

REGIONAL TRANSIT PLAN

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1. INTRODUCTION

Public transportation/transit is more than fixed route buses that only serve low income people. In fact, in most large urbanized areas, transit is the backbone of economic development. There are several modes of transit, including door-to-door, vanpool, school bus, and interregional access. For the user, it is an inexpensive, convenient, green option for travel.

Public transportation plays a major role in providing travel alternatives, improving personal mobility, alleviating congestion, and improving air quality. The Regional Planning Commission of Greater Birmingham (RPCGB) reviews, analyzes, and incorporates transit projects into its planning process. The goal is for commuters to easily reach numerous destinations. Over the past five years, the RPCGB has led several corridor studies that focused on transit planning, including:

- The In-town Transit Partnership
- I-65/U.S. 31 Mobility Matters
- US 280 Transit Study
- U.S. 11 Southwest Transit Study
- U.S. 11/78 East Corridor Study
- The Birmingham to Atlanta High-Speed Rail Study

These projects involve regional collaboration with local governments, stakeholders, media, and the public at large.

Urbanized areas offer the greatest flexibility in mobility choices due to their dense nature. However, rural areas often have limited mobility options. The regional Transit Plan identifies existing services and offers possibilities for service modes and funding. Ultimately, efficiency and effectiveness are achieved through coordination of service.

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2. EXISTING CONDITIONS

While public transportation is available in all six counties in the Greater Birmingham region, they are not widely or seamlessly interconnected and only travel across county lines in Jefferson, Shelby, and Chilton.

A. URBANIZED AREAS

The urbanized area is partially served by fixed-route public transit and complementary paratransit. Demand response service is widely available for individuals who are elderly or disabled through the Federal Transit Administration's (FTA) Section 5310 program. However, this service is currently overburdened and is largely closed to the general public.

A.1 JEFFERSON COUNTY

The Birmingham Jefferson-County Transit Authority (BJCTA) operates the only fixed-route public transportation service in the region. It serves the cities of Birmingham, Bessemer, Center Point, Fairfield, Homewood, Hoover, Midfield, Mountain Brook, Tarrant, and Vestavia Hills. The fixed route bus service (MAX) operates a hub and spoke system, with all buses originating and terminating at a central location in Downtown Birmingham. In accordance with the Americans with Disabilities Act (ADA), BJCTA also provides complementary paratransit service within $\frac{3}{4}$ mile of the fixed routes. The paratransit service is available for individuals who are physically or mentally unable to access the fixed route.

The FTA Section 5310 program serves elderly and disabled residents in the urbanized areas of Jefferson County. Jefferson County and the City of Birmingham support the demand response program with matching funds.

A.2 SHELBY COUNTY

Fixed route transit service provided by BJCTA is only available in a very small portion of Shelby County – along Highway 280 in the City of Birmingham. The FTA Section 5310 demand response program serves elderly and disabled residents in the urbanized areas of Shelby County. Matching funds for the program are provided by Shelby County and the Middle Alabama Area Agency on Aging (M4A). As with Jefferson County, the service is overburdened and largely closed to the general public.

B. RURAL AREAS

The rural areas of the region are served by demand response public transportation (dial-a-ride) which is financially supported through the FTA's Section 5311 program. This service is available to everyone, without regard to age, trip purpose, physical or mental disability, or financial status. There are four counties in the region that are classified as rural: Blount, Chilton, St. Clair, and Walker. Small portions of Jefferson and Shelby counties are also classified as rural.

B.1 BLOUNT COUNTY

In Blount County, demand response transportation is available to and between four cities—Oneonta, Snead, Blountsville, and Nectar. Hours of operation are between 7:00 am and 4:00 pm, Monday through Friday.

B.2 CHILTON COUNTY

Chilton County Transit is available throughout the county and operates from 6:00 am to 4:00 pm, Monday through Friday. Services will take residents across county lines to the north into Calera, Montevallo, and Birmingham (Shelby County), and to the south into Montgomery (Montgomery County).

B.3 ST. CLAIR COUNTY

St. Clair Area Transportation (SCAT) operates throughout the county, from 6:00 a.m. to 6:00 p.m., Monday through Friday. A small westernmost part of St. Clair County is now within the urbanized area. As such, SCAT is in the process of expanding their service area to include the City of Birmingham. This is a critical component for filling needs that cannot currently be met within St. Clair County, and will increase access to social services and healthcare.

B.4 WALKER COUNTY

Walker County operates a deviated fixed bus route within the City of Jasper. It has one vehicle running circuitously with a two-hour headway. The bus operates along a fixed alignment at generally fixed times, but may turn off of the route to pick up a passenger who is otherwise not able to access the bus. The deviated service area extends $\frac{3}{4}$ mile from the route. A second bus brings Walker County residents to Jasper from outlying areas of the county on scheduled days of the week.

C. BARRIERS TO SUCCESS

C.1 BJCTA

For years, the fixed-route system in Birmingham has been fraught with challenges, both real and perceived.

Funding: Perhaps the most difficult challenge for the BJCTA is a lack of dedicated funding, making it difficult to maintain existing service levels and even more difficult to make improvements and/or expand services. Funding for BJCTA comes from a variety of sources, including contributions from cities served by BJCTA routes, and a portion of taxes from ad valorem, beer, and dog racing. According to the 2012 NTD data, the farebox recovery ratio for BJCTA is only 10%, and the average passenger fare is \$.81.

Leadership: With the recent installation of several new board members, a new executive director, many new buses and a plan to build a new multimodal downtown Birmingham station, the BJCTA is working toward improving its identity and providing more reliable services.

C.2 WALKER COUNTY FIXED ROUTE

As mentioned above, Walker County operates a circular fixed route one way with one bus that takes two hours to complete. As a result, passengers have to wait two hours between buses and ride the better part of two hours either going or coming in order to access their destination. This is impractical and burdensome. The Walker County fixed route should be reevaluated to streamline service.

C.3 FTA SECTION 5310

Currently, the FTA Section 5310 program almost exclusively provides transportation services to/from senior centers in Jefferson and Shelby counties. The FTA circular specifically states that the 5310 program is a public transportation program to provide mobility for individuals who are elderly or disabled, without limitation of trip purpose. When capacity is depleted due to prioritization of trips for senior centers, other users are not able to be transported in a timely and reasonable manner, resulting in an ineffective system for public use.

C.4 FTA SECTION 5311

There is a belief perpetuated and enforced by the Alabama Department of Transportation that operations funded through the FTA Section 5311 rural public transportation program cannot cross county lines. This is problematic for many reasons, as it limits the mobility of rural residents and their ability to take advantage of medical, educational, social, and other services and opportunities that are only available in the urbanized area.

D. REGIONAL ACCESSIBILITY

In 2011, the Brookings Metropolitan Policy Program published “Missed Opportunity: Transit and Jobs in Metropolitan America,” which presents a series of measures that characterize transit access in the 100 largest U.S. metropolitan areas. The report assesses regional and local factors that impact how well transit serves metropolitan populations and connects them to employment.

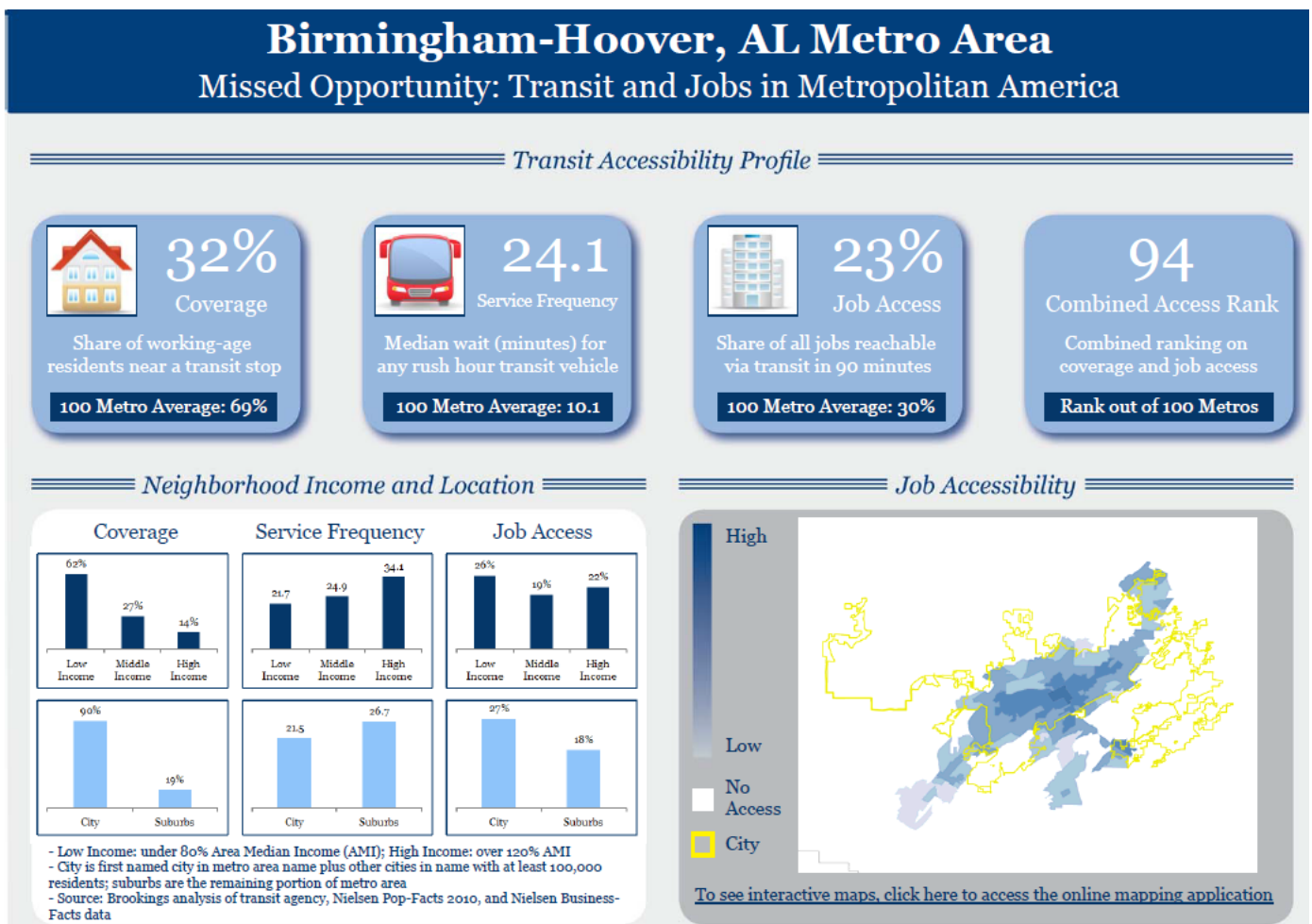
For the Birmingham metropolitan area, the Brookings report found:

- 32% of the total working-age residents live near a transit stop (within $\frac{3}{4}$ mile). The average for the 100 largest U.S. metropolitan areas is 69%.
- 90% of working age residents have access to public transit services, compared to 19% of its suburban working age residents.
- Public transit largely serves lower-income residents. Of the total number of working age residents living near public transit:
 - 62% are characterized as low-income
 - 27% are characterized as middle-income
 - 14% are characterized as high-income
- 23% of all jobs can be reached within 90 minutes by using public transit, compared to an average of 30% for the top 100 U.S. metropolitan areas.
- 27% of all jobs within Birmingham and 18% of all jobs in suburban communities can be accessed within 90 minutes using public transit.
- Of the total number of metro area jobs that are accessible to working age residents within 90 minutes by public transit:
 - 26% are accessible to low-income residents
 - 19% are accessible to middle-income residents
 - 22% are accessible to high-income residents
- The median wait time for transit during peak travel times for Birmingham area riders is 24.1 minutes, more than double the average of wait time of 10.1 minutes for rush hour transit services in the 100 largest U.S. metro areas.

According to the Brookings report, the Birmingham metropolitan area ranks 94th out of the 100 largest U.S. metropolitan areas in terms of residential transit coverage and the number of jobs that are accessible by public transit. (See Figure 1.)

In summary, access to jobs within Birmingham via transit is better in suburban areas. The provision of transit services to working age, low-income residents, as measured by place of residence, is better than the services provided to middle and high-income residents. However, high wait times and low access to job centers are issues that should be addressed.

Figure 1. Summary of Findings in Brookings Report



E. STRATEGIES

E.1 FIXED ROUTE

Because of the large number of potential users, a thorough evaluation of the BJCTA fixed-route bus system should be conducted with an emphasis on restructuring of routes to increase productivity. Gen Xers and Millennials are increasingly choosing to reside in highly urban areas. Many are choosing to forgo automobile ownership as well. Revision of existing services and creation of new services to meet the changing demographics of the region would be a positive move toward improving the overall economic stability and progress of the region. To accommodate this objective, improvements should include: increasing frequency, developing a decentralized link and node system to replace the current hub and spoke system, expanding the service area; and improving reliability and on-time performance. Of course, these objectives cannot be achieved without increased funding.

Specifically, the fixed transit routes should be adjusted in order to create opportunities for routes to cross. Riders would then be able to transfer from one route to another without having to come to the central station. These cross points would have enhanced shelter areas that would be identified as transfer centers (aka SuperStops). Additionally, a system-wide evaluation should be conducted to assess the effectiveness of existing route alignments and determine the most appropriate places for transfer centers. Recognizing that any route changes will encounter some public opposition, careful realignment that is mindful of existing users will result in greater efficiencies and increased ridership.

E.2 COORDINATION

Development of a centralized call center would make it easy for passengers to utilize the service for which their trip is best suited. Ultimately, the 5310, 5311 and fixed route paratransit service should be combined in the urbanized area. This would provide high efficiency and reduced cost by streamlining certification, scheduling, and vehicle utilization.

E.3 URBANIZED AREA

The 5310 program currently prioritizes trips to/from senior centers. Seniors are transported during peak morning rush hour, which virtually eliminates capacity for employment trips. If seniors were transported a little later in the morning, it would free up space for individuals who need to get to employment and medical appointments, and reduce mid-morning down time on the vehicles.

E.4 RURAL AREAS

In the rural counties, service areas could be greatly increased by coordinating with other systems across county lines. This can be done in a variety of ways. One way is for two systems to meet up and transfer passengers to complete a long trip. Another way is for one system to bring passengers to the destination, while the other system takes them back home. Coordination reduces down time (a bus traveling with no one on board or waiting on a passenger) and allows more passengers to take more trips.

The RPCGB will continue to provide assistance to rural counties and look for opportunities for involvement. This may include arranging consultations with other agencies performing similar types of transportation, so each may learn from the other. It may also include distributing information regarding available training or webinars, or sharing relevant research reports. It always involves communicating with each agency to understand their specific needs.

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3. CORRIDOR STUDIES

Over the past five years, the RPCGB has led several corridor studies that focused on transit planning. These projects involve regional collaboration with local governments, stakeholders, media, and the public at large.

- The In-town Transit Partnership
- I-65/U.S. 31 Mobility Matters
- US 280 Transit Study
- U.S. 11 Southwest Transit Study
- U.S. 11/78 East Alternatives Analysis
- The Birmingham to Atlanta High-Speed Rail Study

A. IN-TOWN TRANSIT PARTNERSHIP

The RPCGB conducted a study of potential transit service improvements in the Downtown Birmingham and University of Alabama-Birmingham (UAB) areas. The result of the In-Town Transit Partnership (ITP) project identified a preferred transit service option that includes a new Bus Rapid Transit (BRT) service that connects the Entertainment District, City Center, UAB, and Five Points South. The new BRT service would have 18th Street serve as a north-south spine, with several new neighborhood routes connecting to it.

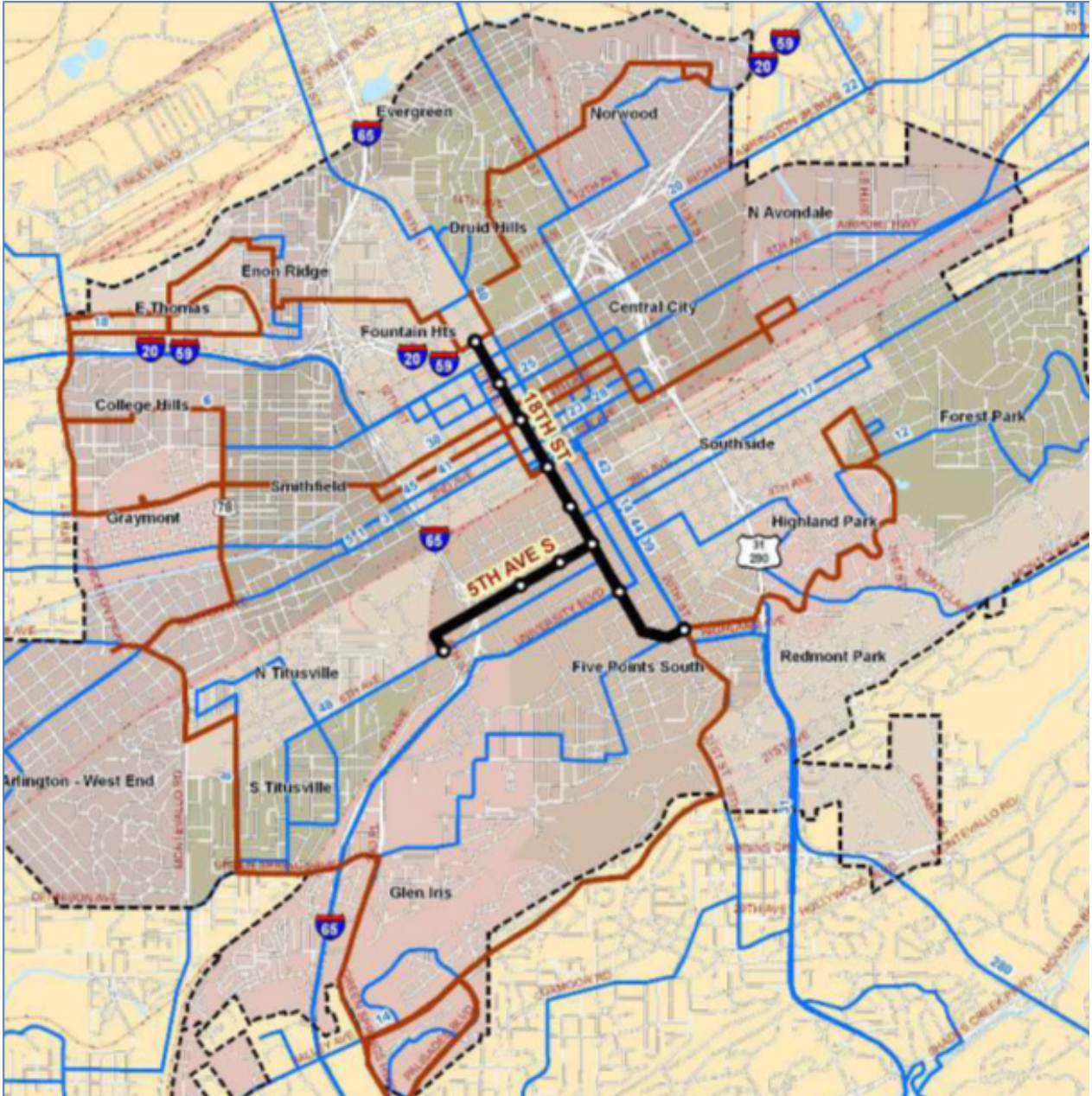
BRT uses rubber-tired vehicles and provides the same type of service as rail transit, but does not require tracks. It can run in mixed traffic as well as in dedicated transit-only lanes, often with transit signal prioritization. BRT has enhanced features over conventional bus, such as faster travel times, improved comfort, stops with amenities, and automated next bus information, maps, and schedules.

Elements of the Proposed System:

- Dedicated lanes for transit
- Signal treatments to improve transit reliability
- Enhanced station stops to provide more amenities to passengers waiting at the stops
- Access to and through the City Center for proposed future regional BRT services
- Establishment of neighborhood connector routes to provide access between the in-town neighborhoods, the City Center, and the Central Station Intermodal Center.

See Figure 2 for proposed route alignments. For more information, visit: <http://www.rpcgb.org/transportation/projects/itp/>.

Figure 2. ITP Proposed Project Alignment



B. I-65/US 31 MOBILITY MATTERS

The I-65/US 31 Mobility Matters Project (MMP) is a plan that proposes both transit and highway improvements to address the existing and emerging transportation issues associated with this corridor of metropolitan Birmingham. Traffic conditions in the study corridors are congested and expected to become more severe in the years to come. Also, transit service primarily consists of a limited number of bus routes that have lengthy headways (time between buses). Mobility has become increasingly difficult and time consuming for commuters using I-65 and other routes within the study corridor. Therefore, both transit improvements and highway improvements are proposed in order to increase mobility in the corridor.

Proposed Highway Improvements (See Figure 3):

- HOV lanes from Valleydale Road to University Boulevard
- Auxiliary lanes between most interchanges
- Truck climbing lanes between US 31 and Lakeshore Drive
- Improvements to all existing interchanges in the corridor
- HOV-only interchanges/ramps at several locations

Proposed Transit Improvements (See Figure 4):

- 7 premium transit routes
- 67 premium transit stops/stations
- 2 transit super stops
- 5 park-and-ride lots
- 11 queue jumper lane installations
- 43 Traffic Signal Priority (TSP) installations
- 65 premium transit buses
- 10-minute peak waiting times
- Interface with the planned In-Town Transit Partnership (ITP) project and Blazer Express
- Buses will use HOV lanes where available

For more information, go to: <http://www.i65-us31mobilitymatters.com/>.

Figure 3. I-65/US 31 Proposed Highway Improvements

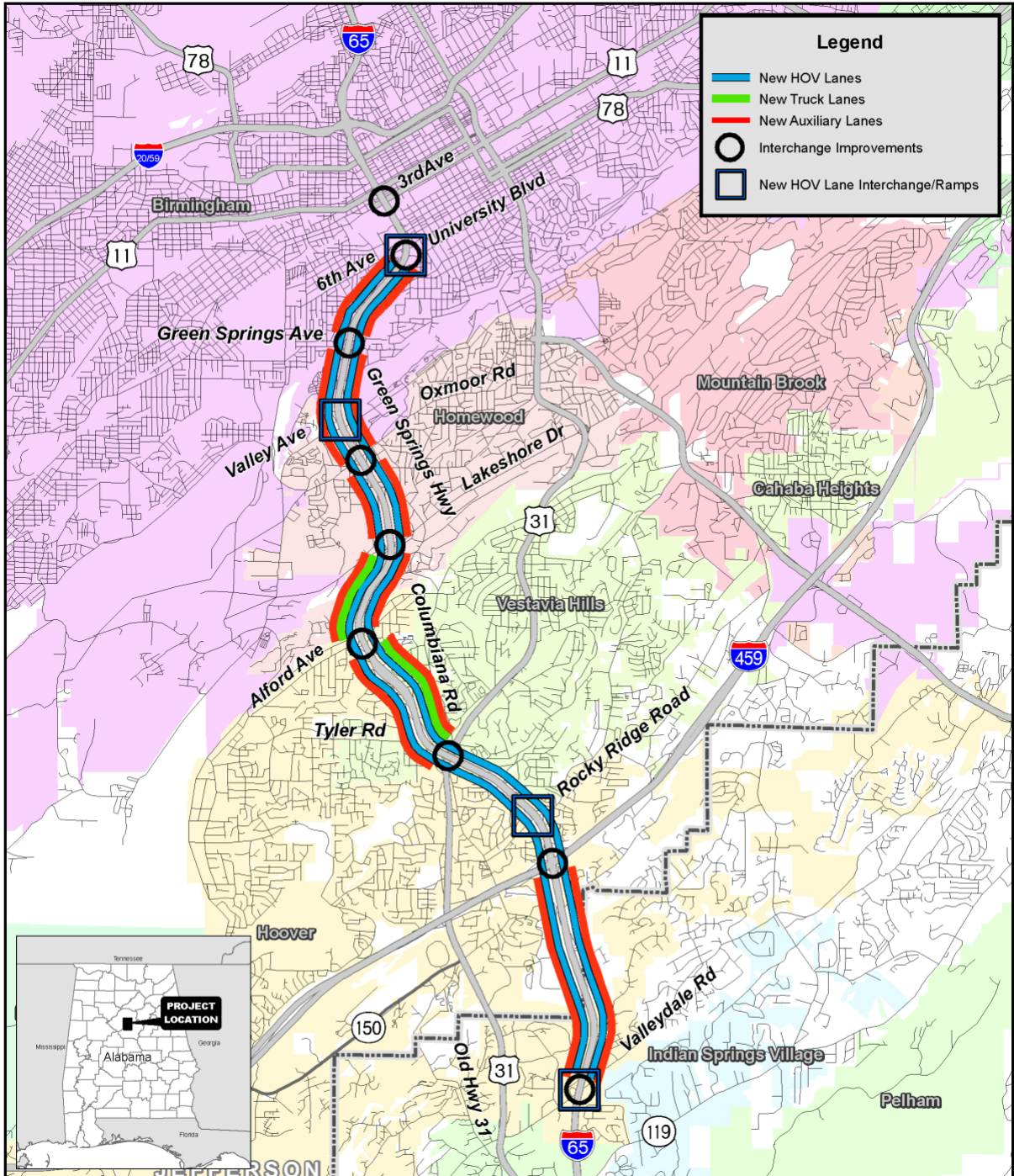
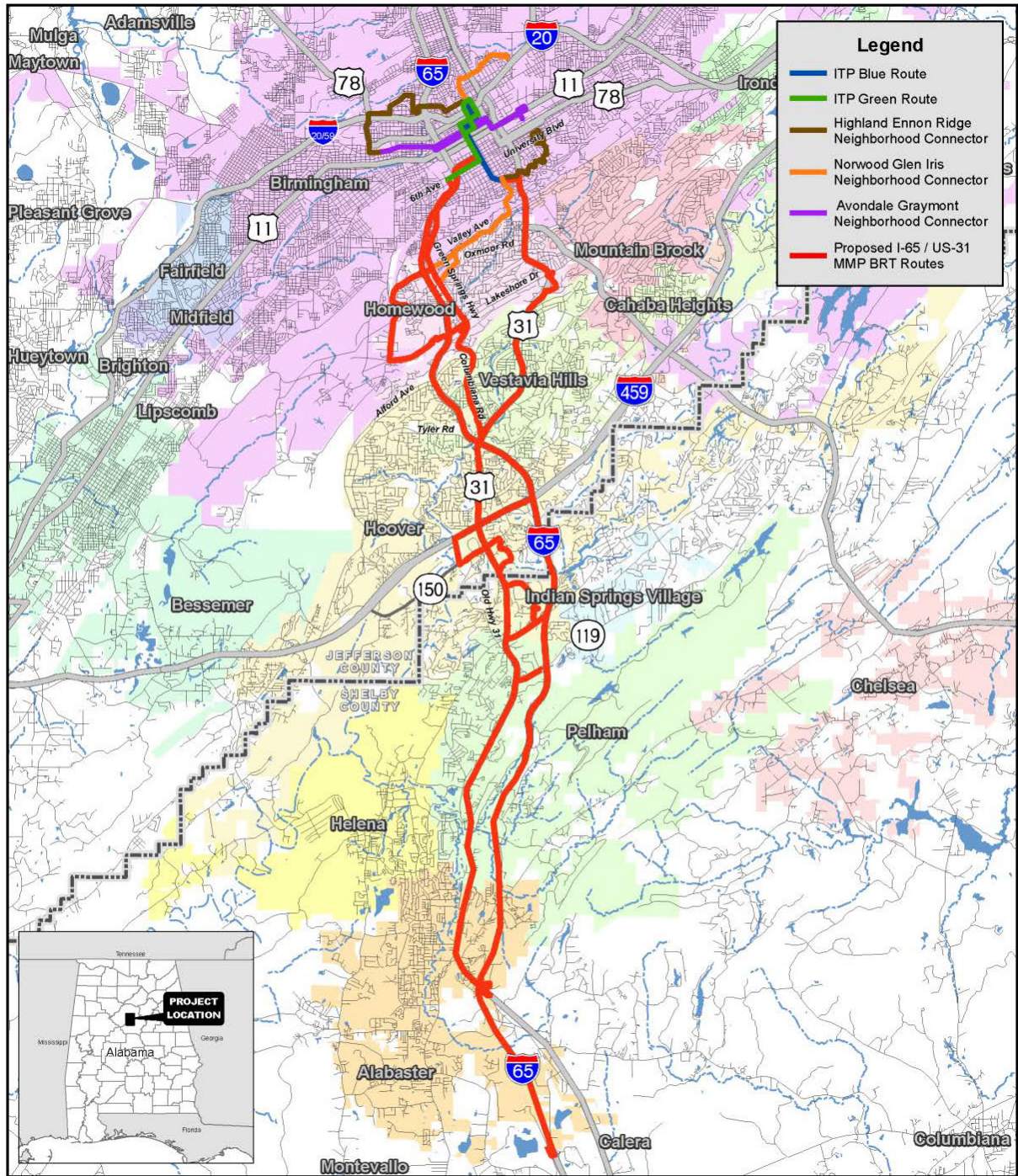


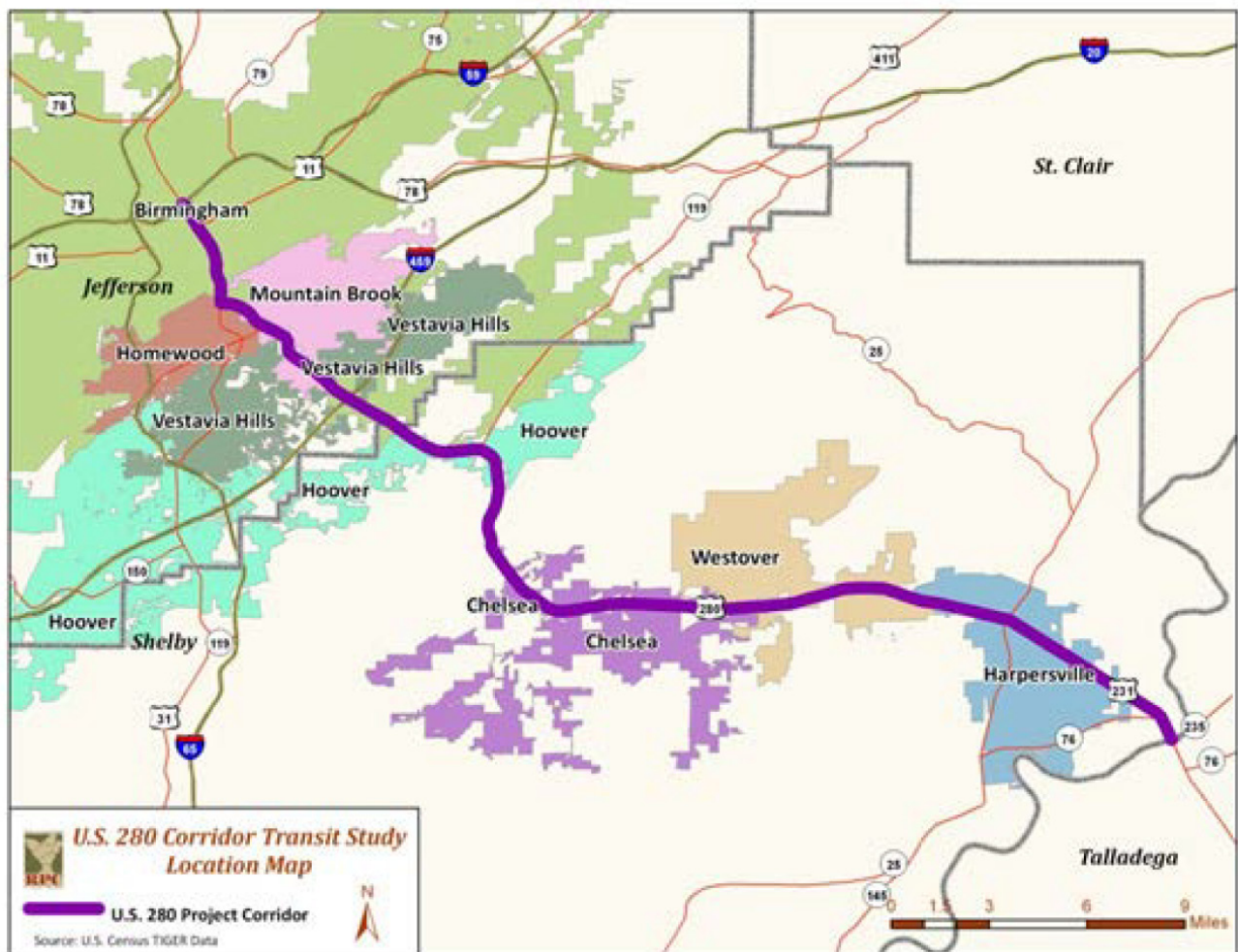
Figure 4. I-65/US 31 Proposed Transit Improvements



C. US 280 TRANSIT STUDY

The U.S. 280 corridor has developed rapidly over the past 20 years and is one of the most congested roadways in the Birmingham metropolitan planning area. The study included an assessment of various public transportation and congestion management alternatives to improve mobility on the corridor in Jefferson and Shelby counties. Additionally, the study evaluated policies to improve safety and enhance non-motorized transportation options. The study was funded through an earmark administered by the Federal Transit Administration (FTA).







Figure 5. US 280 Study Limits



The study corridor was 35 miles long on US 280, extending from I-20/I-59 in Downtown Birmingham eastward to the Shelby/Talladega County line. The outcome of the study resulted in two Locally Preferred Alternatives, each with its own merits when aligning to the Purpose and Need Elements set forth in the study, as shown in Table 1.

For more information, see <http://www.rpcgb.org/transportation/transit/us-280-corridor-transit-study/index.php>.

Table 1. Summary of Purpose and Need Elements for Top Scoring Alternatives

| Purpose and Need Element | Premium Bus with Managed Lanes | BRT in Outside Guideway | Rationale for “Best Meeting Purpose and Need” Element |
|---|---|--|--|
| Efficiently serving the mobility needs of residents, workers, students, businesses, and other stakeholders in the corridor |  | | Managed Lanes Alternative has highest scores for mobility categories |
| Improving connectivity between Downtown Birmingham, key employment sites along US 280, and the communities located in the corridor to encourage economic development |  | | Managed Lanes Alternative has slightly better connectivity due to direct connections to key activity centers without requiring a change of mode during trip. |
| Connecting to other regional high-capacity transit services |  |  | Both alternatives satisfactorily meet Purpose and Need |
| Preserving the community character of the Corridor communities, while integrating residential and non-residential developments into compact, transit-oriented land use patterns in appropriate places | |  | BRT Alternative best preserves community character and promotes TOD |
| Operating transit services that are financially feasible and have broad community and political support | |  | BRT Alternative is most economical. Community support was split between alternatives and was not able to be determined from local jurisdictions |

D. US 11 SOUTHWEST TRANSIT STUDY

This study, funded by a grant from the Federal Transit Administration, looked at the US11 Southwest Corridor from Downtown Birmingham to the Bibb County line. The study area was 2 to 3 miles wide and 22 miles long. The Southwest Corridor contains a diverse collection of land uses, including residential, employment, shopping, education, medical, parks and recreation, and other destinations. Parts of the corridor are among the oldest developments in the region, where there were considerable industrial and manufacturing uses. While the intensity of that industry has diminished considerably, there is still significant employment and industrial activity in and along the corridor. Bessemer was once the largest city in the state and was connected to Birmingham by electric trolley cars. US11 Southwest is also a historically significant corridor.

The study considered a variety of transit technologies and routing options and examined how urban development can complement transit. It also looked at the potential for economic development opportunities around transit stations. Some of the final alternatives for the corridor include:

- Utilization of the ITP Circulator in the downtown area
- Bus preferential lanes
- Traffic signal treatments
- Station locations based on connectivity to other transportation modes and major activity centers
- Transit Super Stops in the Five Points West and Downtown Bessemer areas
- Express Bus Routes from Bessemer and McCalla
- Minor adjustment to the fixed transit Route 3
- New routes serving the Galleria Mall and Tannehill Promenade Shopping Center
- No build

Please see <http://www.swcorridor.org/> for detailed information on this project.

E. US 11/ US 78 EAST ALTERNATIVE ANALYSIS

This study, funded by a grant from the Federal Transit Administration, looked at the US11 Southwest Corridor from Downtown Birmingham to the Bibb County line. The study area was 2 to 3 miles wide and 22 miles long. The Southwest Corridor contains a diverse collection of land uses, including residential, employment, shopping, education, medical, parks and recreation, and other destinations. Parts of the corridor are among the oldest developments in the region, where there were considerable industrial and manufacturing uses. While the intensity of that industry has diminished considerably, there is still significant employment and industrial activity in and along the corridor. Bessemer was once the largest city in the state and was connected to Birmingham by electric trolley cars. US11 Southwest is also a historically significant corridor.

This study is currently in progress, and the existing conditions report has been completed. The next stages of the study will be to identify potential alternatives and develop recommendations for implementation. For information about this study, please contact Laurel Land at lland@rpcgb.org or 205-264-8473.

Figure 6. US 11 Southwest Study Area

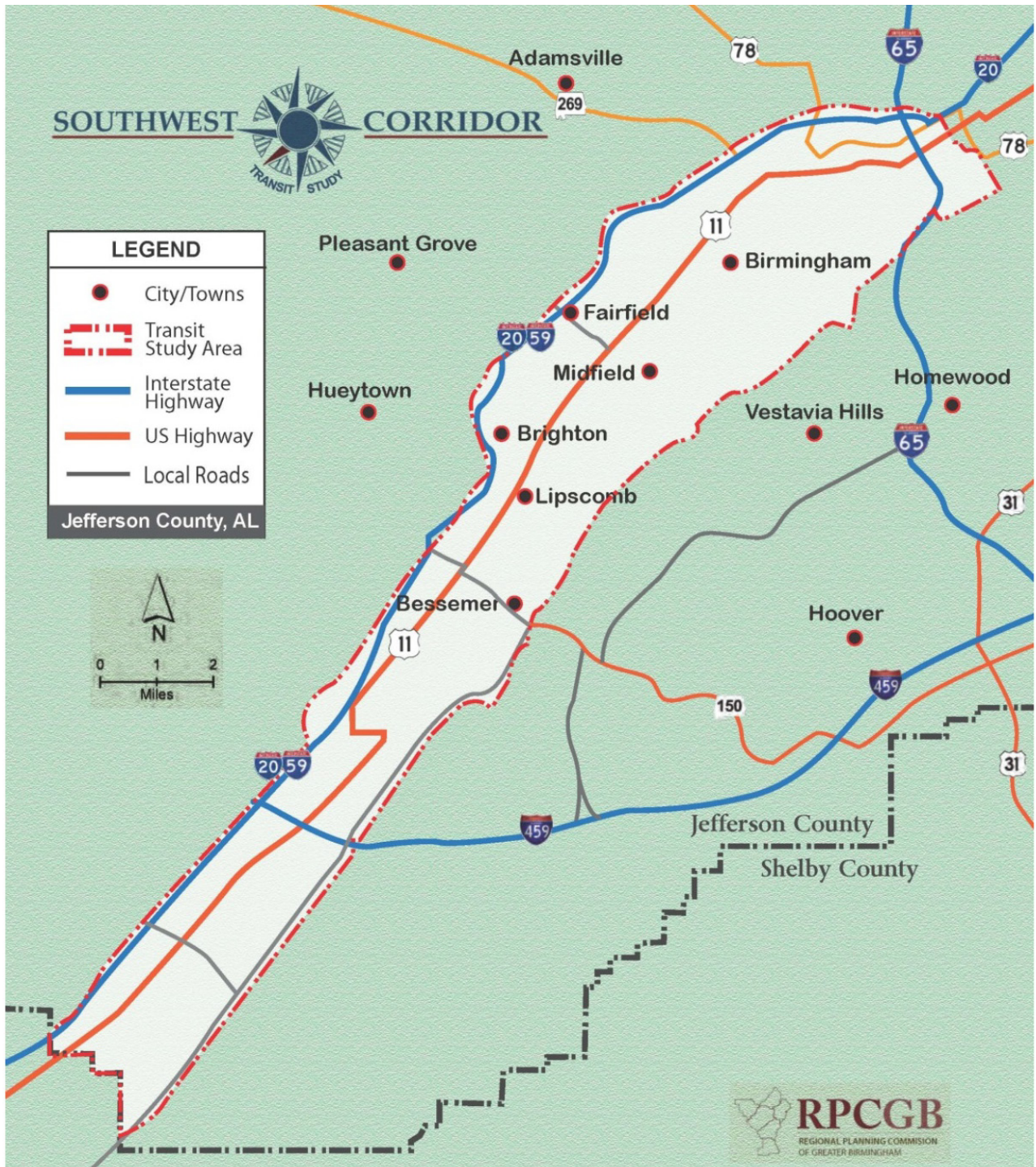
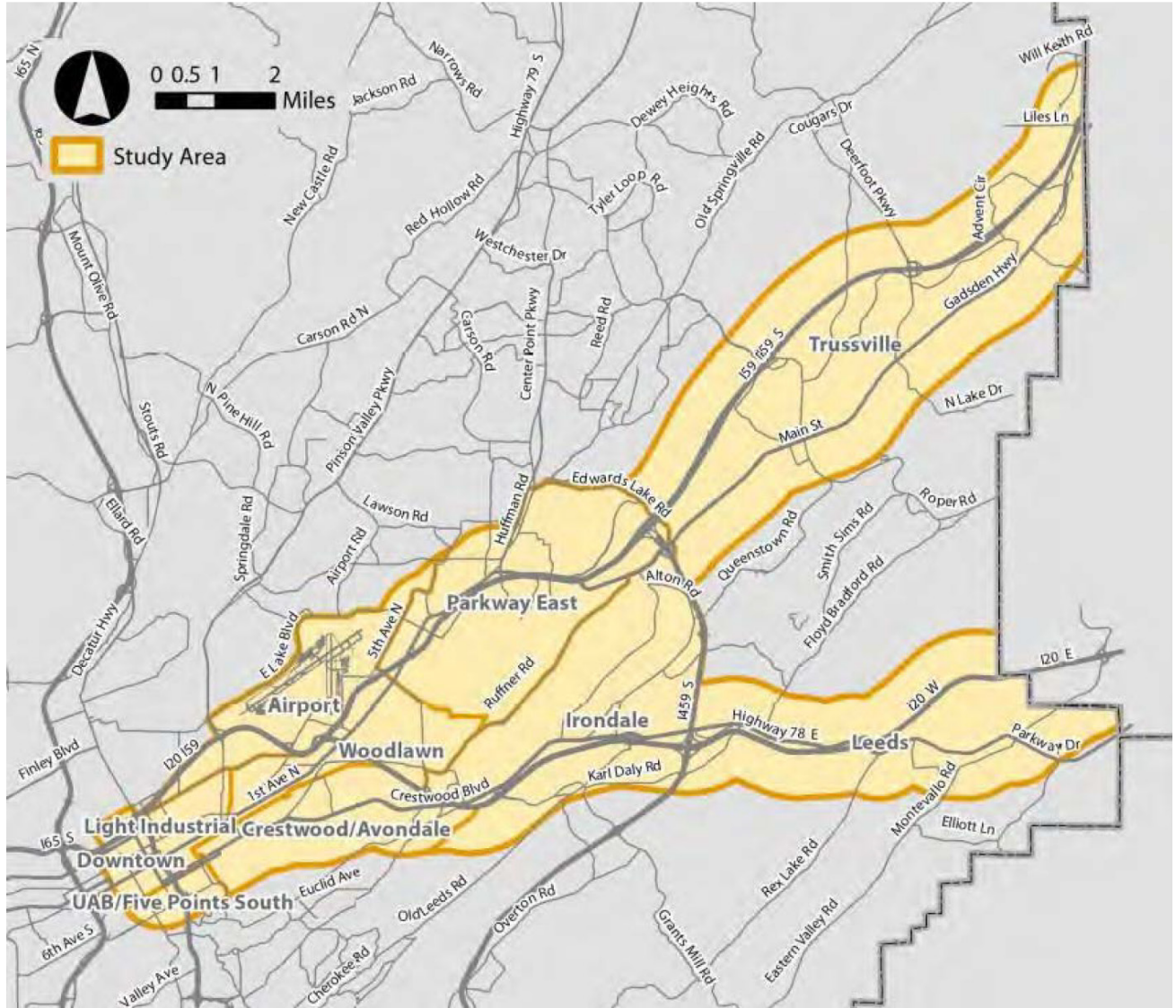


Figure 7. US 11/78 Study Corridor



F. BIRMINGHAM-ATLANTA HIGH SPEED RAIL

The Atlanta-Birmingham corridor extends from the Hartsfield-Jackson Atlanta International Airport (H JIA) to the proposed downtown Atlanta Multi Modal Passenger Terminal (MMPT) and onto Birmingham, Alabama. This particular rail corridor was included in the 1997 High-Speed Ground Transportation for America report and is one of the 11 federally-designated high-speed rail corridors.

Georgia Department of Transportation (GDOT) partnered with the RPCGB to determine the relative feasibility of the corridor with regards to capital costs, funding and financing opportunities, operation and maintenance costs, ridership and revenue, operating ratios, and benefit-cost analysis.

Representative routes for 90-110 mph Shared Use and 180-220 mph Dedicated Use corridor operations were identified based on a technical and stakeholder review of the corridor. The selected routes are shown in Figure 8.

Figure 8. ATL-BHM Proposed Routes and Stations



The study concluded that although the initial investment in high-speed rail is significant, the mobility and economic opportunities offered by this new mode are also significant. Based on the analysis findings, this study determines that high speed rail is feasible in the Atlanta-Birmingham Corridor and would present an opportunity to provide needed transportation solutions and promote economic development. Detailed information regarding this study can be found at <http://www.swcorridor.org/>.

G. BIRMINGHAM-MONTGOMERY PASSENGER RAIL FEASIBILITY STUDY

The purpose of this Birmingham-Montgomery Rail Feasibility Study is to assess the feasibility of passenger rail location and service alternatives and the necessary elements needed to implement a passenger rail system between the two urban corridors. The study provides a detailed evaluation of potential intercity rail alternatives along with an additional commuter rail option serving Birmingham. The study considered concept-level capital, operation and maintenance costs, projected ridership and potential revenue, funding and financing strategies, public and stakeholder support, and an assessment of potential benefits and costs.

The study found that the capital cost for implementation is quite high, but if funding could be obtained, a passenger rail service between the two cities would generate sufficient ridership to make it feasible.

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4. CENSUS TRACT ANALYSIS

The 2010 U.S. Census can be used to compare demographic information, particularly those characteristics that are highly correlated with the need for transit. This type of analysis is useful for determining whether census tracts having transit-dependent characteristics are adequately served by the existing routes. For this analysis, the demographic characteristics used to indicate transit dependence were: under 18 years; over 65 years; households having no vehicle; and persons identified as being at or below the poverty threshold.

The first step in identifying the census tracts that have persons or households with the greatest propensity for transit use involved the calculation of the percent distributions of the four demographic characteristics for each tract. This process resulted in a table of values indicating the percent in each category for each of Jefferson County's census tracts and the City of Birmingham census tracts that are within Shelby County. The census tracts were then sorted for each characteristic in descending order of percent distribution, so the tracts with higher percentages for each characteristic would appear at the top of their respective ranges.

From the percentage ranges, an average percent value and a standard deviation value were calculated for each characteristic. Statistically, the standard deviation is essentially a measure of distance from the average value. For most moderately-sized data sets with a bell-shaped normal distribution, approximately 68 percent of the data values are within one standard deviation of the average and approximately 95 percent of the data values are within two standard deviations of the average. Each of the three characteristic ranges was then stratified into four segments based on the following break points: average, average plus one standard deviation, and average plus two standard deviations. The census tracts fell into one of the following four categories: below average, above average but less than one standard deviation (above average), between one and two standard deviations above average (far above average), and more than two standard deviations above average (significantly above average).

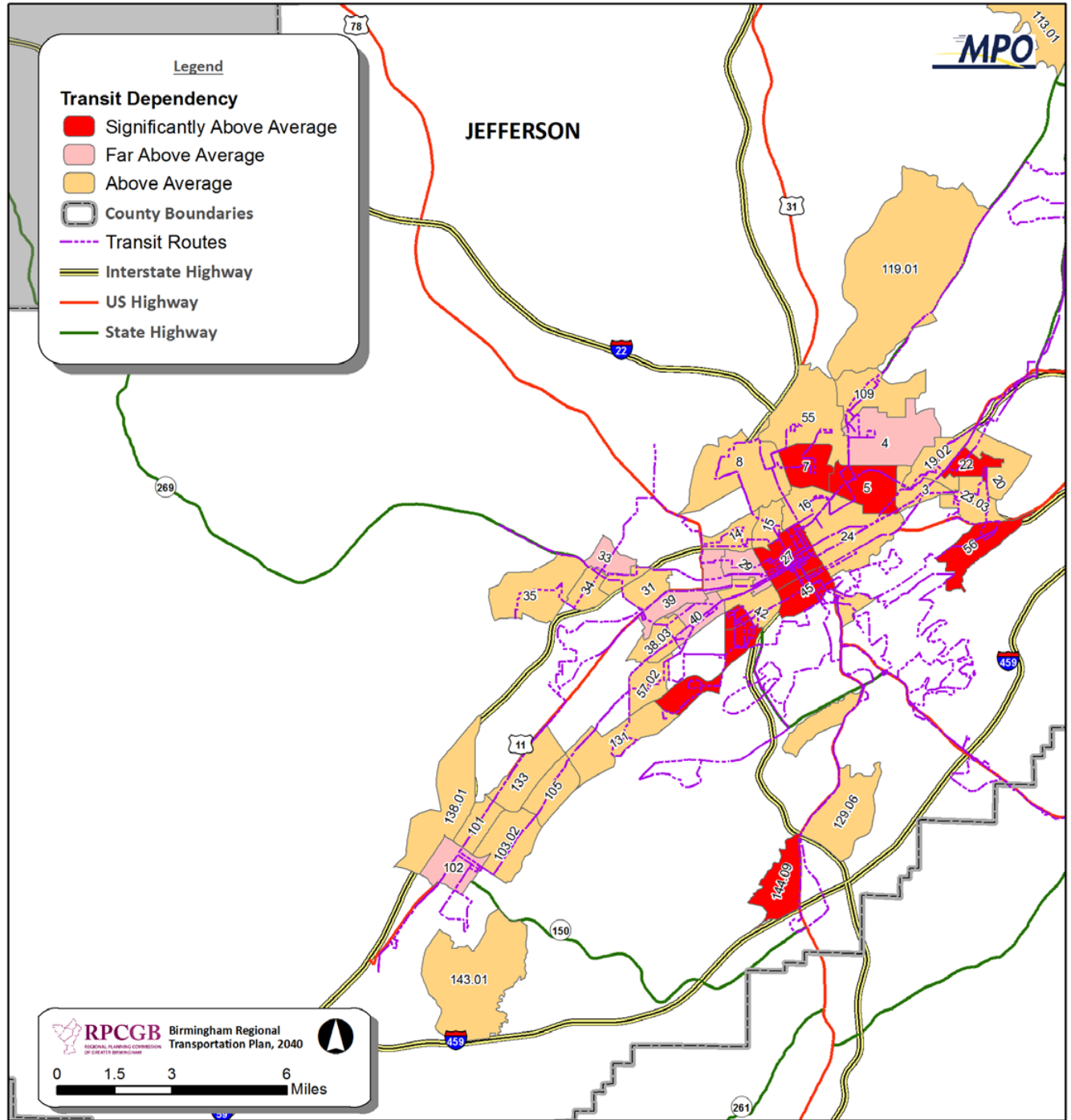
The next step involved the assignment of discrete numerical scores to each of the four categories established for each demographic characteristic. These scores serve two basic purposes: (1) to provide a uniform ranking to all of the tracts within a particular category; and (2) to numerically differentiate among the four categories for each characteristic. A comparative probability estimation method was utilized to develop the scores. First, the probability that a tract would be part of a specific category for a given characteristic was calculated for each category. For example, for the 65 years and over characteristic, 4 of the 166 census tracts are significantly above average. This means that there is a 2.4% percent probability (number of tracts in category ÷ number of total tracts x 100) that one of the tracts would fall within the range established for that category.

After the probabilities were calculated for each characteristic, they were used to estimate scores via comparative probability ratios. That is, the probability percentage for each category was divided into the probability percentage for the below average category. This numerator was selected so that for each characteristic, the census tracts in the below average category would receive a score of 1. Using the significantly above average category of the 65 years and over characteristic as an example, it was determined that the score for this category would be 21.83, since the probability for the below average category was 52.4 percent and this probability divided by the far above average category probability of 2.4 percent equals 21.83.

Finally, composite scores were calculated for the census tracts by summing the individual category scores for each demographic characteristic. The census tracts were then ranked by composite score and stratified into four levels using the same method to develop characteristic categories. The probabilities, final scores for each category, and composite scores are presented in tabular form in the Appendix.

Figure 9 illustrates the primary, secondary, and tertiary transit-dependent census tracts with an over-lay of BJCTA's current fixed-route network. Most of the census tracts listed in the table are served by the existing transit system. Only three of the transit-dependent tracts (113.01, 138.01, and 143.01), all of which are in the tertiary category, are not served by current transit routes. This means that the transit system is providing service to individuals who need it most. In fact, the tracts identified as far above average and significantly above average are generally served by more than one route.

Figure 9. Transit Dependency

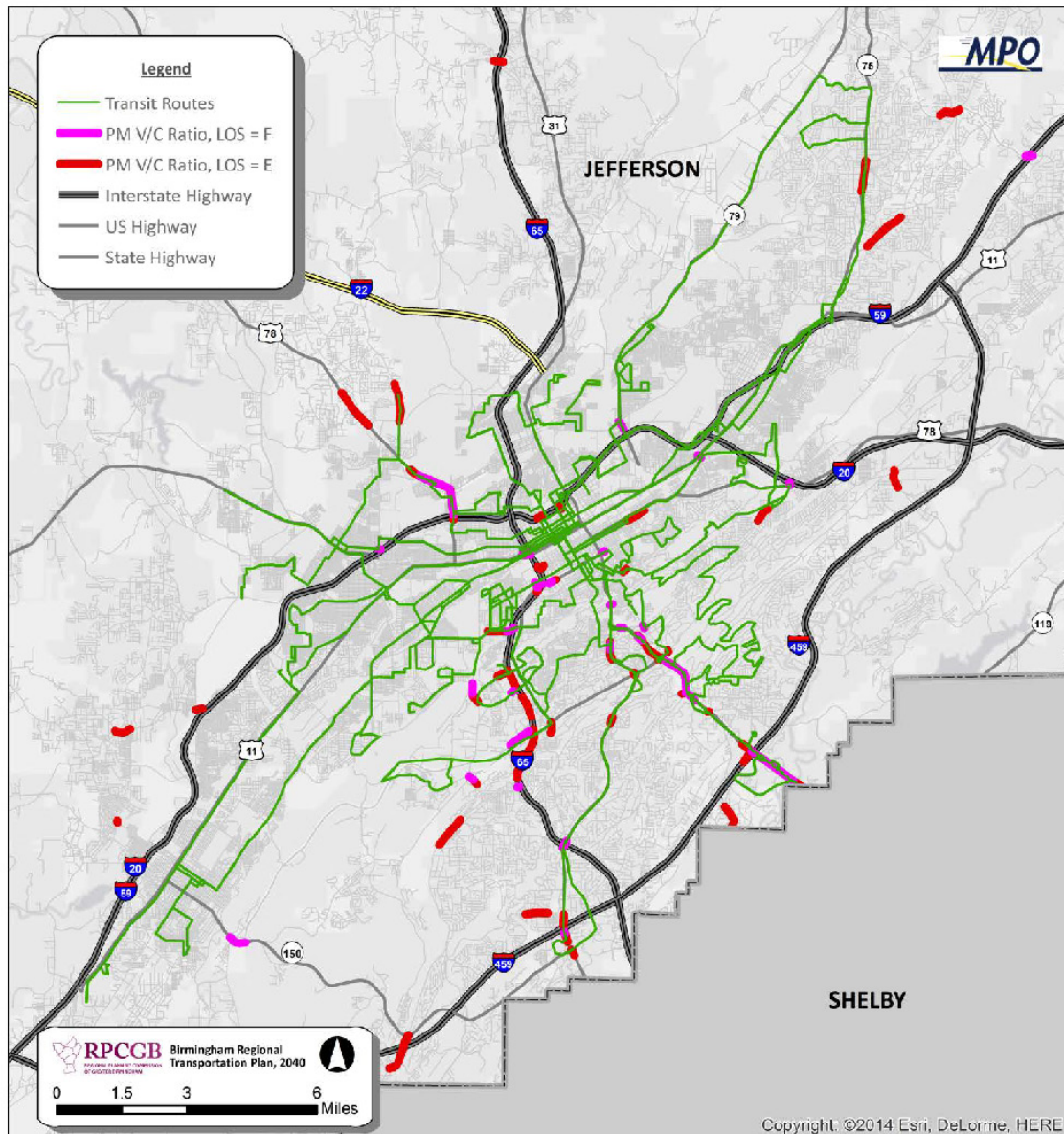


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5. ROADWAY DEFICIENCIES

The RPCGB maintains information about roadway level of service (LOS) in the Birmingham Urbanized Area. Roadway LOS is a qualitative assessment of the flow of traffic using a scale of A to F, with A representing free flowing driving conditions and F meaning that the flow of traffic is interrupted or heavily congested. Figure 10 identifies the transit routes and failing segments. As shown, transit service is provided on most of the failing routes, which indicates a degree of effectiveness in alleviating traffic congestion.

Figure 10. Roadway Level of Service and Transit Routes



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6. SERVICE ALTERNATIVES

Public transportation is not “one size fits all.” Every type of transit has a niche and a travel need that it serves. Planners and politicians who fail to recognize this build projects that fail to meet the needs of the people. A lack of understanding about appropriate transit type may stem from the car culture prevalent in the U.S., where many people have little experience with public transportation.

A motorist can use the same car to drive to a destination three blocks away, across town, or 500 miles away. To go longer distances, most drivers will use a freeway for faster travel while avoiding traffic control devices that exist on at-grade roadways. When traveling 500 miles or more, many prefer to fly rather than drive. Different modes of travel are used, depending on the purpose and distance of travel.

Such decision making also applies when it comes to public transportation. In a number of cities around the world, multiple forms of public transportation can be found. People living in those cities choose different modes based on trip distance and purpose. For example, a rider would not expect a local bus to go fast, as it is designed to serve local destinations. But even with buses, there are a wide variety of uses, depending on whether it is for local service or commuters riding an express bus for 20 or more miles. In the case of the latter, cushier seats and a single door vehicle are often used.

Public transit alternatives are limited only by the extent of one’s ideas. Ideas are usually generated by need and/or problems in an effort to create solutions. Therefore, depending on the situation and location, nearly any proposed option for public transportation could work. Listed below are some of the more common public transportation alternatives that may be viable in this six-county region. As such, rail and subway are not included herein.

A. FIXED ROUTE

Fixed-route bus service is the most prevalent mode of public transportation in the United States. Service is provided along a specific route with scheduled arrival/departure times at predetermined bus stops. One variation for low-density or more rural areas is periodic scheduling, where buses serve different areas on different days of the week. Since the Americans with Disabilities Act of 1990 (ADA), all vehicles used for fixed-route public transportation must be wheelchair accessible.

Fixed-route systems are generally effective in meeting travel demand for intra-urban and suburban-urban trips, but are less useful in generating suburban-suburban and rural trips, as well as trips for the elderly and persons with disabilities. The basic advantages of fixed-route transit are that no reservations are required to access the service, little or no passenger screening or registration is needed (except for discounted fares to certain population segments), and large numbers of people can be transported at one time in a single vehicle. Disadvantages include system access limitations due to predetermined stops and schedules, difficulty of access for seniors and patrons with disabilities, and large buses may be perceived to be aesthetically displeasing, especially in suburban or rural areas.

A.1 EXPRESS BUS

Express fixed route service connects a number of areas with the Central Business District or other major destinations. Service typically operates during morning and afternoon peak travel times.

Routes often use freeways or major arterials and make fewer stops, creating more predictable and faster trips. Upgraded buses are often used, offering comfort and amenities such as Wi-Fi access and luggage racks.

A.2 BUS RAPID TRANSIT (BRT)

BRT is a fixed-route bus mode in which the majority of each line operates in a separated right-of-way dedicated for public transportation use. It provides high-speed bus service, regardless of traffic conditions. It combines the advantages of rail transit with the flexibility and lower capital cost of bus service, often using signal priority to minimize delays at intersections, and has features such as high-quality shelters or off-board ticketing.

A.3 DEVIATED FIXED ROUTE

In a fixed-route system with deviation, a vehicle operates along a fixed route, making scheduled stops. Upon request, vehicles will deviate from the route to pick up and drop off passengers. After deviating from the fixed route, a vehicle returns to the fixed route, serving the following scheduled stop from the point at which it departed. This procedure ensures that the vehicle does not skip any portion of the fixed route. In the event that no requests for deviation are received, the vehicle operates identically to a fixed-route service.

Deviated fixed-route service is most cost effective for use in smaller urban and rural communities. Route deviation may also be appropriate on lengthy routes with long headways and low ridership, or in areas where most origins and destinations are concentrated around a specific corridor. Although the cost per revenue mile of service is often higher for route-deviated systems, the cost per passenger trip is normally less. Cost savings are also realized because it eliminates the necessity for complementary paratransit service along the route. Routes that deviate $\frac{3}{4}$ mile from the fixed route are considered demand responsive, and meet the requirements for provision of service under ADA.

A.4 FIXED ROUTE WITH POINT DEVIATION

Vehicles in point deviation systems serve designated stops or time points on a fixed schedule, but the route that the vehicle takes between time points is determined by the deviation schedule. Point deviation service is similar to demand response service, in that vehicles pick up and drop off passengers at their desired locations. However, point deviation also serves specific points on a fixed schedule. Requests for deviation are made to a system reservationist and/or scheduler. Typically, a limit is set for the number of deviations that can be accommodated within the time point schedule, filled on a first-come, first-served basis.

Point deviation works best in rural or suburban areas and usually operates with smaller vehicles than those used on traditional fixed-routes, due to the need to travel on residential streets. In more urban areas, point deviation may be implemented to provide access to fixed routes utilizing a time transfer system. Like deviated fixed-route service, point deviation is considered to be demand-responsive and does not require additional complementary paratransit service.

B. PARATRANSIT

Paratransit is defined as transportation service that supplements larger public transit systems by providing individualized rides without fixed routes or timetables. Primarily, paratransit service is based on demand and supplements the fixed-route in order to accommodate those persons who are unable to utilize conventional fixed-route bus service. Such services usually require advance reservation.

Paratransit can be used as a feeder to a fixed-route bus system, or can be used where fixed-route ridership or cost effectiveness is low. Demand response service can be provided by taxis, vans or mini-buses. In addition, service can be supplied through contracts with various providers including non-profit agencies, for-profit transportation companies, volunteer organizations, and transit agencies.

Advantages of demand-response include door-to-door (or curb-to-curb) service, the ability to serve a larger geographic area, route flexibility, smaller and more comfortable vehicles, and the accommodation of individuals with special needs. Disadvantages include shared use of the vehicles, no direct travel between individual passenger origin and destination, a high degree of dispatch coordination, increased expenses, higher fares, and longer travel and wait times.



B.1 DIAL-A-RIDE

Dial-A-Ride (DAR) refers to demand-responsive, door-to-door or curb-to-curb service that is provided to the general public without regard to the functional ability of passengers. Customers request a trip in advance, are picked up at their origin, and dropped off at their destination. DAR usually takes one of three forms: (1) many-to-one (many origins to one destination); (2) many-to-few (many origins to a few destinations); or (3) many-to-many (many origins to many destinations). General public DAR is the most personal alternative to fixed-route service, but also the most expensive. DAR meets the requirements for provision of service under ADA and works best in low-density areas.

B.2 FEEDER SERVICE

Feeder service involves picking up passengers at a point of origin and transporting them to a bus stop. Vans or small buses are typically used for feeder service. One segment of the trip—either the portion from home to the stop or the fixed-route portion—is generally fare free. That is, passengers are charged a fare for the demand response portion of their trip and receive a free transfer to the fixed-route system or vice versa. Upon arrival at the stop or station, the passenger disembarks and boards a fixed-route vehicle. The passenger then travels on the bus to a stop closest to the final destination. A third leg requiring feeder service may also be necessary to reach the final destination. Because point-to-point service is provided, careful scheduling is required to minimize wait times at transfer points.

When feeder service is used to provide ADA paratransit service to feed into the fixed-route system, it is important to understand that feeder service is not cost-effective for short trips. The longer the trip, the greater the cost-savings that may result from substituting a portion of the paratransit trip with fixed-route service. Therefore, suburban to urban or rural to urban trips are typically better candidates for feeder service than intra-urban trips.

B.3 SHUTTLE SERVICE

Shuttle Service picks up at one or more designated locations and drops off at one or more designated locations, often on a continuous basis. Usually, they connect major activity centers, such as an airport and downtown, stopping at specified locations, such as hotels or car rental agencies. Shuttle service may also be provided during periods of unusually high demand, like special events, to move people between the event location and parking areas. Shuttles may be free or require a fare.

C. RIDESHARE

When fixed route and/or paratransit service is nonexistent or impractical, other solutions to driving alone may be viable. Ridesharing is the shared use of a vehicle by two or more persons for the purpose of traveling to work, school or other locations. Vehicles used for ridesharing include privately-owned automobiles or vans or publicly-owned vans or buses (carpools, vanpools, or buspools). Trip origins and destinations of riders may vary. Passengers may share fuel, tolls, and parking expenses, and driving may be a rotated duty. Although riders most commonly are people from the same house-hold or neighborhood, a ride matching service operated by employers, a regional commuter assistance program, or transportation agency can facilitate ridesharing arrangements.

An emergency guaranteed ride home program (GRH) is generally considered crucial to success of ride-sharing. Many people are reluctant to rideshare for fear of being stranded at work in case of an emergency. Anxiety over ridesharing is reduced by guaranteeing participants a ride home in the event of a personal emergency or in the event an employee must work overtime. The guaranteed ride can be provided by taxi, short-term auto rental, company-owned car, shuttle service or public transportation.

Ridesharing success is increased when:

- Travelers find others with similar schedules and points of origin and destination
- Parking is unavailable
- Parking is expensive
- A guaranteed ride home program is offered
- Employers subsidize the cost of ridesharing
- Employers offer preferential parking and flexible work schedules for ride sharers

C.1 VANPOOLS

The levels of carrying capacity, flexibility, costs, and convenience are in between those of transit and carpools. A vanpool typically consists of 7 to 15 people traveling together in a passenger van. The commuter vanpool concept typically works best for commuters traveling a distance of at least 20 miles. Vanpools are particularly effective in situations that include outlying work destinations with little or no public transit service. Therefore, commuter vanpools can be an effective alternative for workers with similar trip patterns and schedules. Vanpools may also be effective for employment sites that need workers on shifts that fall outside of a fixed-route service area.



Vanpool programs can earn federal and state formula funding by reporting the mileage to the National Transit Database. This revenue can be greater than the investment in the vanpool program, making the program a revenue generator. CommuteSmart coordinates vanpools in the Birmingham metropolitan area.

C.2 CARPOOLS

Carpooling is defined as two or more persons sharing a ride in a private vehicle. Census data show that, next to driving alone, it is the most prevalent commute alternative in the United States. Carpooling was first encouraged in this country during World War II, due to petroleum and rubber conservation measures. It has been promoted since the 1970's in response to energy crises and as an air quality transportation control measure.

The matching processes for carpoolers range from sophisticated computerized systems to informal arrangements. More effective matching systems usually include information on specific origins and destinations, schedules, and travel routes. A sufficiently large pool of potential commuters is important for securing good matches. Overall, it has been found that organized carpools targeting commuters at the work site seem to be more effective than those focusing on residential areas.



Length of work trip can determine carpool success. Commutes ranging from 15 to 25 miles seem to attract the largest proportion of carpools.

A major advantage of carpooling is that it allows the convenience of a private automobile. In addition, responsibilities for driving are shared among the carpoolers. However, there are some disadvantages when compared to driving alone. These include the necessity for set schedules, the constrained ability for individuals to run errands, and increased commute time (due to picking up additional passengers). In addition, some commuters feel that carpooling deprives them of their private time. CommuteSmart manages the carpool program in the Birmingham metropolitan area.

C.3 JITNEYS

Jitney service usually consists of privately-operated vans carrying up to 15 passengers, operating on semi-fixed routes on a fairly regular basis. Most often, they operate on major thoroughfares, picking up passengers anywhere along the corridor. For an extra charge, they may deviate from the thoroughfare to deliver passengers to their homes. Jitneys usually do not follow a set schedule, but tend to stop less often than vehicles on conventional bus routes.

Jitneys can serve several functions. In major urbanized areas, jitneys operate to relieve overcrowding. In this capacity, jitneys can attract many passengers from the fixed-route public bus system who have been left at the bus stop due to overcrowding. Another role for jitneys is to provide services in low-density areas where existing bus operations do not exist or fall below acceptable minimum standards. In both of these cases, service is usually bid competitively by the transportation operator.

Jitneys can also work with the existing public transportation system by serving as feeders. In this case, jitneys pick up passengers in residential areas and deliver them to the main line of the bus system. Another way jitneys can function is as the primary providers of community-based transit. In this scenario, jitneys connect residents of low-income neighborhoods to medical centers, shopping centers, community activity centers, and other nearby destinations. Finally, jitneys may act as activity center connectors, traveling in and around areas of major commercial activity, such as employment centers and tourist attractions.

D. VOLUNTEER PROGRAMS

Typically, volunteer programs try to match requests for transportation with the geographic area in which the volunteer driver or vehicle is available. This type of program can be effective for trips that are difficult or expensive to provide by using other modes. A volunteer organization can also help in providing an escort service to citizens who live within the service area of a fixed-route or paratransit system, but need assistance in utilizing the service. The retired community is a good resource for volunteers. Volunteers gain personal satisfaction from helping others with restricted mobility. The primary drawback to this type of service, however, is the issue of insurance and liability, as well as the need to locate and retain a pool of reliable volunteers.

Successful volunteer programs are not free. They require an investment of time, resources, and energy. Although there are costs involved with starting and maintaining a successful volunteer program, they are minimal in comparison to relying solely on paid employees. It is important to note that the costs associated with volunteer programs and volunteer laborers are not limited to actual dollars, but also include the investment of time and energy. Critical components of successful volunteer transportation programs include, but are not limited to, organization, recruitment, screening, training, recognition, and possible reimbursement for mileage and/or meals.

In the current climate of federal and state funding cuts in transportation and many social service programs, the use of volunteers within community transportation may prove to be a viable and cost-effective alternative. This situation may become critical in the future, as the demand for transportation continues to grow.

6. FUNDING SOURCES

High quality public transportation can help achieve various planning objectives including congestion reductions, road and parking facility cost savings, consumer savings and affordability, improved mobility for non-drivers, crash reduction, energy conservation and emission reductions support for strategic land use development objectives, and improved public fitness and health. Therefore, public transportation improvements are an important component of strategic transportation planning.

Although federal funds are available to help finance a portion of transit service improvement costs, no funds are available from the State of Alabama, putting an added burden on local funding. This section will identify and evaluate potential public transportation funding options.

A frequently raised objective is the desire for equity or a fair and appropriate distribution of costs and benefits. Equity in transportation projects can be defined and measured using two major categories. *Horizontal equity* refers to the distribution of impacts between people who are similar in wealth, abilities, and needs. It assumes that similar people should be treated equally, which is often interpreted to mean that people should “get what they pay for and pay for what they get,” unless subsidies are specifically justified. *Vertical equity* refers to the distribution of impacts between people who differ in wealth, ability or need. It assumes that cost burdens should be smaller and benefits greater for physically, economically, or socially disadvantaged people. Policies that follow these guidelines are considered to be *progressive*. Those that impose higher cost burdens on disadvantaged people, by comparison, are called *regressive*.

Equity analysis can consider various types of impacts and group people in various ways. For example, road pricing is generally considered regressive, since a given toll represents a larger portion of income to lower income than to higher income motorists. However, lower income people tend to drive less than wealthier people, and they tend to rely more on alternative modes, particularly on major urban corridors. As a result, road pricing may be less regressive than other roadway funding options (such as general taxes), and may be progressive overall if it leads to improved alternative modes, such as increased investment in cycling facilities and transit services.

Horizontal equity means that a program’s beneficiaries bear its costs. Better vertical and horizontal equity can be achieved through reliable public transportation improvements. Some benefits result from the service improvements themselves. Others result if the improvements reduce automobile travel or stimulate more compact development. Direct and indirect benefits to people and businesses include:

- Transit users benefit from improved convenience and comfort, financial savings, and improved safety and health.
- People who live or work near transit services have it available for current or future use.
- Motorists benefit from reduced traffic and parking congestion, improved mobility for non-drivers which improves traffic safety and reduces emissions.
- Businesses benefit from improved employee and customer access, increased pedestrian traffic, reduced traffic congestion and parking costs, improved employee safety and fitness, and increased regional economic development.

Table 2 shows potential funding options and briefly describes the advantages and disadvantages of each.

Table 2. Potential Public Transportation Funding Options

| Option | Description | Advantages | Disadvantages |
|-------------------------|--|---|--|
| Transit Fares | Increase fares or change fare structure to increase revenues | Frequently used Considered equitable Only users pay | May be unaffordable Considered regressive |
| Property Taxes | Increase local property taxes | Frequently used Distributes burden widely | May not be supported by property owners |
| Sales Taxes | Special local sales tax | Distributes burden widely among residents and non-residents | Regressive |
| Fuel Fees | Additional fuel tax in region | Frequently used Reduces traffic and fuel use Only users pay | Considered regressive Too low to cover costs |
| Vehicle Fees | Additional fee for vehicles registered in the region | Charges vehicle owners Applied in some jurisdictions | Does not affect vehicle use |
| Utility Levy | Levy to all utility accounts in the region | Easy to apply Distributes burden widely | Often limited in size Regressive |
| Employee Levy | Levy on each employee within a designated area | Charges commuters | Requires collection system May discourage businesses from locating in the city center |
| Road Tolls | Tolls on roads or bridges | Reduces traffic congestion Only users pay | Costly to implement Increased traffic on parallel routes |
| Vehicle Mileage Tax | Distance-based fee on vehicles registered in the region | Reduces vehicle traffic | Costly to implement May limit freedom of movement Considered regressive |
| Parking Taxes | Special taxes on commercial parking transactions (users pay for parking) | Applied in other cities Discourages driving | May discourage downtown development |
| Parking Levy | Special property tax on parking spaces throughout the region | Large income potential Distributes burden widely Encourages compact development | Costly to implement Opposed by property owners |
| Parking Pricing | Charging motorist to use currently unpriced public parking (such as on-street parking) | Generates revenue | Can be expensive to implement |
| Development Impact Fees | Fee on new development to help finance infrastructure, including transit improvements | Charges beneficiaries | May discourage development |
| Land Value Capture | Special taxes on property that benefits from a rapid transit service | High potential revenues Charges beneficiaries | May be costly to implement May discourage transit-oriented development |
| Station Rents | Collect revenues from public-private development at stations | Charges beneficiaries Benefits renters and users | Limited potential revenues |
| Station Air Rights | Sell rights to build over transit stations | Maximizes use of space | Unsure of potential revenue Costly to implement Nearby land must be developed |
| Advertising | Sell advertising on vehicles and at stations | Frequently used | Limited potential Sometimes unattractive |

A. SUMMARY

Public transportation improvements are a key component of many area plans to improve overall system performance, and usually require additional funding. Based on a review of literature, 18 funding options were identified, including some that are widely utilized and others that are scarcely utilized. It should be noted that equity analysis is subjective, depending on how equity is defined and impacts are measured. From some perspectives, it is most equitable to generate transit improvement funds from a narrowly defined group of beneficiaries, such as users, employers, and station area property owners. However, quality public transit tends to provide multiple, dispersed benefits. Even people who do not currently use public transit benefit from reduced congestion, increased public safety and health, improved mobility options, regional economic development, and environmental quality.

Because each funding option has disadvantages and constraints, and because the analysis is subjective, a variety of local funding sources should be used to finance transit improvements. This will ensure funding stability and make revenues less vulnerable to economic fluctuations. It should also be noted that funding for transit is best when tied to an overall transportation funding strategy that includes roads, sidewalks, bikeways, etc.

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7. PERFORMANCE

In accordance with MAP-21's requirement for performance-based planning, a performance review was conducted for BJCTA's fixed route system. Performance reviews are useful for monitoring and improving transit system performance. Any issues identified from the analysis provide a basis for understanding the "hows" and "whys" of system performance.

To receive federal funds, transit properties are required to submit standardized reports that, when compiled, result in a National Transit Database (NTD) report. This database provides standardized measures of reporting that enable a more accurate comparison of information between properties.

A. MEASURES

The measures that are used throughout the performance review are divided into three major categories: performance, effectiveness, and efficiency. Performance indicators report absolute data in the selected categories that are required by NTD reporting. These tend to be key indicators of overall transit system performance. Effectiveness measures typically refine the data further and indicate the extent to which various service-related goals are being attained. For example, passenger trips per capita is an indicator of the effectiveness of the agency in meeting transportation needs. Efficiency measures involve reviewing the level of resources (labor or cost) required to achieve a given level of output. It is possible to have an efficient service that is not effective or to have an effective service that is not efficient. The substantial amount of data available through NTD reporting provides an opportunity to develop a large number of measures. Listed below are the selected indicators provided in this report for fixed-route transit services.

B. PEER GROUP COMPARISON

Using National Transit Database (NTD) reports from 2012 for fixed route only (MAX), peer systems were chosen based on both operating and service area characteristics. This helps gain perspective on local performance. The two primary decision variables for selecting peer candidates were geographic location and number of vehicles operated in maximum service. Service area population was also considered, but often is not accurately reported. Transit systems that operate in a similar geographic area are typically subjected to many of the same exogenous factors, such as weather, labor costs, historical transit ridership trends, and density. Therefore, the geographic region for this comparison was the southeastern part of the United States. All systems chosen for the peer group were reviewed for reasonableness and extraordinary conditions. Following are the transit systems in the final peer group, excluding BJCTA.

- Charleston, South Carolina
- Little Rock, Arkansas
- Chattanooga, Tennessee
- Greensboro, North Carolina
- Cobb County, Georgia
- Raleigh, North Carolina
- Durham, North Carolina
- Savannah, Georgia
- Knoxville, Tennessee
- Tallahassee, Florida
- Lexington, Kentucky
- Winston-Salem, North Carolina

Table 3 presents BJCTA's value and the peer group minimum, maximum, and median for each measure included in the analysis. Additionally, BJCTA's deviation from the median is also reported as a percentage of the median value.

Table 3. Performance Indicators

| Indicator | BJCTA | Peer Group Minimum | Peer Group Maximum | Peer Group Median | BJCTA % From Median |
|--|------------|--------------------|--------------------|-------------------|---------------------|
| Service Area Population | 354,973 | 162,250 | 510,286 | 265,128 | 33.9% |
| Passenger Trips | 2,734,046 | 2,734,046 | 6,441,622 | 3,838,975 | -28.8% |
| Revenue Miles | 2,718,346 | 1,552,294 | 2,848,262 | 2,432,822 | 11.7% |
| Vehicle Miles | 2,971,675 | 1,586,130 | 3,393,238 | 2,537,951 | 17.1% |
| Route Miles | 2,852,552 | 1,553,792 | 2,852,552 | 2,455,906 | 16.2% |
| Revenue Hours | 223,692 | 133,175 | 223,692 | 190,551 | 17.4% |
| Total Operating Expense | 10,541,103 | 6,158,615 | 12,813,502 | 8,614,812 | 22.4% |
| Total Maintenance Expense | 7,446,099 | 1,780,992 | 7,446,099 | 2,354,164 | 216.3% |
| Vehicles Operated in Maximum Service | 68 | 36 | 81 | 58 | 17.2% |
| Vehicles Available for Maximum Service | 75 | 48 | 111 | 73 | 2.7% |

C. PERFORMANCE INDICATORS

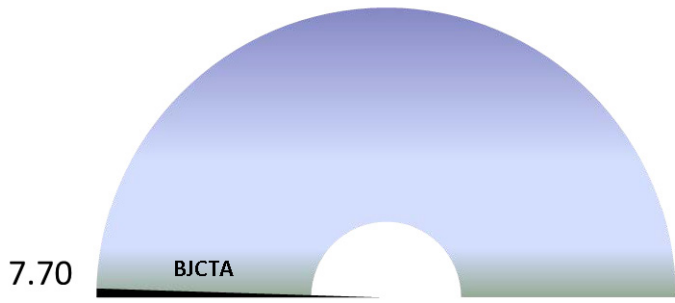
NTD guidelines indicate that service area size and population should be based on a $\frac{3}{4}$ mile boundary around all fixed routes. As mentioned previously, not all systems do this or calculate the boundary correctly. Many systems report county population as a proxy for service area population, even if service is not provided countywide. Caution should be exercised when attempting to interpret service area population and population-based measures.

BJCTA's service area population of 354,973 reveals that it is 33.9 percent greater than the peer group median. Of particular note is BJCTA's ridership and maintenance expense. Ridership is the lowest in its peer group at 28.8 percent below the median, and total maintenance expense is the highest at 216.3 percent above the median.

The following charts and graphs depict peer group measures and BJCTA comparisons for three categories: effectiveness, efficiency, and change over time..

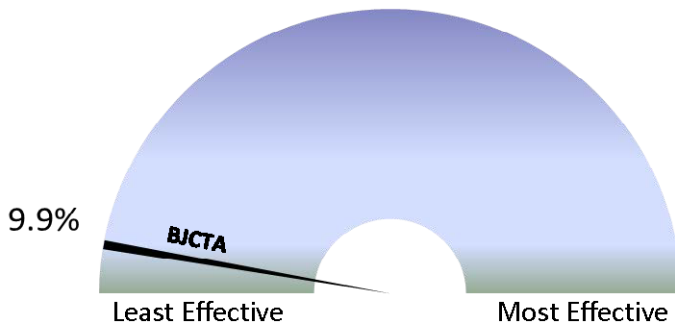
C.1 EFFECTIVENESS MEASURES

BJCTA had the lowest effectiveness or market share when measured by **unlinked trips per capita** in the transit service area, which was 55.5% below the peer group median.



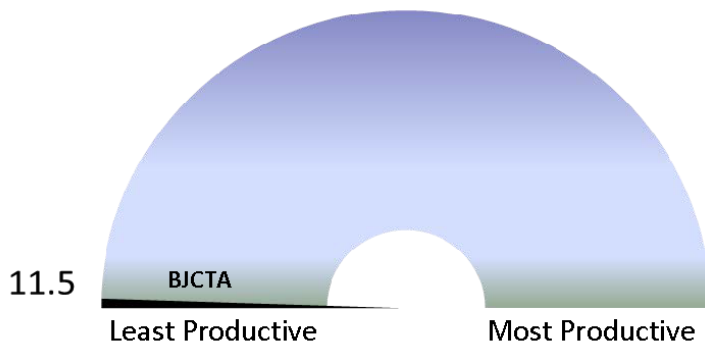
| System | Unlinked Trips per Capita |
|-----------------------|---------------------------|
| Durham, NC | 33.76 |
| Tallahassee, FL | 28.25 |
| Raleigh, NC | 18.52 |
| Knoxville, TN | 17.55 |
| Lexington, KY | 17.43 |
| Little Rock, AR | 17.40 |
| Greensboro, NC | 17.29 |
| Chattanooga, TN | 16.83 |
| Winston-Salem, NC | 16.82 |
| Savannah, GA | 14.48 |
| Charleston, SC | 9.47 |
| Cobb County, GA | 8.41 |
| Birmingham, AL | 7.70 |

Recovery ratio measures the amount of operating expenses paid by passenger fares. BJCTA had the second lowest recovery ratio at 51.5% below the group median.



| System | Recovery Ratio |
|-----------------------|----------------|
| Cobb County, GA | 42.5% |
| Tallahassee, FL | 30.0% |
| Charleston, SC | 25.0% |
| Savannah, GA | 24.9% |
| Greensboro, NC | 21.4% |
| Winston-Salem, NC | 18.5% |
| Durham, NC | 16.7% |
| Little Rock, AR | 15.9% |
| Raleigh, NC | 15.2% |
| Chattanooga, TN | 14.5% |
| Lexington, KY | 14.4% |
| Birmingham, AL | 9.9% |
| Knoxville, TN | 8.1% |

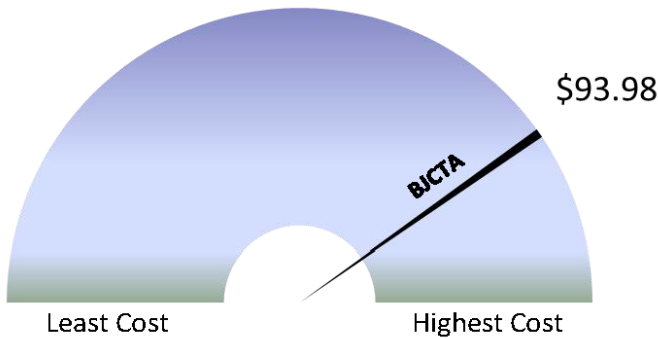
Productivity is measured by **riders per revenue vehicle hour**. BJCTA was the lowest in the peer group at 46.5% below the median.



| System | Riders per Revenue Hour |
|-----------------------|-------------------------|
| Durham, NC | 32.1 |
| Raleigh, NC | 27.7 |
| Greensboro, NC | 27.4 |
| Lexington, KY | 25.5 |
| Winston-Salem, NC | 24.7 |
| Charleston, SC | 23.1 |
| Tallahassee, FL | 21.5 |
| Cobb County, GA | 21.0 |
| Chattanooga, TN | 20.4 |
| Savannah, GA | 18.7 |
| Knoxville, TN | 17.1 |
| Little Rock, AR | 16.7 |
| Birmingham, AL | 11.5 |

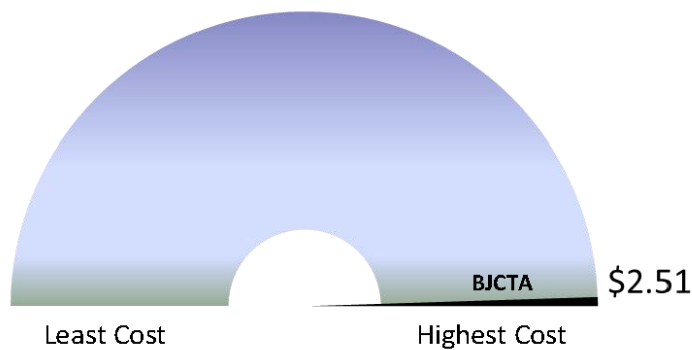
C.2 EFFICIENCY MEASURES

BJCTA had a **cost per revenue vehicle hour** of \$93.98, only 12.8% above the median.



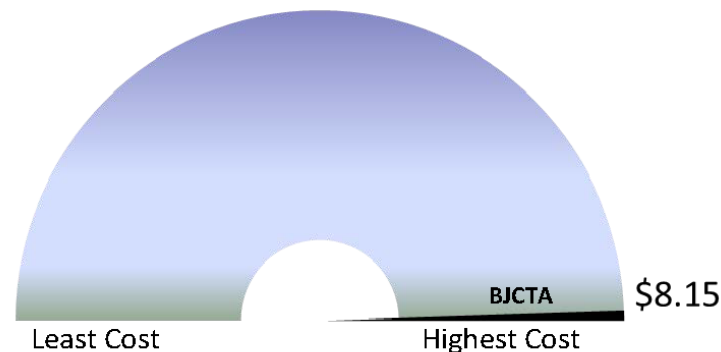
| System | Cost per Revenue Hour |
|-----------------------|-----------------------|
| Tallahassee, FL | \$ 64.40 |
| Savannah, GA | \$ 65.14 |
| Charleston, SC | \$ 68.63 |
| Winston-Salem, NC | \$ 73.79 |
| Little Rock, AR | \$ 74.37 |
| Cobb County, GA | \$ 79.45 |
| Raleigh, NC | \$ 83.28 |
| Durham, NC | \$ 86.01 |
| Greensboro, NC | \$ 89.68 |
| Lexington, KY | \$ 89.87 |
| Birmingham, AL | \$ 93.98 |
| Knoxville, TN | \$101.43 |
| Chattanooga, TN | \$101.58 |

Due to aging buses and prior maintenance practices, BJCTA had the highest **maintenance expense per vehicle mile**, 141.3% above the median and 55.9% above the closest peer.



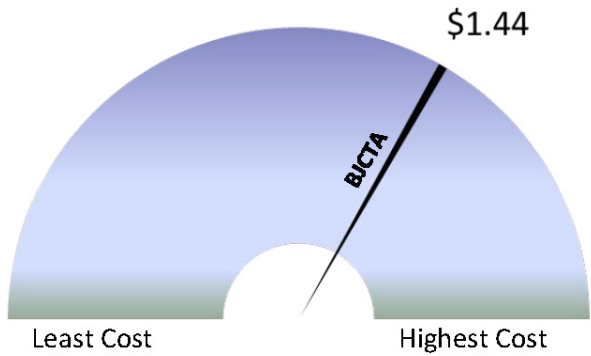
| System | Maintenance Expense per Mile |
|-----------------------|------------------------------|
| Cobb County, GA | \$0.54 |
| Raleigh, NC | \$0.82 |
| Durham, NC | \$0.82 |
| Little Rock, AR | \$0.96 |
| Savannah, GA | \$0.97 |
| Tallahassee, FL | \$1.04 |
| Greensboro, NC | \$1.04 |
| Winston-Salem, NC | \$1.12 |
| Chattanooga, TN | \$1.15 |
| Charleston, SC | \$1.42 |
| Lexington, KY | \$1.58 |
| Knoxville, TN | \$1.61 |
| Birmingham, AL | \$2.51 |

BJCTA had the highest **cost per passenger trip**, 134.2% above the peer group mean and 37.2% higher than its closest peer



| System | Cost per Trip |
|-----------------------|---------------|
| Durham, NC | \$2.68 |
| Charleston, SC | \$2.97 |
| Winston-Salem, NC | \$2.99 |
| Tallahassee, FL | \$2.99 |
| Raleigh, NC | \$3.01 |
| Greensboro, NC | \$3.28 |
| Savannah, GA | \$3.48 |
| Lexington, KY | \$3.53 |
| Cobb County, GA | \$3.78 |
| Little Rock, AR | \$4.45 |
| Chattanooga, TN | \$4.98 |
| Knoxville, TN | \$5.94 |
| Birmingham, AL | \$8.15 |

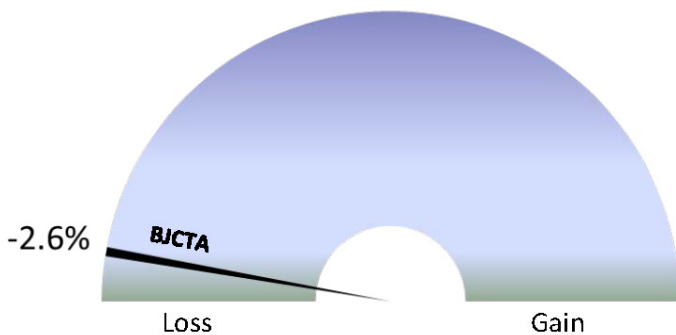
BJCTA's average passenger trip length at 5.7 miles is longer than most of the other peer systems. This contributes, in part, to the higher **cost per passenger mile**.



| System | Cost per Passenger Mile |
|-----------------------|-------------------------|
| Cobb County, GA | \$0.49 |
| Raleigh, NC | \$0.65 |
| Durham, NC | \$0.74 |
| Greensboro, NC | \$0.76 |
| Little Rock, AR | \$0.80 |
| Charleston, SC | \$0.80 |
| Lexington, KY | \$0.96 |
| Tallahassee, FL | \$0.97 |
| Savannah, GA | \$1.00 |
| Winston-Salem, NC | \$1.35 |
| Birmingham, AL | \$1.44 |
| Chattanooga, TN | \$1.49 |
| Knoxville, TN | \$1.93 |

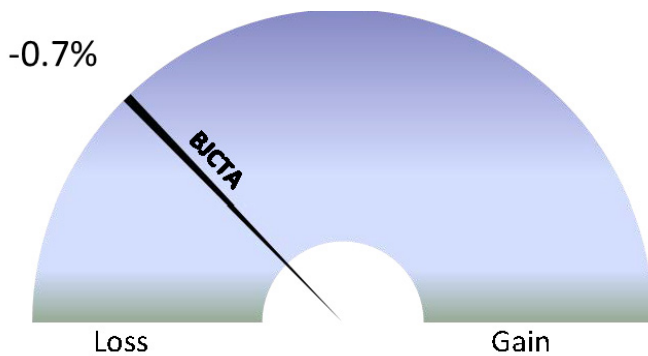
C.3 CHANGE

From 2007 to 2012, BJCTA's **annual ridership** dropped by an average of 2.6 percent per year.



| System | Annual Change in Ridership |
|-----------------------|----------------------------|
| Charleston, SC | 10.3% |
| Raleigh, NC | 9.5% |
| Durham, NC | 6.2% |
| Little Rock, AR | 4.7% |
| Greensboro, NC | 4.0% |
| Winston-Salem, NC | 3.9% |
| Chattanooga, TN | 2.3% |
| Tallahassee, FL | 2.1% |
| Savannah, GA | 0.2% |
| Knoxville, TN | -0.6% |
| Lexington, KY | -1.4% |
| Birmingham, AL | -2.6% |
| Cobb County, GA | -4.0% |

From 2007 to 2012, BJCTA's **annual revenue hours** dropped by an average of 0.7 percent per year.



| System | Annual Change in Revenue Hours |
|-----------------------|--------------------------------|
| Tallahassee, FL | 8.2% |
| Greensboro, NC | 4.3% |
| Raleigh, NC | 3.8% |
| Winston-Salem, NC | 2.9% |
| Lexington, KY | 2.5% |
| Durham, NC | 2.4% |
| Savannah, GA | 0.8% |
| Little Rock, AR | 0.6% |
| Cobb County, GA | 0.4% |
| Charleston, SC | -0.6% |
| Birmingham, AL | -0.7% |
| Chattanooga, TN | -2.6% |
| Knoxville, TN | -4.2% |

D. STANDARDS

The most common methods used to establish performance standards for a local public transit system are trend analysis, industry standards, and peers comparison. While these may be good starting points, development of local performance standards is fairly subjective and dependent upon the needs and desires of local residents and constituencies. This is particularly true in Birmingham, where current fixed-route performance indicators are well below industry standards and peers, but the service fills a gap for many residents. Therefore, the performance standards set forth herein are not intended as achievable goals, but as minimum thresholds to direct the transit agency's review of routes, operations, policies, and procedures.

| Measure | Standard |
|-----------------------------|--------------|
| Passengers per Revenue Hour | Minimum 8 |
| Expense per Rider | Maximum \$10 |
| Farebox Recovery Ratio | Minimum 10% |

Each route should be measured on the basis of performance, rather than measuring the system as a whole. Routes that demonstrate a trend of declining productivity or routes that are performing outside the standard thresholds should be analyzed to identify problem areas and ways to improve performance. Additionally, an assessment of route segments should be conducted to identify specific areas of a route with low ridership. Low ridership segments should then be targeted for service changes.

E. GOALS

In support of the livability principles adopted by the United States Department of Transportation, the Greater Birmingham Regional Transportation Plan (RTP) has adopted four goals. Public transit benefits everyone and is a key factor in ensuring the livability principles and RTP goals become a reality.

Goal 1: Improve the Region's Quality of Life

Transit eases congestion and reduces emissions, which means cleaner air and a better quality of life.

Goal 2: Ensure Development of a Sustainable Regional Transportation System

Transit helps extend the life of the transportation system, making it more sustainable.

Goal 3: Align the RTP's Investments & Policies to Support Economic Growth & Global Competitiveness

Transit provides an alternate choice for mobility, giving residents the option of automobile ownership. Money saved by using transit allows for greater disposable income, leading to economic prosperity.

Goal 4: Implement Transportation Projects and Programs

Transit implements and encourages multimodal transportation.

8. LIVABILITY PRINCIPLES & METRICS

The USDOT has adopted six livability principles in an effort to increase transportation choices and access to public transportation services for all Americans.

Principle 1: Provide more transportation choices to decrease household transportation costs, reduce our dependence on oil, improve air quality and promote public health.

Metric: All six counties in the region offer some type of public transportation choice. In the rural counties, it is through the 5311 program. In Jefferson and Shelby counties the following choices are available:

- Fixed route service with complementary ADA
- Section 5310 in the urbanized area for individuals who are elderly or disabled
- Section 5311 in the rural areas
- Private taxicabs
- Nonprofit agencies offering transportation to their clients
- Churches running shuttle services to specified locations

Principle 2: Expand location and energy-efficient housing choices for people of all ages, incomes, races and ethnicities to increase mobility and lower the combined cost of housing and transportation

Metric: For the fixed route service, total passenger trips in 2012 were 2,734,046 serving people of diverse incomes, ages, and races.

Principle 3: Improve economic competitiveness of neighborhoods by giving people reliable access to employment centers, educational opportunities, services and other basic needs.

Metric: There are over 507 route miles currently served by fixed route transit, affording people wide access to a variety of destinations for a variety of purposes

Principle 4: Target federal funding toward existing communities through transit-oriented and land recycling to revitalize communities, reduce public works costs, and safeguard rural landscapes

Metric: Currently receiving various federal grants for public transportation, including FTA 5307, 5309, 5310, 5311, and 5339.

Principle 5: Align federal policies and funding to remove barriers to collaboration, leverage funding and increase the effectiveness of programs to plan for future growth.

Metric: RPCGB and BJCTA are working toward a mobility management center that combines 5310 and ADA paratransit scheduling.

Principle 6: Enhance the unique characteristics of all communities by investing in healthy, safe and walkable neighborhoods, whether rural, urban or suburban.

Metric: Transit encourages sidewalks, accessibility, and walkability to and from stops.

TRANSIT DEMOGRAPHICS BY CENSUS TRACT FOR BIRMINGHAM AND JEFFERSON COUNTY

| Tract | % Under 18 | Under 18 Score | % Over 65 | Over 65 Score | % 0 Vehicle HH | 0 Vehicle Score | % Poverty | Poverty Score | Composite Score | Tract | Composite Score |
|--------|------------|----------------|-----------|---------------|----------------|-----------------|-----------|---------------|-----------------|--------|-----------------|
| 7 | 38.28% | 39.17 | 11.91% | 1.00 | 38.05% | 10.51 | 53.70% | 13.56 | 64.24 | 7 | 64.24 |
| 22 | 35.12% | 39.17 | 7.04% | 1.00 | 10.48% | 1.00 | 20.20% | 2.32 | 43.49 | 22 | 43.49 |
| 51.01 | 29.90% | 4.10 | 12.70% | 1.00 | 21.49% | 10.51 | 39.40% | 13.56 | 29.17 | 51.01 | 29.17 |
| 51.03 | 17.63% | 1.00 | 27.60% | 21.83 | 21.72% | 2.92 | 44.00% | 2.32 | 28.07 | 51.03 | 28.07 |
| 130.02 | 17.33% | 1.00 | 27.33% | 21.83 | 0.41% | 1.00 | 3.70% | 4.13 | 27.96 | 130.02 | 27.96 |
| 5 | 29.66% | 4.10 | 13.97% | 1.53 | 23.71% | 7.00 | 39.00% | 13.56 | 26.19 | 5 | 26.19 |
| 27 | 10.97% | 1.00 | 9.45% | 1.00 | 10.72% | 10.51 | 29.80% | 13.56 | 26.07 | 27 | 26.07 |
| 45 | 6.33% | 1.00 | 5.85% | 1.00 | 14.95% | 10.51 | 43.60% | 13.56 | 26.07 | 45 | 26.07 |
| 144.09 | 17.04% | 1.00 | 32.35% | 21.83 | 14.61% | 1.00 | 28.60% | 1.00 | 24.83 | 144.09 | 24.83 |
| 56 | 14.11% | 1.00 | 26.63% | 21.83 | 22.33% | 1.00 | 36.10% | 1.00 | 24.83 | 56 | 24.83 |
| 40 | 28.01% | 1.15 | 11.10% | 1.00 | 9.69% | 7.00 | 43.40% | 13.56 | 22.71 | 40 | 22.71 |
| 30.02 | 24.58% | 1.15 | 20.47% | 4.83 | 13.10% | 10.51 | 28.10% | 4.13 | 20.62 | 30.02 | 20.62 |
| 29 | 16.42% | 1.00 | 21.36% | 4.83 | 13.25% | 10.51 | 19.00% | 4.13 | 20.47 | 29 | 20.47 |
| 4 | 27.88% | 1.15 | 9.85% | 1.00 | 18.71% | 2.92 | 38.40% | 13.56 | 18.63 | 4 | 18.63 |
| 102 | 21.16% | 1.00 | 16.11% | 1.53 | 4.05% | 10.51 | 9.80% | 4.13 | 17.17 | 102 | 17.17 |
| 33 | 17.97% | 1.00 | 18.68% | 4.83 | 17.50% | 7.00 | 28.80% | 4.13 | 16.96 | 33 | 16.96 |
| 39 | 27.12% | 1.15 | 9.89% | 1.00 | 14.47% | 10.51 | 34.20% | 4.13 | 16.79 | 39 | 16.79 |
| 103.02 | 34.14% | 4.10 | 11.17% | 1.00 | 1.62% | 7.00 | 4.10% | 4.13 | 16.23 | 103.02 | 16.23 |
| 19.02 | 33.08% | 4.10 | 10.48% | 1.00 | 9.96% | 7.00 | 22.00% | 4.13 | 16.23 | 19.02 | 16.23 |
| 42 | 11.16% | 1.00 | 17.96% | 1.53 | 13.40% | 10.51 | 42.20% | 2.32 | 15.36 | 42 | 15.36 |
| 8 | 17.17% | 1.00 | 21.98% | 4.83 | 34.19% | 7.00 | 48.80% | 2.32 | 15.15 | 8 | 15.15 |
| 3 | 23.96% | 1.15 | 6.64% | 1.00 | 12.67% | 10.51 | 24.10% | 2.32 | 14.98 | 3 | 14.98 |
| 16 | 23.89% | 1.15 | 18.42% | 1.53 | 10.13% | 7.00 | 25.90% | 4.13 | 13.81 | 16 | 13.81 |
| 57.02 | 21.81% | 1.00 | 18.38% | 1.53 | 32.01% | 7.00 | 40.50% | 4.13 | 13.66 | 57.02 | 13.66 |
| 101 | 24.57% | 1.15 | 11.84% | 1.00 | 2.11% | 7.00 | 11.20% | 4.13 | 13.28 | 101 | 13.28 |
| 34 | 27.90% | 1.15 | 7.27% | 1.00 | 18.23% | 7.00 | 21.80% | 4.13 | 13.28 | 34 | 13.28 |
| 24 | 24.66% | 1.15 | 7.60% | 1.00 | 17.95% | 7.00 | 27.60% | 4.13 | 13.28 | 24 | 13.28 |
| 15 | 19.03% | 1.00 | 10.92% | 1.00 | 10.04% | 7.00 | 20.10% | 4.13 | 13.13 | 15 | 13.13 |
| 32 | 15.77% | 1.00 | 12.83% | 1.00 | 18.36% | 7.00 | 18.50% | 4.13 | 13.13 | 32 | 13.13 |
| 109 | 33.72% | 4.10 | 12.90% | 1.00 | 0.78% | 2.92 | 6.40% | 4.13 | 12.15 | 109 | 12.15 |
| 23.03 | 30.88% | 4.10 | 6.77% | 1.00 | 10.40% | 2.92 | 23.40% | 4.13 | 12.15 | 23.03 | 12.15 |
| 105 | 24.05% | 1.15 | 16.49% | 1.53 | 0.66% | 7.00 | 6.20% | 2.32 | 12.00 | 105 | 12.00 |
| 55 | 21.82% | 1.00 | 18.41% | 1.53 | 26.65% | 7.00 | 35.20% | 2.32 | 11.85 | 55 | 11.85 |
| 119.01 | 19.25% | 1.00 | 20.76% | 4.83 | 4.26% | 2.92 | 8.30% | 2.32 | 11.07 | 119.01 | 11.07 |
| 14 | 21.91% | 1.00 | 23.61% | 4.83 | 4.15% | 2.92 | 12.30% | 2.32 | 11.07 | 14 | 11.07 |
| 35 | 30.77% | 4.10 | 8.01% | 1.00 | 13.10% | 2.92 | 28.90% | 2.32 | 10.34 | 35 | 10.34 |

Significantly Above Average

Far Above Average

**TRANSIT DEMOGRAPHICS BY CENSUS TRACT FOR
BIRMINGHAM AND JEFFERSON COUNTY (CONTINUED)**

| Tract | % Under 18 | Under 18 Score | % Over 65 | Over 65 Score | % 0 Vehicle HH | 0 Vehicle Score | % Poverty | Poverty Score | Composite Score | Tract | Composite Score |
|--------|------------|----------------|-----------|---------------|----------------|-----------------|-----------|---------------|-----------------|---------------|-----------------|
| 113.01 | 21.74% | 1.00 | 18.62% | 4.83 | 4.91% | 2.92 | 5.40% | 1.00 | 9.75 | 113.01 | 9.75 |
| 129.06 | 22.65% | 1.00 | 19.15% | 4.83 | 7.03% | 2.92 | 13.20% | 1.00 | 9.75 | 129.06 | 9.75 |
| 129.14 | 16.42% | 1.00 | 22.82% | 4.83 | 5.99% | 2.92 | 12.00% | 1.00 | 9.75 | 129.14 | 9.75 |
| 143.01 | 20.16% | 1.00 | 23.64% | 4.83 | 3.37% | 2.92 | 29.20% | 1.00 | 9.75 | 143.01 | 9.75 |
| 48 | 8.46% | 1.00 | 21.58% | 4.83 | 20.68% | 2.92 | 37.70% | 1.00 | 9.75 | 48 | 9.75 |
| 131 | 25.11% | 1.15 | 18.54% | 1.53 | 2.31% | 2.92 | 13.80% | 4.13 | 9.73 | 131 | 9.73 |
| 138.01 | 23.12% | 1.15 | 16.41% | 1.53 | 7.04% | 2.92 | 16.00% | 4.13 | 9.73 | 138.01 | 9.73 |
| 38.03 | 24.01% | 1.15 | 15.72% | 1.53 | 15.66% | 2.92 | 24.10% | 4.13 | 9.73 | 38.03 | 9.73 |
| 133 | 19.70% | 1.00 | 18.25% | 1.53 | 5.02% | 2.92 | 4.10% | 4.13 | 9.58 | 133 | 9.58 |
| 20 | 24.51% | 1.15 | 9.96% | 1.00 | 11.28% | 2.92 | 22.10% | 4.13 | 9.20 | 20 | 9.20 |
| 31 | 21.65% | 1.00 | 12.44% | 1.00 | 13.17% | 2.92 | 22.20% | 4.13 | 9.05 | 31 | 9.05 |
| 112.1 | 33.54% | 4.10 | 6.19% | 1.00 | 3.60% | 1.00 | 9.70% | 2.32 | 8.42 | 112.1 | 8.42 |
| 112.07 | 33.07% | 4.10 | 7.53% | 1.00 | 4.74% | 1.00 | 10.00% | 2.32 | 8.42 | 112.07 | 8.42 |
| 59.08 | 30.15% | 4.10 | 12.01% | 1.00 | 29.78% | 1.00 | 45.70% | 2.32 | 8.42 | 59.08 | 8.42 |
| 117.05 | 24.64% | 1.15 | 19.08% | 4.83 | 0.00% | 1.00 | 3.00% | 1.00 | 7.98 | 117.05 | 7.98 |
| 129.05 | 25.71% | 1.15 | 20.93% | 4.83 | 2.55% | 1.00 | 2.70% | 1.00 | 7.98 | 129.05 | 7.98 |
| 123.04 | 27.96% | 1.15 | 19.12% | 4.83 | 3.10% | 1.00 | 7.90% | 1.00 | 7.98 | 123.04 | 7.98 |
| 11 | 26.65% | 1.15 | 16.59% | 1.53 | 1.17% | 2.92 | 11.60% | 2.32 | 7.92 | 11 | 7.92 |
| 103.01 | 24.71% | 1.15 | 13.68% | 1.53 | 5.31% | 2.92 | 14.10% | 2.32 | 7.92 | 103.01 | 7.92 |
| 141.04 | 25.15% | 1.15 | 16.55% | 1.53 | 5.96% | 2.92 | 22.40% | 2.32 | 7.92 | 141.04 | 7.92 |
| 129.15 | 21.50% | 1.00 | 19.35% | 4.83 | 4.23% | 1.00 | 1.90% | 1.00 | 7.83 | 129.15 | 7.83 |
| 100.01 | 22.69% | 1.00 | 20.65% | 4.83 | 1.85% | 1.00 | 6.40% | 1.00 | 7.83 | 100.01 | 7.83 |
| 139.02 | 20.59% | 1.00 | 20.82% | 4.83 | 0.00% | 1.00 | 13.10% | 1.00 | 7.83 | 139.02 | 7.83 |
| 123.02 | 18.18% | 1.00 | 19.57% | 4.83 | 2.86% | 1.00 | 16.00% | 1.00 | 7.83 | 123.02 | 7.83 |
| 112.05 | 12.48% | 1.00 | 21.31% | 4.83 | 2.13% | 1.00 | 17.20% | 1.00 | 7.83 | 112.05 | 7.83 |
| 117.06 | 22.11% | 1.00 | 15.03% | 1.53 | 0.98% | 2.92 | 6.60% | 2.32 | 7.77 | 117.06 | 7.77 |
| 104.01 | 19.85% | 1.00 | 14.86% | 1.53 | 1.76% | 2.92 | 8.50% | 2.32 | 7.77 | 104.01 | 7.77 |
| 12 | 17.12% | 1.00 | 18.09% | 1.53 | 2.35% | 2.92 | 9.20% | 2.32 | 7.77 | 12 | 7.77 |
| 52 | 22.00% | 1.00 | 17.15% | 1.53 | 23.89% | 2.92 | 41.30% | 2.32 | 7.77 | 52 | 7.77 |
| 108.02 | 30.75% | 4.10 | 14.09% | 1.53 | 0.55% | 1.00 | 3.80% | 1.00 | 7.63 | 108.02 | 7.63 |
| 106.02 | 28.53% | 1.15 | 11.32% | 1.00 | 0.37% | 2.92 | 4.70% | 2.32 | 7.39 | 106.02 | 7.39 |
| 129.12 | 27.44% | 1.15 | 6.79% | 1.00 | 0.77% | 2.92 | 9.50% | 2.32 | 7.39 | 129.12 | 7.39 |
| 136.01 | 25.29% | 1.15 | 12.56% | 1.00 | 1.62% | 2.92 | 17.10% | 2.32 | 7.39 | 136.01 | 7.39 |
| 38.02 | 25.46% | 1.15 | 9.26% | 1.00 | 11.49% | 2.92 | 20.40% | 2.32 | 7.39 | 38.02 | 7.39 |
| 37 | 28.68% | 1.15 | 6.96% | 1.00 | 18.85% | 2.92 | 25.80% | 2.32 | 7.39 | 37 | 7.39 |
| 57.01 | 26.09% | 1.15 | 12.18% | 1.00 | 24.34% | 2.92 | 32.10% | 2.32 | 7.39 | 57.01 | 7.39 |
| 23.05 | 18.66% | 1.00 | 8.67% | 1.00 | 11.19% | 2.92 | 24.70% | 2.32 | 7.24 | 23.05 | 7.24 |
| 49.02 | 10.50% | 1.00 | 4.41% | 1.00 | 27.50% | 2.92 | 37.70% | 2.32 | 7.24 | 49.02 | 7.24 |
| | | | | | | | | | | Above Average | |

TRANSIT DEMOGRAPHICS BY CENSUS TRACT FOR BIRMINGHAM AND JEFFERSON COUNTY (CONTINUED)

| Tract | % Under 18 | Under 18 Score | % Over 65 | Over 65 Score | % 0 Vehicle HH | 0 Vehicle Score | % Poverty | Poverty Score | Composite Score | Tract | Composite Score |
|--------|------------|----------------|-----------|---------------|----------------|-----------------|-----------|---------------|-----------------|--------|-----------------|
| 107.02 | 29.65% | 4.10 | 8.81% | 1.00 | 1.26% | 1.00 | 2.20% | 1.00 | 7.10 | 107.02 | 7.10 |
| 113.02 | 29.22% | 4.10 | 11.58% | 1.00 | 6.23% | 1.00 | 1.00% | 1.00 | 7.10 | 113.02 | 7.10 |
| 127.03 | 30.94% | 4.10 | 7.06% | 1.00 | 6.28% | 1.00 | 10.60% | 1.00 | 7.10 | 127.03 | 7.10 |
| 118.02 | 31.51% | 4.10 | 12.62% | 1.00 | 3.89% | 1.00 | 8.80% | 1.00 | 7.10 | 118.02 | 7.10 |
| 132 | 29.51% | 4.10 | 8.56% | 1.00 | 0.43% | 1.00 | 17.00% | 1.00 | 7.10 | 132 | 7.10 |
| 118.03 | 30.48% | 4.10 | 10.15% | 1.00 | 3.94% | 1.00 | 12.20% | 1.00 | 7.10 | 118.03 | 7.10 |
| 142.04 | 29.51% | 4.10 | 8.43% | 1.00 | 8.53% | 1.00 | 22.60% | 1.00 | 7.10 | 142.04 | 7.10 |
| 59.1 | 29.73% | 4.10 | 4.53% | 1.00 | 38.95% | 1.00 | 50.50% | 1.00 | 7.10 | 59.1 | 7.10 |
| 51.04 | 28.22% | 1.15 | 0.00% | 1.00 | 21.80% | 2.92 | 37.70% | 1.00 | 6.07 | 51.04 | 6.07 |
| 118.04 | 28.69% | 1.15 | 15.19% | 1.53 | 2.06% | 1.00 | 3.70% | 2.32 | 6.00 | 118.04 | 6.00 |
| 104.02 | 22.73% | 1.00 | 9.22% | 1.00 | 0.64% | 2.92 | 11.00% | 1.00 | 5.92 | 104.02 | 5.92 |
| 49.01 | 0.00% | 1.00 | 13.16% | 1.00 | 20.85% | 2.92 | 40.20% | 1.00 | 5.92 | 49.01 | 5.92 |
| 127.01 | 19.96% | 1.00 | 15.00% | 1.53 | 7.64% | 1.00 | 2.30% | 2.32 | 5.85 | 127.01 | 5.85 |
| 119.04 | 21.78% | 1.00 | 15.10% | 1.53 | 3.54% | 1.00 | 6.80% | 2.32 | 5.85 | 119.04 | 5.85 |
| 139.01 | 17.76% | 1.00 | 17.71% | 1.53 | 0.69% | 1.00 | 10.70% | 2.32 | 5.85 | 139.01 | 5.85 |
| 121.04 | 22.43% | 1.00 | 14.77% | 1.53 | 1.38% | 1.00 | 14.70% | 2.32 | 5.85 | 121.04 | 5.85 |
| 112.09 | 28.38% | 1.15 | 6.33% | 1.00 | 5.54% | 1.00 | 7.80% | 2.32 | 5.47 | 112.09 | 5.47 |
| 1 | 24.75% | 1.15 | 9.62% | 1.00 | 4.65% | 1.00 | 10.80% | 2.32 | 5.47 | 1 | 5.47 |
| 110.02 | 26.37% | 1.15 | 10.12% | 1.00 | 3.17% | 1.00 | 13.90% | 2.32 | 5.47 | 110.02 | 5.47 |
| 107.06 | 14.71% | 1.00 | 6.87% | 1.00 | 2.82% | 1.00 | 1.60% | 2.32 | 5.32 | 107.06 | 5.32 |
| 21 | 21.30% | 1.00 | 12.46% | 1.00 | 13.04% | 1.00 | 28.70% | 2.32 | 5.32 | 21 | 5.32 |
| 50 | 14.42% | 1.00 | 5.32% | 1.00 | 19.56% | 1.00 | 33.90% | 2.32 | 5.32 | 50 | 5.32 |
| 58 | 18.44% | 1.00 | 7.35% | 1.00 | 37.96% | 1.00 | 38.50% | 2.32 | 5.32 | 58 | 5.32 |
| 59.09 | 21.58% | 1.00 | 11.38% | 1.00 | 40.95% | 1.00 | 57.20% | 2.32 | 5.32 | 59.09 | 5.32 |
| 108.03 | 23.14% | 1.15 | 14.47% | 1.53 | 0.95% | 1.00 | 1.40% | 1.00 | 4.68 | 108.03 | 4.68 |
| 120.01 | 23.53% | 1.15 | 13.82% | 1.53 | 0.98% | 1.00 | 3.00% | 1.00 | 4.68 | 120.01 | 4.68 |
| 108.05 | 24.41% | 1.15 | 14.13% | 1.53 | 0.00% | 1.00 | 7.80% | 1.00 | 4.68 | 108.05 | 4.68 |
| 108.04 | 25.77% | 1.15 | 18.33% | 1.53 | 1.63% | 1.00 | 4.30% | 1.00 | 4.68 | 108.04 | 4.68 |
| 106.03 | 26.03% | 1.15 | 15.94% | 1.53 | 2.55% | 1.00 | 6.80% | 1.00 | 4.68 | 106.03 | 4.68 |
| 124.02 | 24.72% | 1.15 | 17.56% | 1.53 | 2.75% | 1.00 | 5.00% | 1.00 | 4.68 | 124.02 | 4.68 |
| 126.02 | 26.29% | 1.15 | 14.29% | 1.53 | 9.42% | 1.00 | 3.50% | 1.00 | 4.68 | 126.02 | 4.68 |
| 114 | 26.73% | 1.15 | 13.81% | 1.53 | 1.56% | 1.00 | 12.60% | 1.00 | 4.68 | 114 | 4.68 |
| 121.03 | 23.05% | 1.15 | 14.97% | 1.53 | 3.12% | 1.00 | 14.90% | 1.00 | 4.68 | 121.03 | 4.68 |
| 100.02 | 25.54% | 1.15 | 16.12% | 1.53 | 2.40% | 1.00 | 15.80% | 1.00 | 4.68 | 100.02 | 4.68 |
| 125 | 23.25% | 1.15 | 16.65% | 1.53 | 6.63% | 1.00 | 15.70% | 1.00 | 4.68 | 125 | 4.68 |
| 117.03 | 23.85% | 1.15 | 16.41% | 1.53 | 7.30% | 1.00 | 16.00% | 1.00 | 4.68 | 117.03 | 4.68 |
| 140.01 | 23.25% | 1.15 | 17.55% | 1.53 | 8.93% | 1.00 | 17.70% | 1.00 | 4.68 | 140.01 | 4.68 |
| 59.05 | 26.06% | 1.15 | 15.02% | 1.53 | 32.53% | 1.00 | 48.50% | 1.00 | 4.68 | 59.05 | 4.68 |

TRANSIT DEMOGRAPHICS BY CENSUS TRACT FOR BIRMINGHAM AND JEFFERSON COUNTY (CONTINUED)

| Tract | % Under 18 | Under 18 Score | % Over 65 | Over 65 Score | % 0 Vehicle HH | 0 Vehicle HH | 0 Vehicle Score | % Poverty | Poverty Score | Composite Score | Tract | Composite Score |
|--------|------------|----------------|-----------|---------------|----------------|--------------|-----------------|-----------|---------------|-----------------|--------|-----------------|
| 120.02 | 21.08% | 1.00 | 15.90% | 1.53 | 1.36% | 1.00 | 1.00 | 1.40% | 1.00 | 4.53 | 120.02 | 4.53 |
| 140.02 | 19.89% | 1.00 | 13.96% | 1.53 | 3.07% | 1.00 | 1.00 | 5.00% | 1.00 | 4.53 | 140.02 | 4.53 |
| 111.09 | 22.09% | 1.00 | 14.20% | 1.53 | 7.32% | 1.00 | 1.00 | 1.10% | 1.00 | 4.53 | 111.09 | 4.53 |
| 111.08 | 21.94% | 1.00 | 14.19% | 1.53 | 3.98% | 1.00 | 1.00 | 4.50% | 1.00 | 4.53 | 111.08 | 4.53 |
| 110.01 | 19.75% | 1.00 | 15.80% | 1.53 | 0.69% | 1.00 | 1.00 | 8.60% | 1.00 | 4.53 | 110.01 | 4.53 |
| 128.02 | 18.39% | 1.00 | 17.92% | 1.53 | 0.53% | 1.00 | 1.00 | 8.10% | 1.00 | 4.53 | 128.02 | 4.53 |
| 127.04 | 21.12% | 1.00 | 14.16% | 1.53 | 3.73% | 1.00 | 1.00 | 9.30% | 1.00 | 4.53 | 127.04 | 4.53 |
| 115 | 20.83% | 1.00 | 15.86% | 1.53 | 1.58% | 1.00 | 1.00 | 10.40% | 1.00 | 4.53 | 115 | 4.53 |
| 124.03 | 22.04% | 1.00 | 14.63% | 1.53 | 9.29% | 1.00 | 1.00 | 10.20% | 1.00 | 4.53 | 124.03 | 4.53 |
| 144.06 | 22.87% | 1.00 | 17.51% | 1.53 | 0.00% | 1.00 | 1.00 | 18.50% | 1.00 | 4.53 | 144.06 | 4.53 |
| 141.05 | 21.21% | 1.00 | 15.22% | 1.53 | 2.23% | 1.00 | 1.00 | 24.80% | 1.00 | 4.53 | 141.05 | 4.53 |
| 30.01 | 15.20% | 1.00 | 14.75% | 1.53 | 10.78% | 1.00 | 1.00 | 22.40% | 1.00 | 4.53 | 30.01 | 4.53 |
| 23.06 | 12.92% | 1.00 | 17.51% | 1.53 | 14.53% | 1.00 | 1.00 | 20.20% | 1.00 | 4.53 | 23.06 | 4.53 |
| 36 | 17.13% | 1.00 | 18.22% | 1.53 | 14.82% | 1.00 | 1.00 | 25.20% | 1.00 | 4.53 | 36 | 4.53 |
| 47.02 | 14.14% | 1.00 | 13.99% | 1.53 | 26.99% | 1.00 | 1.00 | 33.50% | 1.00 | 4.53 | 47.02 | 4.53 |
| 53.02 | 21.03% | 1.00 | 16.27% | 1.53 | 24.98% | 1.00 | 1.00 | 34.90% | 1.00 | 4.53 | 53.02 | 4.53 |
| 59.07 | 20.98% | 1.00 | 16.33% | 1.53 | 31.04% | 1.00 | 1.00 | 46.30% | 1.00 | 4.53 | 59.07 | 4.53 |
| 59.03 | 21.09% | 1.00 | 15.15% | 1.53 | 53.59% | 1.00 | 1.00 | 39.00% | 1.00 | 4.53 | 59.03 | 4.53 |
| 107.01 | 24.94% | 1.15 | 3.40% | 1.00 | 4.03% | 1.00 | 1.00 | 2.90% | 1.00 | 4.15 | 107.01 | 4.15 |
| 129.11 | 25.53% | 1.15 | 12.66% | 1.00 | 0.49% | 1.00 | 1.00 | 1.80% | 1.00 | 4.15 | 129.11 | 4.15 |
| 107.05 | 24.56% | 1.15 | 7.51% | 1.00 | 6.05% | 1.00 | 1.00 | 1.90% | 1.00 | 4.15 | 107.05 | 4.15 |
| 112.06 | 25.01% | 1.15 | 11.76% | 1.00 | 2.46% | 1.00 | 1.00 | 5.30% | 1.00 | 4.15 | 112.06 | 4.15 |
| 124.01 | 23.67% | 1.15 | 13.08% | 1.00 | 1.48% | 1.00 | 1.00 | 7.40% | 1.00 | 4.15 | 124.01 | 4.15 |
| 108.01 | 27.76% | 1.15 | 13.07% | 1.00 | 1.31% | 1.00 | 1.00 | 8.00% | 1.00 | 4.15 | 108.01 | 4.15 |
| 111.1 | 26.41% | 1.15 | 7.27% | 1.00 | 3.92% | 1.00 | 1.00 | 13.40% | 1.00 | 4.15 | 111.1 | 4.15 |
| 107.03 | 28.08% | 1.15 | 9.70% | 1.00 | 1.02% | 1.00 | 1.00 | 15.40% | 1.00 | 4.15 | 107.03 | 4.15 |
| 116 | 26.34% | 1.15 | 10.86% | 1.00 | 2.32% | 1.00 | 1.00 | 13.60% | 1.00 | 4.15 | 116 | 4.15 |
| 112.08 | 24.87% | 1.15 | 7.81% | 1.00 | 5.83% | 1.00 | 1.00 | 13.30% | 1.00 | 4.15 | 112.08 | 4.15 |
| 141.02 | 25.57% | 1.15 | 12.52% | 1.00 | 0.92% | 1.00 | 1.00 | 13.90% | 1.00 | 4.15 | 141.02 | 4.15 |
| 111.04 | 25.08% | 1.15 | 12.27% | 1.00 | 9.44% | 1.00 | 1.00 | 8.70% | 1.00 | 4.15 | 111.04 | 4.15 |
| 111.07 | 27.52% | 1.15 | 9.90% | 1.00 | 6.27% | 1.00 | 1.00 | 14.40% | 1.00 | 4.15 | 111.07 | 4.15 |
| 134 | 24.28% | 1.15 | 10.20% | 1.00 | 8.65% | 1.00 | 1.00 | 12.90% | 1.00 | 4.15 | 134 | 4.15 |
| 111.11 | 27.14% | 1.15 | 10.29% | 1.00 | 3.59% | 1.00 | 1.00 | 18.40% | 1.00 | 4.15 | 111.11 | 4.15 |
| 142.03 | 26.17% | 1.15 | 10.13% | 1.00 | 5.67% | 1.00 | 1.00 | 23.70% | 1.00 | 4.15 | 142.03 | 4.15 |
| 144.08 | 23.08% | 1.15 | 7.01% | 1.00 | 6.57% | 1.00 | 1.00 | 27.00% | 1.00 | 4.15 | 144.08 | 4.15 |
| 144.12 | 28.77% | 1.15 | 9.75% | 1.00 | 10.33% | 1.00 | 1.00 | 23.80% | 1.00 | 4.15 | 144.12 | 4.15 |
| 144.05 | 26.06% | 1.15 | 11.35% | 1.00 | 8.63% | 1.00 | 1.00 | 24.10% | 1.00 | 4.15 | 144.05 | 4.15 |
| 302.13 | 24.54% | 1.15 | 5.74% | 1.00 | 15.99% | 1.00 | 1.00 | 27.70% | 1.00 | 4.15 | 302.13 | 4.15 |

TRANSIT DEMOGRAPHICS BY CENSUS TRACT FOR BIRMINGHAM AND JEFFERSON COUNTY (CONTINUED)

| Tract | % Under 18 | Under 18 Score | % Over 65 | Over 65 Score | % 0 Vehicle HH | 0 Vehicle Score | % Poverty | Poverty Score | Composite Score | Tract | Composite Score |
|------------|------------|----------------|-----------|---------------|----------------|-----------------|-----------|---------------|-----------------|------------|-----------------|
| 144.1 | 28.03% | 1.15 | 6.58% | 1.00 | 17.11% | 1.00 | 27.00% | 1.00 | 4.15 | 144.1 | 4.15 |
| 302.17 | 28.32% | 1.15 | 13.06% | 1.00 | 18.62% | 1.00 | 23.10% | 1.00 | 4.15 | 302.17 | 4.15 |
| 144.13 | 23.09% | 1.15 | 11.45% | 1.00 | 18.46% | 1.00 | 29.00% | 1.00 | 4.15 | 144.13 | 4.15 |
| 129.08 | 22.70% | 1.00 | 9.05% | 1.00 | 0.89% | 1.00 | 2.50% | 1.00 | 4.00 | 129.08 | 4.00 |
| 129.07 | 19.26% | 1.00 | 12.71% | 1.00 | 1.73% | 1.00 | 2.00% | 1.00 | 4.00 | 129.07 | 4.00 |
| 123.05 | 21.28% | 1.00 | 9.40% | 1.00 | 1.16% | 1.00 | 9.50% | 1.00 | 4.00 | 123.05 | 4.00 |
| 129.1 | 14.18% | 1.00 | 10.15% | 1.00 | 3.83% | 1.00 | 6.20% | 1.00 | 4.00 | 129.1 | 4.00 |
| 107.04 | 13.62% | 1.00 | 6.09% | 1.00 | 6.91% | 1.00 | 7.60% | 1.00 | 4.00 | 107.04 | 4.00 |
| 122 | 11.88% | 1.00 | 11.71% | 1.00 | 7.40% | 1.00 | 2.50% | 1.00 | 4.00 | 122 | 4.00 |
| 128.03 | 16.98% | 1.00 | 11.58% | 1.00 | 1.57% | 1.00 | 9.90% | 1.00 | 4.00 | 128.03 | 4.00 |
| 129.13 | 21.83% | 1.00 | 6.40% | 1.00 | 1.93% | 1.00 | 15.30% | 1.00 | 4.00 | 129.13 | 4.00 |
| 117.04 | 20.48% | 1.00 | 12.95% | 1.00 | 2.37% | 1.00 | 13.20% | 1.00 | 4.00 | 117.04 | 4.00 |
| 143.02 | 21.52% | 1.00 | 10.85% | 1.00 | 3.96% | 1.00 | 21.10% | 1.00 | 4.00 | 143.02 | 4.00 |
| 302.12 | 14.84% | 1.00 | 2.00% | 1.00 | 9.99% | 1.00 | 24.30% | 1.00 | 4.00 | 302.12 | 4.00 |
| 144.04 | 20.09% | 1.00 | 10.05% | 1.00 | 0.00% | 1.00 | 27.20% | 1.00 | 4.00 | 144.04 | 4.00 |
| 47.01 | 6.82% | 1.00 | 12.38% | 1.00 | 20.89% | 1.00 | 34.50% | 1.00 | 4.00 | 47.01 | 4.00 |
| Average | 22.85% | | 13.39% | | 9.27% | | 18.24% | | | Average | 8.82 |
| Std Dev | 5.77% | | 5.25% | | 9.76% | | 13.05% | | | Std Dev | 7.64 |
| +1 Std Dev | 28.61% | | 18.64% | | 19.04% | | 31.29% | | | +1 Std Dev | 16.46 |
| +2 Std Dev | 34.38% | | 23.89% | | 28.80% | | 44.34% | | | +2 Std Dev | 24.09 |