Closing the Gap: The First, Last and Toughest Mile in Transportation

Method for Linking Greenways and Trails with Public Transportation

- 2017 Florida Commuter Transportation Summit
- Sara Hendricks
- USF Center for Urban Transportation Research
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Wouldn’t it be great if we could start from scratch?
How to prioritize locations for transit/trail improvements?

- Take advantage of opportunities where redevelopment funds or highway improvement funds are already planned to be used.
- Select locations already having highest travel activity

How to prioritize locations for transit/trail improvements?

- Census tracts with home locations having higher numbers of bicyclists
- Census tracts with home locations having higher numbers of public transit riders

- Focus improvements near homes of bicyclists and transit riders
Recommend a method that is consistent, uniform, repeatable...

“Enable low income people to access jobs.”
“Enable adult students to access college and trade school campuses.”
“Enable seniors to access recreation centers.”
“Enable car-dependent suburban areas to access shopping opportunities.”

Selected Study Area
Hillsborough and Pinellas Counties, Florida
Steps in Method to Link Trails with Public Transportation

- Seek community input
- Select travel market and trip purpose
- Map trail network
- Map trip origins and destinations
- Identify demographic data sources
- Map transit routes and stops
- Define subarea(s)
- Develop a typology of crossings having similar characteristics
- Conduct site observations and inventories

What makes a transit/trail connection important?
Map the trail network

- In Hillsborough County there are several existing trails.
- County government and MPOs play a prominent role in trail development.
- Data were mapped using GIS spatial analysis.

Map transit routes and locations of stops near trails
Hillsborough Trail Locations within 2000 feet of HART Bus Stops

<table>
<thead>
<tr>
<th>Trail Name</th>
<th>Description/Limits</th>
<th>Jurisdiction</th>
<th>Status</th>
<th>Length in miles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upper Tampa Bay Trail</td>
<td>Memorial Highway/Montague St to Peterson Road</td>
<td>Hillsborough</td>
<td>Existing</td>
<td>7.0</td>
</tr>
<tr>
<td>Phases I, II, III</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Town 'N Country Greenway Trail</td>
<td>Sheldon Road to south of George Road</td>
<td>Hillsborough</td>
<td>Existing</td>
<td>2.0</td>
</tr>
<tr>
<td>South Tampa Greenway</td>
<td>MacDill Trail at Gadsden Park</td>
<td>Tampa</td>
<td>Existing</td>
<td>1.5</td>
</tr>
<tr>
<td>Bruce B. Downs Trail</td>
<td>Amberly Drive to Hunters Green Blvd, parallels Bruce B. Downs Blvd.</td>
<td>Tampa</td>
<td>Existing</td>
<td>4.4</td>
</tr>
</tbody>
</table>

Identify data sources to describe location of travel market and trip destination

[https://edg.epa.gov/data/Public/OP/SLD/SLD_userguide.pdf](https://edg.epa.gov/data/Public/OP/SLD/SLD_userguide.pdf)

<table>
<thead>
<tr>
<th>Category</th>
<th>Market</th>
<th>Description</th>
<th>Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design</td>
<td>Walkable neighborhoods</td>
<td>Communities with greater intersection density are more supportive of non-motorized and public transit modes. By identifying walkable areas, investments in these areas may support increase use of public transit and nonmotorized modes.</td>
<td>EPA Smart Location Database</td>
</tr>
<tr>
<td>Density</td>
<td>Transit supportive areas</td>
<td>Enhancing bicycle and transit connections in areas with transit supportive population and employment densities are more likely to improve the rider and bicyclist access to goods, services and employment opportunities.</td>
<td>EPA Smart Location Database Residential and Employment Density Calculations</td>
</tr>
<tr>
<td>Transit service</td>
<td>Transit service areas</td>
<td>Locations with better transit service offer greater transit accessibility to employment and other destinations. Areas with greater service frequency and access to transit stops would enhance bicyclist access to more destinations</td>
<td>EPA Smart Location Database Jobs Transit Accessibility Calculation</td>
</tr>
</tbody>
</table>
Map concentrations of home and work locations

- Areas between job and home locations warrant a closer look, especially if these areas contain transit service that overlaps with trails.

Define a subarea within which to look closer

- Upper Tampa Bay Trail was selected to evaluate first.
  - Longer length
  - On fringe of transit service area: creates transportation value of the trail
  - Using EPA SLD, more jobs were accessible within a 45-minute transit trip
  - Trail alignment not redundant with streets
Develop a typology that organizes transit/trail crossings into sets having similar characteristics

- Categorizing by some shared characteristics helps deal with large numbers of candidate crossings to prioritize
- Helps generalize operating conditions and attributes as they affect bicyclists and pedestrians
- Enables development of general improvement concepts

- We developed three types or scenarios:
  1. Where a trail and a transit route intersect and connect (scenario 1)
  2. Where a trail and a transit route intersect but do not connect (scenario 2)
  3. Where a trail and transit route are aligned close to each other but do not intersect (scenario 3)

Three transit/trail crossing locations were selected for further evaluation

**Hillsborough County**

1. HART Bus Route 39 with Upper Tampa Bay Trail at Sheldon Road
2. HARTFlex Town ‘N Country with Upper Tampa Bay Trail at Linebaugh Avenue
3. HART Northwest Transfer Center with Upper Tampa Bay Trail at Channel Park Trailhead by W. Waters Avenue Bridge
Transit/Trail Crossing Inventory Tool

- Template is available for download
- Modifiable by user
- Can be completed in field using tablet PC
- Design Guidelines Resources:

Hillsborough Scenario 3: HART Northwest Transfer Center and Upper Tampa Bay Trail at W. Waters Avenue Bridge
Observations about transit/trail connectivity

- Trail locations may not be optimal for transportation.
- System redundancy is important to bicyclists and pedestrians.
- Many trails are closed at sunset.
- On-street roadway improvements link trails to transit.

Recommendations to strengthen transit/trail connectivity

- Consider transit/trail linkages at the transportation planning stage.
- Signs, maps, brochures, websites, and mobile phone apps should cross-promote transit and trails.
- Develop and promote a multimodal route finding system.
Recommendations to strengthen transit/trail connectivity

- Use local knowledge to identify needed amenities
- Provide bikes in buses
- Provide additional trail access points
- Include transit riders on the BPAC and a BPAC representative on transit advisory committees

Questions?

- Sara Hendricks
- Center for Urban Transportation Research
- University of South Florida
- 813-974-9801
- Hendricks@cutr.usf.edu

Here is the link to the report: