

Welcome to *The Planning Exchange*



TRANSPORTATION PLANNING INFORMATION EXCHANGE

UNDERSTANDING THE LINKS BETWEEN TRANSPORTATION AND HEALTH: CASE STUDIES FROM THE FIELD

Melissa Taylor

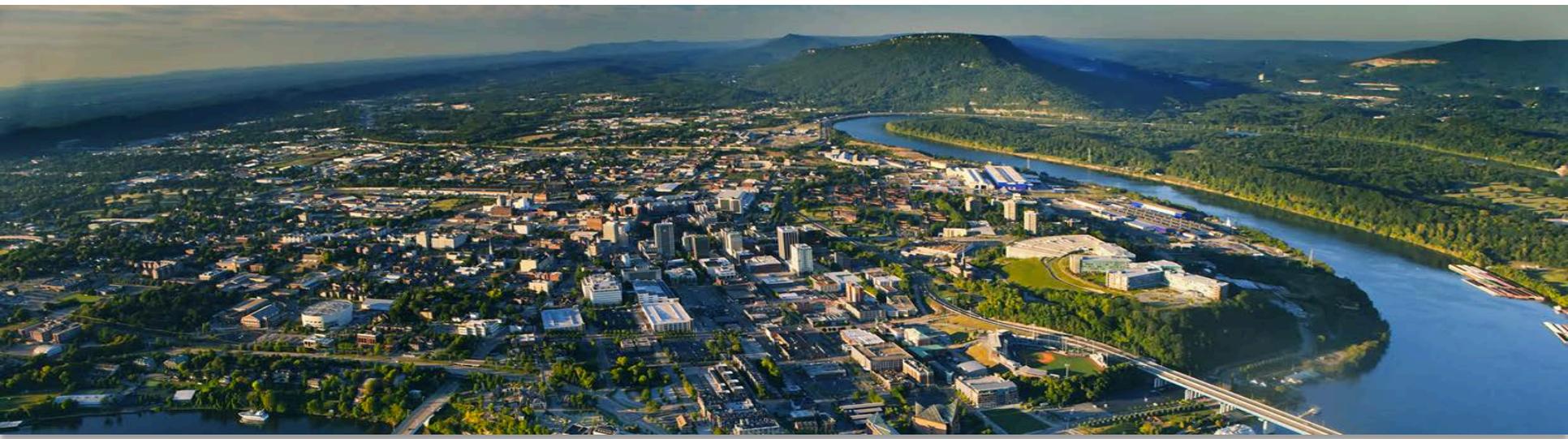
Special thanks to Gresham Smith & Partners for their HIA Assessment Analysis and Cambridge Systematics as contributing author to the Community to Region Framework

*Methods for Incorporating Health into Project
Selection & Performance Measurement*

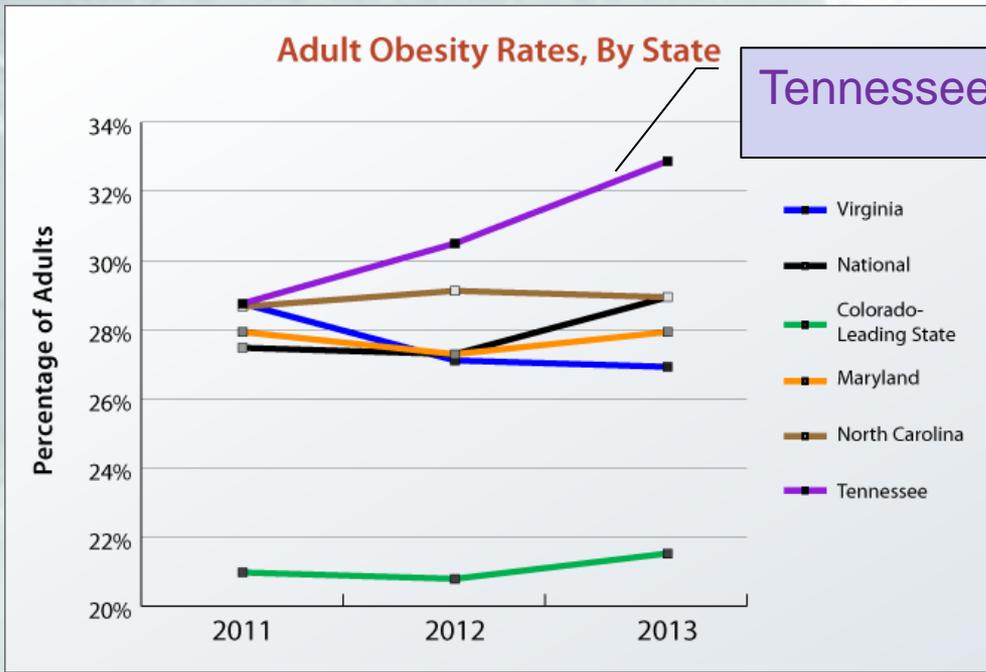


CHATTANOOGA REGION

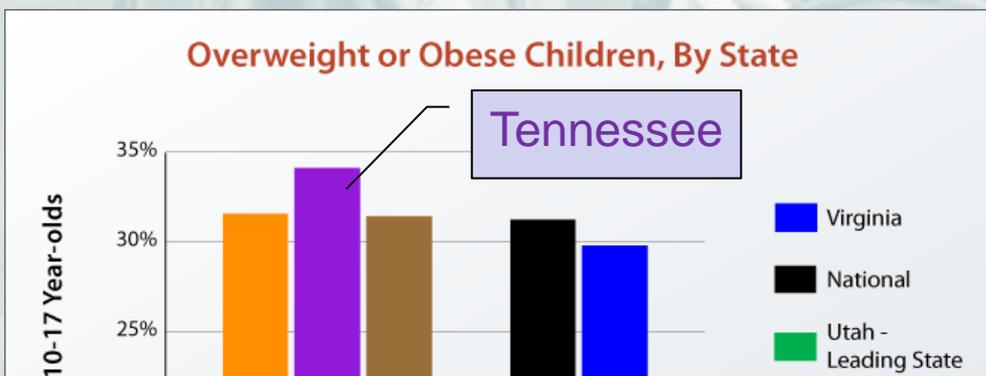
- 451,531 people w/ 23% growth over 20 years
- 222,684 jobs w/ 30% growth over 20 years
- 19 jurisdictions (four counties and 15 municipalities)
- 2,110 lane-miles



Health Perspective



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



How can the built environment influence decisions for the Plan process?

“COMMUNITY TO REGION” PERFORMANCE FRAMEWORK



PERFORMANCE MEASURE WEIGHTS BY SCALE

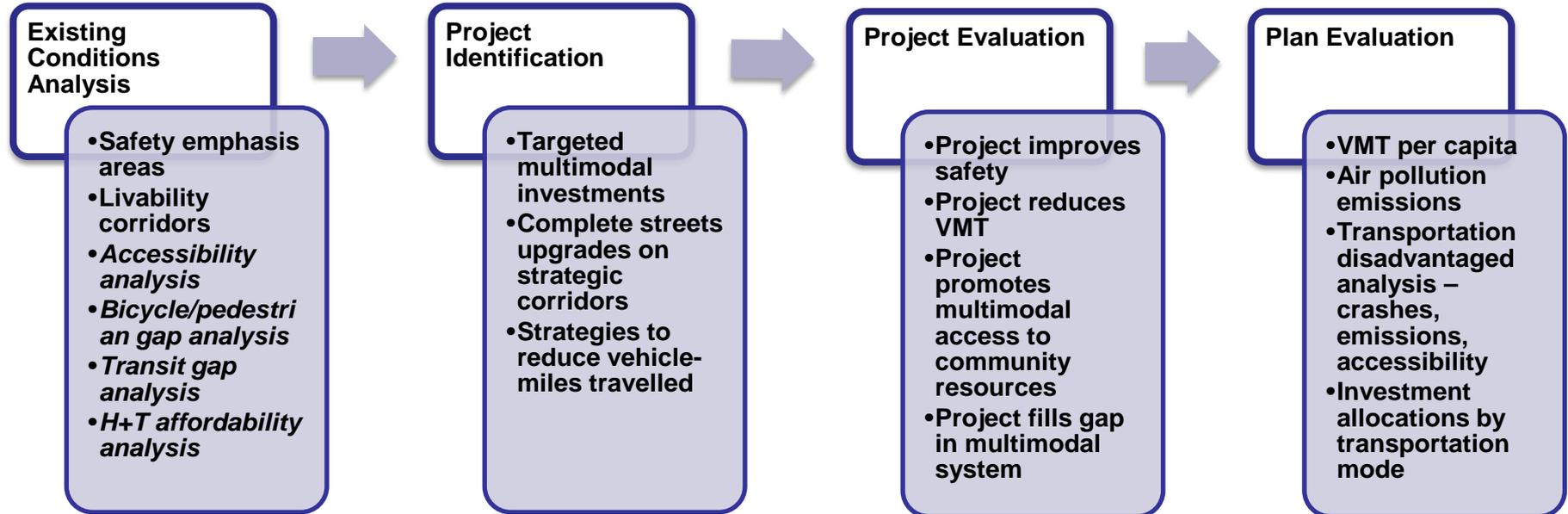
| PM Categories | Project Level Measures | Within Community | Community to Region | Region to Region |
|--------------------------------------|--|------------------|---------------------|------------------|
| System Maintenance | 1. Project addresses pavement, bridge deficiency | 15 | 15 | 15 |
| Congestion Reduction | 2. Project reduces delay <ul style="list-style-type: none"> • Interstate • Corridor to/within key center | 10 | 15 | 20 |
| Safety and Security | 3. Project reduces fatal or serious crashes 4. Addresses security or emergency response need, provides network redundancy | 15 | 15 | 15 |
| Economic Growth/ Freight Movement | 5. Project reduces delay <ul style="list-style-type: none"> • Intermodal connection • Freight corridor/area | 5 | 10 | 20 |
| Environmental Sustainability | 6. Project reduces VMT 7. Promotes safe, nonmotorized access; integrates complete streets 8. In keeping with community character | 30 | 20 | 10 |
| System Reliability | 9. Adopted corridor protection plan 10. Project fills gap in existing system 11. Improves efficiency through ITS | 15 | 15 | 10 |
| Project Delivery | 12. Supported by TDOT and local jurisdictions | 10 | 10 | 10 |

Health Impact Assessment

- GIS-based
- Readily available data
- Yields relevant information

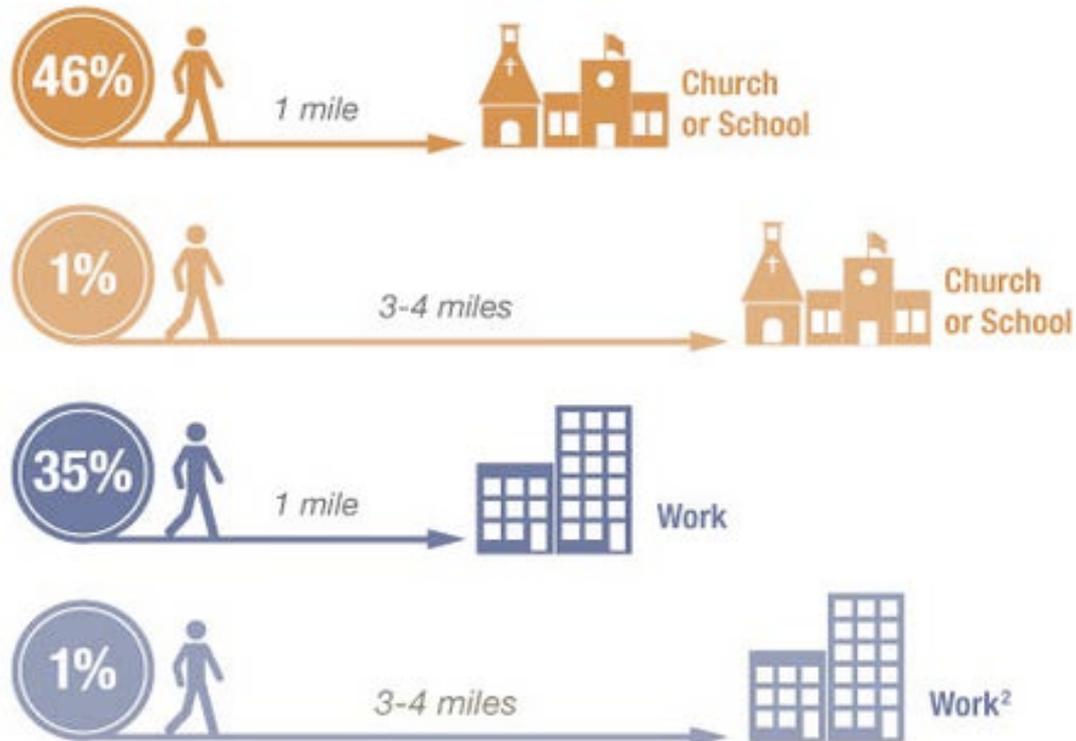


Integrating Health into the Plan



Proximity is key

STUDIES SHOW PEOPLE WILL WALK TO DESTINATIONS:

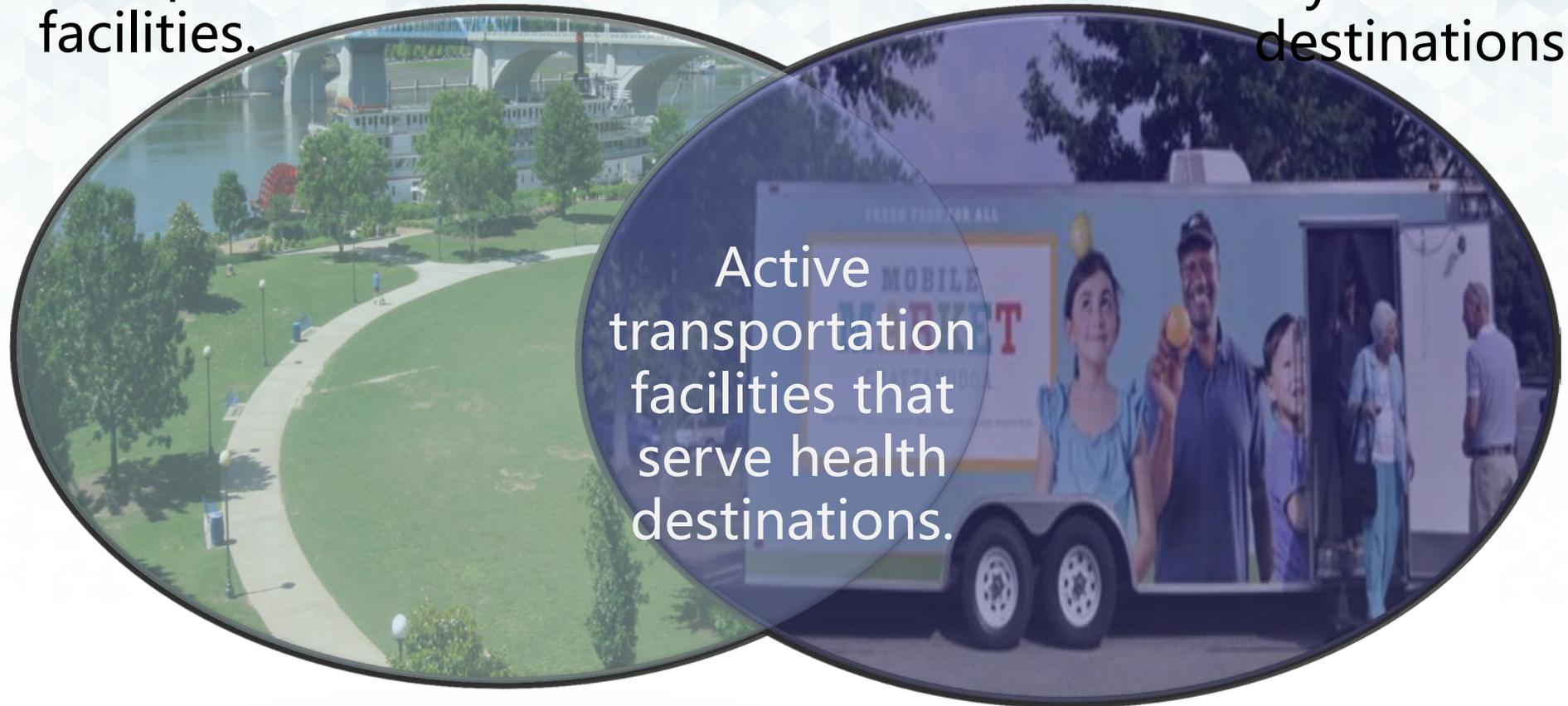


Three-pronged approach

Proximity to active transportation facilities.

Proximity to health destinations.

Active transportation facilities that serve health destinations.



Active transportation facilities

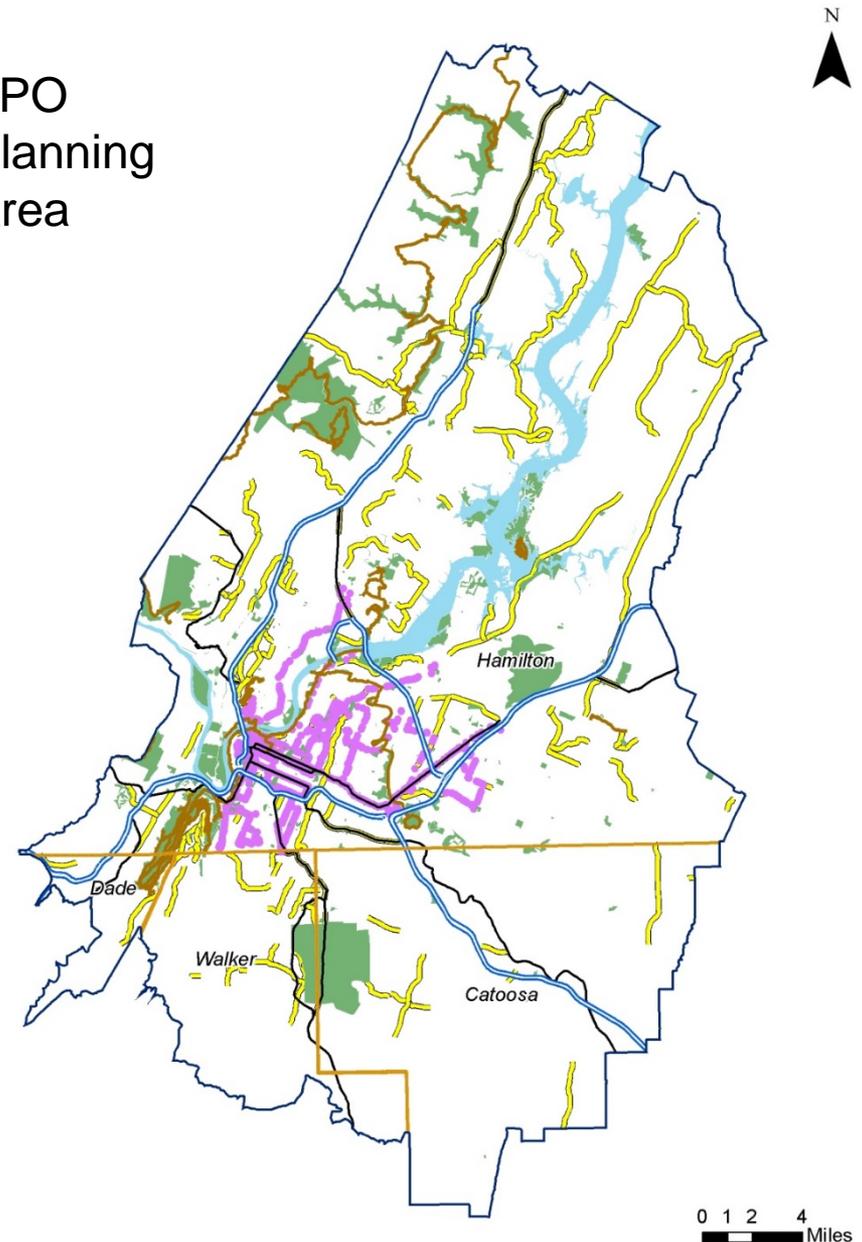
- Bicycle level of service
- Parks and open space
- Trails
- Transit stops
- Sidewalks



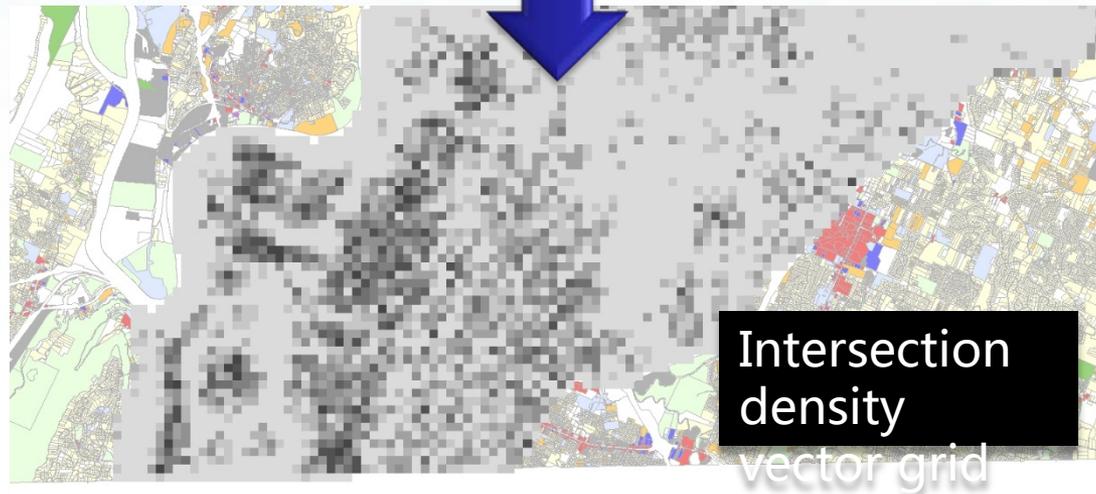
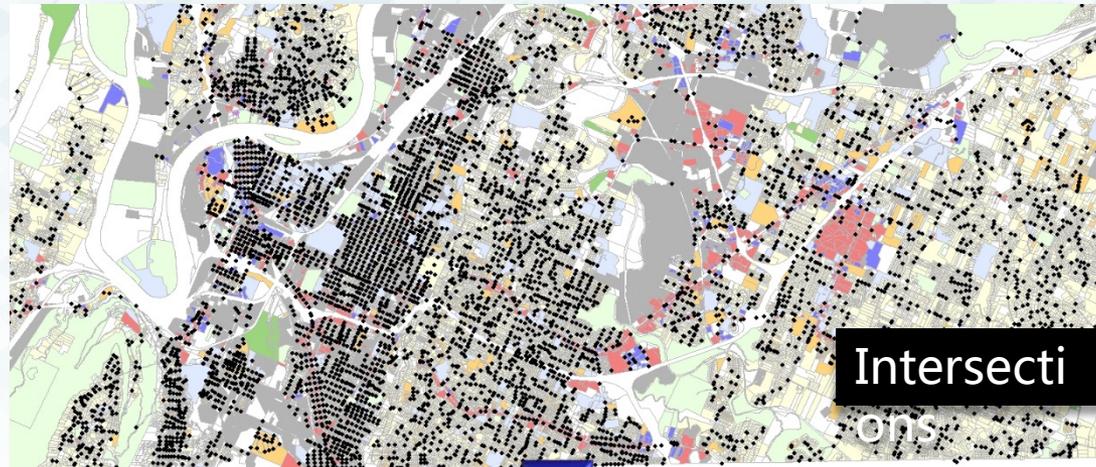
Active Transportation Facilities

- Streets with Bicycle LOS of B or better
- Parks, Recreation and Open Space
- Trails (Hamilton County only)
- CARTA Transit Stops
- MPO Boundary
- County Boundary
- Limited Access
- Highways

TPO Planning Area



Intersection density as a proxy for sidewalks?



Health Destinations

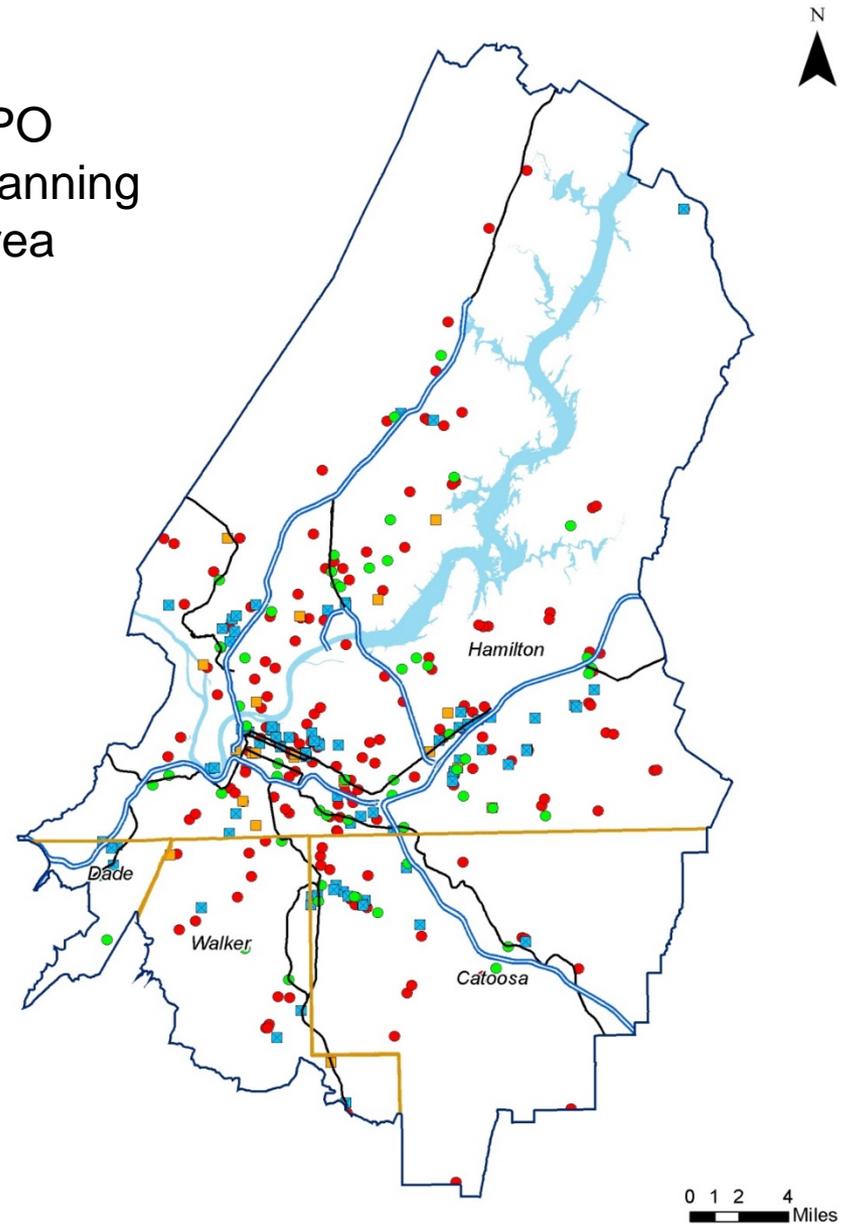
- Healthcare facilities
- Grocery stores
- Farmers markets, community gardens and mobile market sites
- Public and private schools (K-12)



Health Related Destinations

- Healthcare Facilities (Clinics, Hospitals, etc.)
- Grocery Stores
- Farmers Markets, Community Gardens
- Public and Private Schools
- MPO Boundary
- County Boundary
- Limited Access
- Highways

TPO Planning Area



Defining accessibility



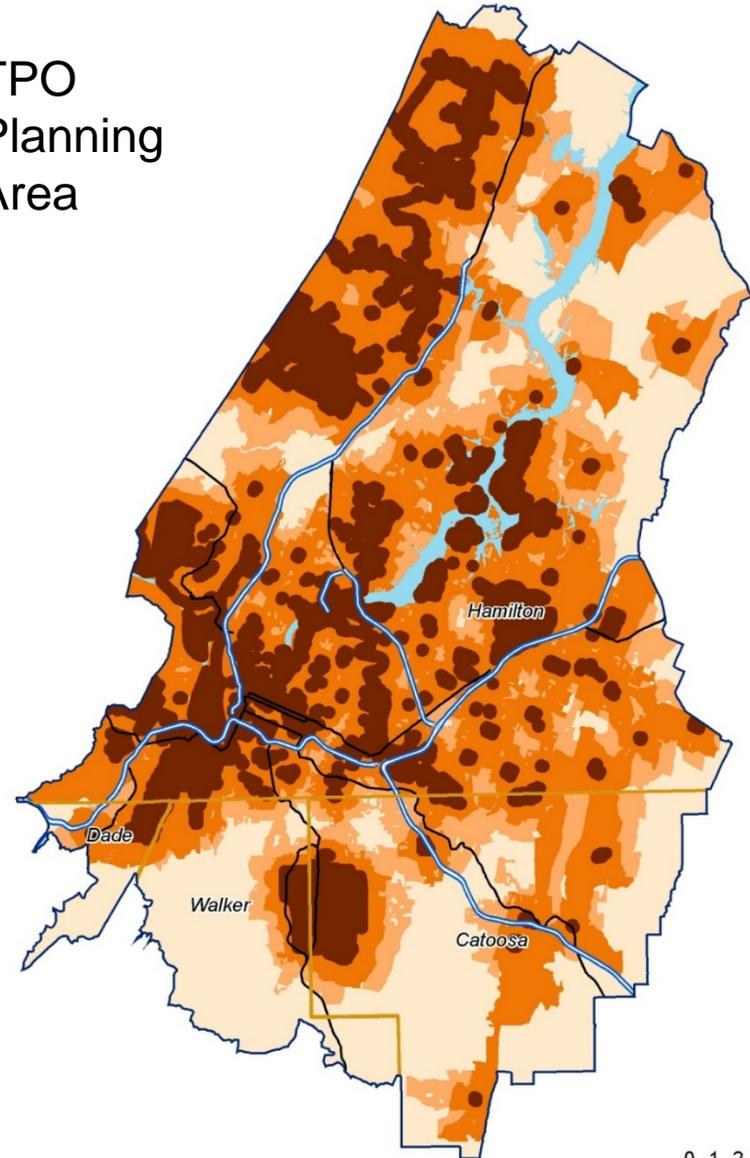
"The sovereign invigorator of the body is exercise, and of all the exercises walking is the best." Thomas Jefferson



Access to Parks and Open Space

- 1/4 mile walking access (29% of Homes)
- 1/2 mile access
- 1 mile bicycle access (76% of Homes)
- > 1 mile access
- MPO Boundary
- County Boundary
- Limited Access
- Highways

TPO Planning Area



Note: Map based on 2010 Census Block Group data

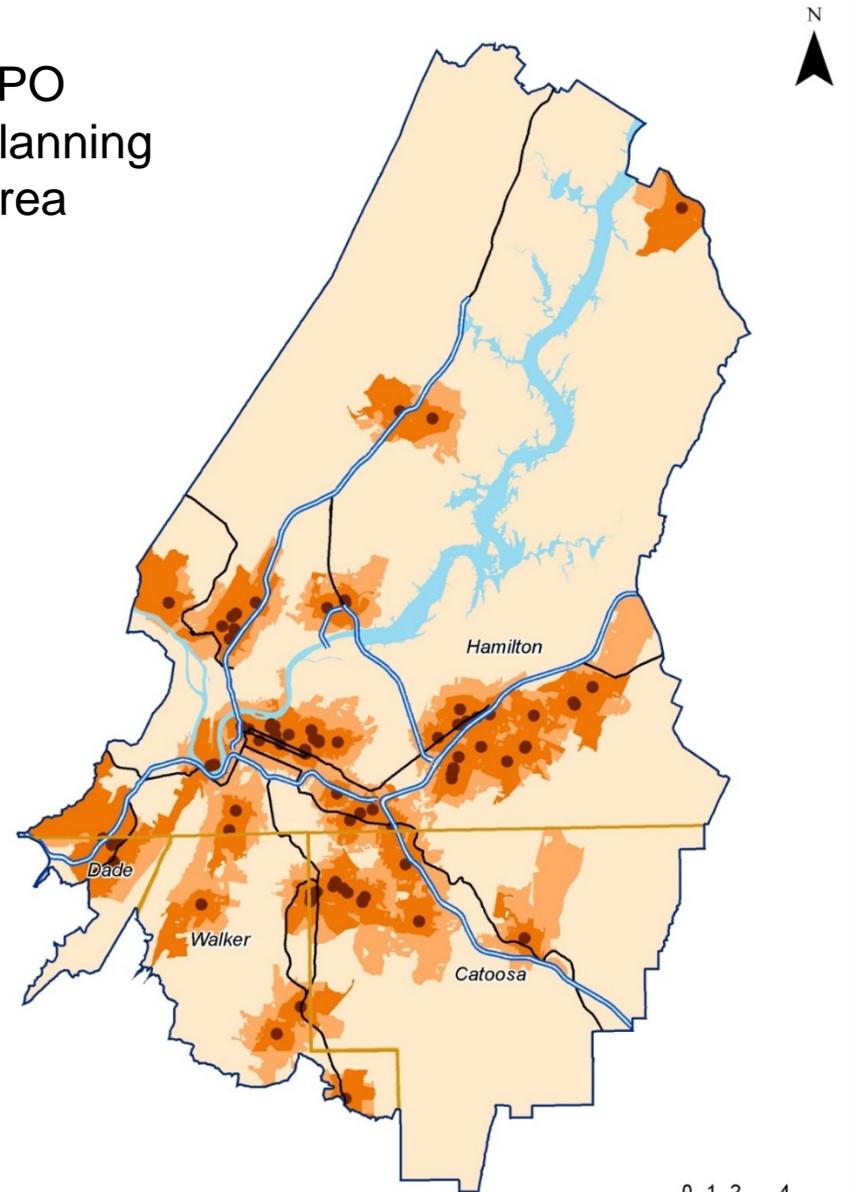
0 1 2 4 Miles



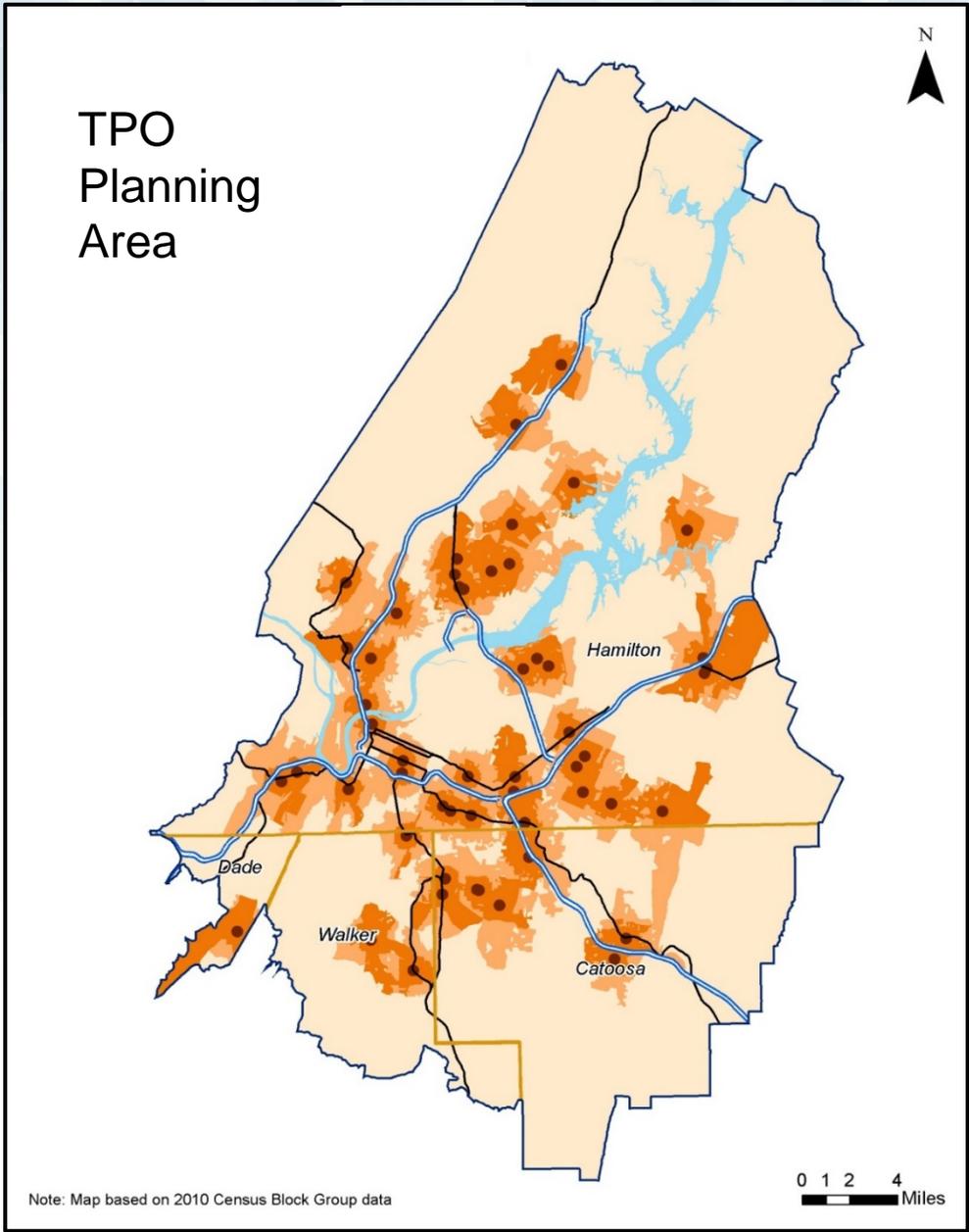
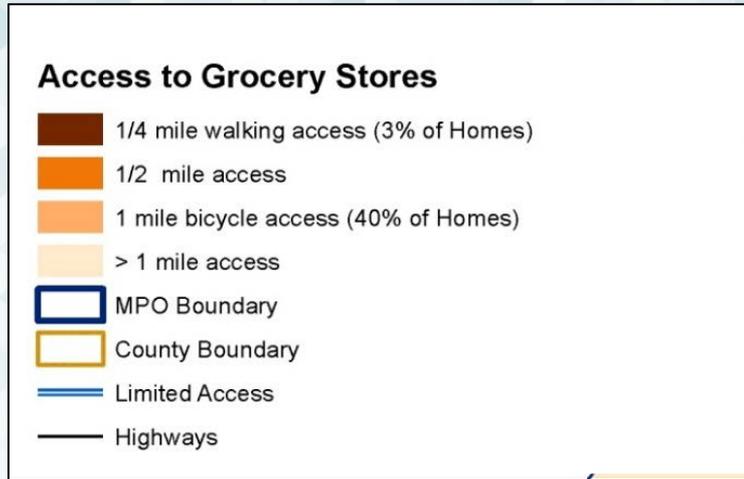
Access to Healthcare Facilities

- 1/4 mile walking access (5% of Homes)
- 1/2 mile access
- 1 mile bicycle access (35% of Homes)
- > 1 mile access
- MPO Boundary
- County Boundary
- Limited Access
- Highways

TPO Planning Area



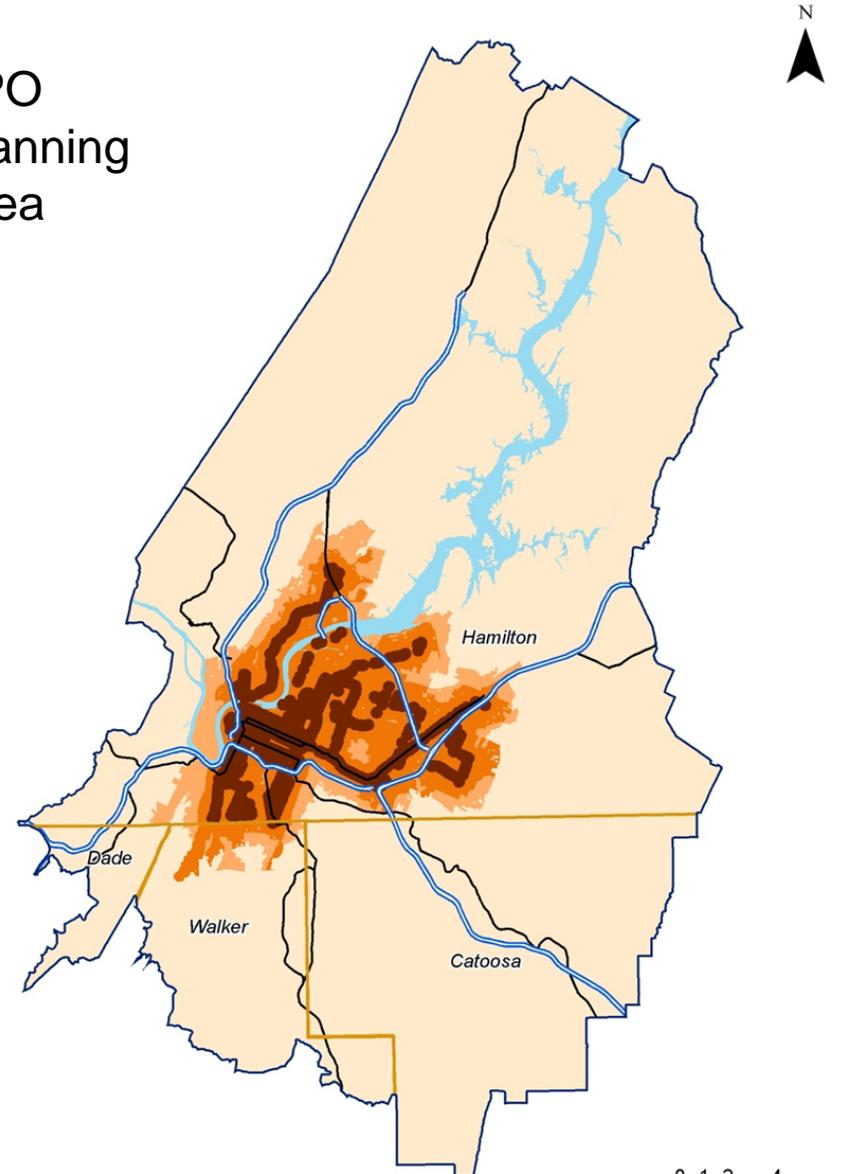
Note: Map based on 2010 Census Block Group data



Access to Transit Stops

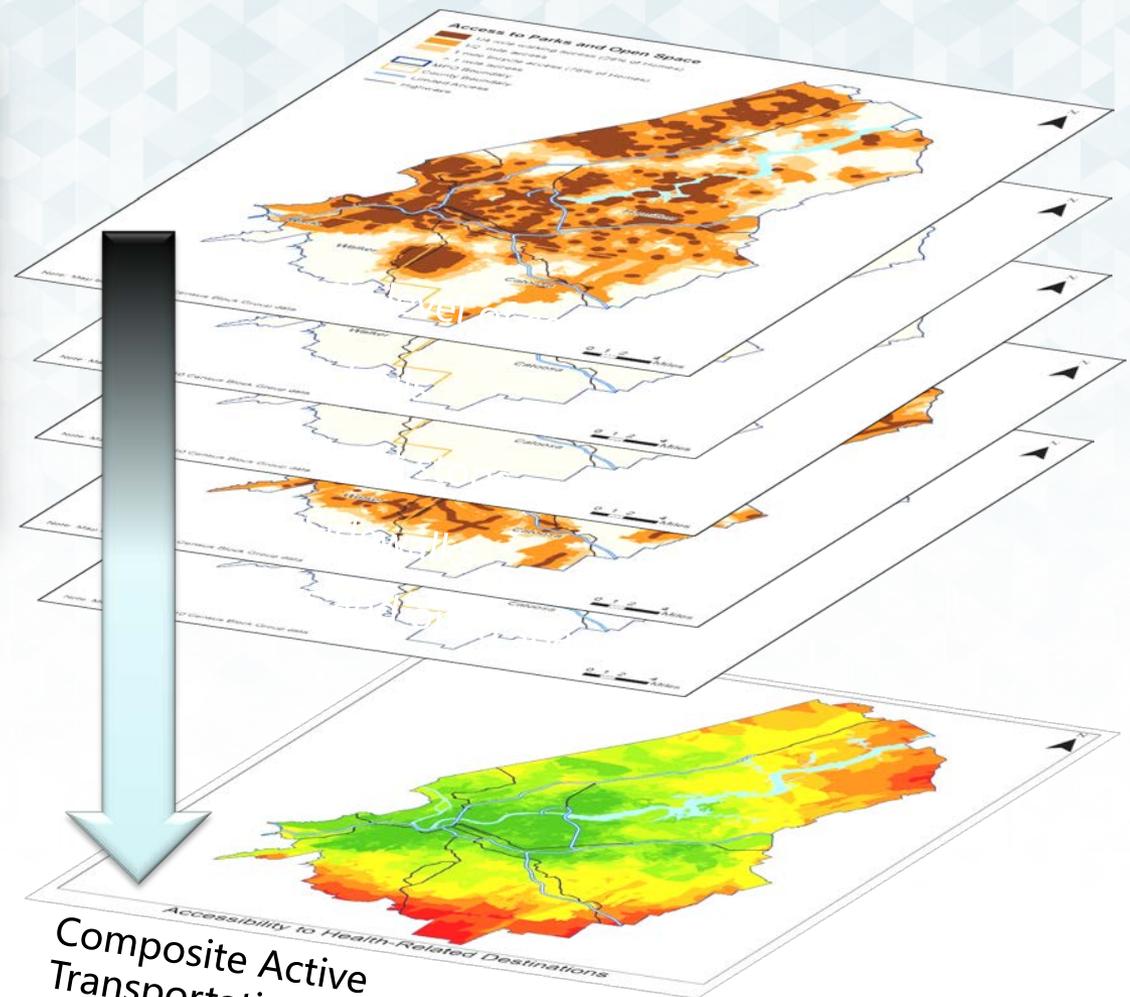
- 1/4 walking access (18% of Homes)
- 1/2 mile access
- 1 mile bicycle access (36% of Homes)
- > 1 mile access
- MPO Boundary
- County Boundary
- Limited Access
- Highways

TPO Planning Area



Note: Map based on 2010 Census Block Group data

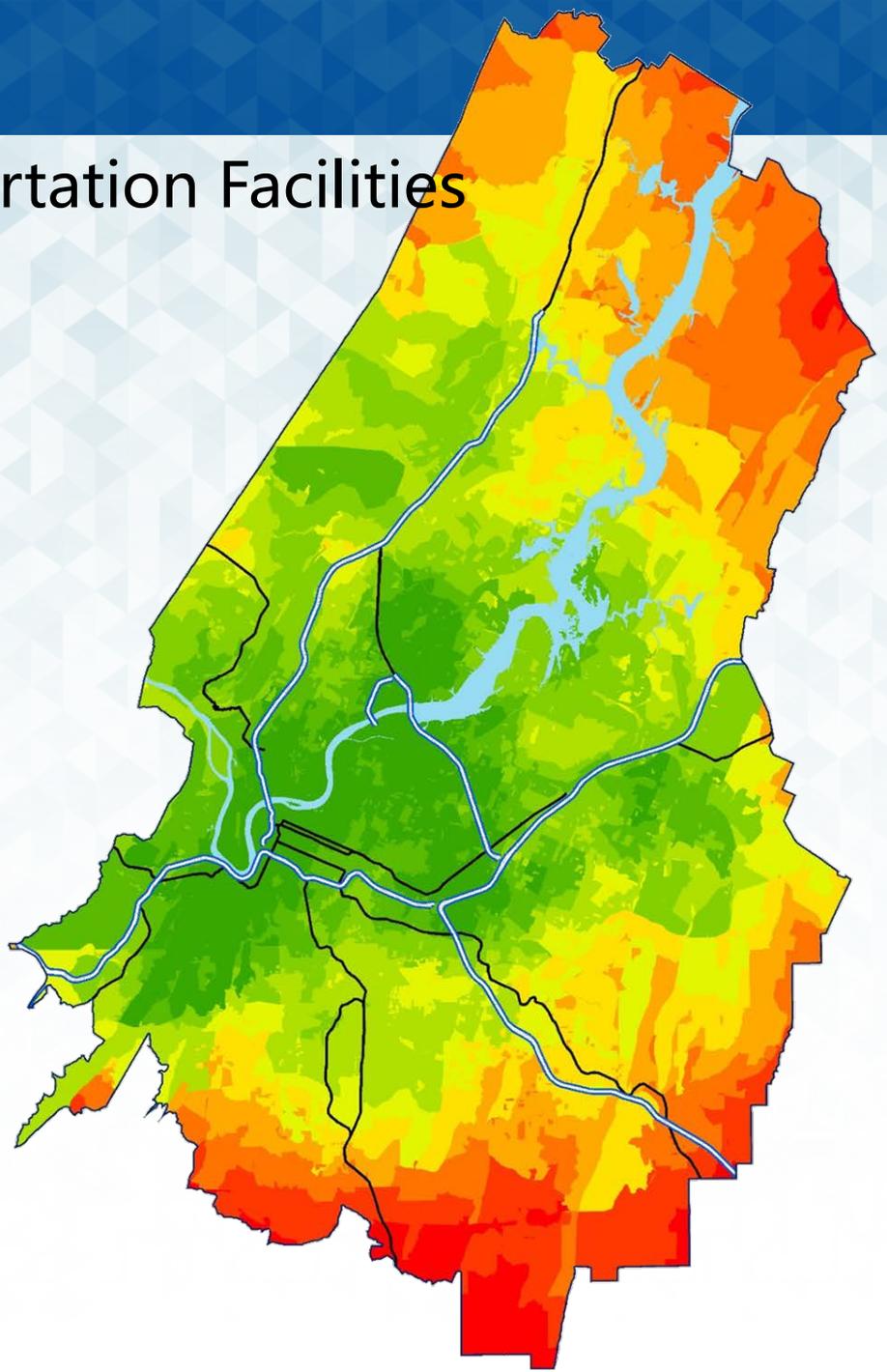
Putting it all together



CommunityViz provides the ability to combine multiple layers of data simultaneously.

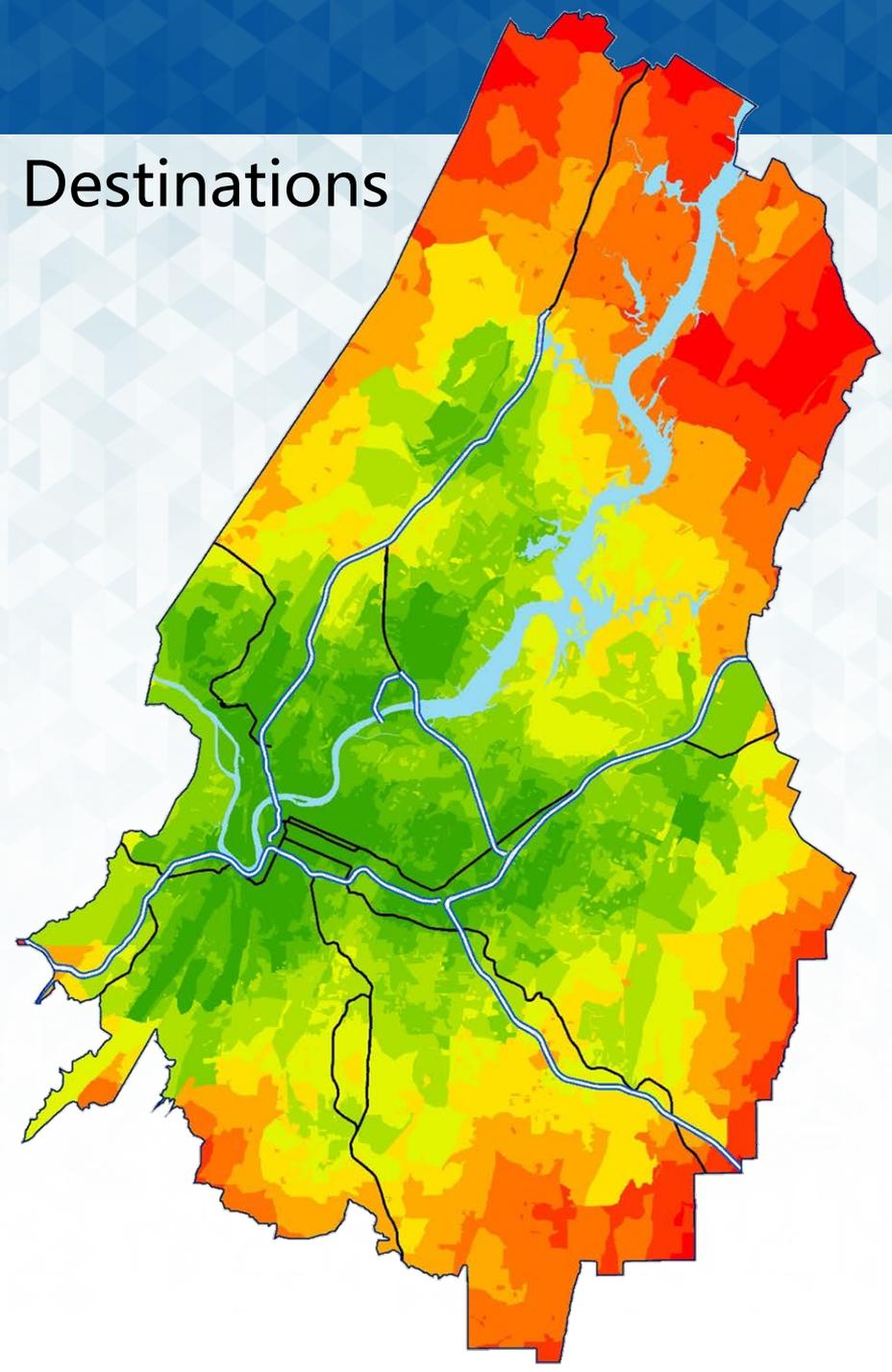
Composite Active Transportation "score"

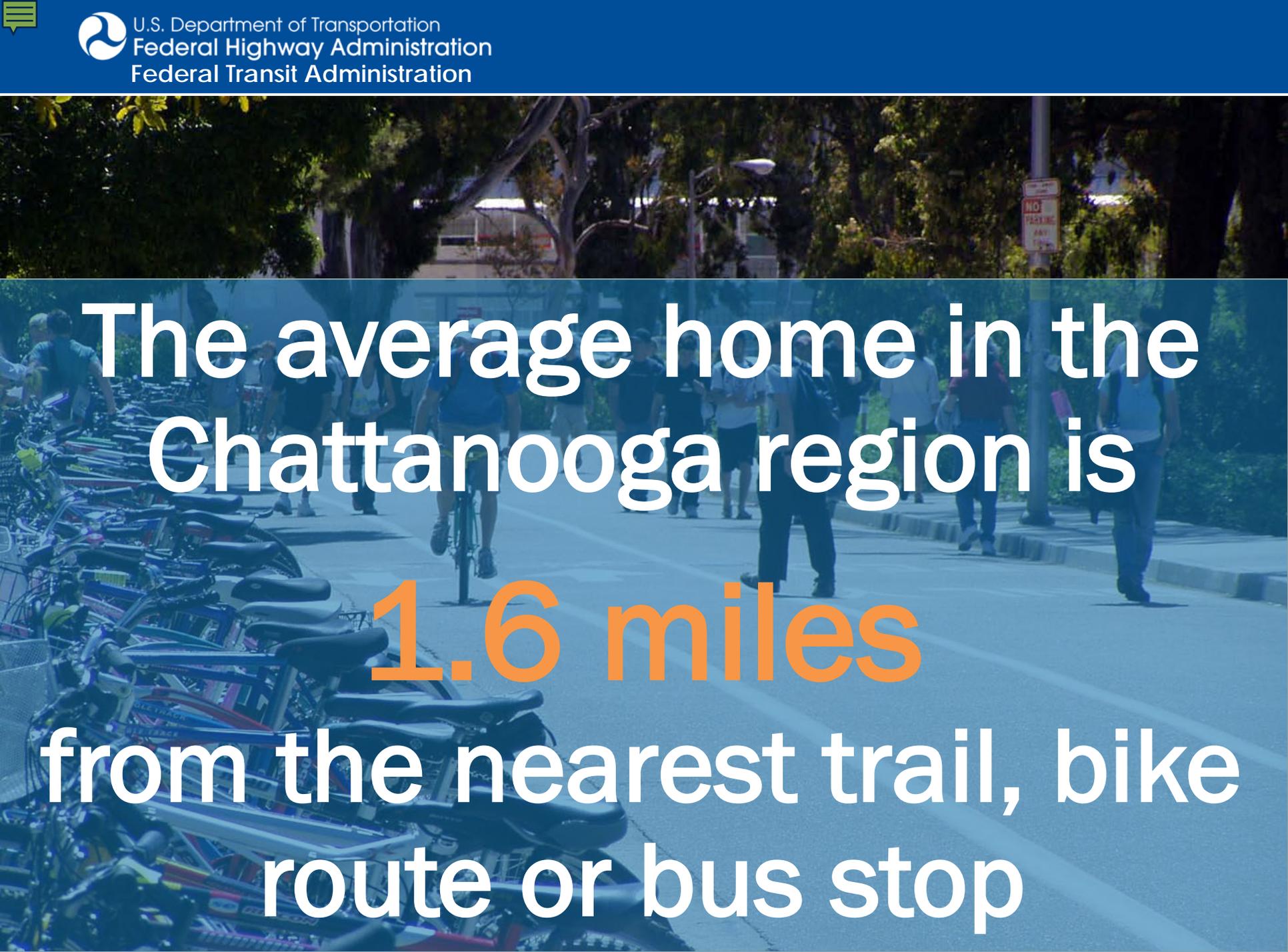
Access to Active Transportation Facilities Composite Score





Access to Health-related Destinations Composite Score





The average home in the
Chattanooga region is
1.6 miles
from the nearest trail, bike
route or bus stop



BUT the average distance from a home to the nearest CARTA transit stop is **3.05 miles**



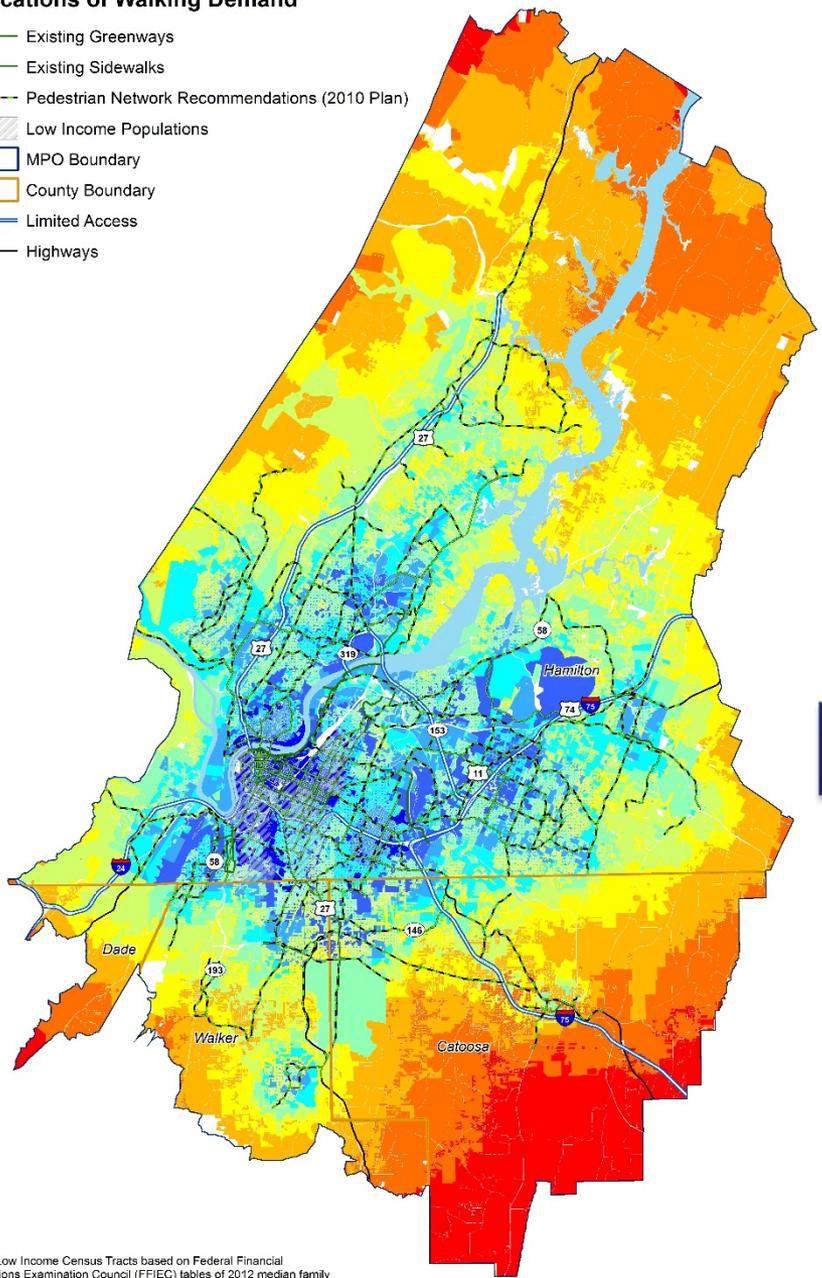
36% of all
Health-Related
Destinations are within a 1/4
mile from a CARTA
transit stop

- 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



Locations of Walking Demand

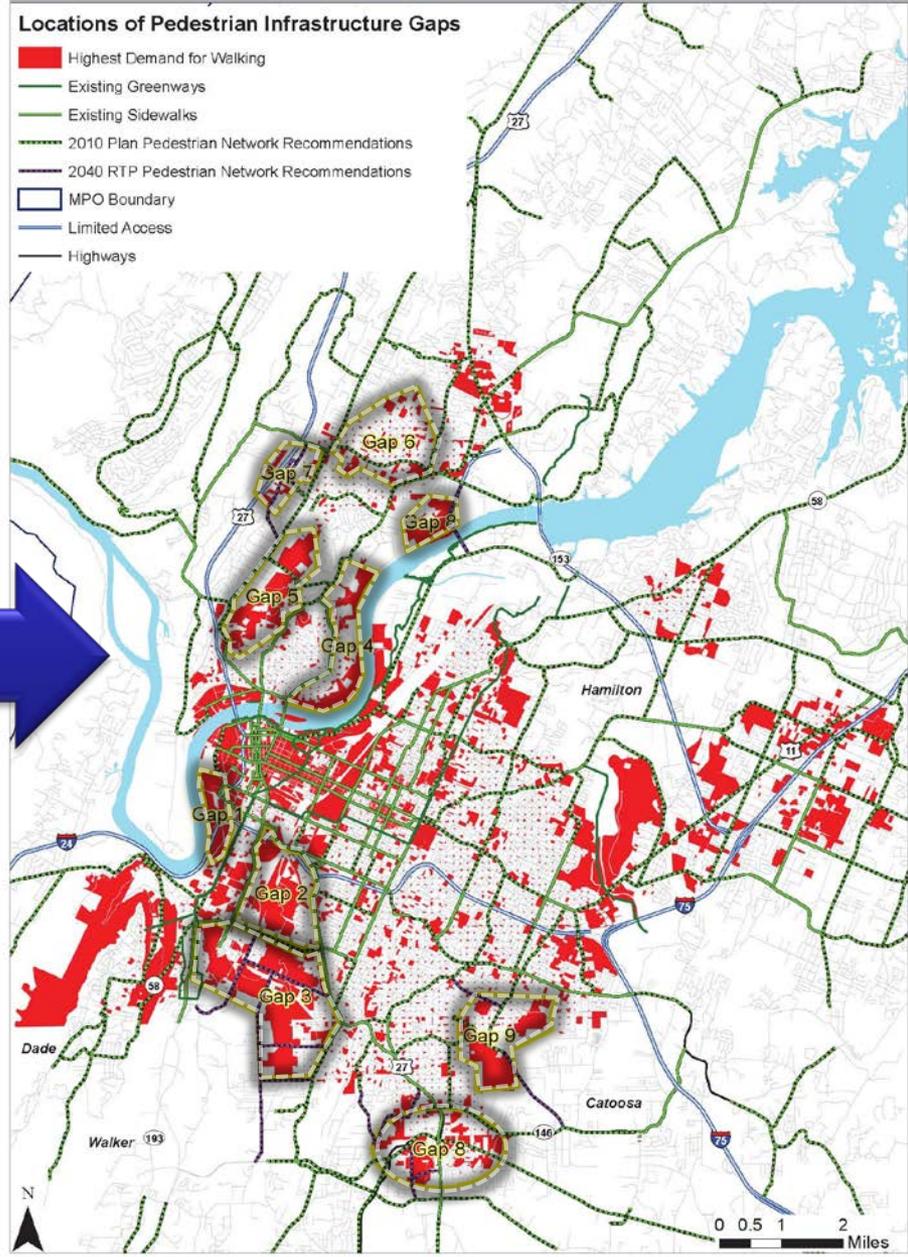
-  Existing Greenways
-  Existing Sidewalks
-  Pedestrian Network Recommendations (2010 Plan)
-  Low Income Populations
-  MPO Boundary
-  County Boundary
-  Limited Access
-  Highways



Note: Low Income Census Tracts based on Federal Financial Institutions Examination Council (FFIEC) tables of 2012 median family income. Defined as "Low Income" if they have an average of less than 50% of the median family income for the region (which was \$57,800).

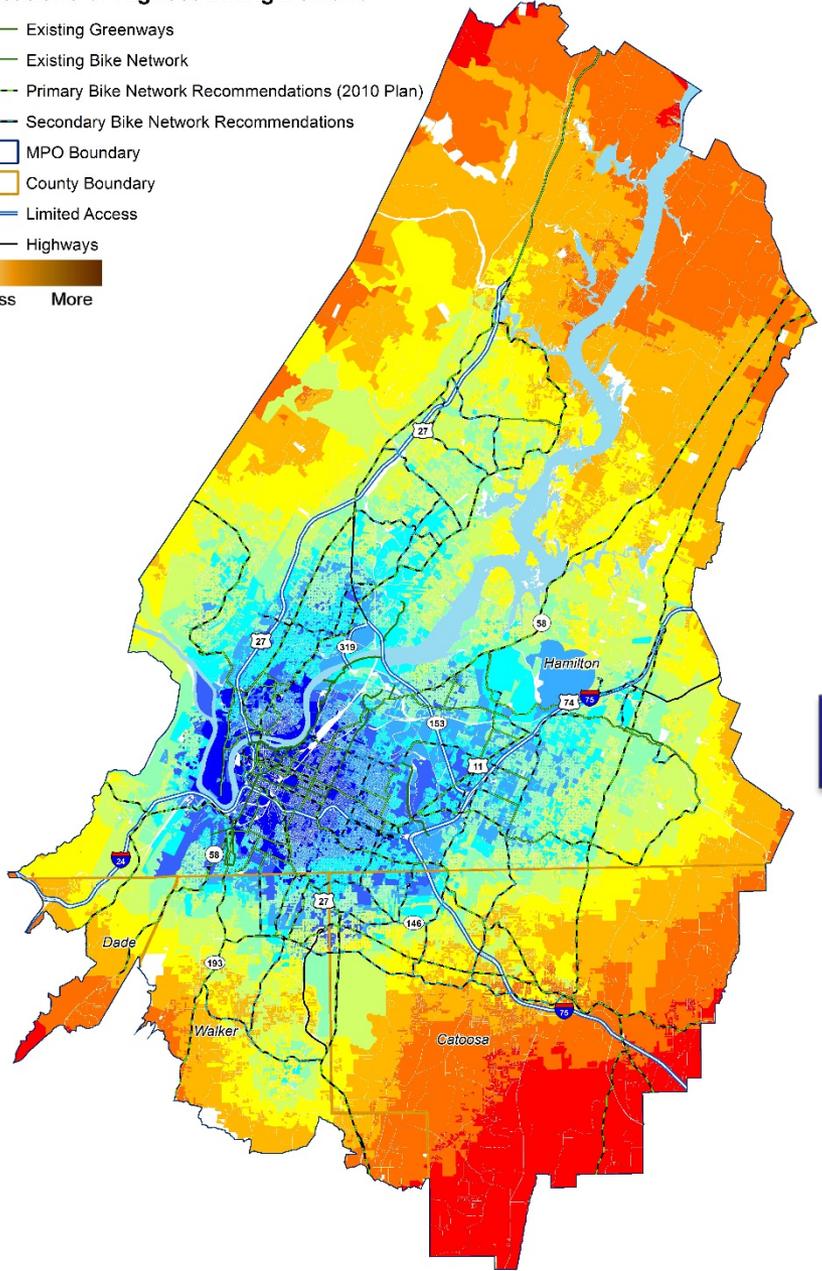
Locations of Pedestrian Infrastructure Gaps

-  Highest Demand for Walking
-  Existing Greenways
-  Existing Sidewalks
-  2010 Plan Pedestrian Network Recommendations
-  2040 RTP Pedestrian Network Recommendations
-  MPO Boundary
-  Limited Access
-  Highways



Locations of Highest Biking Demand

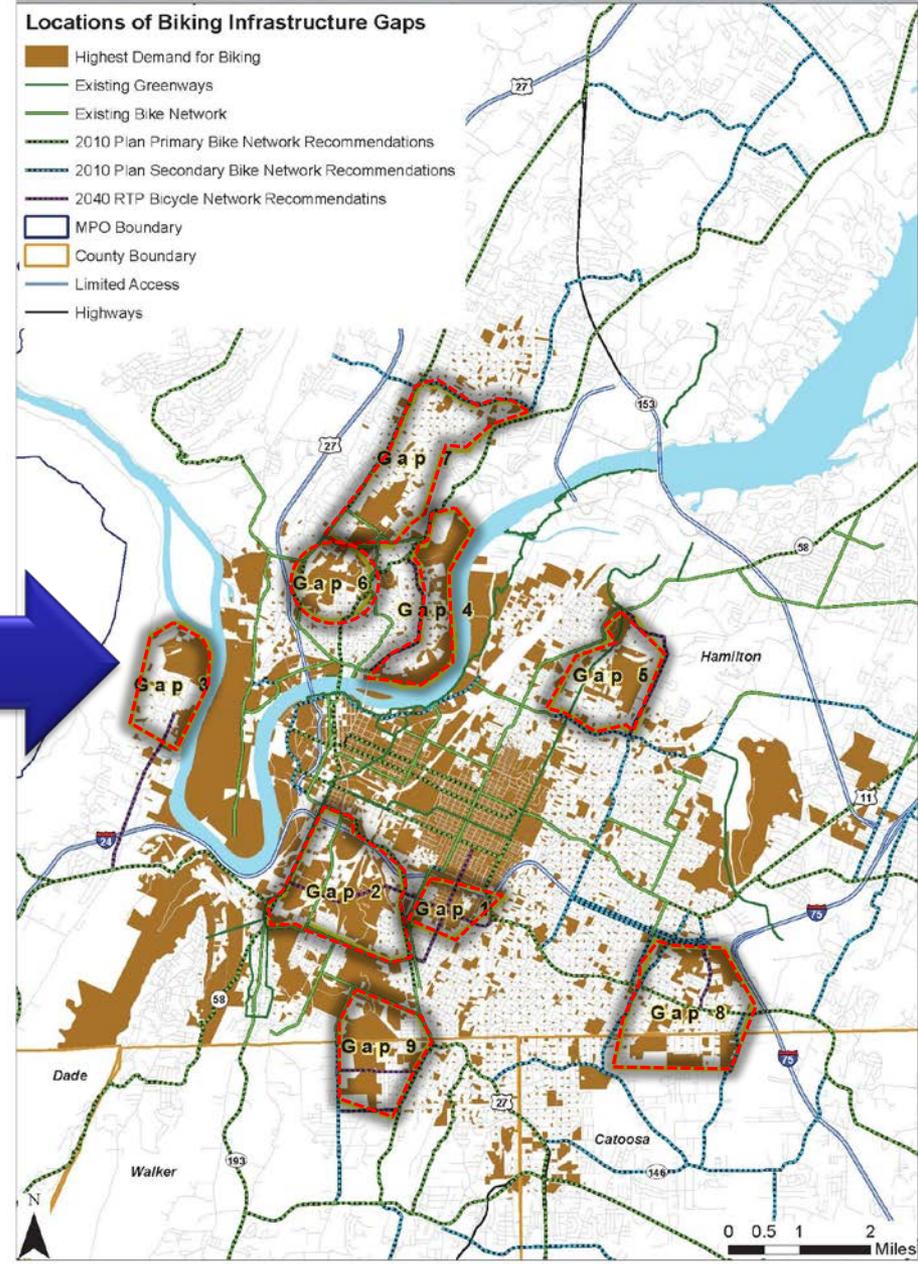
-  Existing Greenways
 -  Existing Bike Network
 -  Primary Bike Network Recommendations (2010 Plan)
 -  Secondary Bike Network Recommendations
 -  MPO Boundary
 -  County Boundary
 -  Limited Access
 -  Highways
-  Less More



Bicycle Gap Analysis

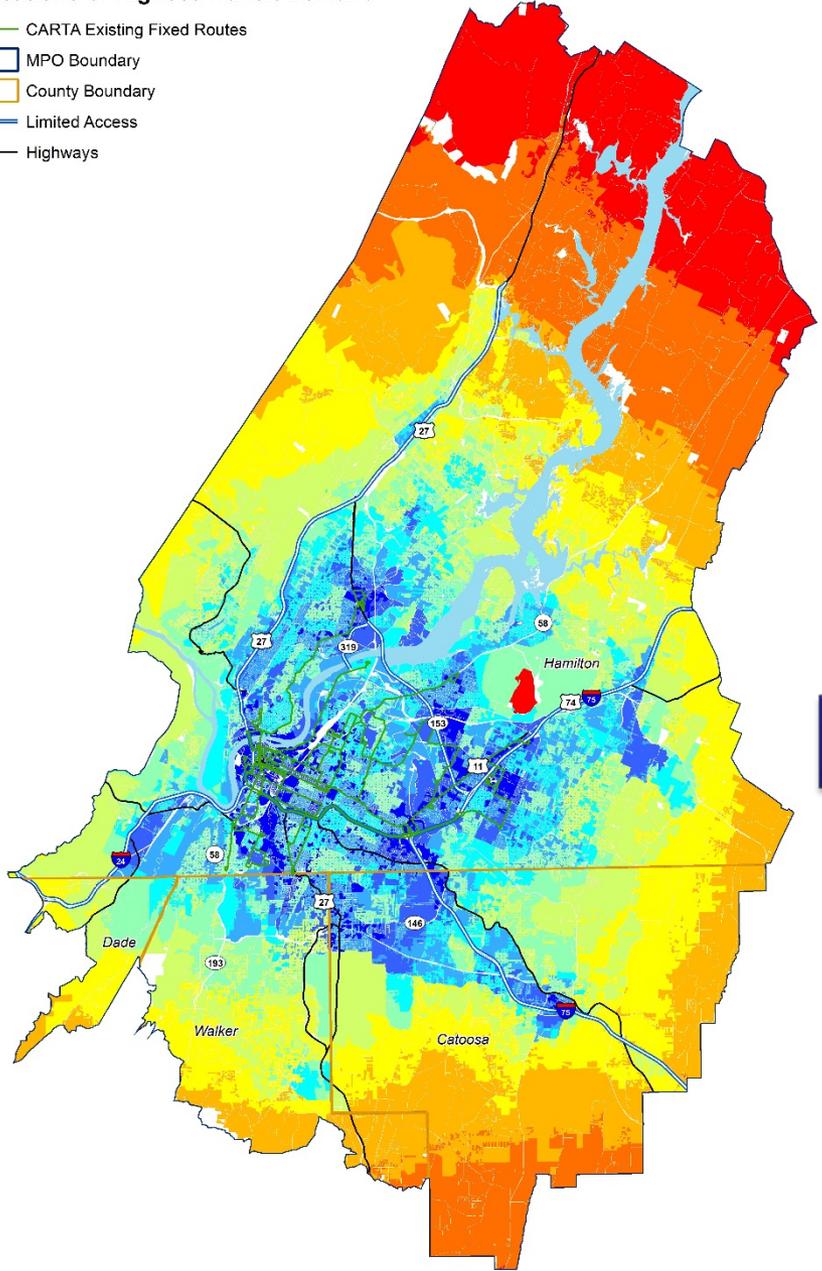
Locations of Biking Infrastructure Gaps

-  Highest Demand for Biking
-  Existing Greenways
-  Existing Bike Network
-  2010 Plan Primary Bike Network Recommendations
-  2010 Plan Secondary Bike Network Recommendations
-  2040 RTP Bicycle Network Recommendations
-  MPO Boundary
-  County Boundary
-  Limited Access
-  Highways



Locations of Highest Transit Demand

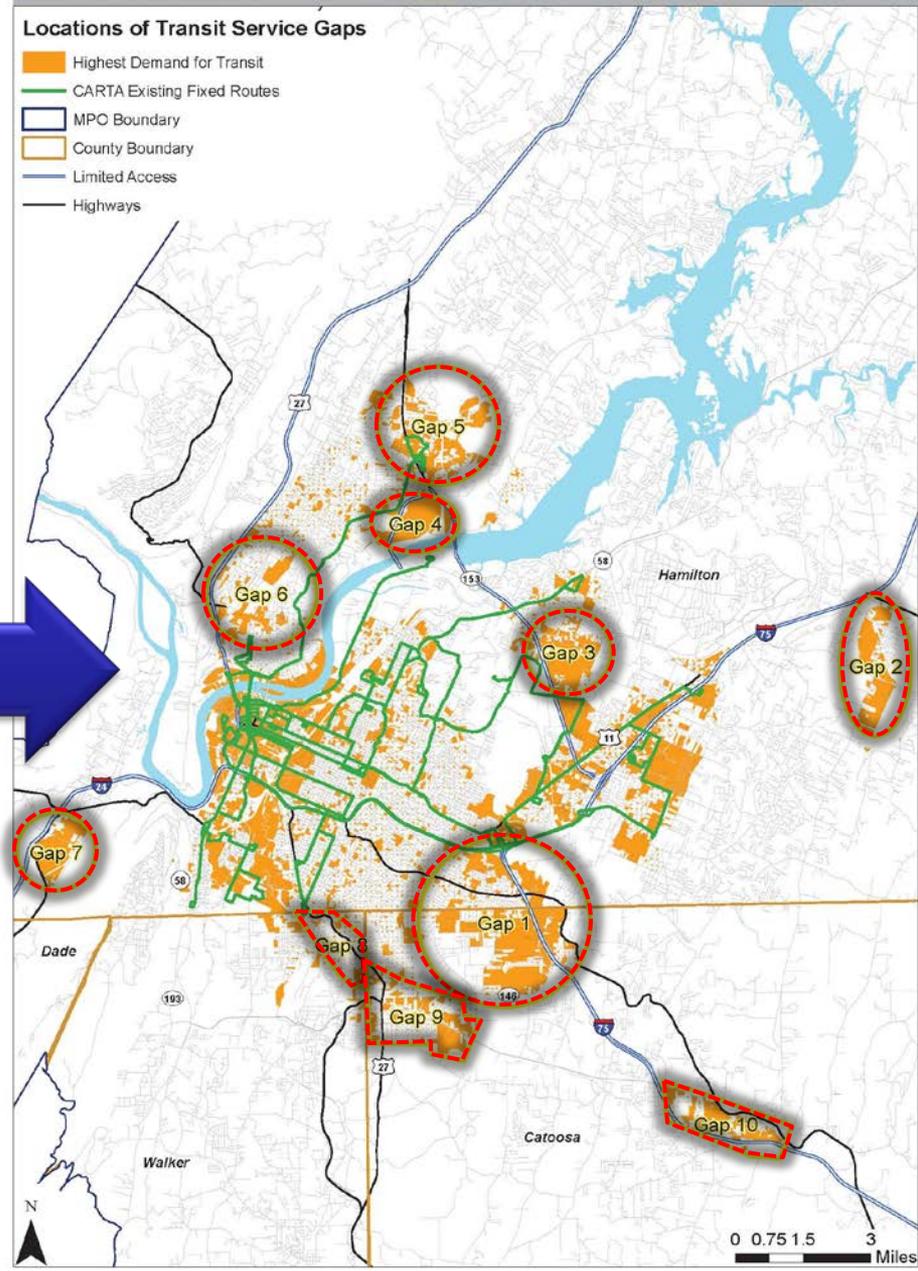
-  CARTA Existing Fixed Routes
-  MPO Boundary
-  County Boundary
-  Limited Access
-  Highways



Transit Gap Analysis

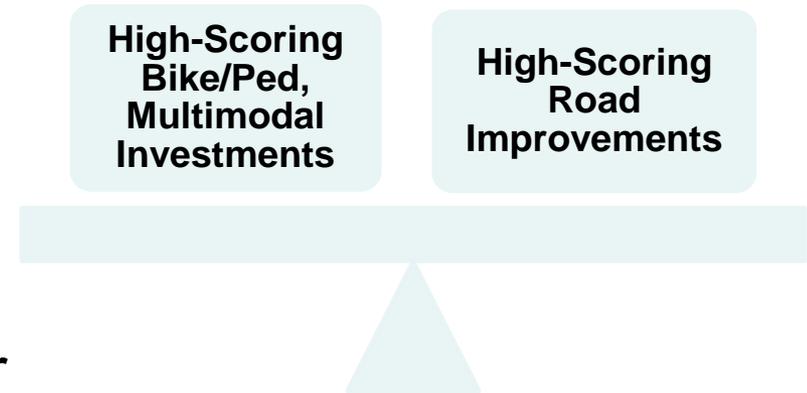
Locations of Transit Service Gaps

-  Highest Demand for Transit
-  CARTA Existing Fixed Routes
-  MPO Boundary
-  County Boundary
-  Limited Access
-  Highways



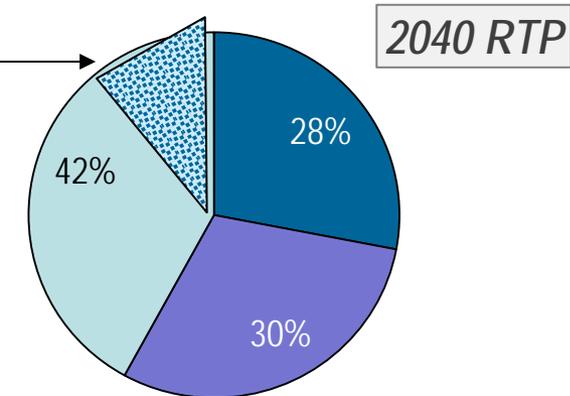
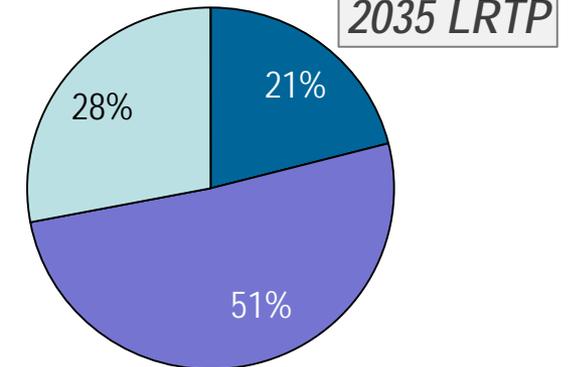
Project Ranking

- Process yielded three lists sort-ordered by project score; one for each scale
- Projects were combined into one list based on individual project scores
- Projects were grouped into four tiers (“Rank 1, Rank 2, etc.) based on groupings of scores



Key 2040 RTP Outcomes

- Doubling of system preservation funding levels – fully funded long-term needs
- **Doubling of funding for bicycle and pedestrian improvements (includes Complete Streets on roadway projects)**
- **Strategic roadway and transit capacity expansion improvements**
- Identification of two, new major transit capital projects
- Identification of **targeted safety** and system operations funding **set-asides**



- Alternate Modes
- Roadway Capacity
- Roadway System Preservation, Operations, and Safety
- Operations, and Safety



Contact Information

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