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Neighborhoods of Opportunity: Developing an Operational Definition for Planning and Policy Implementation

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This article synthesizes existing literature to examine the emerging concept of neighborhoods of opportunity and places it in the context of past efforts to define neighborhood opportunity. Place-based and people-based approaches to urban revitalization and community development are linked to this concept. The place-based approach focuses on promoting inner-city revitalization in order to create neighborhoods of opportunity and the people-based approach focuses on connecting people to opportunities that already exist in the regions where they live. These approaches are examined in relation to how they influence emerging models for siting affordable housing in both distressed inner-cities and more opportunity rich suburbs that surround them. The article concludes with recommendations for a new tiered approach to place-based and people-based strategies for affordable housing siting in core city and regional contexts.

A 2011 White House report coined the term *neighborhoods of opportunity* in policy lexicon (White House 2011). The term was used to highlight a new targeted, place-based approach to urban revitalization policy adopted by the Obama Administration. It argued for a comprehensive approach to community development that channeled resources into high-poverty urban neighborhoods. Upon its introduction, the concept of neighborhoods of opportunity became a cornerstone of initiatives designed by the White House Office of Urban Affairs to address the plight of inner-city neighborhoods.

As a framework for policy implementation, the goal of creating neighborhoods of opportunity fits into an established stream of thought focused on comprehensive approaches to neighborhood revitalization. These approaches are rooted in earlier attempts at comprehensive community development such as the Community Action Program (CAP) and

the Model Cities Program which were implemented as components of the Johnson Administration's Great Society and War on Poverty initiatives (O'Connor 1999; Green and Haines 2011). Despite the appeal of comprehensive approaches grounded in place-based community development strategies, the emergent concept of neighborhoods of opportunity remains somewhat ambiguous. Although the Obama Administration identified neighborhoods of opportunity as a centerpiece to its inner-city revitalization strategies, limited direction was provided to planners and public administrators in terms of how to define, identify, or measure the attributes of a neighborhood of opportunity. This lack of direction presents state, local, and private organizations interested in implementing urban revitalization policies and programs with a quagmire.

This article was written to address this predicament. We do this in two stages. First, we revisit the framework for neighborhoods of opportunity laid out by the Obama Administration and examine it in relation to similar discussions of contemporary place-based strategies designed to fuel urban revitalization and increase opportunities in inner-city neighborhoods. In this discussion, place-based strategies are also contrasted with contemporary people-based strategies designed to provide low-income and minority group members with greater access to existing opportunities at the regional level. This discussion synthesizes existing literature and is intended to provide planners and public administrators with a clearer definition of neighborhoods of opportunity in order to guide their work. Second, we review methods used to measure the attributes of neighborhood opportunity. This analysis is intended to provide planners and public administrators with tools to: identify neighborhood opportunity, site affordable housing, and evaluate policy outcomes.

In addition to refining the definition and measurement of neighborhoods of opportunity for professionals engaged in policy implementation, our analysis is intended to provide citizens' groups and grassroots organizations with tools that empower them in the planning and policy processes. Given this goal, we emphasize definitions and measures that are readily accessible to residents and other stakeholders in inner-city communities. We argue that planners and public administrators should work collaboratively with community members when defining and measuring neighborhood opportunity. In order to do this, an emphasis should be placed on the use of public data and other information that is open source in nature.

Neighborhoods of Opportunity versus Opportunity-Based Housing ***The Obama Administration's Urban Place-Based Strategy***

In academic and policy circles there is renewed interest in place-based revitalization strategies (Crane and Manville 2008; Davidson 2009; Rossi-Hansberg, Sarte and Owen 2010; The White House 2011). These strategies are distinct from people-based strategies to address poverty and inequality, since they put an emphasis on investing in urban revitalization and physical redevelopment as a neighborhood transformation tool. They can involve a variety of components such as: infrastructure improvements, downtown revitalization, housing development, school reconstruction, enterprise zones and other tax incentive strategies, and other improvements to the built environment. The distinguishing feature of place-based strategies is that they are anchored to physical redevelopment, often in distressed inner-city neighborhoods (Jennings 2012). Place-based strategies can include other components, such as enhanced social services and public assistance. However, these elements are ancillary to physical redevelopment strategies and eligibility to participate in them is often restricted to residents and businesses located within the boundaries of a redevelopment area.

In contrast, people-based strategies are not tied to a targeted urban revitalization site

and they are often regionally focused. Rather than targeting inner-city neighborhoods for physical revitalization and capital improvements, they target low-income residents. People-based strategies are designed to connect the poor to: housing subsidies, educational programs, workforce development programs, nutrition assistance, supplemental income, health insurance, and other social services. People-based strategies are typically implemented through means-tested programs and available regardless of where the recipient of the benefit is located. People-based strategies also are designed to address regional inequities and historic patterns of discrimination that block upward mobility. In part, these equity goals are pursued by providing households and individuals with resources and services to improve access to housing, education, and employment opportunities. Equity goals are also pursued by linking the implementation of people-based strategies with the enforcement of policies designed to promote fair housing, guarantee access to quality schools, and eradicate employment discrimination.

Historically, policies have been designed to address poverty and inequality using place-based and people-based strategies. However, the Obama Administration has adjusted the balance between the two strategies and re-doubled efforts to invest in place-based strategies as a centerpiece of its urban policy. In 2009 the White House Office of Urban Affairs was created to coordinate these efforts. Its focus on neighborhoods of opportunity is a reflection of the new emphasis on place-based strategies. Most prominent among these were the Promise Neighborhood (PN) and Choice Neighborhood (CN) initiatives (Smith 2011; Silverman 2013).

The PN initiative was introduced in 2010. It was modeled after the Harlem Children's Zone (HCZ) and administered through the United States Department of Education (DOE). PN was designed to use federal funds to leverage comprehensive neighborhood-based educational and social service programming for disadvantaged youth. A goal of PN was to stabilize urban schools and stimulate philanthropy and private investment in surrounding neighborhoods. The CN initiative was also introduced in 2010. It is administered through the US Department of Housing and Urban Development (HUD). It was designed to link revitalization of public housing, particularly mixed income development following the HOPE VI model, with comprehensive social services, workforce development, and educational programming.

The Administration's approach is distinct, since it emphasizes the need to target housing and community development resources in high-poverty, urban neighborhoods. In addition to adopting a targeted investment strategy, the Administration's approach represents a shift toward addressing "interconnected challenges in high-poverty neighborhoods [with] interconnected solutions" (The White House 2011, 1). This comprehensive approach to community development is focused on integrating federal, state, local and private resources to address a litany of issues that destabilize inner-city neighborhoods, such as: underperforming schools, unemployment, substandard housing, inadequate transportation, and crime.

An underlying theme of the Obama Administration is that inner-city revitalization should be targeted and built on partnerships between government, nonprofits, and the private sector. Its strategy to build neighborhoods of opportunity argues that federal community development funding should be "braided" with other sources of funding (The White House 2011, 11). The concept of braiding is based on the acknowledgement that public funding for urban revitalization is limited. Consequently, it should be applied to targeted revitalization efforts that draw from diverse resources. The Obama Administration has also embraced an

urban revitalization strategy that seeks to leverage the resources of anchor institutions (particularly universities and hospitals) to promote inner-city revitalization (Brophy and Godsil 2009; Bergen 2011).

Anchor institutions encompass a spectrum of organizations: universities, hospitals, museums, and an assortment of other cultural and religious institutions. Yet, all anchor institutions share common connections to the neighborhoods where they are located. They have substantial investments in their campuses and physical plants, and lack geographic mobility. Scholars have argued that anchor institutions bring leadership, resources, and expertise to neighborhood revitalization initiatives (Perry, Wiewel and Menendez 2009; Birch 2009; Birch 2010; Cantor, Englot and Higgins 2013; Silverman 2013; Taylor, McGlynn and Luter 2013b). Moreover, anchor institutions fill a critical role in older core cities, since they are among the few large institutions that remain in inner-city neighborhoods experiencing disinvestment and decline.

In essence, the Obama Administration's strategy of targeting neighborhoods of opportunity involves: a place-based approach that targets urban revitalization in high-poverty neighborhoods, a focus on comprehensive community development, leveraging resources from diverse institutional sources, and partnerships with anchor institutions and other large nonprofits with a stake in stabilizing inner-city neighborhoods in older core cities. This approach is complemented by other place-based urban revitalization strategies that target investments near large institutions and infrastructure hubs, such as strategies based in transit oriented development (TOD), public housing revitalization, school rebuilding, and other mixed-use development strategies (Varady and Raffel 1995; Center for Transit Oriented Development 2007; Joseph, Chaskin and Webber 2007; Cisneros Engdahl 2009; Cowell & Mayer 2013; Taylor McGlynn and Luter 2013b; Vidal 2013).

Opportunity-Based Housing: A Regional People-Based Strategy

The Obama Administration's place-based strategy for urban revitalization is part of a two-pronged approach to addressing poverty and inequality. In addition to its place-based strategy which focuses on the revitalization needs in older core cities, the Administration continues to support people-based strategies to alleviate poverty and reduce inequality at the regional level. Two of the most widely cited people-based programs of this nature were the Gautreaux Assisted Housing program and the Move to Opportunity (MTO) demonstration program (Rosenbaum 1995; Varady & Walker 2003; de Souza Briggs, Popkin and Goering 2010). Both programs combined portable housing vouchers, mobility counseling, and other wrap around social services to assist low-income, inner-city residents in broadening their searches for housing and moving to neighborhoods in the suburbs. Galster et al (2003) examined the outcomes of similar people-based programs in Baltimore County and the greater Denver area.

A distinguishing characteristic of people-based strategies is that their implementation is often linking to the enforcement of laws designed to promote fair housing, guarantee access to quality schools, and eradicate employment discrimination. In fact, many people-based strategies emanate from litigation and court ordered remedies for discrimination complaints and civil rights violations. One example of this type of outcome was the settlement HUD entered into in order to resolve *Comer vs. Cisneros* (37F.3d.775) in 1994 (Patterson 2011; Patterson and Yoo 2012). This remedy grew out of a complaint filed against public housing authorities (PHAs) in Buffalo, NY, its surrounding suburbs, and HUD. The complaint charged the PHAs and HUD with restricting the use of housing vouchers to the city of Buffalo, and blocking people who received them from renting in the suburbs. In the

settlement, HUD changed the regulations related to the use of housing vouchers, making them portable. This meant that voucher recipients could use their vouchers anywhere in a region. HUD also allocated funding for the creation of local community housing centers that would provide mobility counseling to voucher recipients.

Another widely cited example of a people-based strategy to expand regional housing opportunities involved the fight for affordable housing development in the state of New Jersey (Keating 2011; Massey et al. 2013). In this example, two lawsuits were filed against the suburb of Mount Laurel in order to remove barriers to affordable housing development. The lawsuits resulted in a seminal decision by the New Jersey Supreme Court known as the *Mount Laurel Doctrine*. It required all municipalities in the state to meet their “fair share” of regional low- and moderate-income housing. Following the Court’s decision, the State passed the New Jersey Fair Housing Act of 1985. The Act created the counsel on affordable housing (COAH) which was charged with addressing exclusionary zoning issues in the state and implementing regional fair share housing plans mandated under the law. The court and legislative remedies used in New Jersey became models for people-based regional affordable housing policies. It is noteworthy that they were implemented using a combination of means-tested benefits like rent vouchers and fair share requirements for the construction of affordable housing. Unlike place-based strategies that focus on targeting resources in distressed, urban neighborhoods in order to support urban revitalization efforts, these tools were applied in a regional framework to reduce barriers to mobility and promote greater equity in society.

The distinction between putting an emphasis on place-based strategies versus people-based crystalizes in Powell’s (2003) discussion of *opportunity-based housing*. His rationale is grounded in the following argument for regional equity:

[T]he creation and preservation of affordable housing must be deliberately and intelligently connected on a regional scale to high performing schools, sustaining employment, necessary transportation infrastructure, childcare, and institutions that facilitate civic and political activity. This means both pursuing housing policies that create the potential for low-income people to live near existing opportunity and pursuing policies that tie opportunity creation in other areas to existing and potential affordable housing. Simply put, it recognizes that opportunity is not evenly distributed, opportunity-based housing deliberately connects housing with the other opportunities throughout a metropolitan region (Powell 2003, 189).

In essence, Powell argues for the provision of resources and assistance to people so that they can gain access to opportunities where they already exist in a region. An opportunity-based strategy can be implemented using a variety of tools such as: housing vouchers, the development of affordable housing in opportunity rich communities, and the provision of supportive services to low-income residents who move to those communities. This approach can be contrasted with strategies that emphasize place-based approaches to urban revitalization. These approaches focus on physical redevelopment efforts in distressed urban areas, and they are intended to create neighborhoods of opportunity instead of enhancing low-income residents’ access to places where opportunities already exist.

Distinguishing Place-Based and People-Based Strategies

We highlight the distinction between place-based strategies that focus on promoting inner-city revitalization in order to create neighborhoods of opportunity and people-based strategies that focus on connecting low-income residents with opportunities that already exist in a region for two reasons. First, it is important to recognize that the decision about whether to emphasize place-based or people-based strategies is context specific. An emphasis on place-based strategies is more appropriate in locations where opportunity structures are weak due to institutional disinvestment. Historically, inner-city neighborhoods have been disproportionately impacted by processes like deindustrialization, redlining, and the retrenchment of municipal services. Place-based strategies are designed to target development and leverage investments from anchor institutions in a manner that reverses physical decline in inner-city neighborhoods. Improvements to the built environment are then coupled with enhanced services and targeted social welfare programs to create neighborhoods of opportunity. In contrast, the context of existing opportunity structures on a regional scale dictates an emphasis on people-based strategies. These strategies are designed to lower barriers to mobility by connecting people with resources necessary to access existing opportunities dispersed across a region. The focus of people-based strategies is on empowering people to access resources where they already exist in a region, and constructing legal frameworks to promote a more equitable distribution of opportunities.

The second reason we highlight the distinction between people-based strategies and place-based strategies is to emphasize that both approaches are essential for sustainable community development.¹ In order to promote regional equity, it is necessary to revitalize inner-city neighborhoods. Pockets of persistent, concentrated poverty eat away at the long-term sustainability of regions. De-concentrating poverty and creating neighborhoods of opportunity where it is found is one component of a sustainable community development strategy. At the same time, the long-term sustainability of a region is not secure if place-based urban revitalization simply creates an apartheid-like landscape of separate-but-equal communities. Sustainable community development also requires continuous efforts to stamp out race and class segregation across regions.

¹ In the past, place-based and people-based strategies have had limited levels of success. In some cases, programs like MTO and HOPE VI had limited impacts since they were implemented as demonstration projects rather than on a national scale. In other cases, the impact of national initiatives like public housing and the housing voucher programs have been constrained by chronic underfunding.

Table 1: Place-Based and People-Based Strategies

	PLACE-BASED	PEOPLE-BASED
EXAMPLES FROM THE LITERATURE	<ul style="list-style-type: none"> • Neighborhoods of opportunity (White House 2011) • Anchor institution driven development (Birch 2009; Brophy & Godsil 2009; Perry, Wiewel and Menendez 2009; Birch 2010; Cantor Englot and Higgins 2013; Vidal 2013) • Mixed-income development (Chaskin & Webber 2007; Joseph, Chaskin and Webber 2007; Cisneros Engdahl 2009) • School-based development (Varady & Raffel 2005; Silverman 2011; Smith 2011; Taylor McGlynn and Luter 2013a; Taylor McGlynn and Luter 2013b; Silverman 2014) • Transit oriented development (Center for Transit Oriented Development 2007) 	<ul style="list-style-type: none"> • Opportunity-based housing (Powell 2003) • De-concentration of subsidized housing (Galster et al. 2003; Varady & Walker 2003; de Souza Briggs Popkin and Goering 2010; Patterson 2011; Patterson & Yoo 2012) • Fair share and inclusionary housing policy (Keating 2011; Massey et al. 2013)
RATIONALE AND SPATIAL CONTEXT	<ul style="list-style-type: none"> • Emphasis on neighborhood revitalization and physical redevelopment • Ancillary social services and programs • Geographically targeted in high-poverty, inner-city neighborhoods 	<ul style="list-style-type: none"> • Emphasis on targeting means-tested programs and social services to low-income groups • Enforcement of policies and laws designed to curb discrimination in housing, education, employment and other area • Focus on promoting regional equity
IMPLEMENTATION MECHANISMS	<ul style="list-style-type: none"> • Integrate (“braid”) multiple funding sources from federal, state, local, and private sources • Anchor institution-led public-private-nonprofit partnerships 	<ul style="list-style-type: none"> • Means-tested programs and social services • Inclusionary zoning ordinances and other flexible development tools • Regional fair share affordable housing development agreement
INTENDED POLICY OUTCOMES	<ul style="list-style-type: none"> • Education reform • Mixed-income housing • commercial development • Improved infrastructure and recreational amenities • Integrated supportive services and programs 	<ul style="list-style-type: none"> • Affordable housing – vouchers and site-based development • Fair housing enforcement • Educational access • Comprehensive social services and programs

In Table 1, we elaborate on the relationship between place-based and people-based strategies. For each strategy, the table: provides examples of each strategy from the literature, summarizes their rationale and spatial context, identifies their key implementation mechanisms, and lists some of their intended policy outcomes. The framework presented in Table 1 is used to inform the discussion in the next section of this article. In that section, we

apply the distinction between place-based and people-based strategies to our analysis of models used in the past to measure the attributes of neighborhood opportunity. In the final section of this article, we draw from those models to make recommendations for planners and public administrators engaged in community development policy. The focus of our recommendations is on identifying ways that public data and other information that is open source in nature can be used to engage low-income residents in planning and policy implementation processes.

Measuring the Attributes of Neighborhood Opportunity

In this section we build on the distinction between place-based and people-based strategies and analyze models used in the past to measure the attributes of neighborhood opportunity. In particular, we focus on how housing suitability models (HSMs) were developed by researchers and practitioners to identify sites for affordable housing development. HSMs are multivariate spatial models used to identify sites for affordable housing development. The construction of a HSM entails: the identification of variables measuring desirable neighborhood characteristics, the construction of a weighted index of those variables, and the mapping of areas with high scores on the index using geographic information systems (GIS).

We group HSMs identified in the literature into two categories: models developed to cite affordable housing within the boundaries of core cities, and models developed to cite affordable housing on a regional level. We hypothesize that the types of variables used in core city HSMs will reflect policies that emphasize place-based urban revitalization strategies. In essence, we expect core city HSMs to focus on identifying attributes of distressed neighborhoods and place-based anchor institutions when making affordable housing siting decisions. These HSMs would be part of a broader urban revitalization strategy designed to promote the development mixed-income neighborhoods and create neighborhoods of opportunity. In contrast, we hypothesize that HSMs applied at the regional level will reflect policies that emphasize people-based strategies designed to promote housing mobility. We expect regionally oriented HSMs to focus on amenities and opportunities for mobility in neighborhoods that are already present in neighborhoods. The results from our survey of the literature are summarized in Table 2.

Table 2: Attributes of Neighborhood Opportunity used in Housing Suitability Models (HSMs)

	CORE CITY HSMs	REGIONAL HSMs
EXAMPLES FROM THE LITERATURE	<ul style="list-style-type: none"> • Boston (Jennings 2012) • Iowa City (Ackerson 2013) • New Orleans (Aldrich & Crook 2013) 	<ul style="list-style-type: none"> • Five Counties in Florida (Thomas et al. 2012; Wang et al. 2012) • Metropolitan Boston (Tegeler et al. 2011) • Metropolitan Baltimore, Chicago, and Cleveland (Powell et al. 2007) • Detroit (Reece et al. 2008) • Metropolitan New Orleans (Powell et al. 2005)
MEASURES USED	<ul style="list-style-type: none"> • Location of site-based affordable housing (sources: HUD and local agencies) • School performance data (sources: state education departments and local school districts) • Crime data (sources: FBI, local agencies, proprietary data bases) • Population and housing characteristics (sources: US Census Bureau) • Employment data (source: US Bureau of Labor Statistics) • Foreclosure data (sources: state agencies and proprietary data bases) • Land-use data (sources: NOAA, local agencies) • Election data (sources: state and local agencies) 	<ul style="list-style-type: none"> • Infrastructure, land-use, and environmental conditions (sources: EPA, state and local agencies) • School performance data (sources: state education departments and local school districts) • School performance data (sources: state education departments and local school districts) • Crime data (sources: FBI, local agencies) • Population and housing characteristics (sources: US Census Bureau) • Proximity to facilities such as transit stops, schools, childcare, police and fire stations, recreational areas, and retail (state GIS data library) • Travel data (US Census Bureau, Department of Transportation, state GIS data library)

Core City HSMs

Although the literature on HSMs is relatively nascent, we identified three recent analyses that applied HSMs to core cities. The first model that applied HSMs to cores cities was described by Jennings (2012). His model was used to identify distressed neighborhoods in Boston where place-based urban revitalization strategies could be applied. Jennings’ model included measures of housing market instability, household poverty and distress, unemployment, and crime as proxies for neighborhood distress. An index was constructed that could be used to advocate for place-based urban revitalization strategies in areas with: high housing foreclosure rates, low incomes, high unemployment, high poverty, large

proportions of households that were female headed, low educational attainment, high proportions of foreign born residents, and high crime. Accordingly, Jennings' model exemplified a place-based strategy that targets urban revitalization activities in a city's most distressed neighborhoods. This is one variant of a strategy designed to use targeted physical development as a tool to create a neighborhood of opportunity where there are currently few chances for upward mobility.

The second model that applied HSMs to cores cities was described by Ackerson (2013). Her model was used to site affordable housing in Iowa City. This model represents another variant of a place-based strategy for urban revitalization. The purpose of the model was to identify sites for affordable housing development within the municipality's boundaries that leveraged anchor institutions and other neighborhood assets. In particular, this model emphasized school quality and treated schools as neighborhood-based anchors that could leverage revitalization efforts. An index was constructed that favored the siting of affordable housing in areas where: other site-based affordable housing was not concentrated, school quality was high, child poverty was low, crime was low, household income was high, and housing prices were stable. In this case, school characteristics were heavily weighted in the siting criteria. In essence, high quality schools and areas surrounding them were targeted for spending on affordable housing and the other components of a core city urban revitalization strategy.

The third model that applied HSMs to cores cities was described by Aldrich and Crook (2013). This model was used to evaluate the outcomes from the siting process for FEMA trailers in New Orleans after Hurricane Katrina. This model represented a third variant of a place-based strategy designed to site affordable housing in areas where urban revitalization was most likely to occur. In this case, areas of the city least vulnerable to flooding were identified as places that were most likely to be redeveloped as neighborhoods of opportunity. The purpose of the model was to determine if sites for FEMA trailers within the municipality's boundaries were selected using criteria that placed this type of affordable housing in areas targeted for urban revitalization. In particular, this model emphasized the degree to which sites were selected for FEMA trailers that had lower vulnerability to floods and storm surge. Variables used in their analysis included: measures of flood vulnerability, educational attainment, income, unemployment, poverty, housing values, and voter turnout. The authors found that FEMA's efforts to site trailers in areas less vulnerable to flooding were not as successful as siting attempts in other areas. Although the agency attempted to use a HSM to site emergency housing in areas less vulnerable to flooding and thus more likely to be targeted for urban revitalization, political resistance from receiving communities reduced the ability of the agency to implement its preferred policy options.

There were mixed outcomes related to the implementation of recommendations from HSMs in all three of the cities examined in the literature. In the case of Boston and Iowa City, the models were used to identify potential sites for urban revitalization activities. Neither has moved into the implementation stage, but they have become part of the dialogue surrounding future policy formulation. In the case of New Orleans, the use of GIS-based modeling was part of an affordable housing siting process that took neighborhood attributes and urban revitalization strategies into consideration. This example also showed the benefits of HSMs as tools for the formulation and evaluation of policy outcomes.

Regional HSMs

In addition to examining core city HSMs, we identified emerging literature on regional models for siting affordable housing. Primarily, this literature came from two research organizations: the Shimberg Center for Housing Studies at the University of Florida, and the Kirwan Institute for the Study of Race and Ethnicity at Ohio State University. Researchers at the Shimberg Center have developed a HSM and applied it to the analysis of five counties in Florida (Thomas et al. 2012; Wang et al. 2012). Their model was designed to identify sites for affordable housing development at a regional level. An emphasis was placed on identifying sites that were physically appropriate for affordable housing development and where residents had access to amenities and resources that enhanced their quality of life. Their model included variables measuring: infrastructure, land-use and environmental conditions, poverty, educational attainment, household income, rental cost and other population and housing characteristics, school performance, crime, proximity to transit stops, schools, childcare, police and fire stations, healthcare, recreational areas, and retail, and travel data. The emphasis of the regional HSMs developed for Florida counties was on identifying locations for affordable housing in places where amenities and opportunities for mobility already existed. Urban revitalization was not a goal of the siting model.

Researchers at the Kirwan Institute developed a similar HSM and have applied it to the analysis of affordable housing options in several regions across the US, including the metropolitan areas surrounding: Baltimore, Boston, Chicago, Cleveland, Detroit, and New Orleans (Powell et al. 2005; Powell et al. 2007; Reece et al. 2008; Tegeler et al. 2011). Like other HSMs, their models measured components of: school performance, population and housing characteristics, and neighborhood conditions. The emphasis of their approach to identifying sites for affordable housing was on affirmatively furthering fair housing and promoting mobility for residents living in affordable housing. Like the researchers at the Shimberg Institute, the Kirwan studies focused on identifying locations for affordable housing in places where amenities and opportunities for mobility already existed. Their work applied HSMs to a people-based strategy focused on promoting regional equity.

Similar to the core city HSMs, regional models were developed to inform policy. Recommendations from these HSMs were disseminated to policy makers and public administrators through published reports and presentations. Foundations and governmental agencies that funded some of the research which produced the reports draw from their findings during the policy formulation process. As table 2 illustrates, the data used to construct HSMs is relatively uniform regardless of the core city or regional emphasis. The distinguishing feature between models is the degree to which urban revitalization is emphasized. Core city HSMs place more emphasis on linking affordable housing with the creation of neighborhoods of opportunity. Regional HSMs place a stronger emphasis on moving people to places where opportunities for mobility already exist.

Discussion and Conclusions

The distinction between creating neighborhoods of opportunity and strategies designed to site opportunity-based housing highlights the importance of the context that the implementation of affordable housing policy is embedded in. The introduction of the neighborhoods of opportunity framework to the existing dialogue on affordable housing siting points to the necessity of incorporating urban revitalization needs in core city HSMs. This means that variables used in HSMs should be weighted differently for core cities than other parts of a region. It also means that patterns of regional growth and decline should be

considered when making siting decisions.

Ultimately, decisions about what variables to include in HSMs and how to weight them are driven by local context. We would expect models designed for growing cities and regions to look different than those designed for shrinking cities and regions. We would also expect HSMs designed for a region's core city to be distinct from its suburbs. In particular, core city models should place a stronger emphasis on proximity to large anchor institutions like hospitals and universities, since these institutions play a more central role in inner-city revitalization. Ironically, this has been overlooked in past HSMs. The core city models identified in this article did not account for anchor institutions. Likewise, the regional HSMs were heavily focused on de-concentrating poverty and scattering affordable housing across regions, without consideration for the urban revitalization needs of neighborhoods that would be vacated as affordable housing was dispersed regionally.

To address this issue, we argue for the use of tiered HSMs in regions that take local context into consideration. A tiered approach to siting affordable housing would apply a place-based approach to affordable housing in core cities. Such an approach would include a tier that focuses on linking affordable housing siting to urban revitalization efforts aimed at creating neighborhoods of opportunity near anchor institutions. The inclusion of a HSM tailored to the needs of core city neighborhoods would ensure that housing for low-income and minority group members is included in inner-city revitalization strategies. In addition, a tier focusing on regional equity would be included in an affordable housing siting strategy. HSMs used for this tier would have a distinct emphasis on identifying neighborhoods outside of a core city where opportunities for mobility already exist. The goal of this approach to siting would be to de-concentrate poverty and desegregate neighborhoods at the regional level.

Finally, we argue for HSMs to be transparent and accessible to all residents and stakeholders. In their analysis of FEMA trailers, Aldrich and Crook (2013) pointed out that despite the efforts of planners and public administrators to use GIS-based modeling to make "rational" siting decisions, ultimately recommendations are accepted or rejected by policy makers and other stakeholders. As Aldrich and Crook (2013, 621) put it, "decision makers are only making an initial decision - whether to place a facility in the site -while the political, social, and demographic environment makes the final 'decision' - whether the attempt is successful." In order to bridge the gap between HSM and final siting decisions, we argue that planners and public administrators should prioritize the use of publicly accessible data in their modeling. Ideally, web-based, public GIS infrastructure should be available so that residents and other stakeholders can participate directly in the analysis of data used for siting.

One example of this type of infrastructure is the Subsidized Housing Information Project (SHIP) hosted by the Furman Center for Real Estate and Urban Policy at New York University (HUD 2013). SHIP is an online mapping tool that integrated data from multiple sources so that users can identify subsidized housing units across the city and examine a variety of neighborhood indicators where individual properties are located. Another example of this type of infrastructure is HUD's enterprise geographic information system portal (eGIS), which is an open source database and mapping system. Among other components, it includes a web-based mapping tool (HUD 2013) designed to assist communities in analyzing impediments to fair housing. This tool is comprised of national data for subsidized housing, demographic characteristics, and community assets and stressors at the census tract level.

Although the development and maintenance of online resources like SHIP is not feasible in every location, public data and open source information is increasingly available nationally. With the growing availability of web-based resources from federal agencies like

HUD, there are new opportunities to include the use of open source data in strategies to empower historically disenfranchised groups. The availability of these data provides for a level playing field in the planning process, since all constituencies can reference the same information when proposing and responding to community development initiatives. We recommend that the development of the types of data sources be prioritized by federal agencies and developers of HSMs. The availability of national data on a user-friendly, open source platform allows community-based organizations and citizens' groups to access the same data that planners and public administrators use in their modeling. The use of public and open source data levels the playing field between professional planners, public administrators, and citizens' groups. It also reduces obstacles community-based stakeholders face to developing their own criteria for siting affordable housing.

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