Using the H+T Affordability Index for MAP-21 Performance Metrics

Transportation for America
MAP-21 Technical Assistance Program
August 28, 2013
Purpose of Training

• Help you accurately interpret metrics on the fact sheets prepared for your regions

• Help you talk about the H+T Affordability Index and answer common questions

• ID possible changes to metrics / materials

• Next training: Oct 1st, with MPOs, anticipating more technical in nature
Training Overview

- Update on CNT’s part of TA work (10 min)
- The “Backgrounder” (10 min)
- Walk through Fact Sheet (20 min)
- Q&A / Discussion (40 min)
- Next Steps (5 min)
Update on CNT’s TA efforts

• March convening
  – General overview of the H+T Index and possible metrics
  – Cargo-oriented development (COD)
Housing is considered affordable if it costs less than 30% of a household budget. Transportation is the second largest expense for families, but few consider these costs when choosing a place to live.

The Housing + Transportation Affordability Index is an innovative tool that measures the true affordability of housing based on its location.

About the H+T Index
The H+T Index provides a comprehensive view of affordability, one that includes the cost of housing and transportation at the neighborhood level. Learn more about the Index and the methods behind it.

Index Applications
H+T Index information has implications for consumers, planners, and policy makers. Learn how the data is being used across the country.

Use the H+T Index
See how nearly 180,000 neighborhoods are affected when you expand the traditional measure of affordability to include transportation costs.
H+T Index attaches costs to locations

Housing at 30% for Median Income Household

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

H+T at 45% for Median Income Household
Update on CNT’s TA efforts

- Current / Upcoming
  - Fact Sheets + Backgrounder on PMs
  - Two training sessions (including today)
  - Detroit region COD
Reconsidering Freight

Cargo Oriented Development (COD) a Great Match for TOD
Some Typical COD Optimization Measures

• Proximity to….
  – Populations with a HS diploma but no BA
  – Complementary logistics/industrial biz
  – Good transit service

• Availability of re-developable land for freight facilities w/in 1 mi. of active rail line

• Adoption of new, efficient technology
Performance Measures to Track Achieved COD

- **Reductions in…**
  - truck VMT / related air pollution
  - time requirements for first / last mile delivery
  - unemployment in the COD area

- **Increases in…**
  - reliability of freight delivery
  - acres restored to productive use
  - jobs in the COD area
  - tax base in the COD area
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What is the H+T Index and why should I care? (in three sentences)

1. It’s a geocoded dataset that estimates household transportation costs at the neighborhood level and combines them with housing costs to create a new measure of affordability.
What is the H+T Index and why should I care? (in three sentences)

2. Can be used to track how those indexed costs vary through a region, over different development patterns, and increasingly over time.
What is the H+T Index and why should I care? *(in three sentences)*

3. Index values and the data used to construct them offer a way to assess community sustainability—the state of current conditions, what needs to change, and shifts over time.
**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
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
Opportunities Under MAP-21 to Introduce New Data / Metrics

1. State and/or regional PMs included in Fed reporting docs that are required by MAP-21

2. State/regional PMs used in LRPs to inform policy direction

3. Inform project selection by State DOTs and MPOs in TIP/STIP process
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”
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Overview of Fact Sheet

- PMs frame broader benefits of good transportation benefits
- Canned data or close to it
- Did not attempt to create the “ultimate” set of PMs
- DID attempt to present a fact sheet that will resonate with your MPO
- Open to suggestions!
## Impact PMs: Affordability and Environment

<table>
<thead>
<tr>
<th>Affordability</th>
<th>$1,132</th>
<th>Average monthly transportation costs for the typical household in the region</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>25%</td>
<td>Percent of income this represents for the typical household</td>
</tr>
<tr>
<td>Combined</td>
<td>$2,318</td>
<td>Average monthly combined housing and transportation costs for the typical household in the region</td>
</tr>
<tr>
<td></td>
<td>52%</td>
<td>Percent of income this represents for the typical household</td>
</tr>
</tbody>
</table>
Impact PMs: Affordability and Environment

Equity

Share of the region’s households living in areas that are affordable to the typical family...

...considering housing costs alone: 70%

...considering both housing and transportation costs: 30%
## Impact PMs: Affordability and Environment

<table>
<thead>
<tr>
<th>Environment</th>
<th>8.2</th>
<th>59%</th>
<th>2.6 million</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average GHG emissions (tons $CO_2e$) emitted by the typical household per year from driving</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Share of the region’s households living in areas where this value is lower</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emissions avoided per year (tons $CO_2e$) if all neighborhoods were built like the least-emitting neighborhoods*</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

*Least emitting neighborhoods defined as the region’s Census block groups in the lowest quartile for emissions.
## Response/Outcome PMs: Travel Activity (VMT)

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>Travel Activity</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>19,045</strong></td>
<td><strong>60%</strong></td>
<td><strong>$831 million</strong></td>
</tr>
</tbody>
</table>
| Vehicle miles traveled per household per year\(^1\) | Share of region’s households living in areas where this value is lower | Dollars saved at the pump per year if all neighborhoods in the region were built like those with the lowest rates of driving\(^2\)
### Response/Outcome PMs: Travel Activity (Auto Ownership)

<table>
<thead>
<tr>
<th>Travel Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1.8</strong></td>
</tr>
<tr>
<td>46%</td>
</tr>
<tr>
<td><strong>$2.1 billion</strong></td>
</tr>
</tbody>
</table>

- **1.8**: Automobiles owned per household
- **46%**: Share of region’s households living in areas where this value is lower
- **$2.1 billion**: Dollars freed up per year if all neighborhoods in region were built like those with the lowest rates of car ownership

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Policy/Investment PMs: Access to Transit and Jobs

Access to Transit and Jobs

Share of the region’s households who live in neighborhoods* with...

- 18% High Transit Connectivity
- 19% High Transit Access
- 24% High Employment Access

*Defined as the share of the region’s households in neighborhoods that score in the highest quartile for each value.
Walkability

Share of the region’s households who live in neighborhoods* with...

- Ped-friendly Development: 17%
- Robust Pedestrian Network: 17%
- Compact Neighborhoods: 25%

* Defined as the share of the region’s households in neighborhoods that score in the lowest quartile for block size, and the highest quartile for intersection density and net residential density, respectively.
Data Limitations

• Some values are modeled, not measured. States and MPOs can be wary of new / outside sources of modeled data.

• All values presented here are modeled for the typical regional household.

• Relies on ACS, so there are sometimes 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”
  – STATE and MPO resistance to “national model” being used for local/regional project selection
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Considerations for Discussion

- Meaningfulness of metrics
- Framing of metrics
- Geographic Scale
- Technical vs non-technical balance
- Comparison values
- What to change for next training
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Thank you!

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