The Road Less Traveled

Non-traditional Health Impact Analyses in Transportation Planning
Chattanooga TPO

- 443,000 people
- 2,110 lane miles
- 19 Jurisdictions

- $7.3M/year FHWA
- $4.7M/year FTA
- 19 Jurisdictions
Where to start in considering health

“Go back to your community and start today” – Mark Fenton, 2005

“TN 49th worst state physical activity & 47th for obesity, those ratings can change if state & city leaders increase efforts to make bicycling & walking safer & more convenient” – TN Department of Health Commissioner John Dreyzehner, 2015
The process to

• Educate (i.e. workshops)
• Evaluate (i.e. audit access to health-based goods/services)
• Prioritize (i.e. health-based measures)
• Fund (i.e. set-aside and available grants)
Physical activity and health

Pucher, “Walking and Cycling: Path to Improved Public Health,” Fit City Conference, NYC, June 2009
Physical activity and health

States with the lowest levels of biking and walking have, on average, the highest rates of obesity, diabetes, and high blood pressure.
Physical activity and the built environment

One third of regular transit users meet the minimum daily requirement for physical activity during their commute.
Surgeon General

STEP IT UP!

Surgeon General's Call to Action to Promote Walking and Walkable Communities

LEARN MORE
The way we design and build our communities can affect our physical and mental health.
Health Considerations for the 2040 RTP

A Healthy Region

- Safety
- Affordability
- Access to Healthy Food
- Access to Community Resources
- Air Pollution
- Active Transportation
Integrating Health into the 2040 RTP

**Existing Conditions Analysis**
- Safety emphasis areas
- Livability corridors
- **Accessibility analysis**
- **Bicycle/pedestrian gap analysis**
- **Transit gap analysis**
- **H+T affordability analysis**

**Project Identification**
- Targeted multimodal investments
- Complete streets upgrades on strategic corridors
- Strategies to reduce vehicle-miles travelled

**Project Evaluation**
- Project improves safety
- Project reduces VMT
- Project promotes multimodal access to community resources
- Project fills gap in multimodal system

**Plan Evaluation**
- VMT per capita
- Air pollution emissions
- Transportation disadvantaged analysis – crashes, emissions, accessibility
- Investment allocations by transportation mode
Health Impact Assessment

Viewing the Regional Transportation Plan through the lens of public health:

How can insights about the built environment influence decisions for the 2040 Regional Transportation Plan?
Health Impact Assessment

- GIS-based
- Readily available data
- Yields relevant information
Proximity is key

STUDIES SHOW PEOPLE WILL WALK TO DESTINATIONS:

- 46% will walk 1 mile to Church or School
- 1% will walk 3-4 miles to Church or School
- 35% will walk 1 mile to Work
- 1% will walk 3-4 miles to Work²

Sources:
Centers for Disease Control and Prevention 2012, newpublichealth.org
Three-pronged approach

Proximity to active transportation facilities.

Active transportation facilities that serve health destinations.

Proximity to health destinations.
Active transportation facilities

- Bicycle level of service
- Parks and open space
- Trails
- Transit stops
- Sidewalks
Intersection density as a proxy for sidewalks?

Intersections

Intersection density vector grid
Health destinations

- Healthcare facilities
- Grocery stores and supermarkets
- Farmers markets, community gardens and mobile market sites
- Public and private schools (K-12)
Defining accessibility

1 mile radius = bike accessible

¼ mile radius = walk accessible

Grocery store

"The sovereign invigorator of the body is exercise, and of all the exercises walking is the best." Thomas Jefferson
Access to Transit Stops

- 1/4 walking access (18% of Homes)
- 1/2 mile access
- 1 mile bicycle access (36% of Homes)
- > 1 mile access
- MPO Boundary
- County Boundary
- Limited Access
- Highways

Note: Map based on 2010 Census Block Group data
CommunityViz provides the ability to combine multiple layers of data simultaneously.
Access to Active Transportation Facilities Composite Score

Lower  Higher
Access to Health-related Destinations Composite Score

Lower  Higher
Informing the 2040 RTP

Average distance in region between homes and the nearest active transportation facility

- Bicycle Facility: 0.45 miles
- Parks and Open Space: 0.50 miles
- Trail: 2.42 miles
- Transit Stop: 3.05 miles

Overall Average Distance: 1.60 miles
Informing the 2040 RTP

Figure 4.23  Walk Access and Bicycle Access – Percentage of Homes in the Region That Are within One-Quarter Mile and One Mile to Health-Related Destinations

- Public or Private School: 11% 66%
- Grocery Store or Supermarket: 7% 51%
- Healthcare Facility: 5% 35%
- Farmers Market, Etc.: 2% 19%

Section 4 – Investment Needs
82
Informing the 2040 RTP

Health-related destinations within a 1/4 mile radius of a CARTA transit stop

- Farmers Market, Community Garden, Mobile Market: 12
- Healthcare Facility: 33
- Public or Private School: 44
- Grocery Store or Supermarket: 17
- All Health-Related Destinations: 335

# of destinations within 1/4 mile radius
Total # of destinations by type
Did you know...

The average home in the Chattanooga region is 1.6 miles from the nearest trail, bike route or bus stop?
Did you know...

BUT the average distance from a home to the nearest CARTA transit stop is 3.05 miles.
Did you know...

36% of all Health-Related Destinations are within a \( \frac{1}{4} \) mile from a CARTA transit stop?
Within Chattanooga’s “Food Desert” are:

- 60,000 people and 2 grocery stores
- 64 corner stores and gas stations
- 23 fast food chain restaurants
- Neighborhoods of Westside, Alton Park, Orchard Knob, East Chattanooga
Affordability
Locations of Highest Transit Demand

Locations of Transit Service Gaps

2040 RTP - Transit Gap Analysis
Final thoughts...

• Not a one-size-fits-all approach.
• Customize to your data and needs.
• Make it meaningful to your audience.
The doctor of the future will give no medicines, but will interest his patients in the care of the human frame, in diet, and in the causes and prevention of disease.

- Thomas Edison
MAY THE FORCE BE WITH YOU
Thank you!