

**Housing and Transportation:
Redefining Affordability Research and Development**

Technical Review Panel

Summary of Proceedings

Second Convening on March 2, 2012

March 9, 2012



Technical Review Panel

March 2, 2012

Summary of Proceedings**Attendees****Panelists***

Andy Cotugno (Metro; Portland, WA)
Leila Finucane Edmonds, J.D. (NeighborWorks America®; Washington, DC)
Ed Goetz, PhD (University of Minnesota; Minneapolis, MN)
Bart Harvey (Fannie Mae Board; Baltimore, MD)
David Kack (Western Transportation Institute; Bozeman, MT)
Chris Nelson, PhD (University of Utah; Salt Lake City, UT)
Rolf Pendall, PhD (Urban Institute; Washington, DC)
Darren Smith (National Association of Realtors®; Washington, DC)
Mtamanika Youngblood (Sustainable Development Strategies; Atlanta, GA)
Chris Zimmerman (Arlington County Board; Arlington, VA)

Federal Agency Staff

Mariia Zimmerman, HUD	John Giorgis, DOT
Michael Freedberg, HUD	Joshua Geyer, HUD
Paul Joyce, HUD	Kevin Ramsey, EPA
Regina Gray, HUD	Yuh Wen Ling, DOT
Alex McFarland, HUD	Patrick Pontius, HUD

Manhattan Strategy Team

Noreen Beatley, MSG	Matthew Sussman, MSG
Anna Cruz, MSG	Linda Young, CNT
Amara Okoroafor, MSG	Peter Haas, PhD, CNT
Andrew Herrmann, MSG	María Choca-Urban, CNT

Presenters

Debra Bassert, Assistance Vice President of Land Use Policy, *National Association of Home Builders*
Carlos Martin, PhD, Senior Associate, Sustainable Communities, *Abt Associates*
Phil Tegeler, J.D. Executive Director, *Poverty & Race Research Action Council*
Richard Voith, PhD, Senior Vice President and Principal, *Econsult Corporation*
Susan Wachter, PhD, Professor, *The Wharton School, University of Pennsylvania*

* Technical Review Panelists not in attendance: Vince O'Donnell (LISC, Boston, MA), Tom Sanchez, PhD (Virginia Tech University, Blacksburg, VA) and Bob Nielsen (Shelter Properties, Reno, NV).

Background

HUD's Office of Sustainable Housing and Communities (OSHC) is working with the Manhattan Strategy Group (MSG) to help identify how an affordability index that encompasses combined housing and transportation costs might be applied to core HUD program areas. This would enable HUD to be more strategic in pursuing data-driven policies that fulfill HUD's goal of redefining and increasing affordability in HUD-assisted communities.

MSG is working with the Center for Neighborhood Technology (CNT) to develop a Housing and Transportation Affordability (HTA) Index that measures the combined cost of housing and transportation as a share of household income with a web based data portal and a "Housing and Transportation Cost Calculator" that allows individuals to create customized transportation cost estimates based on location and household characteristics. These tools are intended to be used by both policymakers and consumers to inform planning and investment decisions.

This Technical Review Panel, composed of expert researchers and practitioners in housing, transportation, community development and related fields, was convened to guide the development and implementation of the HTA Index. It reflects a diverse array of perspectives based on area of expertise, experience and geographic location. Over the course of the project, the Panel will provide insight and feedback in regard to the data and methodology used to build the Index as well as guidance for potential applications of the tool at the federal and local level. The following summary of proceedings is from the second of five full-day convenings being held in Washington, DC over the course of the project.

Overview

On March 2, 2012, ten members of the HTA Index Technical Review Panel met with staff from the Manhattan Strategy Group (MSG), the Center for Neighborhood Technology (CNT), and representatives from several federal agencies including HUD and DOT to discuss the status of the HTA Index project and provide input on potential modifications to redesign CNT's H+T® Affordability Index into an HTA Index for HUD.

A major focus of this second convening was to provide panelists information regarding known issues and critiques of CNT's existing H+T® Affordability Index as well as present the results of a formal third party review of current housing and transportation tools with a specific focus on the H+T® Index. These critiques and critical perspectives were provided to inform panelists as they help guide the development of HUD's HTA Index.

Panelists heard presentations from the National Association of Home Builders (NAHB) and the Poverty Race and Research Action Council (PRRAC) offering different perspectives on how the current H+T Index poses challenges for use as a policy tool along with recommendations for improvements to create an appropriate HTA Index for HUD. Panelists also received a presentation from Econsult/University of Pennsylvania, the Third Party Reviewer commissioned by MSG and HUD to conduct a thorough statistical review of CNT's H+T Index. Panelists had the opportunity to pose questions to the NAHB and PRRAC presenters as well as to the review team following their presentations. The morning's presentations served as a springboard for a wide-ranging discussion of the work needed to create a reliable HTA Index and determine its potential applications.

Panel Proceedings

Project Update and Introductions

The meeting began with introductions of the panel and all observers which was followed by an update on project activities from Noreen Beatley, MSG's Project Director. Following the update, three panelists who were unable to attend the first convening – Ed Goetz, Andy Cotugno and Chris Nelson – provided information about the experience they bring to the panel and what they hope to gain from participating on the panel.

National Association of Home Builders (NAHB) / Abt Associates critique of the H+T® Index

Debra Bassert of NAHB provided background on a report released in 2010 reviewing the then current version of CNT's H+T® Index. She pointed out that NAHB has long been a proponent of development best practices and, in recent years, has developed a smart growth policy that supports high density development and better coordination of land use planning. Ms. Bassert also indicated that NAHB has taken an interest in the climate change impacts of development and supports research into the relationship between development patterns and travel and transportation costs. Ms. Bassert explained that NAHB retained Abt associates to examine the H+T® Affordability Index to gain a better understanding of their research and out of concern that there were important weaknesses that needed to be addressed before the Index could be used as a policymaking tool.

Carlos Martin of Abt Associates delved into Abt's review of the H+T® Index after explaining that the study was performed using data available at the time of publication, which is no longer current. Mr. Martin highlighted the following H+T® Index issues raised in the 2010 report:

H+T® Index Data Source Assessment:

- Relied on outdated data (2000 Census)
- Housing costs were based on expenses faced by current residents, which do not reflect costs faced by someone renting or buying a new home in the area.
- The VMT model relies on data from Massachusetts which may not reflect other regions.
- Auto costs do not take fleet mix into account.

H+T® Index Data Modeling Assessment:

- Transportation costs relied on regression models that were not transparent, making it impossible to evaluate their accuracy.
- Transportation costs are modeled while housing costs are descriptive.

H+T® Index Policy/Application Issues:

- Good for general consumer awareness or financial literacy education.
- May be less useful as a decision-making tool since it does not reflect individual characteristics, preferences and decisions.
- Has limited planning application because it does not model the effect of land use decisions or housing and transportation investments, nor is it predictive, especially within the housing cost component.
- OSHC's requirement that grant proposals include H+T® Index data as a baseline assessment is appropriate. However, using the data to set criteria for grant awards or investments such as in a Qualified Allocation Plan (QAP) could be problematic.

The panel questions and discussion that followed focused on the following subjects:

- After establishing that no state currently uses H+T® Index cost data as a QAP prerequisite or for qualifying credits, it was noted that imperfect measures of transportation access and affordability, such as proximity to transit, are currently used as criteria in many QAPs and other rating systems, including Enterprise Green Communities. It is not clear why using transportation cost estimates would be more problematic than these practices.
- It was pointed out that a perfect tool will never exist, and that the purpose of the panel and the project is to produce as good a tool as possible that performs better than existing measures.
- The need for the Index to be fully predictive in order to be useful for policy was questioned. It was acknowledged that, while such a model is undoubtedly important, the work involved in converting an index of housing and transportation costs from an informational tool, which has value, to a predictive model of urban development, would be a huge task.
- Similarly the need to account for individual choices was questioned. If the point of the Index is to reveal the impact of location on costs, the observation was made that individuals will sort themselves based on their preferences and resources. From this perspective, the Index could still theoretically be used in mortgage underwriting.
- A point was made that there may soon be sources for current housing costs at a small geographic scale as this is a project under development at Fannie Mae.
- NAHB had no direct response when asked what it would take for them to endorse an HTA Index.

Poverty & Race Research Action Council (PRRAC) critique of the H+T® Affordability Index

Phil Tegeler of PRRAC followed the NAHB/Abt Associates presentation by outlining his organization's concerns about the impact of a housing and transportation affordability index on fair housing. Mr. Tegeler commenced his presentation by saying that PRRAC is excited about the Sustainable Communities Partnership and has been encouraged by HUD's recent commitment to sustainable, inclusive communities through areas such as the Small Area Fair Market Rent program. However, he expressed concern about the fair housing implications of using an index of housing and transportation costs to site affordable housing or locate low-income families.

PRRAC's position is that the housing and transportation infrastructure and pricing in metropolitan America is a result of decades of policies that reinforce segregation and that to use housing and transportation information to determine where low-income households should be located would be misguided. Mr. Tegeler pointed out that several studies have suggested that areas with low transportation costs tend to coincide with areas of low opportunity. Additionally, he indicated that research has shown that location affects direct costs faced by low-income households in a number of areas that are not covered by CNT's H+T Index, including car loans, other automobile costs, groceries, and car insurance, all of which tend to be higher in inner-city locations. Mr. Tegeler also pointed out that the Index ignores indirect costs, such as school quality, environmental quality, stress, and exposure to crime, which can result in very costly outcomes in terms of health and educational and professional achievement.

Mr. Tegeler summed up his presentation by noting that the Index may be useful for a range of applications, but as a criterion for determining the location of affordable housing and where low-income families should live, great care must be taken to ensure that it does not work against fair housing goals. He believes that the Index could work to reinforce segregation and give communities that resist adding affordable housing a convenient excuse for not building it. As an example, he cited that many communities resist bus stops or extensions of bus lines to prevent lower-income people entering the community.

Panelists' responses:

- It was noted that, while PRRAC's perspective is important, in some respects, this may be the "last war". Currently, access to public transit within many communities means no access to the community itself for low-income people. Good transportation infrastructure raises land values and, under the current system, it is extremely difficult to develop affordable housing in places with high land costs. If this Index can help recognize the full value of these communities, then it might help create mixed-income neighborhoods of opportunity. Mr. Tegeler responded by acknowledging that, when the private market is strong in communities with low transportation costs, we should encourage and preserve affordable housing. But he questioned whether most regions in the country are going to see gentrification around their transit systems.
- It was pointed out that accounting for all of the costs mentioned by Mr. Tegeler would be impossible. Clearly housing and transportation costs cannot be the only criteria for locating affordable housing, but balanced with access to jobs and opportunity, it at least starts to account for more of the costs faced by low-income households. Without making change to programs such as the QAPs, we will keep the status quo, which is that affordable housing ends up in whatever community will take it, which is the least common denominator.
- It was observed that the Index could be used in two principal ways: to inform the location of new affordable housing or to determine the resources a low-income family needs to make it in the suburbs. Moving-to-Opportunity studies show that low-income people in the suburbs dramatically increased their car ownership. We have to acknowledge that low-income people own cars.
- Michael Freedberg from HUD drew attention to HUD's current strategic plan. One of the five strategic goals addresses this topic: "building sustainable and inclusive communities free from discrimination." These goals must be balanced and work together.

Third Party Review Presentation

Susan Wachter of the Wharton School at UPenn opened with a high level summary of what the H+T® Affordability Index seeks to do and the approach that the Econsult and UPenn team took in their review. The presentation was split into two focus areas: housing and transportation.

On the housing side, Ms. Wachter described three major issues with the Index; first, it reflects average current costs drawn from American Community Survey (ACS) data, which is less relevant for new or potential residents; second, it does not capture trends because the temporal component is not well-developed; and, third, it does not adjust for housing quality. Ms. Wachter pointed out that, in relation to other indices in use such as those used by NAHB or NAR, the H+T® Index is less timely.

Dick Voith of Econsult reported on the transportation side of the review. He indicated that the Index provides a robust first step for modeling household transportation costs, despite not including some elements that could potentially be included in an ideal transportation index. He further indicated that, based on their initial analysis, an examination of the spatial distribution of the residuals did not reveal any systemic problems nor did the non-random errors in the data present significant problems. Nonetheless, Mr. Voith recommended consideration of metro specific variables and/or fits that might reduce modeling error. Additional recommendations he highlighted include revealing all data, processes, calculations and regression analysis involved in building the Index, using a linear regression framework instead of the current rational function form, and using more current housing cost data.

HUD staff stated that the Econsult report was a public document and would be posted on their website.

Following the presentation, panelists made a number of observations and suggestions, which are highlighted below:

- It was suggested that the field tests could offer an opportunity to use on-the-ground knowledge to help identify the causes of residuals and potentially strengthen the model with these insights.
- To better represent the variable costs faced by different households, it was suggested that a matrix or calculator should be developed for different household types (size, income, workers, etc). Panelists had varying perspectives on how this feature would work and how it could be used. A customized transportation cost calculator is already planned as part of this project, but this suggestion also applied to outputs available within the Index itself (i.e., estimates could be generated for different types of household, instead of only the regional average household). Several panelists also supported the idea of allowing users to override model estimates for auto ownership. CNT pointed out that while this has been suggested in the past, the characteristics of a location may change household behavior. These issues all require further discussion.
- It was noted that making the data and methods fully public could lead to contributions from outside researchers that might begin to correct irregularities and ultimately improve the performance of the Index. CNT said they were comfortable with this and that it would be up to HUD to share the data and methods – the only element that is not in the public domain is CNT’s database of transit service, but they intend to work out a procedure for sharing this in the future.
- Panelists agreed that analyzing additional VMT data should be a priority. CNT mentioned that the best source they have identified is the EPA’s data from non-attainment areas, but that they have not been able to access these datasets.
- It was agreed that a better, more current source of housing data should be identified and incorporated if possible. CNT indicated that it has always been open to using a different source for the housing cost data.
- Panelists agreed that a simplified modeling approach would be beneficial.
- Several panelists suggested that, even in its current state, the Index could inform individual decisions about whether to stay with an underwater mortgage and policy decisions regarding setting priorities for borrowers that receive assistance.

Closed Door Session – Critique of HTA Index

Following the two presentations from NAHB and PRRAC, and discussion of the Third Party Review, representatives from CNT, NAHB and Abt Associates exited the room leaving only panelists, MSG staff, federal agency staff and the Econsult/University of Pennsylvania team. This closed door session, requested by panelists, permitted frank discussion of issues with the existing H+T® Affordability Index and next steps. A transcription service was employed to fully capture the discussion and provide accurate information to CNT; however, those notes are not part of these summary proceedings. Highlights of the discussion as captured by MSG staff follow below:

- A wide range of applications are envisioned for the HTA index, including potential use as a planning tool, an underwriting tool and a housing counseling tool. Before proceeding with these applications, some panelists emphasized the need to assess whether the tool was appropriate for each purpose and what, if any, adjustments would be necessary for it to work in specific contexts.
- Panelists had mixed views on whether the Index could be used for underwriting purposes without major changes.

- Several panelists argued that concerns about the Index being misapplied and causing harm might be overblown. While it is useful for the panel to discuss strengths and weakness and how the Index would work in different application categories and what problems might arise, the panel should not get stuck on potential harmful applications. Several areas where the HTA Index could be useful were mentioned, including siting LIHTC development on more expensive but location-efficient land and siting schools and other institutions.
- It was noted that applications of the Index must be sensitive to unintended consequences of investments and policy decisions to insure that affordability is maintained for existing residents of affected neighborhoods.
- Transportation costs are not just about transit access. The easiest way to reduce costs for low income people may be to reduce the cost of car ownership. The close link between the H+T® Index and transit advocacy may limit how we think about potential applications for the HTA Index.
- It was suggested that the most important determinant is not transit access or density, it is land use mix. It was pointed out that a large percentage of Americans want to walk or bike to work and an increasing number do, but this is only possible when homes are close to jobs; this can occur in a suburban environment, with or without transit.
- The current Index is the raw material that will be shaped into tools to respond to different questions and applications. The point was made that it seems as though the Index, even in its current form, could inform programs such as Fair Market Rents. Future discussions should focus on how the raw material can be incorporated into specific HUD programs. Mariia Zimmerman from HUD pointed out that, how this information could inform HUD program, is precisely what HUD is interested in finding out, and that an analysis of HUD programs and potential applications of the HTA Index is one of MSG's tasks in the project.
- The question of when the HTA Index would be made publicly available, including all underlying data and analysis, was discussed. The implications of a full release in terms of responses from interest groups were also discussed. HUD indicated that there will be a testing period after the Index is delivered in August, but they need to determine the timing and audience for a fuller release.
- The key question is whether the CNT H+T® Index can be reengineered to respond to all of the concerns under discussion, or whether a whole new Index is necessary.
- It was suggested that the Public-Use Microdata Sample (PUMS) could be used to test and hone the Index.
- While a number of critical issues need to be resolved, the most important problems are the housing costs and the lack of a temporal or predictive element in the model.
- One perspective presented is that the most important use of the Index is to support local and regional planning, which has been the major focus of the OSHC. The expectation is that the investment in this project will produce a tool that can be used within this context. Other applications such as an underwriting tool are important, but may be secondary.

Concluding Discussion and Next Steps

To conclude the meeting, CNT staff was invited back to the table to respond to questions and offer their perspective on the topics identified by the panel. CNT opened by stating that the development of the HTA Index was designed to be iterative. The version released in August 2012 will likely be imperfect, but additional changes and improvements will be incorporated for the final Index due in August 2013. CNT reiterated that the housing cost data could be replaced by an alternative measure which could be a publicly available dataset, market data (generally proprietary), or it could potentially be generated from

HUD's datasets or another source. CNT confirmed that they would be testing additional variables, including region-specific measures and availability of amenities. They pointed out that another way to improve R^2 would be to shift from Census Block Groups to Census Tracts. Additionally, the VMT model will undergo testing to improve its performance in small metro areas.

Following CNT's response, panelists raised a number of issues. The central themes of the discussion and ideas presented included:

- Potential to test the Index with PUMS, either in conjunction with field tests to add a layer of local knowledge or in partnership with the Office of Policy Development & Research (PD&R) which could do a special tabulation of the data (though probably not within the project timeline).
- Potential to use the National Household Travel Survey (NHTS) data.
- Potential to include real time housing costs from Fannie Mae/FHFA.
- Importance of making all elements of the Index publicly available.
- Potential to test VMT and transit-use estimates with datasets in select regions.

Action Items

During the course of the convening, a number of critical issues were identified. The following list includes immediate next steps and high priority concerns raised by panelists as well as concrete items for further investigation or research.

- **Establish a system to gather and incorporate input from panelists in between convening.**
 - Organize conference calls on key topics such as the HUD program analysis and the technical development of the HTA Index.
 - Determine how panelist's recommendations will inform project tasks.
- **Determine a new source for housing costs.**
 - Discuss with potential use of PUMS with PD&R.
 - Reach out to Fannie Mae/FHFA about housing cost database under development.
- **Investigate opportunities to test Index data in select regions.**
 - PUMS data.
 - Regional data.
 - EPA VMT data.
- **Clarify what applications are under consideration and determine precisely what kind of tool is needed for each application.**
 - Prioritize applications (this should be informed by the HUD programs analysis).
 - Assess potential Index outputs in terms of geography, household type and other factors.