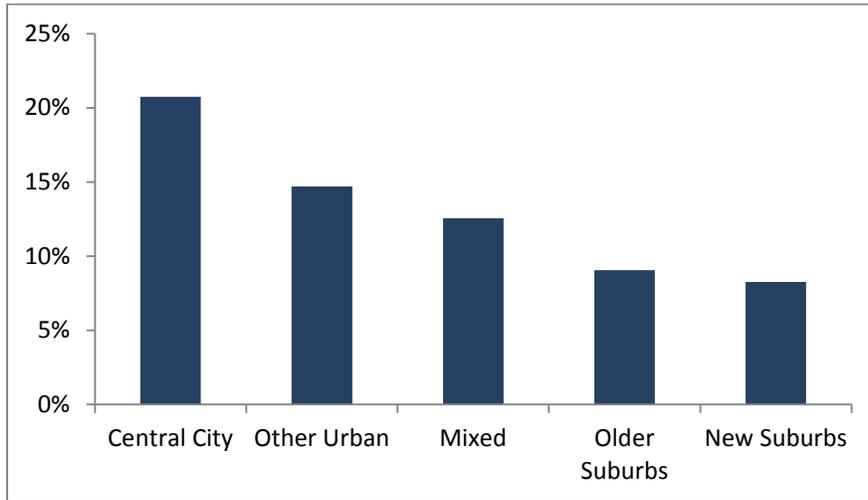
	<b>Era of Construction</b>	<b>Percent Single Family Housing Units</b>
<b>Quasi-Urban Areas</b>		
Other Urban Areas	any median year of construction	0-50% single family homes
Mixed	any median year of construction	50-75% single family homes
<b>Suburban Areas</b>		
Older Suburbs	median year of construction before 1970	75% or more single family homes
New Suburbs	median year of construction 1970 or later	75% or more single family homes

The findings from the analyses suggest that the majority of low-income people living outside of Central Cities are in jurisdictions that are not really suburbs in the layperson’s understanding of that term but rather are in communities that resemble urban areas. As shown in Figure 3, among peri-urban jurisdictions, Other Urban and Mixed areas have the largest poverty rates, while Older and New Suburbs have the lowest.

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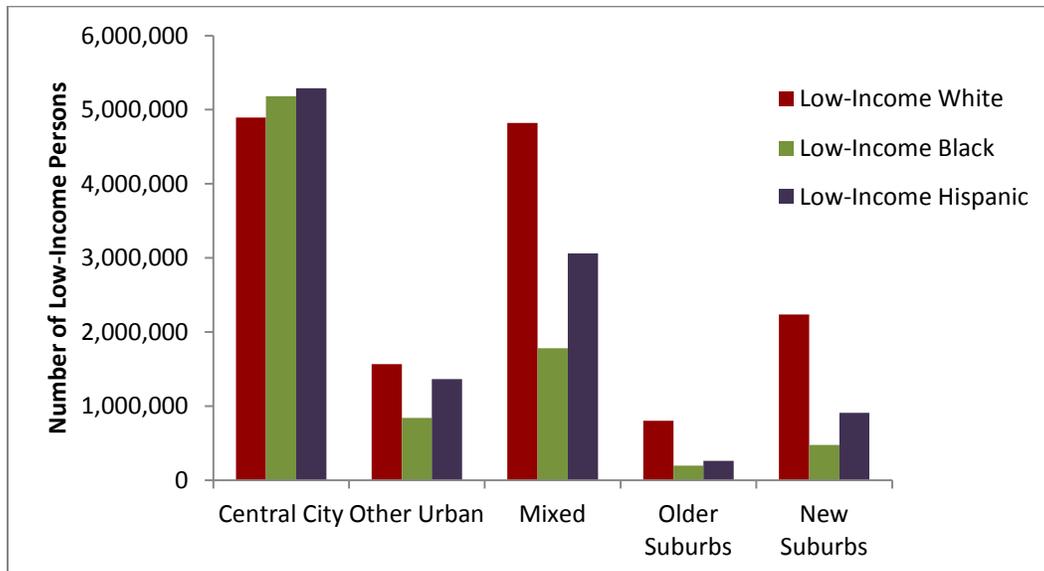
<sup>3</sup> We use the U.S. Census Bureau’s definition of poverty, which is based on a set of income thresholds that vary by family size and composition and are updated for inflation using the Consumer Price Index (CPI). Poverty is defined as living below 100 percent of the federal poverty level.

**Figure 3: Poverty Rate by Jurisdiction Type**



These categories of communities also differ considerably in racial composition. Figure 4 examines the racial composition of each type of jurisdiction. Black and Hispanic low-income people outnumber low-income white people in Central Cities, but low-income white people are the largest group in all four peri-urban jurisdiction types. Among the peri-urban communities, Mixed jurisdictions have the largest number of low-income people overall and of each racial/ethnic group. Older Suburbs have the smallest low-income populations overall and of each group. Other Urban and New Suburbs fall in between Mixed jurisdictions and Older Suburb.

**Figure 4: Low-income Population across Jurisdiction Types**



As Table 2 shows, although Central Cities have the single highest percentage of low-income people (46%) of all types of metropolitan jurisdictions, over half of the low-income population in metropolitan areas lives in a peri-urban jurisdiction, with the largest share is in Mixed jurisdictions (29%). The distribution varies by race and ethnicity. Two-thirds of low-income white individuals in metropolitan areas live outside of Central Cities, with the highest percentages in Mixed jurisdictions (34%) and New Suburbs (16%). In contrast, the majority of low-income black individuals (61%) in metropolitan area live in the Central Cities, with the highest percentages of peri-urban low-income black residents in Mixed and Other Urban areas.

**Table 2: Distribution of Low-income People by Race and Jurisdiction Type**

	Total	Low-Income White	Low-Income Black	Low-Income Hispanic
<b>Central Cities</b>	46%	34%	61%	49%
<b>Peri-Urban</b>	54%	66%	39%	51%
<b>Other Urban</b>	11%	11%	10%	13%
<b>Mixed</b>	29%	34%	21%	28%
<b>Older Suburbs</b>	4%	6%	2%	2%
<b>New Suburbs</b>	11%	16%	6%	8%
N=	36,403,561	14,314,671	8,468,143	10,879,873

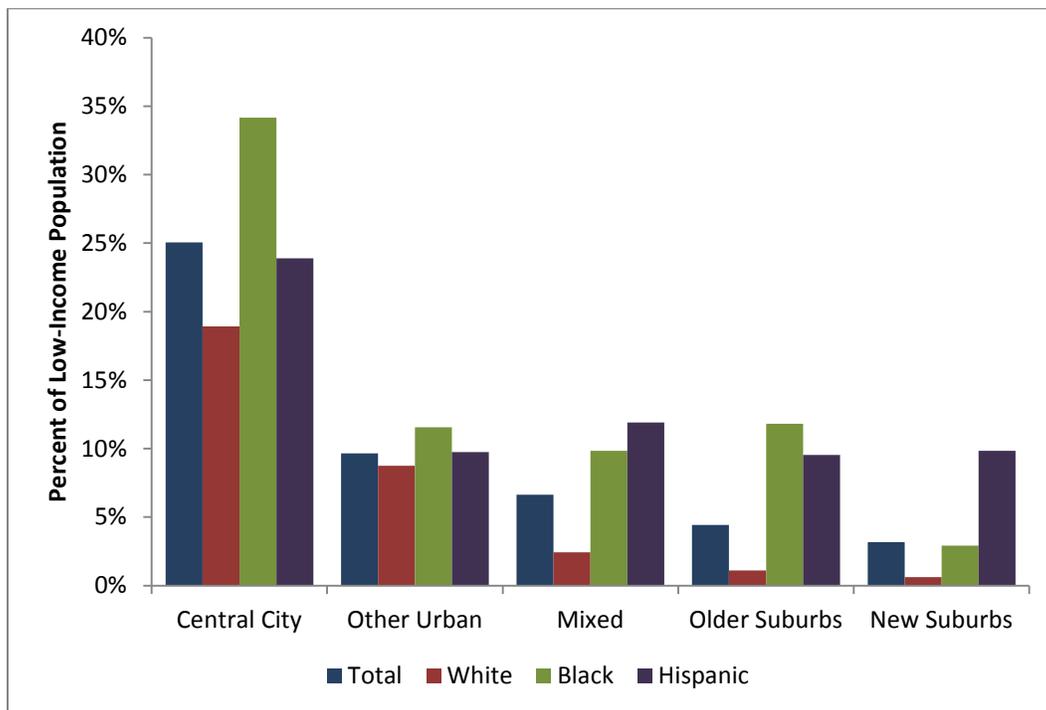
Low-income Hispanic individuals in metropolitan areas are about evenly split between Central Cities and other jurisdictions; again, the majority of peri-urban low-income Hispanic population lives in Mixed and Other Urban jurisdictions. Overall, low-income white and Hispanic people in metropolitan area are more likely to reside in suburban communities than urban areas, albeit suburban communities that have many urban characteristics. New Suburbs and Other Urban jurisdictions have similar low-income compositions, but Older Suburbs stand out as being home to few low-income residents and even fewer nonwhite low-income residents.

**Concentration of Poverty.** The concentration of poverty<sup>4</sup> in metropolitan areas continues to be highest for all racial groups in Central Cities, with over one third of the low-income black population, roughly one quarter of the low-income Hispanic population, and nearly one fifth of the low-income white population living in high-poverty areas (see Figure 5). Low-income black

<sup>4</sup> The concentration of poverty refers to the extent to which the poor population of a given metropolitan area lives in very high poverty neighborhoods. Operationally, it is defined as the percentage of the poor population that lives in census tracts in which 40 percent or more of the population is poor. This definition is the standard in the literature on concentrated poverty and has been incorporated into federal data analysis and program rules.

and Hispanic people also are more likely than low-income white populations to live in areas of concentrated poverty in suburban communities. These findings indicate that among low-income black and low-income Hispanic populations living in the suburbs, higher proportions live in areas of concentrated poverty in all suburban areas, except those that most resemble urban areas (i.e., Other Urban). As Figure 5 demonstrates, about one in ten low-income people in Other Urban areas lives in a high-poverty neighborhood regardless of race or ethnicity. In the remaining types of jurisdictions, the proportion of people that live in concentrated poverty depends on race and ethnicity. Excluding Central Cities and Other Urban communities, small proportions of low-income white people live in high-poverty neighborhoods. In Mixed jurisdictions and Older Suburbs, about one in ten black low-income people and one in ten Hispanic people live in areas of concentrated poverty; in New Suburbs, low-income Hispanic people are the most likely to live in concentrated poverty. Comparable percentages of low-income Hispanic people live in areas of concentrated poverty in all types of suburban communities.

**Figure 5: Concentration of Poverty**



**Racial Segregation.** To investigate how the distribution of poverty across urban and suburban areas varies by race and ethnicity, we examine differences in racial segregation between and within jurisdictions. Residential racial segregation is normally calculated by dividing metropolitan areas into neighborhoods, but ignoring the intermediate level of cities and suburbs. To better understand the contribution of jurisdictions to racial segregation, we examined the racial segregation in a metropolitan area *between* and *within* jurisdictions. We conducted an analysis using indices of dissimilarity—demographic measures of the evenness

with which two groups are distributed across geographic areas that make up a larger area. The index score, ranging from 0 to 1, also can be interpreted as the percentage of one of the two groups that would have to move to different geographic areas in order to produce a distribution representative of the larger area (see Appendix A for additional information). Using data from the American Community Survey on the 384 metropolitan areas, we first computed the overall measure of segregation between black and white populations and between Hispanic and white populations. This number indicates the proportion of the population that would have to relocate in order for the metropolitan area to be perfectly integrated. Second, for each of the 384 metropolitan areas we computed both the levels of segregation *between* jurisdictions and the weighted-average level of segregation *within* the area's jurisdictions. The between-jurisdiction index indicates the proportion of the population that would have to move to a different jurisdiction to achieve an even distribution of racial groups across a metropolitan areas cities and suburbs. In other words, it is the level of metropolitan segregation that would still remain even if each and every city and suburb in the area were integrated within its own borders. The within-jurisdiction index indicates the proportion of the population that would have to move to a different neighborhood within the same jurisdiction to achieve perfect integration within each jurisdiction. It is a measure of how unevenly racial groups are distributed at the neighborhood level within a metropolitan area's various cities and suburbs. Using these measures, we explored how much segregation was related to sorting across jurisdictions relative to sorting at the neighborhood level within jurisdictions.<sup>5</sup>

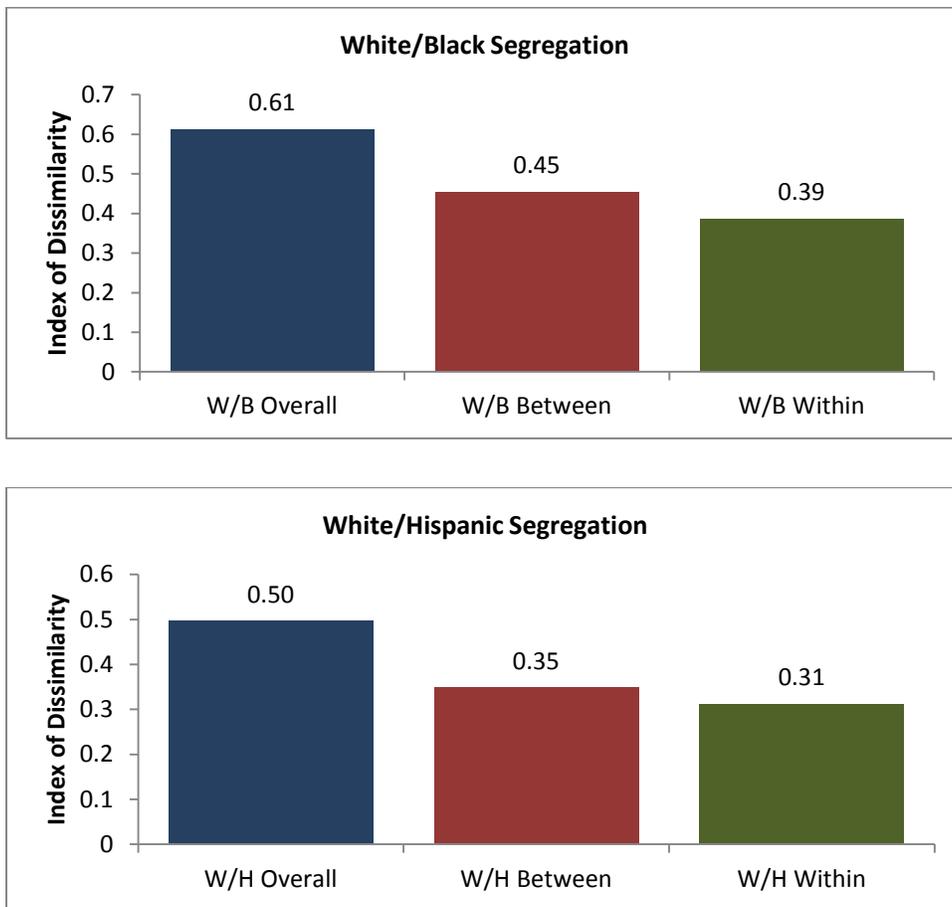
We find that overall segregation is largely driven by the differences within racial/ethnic composition of cities and suburbs. That means that even if black, Hispanic, and white populations in each Central City and in each suburban jurisdiction within the metropolitan area were totally integrated, nearly three fourths of racial/ethnic segregation would remain. The analysis reveals that two-thirds of the racial/ethnic segregation in metropolitan areas is attributable to segregation *between jurisdictions*. As Figure 6 indicates, this is true for both black/white segregation and Hispanic/white segregation. Nationwide, the weighted average level of black/white segregation in metropolitan areas is 0.61, indicating that 61% percent of people would have to change jurisdictions to eliminate racial segregation. The average level of segregation *between* jurisdictions in metropolitan areas is 0.45, accounting for 74% of the overall level of segregation. This indicates that even if each individual jurisdiction were perfectly integrated, three quarters of the racial segregation would remain because black and white populations live in different jurisdictions. Similarly, the weighted average level of Hispanic/white segregation is 0.50, and the *between* jurisdiction level is 0.35 (or 70% of the overall level of segregation).

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<sup>5</sup> Between- and within-jurisdiction segregation need not add to the total because a particularly large concentration of one group in a particular neighborhood can simultaneously contribute to segregation within a given jurisdiction and to segregation between jurisdictions in the larger area.

There are considerable differences among metropolitan areas in these statistics. Some areas, such as the New York Metropolitan area, have high levels of overall black/white segregation (.80) but relatively low levels of between-jurisdiction segregation, suggesting that if there was no racial segregation within the Central City per se, there would be little segregation overall. That is because so much of the population of both races lives within the City of New York proper. If there were no racial segregation within the City per se, there would be little segregation overall. In contrast to New York, many metropolitan areas with large Central Cities are highly segregated at the jurisdiction level as well. For example, Philadelphia has an overall black/white level of segregation of 0.76 which would only fall to 0.63 if Philadelphia and its suburbs were fully integrated.

**Figure 6: Metropolitan Segregation: Overall, Between, and Within Jurisdictions**



## WHAT ARE THE DRIVERS OF RACIAL SEGREGATION IN THE SUBURBS?

The drivers of racial segregation among low-income people in the suburbs are well documented in the literature. We identified three of the most commonly discussed causes of suburban segregation: housing discrimination, housing policies that steer black people to specific neighborhoods, and white flight out of racially diverse communities. Although there are other causes of segregation, such as historical settlement patterns and individual preference, these three are the most relevant for an examination of public policy on racial segregation. We discuss each of these ideas in detail below.

**Housing Discrimination.** Although housing discrimination against racial/ethnic minority groups is prohibited by the Fair Housing Act, research shows it continues to play a role in how communities are shaped, fostering segregation along both racial and income lines. A number of studies have documented the ongoing prevalence of discriminatory behavior in housing markets (National Fair Housing Alliance, 2006, 2007; Turner et al., 2002) and lack of enforcement of existing laws (National Commission on Fair Housing and Equal Opportunity, 2008). Housing discrimination persists primarily in three ways: discrimination by landlords, steering by real estate agents, and discrimination in mortgage lending and insurance companies. Landlords discriminate against potential tenants, encouraging white renters and discouraging black renters to view, apply, and rent units by their availability and frequency of contact and the language used to describe units (Hanson, Hawley, & Taylor, 2011). Real estate agents steer prospective blacks and white homebuyers to different neighborhoods, directing racial/ethnic minorities to less wealthy communities and neighborhoods with a higher proportion of minority residents (Galster & Godfrey, 2005). Finally, mortgage lending and insurance can restrict the housing options available to minority populations (Dawkins, 2011; Orfield & Luce, 2012). Studies show that black people are denied mortgages at disproportionately higher rates than their similarly qualified white counterparts (Ross & Yinger, 2003).

**Housing Policies.** A lack of affordable housing options and racially segmented housing markets can constrain the ability of low income families to move (Crowder, Scott, & Chavez, 2006; South, Crowder, & Chavez, 2005). As Orfield & Luce (2012) note, numerous recent studies demonstrate that federal, state, and local governments continue to build a disproportionate share of subsidized low-income housing in low-income and predominantly minority neighborhoods. Additionally, exclusionary zoning, such as anti-density regulations, remains common in predominantly white suburbs and accounts for large portions of the levels and changes in racial segregation from 1990 to 2000 in the 50 largest metropolitan areas (Orfield & Luce, 2012; Rothwell, 2011).

**White Flight.** White flight, a term originally used to describe the large-scale migration of white people from racially mixed urban areas to more racially homogeneous suburban areas, is more recently being applied to the movement of white people from older, inner suburbs to newer, less densely populated suburban communities. Analysis conducted for this paper underscores the finding that even in the suburbs white people tend to live in different communities than non-white people do.

## WHAT ARE THE CONSEQUENCES OF RACIAL SEGREGATION IN LOW-INCOME SUBURBAN COMMUNITIES?

The research conducted for this paper indicates that most suburban racial segregation occurs between jurisdictions rather than within jurisdictions, creating distinct black suburbs and white suburbs. Among low-income populations, in particular, this racial segregation is problematic because low-income minority communities compared to low-income white communities have fewer resources to address poverty and greater needs for services for various reasons including higher rates of crime, worse health outcomes, and poorer education outcomes.

Low-income communities have limited resources available to address poverty, due to weak tax bases (Allard, 2007; Orfield & Luce, 2012). In addition, although the suburbs overall have frayed social service systems, they are even more lacking in low-income racially segregated communities (Murphy & Wallace, 2010). Social services that help promote economic well-being such as job training, adult education, and child care are insufficient and there is less access to services that can help to ameliorate conditions often concomitant with poverty such as mental health and substance abuse problems (Allard, 2007; 2008; Murphy & Wallace, 2010). Moreover, unreliable personal transportation and insufficient public transit system (Li, Campbell, & Fernandez, 2013) create difficulties for residents in low-income racially segregated communities in accessing social services that are available.

Majority-minority low-income communities have fewer resources available yet have greater needs for services than the suburbs overall. Compared to suburbs overall, racially segregated low-income communities have higher unemployment rates, and lower home values (Orfield & Luce, 2012; Peterson & Krivo, 2010) in part because black neighborhoods are less likely to be located near employment centers, even in the suburbs (Stoll, 2005).

Racially segregated low-income communities have higher rates of violent and property crime (Logan & Messner, 1987; Shihadeh & Flynn, 1996). Although research has attempted to explore the intervening mechanisms, few definitive statements can be made about the nature of this link. Some explanations suggest that cultural codes in such neighborhoods support violence, high poverty rates and unemployment rates are related to violence, and that high rates of incarceration can reduce neighborhood stability, but evidence for these links are in their infancy (Peterson & Krivo, 2005, 2009; Sampson, Raudenbush, & Earls, 1997).

People living in racially segregated low-income communities experience worse health outcomes and higher mortality rates than those in more diverse communities (Acevedo-Garcia & Lochner, 2003; Freedman, Grafova, & Rogowski, 2011; Williams & Collins, 2001.) A review by Landrine and Corral (2009) identifies three major mechanisms through which residential segregation leads to low-income health outcomes for black people, including higher exposure to toxins from factories and toxic waste dumps that are disproportionately located near minority neighborhoods, limited or low quality health care available in segregated neighborhoods, and insufficient resources in the built environment fostering healthy behaviors (e.g., low access to supermarkets selling fresh fruits and vegetables and low access to recreational facilities).

Low-income children that attend racially segregated schools have lower test scores, higher dropout rates, and lower college attendance than low-income students in racially integrated schools (Mickelson, 2003; 2006; Orfield, 2012; Rumberger & Palardy, 2005). Additionally, children in racially segregated schools are more likely than children in racially mixed schools to commit crimes and they are less likely to pursue lucrative occupations in which minorities are historically underrepresented (Billings, Deming, & Rockoff, 2012; Crain and Strauss, 1985). These findings are often attributed to less qualified teachers, higher rates of teacher turnover, and poorer facilities and resources in racially segregated schools (Orfield, Kucsera, & Siegal-Hawley, 2012).

### **WHAT STRATEGIES COULD BE USED TO ADDRESS RACIAL SEGREGATION IN THE SUBURBS?**

Research on racial segregation among suburban low-income communities, including the analyses conducted for this paper, can be used to identify a range of policy solutions for federal, state, and local governments. Policies must address both practices that foster segregation of racial/ethnic minority groups into specific suburban communities as well as practices that create inequality in access to services and opportunities in segregated communities. Strategies include addressing housing discrimination, regulating zoning and growth in the suburbs, fostering regional planning, and promoting racially integrated school zones. While these strategies are often offered as solutions to racial segregation in urban areas, the high rates of segregation in the suburbs suggests they need to be applied there as well. Each of these options is described below.

#### ***Address Housing Discrimination***

Several strategies might be used to address discrimination in housing that creates racially segregated suburban communities. These may include federal and state agencies putting more effort into enforcing the Fair Housing Act by documenting and combatting discrimination in mortgage lending and insurance policies, promoting fair housing practices in sales and rentals, and supporting public-private partnerships between government, the housing industry, and private fair-housing organizations to identify and dismantle the barriers to equal housing opportunities (Seitles, 1998; Tighe, 2011). Additionally, municipal initiatives, such as Cincinnati's Section 8 Mobility Assistance and the Chicago Leadership Council's fair housing program, that inform people looking for housing of their housing rights and help them expand their search into more economically and racially diverse communities can combat the concentration of low-income minority populations into racially segregated neighborhoods (Seitles, 1998).

### ***Regulate Zoning and Growth in the Suburbs***

State, and local governments could eliminate exclusionary zoning regulations and provide incentives for inclusionary zoning in order to facilitate minority and lower-income groups' access to economically and racially diverse communities. Several options for eliminating these guidelines are possible. Municipal ordinances that require the inclusion of low-income units in new housing developments, such as the Moderately Priced Dwelling Unit Ordinance in Montgomery County, Maryland, increase the availability of housing options for low-income minority people in more affluent communities (Orfield & Luce, 2012; Seitles, 1998). Developing affordable housing appeals laws, such as the Connecticut Affordable Appeal Act, provide courts or state agencies the ability to override exclusionary local zoning ordinances (Fisher & Marantz, forthcoming; Seitles, 1998). Additionally, some states have adopted legislation to promote inclusionary housing, including specific provisions to expand integrated and affordable housing in economically stable suburban communities. Governments can foster similar inclusionary practices to help provide low-income minority populations with opportunities for better housing and improved economic opportunities (Schwartz, Ecola, Leuschner, & Kofner, 2012). Similarly, state and local governments can help moderate the pace of suburban growth. When new suburbs grow at a faster pace than is needed to accommodate metropolitan population growth, Central Cities and Older Suburbs lose key resources that ameliorate poverty, such as jobs, commerce, and wealthier residents.

### ***Foster regional planning***

Regional planning and service provision, including funding and access to social services providers, can contribute the resources needed to address poverty among those individuals and families who already reside in racially segregated suburban communities (Allard 2007, 2008). Current barriers to regional planning include rules surrounding the use of federal funding, such as the inability to blend funds, the specific rules constraining braiding the funding, and different data reporting requirements by federal, state, and local governments. The federal government can invest in community infrastructures to support collaborating and planning at a regional level, allow more flexible funding, and coordinate data requirements across agencies to make interagency collaboration across different levels of government easier. These actions may facilitate equal access to needed resources among low-income people of all races (Kneebone & Berube, 2013).

### ***Promote racially integrated school zones***

Racially segregated neighborhoods produce racially segregated schools, which place minority children, especially low-income children, at an academic disadvantage. Therefore, a final strategy that addresses not residential segregation itself but one of its consequences, is to

promote racially integrated schools. This can be achieved through access to free, reliable transportation, designing school zones that are “non-contiguous”, and supporting racially integrated magnet schools, charter schools, and inter-district transfers (Orfield, & Luce, 2012; Tefera, Frankenberg, Siegel-Hawley, & Chirichigno, 2011). Moreover, local, state, and federal education authorities ensuring that local school-district-boundary decisions, school-transfer policies, and capital decisions are fair under the Titles II and VI of the 1964 Civil Rights Act and under state and federal constitutions can facilitate the de-segregation of schools (Orfield and Luce, 2012).

## CONCLUSION

This paper examines extent to which racial and economic segregation exists within and across different types of suburban communities to better understand how policy solutions might best address growing racial and economic inequality in the suburbs. Analyses for this paper indicate that the proportion of low-income people living in the suburbs varies by race and ethnicity across different types of jurisdictions, with the low-income black population still residing in Central Cities and more urban areas outside of Central Cities and low-income white and low-income Hispanic populations more widely dispersed. As the findings suggest, racial/ethnic segregation is largely conditioned on types of suburban communities in which people of different races reside.

Racially segregated suburbs create inequities that place low-income people of color at higher risk in a number of ways. Racially segregated suburbs have fewer resources available to address poverty and low-income people living in racially segregated communities must contend with a host of challenges, including less access to jobs, high crime rates, barriers to good health, and negative school outcomes for children.

Low-income people end up in racially segregated suburbs due to a range of factors, including housing discrimination, housing policies, and white flight. Understanding these factors is important for outlining potential strategies for addressing racial segregation among suburban low-income populations. Solutions must focus on both practices that eliminate the segregation of racial/ethnic minority groups into specific suburban communities as well as practices that make increase access to services and opportunities in low-income communities overall.

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## APPENDIX A. INDICES OF SEGREGATION

To examine segregation in metropolitan areas, we conducted an analysis using indices of dissimilarity—demographic measures of the evenness with which two groups are distributed across geographic areas that make up a larger area. The index score, ranging from 0 to 1, also can be interpreted as the percentage of one of the two groups that would have to move to different geographic areas in order to produce a distribution representative of the larger area.

### ***Overall Segregation***

Residential segregation is normally calculated for metropolitan areas using census tracts as proxies for neighborhoods. There are many virtues to this practice, but the most important is that census tracts are defined somewhat consistently for the whole country. The most common measure of residential segregation is the Index of Dissimilarity. For this analysis we modified the usual formula for D by recognizing the census tracts are nested within jurisdictions (Central Cities and suburban jurisdictions), indexed by  $j = 1$  to  $J$ . Each jurisdiction has  $n_j$  neighborhoods. For blacks and whites, the overall Index of Dissimilarity (OD) is calculated as:

$$OD_{wb} = (0.5) \sum_{j=1}^J \sum_{i=1}^{n_j} \left| \frac{w_{ji}}{W} - \frac{b_{ji}}{B} \right|$$

### ***Between-Jurisdiction Segregation***

To better understand the contribution of political jurisdictions to racial segregation, we examined the levels of segregation in a metropolitan area *between* jurisdictions. The size of the units used to compute the segregation score vary from one metropolitan area to another, so that comparisons of jurisdiction-level segregation may not be comparable across metropolitan areas. However, the purpose of this analysis was to understand how much segregation exists within metropolitan areas because of differences in racial composition of the cities and towns that comprise them. Using jurisdictions in place of census tracts reveals how much segregation would still exist even if all the neighborhoods within each city and town were completely integrated. The between-jurisdictions Index of Dissimilarity (BD) for blacks and whites is calculated without reference to the neighborhoods within them:

$$BD_{wb} = (0.5) \sum_{j=1}^J \left| \frac{w_j}{W} - \frac{b_j}{B} \right|$$

### ***Within-Jurisdiction Segregation***

For an examination of how much segregation exists within jurisdictions, we calculated the census tract-level segregation within each city and town, and then compute the weighted average of this jurisdiction-level segregation at the metropolitan level.

$$WD_{wb} = \frac{1}{W + B} \sum_{j=i}^J (W_j + B_j) \left( \frac{1}{2} \right) \sum_{i=1}^{n_j} \left| \frac{w_{ji}}{W_j} - \frac{b_{ji}}{B_j} \right|$$

This calculation in effect ignores how blacks and whites are distributed across jurisdictions. Rather, within-jurisdiction calculation reflects the average segregation level of the towns within a metropolitan area, weighted by the population of the two groups being considered.