

See discussions, stats, and author profiles for this publication at: <https://www.researchgate.net/publication/315951784>

# Siting Affordable Housing in Opportunity Neighborhoods: An Assessment of HUD's Affirmatively Furthering Fair Housing Mapping Tool

Article in *Journal of Community Practice* · April 2017

DOI: 10.1080/10705422.2017.1306818

CITATION

1

READS

59

3 authors:



**Robert Mark Silverman**

University at Buffalo, The State University of New York

92 PUBLICATIONS 697 CITATIONS

[SEE PROFILE](#)



**Li Yin**

University at Buffalo, The State University of New York

58 PUBLICATIONS 922 CITATIONS

[SEE PROFILE](#)



**Kelly L. Patterson**

University at Buffalo, The State University of New York

40 PUBLICATIONS 180 CITATIONS

[SEE PROFILE](#)

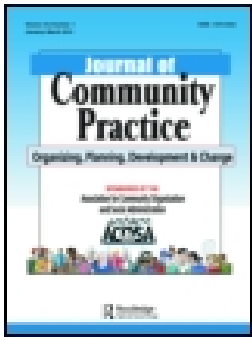
Some of the authors of this publication are also working on these related projects:



Big Data for Geography [View project](#)



public health [View project](#)



## Siting Affordable Housing in Opportunity Neighborhoods: An Assessment of HUD's Affirmatively Furthering Fair Housing Mapping Tool

Robert Mark Silverman, Li Yin & Kelly L. Patterson

To cite this article: Robert Mark Silverman, Li Yin & Kelly L. Patterson (2017): Siting Affordable Housing in Opportunity Neighborhoods: An Assessment of HUD's Affirmatively Furthering Fair Housing Mapping Tool, Journal of Community Practice, DOI: [10.1080/10705422.2017.1306818](https://doi.org/10.1080/10705422.2017.1306818)

To link to this article: <http://dx.doi.org/10.1080/10705422.2017.1306818>



Published online: 05 Apr 2017.



Submit your article to this journal [↗](#)



View related articles [↗](#)



View Crossmark data [↗](#)

# Siting Affordable Housing in Opportunity Neighborhoods: An Assessment of HUD's Affirmatively Furthering Fair Housing Mapping Tool

Robert Mark Silverman<sup>a,b</sup>, Li Yin<sup>a,b</sup>, and Kelly L. Patterson<sup>a,b</sup>

<sup>a</sup>Department of Urban Regional Planning, University at Buffalo, Buffalo, NY, USA; <sup>b</sup>School of Social Work, University at Buffalo, Buffalo, NY, USA

## ABSTRACT

In this article, we examine the content and structure of the new affirmatively furthering fair housing mapping tool (AFFH-T) developed by the US Department of Housing and Urban Development (HUD) as part of its new assessment of fair housing (AFH) process. Our analysis is focused on the degree to which the data included in the AFFH-T is suitable for the development of plans to site affordable housing in opportunity neighborhoods, and the utility of this tool as a public participation GIS (PPGIS) platform. Our analysis highlights strengths and weaknesses of the AFFH-T and we offer recommendations for its further development.

## KEYWORDS

Affirmatively furthering fair housing (AFFH); opportunity neighborhoods; public participation GIS (PPGIS)

## A new rule and a new tool

It has been almost half a century since the Fair Housing Act of 1968 was signed into law by President Lyndon B. Johnson. For the first time in US history, the Act prohibited discrimination at any point in the sale or rental of housing on the basis of race, color, religion, sex, and national origin (Silverman & Patterson, 2012). The Act designated the US Department of Housing and Urban Development (HUD) as the federal agency to administer programs related to fair housing. HUD was authorized to affirmatively further fair housing (AFFH) in all of its programs and funded activities. One of the most contested aspects of the law was the federal government's mandate to AFFH. Until recently, the definition of this mandate remained ambiguous and its enforcement was inconsistent across local jurisdictions (Silverman & Patterson, 2012; Silverman, Patterson, & Lewis, 2013; US Government Accountability Office, 2010).

Administrative mechanisms to monitor and enforce local jurisdictions' AFFH efforts have developed incrementally. AFFH was incorporated into the regulatory requirements of new federal housing programs that were

---

**CONTACT** Robert Mark Silverman ✉ [rms35@buffalo.edu](mailto:rms35@buffalo.edu) 📍 Department of Urban and Regional Planning, University at Buffalo, 329 Hayes Hall, Buffalo, NY 14214-8030, USA.

Color versions of one or more of the figures in the article can be found online at [www.tandfonline.com/WCOM](http://www.tandfonline.com/WCOM).

© 2017 Taylor & Francis Group, LLC

adopted subsequent to the passage of the Fair Housing Act of 1968 such as: the Community Development Block Grant, the Home Investment Partnership, the Emergency Shelter Grant, Housing Opportunities for Persons with AIDS, and other programs that followed (HUD, 1996). In 1988, HUD adopted fair housing review criteria for jurisdictions participating in its core grant programs. These criteria required all grantees to prepare an analysis of impediments (AI) to fair housing choice. The requirement for an AI was later linked to HUD's requirement for jurisdictions to develop a consolidated plan for all of the agency's core programs in 1995. The following year, HUD released guidelines for the preparation of AI reports (HUD, 1996).

Despite the adoption of these guidelines, the AI process was criticized for its lack of enforcement and implementation mechanisms (Silverman et al., 2013; US Government Accountability Office, 2010). For instance, HUD did not set timetables for regular updates of AI reports, there was no requirement for the reports to be submitted to HUD for approval, and there were inconsistencies across AI reports in terms of the quality of data used in analyses and the levels of community engagement incorporated into their development. Moreover, there were no administrative mechanisms in place to monitor local jurisdictions' efforts to implement fair housing action plans that were developed in AI reports. To address these shortcomings, HUD initiated a process to revise its fair housing review criteria in 2009. That process involved extensive consultations with federal, state, and local agencies and stakeholder groups. That process unfolded over a six-year period, culminating in the adoption of a new AFFH rule in 2015.

HUD issued its new AFFH rule in the Federal Register in July of 2015<sup>1</sup> (Bostic & McFarlane, 2013; Samuels, 2015). This rule required all jurisdictions receiving funding from HUD programs to conduct an assessment of fair housing (AFH) study every 5 years.<sup>2</sup> The AFH was introduced as a replacement for the earlier AI report. In their AFH studies, jurisdictions are required to use data provided by HUD to analyze patterns of segregation, investigate other barriers to affordable housing, and identify strategies to address impediments to fair housing that can be evaluated during implementation. The baseline data used in AFH studies come from a web-based AFFH mapping tool (AFFH-T) created by HUD (<http://egis.hud.gov/affht/>). The mapping tool includes data measuring community demographics, affordable housing characteristics, employment patterns, transit access, school proficiency, and other metrics. The AFFH-T is designed as an open

---

<sup>1</sup>See 80 FR 42271 (July 16, 2015)

<sup>2</sup>HUD rolled out the AFH process in 2016 requiring 22 jurisdictions to conduct studies. In subsequent years all community development block grant jurisdictions, public housing authorities, and other jurisdictions participating in HUD programs will be scheduled to complete the AFH process.

source platform to facilitate community engagement in the AFH process. At the end of the process, AFH studies must be approved by HUD, and jurisdictions whose studies are not approved can have their housing and community development funding withdrawn.

In this article, we examine the content and structure of the AFFH-T to assess (a) the degree to which the data provided is suitable for the development of plans to site affordable housing in opportunity neighborhoods and (b) the utility of this tool as a public participation GIS (PPGIS) platform. Our analysis highlights strengths and weaknesses of the AFFH-T and we offer recommendations for its further development.

## **Arriving at a framework for AFFH**

The new AFFH rule is based on two pillars. First, it is designed to address segregation, barriers to housing choice, and inequalities in access to housing and opportunities for upward mobility. Second, it is part of an effort to expand the scope of public engagement and transparency in relation to local affordable housing planning processes. Each of these pillars is grounded in ongoing debates about fair and affordable housing.

### ***Access to opportunity neighborhoods***

Residential segregation and unequal access to the full spectrum of housing choices has been a perennial issue in the United States. After the Fair Housing Act of 1968 was enacted, patterns of residential segregation remained entrenched in local jurisdictions and local land use policies continued to impede the development of affordable housing. Also, the enforcement of fair housing laws continued to focus on individual complaints tied to intentional acts of discrimination rather than systemic barriers to housing which impact classes of people protected by the law.

The process of changing residential segregation patterns and expanding housing choices has been incremental. It can be traced back to a number of victories in the courts and policy initiatives that were spurred by them. Two of the most notable include the 1975 and 1983 Mount Laurel decisions and the 1976 Gautreaux decision. The Mount Laurel decisions resolved two sets of lawsuits filed in state court against the suburb of Mount Laurel, NJ (Keating, 2011; Massey, Albright, Casciano, Derickson, & Kinsey, 2013). The original lawsuits were filed in the late 1960s and the second Mount Laurel decision came in response to a series of appeals that delayed the enforcement of the 1975 decision. Both decisions aimed to address income discrimination and remove barriers to affordable housing development in the suburbs. 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 accept their fair share of regional low- and moderate-income housing. In response to the decisions, the State passed the New Jersey Fair Housing Act of 1985. The Act created the counsel on affordable housing, which was charged with addressing exclusionary zoning issues in the state and implementing regional fair share housing plans mandated under the law.

The Gautreaux decision resolved a federal lawsuit filed in 1966 challenging racial segregation in public housing units managed by the Chicago Housing Authority (CHA) (de Souza Briggs, Popkin, & Goering, 2010; Rosenbaum, 1995; Shroder & Orr, 2015; Varady & Walker, 2003). The case was the first of its kind decided by the US Supreme Court, and it had implications for a series of public policies and subsequent lower court decisions that followed the precedent it set. The Gautreaux decision ruled that public housing in the city of Chicago was segregated and ordered that the CHA develop a mobility counseling program that would give low-income residents access to regional housing opportunities. That program, known as the Gautreaux Assisted Housing Program, operated under court order from 1981 to 1998. In addition to the mobility counseling program, a scattered site housing program was initiated in 1987 in response to the Court's ruling. That program ended in 2010.

The Mount Laurel and Gautreaux decisions had implications beyond their effects on housing policies in New Jersey and Chicago. They established precedents that influenced subsequent court rulings and the development of affordable housing programs at the federal, state, and local levels. Yet, the pace of these achievements was slow. Fair housing advocates faced sustained resistance from state and local elected officials, real estate interests, and residents in communities where affordable housing was proposed to be sited. Litigation for the Mount Laurel and Gautreaux cases began in the late 1960s and took decades to be resolved by the courts. Both decisions grew out of housing discrimination complaints filed by individuals seeking court remedies for overt instances of discrimination. In resolving those complaints, the courts proscribed remedies that had ripple effects through broader affordable housing delivery systems. This has been the pattern for subsequent efforts to desegregate communities and expand housing choices. Court remedies have been sought by individuals to address overt instances of discrimination. In some of the more egregious cases, the courts have ordered remedies that have resulted in changes to the manner in which affordable housing programs are administered.

Recently, a major shift took place in relation to how fair and affordable housing complaints are resolved by the courts. In 2015, the US Supreme Court issued a landmark decision in *Texas Department of Housing and Community Affairs vs. the Inclusive Communities Project, Inc.* In this decision, the Court applied a *disparate impact* standard to the Fair Housing Act.

This meant that if a housing practice could be shown to have a disproportionately negative impact on a class of people protected under the law, they would be entitled to a court remedy, even if the discrimination was unintentional (Williams & Brennan, 2015). In the Texas case, the Court applied this standard to a complaint about the Texas Department of Housing and Community Affairs (TDHCA) practice of siting affordable housing in segregated and economically disadvantaged neighborhoods. The Court ruled that the siting practices of the TDHCA had a disparate impact and were in violation of the Fair Housing Act. The Texas case added strength to lower court decisions that were moving fair housing enforcement in a similar direction. A notable example was the Westchester County, NY case where the county government settled a federal lawsuit filed against it by a nonprofit housing advocacy organization (Gurley, 2015). The Westchester County case centered on a complaint that exclusionary land use practices in the county's municipalities had a disparate impact on low-income minority groups, and limited their housing choices. The case was settled in 2009 with an agreement to construct a designated number of affordable housing units in opportunity rich areas of the county by 2016. The Court's decision in the 2015 Texas case added teeth to efforts to enforce the Westchester County case's settlement.

On the heels of this shift in fair housing policy, HUD issued its new AFFH rule. A common thread linking past legal decisions and the new rule is the emphasis on expanding affordable housing in opportunity neighborhoods. This thread has been a focus of discussions in academic and policy circles dating back to the Kerner Commission Report and it continues to resonate in literature examining the geography of opportunity (de Souza Briggs et al., 2010; Kain, 1992; Patterson, Silverman, Yin, & Wu, 2016; Powell, Reece, Rogers, & Gambhir, 2007; Silverman, Patterson, Yin, Ranahan, & Wu, 2016; Tegeler, Korman, Reece, & Haberle, 2011; The White House, 2011; United States Kerner Commission, 1968; Wilson, 1990). In the contemporary policy context, the development of a working definition of opportunity neighborhoods has centered on the argument that siting decisions related to affordable housing must take community amenities that promote opportunities for upward mobility into consideration. Among these amenities are access to jobs, high-performing schools, affordable transportation, childcare, and other supportive services. In addition to these types of amenities, opportunity neighborhoods also entail access to institutions that promote civic engagement and empowerment (Patterson et al., 2016).

Scholars and practitioners have drawn from the opportunity neighborhoods framework and attempted to develop housing suitability models for use in the siting of affordable housing (Ackerson, 2013; HUD, 2013; Jennings, 2012; Thompson, Arafat, O'Dell, Steiner, & Zwick, 2012; Wang, Blanco, Kim, Chung, Ray, Arafat, O'Dell, & Thompson, 2012). Much of this work has been influenced by the opportunity mapping approach developed at

the Kirwin Institute (Powell, 2002; Powell, Reece, & Gambhir, 2005; Powell et al., 2007; Reece, Rogers, Gambhir, & Powell, 2008). Regardless of whether these models have a metropolitan or more localized focus, most consider multiple measures, and target affordable housing development where opportunities for upward mobility are most concentrated. These siting strategies also use a combination of quantitative data analysis and GIS mapping of community attributes.

### ***Citizen participation and transparent planning***

The AFFH-T provides local jurisdictions and grassroots organizations with a web-based resource to analyze community conditions and make recommendations for the siting of affordable housing. It was designed to facilitate these activities within an opportunity neighborhoods framework (Mast, 2015). The availability of this tool represents an advancement in efforts to promote PPGIS, which is an approach to integrating community-based mapping and GIS analysis with a broader public participation process (Barndt, 1998; Coulton, Chan, & Mikebank, 2011; Ghose & Huxhold, 2001; Patterson et al., 2016; Silverman et al., 2016).

Although HUD has made the AFFH-T available as an open source resource, the new AFFH rule does not explicitly require local jurisdictions to incorporate PPGIS into their AFH processes. However, the rule requires that jurisdictions “give the public reasonable opportunities for involvement” in the development and revision of the AFH (HUD, 2015). The rule also allows groups that represent low- and moderate-income people to request technical assistance during the AFH processes. These provisions suggest that the AFFH-T can be developed as a PPGIS platform and that grassroots organizations can seek out technical assistance from local government and other institutional partners to develop community-based proposals for the siting of affordable housing in opportunity neighborhoods.

Our analysis of the AFFH-T first examines the degree to which its content and structure are suitable for the development of plans to site affordable housing in opportunity neighborhoods, then we turn our attention to the utility of this tool as a PPGIS platform. After presenting the results of this analysis, we offer recommendations to enhance the utility of the AFFH-T as a PPGIS platform.

### **Methods**

In our analysis, we examine the content and structure of the AFFH-T. The content analysis is guided by policy research techniques described by Gaber and Gaber (2014), Silverman and Patterson (2015), and Yanow



(2000). For illustrative purposes, examples are drawn from one HUD jurisdiction, Buffalo, NY. This jurisdiction was selected for three reasons: (a) We have extensive knowledge of fair and affordable housing issues in the jurisdiction from prior research; (b) Buffalo is a medium-sized core city in a medium-sized metropolitan area, and (c) it is one of the first cities of this type scheduled by HUD to complete an AFH.<sup>3</sup> Our analysis was conducted after the release of the new AFFH rule and the launch of the AFFH-T and was completed in April of 2016. It is informed by our past research measuring characteristics of opportunity neighborhoods in Buffalo (Patterson et al., 2016; Silverman et al., 2016; Silverman, Patterson, Yin, & Wu, 2015) and the broader body of scholarship focusing on the geography of opportunity.

In the analysis, we first focus on assessing the GIS functionality of the AFFH-T and the suitability of its data for siting affordable housing in opportunity neighborhoods. We then consider the utility of the AFFH-T as a PPGIS platform. The criteria for our analysis are drawn from Barndt's (1998) work on PPGIS and Ghose and Huxhold's (2001) extensions to this work. Specifically, the criteria examined include the degree to which the AFFH-T provides users with access to comprehensive information, recognizes interrelationships among data, provides current information, and provides information that is organized in a relevant format. The criteria also examine the degree to which the AFH allows for a public participation process that can provide for the collection and analysis of additional local data to inform the siting of affordable housing in opportunity neighborhoods. This is heavily dependent on the institutionalization of technical assistance to grassroots organizations from HUD, local government, nonprofit advocacy organizations, and university partners.

The scope of this analysis focuses on the suitability and organization of data in the AFFH-T. We see this as a starting point for more in-depth analysis of how the AFFH-T is actually used in practice by institutional stakeholders and community-based coalitions in the AFH process. Our goal is to pursue an analysis of how these data are used in Buffalo's fair housing planning process when that jurisdiction conducts its AFH. The analysis in this study is a crucial precursor, because it identifies constraints and limitations that existing data and the AFFH-T pose for the AFH process.

---

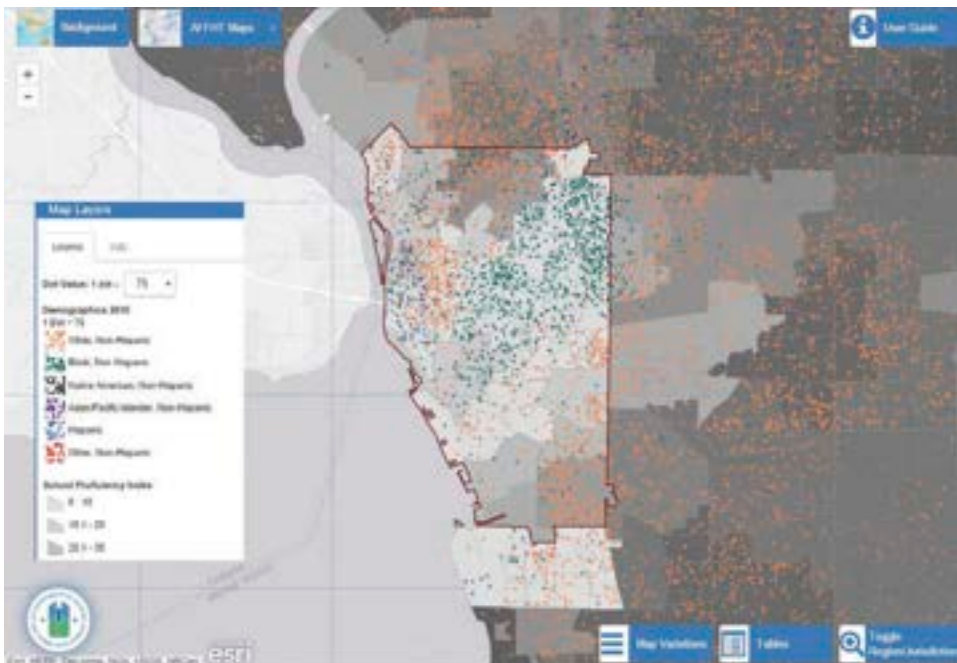
<sup>3</sup>Buffalo was initially assigned a January 14, 2017 due date for its AFH. This due date was later changed to the fall of 2018 to align it with the Buffalo Municipal Housing Authority's AFH due date and the deadline for reporting the city's next consolidated plan.

## Results

### *GIS Functionality and data suitability*

#### *Access to comprehensive information*

The first criteria for assessing the AFFH-T is the degree to which it makes comprehensive information available to users. The AFFH-T allows users to generate 17 GIS maps and 15 tables based on the most recent decennial census and comparable American Community Survey (ACS) data. The maps can be generated for a jurisdiction and the region it is located in, with details such as census tract boundaries and street grids overlaid. The focus of the mapping function in the AFFH-T is on characteristics of opportunity areas. Users can map indices for characteristics of opportunity neighborhoods such as housing choice voucher distribution, housing burden, school proficiency, labor market participation, employment clusters, commuting times, transit costs, poverty concentration, and environmental health. Additional data can be mapped for race, household characteristics, disability status, and the location of site-based subsidized housing. In addition, race and household characteristics can be overlaid on maps for the various opportunity neighborhood indices. [Figure 1](#) displays an example of how maps appear in the AFFH-T. It shows the map and legend for Buffalo's school proficiency index with racial characteristics overlaid on it.



**Figure 1.** Buffalo's school proficiency index. **Source:** Affirmatively furthering fair housing mapping tool (AFFH-T) <http://egis.hud.gov/affht/>

**Table 1.** Buffalo's opportunity indicators by race and ethnicity.

(Buffalo, NY CDBG, HOME, ESG) Jurisdiction		School		Labor Market		Transit		Low Transportation Cost		Jobs	
		Low Poverty Index	Proficiency Index	Labor Market Index	Transit Index	Low Transportation Cost Index	Proximity Index	Environmental Health Index			
<b>Total Population</b>											
White, Non-Hispanic		33.31	24.19	43.42	77.98	66.51	51.18	26.15			
Black, Non-Hispanic		13.56	9.40	16.56	77.61	66.67	48.38	21.74			
Hispanic		15.61	14.50	24.71	79.91	70.68	52.02	24.21			
Asian or Pacific Islander, Non-Hispanic		22.52	14.75	30.02	80.21	70.75	53.29	24.65			
Native American, Non-Hispanic		20.51	17.46	30.87	78.89	68.27	51.29	24.01			
<b>Population below federal poverty line</b>											
White, Non-Hispanic		23.46	19.12	32.80	78.21	66.86	49.88	25.73			
Black, Non-Hispanic		10.60	8.80	13.70	78.28	67.56	48.39	21.99			
Hispanic		10.78	13.07	20.89	81.34	72.89	52.12	23.57			
Asian or Pacific Islander, Non-Hispanic		25.44	14.06	36.13	80.17	69.82	46.67	24.02			
Native American, Non-Hispanic		18.60	15.11	21.62	78.92	67.41	47.68	22.37			
<b>(Buffalo-Cheektowaga-Niagara Falls, NY CBSA)</b>											
Region		School		Labor Market		Transit		Low Transportation Cost		Jobs	
		Low Poverty Index	Proficiency Index	Labor Market Index	Transit Index	Low Transportation Cost Index	Proximity Index	Environmental Health Index			
<b>Total Population</b>											
White, Non-Hispanic		65.05	59.30	62.44	49.46	44.67	49.75	53.27			
Black, Non-Hispanic		21.45	19.80	24.08	72.52	63.48	49.05	28.43			
Hispanic		33.31	31.90	37.43	68.03	61.45	51.83	36.23			
Asian or Pacific Islander, Non-Hispanic		56.01	51.34	56.70	62.33	55.32	58.54	41.74			
Native American, Non-Hispanic		39.08	40.42	35.35	45.95	43.26	54.15	57.31			
<b>Population below federal poverty line</b>											
White, Non-Hispanic		47.73	46.06	48.61	57.61	51.80	50.97	45.94			
Black, Non-Hispanic		14.51	15.37	17.84	75.12	65.12	48.85	26.59			
Hispanic		19.36	21.63	27.49	74.53	67.15	52.15	30.47			
Asian or Pacific Islander, Non-Hispanic		48.05	39.45	52.87	68.90	62.14	50.21	33.54			
Native American, Non-Hispanic		28.28	32.79	25.82	56.43	50.12	54.40	47.03			

Note 1: Data Sources: Decennial Census; ACS; Great Schools; Common Core of Data; SABINS; LAI; LEHD; NATA

Note 2: Refer to the Data Documentation for details ([www.hudexchange.info](http://www.hudexchange.info)).

**Source:** Affirmatively furthering fair housing mapping tool (AFFH-T) <http://legis.hud.gov/affht/>

In addition to the ability to generate maps, the AFFH-T allows users to display data from 15 tables. The tables include demographic and housing data, as well as indices for characteristics of opportunity neighborhoods that mirror the mapping module. Most of the tables present data aggregated at the jurisdictional and regional levels. This allows for comparisons to be made between a jurisdiction and its region along a number of measures. The tables also provide additional information such as housing dissimilarity indices and detailed information about the demographics of individual site-based subsidized housing properties. [Table 1](#) displays an example of how tables appear in the AFFH-T. It shows the table comparing Buffalo and its region's opportunity indicators broken down by race and ethnicity.

Despite the breadth of data made available to users, the AFFH-T lacks some information that is often referenced when siting decisions are made for affordable housing. One of the more glaring omissions are statistics related to crime and public safety. There are also no data for community health statistics. Even measures of health insurance subscribership which were recently added to the ACS are not incorporated into the AFFH-T. Likewise, information often included in opportunity neighborhood analysis for recreational amenities, walk-scores, and proximity to anchor institutions is not incorporated into the database.

### *Interrelationships among data*

The second criteria for assessing the AFFH-T is the degree to which its data can be integrated. We found that the data are compatible and can be compared across variables in both the mapping and tables modules. In the mapping module, layers for core demographic variables related to race and household characteristics can be added to maps portraying indices related to characteristics of opportunity neighborhoods. In the tables module, jurisdictional characteristics can be compared to regional characteristics.

The main limitation of the data with respect to examining the interrelationship between variables is that the level of detail shown in the maps generated with the tool is not duplicated in the tables. For instance, [Figure 1](#) portrays the index of school proficiency for each census tract in Buffalo. However, the data available in table format does not provide comparative data at the census tract level. It only compares aggregate data for jurisdictions and regions. [Table 1](#), which compares jurisdictional and regional measures for the school proficiency index and other opportunity indicators, provides an example of this limitation. The manner in which data are organized limits the degree to which neighborhood level analysis can be conducted with the AFFH-T. Moreover, comparisons between variables are limited to a discrete set of predetermined variables

in both the mapping and tables modules. For example, the AFFH-T does not allow users to overlay the location of subsidized housing on maps displaying opportunity indices. Thus, the unavailability of census-tract-level data in the tables module limits users' ability to make comparisons between variables, and users are further constrained in making comparisons between variables that are not predetermined. In short, a major improvement to the AFFH-T would entail the inclusion of additional raw data in the tables module and more options for users when selecting which variables to select for comparative analysis.

### ***Current information***

The third criteria for assessing the AFFH-T is the degree to which its data is current and up-to-date. The data used to generate maps and tables are based on the most recent decennial census paired with comparable data from the ACS and other sources. This is relatively reliable data for years proximate to a given decennial census. However, as time elapses, data from a decennial census year fails to account for demographic shifts in a region, jurisdiction, and at the census tract levels.

For example, a comparison of population and race characteristics in Buffalo using 2010 census data and 2014 ACS estimates revealed that the overall population in the city declined by 0.5%, and the Black and White populations declined by 3.1% and 0.9% respectively. Similar data at the regional level revealed that the regional population remained relatively unchanged, with a 0.1% increase, but the Black and White populations both declined by 1.3% and 0.9%, respectively. These data reveal three key points. First, the city continued to lose population after the 2010 decennial census. Second, the Black population declined noticeably more in the city than the region as a whole. Finally, it is plausible that the declines in the Black and White population in both the city and region were being offset by growth in Asian and other groups.

Although the demographic shifts observed in Buffalo are probably less pronounced than in other cities and regions, there were observable changes that could impact the city's upcoming AFH analysis. Demographic trends would be expected to be more exaggerated in cities undergoing rapid demographic shifts and have broader implications for the AFH process. This suggests that there is a need to regularly update the data used in the AFFH-T. The availability of 5-year ACS estimates that are updated annually makes it feasible for HUD to consider updating data used in the AFFH-T at more discrete intervals.

### ***Information is organized in a relevant format***

The fourth criteria for assessing the AFFH-T is the degree to which it is formatted in a relevant manner. Overall, the mapping tool is intuitive and

user friendly, particularly for novices with limited GIS knowledge. The tables module is also accessible to a broad spectrum of potential users. One of the strengths of this module is that users can examine tables on the web and download them in Microsoft Excel format. The ability to download tables in a spreadsheet format facilitates users' independent analysis. The AFFH-T also includes a link to the HUD web site where a user guide can be downloaded in PDF and Microsoft Word formats.

Despite these strengths, there are limitations to the ways data and output are organized in the AFFH-T. One major drawback is that there is no way to download and save maps generated. The ability to save maps in .jpeg or .pdf format would constitute a significant enhancement. Two other enhancements would also improve the mapping tool. First, the GIS layer displaying census tract boundaries could include corresponding census tract numbers. This enhancement would assist users' in the application of data to the AFH and subsequent planning efforts. Second, a legend or appendix of definitions for the indices representing opportunity neighborhood characteristics could be incorporated into the web interface. Finally, the main deficiency in the tables module is the lack of data reported at the census tract level. The addition of this data would facilitate neighborhood level analysis.

### ***Institutional support structures for PPGIS***

The final criteria for assessing the AFFH-T is the degree to which institutional support structures are in place to support PPGIS. When the new AFFH rule was issued, HUD released the *Affirmatively Furthering Fair Housing Rule Guidebook* (HUD, 2015). The guidebook serves as a resource for jurisdictions and community-based coalitions engaged in the AFH process. The HUD web site (<https://www.hudexchange.info/programs/affh/resources/>) also includes links to webcasts and other online resources to assist local jurisdictions and community-based coalitions engaged in the AFH process.

Still, the new AFFH rule is somewhat ambiguous about the scope of public participation in the AFH process, particularly in relation to the role of public participation in the initial analysis of data used in the AFH process and the adoption of action items to remove impediments to fair housing. At a minimum, public officials, agencies, service providers, and representatives from the broader community are required to have access to data used in the AFH process, adequate notice of public hearings, and opportunities to comment on proposals growing out of the AFH process. However, the mechanisms to facilitate public participation and expand its scope beyond those minimum requirements are not delineated. As noted, groups that represent low- and moderate-income people can request

technical assistance from HUD to enhance their engagement in the AFH process. However, the nature of the technical assistance offered to these groups and how to request it from HUD is not clearly described. In light of these limitations, two steps can be taken to further institutionalize PPGIS in the AFH process. First, the AFH guidelines can be more explicit about the scope of the public participation process and specify that PPGIS be a component of it. Second, HUD should earmark funding for nonprofit advocacy organizations and university partners to provide technical assistance and supplementary data to grassroots organizations in the AFH process.

## Recommendations

Our findings identify a number of enhancements that would strengthen the AFFH-T. First, the tool would benefit from the addition of data related to crime, public safety, public health, recreational amenities, and anchor institutions. To some extent, HUD attempts to address these types of data limitation by requiring that jurisdictions supplement data from the AFFH-T with local data and knowledge (HUD, 2015). However, HUD could provide more specific guidelines on what variables jurisdictions are required to include in the local data component of an AFH. Second, the tool would benefit from the inclusion of census-tract-level data in the tables module and corresponding labeling of census tracts in the mapping module to facilitate neighborhood level analysis. Third, the tool would benefit from planned data updates at more discrete intervals. Fourth, the tool would benefit if the ability to download maps in .jpeg or .pdf formats were incorporated into the mapping module. Finally, grassroots organizations using the tool would benefit from more explicit HUD guidelines concerning the role of PPGIS in the AFH process and the availability of funding to support technical assistance.

In a more general sense, HUD should revisit its strategy for using the AFFH-T and the AFH process to promote regional fair housing analysis. When the new AFFH rule was issued, HUD announced AFH due dates for a number of jurisdictions across the country. However, these due dates were not entirely consistent with goals to promote regional fair housing analysis. For instance, the region where Buffalo is located includes six jurisdictions. The AFH due dates assigned to the region's core city, Buffalo, was 2017;<sup>4</sup> the other five suburban and rural jurisdictions in the region were assigned 2019 due dates. This approach to scheduling AFH due dates impedes regional fair housing analysis, because it splits the AFH process in the core city from the

---

<sup>4</sup>This due date was later changed at the city's request to align its AFH report with the 2018 due date assigned to the Buffalo Municipal Housing Authority's and the 2018 deadline for reporting the city's next consolidated plan.



rest of its regions. HUD encourages jurisdictions to collaborate and conduct their AFH analyses together, however this is not mandated (HUD, 2015). Recognizing that housing segregation is a regional phenomenon, HUD should increase efforts to align AFH due dates for all jurisdictions in a region and require them to collaborate on a single, regional AFH rather than conduct separate analyses.

We recognize that this analysis is exploratory given the newness of the AFFH rule and the AFH process. Our focus on the suitability and organization of data in the AFFH-T is meant to serve as a starting point for more in-depth analysis of how the AFFH-T is actually used in practice by institutional stakeholders and community-based coalitions in the AFH process. We encourage continued analysis of the implications of the new AFFH rule for fair housing enforcement. In particular, we encourage analysis that promotes the development of the AFFH-T as a tool for PPGIS and expanded fair housing advocacy.

## Acknowledgments

The work that provided the basis for this publication was supported by funding under a grant with the U.S. Department of Housing and Urban Development. The substance and findings of the work are dedicated to the public. The author(s) and publisher are solely responsible for the accuracy of the statements and interpretations contained in this publication. Such interpretations do not necessarily reflect the views of the Government. We thank the *Journal of Community Practice's* editor and three anonymous reviewers for their comments on earlier versions of this article.

## References

- Ackerson, K. (2013). In the right place: Iowa City uses GIS to site affordable housing. *Planning*, 79(3), 33–35.
- Barndt, M. (1998). Public participation GIS: Barriers to Implementation. *Cartography and Geographic Information Systems*, 25(2), 105–112. doi:[10.1559/152304098782594607](https://doi.org/10.1559/152304098782594607)
- Bostic, R., & McFarlane, A. (2013). The proposed affirmatively furthering fair housing regulatory impacts. *Cityscape*, 15(3), 257–272.
- Coulton, C., Chan, T., & Mikebank, K. (2011). Finding place in community change initiatives: Using GIS to uncover resident perceptions of their neighborhoods. *Journal of Community Practice*, 19(1), 10–28. doi:[10.1080/10705422.2011.550258](https://doi.org/10.1080/10705422.2011.550258)
- de Souza Briggs, X., Popkin, S. J., & Goering, J. (2010). *Moving to opportunity: The story of an American experiment to fight ghetto poverty*. New York, NY: Oxford University Press.
- Gaber, J., & Gaber, S. (2014). *Qualitative analysis for planning and policy: Beyond the numbers*. Chicago, IL: APA Planners Press.
- Ghose, R., & Huxhold, W. E. (2001). Role of local contextual factors in building public participation GIS: The Milwaukee experience. *Cartography and Geographic Information Science*, 28(3), 195–208. doi:[10.1559/152304001782153017](https://doi.org/10.1559/152304001782153017)



- Gurley, L. (2015, August, 6). The fair housing failure: Where even the liberal North whistles Dixie. *The American Prospect*. Retrieved from <http://prospect.org/article/fair-housing-failure%E2%80%94where-even-liberal-north-whistles-dixie>
- Jennings, J. (2012). Measuring neighborhood distress: A tool for place-based urban revitalization strategies. *Community Development*, 43(4), 464–475. doi:10.1080/15575330.2011.645047
- Kain, J. F. (1992). The spatial mismatch hypothesis: Three decades later. *Housing Policy Debate*, 3(2), 371–460. doi:10.1080/10511482.1992.9521100
- Keating, D. (2011). Inclusionary housing and fair housing. In R. M. Silverman, & K. L. Patterson (Eds.), *Fair and affordable housing in the U.S.: Trends, outcomes, future directions* (pp. 143–156). Boston, MA: Brill.
- Massey, D. S., Albright, L., Casciano, R., Derickson, E., & Kinsey, D. N. (2013). *Climbing Mount Laurel: The struggle for affordable housing and social mobility in an American suburb*. Princeton, NJ: Princeton University Press.
- Mast, B. D. (2015). Measuring neighborhood opportunity with AFFH data. *Cityscape*, 17(3), 221–230.
- Patterson, K. L., Silverman, R. M., Yin, L., & Wu, L. (2016). Neighborhoods of opportunity: Developing an operational definition for planning and policy implementation. *Journal of Public Management & Social Policy*, 22(3), 143–158.
- Powell, J. A. (2002). Opportunity-based housing. *Journal of Affordable Housing and Community Development Law*, 12(2), 188–228.
- Powell, J. A., Reece, J., & Gambhir, S. (2005). *Mid-term report: New Orleans opportunity mapping – An analytic tool to aid redevelopment*. Columbus, OH: Kirwan Institute for the Study of Race and Ethnicity.
- Powell, J. A., Reece, J., Rogers, K., & Gambhir, S. (2007). *Communities of opportunity: A framework for a more equitable and sustainable future for all*. Columbus, OH: Kirwan Institute for the Study of Race and Ethnicity.
- Reece, J., Rogers, K., Gambhir, S., & Powell, J. A. (2008). *Opportunities for all: Inequality, linked fate and social justice in Detroit and Michigan*. Columbus, OH: Kirwan Institute for the Study of Race and Ethnicity.
- Rosenbaum, J. (1995). Changing the geography of opportunity by expanding residential choice: Lessons from the Gautreaux program. *Housing Policy Debate*, 6(1), 231–269. doi:10.1080/10511482.1995.9521186
- Samuels, A. (2015, July 8). Can better data help solve America's housing problems: The Obama administration issues a new rule – and a mapping tool – that are designed to help communities address segregation. *The Atlantic*. Retrieved from <https://www.theatlantic.com/business/archive/2015/07/new-hud-rules-fair-housing/397997/>
- Shroder, M. D., & Orr, L. L. (2015). Moving to opportunity: Why, how, and what next? *Cityscape*, 14(2), 31–56.
- Silverman, R. M., & Patterson, K. L. (2012). The four horsemen of the fair housing apocalypse: A critique of fair housing policy in the USA. *Critical Sociology*, 38(1), 123–140. doi:10.1177/0896920510396385
- Silverman, R. M., & Patterson, K. L. (2015). *Qualitative research methods for community development*. New York, NY: Rutledge.
- Silverman, R. M., Patterson, K. L., & Lewis, J. (2013). Chasing a paper tiger: Evaluating Buffalo's analysis of impediments to fair housing choice. *Current Urban Studies*, 1(3), 28–35. doi:10.4236/cus.2013.13004
- Silverman, R. M., Patterson, K. L., Yin, L., Ranahan, M., & Wu, L. (2016). *Affordable housing in US shrinking cities: From neighborhoods of despair to neighborhoods of opportunity?* Bristol, UK: Policy Press.

- Silverman, R. M., Patterson, K. L., Yin, L., & Wu, L. (2015). Neighborhood characteristics and the location of HUD-subsidized housing in shrinking cities: An analysis to inform anchor-based revitalization strategies. *Community Development*, 46(5), 632–651. doi:[10.1080/15575330.2015.1088875](https://doi.org/10.1080/15575330.2015.1088875)
- Tegeler, P., Korman, H., Reece, J., & Haberle, M. (2011). *Opportunity and location in federally subsidized housing programs*. Columbus, OH: Kirwan Institute for the Study of Race and Ethnicity.
- Thompson, E., Arafat, A., O'Dell, W., Steiner, R., & Zwick, P. (2012). *Helping put theory into practice for planning sustainable communities: A GIS tool for measuring transit accessibility*. Gainesville, FL: Shimberg Center for Housing Studies.
- US Department of Housing and Urban Development. (1996). *Fair housing planning guide*. Washington, DC: Author.
- US Department of Housing and Urban Development. (2013). How research tools are assisting communities to preserve, plan affordable housing. *Evidence Matters*, Summer, 14–19.
- US Department of Housing and Urban Development. (2015). *Affirmatively furthering fair housing rule guidebook*. Washington, DC: Author.
- US Government Accountability Office. (2010). *Housing and community grants: HUD needs to enhance its requirements and oversight of jurisdictions' fair housing plans*. Washington, DC: Author.
- United States Kerner Commission. (1968). *Report of the national advisory commission on civil disorders*. New York, NY: Bantam Books.
- Varady, D. P., & Walker, C. (2003). Housing vouchers and residential mobility. *Journal of Planning Literature*, 18(1), 17–30. doi:[10.1177/0885412203254333](https://doi.org/10.1177/0885412203254333)
- Wang, R., Blanco, A. G., Kim, J., Chung, H., Ray, A. L., Arafat, A., O'Dell, W., & Thompson, E. (2012). *Evaluating suitable locations for the development and preservation of affordable housing in Florida: The AHS model*. Gainesville, FL: Shimberg Center for Housing Studies.
- The White House. (2011). *Building neighborhoods of opportunity: White House neighborhood revitalization initiative report*. Washington, DC: Author.
- Williams, S., & Brennan, M. (2015, November 30). A new landscape of housing access and opportunity. *Urban Land*. Retrieved from <http://urbanland.uli.org/economy-markets-trends/new-landscape-housing-access-opportunity/>
- Wilson, W. J. (1990). *The truly disadvantaged: The inner-city, the underclass, and public policy*. Chicago, IL: University of Chicago Press.
- Yanow, D. (2000). *Conducting interpretive policy analysis*. Thousand Oaks, CA: Sage Publications.