

# THE EFFECT OF URBAN CONTAINMENT AND MANDATORY HOUSING ELEMENTS ON RACIAL SEGREGATION IN US METROPOLITAN AREAS, 1990–2000

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**ABSTRACT:** *Urban containment and state-imposed mandatory housing elements in comprehensive land use plans attempt to reshape development patterns. Urban containment programs reign in the outward expansion of urban areas by restricting development of rural land outside urban containment boundaries and focusing the regional demand for urban development areas within them. This article assesses the effect of urban containment and mandatory housing elements on the percentage change in racial segregation change among US metropolitan areas during the 1990s. Ordinary least squares regression analysis suggests that while metropolitan areas with strong urban containment efforts saw a higher percentage decline in Anglo/African American residential segregation during the 1990s than metropolitan areas without such policies in place, urban containment had no statistically significant effect on segregation between Anglos and other races. Mandatory housing elements made no difference in racial segregation change between Anglos and any other race. Policy implications are posed.*

**D**uring the 1990s, residential segregation by race declined in most metropolitan areas. The average index of dissimilarity between Anglos and African Americans across all metropolitan areas fell from 55.7 to 51.4 or nearly 8% during the 1990s (indices calculated from <http://www.albany.edu/mumford/>). There is considerable variation in the pace of desegregation across metropolitan areas. In metropolitan Portland, Oregon, for example, the Anglo-African American index of dissimilarity fell from 63.7 in 1990 (where 60.0 is considered highly segregated) to 48.1 in 2000 or 24.5%. Portland's experience eclipsed the

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national trend. In contrast, within Kansas City, a metropolitan area of roughly the same size and socioeconomic conditions, the situation is different. The index of dissimilarity between Anglos and African Americans fell from 72.6 to 69.1 during the 1990s or less than 5%, on par with the national average. While there are many explanations for the differences in direction of change over time, we suspect some relate to development intervention policies, particularly urban containment and state-mandated housing elements in locally prepared comprehensive plans. In this article, we review recent literature on residential segregation, describe significant features of urban containment policies and mandatory housing elements, pose a theory and model, apply it to all metropolitan areas nationally using regression analysis, and offer implications for policy.

## RACIAL SEGREGATION

Studies of residential segregation by race and class rarely examine the role of land use regulations. This is unfortunate given that early regulations were explicitly designed to create racially homogenous neighborhoods and communities with homogenous land use patterns. One of the first zoning ordinances in the US was designed to limit the spread of Chinese laundries within the city of San Francisco (Juergensmeyer & Roberts, 1998). Many early zoning ordinances in the South explicitly designated districts for black and white residents. Although explicit racial zoning was ruled unconstitutional in 1917 (*Buchanan v. Warley*, 1917), the end of overt racial zoning did not end the demand for racially homogenous neighborhoods. Furthermore, even though local governments since the 1917 were forbidden to regulate residential patterns on the basis of race, many homeowners turned to private deed restrictions and covenants between land developers, homeowner associations, and property buyers to implement the same exclusionary objectives. These racially restrictive private covenants were declared unconstitutional in 1948, (*Shelley v. Kraemer*, 1948) but like racial zoning, they persisted afterward. In Kansas City, for example, evidence suggests that racial covenants existed well into the 1960s (Gotham, 2000).

Prior to the 1960s, racial segregation was also an implicit objective of many federal policies, particularly those dealing with housing and urban renewal. The Federal Housing Administration (FHA), created in 1934 to provide low-cost mortgage insurance, favored the most stable neighborhoods, defined as those with a homogenous racial composition (Jackson, 1985). FHA mortgage insurance also favored properties regulated by modern subdivision controls and zoning ordinances (Weiss, 1987), both of which were thought to maintain property values.

Since the 1960s, the connection between local land use policies and patterns of residential segregation has become less direct, but no less benign. According to Pendall (2000a), many traditional land use regulations indirectly limit minority housing opportunities by altering the composition of the housing stock and limiting the supply of affordable housing. Due to discrimination in housing and mortgage markets, lower average family incomes, and limited credit histories, US homeownership rates for African Americans and Latinos are much lower than the homeownership rates for whites. To the extent that local governments enact regulations that encourage the construction of owner-occupied housing, they also limit the choices of the majority of African American and Latino households who rent. Even where rental housing types are allowed, traditional land use controls tend to relegate these types to separate districts apart from single-family homes.

If race and income are highly correlated, then any policy with the explicit or implicit goal of raising housing prices may also exclude a larger proportion of racial minority households compared to white households. In the three-year period between 1997 and

1999, the median Hispanic and African American household earned approximately \$29,100 and \$26,600 respectively, compared with about \$43,300 for the median white household (Bureau of the Census, 2002). Lower incomes may also make wealth accumulation more difficult for Hispanics and African Americans, reducing their ability to afford substantial down payments and move-in costs for owner-occupied housing (Pendall, 2000a).

Even if traditional land use regulations are effective in fostering the segregation of housing types by style or affordability range, existing empirical evidence does not necessarily support the claim that land use segregation will result in residential segregation by race. If racial segregation simply reflects average differences in income between the races, we would expect measures of income and racial segregation to be highly correlated or to converge over time. Abramson, Mitchell, and VanderGoot (1995) found that this is not the case. In their analysis, they reported that measures of income segregation have increased across metropolitan areas, whereas measures of racial segregation have continued to decline. Thus, aggregate trends suggest that income and racial segregation are caused by different factors. However, among low-income minorities, the lack of affordable housing opportunities could still explain the persistence of segregation within many metropolitan areas.

Other evidence on this point is provided from studies that rely on individual data to explain intra-urban location decisions. Gabriel and Rosenthal (1989) relied on a multinomial logit model of location choice to predict the choice of jurisdiction. They found that large simulated changes in black household characteristics, including income and lifecycle characteristics, had little effect on the probability that blacks will choose a residence in a suburban jurisdiction within the Washington, DC, metropolitan area. South and Crowder (1997) relied on Panel Study of Income Dynamics data to explain the probability of choosing a suburban location among whites and blacks. After stratifying the sample by race, they found that family income is not a significant predictor of black suburban moves. In another recent study, Ihlanfeldt and Scafidi (2003) regressed the percentage of black residents in a black person's neighborhood on individual level characteristics and found that an increase in black incomes only slightly reduces the number of other black neighbors chosen by that resident. Each of these studies indicated that while blacks and whites may choose housing for different reasons, controlling for income and lifecycle reasons for these differences, there remains a substantial gap between the residential location choices of blacks and whites.

Research by Pendall (2000a) has shown that, broadly speaking, traditional land use controls can strengthen a chain of exclusion in which local policies restrict the supply of multifamily and rental housing, increase housing prices and rents, and exclude racial and ethnic minorities. Pendall's research has also shown that these traditional controls are not adopted in isolation. Rather, they are adopted as components of local regulatory regimes defined as the sum of formal and informal institutions that regulate the delivery of housing and community services in a place. For low-income minority households, it may be the entire local regulatory regime and not particular land-use controls that affect a household's ability to find an affordable place to live.

A survey by Pendall (1995) found significant regional variation in the regulatory regimes that are in place around the country. The Northeast and Midwest are characterized by fragmented metropolitan areas where municipalities tend to use large-lot zoning to control growth and rarely adopt affordable housing programs to mitigate the price effects of their land-use regulations. The South, outside of Florida, and the Great Plains region tends to be more *laissez-faire*, seldom imposing land use controls or affordable housing

programs of any kind. County governments in the South often have more home rule powers than in other regions but their regulatory role is often very slight and usually designed to facilitate development rather than to control it.

Pendall (2000a) observes that the West, Florida, and Maryland are all characterized by stronger urban containment programs, often coordinated at the county level, with combinations of land use regulatory techniques, including building permit caps, adequate public facilities ordinances, and aggressive impact fee programs. Exclusionary zoning is very rare in the newly developing parts of these regions, but lengthy environmental review processes are common for large developments.

It is interesting to consider recent regional trends in segregation in light of these regional variations in land use regimes. Farley and Frey (1994) examine segregation trends in 1990 and find that after controlling for other determinants of segregation changes, the highest levels of racial segregation are in the Northeast and the Midwest with much lower levels observed in the South and the West. As indicated above, land use regimes in the West are characterized by much greater levels of coordination at the county level combined with more aggressive urban containment and affordable housing programs. These practices represent a contrast to the more fragmented and exclusionary land use regimes in the Midwest and the Northeast.

Although we do not directly examine the impacts of land use regimes per se in this article, we examine the impact of two primary sources of variability in land use regimes nationwide—1) the presence or absence of an urban containment policy, and 2) the presence or absence of a statewide mandate to prepare housing elements as part of the local comprehensive planning process. Nelson, Dawkins and Sanchez (2004) is the only study to examine how these land market interventions affect metropolitan-level changes in residential segregation by race. The current study extends their analysis by examining the integrative impacts of urban containment and mandatory housing elements for a larger number of metropolitan areas and across multiple racial groups.

## **URBAN CONTAINMENT**

As its name implies, urban containment aims to contain the outward expansion of urban areas into the countryside beyond a line or boundary. It does so in part by choreographing public infrastructure investment, land use and development regulation, and incentives and disincentives to influence the rate, timing, intensity, mix, and location of growth. Broadly speaking, urban containment programs can be distinguished from traditional approaches to land use regulation by the presence of policies that are explicitly designed to limit the development of land outside a defined urban area, while encouraging infill development and redevelopment inside the urban area (Nelson & Duncan, 1995).

Although the idea of urban containment is not new in America (some New England townships in the seventeenth century forbade homes from being built in the nearby farmland), its modern form arose only as recently as the late 1950s. Lexington and Fayette County, Kentucky, are credited with implementing the nation's first effort to contain urban sprawl, chiefly by limiting development within an urban service line and preventing urban-scale residential development in the Bluegrass area.

During the 1970s, urban containment emerged in a few more metropolitan areas, chiefly Miami-Dade County, Minneapolis-St. Paul, Boulder, Sarasota, and Sacramento, and in one state—Oregon. Florida's growth management legislation in the middle-1980s enabled local governments to adopt various forms of urban containment strategies, although few have. The state of Washington adopted Oregon-style containment laws in the early 1990s and applied them to the most urbanized counties. Examples are not limited to areas of

burgeoning population growth, however. Sioux Falls, South Dakota, has one of the nation's oldest programs.

### MANDATORY HOUSING ELEMENTS

One way to desegregate metropolitan areas is for suburban communities to open themselves up to low- and moderate-income households (see Downs, 1973). This can be done through higher density zoning, relaxing building codes, and other proactive ways to accommodate low and moderate-income households. The trouble is that few suburbs would take it upon themselves to accommodate such households. Such state-imposed planning policies as mandatory housing elements can help to make the suburbs more accessible.

Many states require local governments to address all housing needs of the community and sometimes of the region. This is done through preparation and implementation of a housing element that becomes part of the comprehensive land use plan. The idea of requiring housing elements is newer than urban containment, with the first mandatory statutes arising in the 1970s and then in only two states: California and Oregon (American Planning Association, 2002).

Mandatory housing elements have as a common goal the provision of housing for all households projected to live in a community or region, not just a select few such as higher income households or households purchasing expensive homes. They have inclusionary housing undertones, such as requiring developers to set aside some housing units for low and moderate income households, or meeting targets for the percentage or number of low and moderate-income housing units, or achieving a mix of housing units by type and density. Metro Portland, for example, requires that 20% of all housing built be targeted to low- and moderate-income households (Knaap & Nelson, 1992).

Mandatory housing elements have a decided racial dimension, as literature demonstrates reasonably conclusively that low- and moderate-income households tend to be members of minority races. Such elements also have an income disparity implication, naturally, because broadening housing opportunities to a wider range of incomes should reduce income disparity.

### ANALYTIC APPROACH AND MODEL

Consistent with literature, we use the index of dissimilarity to measure racial segregation among Anglos and African Americans, Latinos, and Asians. The index of dissimilarity is defined formally as:

$$D = 0.5 \sum_i |b_{ig}/b_g - w_{ih}/w_h|$$

where, in our case:

$b_{ig}$  = number of members of a given minority in census tract  $i$ ,

$b_g$  = total number of members of that minority in the MSA,

$w_{ih}$  = number of Anglo residents in census tract  $i$ , and

$w_h$  = total number of Anglo residents in the MSA.

The index can be interpreted as the percentage of one race that would have to move to achieve an even distribution of races across all census tracts. An index of dissimilarity score of 100 means that each census tract is occupied solely by one racial group, and a

score of zero means that every tract has the same racial composition as the surrounding metropolitan area. Generally, an index of 60 or more indicates substantial segregation. For minorities, we use indices for all metropolitan statistical areas based on census definitions in effect in 2000 (including primary metropolitan statistical areas where consolidated metropolitan statistical areas apply), calculated by the Lewis Mumford Center for Comparative Urban and Regional Research at the State University of New York in Albany (available at [www.albany.edu/mumford/](http://www.albany.edu/mumford/)).

Our analysis compares the percentage change in indices of dissimilarity for metropolitan areas with and without urban containment and mandatory housing elements during the 1990s. Where are urban containment boundaries and mandatory housing elements used? There is no single source for this information. We inventoried the presence of urban containment plans through a mail survey and follow-up telephone calls to all metropolitan planning organizations (MPOs) over the period 2000 through 2002. The mail survey of MPOs was conducted in 2000 and received a response rate of more than 80%. Nonresponding MPOs were contacted by telephone in 2001, capturing all remaining MPOs. MPOs were used because planners in such agencies are probably reasonably well informed about metropolitan or submetropolitan containment efforts. From these surveys came a nearly a complete list of communities within metropolitan statistical areas engaged in urban containment. This inventory was supplemented in 2001 with a web site search. A content analysis of urban containment plans was then conducted.

Mandatory housing elements are considered present in all jurisdictions where state law mandates a housing element and at least implies inclusionary housing outcomes. This would apply to all metropolitan areas in California, Florida, Georgia, Hawaii, Idaho, New Jersey, Oregon, and Washington (see American Planning Association, 2002).

A content analysis of containment plans and state housing policies revealed the presence of two broad types of urban containment: strong and weak. Strong containment plans include some form of urban containment boundary and rigorous restrictions on development of open spaces outside. Examples include metropolitan Portland, Oregon; Seattle, Washington; Sacramento, California; and Miami-Dade County, Florida. Weak containment plans included only some form of urban containment boundary with few restrictions on developing outside, such as Minneapolis-St. Paul, Sarasota, and Orlando, Florida. To classify plans as strong or weak, we examined the presence or absence of various policies supporting urban containment objectives. Using cluster analysis, we identified two clusters of containment plan types: those with a large number of supportive policies (strong containment) and those with few policies supporting urban containment (weak containment). For more information on the classification procedure, see Nelson and Dawkins (2004).

We found 101 metropolitan areas with some form of strong (46) or weak (55) containment. We also found 57 metropolitan areas subject to state housing element mandates. The variation in the distribution of metropolitan areas with and without containment, with and without mandatory housing elements, and with neither or both containment and mandatory housing elements allows us to use ordinary least squares regression to help answer our research questions.

The general model for analysis is:

$$\% \Delta \text{ Segregation} = f(\text{population, socioeconomic, region, mandatory housing element, containment}).$$

## Dependent Variables

*Segregation-%Change* is the percentage change in the index of dissimilarity between 1990 and 2000 for each metropolitan area, calculated as

$$[(\text{Index}_{2000} - \text{Index}_{1990}) / \text{Index}_{1990}] * 100.$$

Because the index of dissimilarity fell for most metropolitan areas during the period 1990 to 2000, the question is whether containment and/or mandatory housing elements housing are associated with accelerating this trend.

## Population Controls

*Population-Growth-90s* is the rate of population growth during the 1990s. We suspect that as the population expands so will opportunities for housing choice, but this is not all certain. We believe that growth will be associated with declining segregation because growth may create opportunities for people of all races to seek new housing opportunities throughout metropolitan areas.

*African-American-Seg-1990*, *Latino-Segregation-1990*, *Asian-Segregation-1990*, and *Poverty-Segregation-1990* are baseline indices of dissimilarity scores for 1990. Because the index fell during the 1990s for all groups (including income disparity based on our calculations), we expect the association between *Segregation-%Change* and this variable to be negative. A negative coefficient on this variable implies that segregation levels may be converging to a steady state level of segregation over time, with less segregated metropolitan areas becoming more segregated and more segregated metropolitan areas becoming less segregated.

*African American-Growth-1990s*, *Latino-Growth-90s* and *Asian-Growth-90s* are growth rates of populations for each minority group during the 1990s. We believe that the higher the growth in the minority population the more segregated a metropolitan area will become over the decade controlling for all other variables.

## Socioeconomic Controls

*Per-Capita-Income-90* is the personal per capita income for the metropolitan area in 1990. As segregation by income is a well-known phenomenon (see Massey & Denton, 1993), we expect a positive association between this variable and segregation. The higher the income in 1990, the more likely a metropolitan area will continue to be segregated.

*Per-Capita-Income-Change* is the change in personal per capita income between 1990 and 2000 in real terms. Contrary to the variable *Per-Capita-Income-90*, we expect that rising incomes will give greater location choice, all things considered, and we anticipate a negative association with percentage change in segregation.

*Poverty-Rate-90* is the baseline share of all metropolitan households in poverty in 1990. As poverty begets poverty, we suspect a positive association between it and the dependent variables.

*City-Share-Pop-1990* is the baseline share of metropolitan population that resided in the central cities in 1990. Consistent with prior research (see Massey & Denton, 1993), we believe that the higher this share the more segregated a metropolitan area may become controlling for all other variables and, therefore, a positive association is expected with segregation.

*FBI-Crime-Index-90* is the number of FBI index crimes per 10,000 residents in 1990. If, as Ellen (2000) suggests, mobile households rely on race as a proxy for other neighborhood

characteristics such as crime rates, school quality, or property value stability, then increases in crime would signal a higher propensity to act upon racial proxies when choosing a residential location. We presume that the higher this index the more segregated a metropolitan area may become controlling for all other variables and so a positive association is expected with segregation.

*Housing-Cost-Index* is the MSA's median housing value relative to the mean for all MSAs. As housing cost relative to income is a source of segregation (see Pendall, 2000a, 2000b), we expect a positive association between this variable and *Segregation-%Change*.

*Manuf-Jobs-1990* is the share of all metropolitan jobs in manufacturing in 1990. We assume that as this share rises, thus representing greater dependency on an industrial (as opposed to post-industrial) economy, segregation will rise.

### Regional Controls

To account for differences in characteristics between regions of the nation that are not otherwise accounted for by other variables, a series of regional controls are used. Eight of the nine census regions are used in the analysis, the West North Central region being excluded to serve as the referent. No particular direction of association is expected between any regional control and the dependent variable. We speculate that these regional fixed effects are most likely to capture average differences across regions in the degree of interracial tolerance.

### Experimental Influences

*Mandatory-Housing-Element* is a binary variable indicating whether the metropolitan area is located within a state where comprehensive planning is required and such plans require a housing element. Even in the state with the weakest of such mandated elements, Georgia (because there is no meaningful state oversight, see Weitz, 1999), we find that mandatory housing elements are required implicitly (see Nelson, 1999). We suspect that plans in such states are better than in others in stimulating more housing opportunities especially for members of racial minorities in suburbs. A negative association is anticipated with respect to the percentage change in segregation because segregation should decline with the presence of such planning elements (if housing plans are effective), all things considered.

*Weak-Containment-Years* indicates the number of years a weak containment plan has been in place. We suspect that the longer such a plan has been in place the more rapid the percentage decline in the index of segregation. A negative association is expected with respect to *Segregation-%Change*.

*Strong-Containment-Years* indicates the number of years a strong containment plan has been in place. We believe as well that the longer such a plan has been in place the greater the pace of racial desegregation. Furthermore, we suspect that the magnitude of the effect of strong containment will be larger than the effect of weak containment, which suggests that the coefficient for *Strong-Containment-Years* should be more negative than the coefficient for *Weak-Containment-Years*.

## RESULTS

Table 1 presents the results of ordinary least squares regression. The *F*-ratios are significant at the conventionally accepted level ( $p > 0.01$ ). The adjusted coefficients of

TABLE 1

**Percentage Change in Racial Segregation with Respect to Containment and Mandatory Housing (Unstandardized Coefficients)**

	African American	Latino	Asian
Constant	-18.9990*	-25.2390*	-8.8090*
Population Controls:			
Growth-Rate-1990	-0.0144	-0.0779	0.0069
African-Am.-Seg-Index-90	-0.1670*		
Latino-Segregation-Index-90		-0.5670*	
Asian-Segregation-Index-90			-0.2010*
African American-Growth-90	-0.0086		
Latino-Growth-90		0.1330*	
Asian-Growth-90			0.0252*
Socioeconomic Controls:			
Per-Capita-Income-90	0.0007	0.0017*	0.0005*
Per-Capita-Income-Change	-0.0220	0.0968	-0.0311
Poverty-Rate-90	0.4860*	0.4270	0.2540*
City-Pop-Share-90	-0.0431	0.0074	-0.0284*
Manuf-Job-Share-90	0.0123	-0.0137	-0.0281
House-Price-Index-90	1.3160	-1.2280	1.0400
FBI-Crime-Index-90	0.0400	0.1000*	0.0150
Regional Controls:			
New-England	3.3330	4.8820	-0.5190
Mid-Atlantic	3.0960	5.2810	0.9920
East-North-Central	1.9340	-2.8140	-0.2660
South-Atlantic	0.6550	-10.3060*	-2.7050*
East-South-Central	4.0720	-5.5910	-0.4610
West-South-Central	1.2230	5.1430	0.1570
Mountain	-9.2940*	2.2640	-1.7490
Pacific	-4.3770	5.5860	-1.2330
Policy Influences:			
Mandatory-Housing-Element	1.3560	-1.4130	-0.6020
Weak-Containment-Years	-0.0116	0.0736	0.0287
Strong-Containment-Years	-0.1440*	0.1180	-0.0303
Adjusted $R^2$	0.2500	0.5400	0.4500
Standard Error of Estimate	7.8700	14.9100	3.5300
F Ratio	4.9600	17.1800	11.9700
$N = 331$			

\* $p > 0.05$ .

determination ( $R^2$ ) are reasonable for studies of this sort but certainly suggest that more can be done to help explain variation in *Segregation-%Change*.

For the most part, directions of association between the control variables and dependent variables are either insignificant statistically at conventionally accepted levels or consistent with expectations. In the African American model, the only significant control variables are for the base period (1990) African American segregation level, the 1990 poverty rate, and the metros in the mountain census region. These results indicate that metros with higher levels of segregation in 1990 were actually more likely to see percentage declines in segregation during the 1990s. This effect was counter-balanced by 1990 metro poverty rates. While race and poverty status in the US are strongly correlated, additional

examination of racial segregation and income distribution interactions would be especially interesting. Finally, declines in African American racial segregation in the mountain census region can be partially attributed to the small initial base of this racial minority.

The relative importance of various control variables in explaining segregation changes varies across racial group. In the model explaining Latino segregation, we find that per capita income in 1990 and metropolitan crime rates significantly affect changes in segregation during the 1990s. In the models explaining Asian segregation, per capita income in 1990, poverty rates in 1990, and central city population shares all contribute significantly to percentage changes in segregation. Across both of these racial groups, segregation declined in the South-Atlantic region relative to the remainder of the US.

To determine if the efficiency of our estimates may have been compromised due to multicollinearity, we examined a correlation matrix of the independent variables. As expected, the *Housing-Cost-Index* and *Per-Capita-Income-90* are highly correlated (Pearson correlation = .75) as are *Poverty-Rate-90* and *Per-Capita-Income-90* (Pearson correlation = -.60). No other control variables exhibit correlations above .50. Despite the high collinearity between the four variables discussed above, we choose to leave each in the model, because theory suggests that each should be included.

Examining the experimental variables, we find that our policy variables are statistically significant only in the equation explaining the percentage change in Anglo/African American segregation. The coefficient suggests that 10 years of strong containment would decrease *Segregation-%Change* by 1.4 percentage points more than would have occurred without such policies. Urban containment, whether weak or strong, has no statistically significant effect with respect to percentage change in racial segregation among Latino or Asian populations.

Examining bivariate correlations between the measures of urban containment and the other control variables in the model, we find that the measure of strong containment programs is highly correlated with the Pacific region dummy variable. This is expected given the preponderance of urban containment programs within this region of the country. Because multicollinearity tends to overinflate the standard errors for the parameter estimates, it is possible that the relative insignificance of the strong containment indicator experimental variables is affected by the presence of controls for regional fixed effects. To determine if this is the case, we also ran models omitting regional fixed effects. In the African American model, the *Strong-Containment-Years* becomes more strongly negative (coefficient = -.231). This indicates that over 10 years segregation would be reduced by 2.3% more than the mean and become more highly significant ( $p$ -value = .0015). The elimination of regional fixed effects does not significantly alter the sign or significance of the urban containment variables in the Latino or Asian models, however.

We find that the presence of a mandatory housing element does not have a statistically significant impact on the percentage change in African American, Latino, or Asian segregation. An examination of bivariate correlations suggests that the efficiency of the mandatory housing element estimates is not compromised by the presence of multicollinearity. Thus, we conclude that with respect to urban containment and mandatory housing elements, only urban containment contributed to percentage declines in segregation during the 1990s.

## IMPLICATIONS

That urban containment appears to accelerate racial desegregation among Anglos and African Americans is important news. After all, the idea of crafting land use and housing policies to achieve social equity goals is rather new to the American planning, dating barely

longer than a generation and then only as a model waiting mostly for broad acceptance. Local policies to promote racial desegregation have been around since the late 1960s in a few small communities such as Oak Park, Illinois, and Shaker Heights, Ohio, but these are the exceptions. The kind of mandatory housing policies advocated initially by Downs (1973) in the early 1970s came slowly. With little change in the distribution of the population by race over the intervening decades, Downs (1995) seemed resigned to the futility of its widespread acceptance or serious implementation even if adopted.

Our analysis suggests that in terms of reducing segregation through mandatory housing policies, Downs is correct. We suspect that mandated housing elements may be threatening to local voters and their collective weight in the electoral process perhaps dooms such efforts before they are seriously considered. Where courts enter the fray (such as when the New Jersey courts mandated that all local governments in that state provide their fair share of a region's housing needs), desired outcomes seem illusive. Perhaps one problem facing New Jersey is that the process for perfecting mandated housing balance among local governments by developers is onerous (Nelson, 1999).

Even in states with mandatory housing elements, rigorous implementation is at the mercy of local government officials and the willingness of states to oversee local decisions. For example, Georgia's mandated housing element requires local governments meet the housing needs of the state, but administrative rules are weak in fleshing out what is required while the law itself is weakly enforced (Nelson, 1999). Florida's growth management program requires a housing element of modest complexity, but once plans are approved by the state Department of Community Affairs implementation through locally applied zoning ordinances escapes state-level review (Weitz, 1999). Thus, even in states where mandatory housing elements are present, effective implementation seems doomed and what we may see more often than not is the perpetuation of racial segregation. In these respects, Downs' lament seems correctly founded.

What Downs in 1973 and later in 1995 may not have appreciated fully is that there is another, perhaps better way to reduce segregation, and it is growing in political acceptance. It is urban containment. Where there were just a handful of metropolitan areas where containment was practiced at some level half a century ago, there are now nearly one hundred. Why? Perhaps the smart growth and anti-sprawl movements have formed a kind of perfect storm favoring containment over continued urban spatial expansion. Not that it has become a major national movement but it is nonetheless a movement that appears to be growing. It is also a subtle movement when it comes to reducing segregation. After all, the reasons advocates use to advance containment do not usually include reducing racial segregation. They usually include preserving open spaces, revitalizing urban areas, creating more urbane communities, and expanding housing choice among other things (Nelson, 1999). Still, our results suggest that urban containment—especially strong containment as we have defined it—may have the collateral benefit of reducing racial segregation even if that it is not a primary policy objective.

We cannot say from our research, however, that all forms of urban containment will reduce segregation, at least between Anglos and African Americans. Nor can we say that any given application of urban containment will reduce segregation meaningfully, or that another will have dramatic results. For example, the Anglo-African American index of dissimilarity in Orlando, Florida, which has had urban containment for as long as metropolitan Portland, Oregon, fell by only 3.9 percentage points, from 60.9 to 57.0, or slightly less than the national average for all metropolitan areas. In contrast, the index fell by 15.6 percentage points in metropolitan Portland—more than three times the national average, from 63.7 to 48.1. We suspect that as much as anything the manner of urban

containment design, its institutional characteristics, and rigor of implementation influences the pace of change in racial segregation. Future research will need to focus on these differences and how they influence racial segregation.

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