H+T Affordability Index for Planning and Performance Metrics Under MAP-21

Transportation for America
MAP-21 Technical Assistance Program
September 30, 2013
Purpose of Training

• Demonstrate what H+T Affordability data is available and metrics that can be constructed

• Explore how MPOs and state DOTs might make effective use of these data and metrics for planning and performance metrics (e.g. in RTPs)
Training Overview

• H+T Index Basics (5 min)
• Fact Sheets (30 min)
• Q&A / Discussion (40 min)
• Next Steps (5 min)
User Guide

Navigating the Map

To view the H+T Index, click on View the Index in the upper right box or on the Use the H+T Index box.

Clicking on either link will take you to a map of the United States where you can zoom into a desired area or use the Find search bar at the top of the page. Neighborhoods appear in green text are regions, those that appear in blue are areas. This search bar will remain above the maps and can be used to find a specific location within zooming in on your area of interest.
H+T Index attaches costs to locations

Typical Household:
Regional Median Income (RMI): $44,437
Size: 2.5 People
Commuters: 1.2 Workers

Moderate Household:
80% of RMI: $35,550
Size: 2.5 People
Commuters: 1.2 Workers

H+T at 45% for Moderate Household

Housing at 30% for Median Income Household

H+T at 45% for Median Income Household
**Neighborhood Characteristics**
- Household Density
  - Residential Density
  - Gross Density
- Street Connectivity and Walkability
  - Average Block Size
  - Intersection Density
- Transit Access
  - Transit Connectivity Index
  - Transit Access Shed
- Job Access
  - Employment Access Index

**Household Characteristics**
- Household Income
  - Median Income
  - Per Capita Income
- Household Composition
  - Average Household Size
  - Average Commuters per Household

**TOTAL TRANSPORTATION COSTS**
- Auto Ownership + Auto Usage + Public Transit Usage
These neighborhoods have been selected to represent different living options currently available in the Thomas Jefferson Planning District.
Crozet

Crozet is a small town in western Albemarle County that has been designated by the county for continued growth. There is a small historic core of the town, surrounded by more recent suburban development. A small amount of industry exists, as well as formerly industrial sites in the process of redevelopment.

**Average Housing costs:** $1,353 per month

Costs increased by 64% between 2000 and 2009

- **Residential Density**
  In the neighborhood, there are 1.5 households per residential acre of land (regional average: 1.5). On average, there are 2.69 people per household (regional average: 2.43).

- **Housing Types and Tenure**
  Roughly three-quarters of all housing is single-family detached, with townhomes making up most of the difference. Assisted-living apartments are located in the area. Of the total population, 32% rent their homes and 68% are homeowners (regionally, 33% rent)

- **Job Access and Community Services**
  Residents have access to 1,516 Jobs/Square Mile (regional average 11,899). The town center of Crozet has some commercial uses, and there is a nearby grocery store. There are several small parks within subdivisions, as well as Cladius Crozet Park. Schools for all ages are located in Crozet that serve the surrounding areas. Residents must travel into Charlottesville for major retail, health care, or most social services.

**Average Transportation costs:** $1,290 per month

Costs increased by 64% between 2000 and 2009

- **Vehicle Use**
  Each household owns an average of 1.96 vehicles (regional average 1.87), and the average household travels 23,459 miles in a vehicle each year (regional average 21,581 miles).

- **Transit Availability**
  No regular fixed-route service is available, but JAUNT offers a weekly routes and on-demand service. Of all residents, Almost 0% commute to work by transit (regional average 2%).

- **Walkability/Bikability**
  Sidewalks are present downtown and in most subdivisions. Bike lanes are uncommon. Distances between destinations are too far to facilitate walking in most cases.

**Housing + Transport**

- **Percent of regional typical household income expected to be spent on housing alone in the neighborhood.**
  30% of income
  Regional average 24%

- **Percent of regional typical household income expected to be spent on housing and transportation.**
  58% of income
  Regional average 52%

**Street Network**

Connectivity is relatively low with 98 intersections per square mile. A small grid exists in the core, but a railroad track creates access challenges. Street networks in new subdivisions are less connected.

**Regional Context**

The center of Crozet is 14.2 miles from downtown Charlottesville along the transportation network.
MAP-21 Creates an Opportunity to Measure More of What Matters

1. State / regional PMs can supplement Federally required PMs

2. Inform policy direction in LRPs

3. Inform project selection by State DOTs and MPOs in TIP/STIP process
Two Unique Contributions to Development of PMs

1. Relates transportation decisions and land use practices to (a) household transportation behavior, and (b) household costs

2. Available at a very small geographic level, covering most of the country
Regional Performance Measurement

- Bay Area RTP -- reduction goal for H+T costs for low/mod households
- Chicagoland LRP has an H+T reduction goal
- DC Council of Governments has an H+T affordability goal for “Regional Activity Centers”
Purpose of Fact Sheets

- PMs frame broader benefits of good transportation investments
- Canned data or close to it
- Did not attempt to create the “ultimate” set of PMs
- Encourage thinking about a broader range of PMs that could reflect the goals of the MPO
Affordability: Costs and Share of Income (Baton Rouge region)

- **$1,170**  
  Average monthly transportation costs for the typical household in the region
  
  **30%**  
  Percent of income this represents for the typical household

- **$2,064**  
  Average monthly *combined* housing and transportation costs for the typical household in the region
  
  **53%**  
  Percent of income this represents for the typical household
“Shrinking” Affordability
(Pittsburgh region)

Share of the region’s households living in areas that are affordable\(^1\) to the typical family...

...considering housing costs alone: \(87\%\)

...considering both housing and transportation costs: \(29\%\)
“Shrinking” Affordability  
(Philadelphia region)
“Shrinking” Affordability
(Philadelphia region)
Household Savings (Detroit region)

Transportation costs can be reduced through infill development, locating housing near jobs and shopping, and investing in transportation options. If the rest of the region were more like the 25% of neighborhoods with the lowest rates of car ownership and driving, households would save a total of **$831 million/year** at the pump and **$2.1 billion/year** in car payments and maintenance costs.²
### Affordability Comparison (New Orleans Region)

<table>
<thead>
<tr>
<th></th>
<th>MPO Region</th>
<th>City of New Orleans / Orleans Parish</th>
<th>St. Bernard Parish</th>
<th>Jefferson Parish</th>
<th>St. Charles Parish</th>
<th>St. Tammany Parish</th>
</tr>
</thead>
<tbody>
<tr>
<td>Median Income</td>
<td>$2,087</td>
<td>$1,887</td>
<td>$2,005</td>
<td>$2,211</td>
<td>$2,363</td>
<td></td>
</tr>
<tr>
<td>(in dollars)</td>
<td>(53%)</td>
<td>(48%)</td>
<td>(51%)</td>
<td>(56%)</td>
<td>(60%)</td>
<td></td>
</tr>
<tr>
<td>Percent of Area Median Income</td>
<td>$983 (25%)</td>
<td>$1,001 (25%)</td>
<td>$683 (17%)</td>
<td>$914 (23%)</td>
<td>$979 (25%)</td>
<td>$1,096 (28%)</td>
</tr>
<tr>
<td></td>
<td>$1,104 (28%)</td>
<td>$1,015 (26%)</td>
<td>$1,203 (31%)</td>
<td>$1,091 (28%)</td>
<td>$1,232 (31%)</td>
<td>$1,266 (32%)</td>
</tr>
<tr>
<td>Region</td>
<td>Compactness</td>
<td>Connectivity</td>
<td>Walkability</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------------------</td>
<td>-------------</td>
<td>--------------</td>
<td>-------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tri-County Region</td>
<td>2.9</td>
<td>1.1</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>City of Lansing</td>
<td>3.5</td>
<td>2.4</td>
<td>183</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ingham Co.</td>
<td>3.2</td>
<td>1.7</td>
<td>131</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eaton Co.</td>
<td>2.5</td>
<td>0.1</td>
<td>56</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clinton Co.</td>
<td>2.2</td>
<td>0</td>
<td>37</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Jobs Accessible by Transit Within 30 Minutes

- 23,900 to 73,000
- 73,000 to 83,000
- 83,000 to 87,000
- 87,000 to 92,600
- 92,600 to 93,400
- No Jobs

MPO Boundary

Job Access (Chattanooga region)
Jobs Accessible w/in 30 min on Transit (Avg. Neighborhood Value for Each Area)

Source: Center for Neighborhood Technology
CO₂ Emissions from Household Auto Use (tons per household per year)

Source: Center for Neighborhood Technology
Data Limitations

• Some values are modeled, not measured
• Results may not match existing models due to different focus and methods
• All values presented here are modeled for the typical regional household
• Relies on ACS, which sometimes has data “holes” in less densely populated areas
Special Notes on Usage for MAP-21

• Scenario planning
  – Requires further development to be implementable at State/regional level

• Project selection
  – Smaller-scale projects may not “move the needle” but could as a “program of projects”
Q&A / Discussion

• Meaningfulness of metrics
• Framing of metrics
• Geographic scale
• Utility of comparison values
• Application to planning processes
Thank you!

Stefanie Shull – sshull [at] cnt [dot] org
Sarah Campbell – sarah [at] cnt [dot] org

http://www.cnt.org
http://htaindex.cnt.org

H+T Newsletter:  http://htaindex.cnt.org/subscribe.php