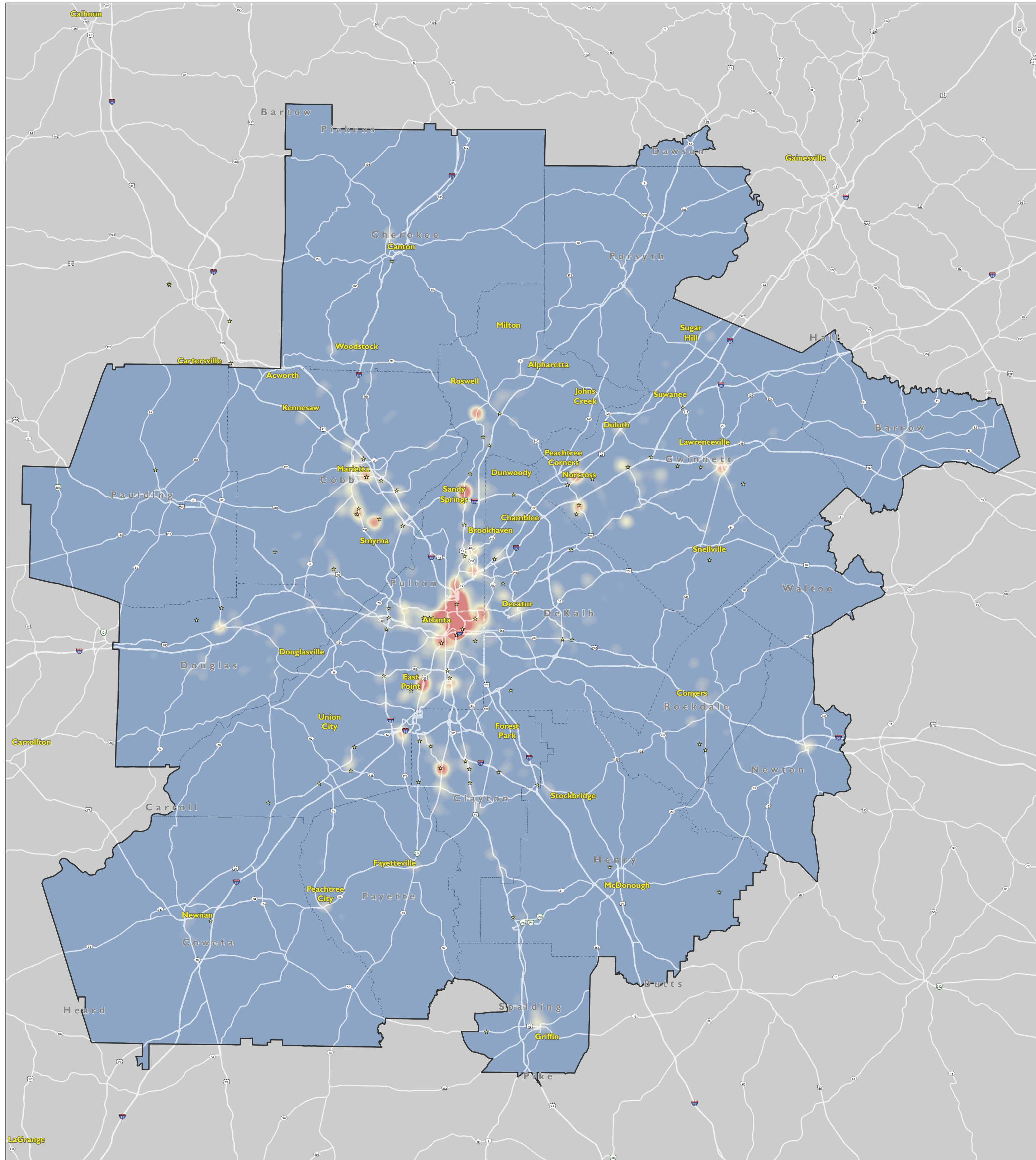# Safety

This set of maps illustrates the distribution and concentration of bicycle and pedestrian crashes around the ARC region. When evaluating potential projects to fund in the ARC jurisdiction, these maps can be analyzed to determine where bicycle and pedestrian infrastructure improvements could have the most significant effect on improving safety.

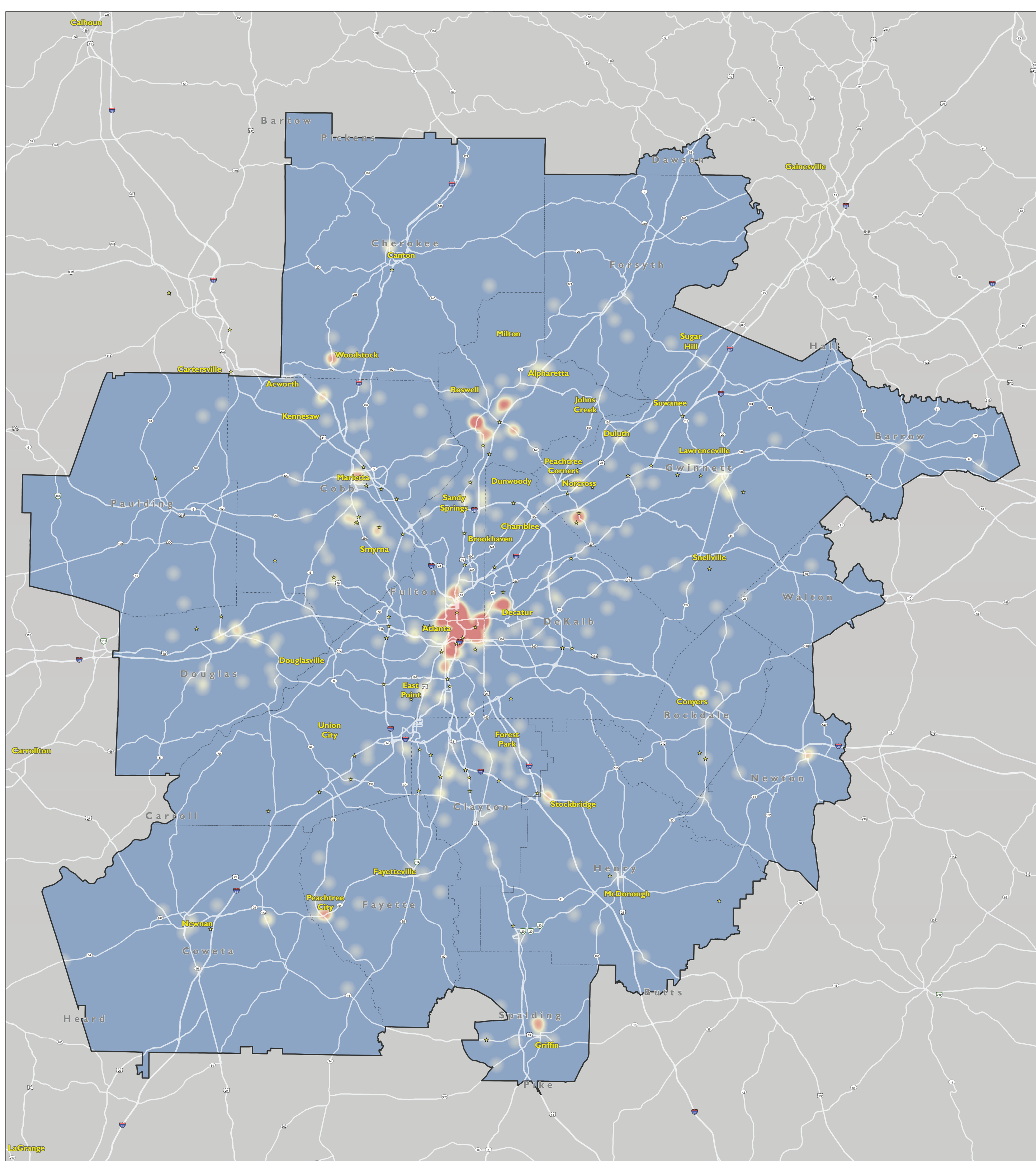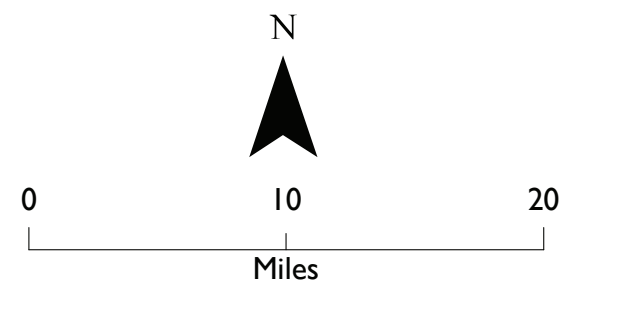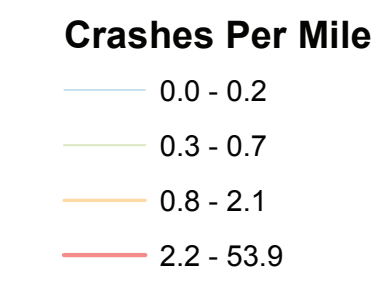## Bicycle and Pedestrian Crash Analysis
All Crashes

Areas that are red have more crashes, while areas that are blue have fewer crashes

Density
High
Low

• Fatal Crash

N

0   5   10
Miles
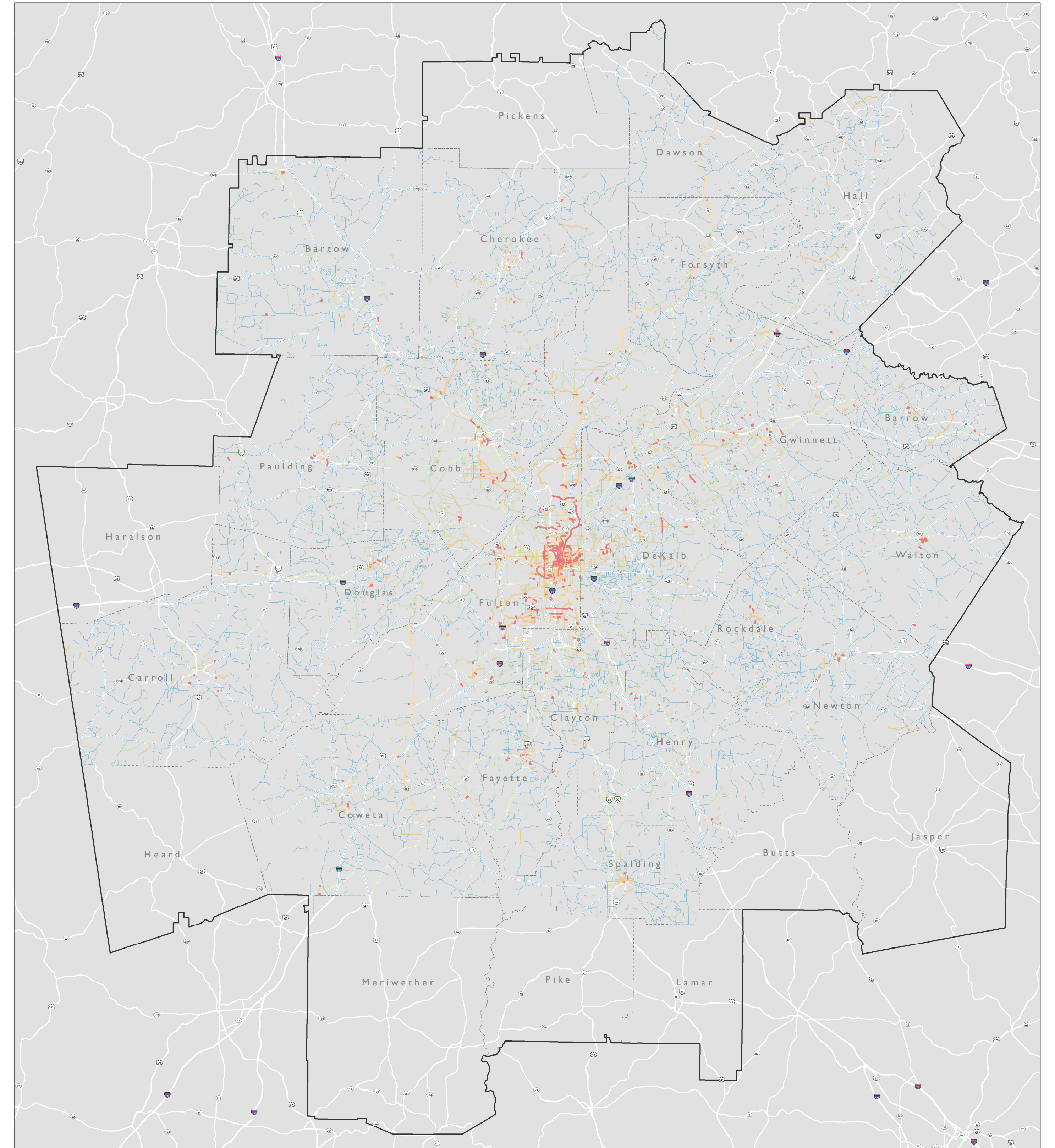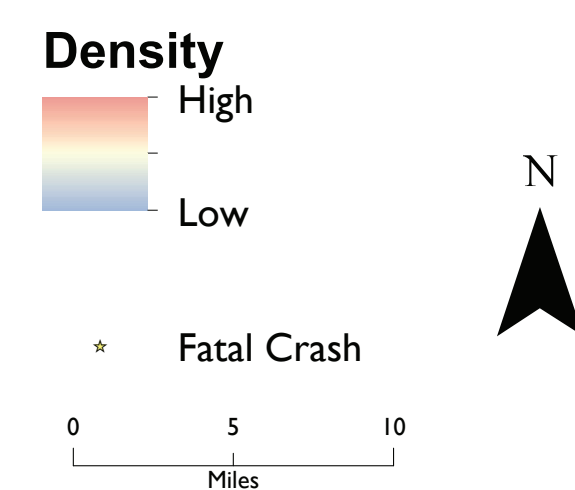
Bicycle and Pedestrian Crash Analysis
All Crashes

Green lines show roads with fewer crashes, while red lines show roads with more crashes.

Crashes Per Mile
— 0.0 - 0.2
— 0.3 - 0.7
— 0.8 - 2.1
— 2.2 - 53.9

N

0   10   20
Miles

Bicycle and Pedestrian Crash Analysis
Bicycle Crashes

Areas that are red have more crashes, while areas that are blue have fewer crashes

Density
High
Low

• Fatal Crash

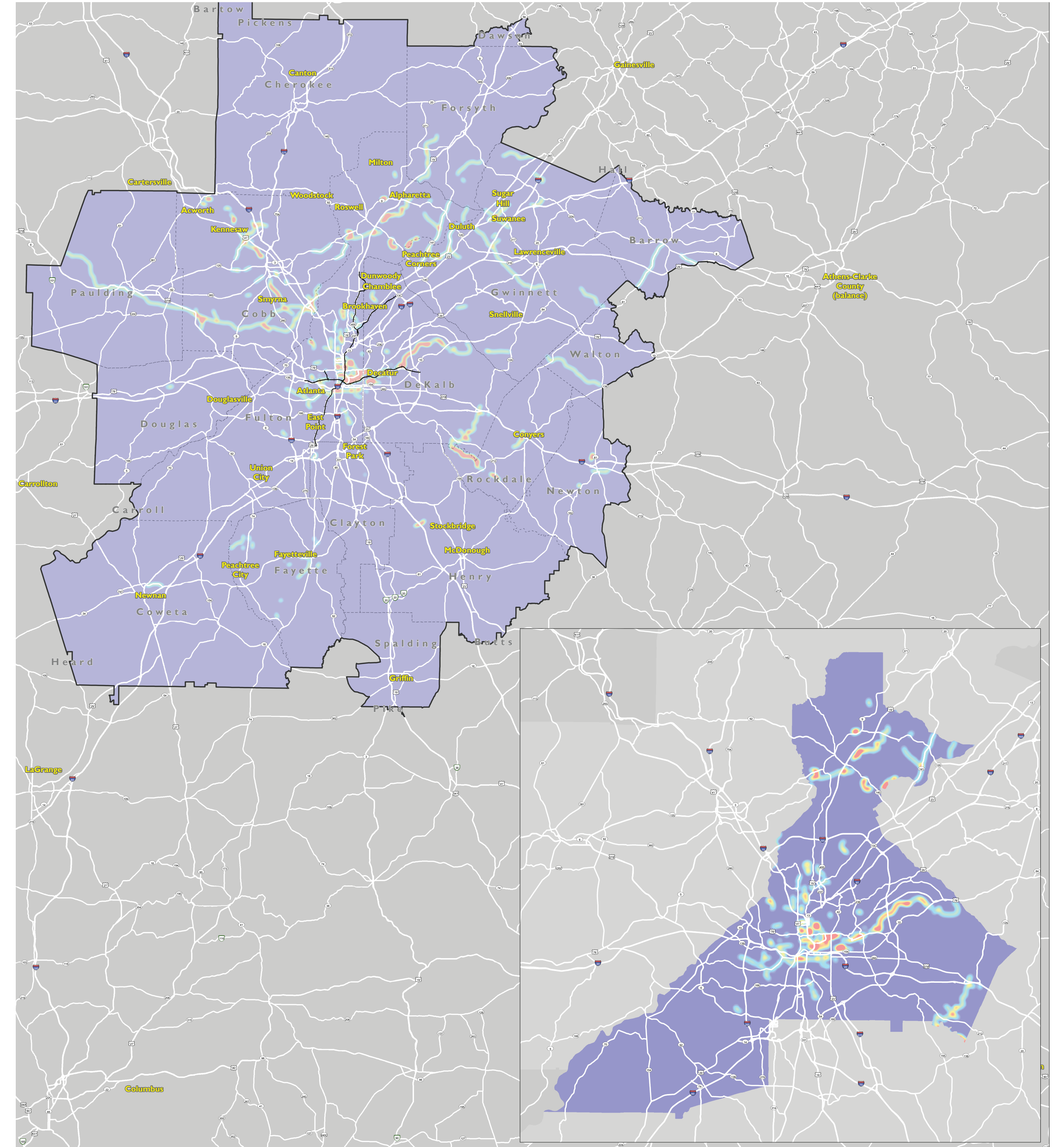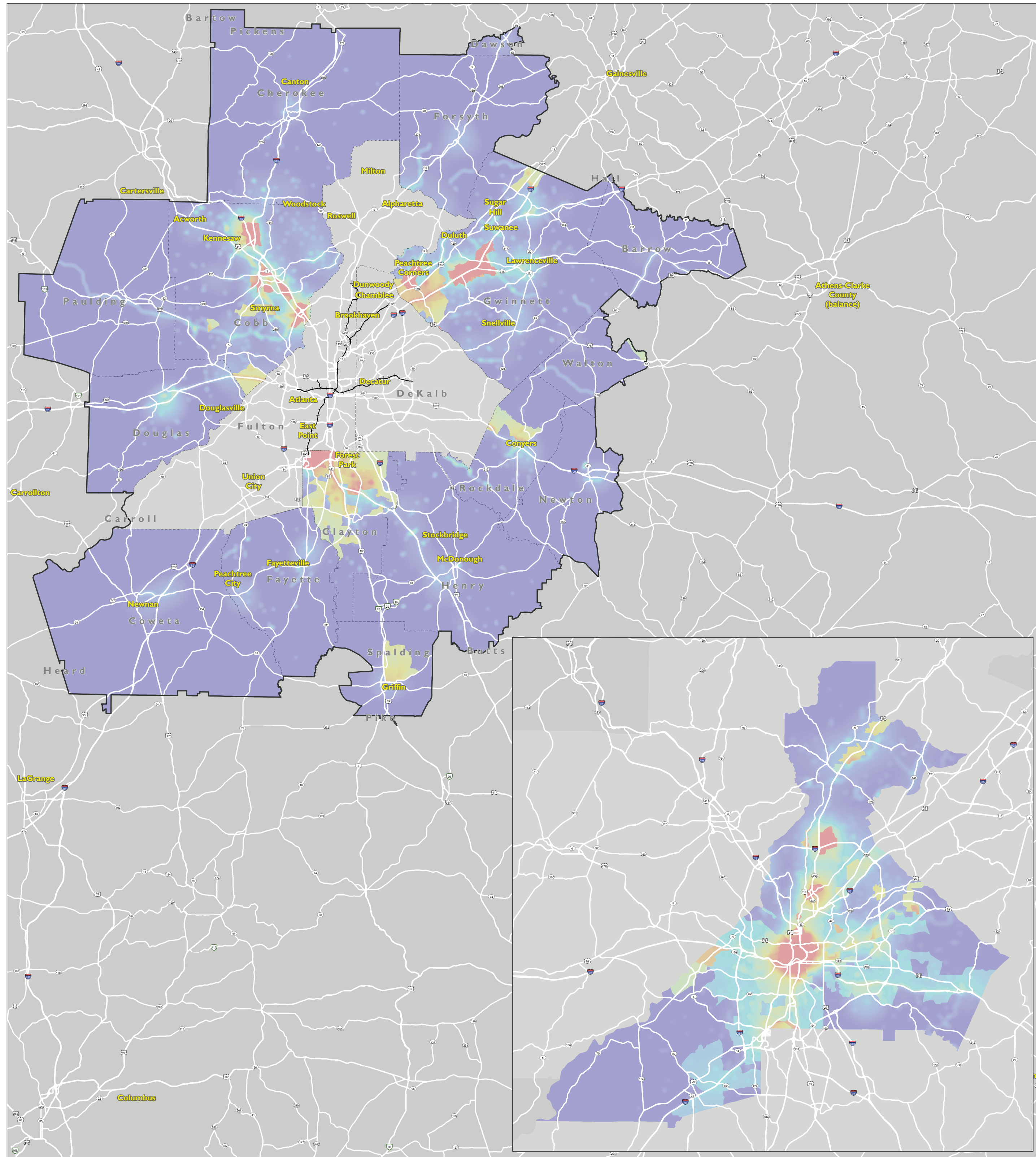N

0   5   10
Miles
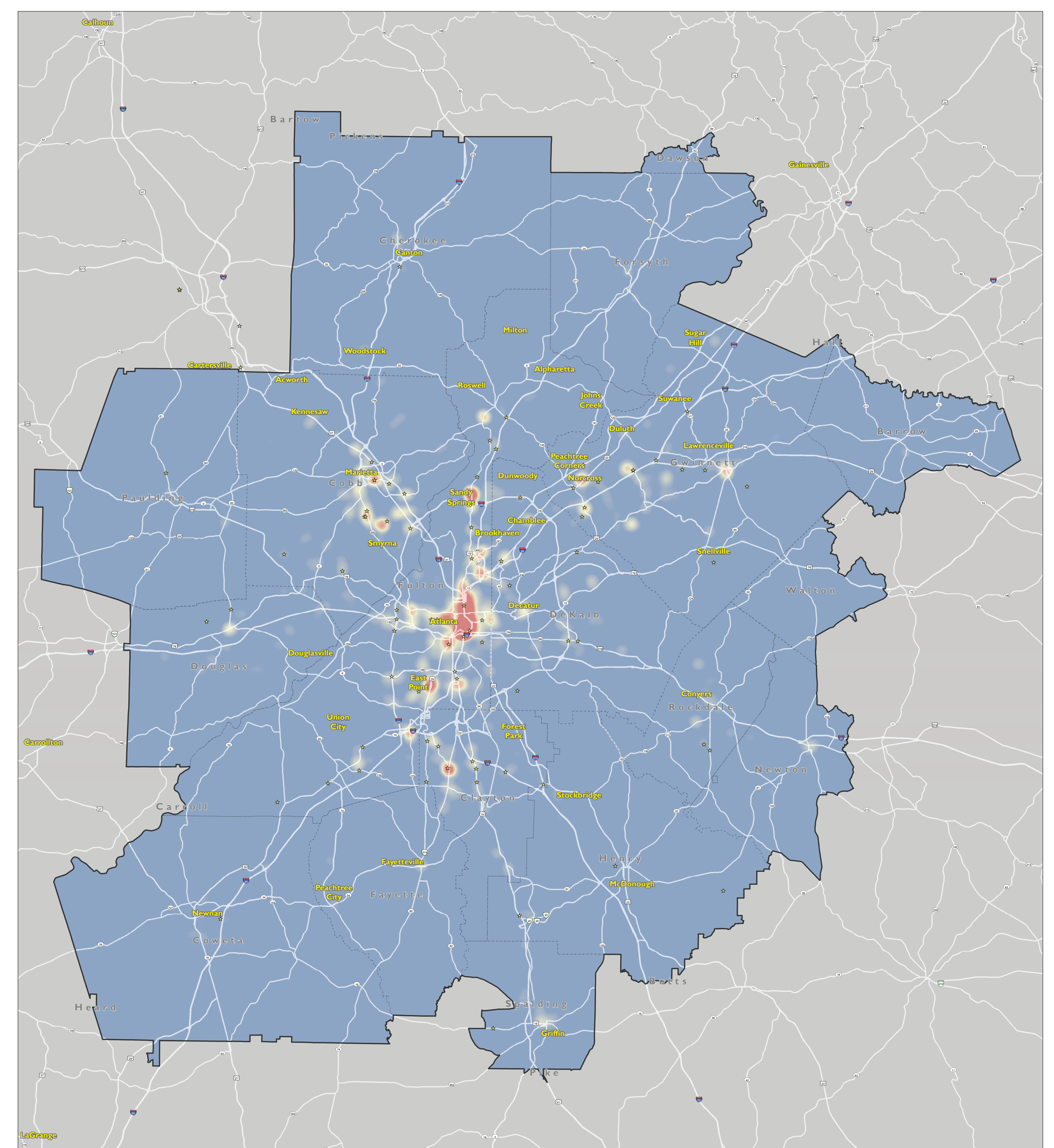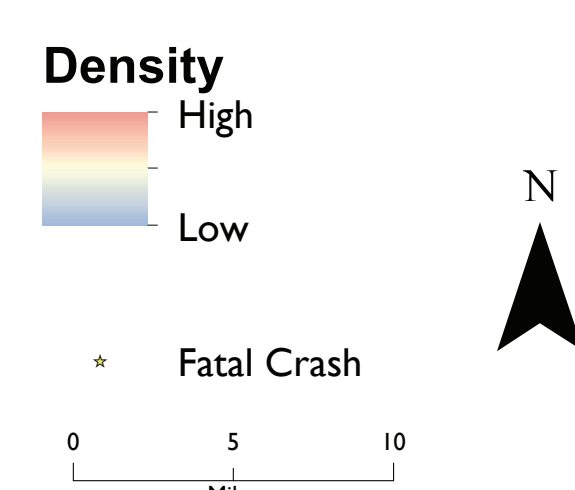
Bicycle and Pedestrian Crash Analysis
Pedestrian Crashes

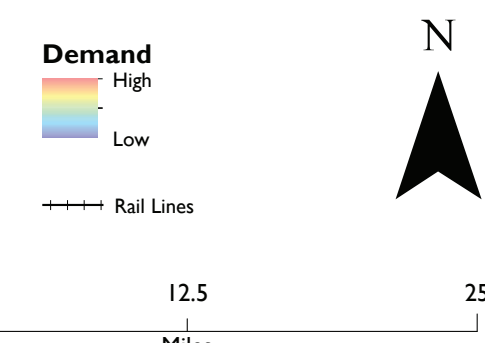Areas that are red have more crashes, while areas that are blue have fewer crashes

Density
High
Low

• Fatal Crash

N

0   5   10
Miles

Demand Analysis

ARC ATLANTA REGIONAL COMMISSION
regional impact + local relevance

Toole Design Group
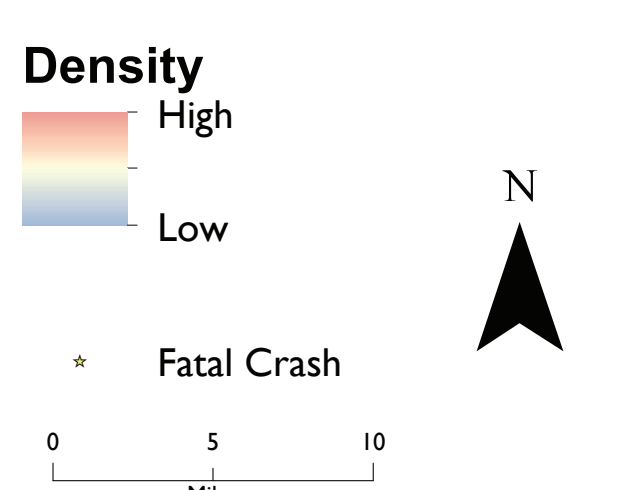
This set of maps indicate areas of high and low projected demand for walking and bicycling in different parts of the ARC region based on land use, existing bicycle infrastructure, and demographics. In these maps, demand is shown as a continuum, where areas of low bicycle demand are shown in purple and high demand are in red.
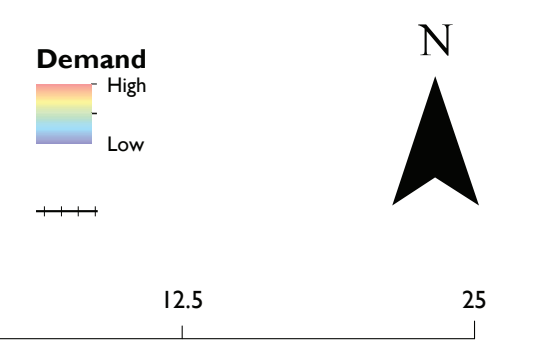

Demand Analysis

This map is a comprehensive demand analysis using all the weighting factors shown at right.

The inset map shows estimated demand levels across the Atlanta Metro Area. Projected demand levels in this area significantly exceed other parts of the ARC region, and demand maps of the entire region are dominated by Atlanta. Therefore, the regional demand map above excluding this area was developed to increase the granularity of the demand analysis in the surrounding communities.

Factor	Weight
Population	16
Marta Rail	12
Regional Centers	12
Colleges/Universities	10
Total Employment	10
Existing Bikeways	8
GRTA Bus	8
High ETA/Equity	8
Marta Bus	8
Retail employment	6
Schools	4

Demand: High / Low
Rail Lines
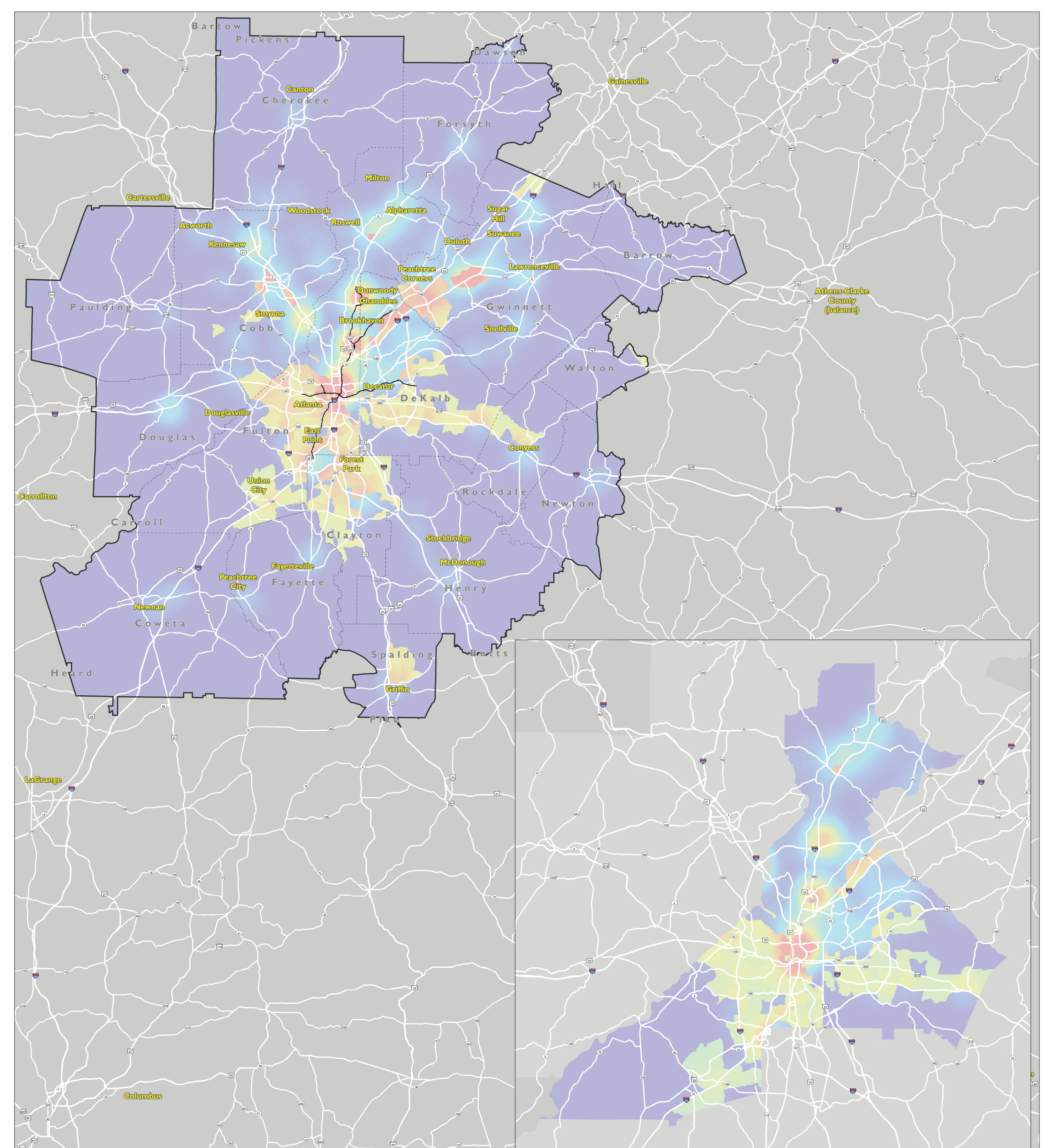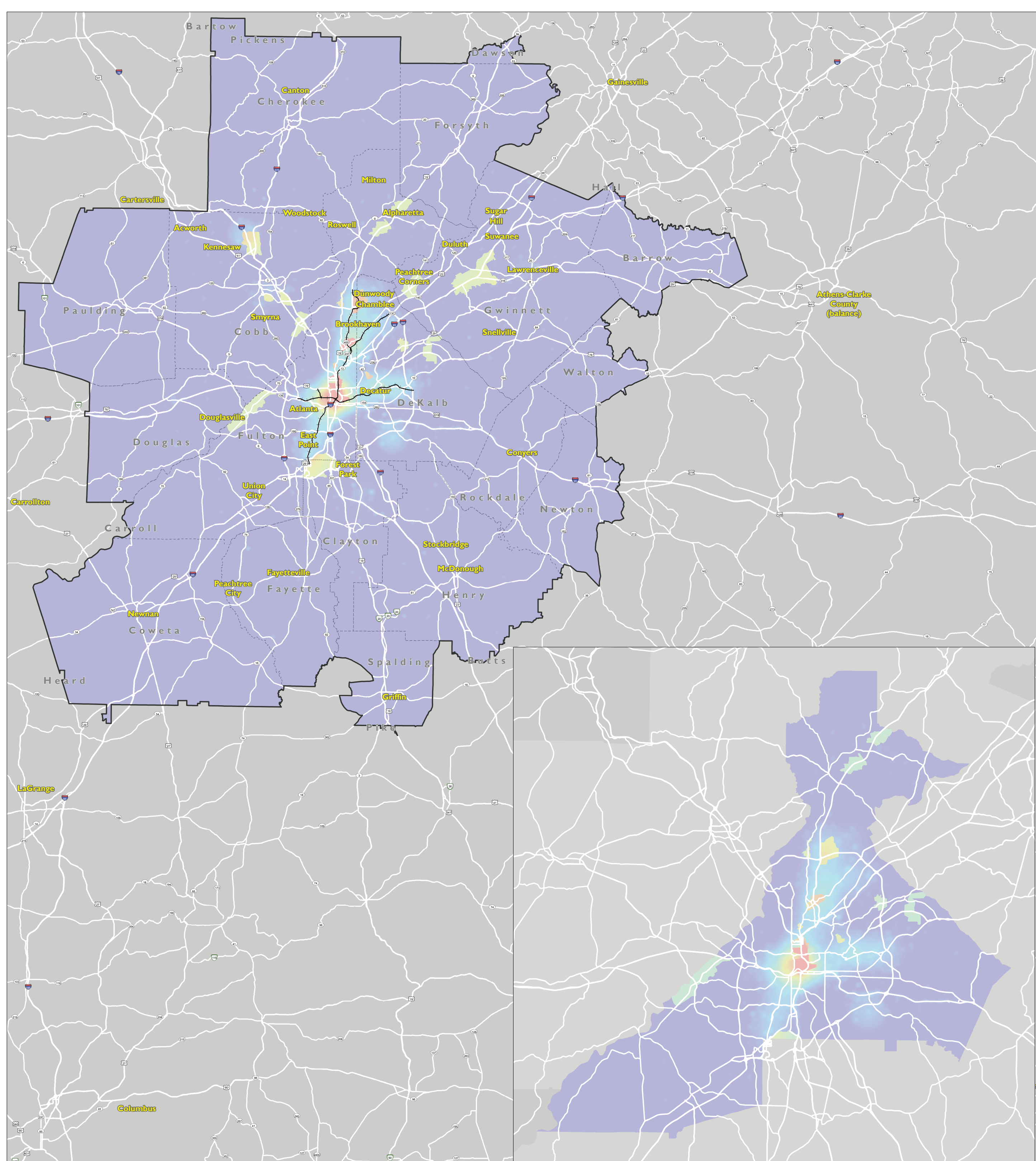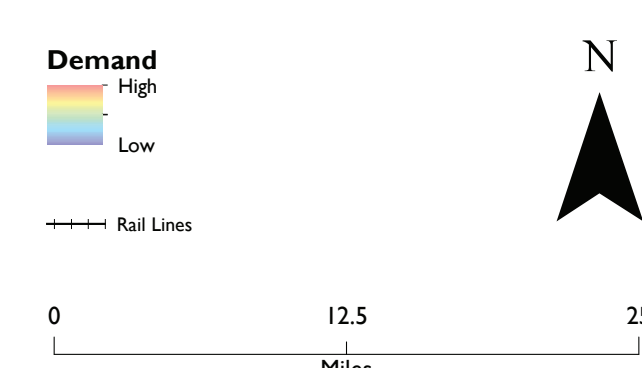
N

0   12.5   25
Miles

Infrastructure
Bicycle Demand Analysis

This map allocates demand from areas adjacent to on- and off-road bicycle facilities to the facilities themselves. The map indicates which bicycle facilities will likely see the most use.

Demand: High / Low

N

0   12.5   25
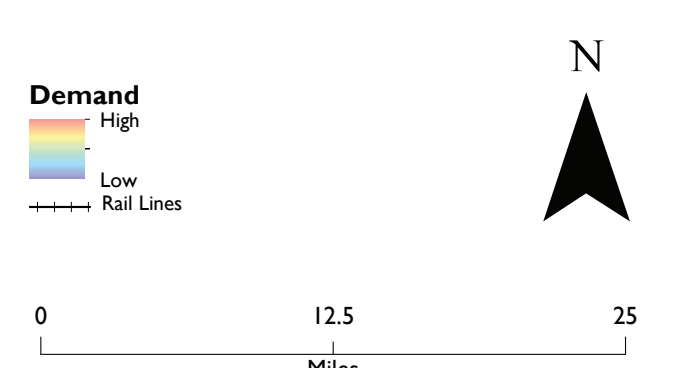Miles

Land Use
Demand Analysis

The nature of surrounding land uses have an important effect on demand for walking and biking. This map uses the factors at right to estimate the impact of land use on demand across the ARC region.

Factor	Weight
Marta Rail	12
Regional Centers	12
Colleges/Universities	12
GRTA Bus	8
Schools	4

Demand: High / Low
Rail Lines

N

0   12.5   25
Miles

Demographics
Demand Analysis

Some demographic groups are more likely to walk and bike. This map uses the factors at right to estimate the impact of demographics on demand across the ARC region.

| Factor	Weight
Population	16
Total Employment	10
High ETA/Equity	8
Retail Employment	6

Demand: High / Low
Rail Lines

N

0   12.5   25
Miles

Active Transportation Opportunities

ARC
ATLANTA REGIONAL COMMISSION
regional impact + local relevance

Toole
Design
Group
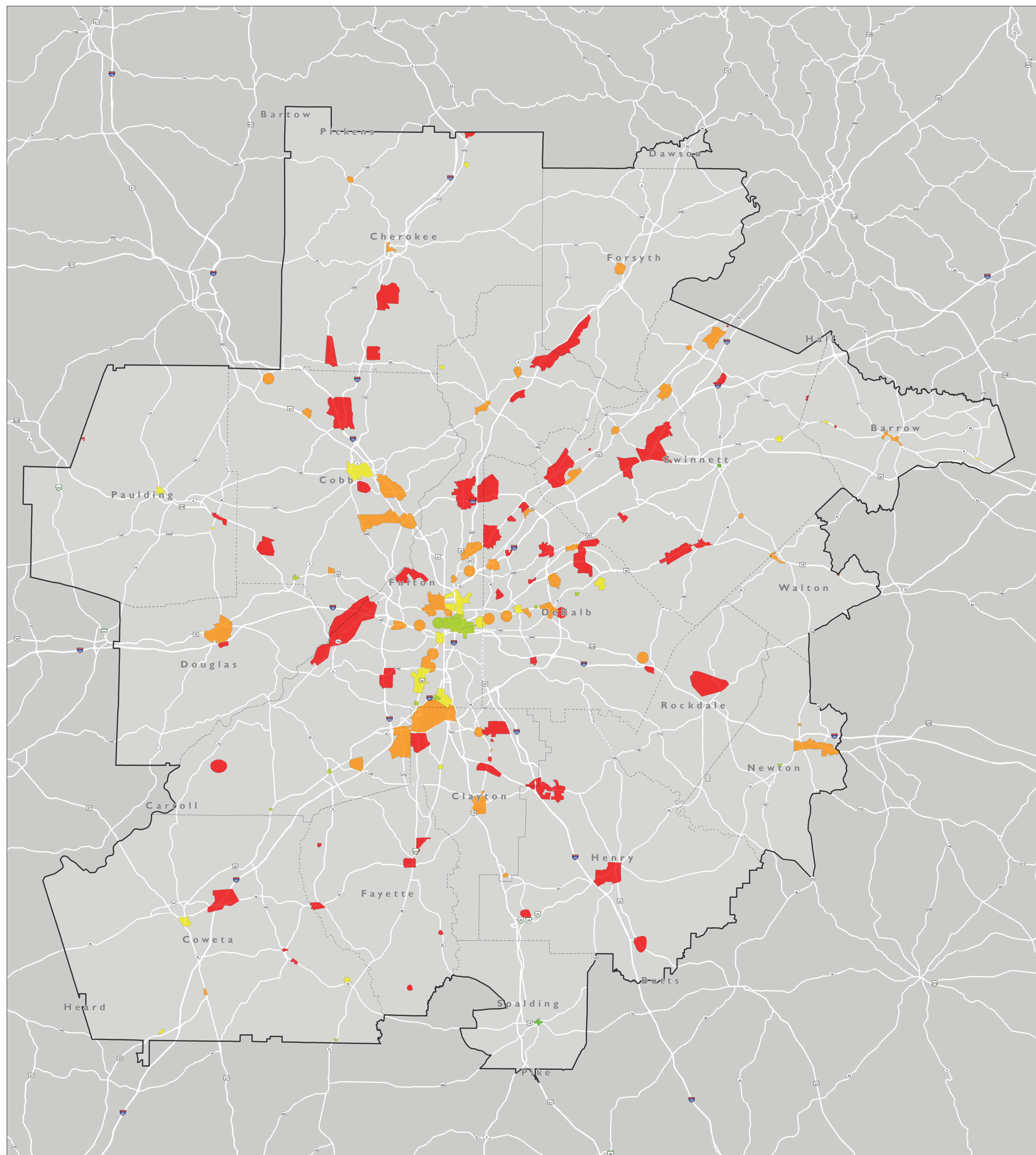
Activity Centers by Walkable Area

This map uses a methodology developed by Georgia Tech and ARC to illustrate areas with block formations that are determined to be relatively "walkable" based on block length data. More walkable areas are shown in green, while less walkable areas are shown in red.

Ratio of Walkable Area to Total Area
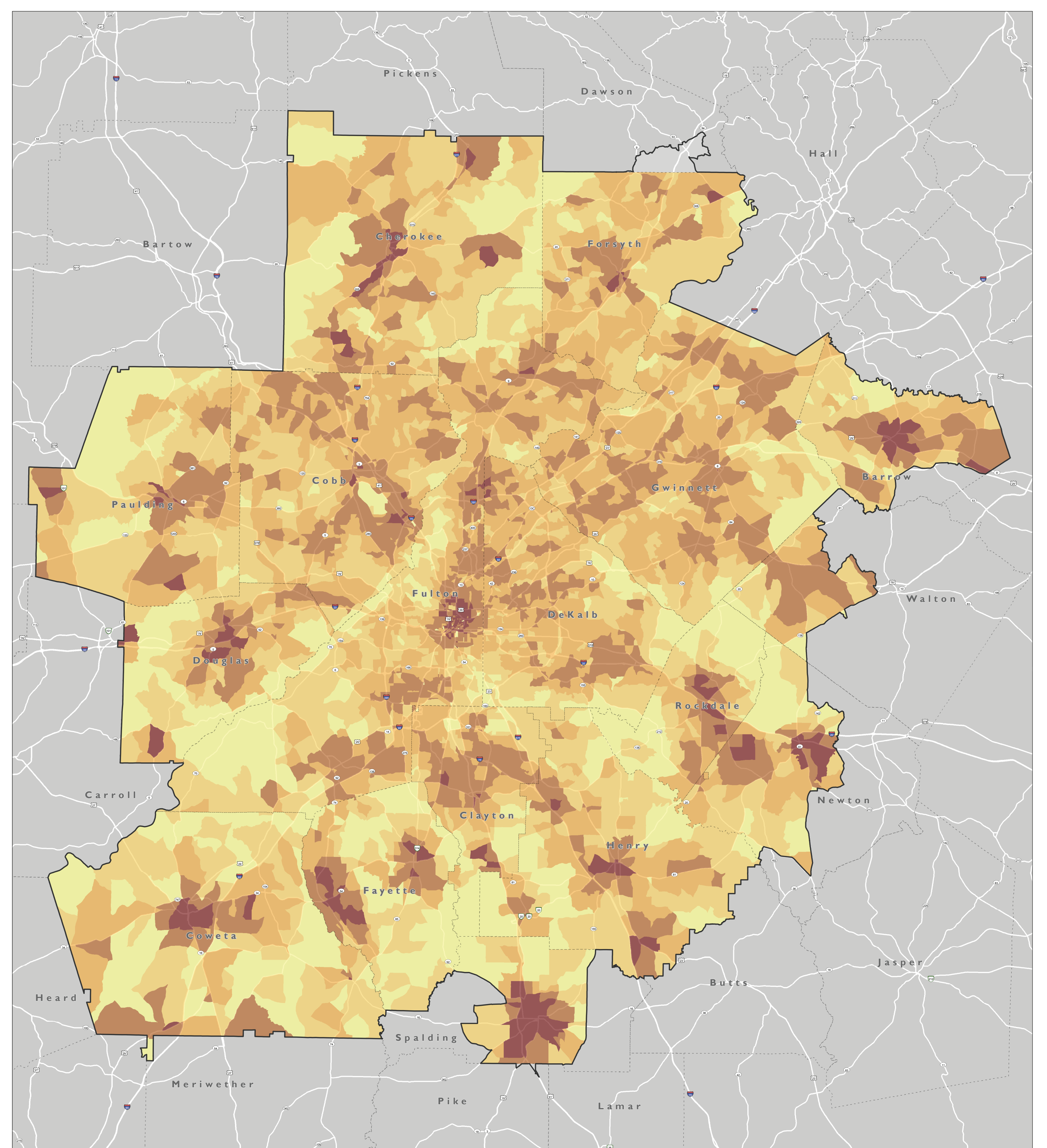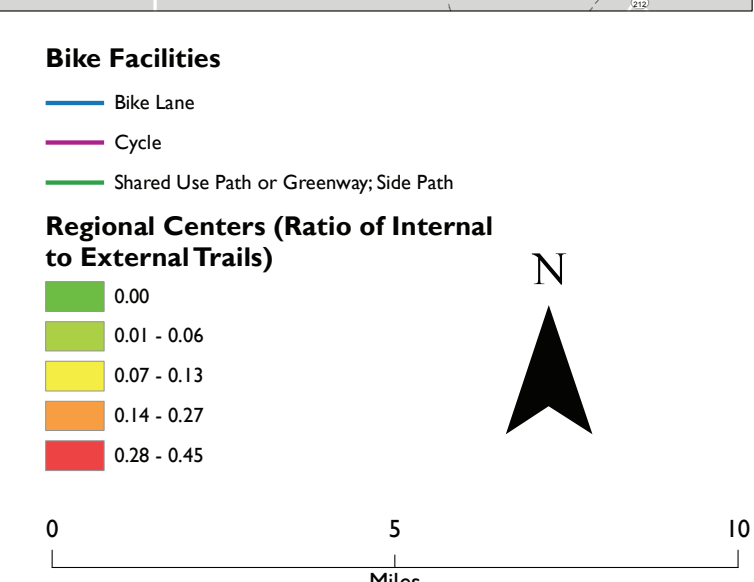Low
High

0   10   20
Miles

N
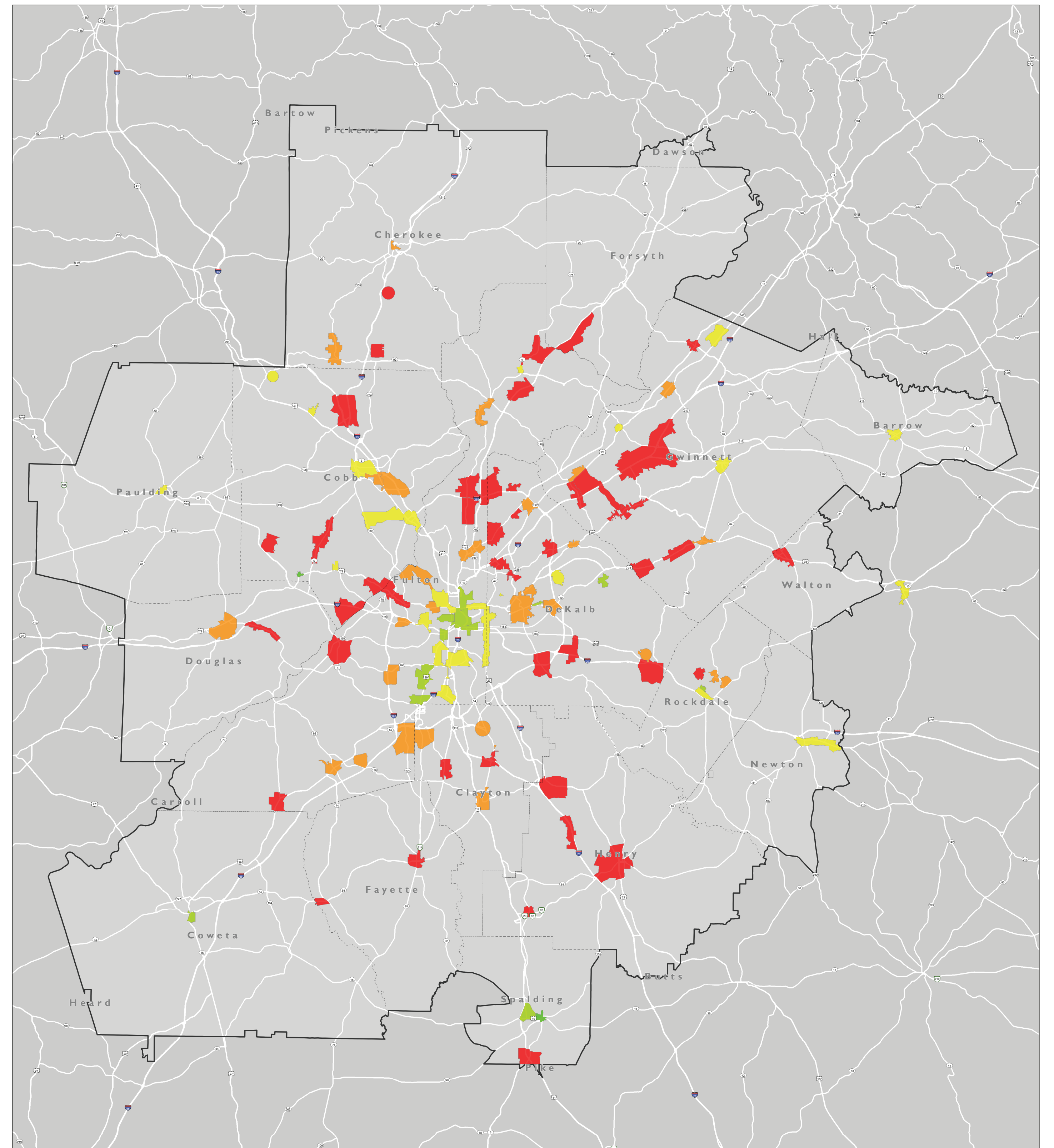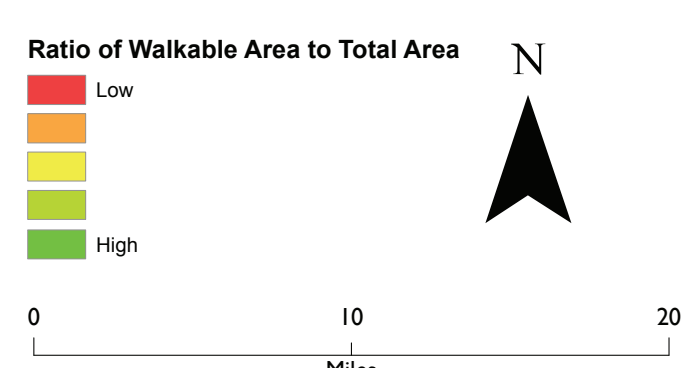
Livable Centers Initiative Walkable Area

This map uses a methodology developed by Georgia Tech and ARC to illustrate areas with block formations that are determined to be relatively "walkable" based on block length data. More walkable areas are shown in green, while less walkable areas are shown in red.

Livable Centers Initiative (Ratio of Walkable Area to Total Area)
Low
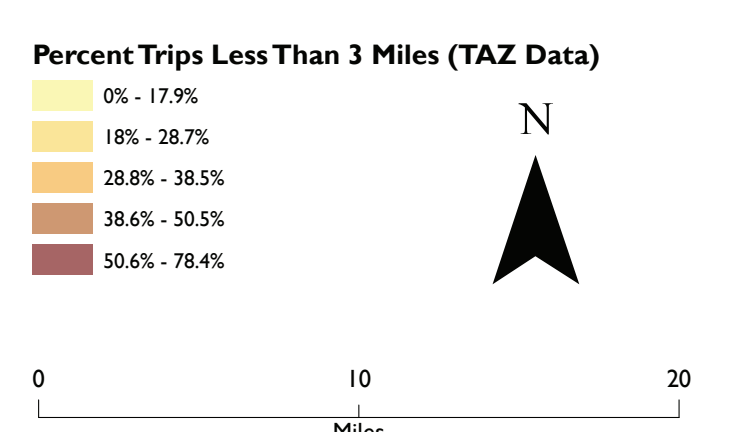High

0   10   20
Miles

N
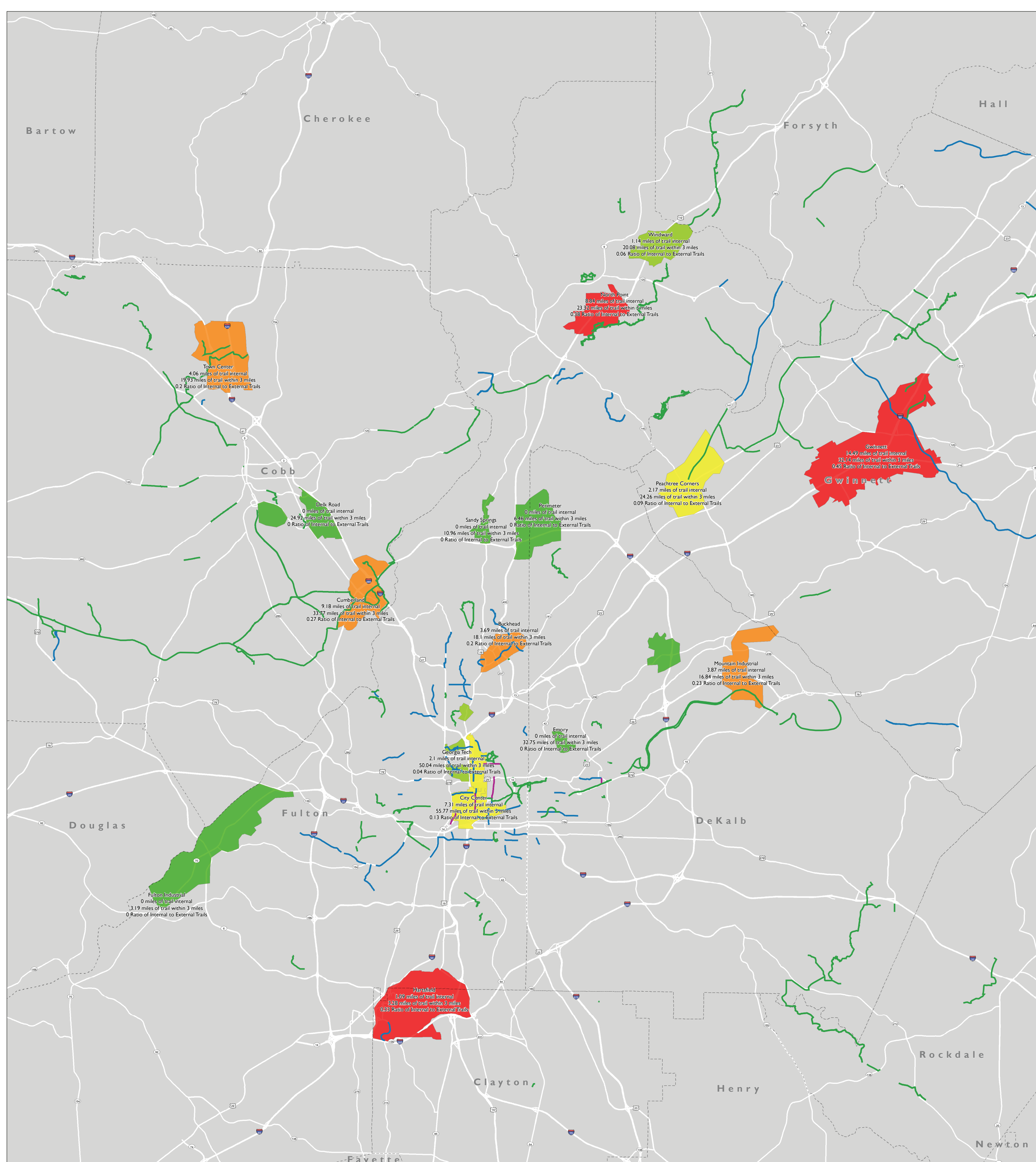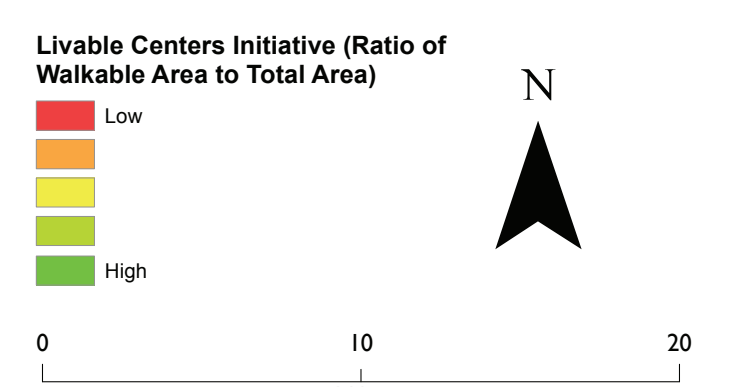
Trail Connectivity to Regional Centers

Regional Centers that have a high ratio of internal trails to trails within 3 miles are shown in red, while Regional Centers that have a low ratio of internal to external trails are shown in green.

Bike Facilities
Bike Lane
Cycle
Shared Use Path or Greenway; Side Path

Regional Centers (Ratio of Internal to External Trails)
0.00
0.01 - 0.06
0.07 - 0.13
0.14 - 0.27
0.28 - 0.45

0   5   10
Miles

N

Percent of Trips Less Than 3 Miles

Areas that are lighter have fewer trips less than 3 miles, while darker areas have more trips less than 3 miles. This variable is important from a walking and biking perspective because trips shorter than three miles are generally considered an easy biking distance for most bicyclists. Trips less than one mile are generally considered walkable for most pedestrians. Focusing resources on these areas that have a relatively high concentration of short trips will likely provide a bigger increase in bicycle and walking mode share than investments outside these areas.

Percent Trips Less Than 3 Miles (TAZ Data)
0% - 17.9%
18% - 28.7%
28.8% - 38.5%
38.6% - 50.5%
50.6% - 78.4%

0   10   20
Miles

N

Short Trip Opportunity Zones

ARC ATLANTA REGIONAL COMMISSION
regional impact + local relevance

Toole Design Group

Short Trip Opportunity Zones are defined as areas where 40 percent or greater of all trips are three miles or shorter in length. Each map examines these zones through different lenses: Safety, Bicycle Mode Share, Latent Demand for Walking and Biking, and Existing Bicycle Infrastructure.
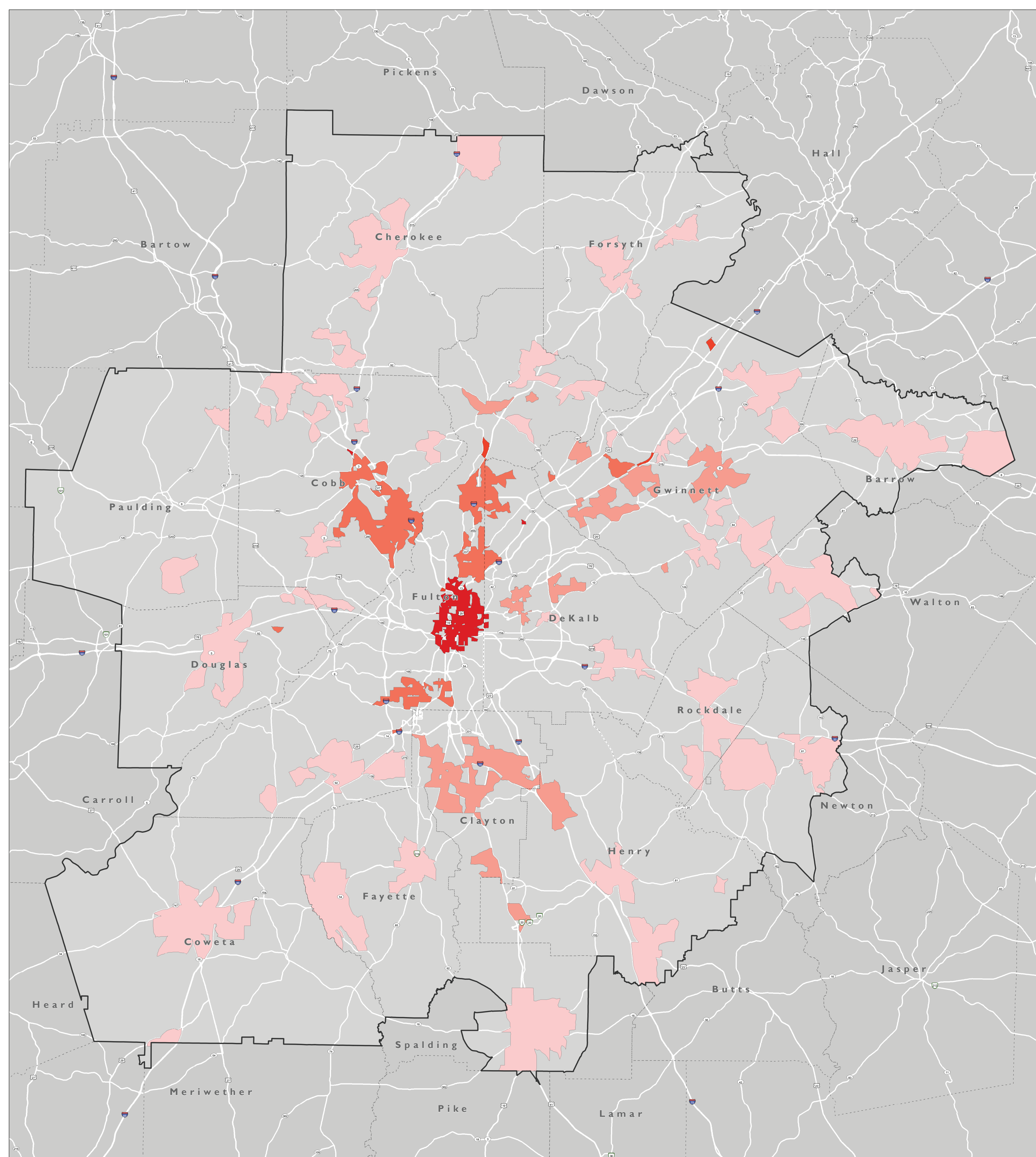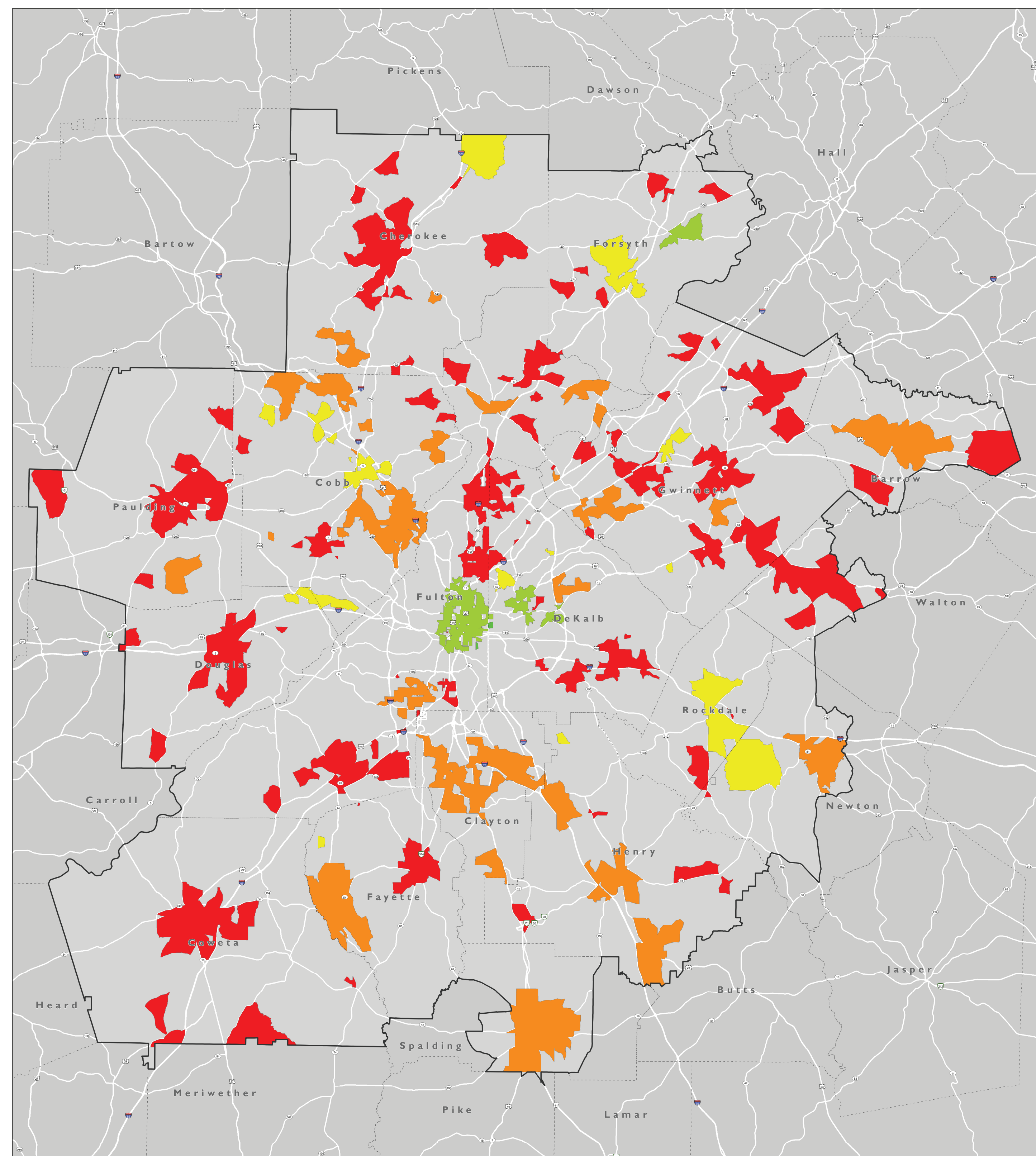

Short Trip Opportunity Zones
Safety

Short Trip Opportunity Zones
Crashes Per Square Mile
Low
High
N
0   10   20
Miles
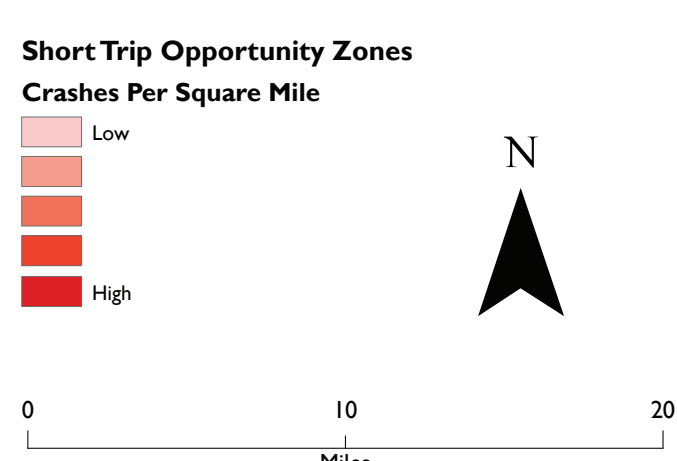
This map illustrates relative numbers of reported bicycle and pedestrian crashes around the different Short Trip Opportunity Zones. Areas that are darker red have higher numbers of crashes per square mile, and lighter colors have lower numbers of crashes.
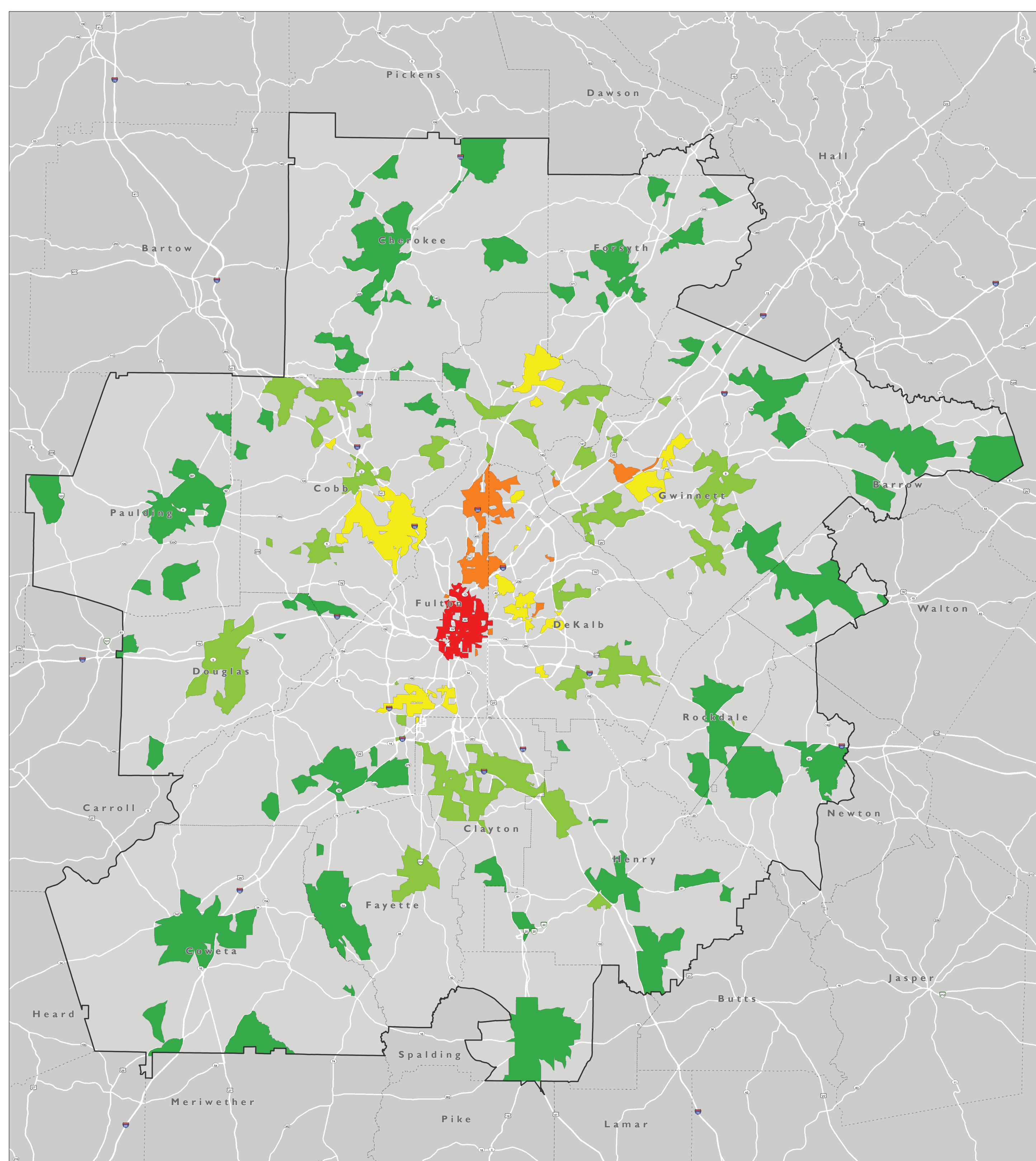

Short Trip Opportunity Zones
Bicycle Mode Share Percentage

Opportunity Zones with Mode Share
Average Mode Share Percentage
Low
High
N
0   10   20
Miles
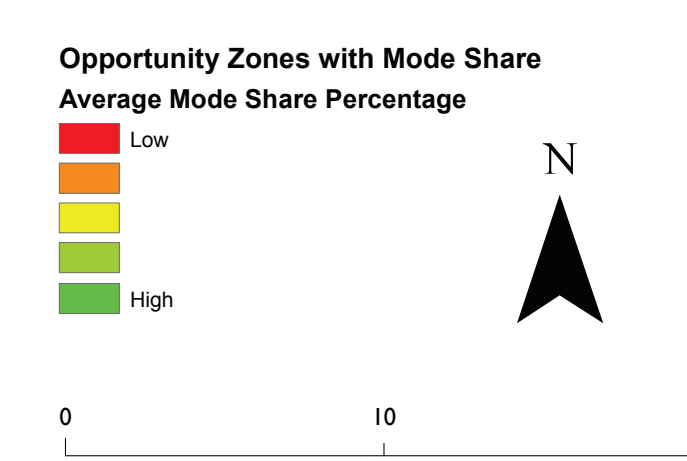
This map illustrates the proportion of trips by bicycle as a percentage of all trips within a Short Trip Opportunity Zone. Areas that are lighter colors have a higher percentage of trips by bicycle. Areas that are darker red have a lower percentage of trips bicycle.
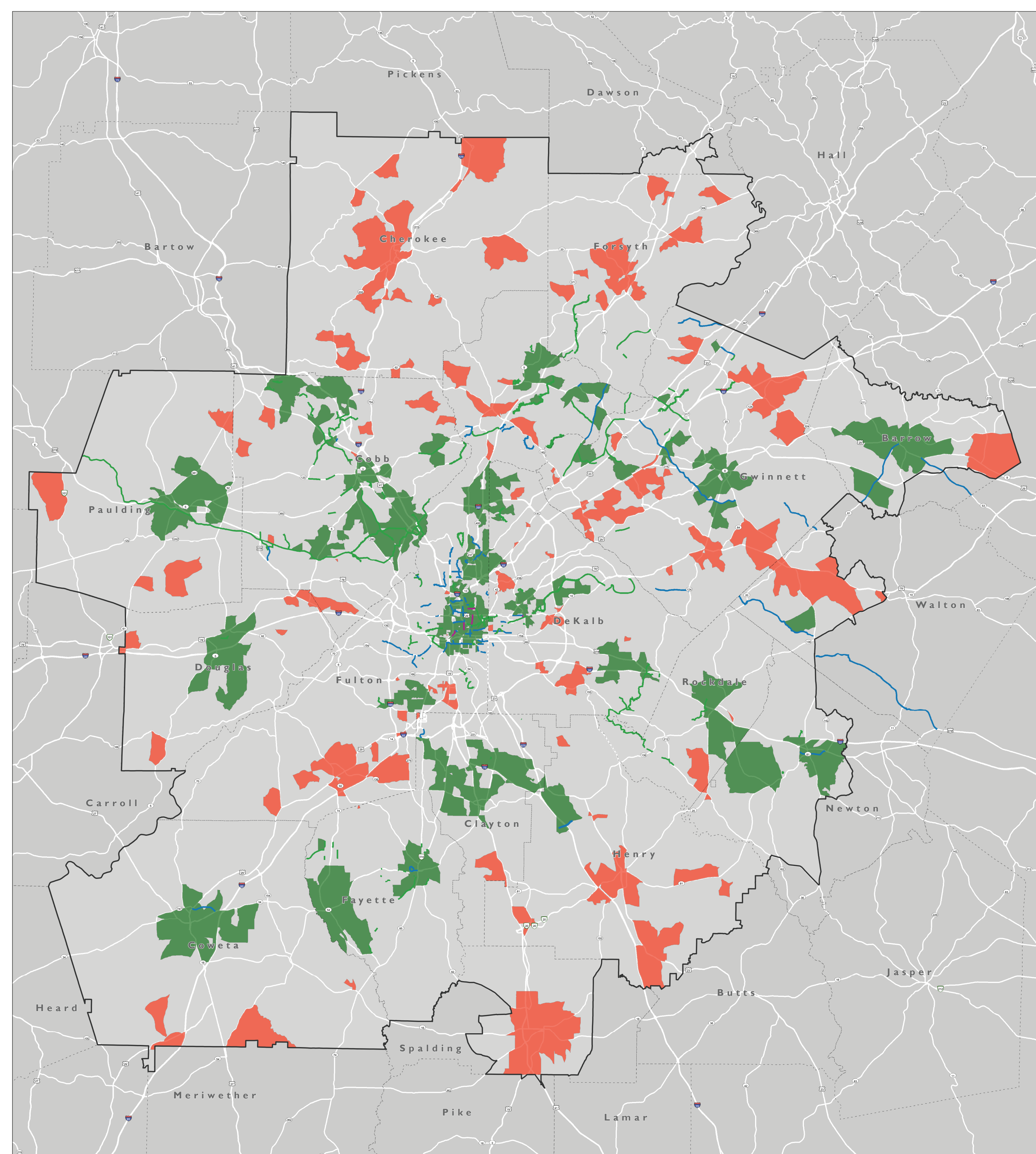

Short Trip Opportunity Zones
Latent Demand

Average Latent Demand
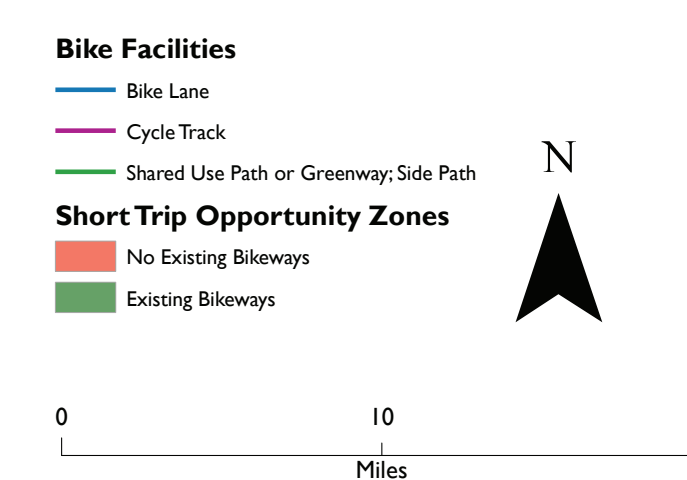Low
High
N
0   10   20
Miles
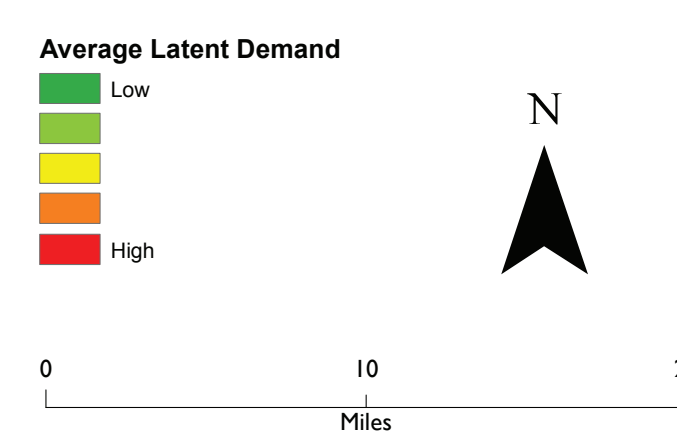
The map above allocates the latent demand analysis for walking and bicycling (illustrated on other maps) to the Short Trip Opportunity Zones. Areas that are darker red have higher levels of latent demand for walking and bicycling.

Short Trip Opportunity Zones
Existing Infrastructure

Bike Facilities
Bike Lane
Cycle Track
Shared Use Path or Greenway Side Path
Short Trip Opportunity Zones
No Existing Bikeways
Existing Bikeways
N
0   10   20
Miles

The map above illustrates which of the Short Trip Opportunity Zones currently have bicycle infrastructure. Zones in green have infrastructure, and zones in red do not.