CARPDC

Transit Feasibility Evaluation

SA #24-0391

SAIN ASSOCIATES

PREPARED BY:
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Table of Contents

List of Figures

LIST OF TABLES

APPENDICES

Introduction and Background

The Central Alabama Regional Planning and Development Commission (CARPDC) provides various transportation planning services throughout the tri-county region in the Montgomery, Alabama area. The counties served by CARPDC include Montgomery, Autauga, and Elmore. CARPDC provides various services to member organizations including administration of the Central Alabama Rural Transportation Planning Organization (RPO), participation in the Montgomery Metropolitan Transportation Planning Organization (MPO), recreation and trails programs, multi-modal transportation programs, and other transportation related activities.

The RPO is a cooperative process between the Alabama Department of Transportation (ALDOT) and rural communities throughout Alabama. The RPO enhances the movement of people, goods and services by providing a cooperative planning forum for community leaders and transportation providers to have an open dialogue with ALDOT officials on the status of projects and transportation related issues in the CARPDC region.

CARPDC also administers the Human Services Coordinated Transportation Planning (HSCTP) document, which is updated every four years. The HSCTP assesses the transportation needs and impediments of the region and seeks solutions to those problems.

Additionally, CARPDC provides services to member communities in response to their specific transportation needs. These services include such activities as research, grant writing and administration for recreation and trails programs, public transportation research, transportation needs assessments and feasibility studies, and many other possible options to improve the quality of transportation, and access to services, in the CARPDC region.

The purpose of this study is to assess the feasibility of implementing fixed route transit or some deviation of this service within the CARPDC planning area with an emphasis on providing connections between suburban locations. This report documents the analysis of possible fixed route service and other transit options and compares the costs and operational characteristics to similar regions.

The process of developing and evaluating potential routes involved several steps. First, a preliminary screening was conducted using a mode choice model developed for this study. The mode choice model analysis identified the Origin-Destination (OD) pairs that illustrated the highest probability of transit use. This step was completed to eliminate areas in the region where there was not enough demand to support fixed route transit service. After identifying the OD pairs with the highest probability of transit usage, preliminary routes were developed and analyzed with Transit Boarding Estimation and Simulation Tool (TBEST) transit modeling software. The TBEST results including service cost, ridership and job accessibility were then used to determine if fixed-route service and/or deviated fixed-route service was feasible from a cost/ridership perspective.

It was also important to gain an understanding of the planning environment, including the existing system, existing service, socioeconomic data, and land use patterns. This information was also used to develop potential fixed route alignments.

The TBEST transit model was developed to conduct scenario analysis. TBEST contains a modeling structure which allows flexibility in model calibration, validation and application including Bus Rapid Transit (BRT) ridership forecasts sensitive to a range of implemented characteristics. TBEST ridership estimation models simulate travel demand at the individual stop-level while accounting for network connectivity, spatial and temporal accessibility, time-of-day variations, and route competition and complementarity.

TBEST is used to evaluate transit alternatives for out-year modeling, market analysis, and network accessibility analysis. TBEST provides supporting functions for strategic transit development plans, service planning, FTA Title VI, mobility planning, comprehensive operational analysis, General Transit Feed Specifications (GTFS) network compatibility, Service Development grant applications, performance reporting, and scenario comparisons.

Mode Choice Model Development and Results

The mode choice model was developed using 154 zones evenly divided into a grid across the CARPDC region. Mode choice model utility equations were obtained from an existing MPO travel demand model and the model coefficients were adjusted to obtain reasonable calibration results in the CARPDC region. Figure 1 illustrates the variables and utility calculations that were developed for the mode choice model. The variables used in the mode choice model included household income, vehicles per household, travel time, transit attraction (hospital, shopping, university), wait time, and transfers. These variables were used to calculate vehicle and transit utilities for each Origin-Destination pair. The vehicle and transit utilities were then used to estimate the transit mode share for each Origin-Destination pair.

Figure 1-CARPDC Mode Choice Model

	A	B	C	D	E	F	G	H	I	J	K	L
1	To	Distance	TravTime	WaitTime	Transfers	HH_Inc	Veh_HH	Veh_Util	HOV_Util	Tra_Util	Ftra_Util	Tot_Vol
2	1	0	0	0	0	68711	2	6.120638	6.120638	-0.50617	-0.50617	
3	2	0	0	0	0	68711	2	6.120638	6.120638	-0.50617	-0.50617	
4	3	0	0	0	0	68711	2	6.120638	6.120638	-0.50617	-0.50617	
5	4	0	0	0	0	68711	2	6.120638	6.120638	-0.50617	-0.50617	
6	5	0	65.99	10	0	68711	2	6.092854	6.092854	-0.5804	-0.5804	
7	6	0	0	0	0	68711	2	6.120638	6.120638	-0.50617	-0.50617	
8	7	0	77.66	10	0	75794	2	6.165191	6.165191	-1.74922	-1.74922	
9	8	0	62.92	10	0	75784	2	6.170924	6.170924	-1.73926	-1.73926	
10	9	0	84.64	10	0	75794	2	6.162416	6.162416	-1.75311	-1.75311	
11	10	0	0	10	0	75794	2	6.195568	6.195568	-1.70701	-1.70701	
12	11	0	0	0	0	75794	2	6.195568	6.195568	-1.62825	-1.62825	
13	12	0	0	0	0	75794	2	6.195568	6.195568	-1.62825	-1.62825	
14	13	0	0	0	0	75794	2	6.195568	6.195568	-1.62825	-1.62825	
15	14	0	0	0	0	75794	2	6.195568	6.195568	-1.62825	-1.62825	
16	15	0	0	0	0	68711	2	6.120638	6.120638	-0.50617	-0.50617	
17	16	0	0	0	0	68711	2	6.120638	6.120638	-0.50617	-0.50617	
18	17	0	0	0	0	68711	2	6.120638	6.120638	-0.50617	-0.50617	

For illustrative purposes, results of the mode choice model analysis for the Pike Road, Pine Level, and Central Montgomery origins are presented in Figures 2-4.

The results for the Pine Level origin illustrate the highest transit demand destinations are in the north-central and southwestern areas in the City of Montgomery.

The destinations with the highest transit mode shares for the Pike Road origin include the north-central and southwestern areas in the City of Montgomery, the Arlington and Woodley Park areas in the City of Montgomery south of South Boulevard, the Windwood area in the City of Montgomery around the interchange of I-65 and US-80, and the Hope Hull/Hyundai Boulevard area south of Montgomery.

The central City of Montgomery origin was selected to illustrate a low-income destination pattern in the region. The destinations with the highest transit mode shares for this zone includes most of the City of Montgomery inside of the perimeter highway with the exception of the far east side of the city, the Arlington and Woodley Park areas in the City of Montgomery south of South Boulevard, the Windwood area in the City of Montgomery around the interchange of I-65 and US-80, and the Hope Hull/Hyundai Boulevard area south of Montgomery. Figure 5 illustrates the shared destinations for all three origins.

Figure 5 illustrates that there is only one common destination for all three origins which is the zone located in the north-central area of the City of Montgomery. Figure 6 illustrates the common destinations for the Pike Road and City of Montgomery origins. The shared destinations for these two zones includes the north-central area in the City of Montgomery, the Arlington and Woodley Park areas in the City of Montgomery, the

Windwood area in the City of Montgomery, and the Hope Hull/Hyundai Boulevard area south of Montgomery.

The existing The M provides urban transit service throughout the City of Montgomery and has a route to the Montgomery airport. Additionally, in the current Montgomery Transit Development Plan (TDP), Sain Associates recommended extending an existing M route to the Hyundai Plant in southern Montgomery County which would significantly increase job accessibility for low-income and minority residents in the City of Montgomery and provide fixed-route transit service to southern Montgomery County.

The M provides paratransit service in the City of Montgomery. Mental Health America Montgomery provides rural transit service to Montgomery County via the section 5310 program. Similarly, Autauga County provides rural transit service throughout the county via the section 5310 program. The rural transit service is on-demand where the users must call a day in advance to make a reservation.

Legend

Network

Grid

1

2

3

Counties

1	2	3	4	5	6	7	8	9	10	11	12	13	14
15	16	17	18	19	20	21	22	23	24	25	26	27	28
29	30	31	32	33	34	35	36	37	38	39	40	41	42
43	44	45	46	47	48	49	50	51	52	53	54	55	56
57	58	59	60	61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80	81	82	83	84
85	86	87	88	89	90	91	92	93	94	95	96	97	98
99	100	101	102	103	104	105	106	107	108	109	110	111	112
113	114	115	116	117	118	119	120	121	122	123	124	125	126
127	128	129	130	131	132	133	134	135	136	137	138	139	140
141	142	143	144	145	146	147	148	149	150	151	152	153	154

Autauga

Tallapoosa

Macon

Dallas

Lowndes

Montgomery

Bullock

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SAIN ASSOCIATES

NOT TO SCALE

Figure 2

Pine Level Origin

CARPDC Transit Study
Montgomery , Alabama

Legend

Network

Grid

1

2

3

Counties

1	2	3	4	5	6	7	8	9	10	11	12	13	14
15	16	17	18	19	20	21	22	23	24	25	26	27	28
29	30	31	32	33	34	35	36	37	38	39	40	41	42
43	44	45	46	47	48	49	50	51	52	53	54	55	56
57	58	59	60	61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80	81	82	83	84
85	86	87	88	89	90	91	92	93	94	95	96	97	98
99	100	101	102	103	104	105	106	107	108	109	110	111	112
113	114	115	116	117	118	119	120	121	122	123	124	125	126
127	128	129	130	131	132	133	134	135	136	137	138	139	140
141	142	143	144	145	146	147	148	149	150	151	152	153	154

Tallapoosa

Autauga

Macon

Dallas

Montgomery

Lowndes

Bullock

SAIN ASSOCIATES

NOT TO SCALE

All Origins Common Destinations

CARPDC Transit Study
Montgomery , Alabama

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Legend

Network

Grid

1

2

3

Counties

1	2	3	4	5	6	7	8	9	10	11	12	13	14
15	16	17	18	19	20	21	22	23	24	25	26	27	28
29	30	31	32	33	34	35	36	37	38	39	40	41	42
43	44	45	46	47	48	49	50	51	52	53	54	55	56
57	58	59	60	61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80	81	82	83	84
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127	128	129	130	131	132	133	134	135	136	137	138	139	140
141	142	143	144	145	146	147	148	149	150	151	152	153	154

Autauga

Lowndes

Montgomery

Tallapoosa

Macon

Dallas

Bullock

SAIN ASSOCIATES

NOT TO SCALE

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Montgomery Origin

CARPDC Transit Study
Montgomery , Alabama

Legend

Network

Grid

1

2

3

Counties

1	2	3	4	5	6	7	8	9	10	11	12	13	14
15	16	17	18	19	20	21	22	23	24	25	26	27	28
29	30	31	32	33	34	35	36	37	38	39	40	41	42
43	44	45	46	47	48	49	50	51	52	53	54	55	56
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127	128	129	130	131	132	133	134	135	136	137	138	139	140
141	142	143	144	145	146	147	148	149	150	151	152	153	154

Tallapoosa

Autauga

Macon

Dallas

Montgomery

Lowndes

Bullock

SAIN ASSOCIATES

NOT TO SCALE

All Origins Common Destinations

CARPDC Transit Study
Montgomery , Alabama

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Legend

- Montgomery Bus Routes
- Network

Grid

- 1
- 2
- 3
- Counties

1	2	3	4	5	6	7	8	9	10	11	12	13	14
15	16	17	18	19	20	21	22	23	24	25	26	27	28
29	30	31	32	33	34	35	36	37	38	39	40	41	42
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141	142	143	144	145	146	147	148	149	150	151	152	153	154

Autauga

Tallapoosa

Dallas

Macon

Lowndes

Montgomery

Bullock

SAIN ASSOCIATES

NOT TO SCALE

Figure 6

All Origins with Bus Routes

CARPDC Transit Study
Montgomery , Alabama

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Needs Assessment and Alternative Development

To effectively assess the feasibility of implementing fixed route transit or a variation of the service in the CARPDC area, it was vital to develop an understanding of the existing service as well as transit system goals and needs. The purpose of this chapter is to provide an inventory of the current transit system, existing demographics, and develop the initial fixed route transit alternatives based on the results of these and the mode choice analyses.

Existing System

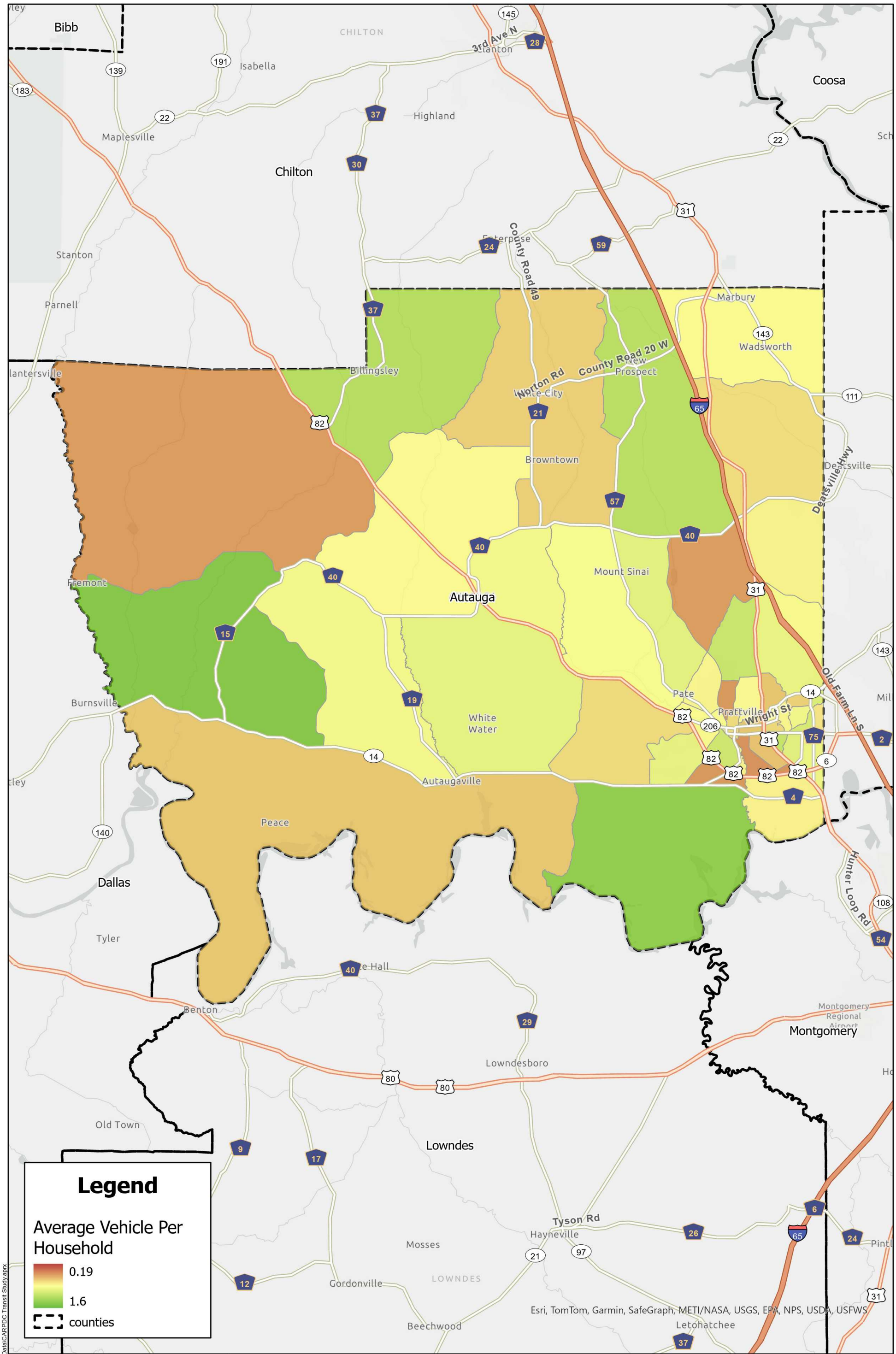
Autauga County's Transit Agency currently serves rural and urban areas in Autauga County. This service is available to riders by calling to schedule a ride at least 24 hours in advance, the day before the service is needed. The hours of operation are Monday through Friday from 6:00 a.m. until 4:00 p.m. As of 2023, the agency had 17 revenue vehicles and one service vehicle.

Trips outside of the Autauga Transit service area are provided to the Montgomery Cancer Center and doctors in the Montgomery area. The ridership in fiscal year 2023 was 41,905 passenger trips traveling approximately 250,000 miles.

Mental Health America Montgomery provides rural transit service to Montgomery County. This service is available to riders by calling to schedule a ride at least 24 hours in advance.

Demographics

When justifying the need for transportation improvements, it is essential to review existing demographics to maintain existing ridership and attract new customers. A fixed route service would require greater population densities while other transit options are more suited to areas of lower density. Additionally, fixed-route transit service is more likely to have success in areas of low household income, 0 or 1 vehicles households, elderly residents, and young people. Figures 7-9 illustrate the Average Vehicles per Household for Elmore, Autauga, and Montgomery County, and Figures 10-12 illustrate the Average Household Income for the respective counties.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CHILTON
Coosa
Isabella
Highland
Maplesville
Chilton
Stanton
Parnell
Billingsley
Marbury
Wadsworth
New Prospect
White City
Browntown
Mount Sinai
Fremont
Autauga
Burnsville
White Water
Pate
Prattville
Wright St
Autaugaville
Peace
Dallas
Tyler
Benton
Montgomery
Montgomery Regional Airport
Lowndesboro
Old Town
Lowndes
Tyson Rd
Hayneville
Mosses
LOWNDES
Gordonville
Beechwood
Letohatchee
Pintlala
Norton Rd
County Road 20 W
County Road 49
Old Farm Ln S
Hunter Loop Rd
Deatsville Hwy
Esri, TomTom, Garmin, SafeGraph, METI/NASA, USGS, EPA, NPS, USDA, USFWS
Legend
Average Vehicle Per Household
0.19
1.6
counties
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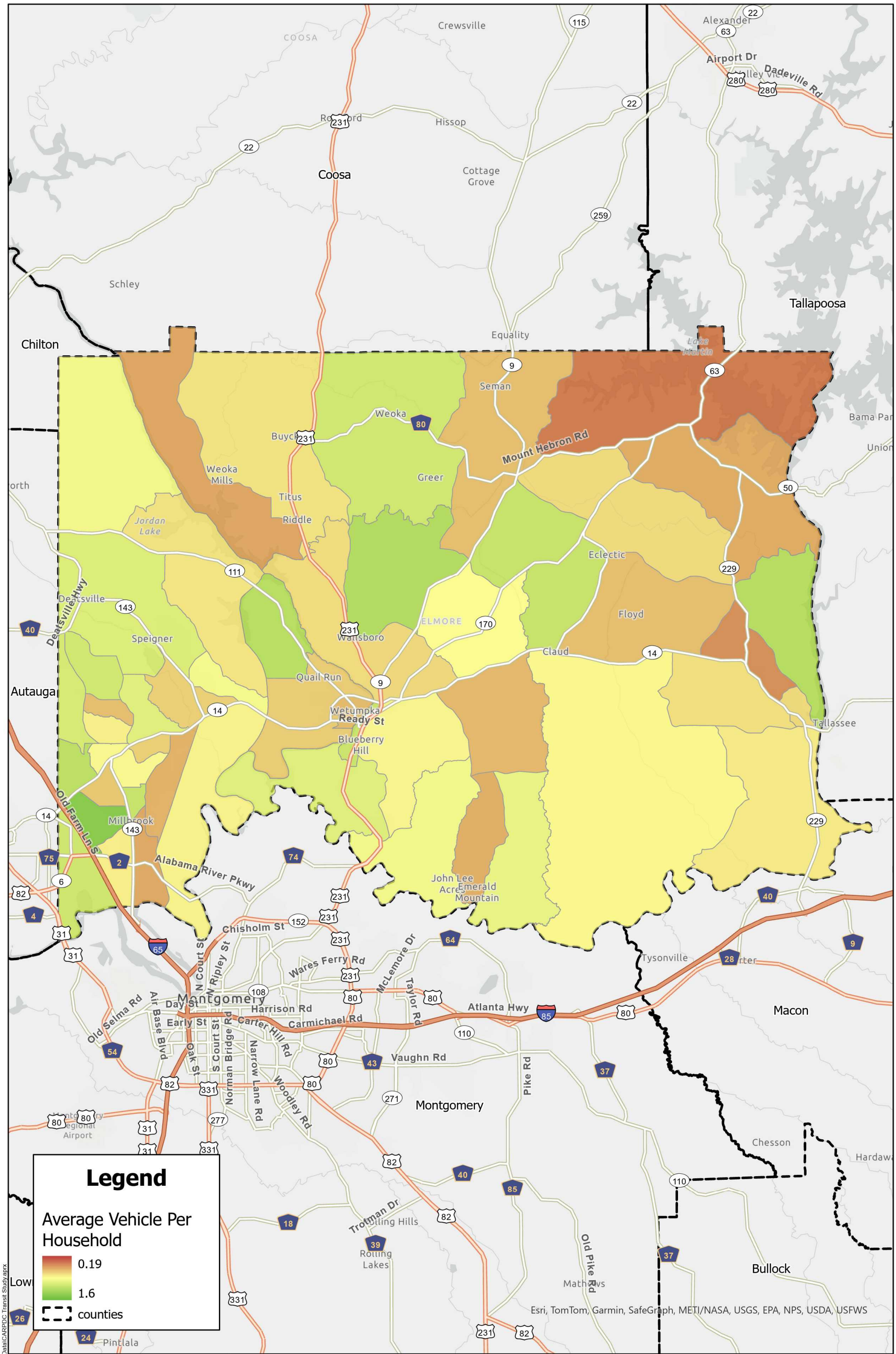
Average Vehicle Per Household
CARPDC Transit Study
Autauga, Alabama


Crewsville
COOSA
Alexander
Airport Dr
Dadeville Rd
Hissop
Coosa
Cottage Grove
Schley
Tallapoosa
Chilton
Equality
Lake Martin
Seman
Weoka
Mount Hebron Rd
Bama Par
Union
Weoka Mills
Greer
Titus
Riddle
Jordan Lake
Eclectic
Floyd
Deatsville
Speigner
ELMORE
Wallsboro
Claud
Quail Run
Autauga
Wetumpka
Ready St
Blueberry Hill
Tallassee
Millbrook
Old Farm Ln S
Alabama River Pkwy
John Lee Acres
Emerald Mountain
Chisholm St
Wares Ferry Rd
McLemore Dr
Tysonville
Montgomery
Day St
Harrison Rd
Early St
Carter Hill Rd
Carmichael Rd
Atlanta Hwy
Old Selma Rd
Air Base Blvd
Oak St
S Court St
Norman Bridge Rd
Narrow Lane Rd
Woodley Rd
Vaughn Rd
Pike Rd
Macon
Chesson
Trotman Dr
Rolling Hills
Rolling Lakes
Old Pike Rd
Bullock
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Pintlala
Legend
Average Vehicle Per Household
0.19
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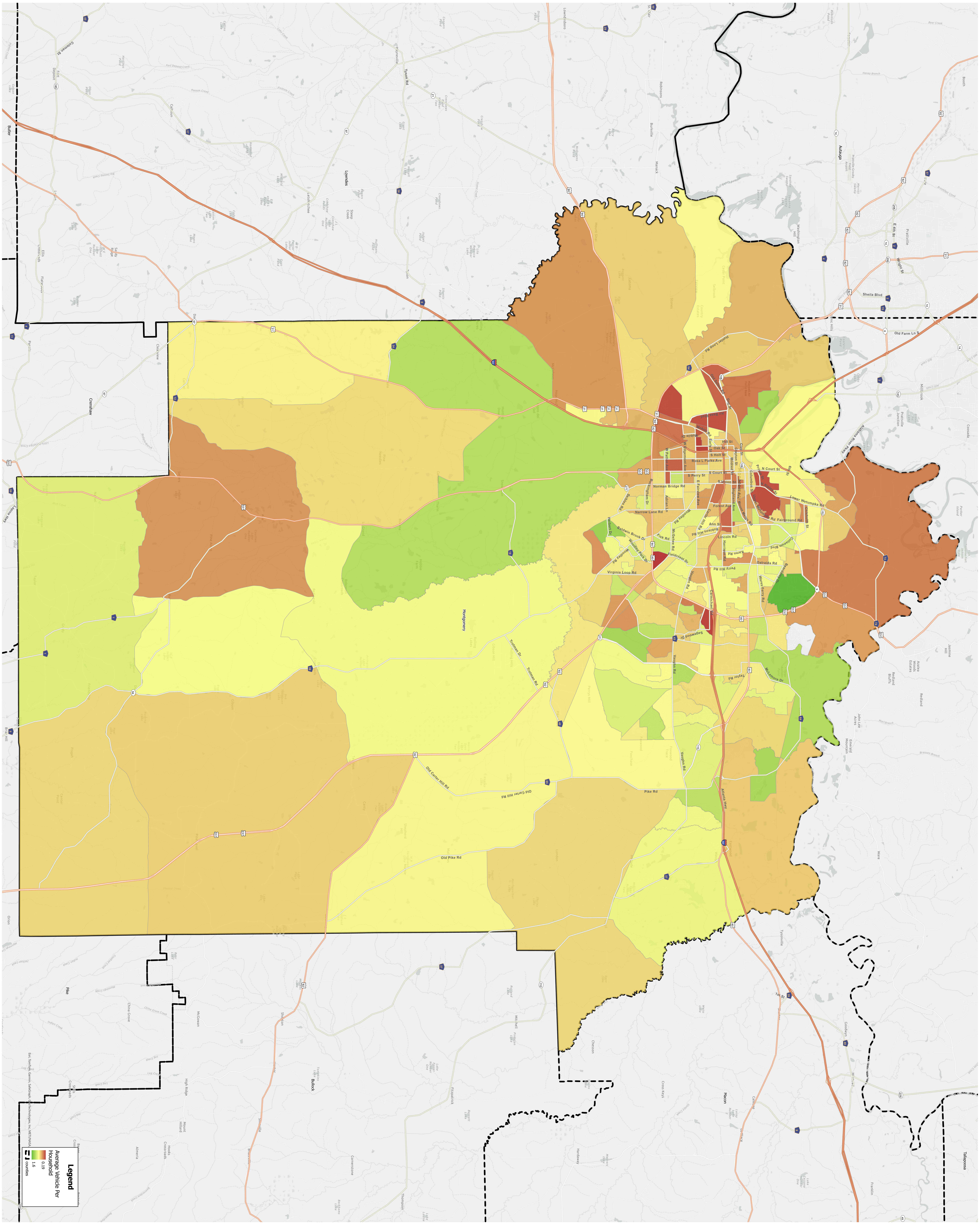
Average Vehicle Per Household
CARPDC Transit Study
Elmore, Alabama



SHEET NO.	DRN. BY	JOB NO.
	CKD. BY	SCALE AS SHOWN
	PROJ. MGR.	DATE 4/4/2022

DRAWING NAME

Average Vehicle Per Household

Fig. 9

FOR MONTGOMERY COUNTY

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Phone: (205) 940-6420
Website: www.sain.com

REVISIONS

NO.	DESCRIPTION	BY	CKD.	DATE

REVISIONS

NO.	DESCRIPTION	BY	CKD.	DATE

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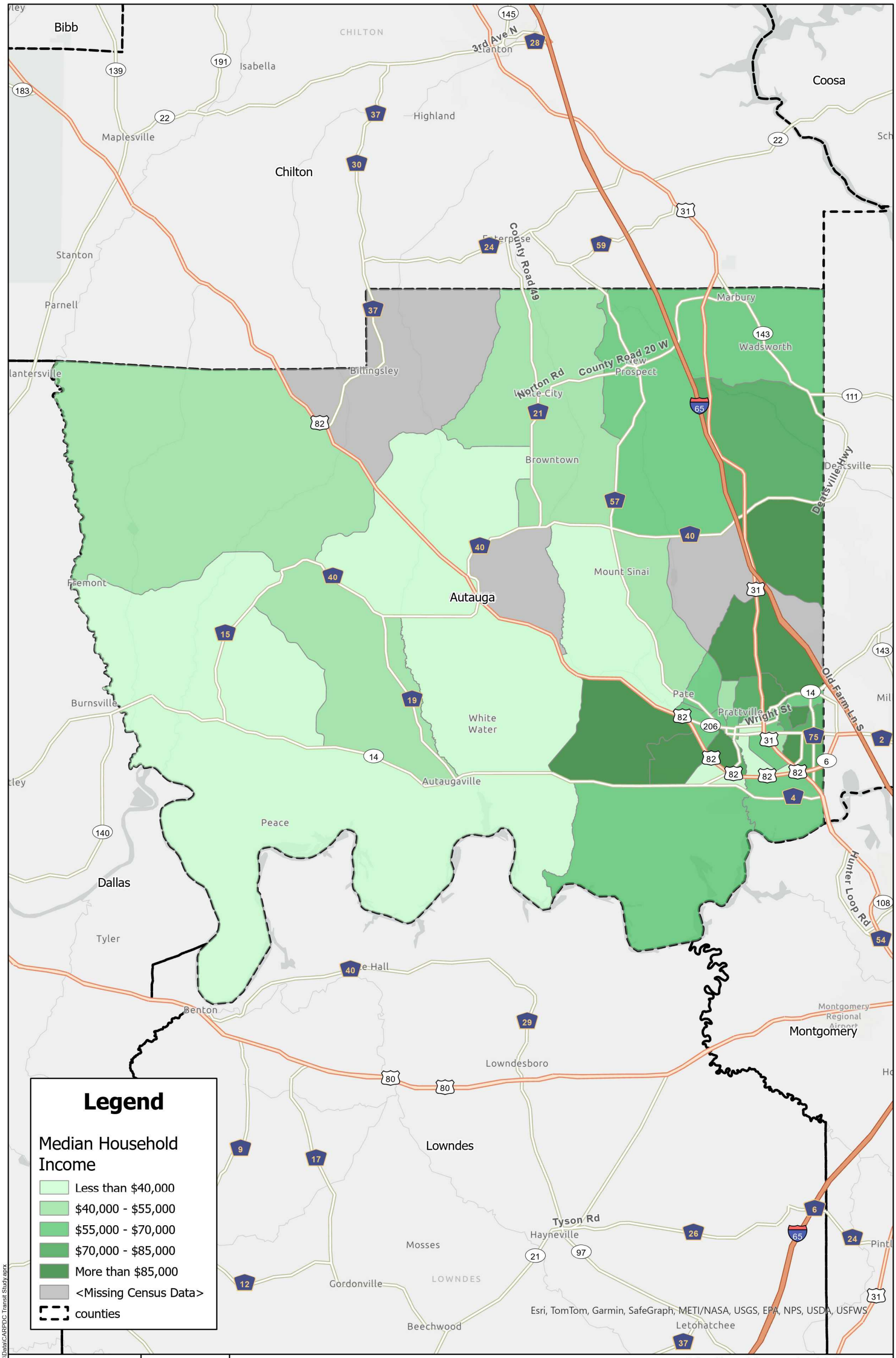
Bibb
CHILTON
Coosa
Chilton
Autauga
Isabella
Highland
Maplesville
Stanton
Parnell
Billingsley
Marbury
Wadsworth
New Prospect
White City
Browntown
Mount Sinai
Pate
Prattville
Wright St
Old Farm Ln S
Deatsville Hwy
Hunter Loop Rd
Fremont
Burnsville
White Water
Autaugaville
Peace
Dallas
Tyler
Benton
Lowndesboro
Lowndes
Mosses
Gordonville
LOWNDES
Hayneville
Tyson Rd
Letohatchee
Beechwood
Montgomery
Montgomery Regional Airport
Norton Rd
County Road 20 W
County Road 49
Esri, TomTom, Garmin, SafeGraph, METI/NASA, USGS, EPA, NPS, USDA, USFWS
Legend
Median Household Income
Less than $40,000
$40,000 - $55,000
$55,000 - $70,000
$70,000 - $85,000
More than $85,000
<Missing Census Data>
counties
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SAIN ASSOCIATES
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Median Household Income
Figure 11
CARPDC Transit Study
Autauga, Alabama

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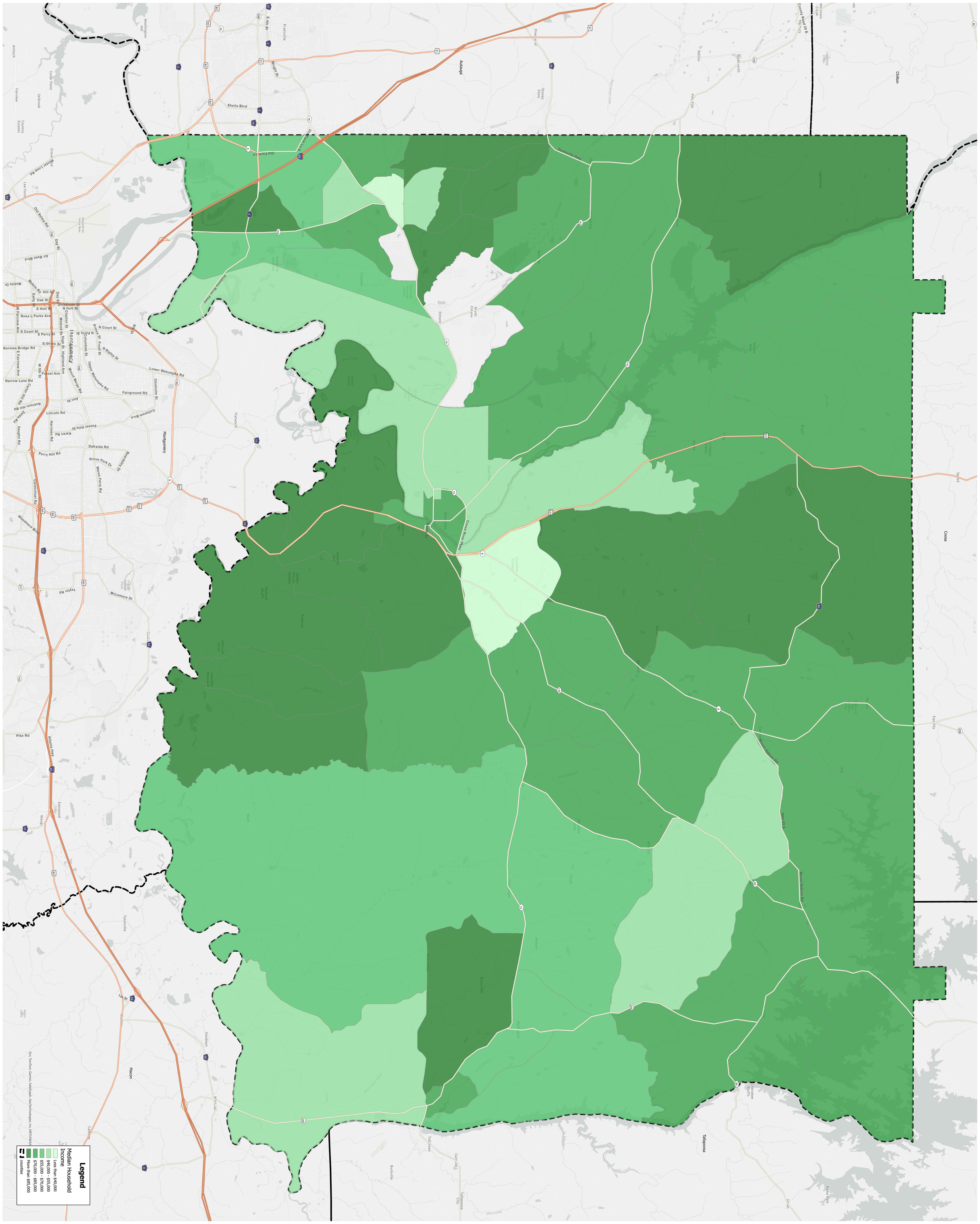

SHEET NO.	DRN. BY	JOB NO.	
	CKD. BY	SCALE	AS SHOWN
	PROJ. MGR.	DATE	4/4/2022

DRAWING NAME
Median Household Income

FOR
ELMORE COUNTY

SAIN ASSOCIATES
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Suite 500 East
Birmingham, Alabama 35243
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Website: www.sain.com

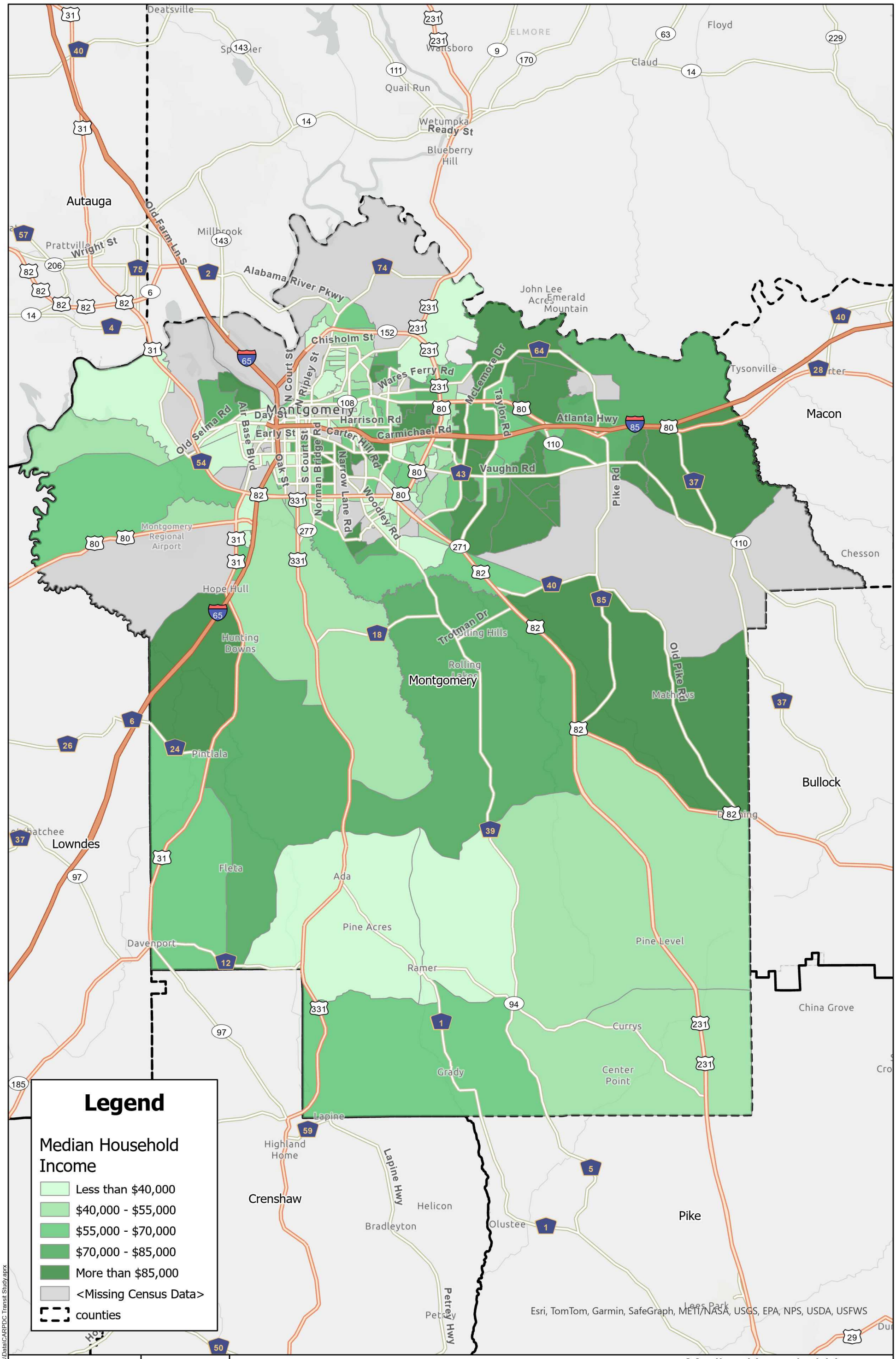
REVISIONS

NO.	DESCRIPTION	BY	CKD.	DATE

REVISIONS

NO.	DESCRIPTION	BY	CKD.	DATE

NOT TO SCALE


Deatsville
Wetumpka
Ready St
Blueberry Hill
Quail Run
Wallsboro
ELMORE
Floyd
Claud
Autauga
Old Farm Ln S
Millbrook
Prattville
Wright St
Alabama River Pkwy
John Lee Acres
Emerald Mountain
Tysonville
Macon
Chisholm St
N Court St
N Ripley St
Wares Ferry Rd
McLemore Dr
Taylor Rd
Atlanta Hwy
Harrison Rd
Carmichael Rd
Carter Hill Rd
Old Selma Rd
Air Base Blvd
Day St
Early St
Oak St
S Court St
Norman Bridge Rd
Narrow Lane Rd
Woodley Rd
Vaughn Rd
Pike Rd
Montgomery
Montgomery Regional Airport
Hope Hull
Hunting Downs
Trotman Dr
Rolling Hills
Old Pike Rd
Chesson
Bullock
Lowndes
Pintlala
Fleta
Ada
Pine Acres
Pine Level
Davenport
Ramer
China Grove
Currys
Grady
Center Point
Lapine
Highland Home
Lapine Hwy
Crenshaw
Helicon
Bradleyton
Olustee
Pike
Petrey
Petrey Hwy
Lees Park
Esri, TomTom, Garmin, SafeGraph, METI/NASA, USGS, EPA, NPS, USDA, USFWS
Legend
Median Household Income
Less than $40,000
$40,000 - $55,000
$55,000 - $70,000
$70,000 - $85,000
More than $85,000
<Missing Census Data>
counties
SAIN ASSOCIATES
NOT TO SCALE
Median Household Income
CARPDC Transit Study
Montgomery, Alabama
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According to 2020 Census data, the state of Alabama had a population of 4.89 million people, and Montgomery County contained a population of 227,434. The 2020 population of the city of Montgomery was 198,665 with a median age of 36. The 2020 employed population was 86,651. The five largest ethnic groups in Montgomery are African American (60.8%), White (Non-Hispanic) (31.5%), Hispanic (3.8%), Asian (3.2%), and Two or More Races (2.9%), as shown in Figure 12. Of the city's population, 23.8% were age 18 and under, while 14.6% were age 65 or over.

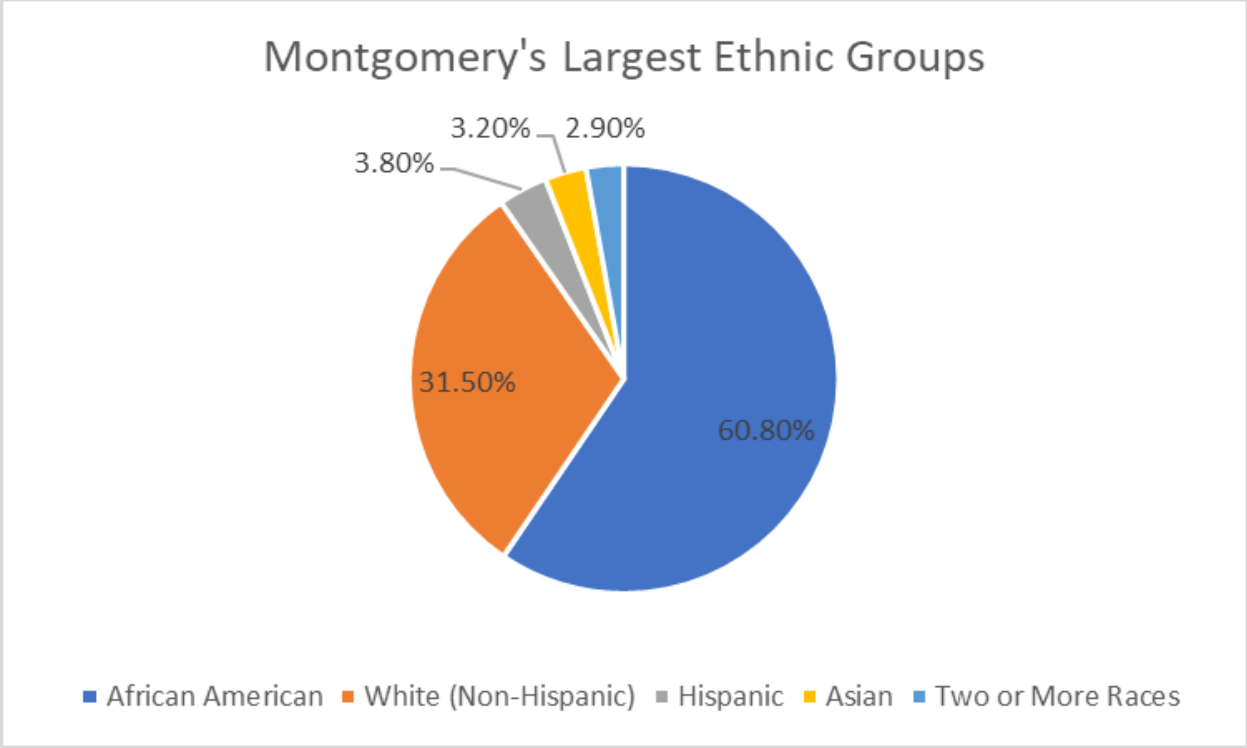


Figure 13: Montgomery's Largest Ethnic Groups

The city of Montgomery included 79,331 households. 89.6% of the households had a computer, and 82.9% of households had broadband internet access. For education, 87% of the population were high school graduates or higher. 33.4% of the population was in the bachelor's degree or higher category. According to 2020 Census data, the most common industries in Montgomery include health care and social assistance (13.4%), manufacturing (11.3%), retail trade (11.1%), public administration (10.5%), educational services (9.7%), and accommodation and food services (8.14%), as illustrated in Figure 13. The mean travel time to work for workers age 16+ was 20 minutes.

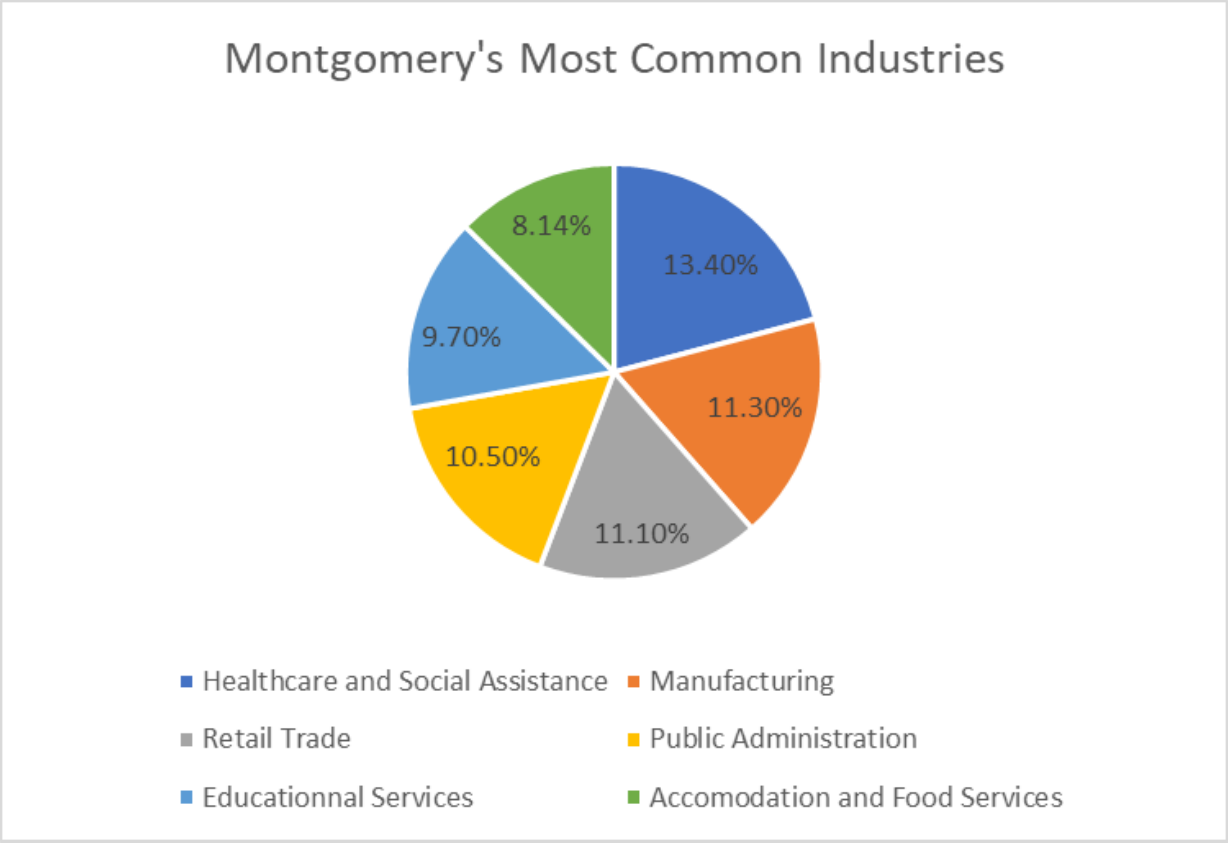


Figure 14: Montgomery's Most Common Industries

According to Census 2010, Alabama had a total population of 4,779,736 with 1,737,080 households. Of that population, 30.5% were non-white individuals, 17.1% were individuals below poverty, 7.9% were individuals age 65+, and 6.5% were households without vehicles. Within the study area, Autauga County was the least populated with a population of 54,571 and a total of 20,221 households. Elmore County, the second most populated, had a population of 79,303 and a total of 28,301 households. Montgomery County was the most populated county with a population of 229,363 and a total of 89,981 households.

The Montgomery urbanized area percentage of non-white individuals surpasses the statewide average. Within the Montgomery MPO study area, the highest percentages of non-white individuals reside in the City of Montgomery (62.7%), Montgomery County (60.5%; this includes the City of Montgomery), the Town of Coosada (42.3%), the Town of Elmore (35.7%), the City of Wetumpka (32.1 percent), and the Town of Pike Road (31.5 percent). The percentages of non-white individuals that were less than the statewide average include Elmore County (23.8%), the City of Millbrook (25.8%), Autauga County (21.5%), the City of Prattville (21.5%) and the Town of Deatsville (22.4%).

The highest percentages of residents living in poverty conditions in the Montgomery region are in the Town of Elmore (20.3%), the City of Wetumpka (20.1%), the City of Montgomery (19.7%), and Montgomery County (18.9%). The Town of Deatsville had the

lowest percentage with 0.2% followed by the Town of Pike Road (7.1%), the City of Millbrook (8.0%), the City of Prattville (8.7%), Autauga County (10.6%), Elmore County (12.4%), and the Town of Coosada (15.5%). Figure 14 illustrates the percentages of residents living in poverty in the Montgomery region. The distribution of households without vehicles similarly corresponds with the distribution of individuals living in poverty.

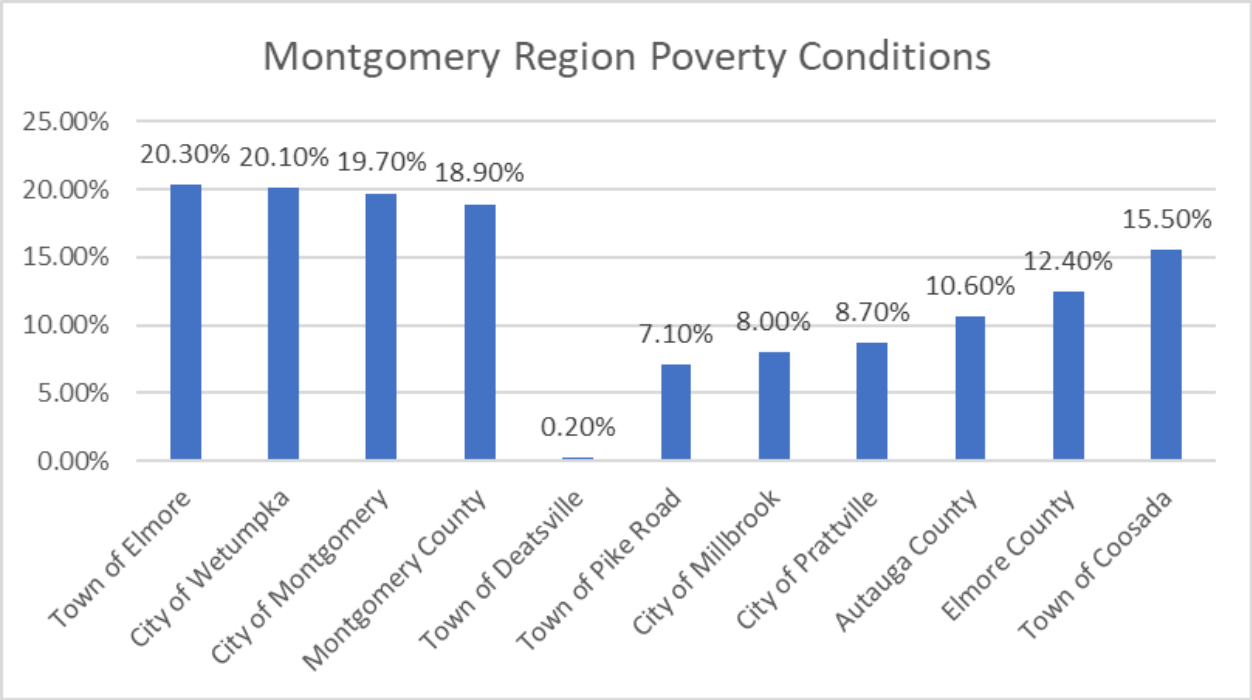


Figure 15: Montgomery Region Poverty Conditions

The highest percentages of individuals that are age 65 and older reside in the City of Millbrook (9.4%), the Town of Elmore (7.8%), Montgomery County (7.1%), and the Town of Deatsville (6.6%). The lowest percentages of individuals that are 65 or older reside in the City of Wetumpka (4.6%), the City of Montgomery (4.7%), the City of Prattville (4.9%), the Town of Pike Road (5.1%), and Autauga County (5.2%), as shown below in Figure 15.

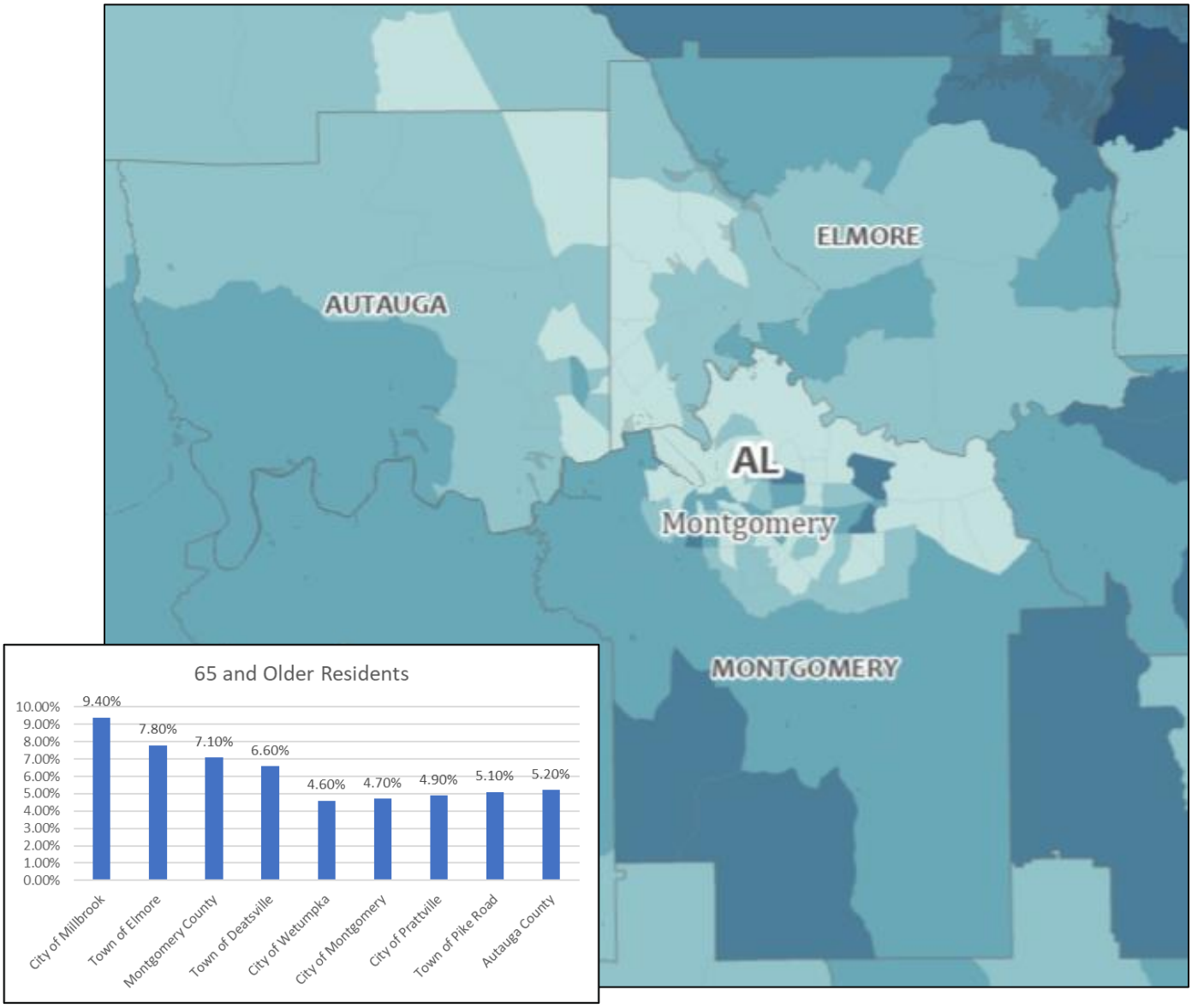


Figure 16: 65 and Older Residents

The 2045 households for the Montgomery MPO study area are projected to be 165,181 - Autauga County (28,231), Elmore County (38,234), and Montgomery County (98,626).

Employment data can assist with identifying commuting patterns and work trips to determine the transportation needs related to commuting behavior. The 2010 and 2014 employment data for total labor force and employment type of each county in the Montgomery MPO study area establishes employment trends. In 2010, the Montgomery

MSA's total labor force was 175,499 with 158,232 employed and 17,267 unemployed. In 2014, the Montgomery MSA's total labor force was 170,554 with 159,208 employed and 11,346 unemployed. 2014's labor force was about 5,000 less than the 2010's total labor force. For employment type in 2015, the total in retail employment was 44,908 while the total in non-retail was 148,751. The labor force and employment type data collected for each individual county is summarized in Table 1. The labor force data distribution from 2010 to 2014 in each county decreased minimally.

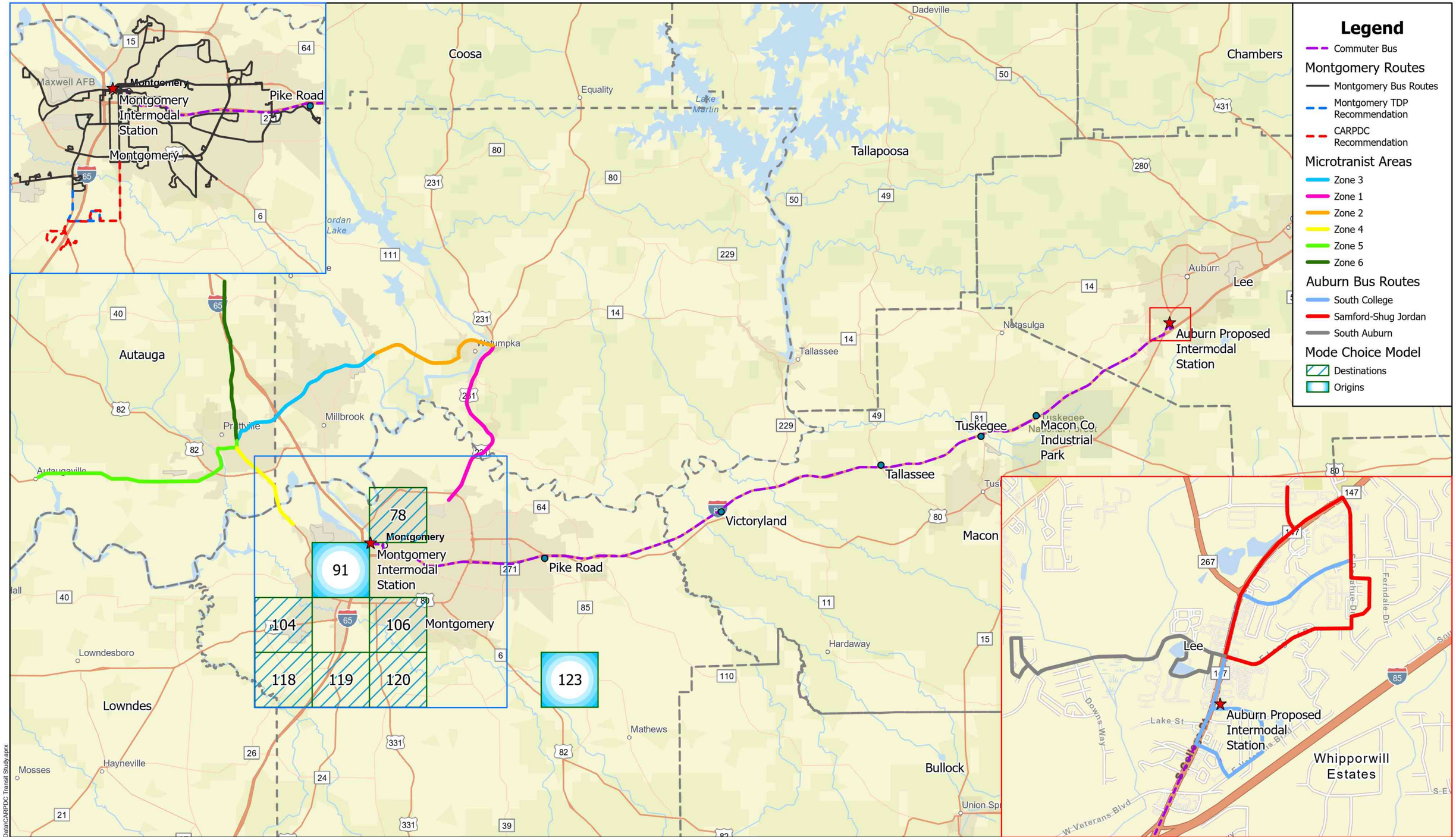
Table 1: 2010 and 2014 Labor Force and Employment Data - Montgomery MPO

County	2010/2014		2015	
	Employed	Unemployed	Retail	Non-retail
Autauga County	23,431/23,933	2,282/1,496	3,441	9,361
Elmore County	33,362/34,281	3,321/2,100	5,580	10,552
Montgomery County	97,892/97,592	10,861/7,246	35,887	128,838

A 2045 forecast can be determined using data trend analysis, future land availability, and future transportation accessibility. In 2045, the total retail employment is expected to grow 5.8% resulting in a total of 47,529. The total non-retail employment is expected to grow to 178,194 which is 19.8% more than the total for 2015.

Alternatives and Fixed-Route Options

Socioeconomic data and mode choice analysis illustrated demand for transit service was greatest in central and southern Montgomery City which is consistent with the city having the highest concentration of low-income and zero-vehicle households in the Montgomery region. Based on these findings and consideration of the overall needs of the CARPDC region, the following transit route concepts shown in Figure 17 were developed for evaluation in TBEST. The colored lines represent Microtransit zones 1-6. The concept also included a commuter bus route between Auburn and Montgomery, and The M extensions illustrated in Figure18.



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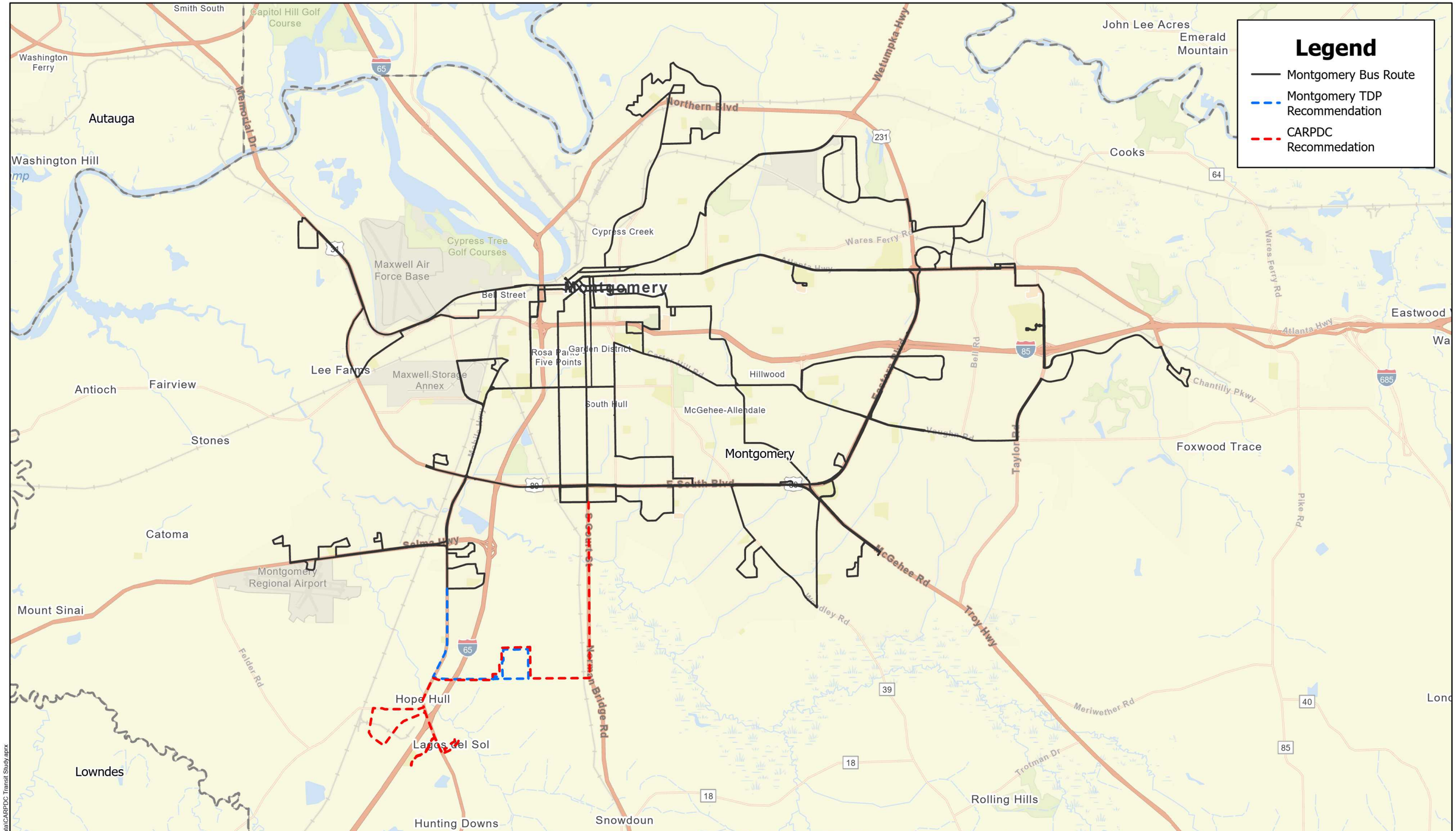
Inter City Transit Route Recommendations

Figure 77

CARPDC Transit Study
Montgomery, Alabama


Legend
Montgomery Bus Route
Montgomery TDP Recommendation
CARPDC Recommedation
Smith South
Capitol Hill Golf Course
Washington Ferry
Autauga
Washington Hill
Memorial Dr
65
Northern Blvd
Wetumpka Hwy
John Lee Acres
Emerald Mountain
231
Cooks
64
Cypress Creek
Cypress Tree Golf Courses
Maxwell Air Force Base
Wares Ferry Rd
Montgomery
Bell Street
Eastwood
Atlanta Hwy
Garden District
Rosa Parks Five Points
Lee Farms
Maxwell Storage Annex
Antioch
Fairview
Hillwood
South Hull
McGehee-Allendale
Bell Rd
85
Chantilly Pkwy
685
Stones
Montgomery
Foxwood Trace
Taylor Rd
Pike Rd
Catoma
Selma Hwy
S Court St
Montgomery Regional Airport
McGehee Rd
Troy Hwy
Mount Sinai
Felder Rd
Hope Hull
Norman Bridge Rd
Lagos del Sol
Lowndes
Hunting Downs
Snowdoun
Rolling Hills
Meriwether Rd
Trotman Dr
39
40
18
Transition Recommendations
CARPDC Transit Study
Montgomery, Alabama
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Assessment of Options

TBEST software was used to establish ridership projections to determine the feasibility of extending the existing The M routes and implementing commuter bus service between Auburn and Montgomery. For each local bus route option, a buffer of ¼ miles was assumed to represent the distance which a potential rider would be willing to walk to get to the transit route. This buffer area was used to assess the existing and projected demand for The M local bus system.

For the commuter bus route, a buffer of ½ miles was assumed to represent the distance a user would travel to access the route. A larger buffer was selected based on national research which indicated that the transit access to commuter bus stops was typically twice that of a local bus stop.

Several factors are often used to assess a population's inclination to ride transit. Populations with high concentrations of low automobile ownership, low-income, students, and Senior Citizens are often likely to utilize available transit services.

The TBEST analysis results are presented in Figures 19-62.

Figure 19 Zone 1 Microtransit Area Map

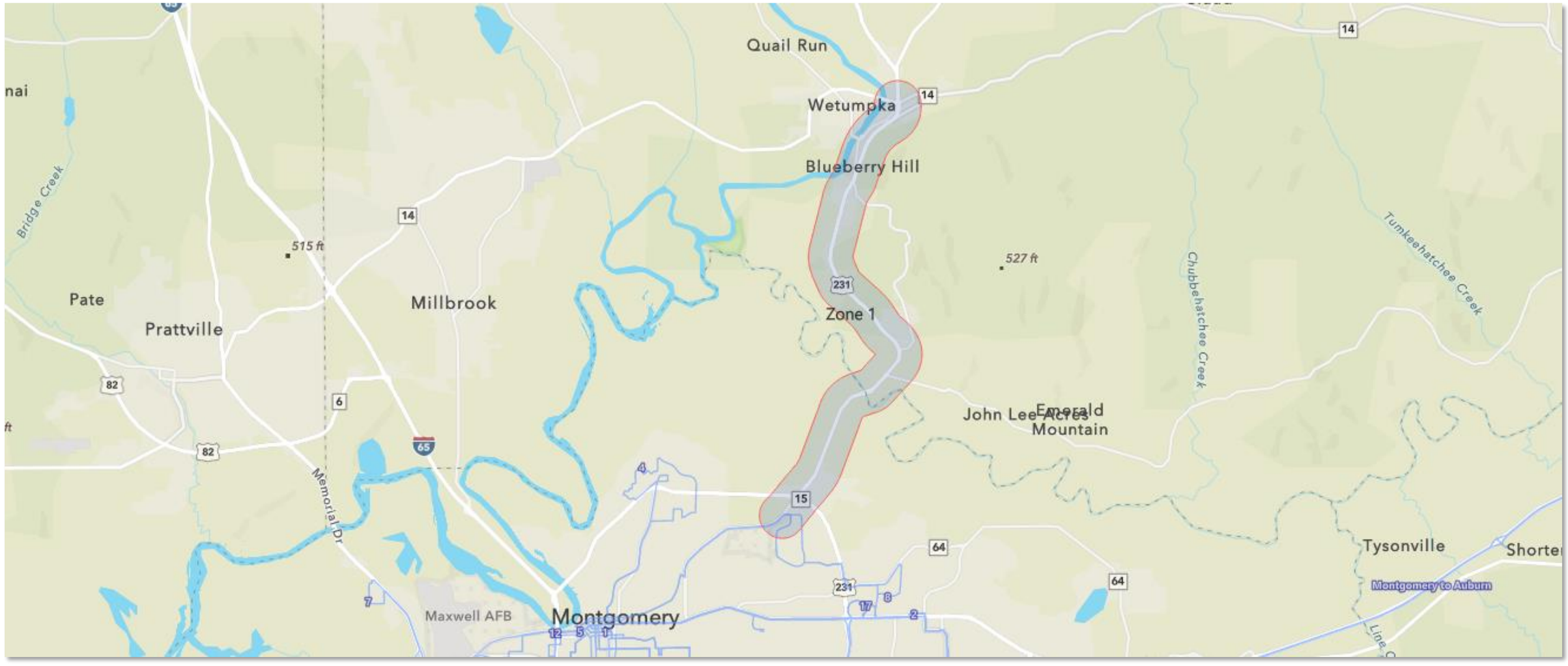
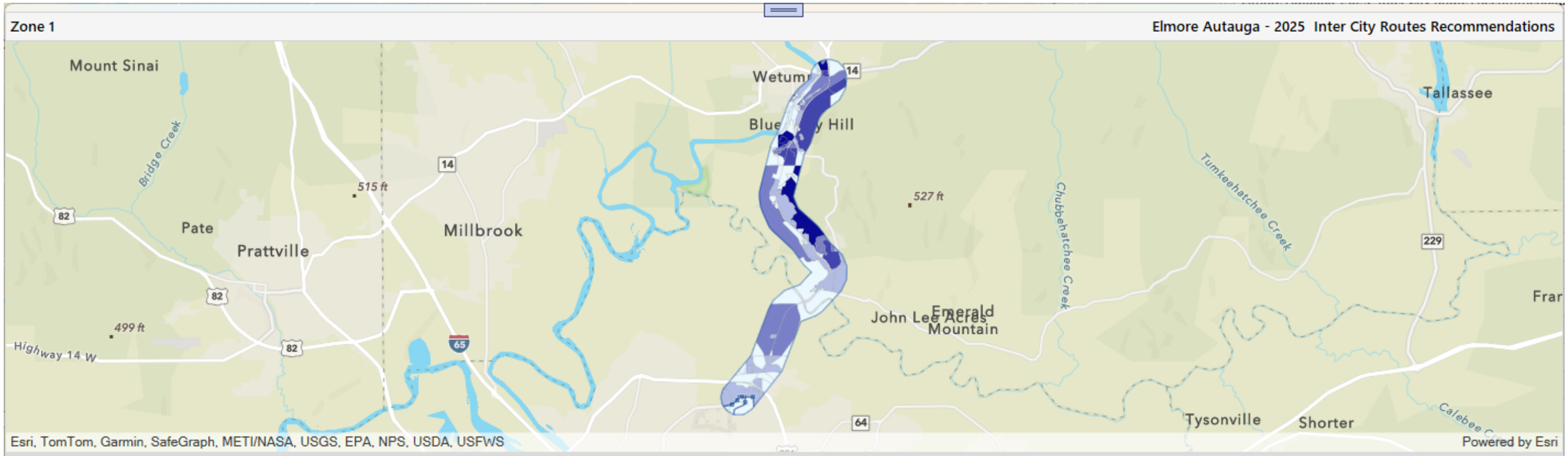


Figure 20 Zone 1 Population Market



Total Population Distribution	Population	% Market Area	Filter
0 - 8	117	4.20%	☑
8 - 25	598	21.49%	☑
25 - 52	787	28.28%	☑
52 - 130	616	22.13%	☑
130 - 205	664	23.86%	☑
Market Area Total	**2,783**	**100.0%**	

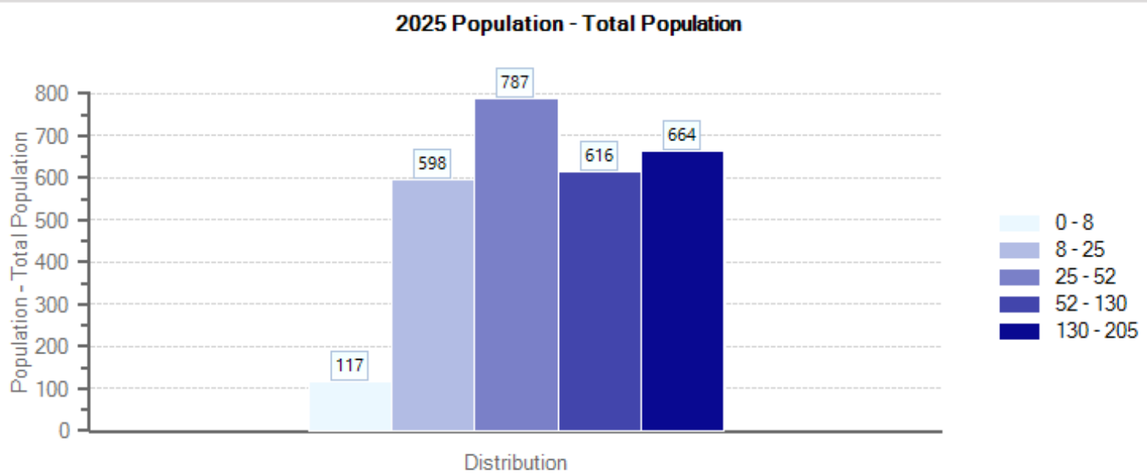
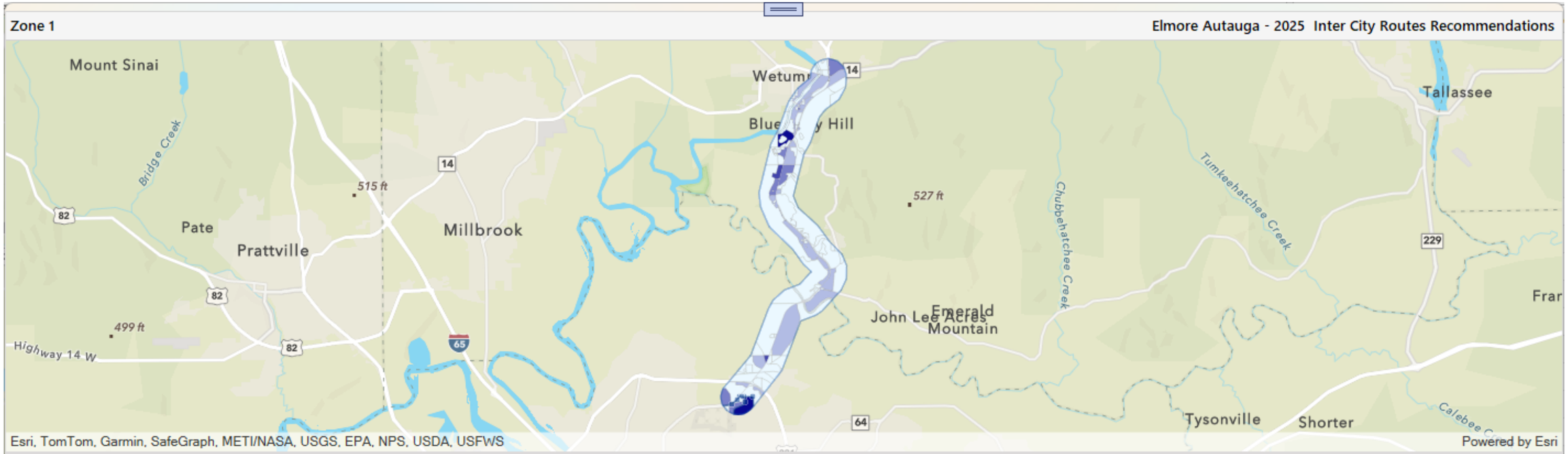


Figure 21 Zone 1 Employment Market



Total Employment Distribution	Employees	% Market Area	Filter
0 - 27	305	5.30%	☑
27 - 124	1,334	23.16%	☑
124 - 296	1,500	26.04%	☑
296 - 599	917	15.92%	☑
599 - 982	1,704	29.58%	☑
Market Area Total	**5,761**	**100.00%**	

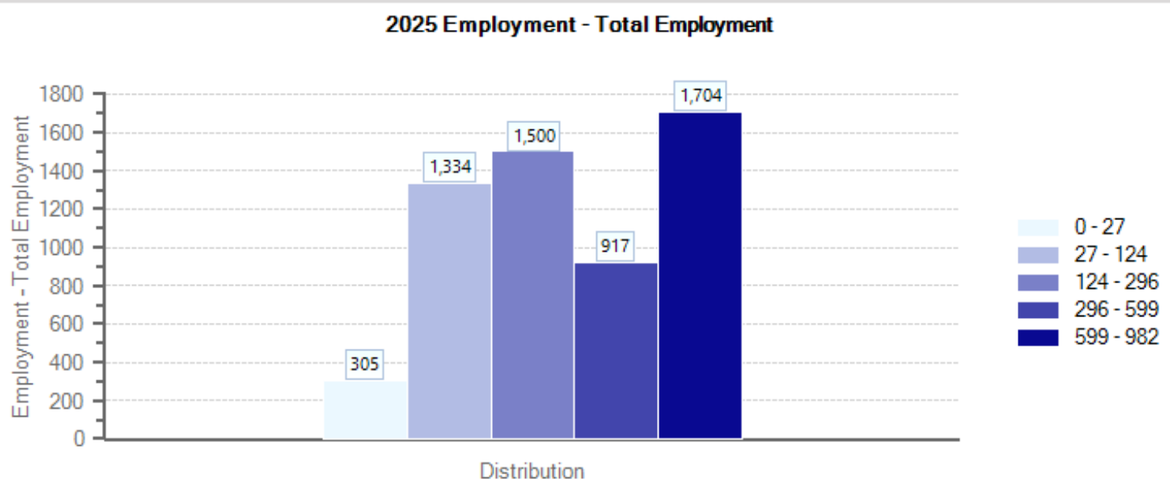
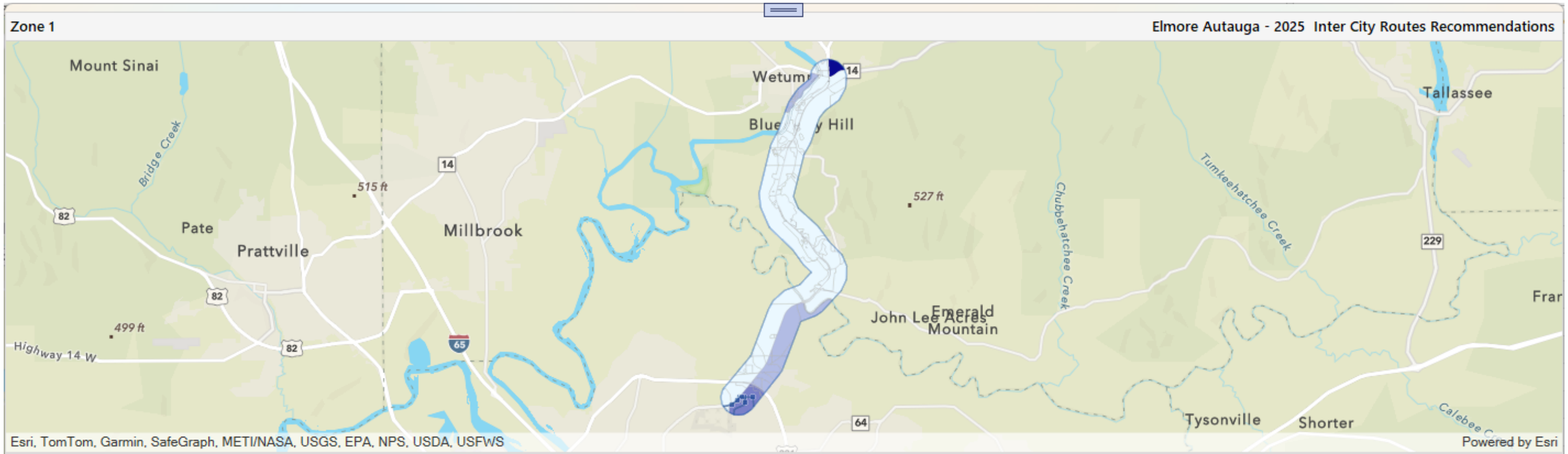


Figure 22 Zone 1 Low Income Households



Low Income Households Distribution	Households	% Market Area	Filter
0.0 - 20.0%	158	78.61%	☑
20.0 - 40.0%	32	15.92%	☑
40.0 - 60.0%	10	4.98%	☑
60.0 - 80.0%	0	0.00%	☑
80.0 - 100.0%	1	0.50%	☑
Market Area Total	**201**	**17.4%**	

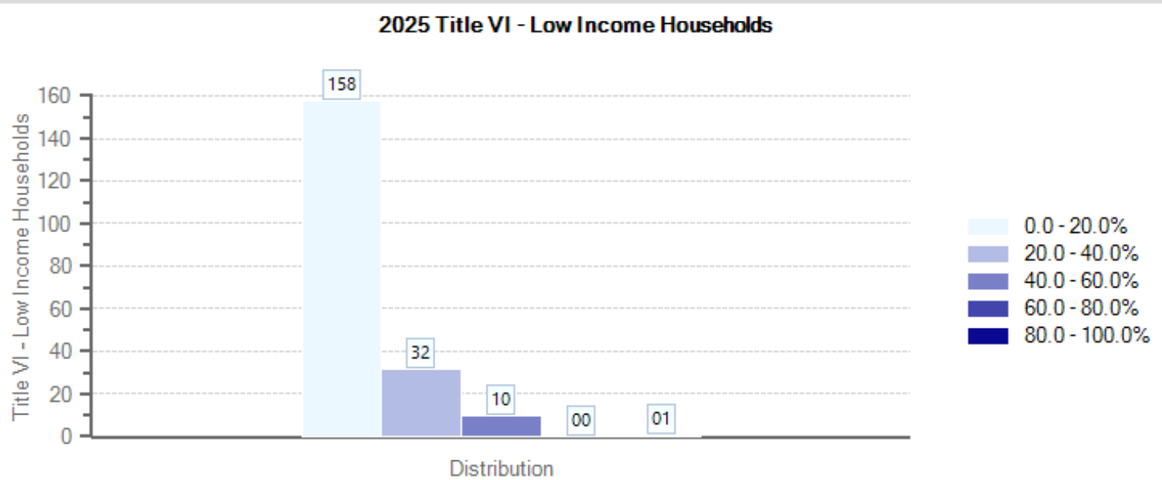


Figure 23 Zone 2 Area Map

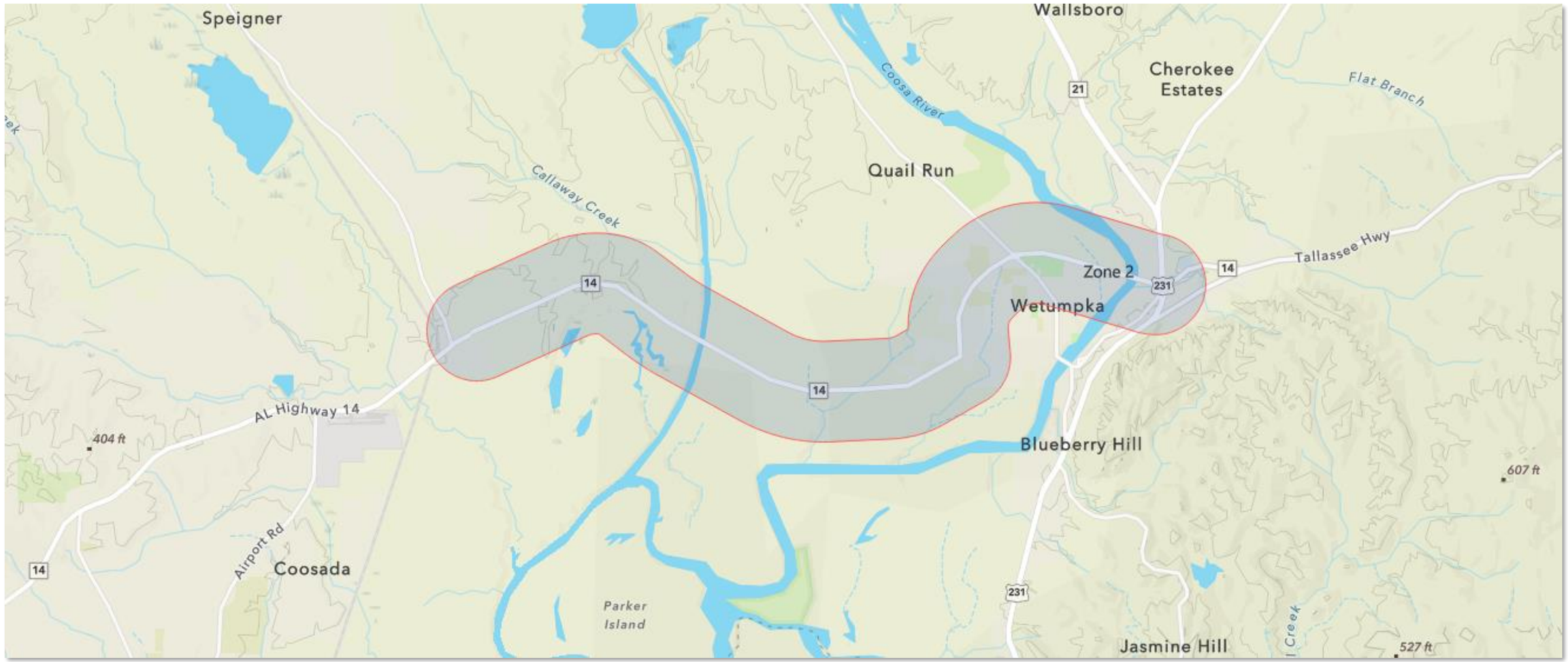
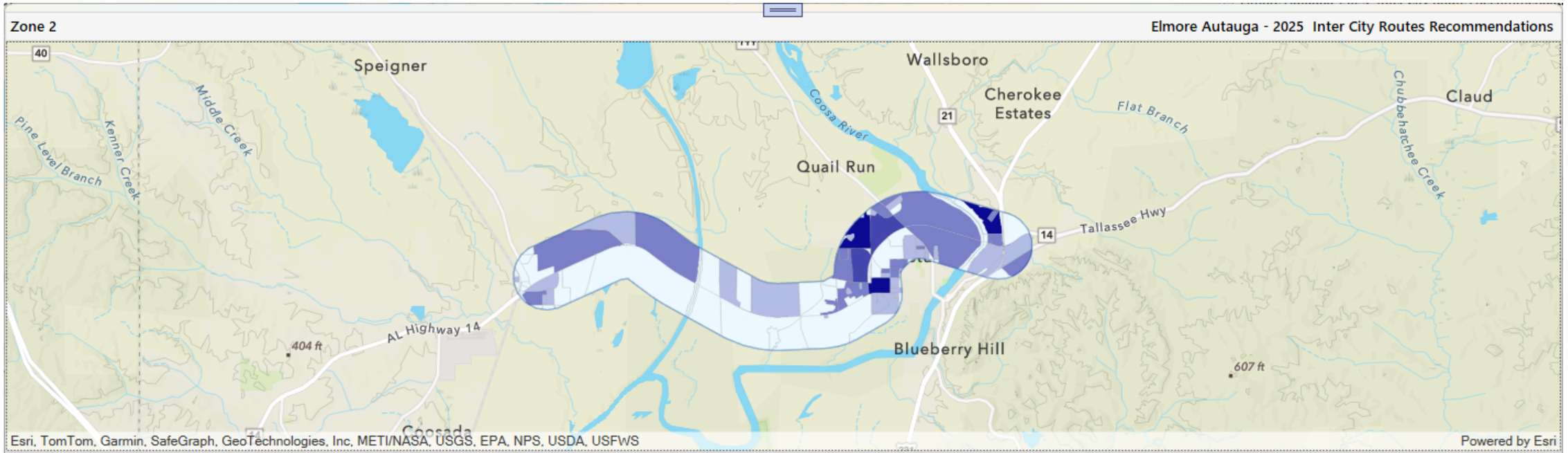


Figure 24 Zone 2 Population Market



	Total Population Distribution	Population	% Market Area	Filter
	0 - 14	245	7.63%	☑
	14 - 40	743	23.12%	☑
	40 - 99	1,078	33.55%	☑
	99 - 196	311	9.68%	☑
	196 - 353	836	26.02%	☑
	Market Area Total	**3,214**	**100.0%**	

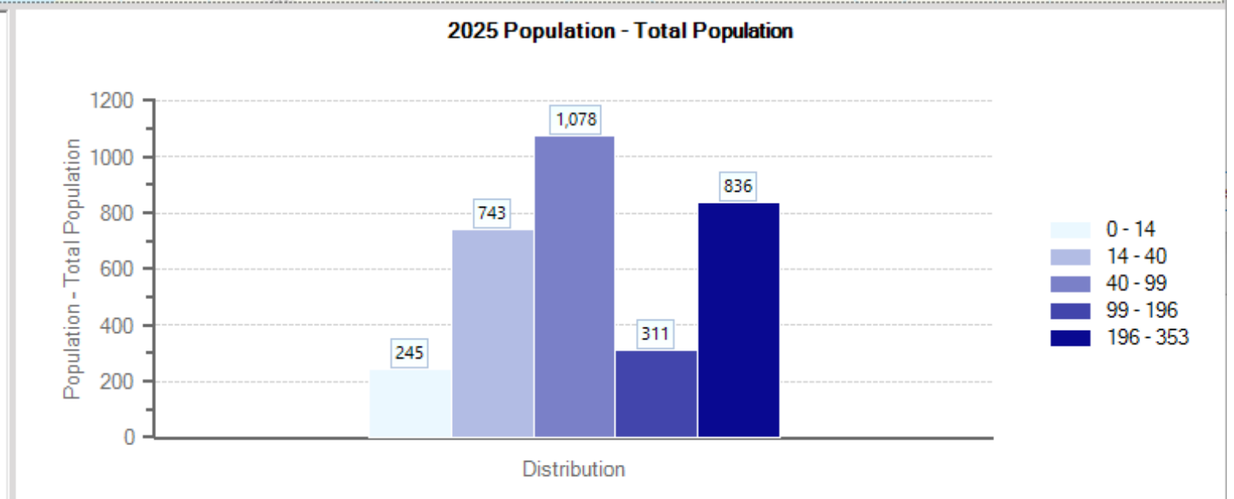
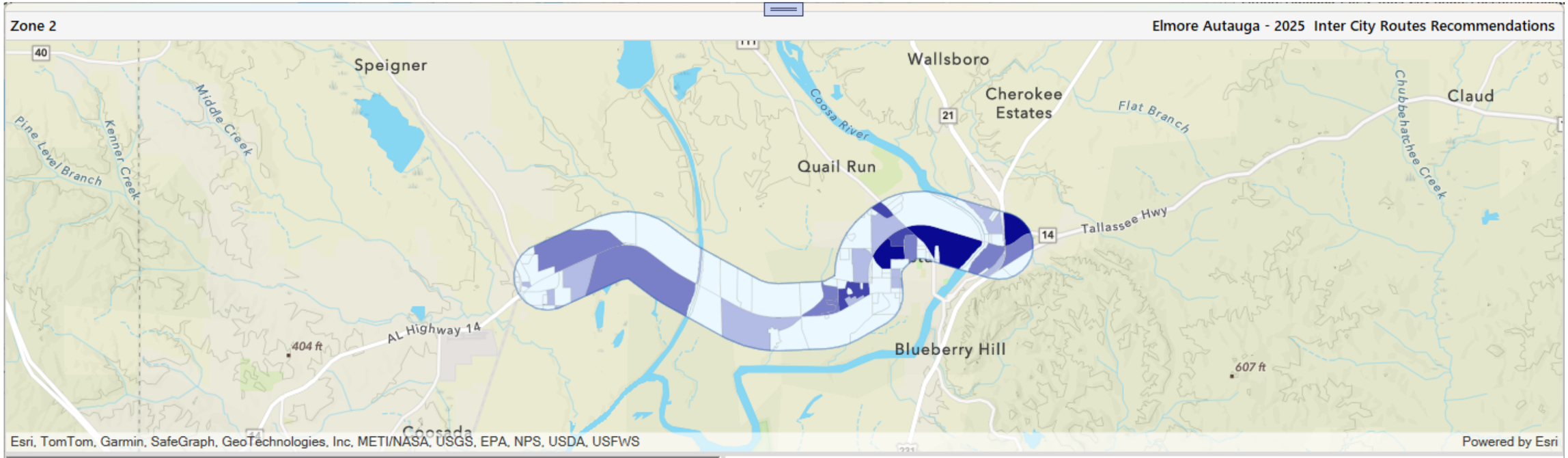


Figure 25 Zone 2 Employment Market



	Total Employment Distribution	Employees	% Market Area	Filter
	0 - 5	19	1.39%	☑
	5 - 17	133	9.71%	☑
	17 - 68	169	12.34%	☑
	68 - 112	268	19.56%	☑
	112 - 448	714	52.12%	☑
	Market Area Total	**1,371**	**100.00%**	

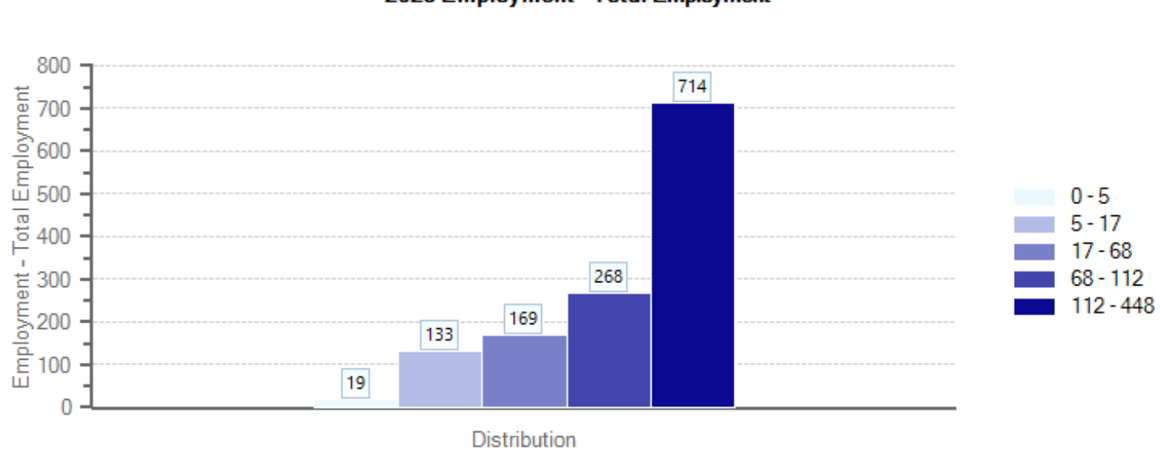
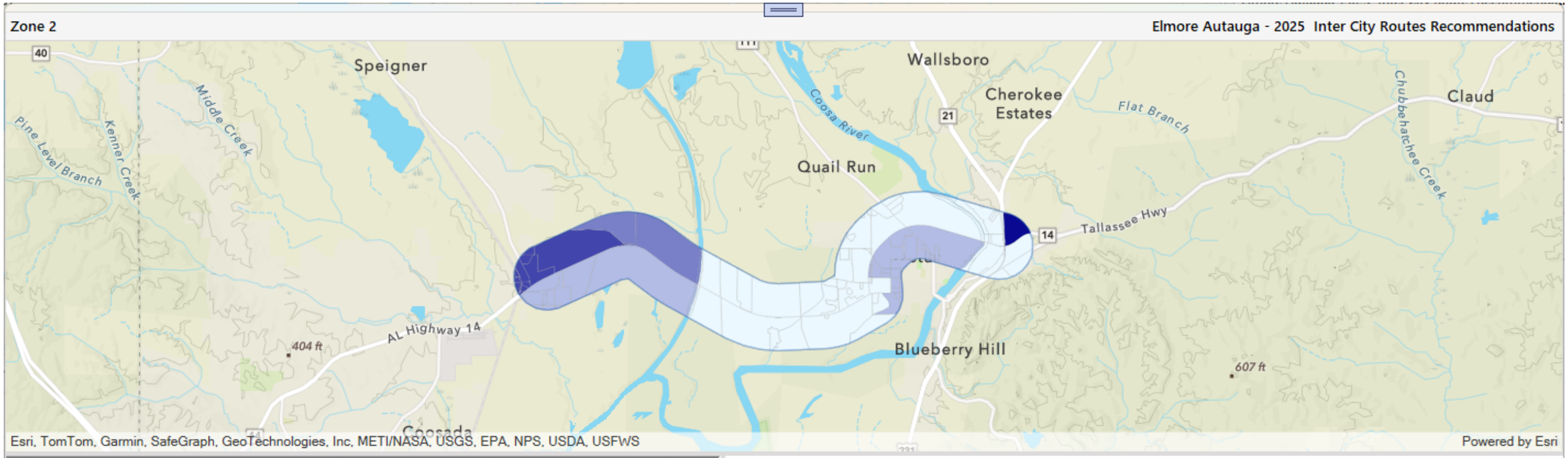


Figure 26 Zone 2 Low Income Households



Low Income Households Distribution	Households	% Market Area	Filter
9.4 - 27.5%	190	59.19%	☑
27.5 - 45.6%	73	22.74%	☑
45.6 - 63.8%	22	6.85%	☑
63.8 - 81.9%	35	10.90%	☑
81.9 - 100.0%	1	0.31%	☑
Market Area Total	**321**	**26.4%**	

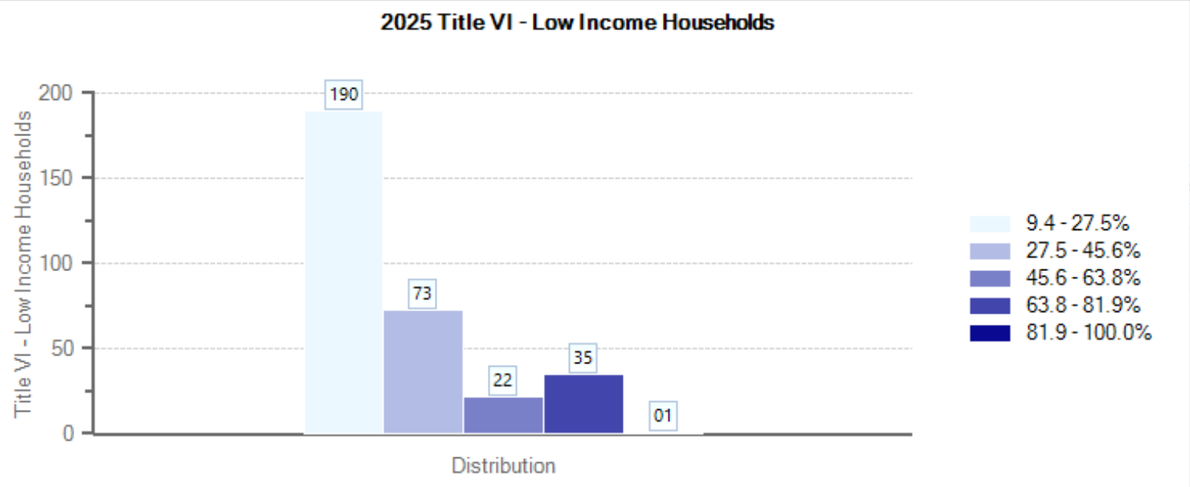


Figure 27 Zone 3 Area Map

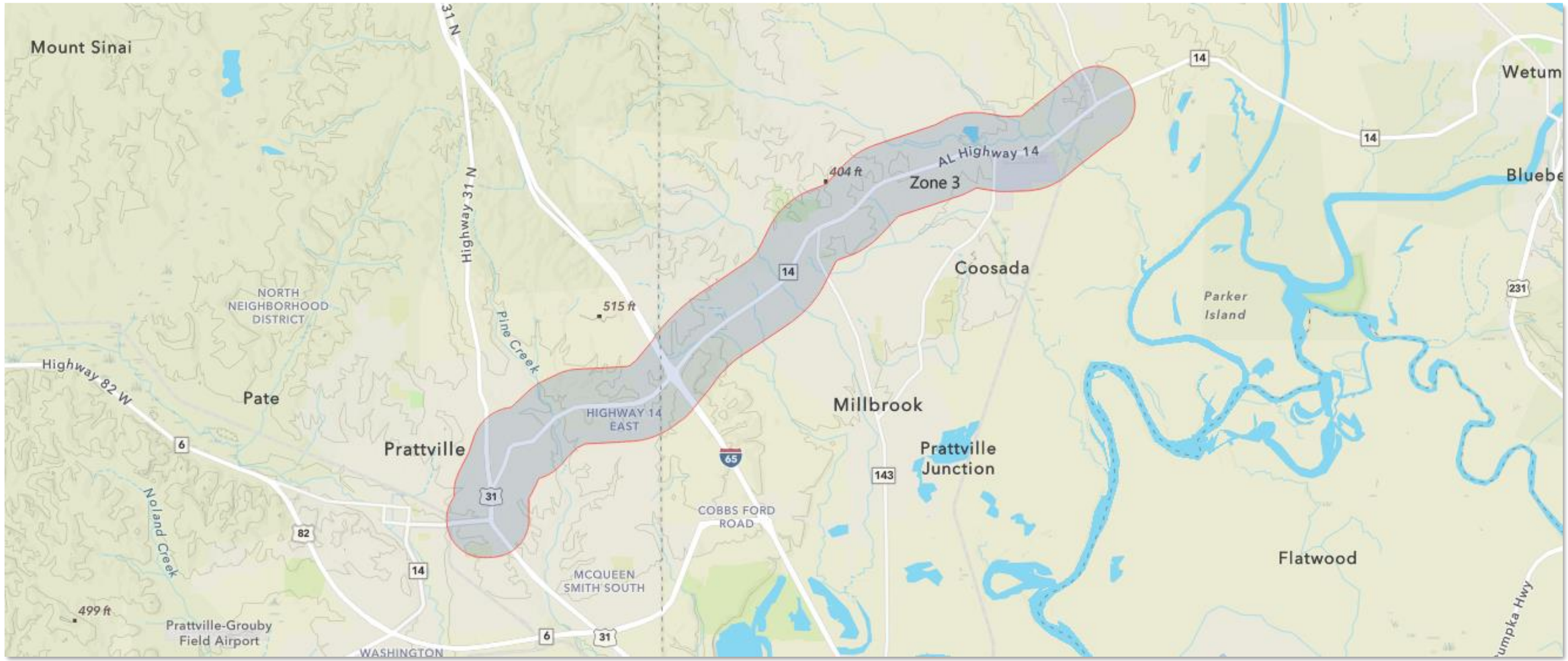
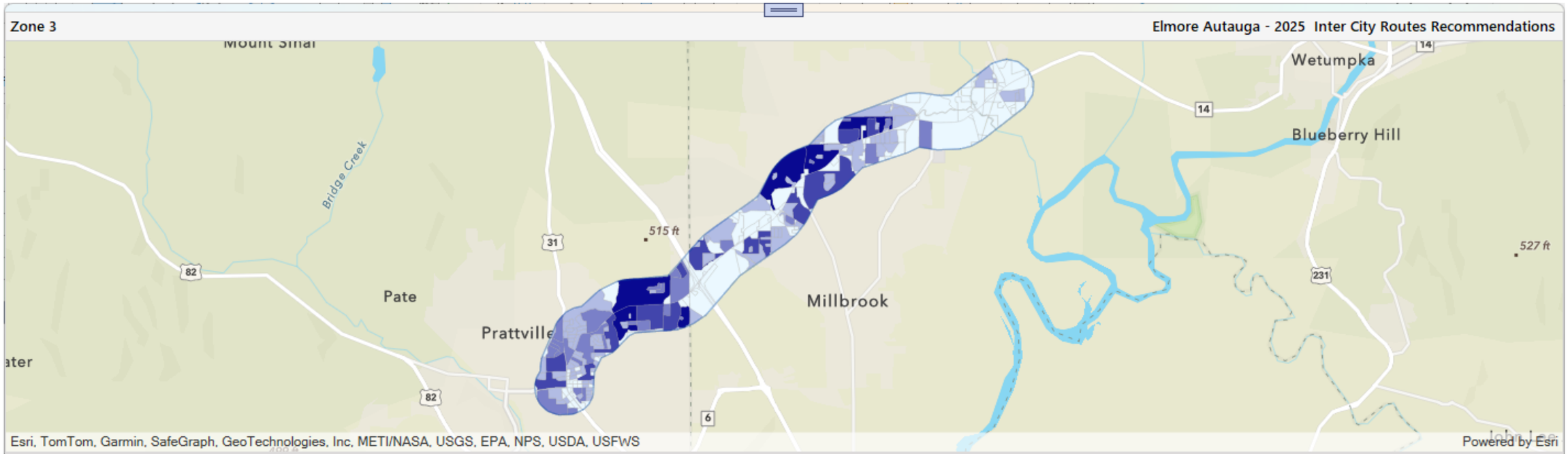


Figure 28 Zone 3 Population Market



Total Population Distribution	Population	% Market Area	Filter
0 - 22	1,032	7.79%	☑
22 - 59	3,851	29.08%	☑
59 - 131	2,540	19.18%	☑
131 - 381	2,615	19.74%	☑
381 - 664	3,205	24.20%	☑
Market Area Total	**13,244**	**100.0%**	

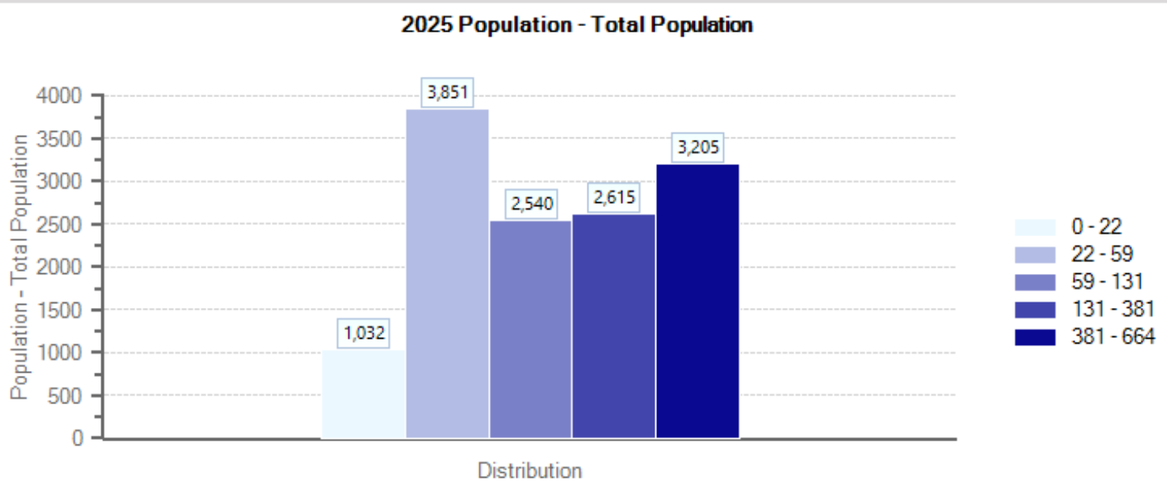
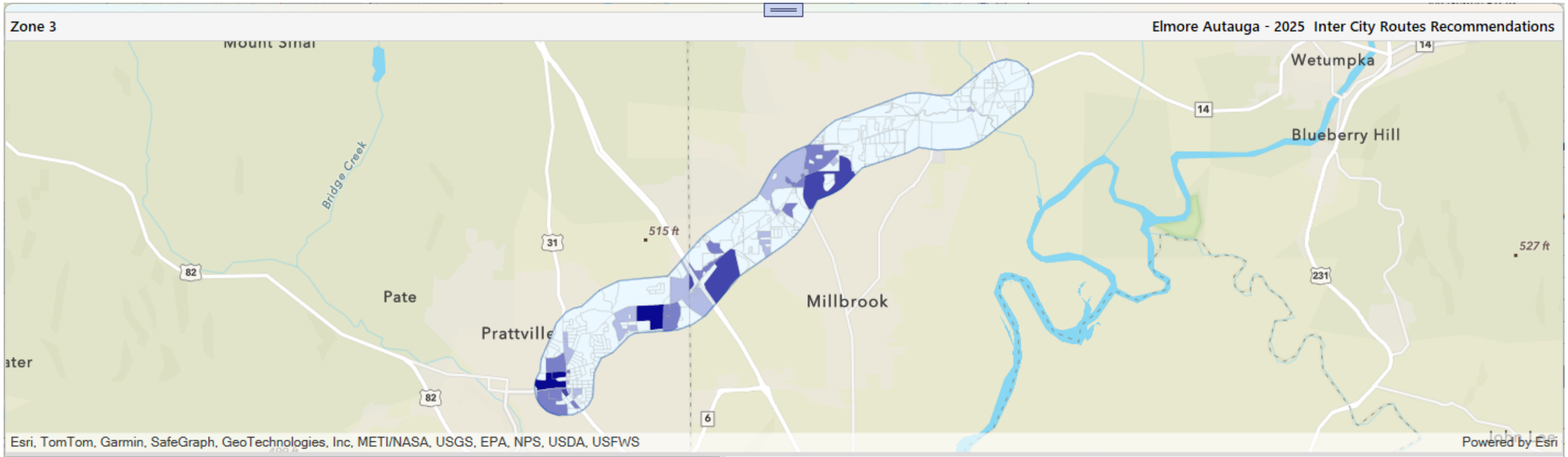


Figure 29 Zone 3 Employment Market



	Total Employment Distribution	Employees	% Market Area	Filter
	0 - 20	301	6.21%	☑
	20 - 64	694	14.32%	☑
	64 - 176	1,377	28.42%	☑
	176 - 394	1,099	22.68%	☑
	394 - 498	1,375	28.37%	☑
	Market Area Total	**4,846**	**100.00%**	

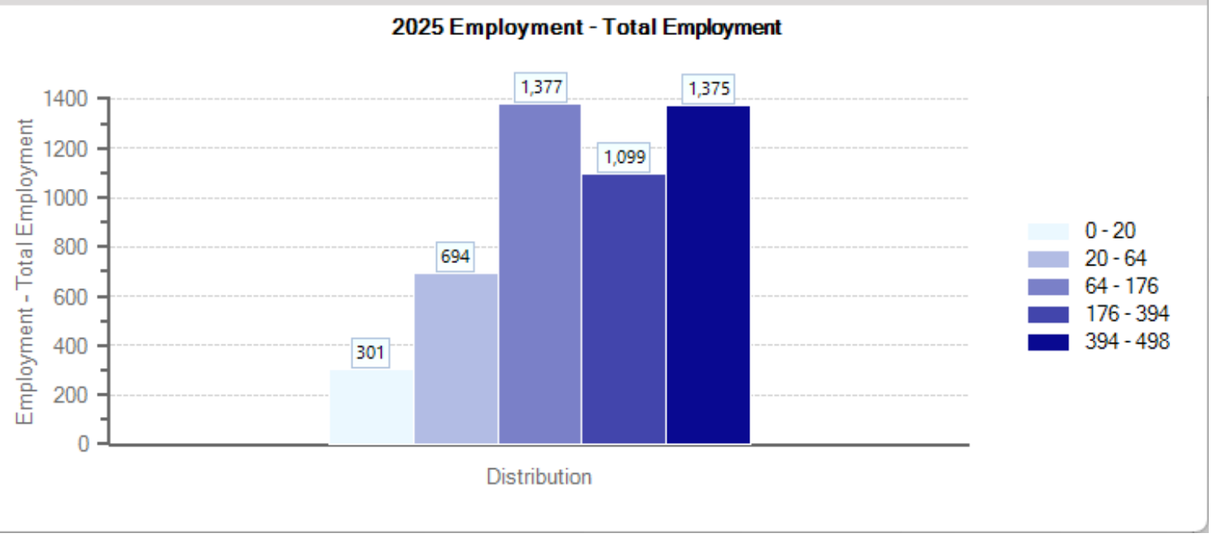
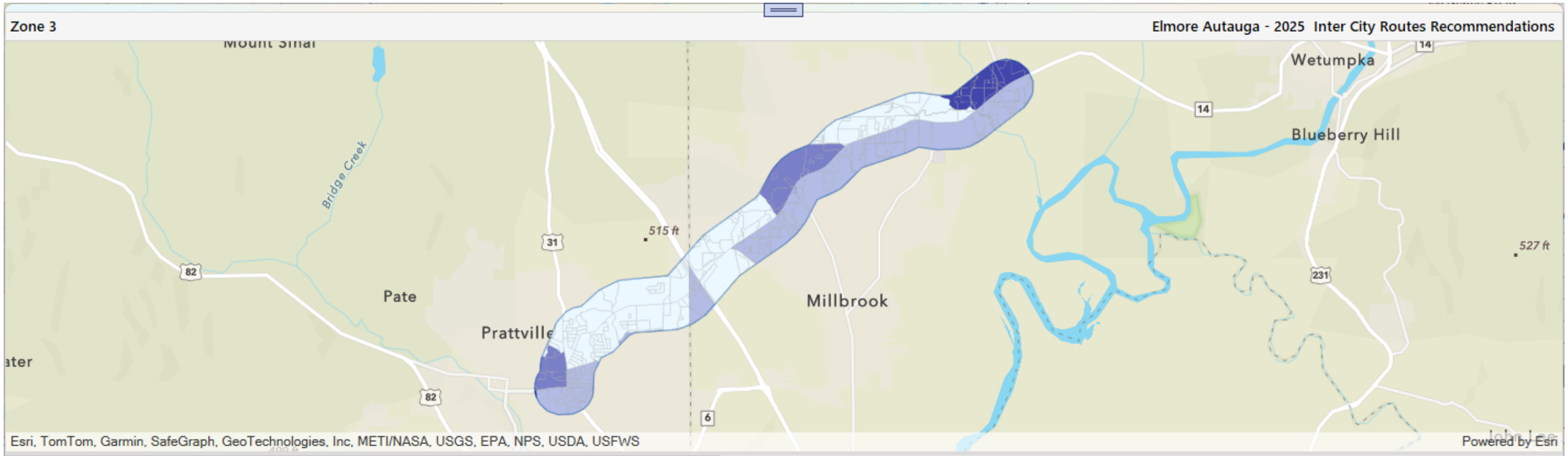


Figure 30 Zone 3 Low Income Households



	Low Income Households Distribution	Households	% Market Area	Filter
	0.0 - 20.0%	424	31.59%	☑
	20.0 - 40.0%	386	28.76%	☑
	40.0 - 60.0%	468	34.87%	☑
	60.0 - 80.0%	63	4.69%	☑
	80.0 - 100.0%	1	0.07%	☑
	Market Area Total	**1,342**	**24.3%**	

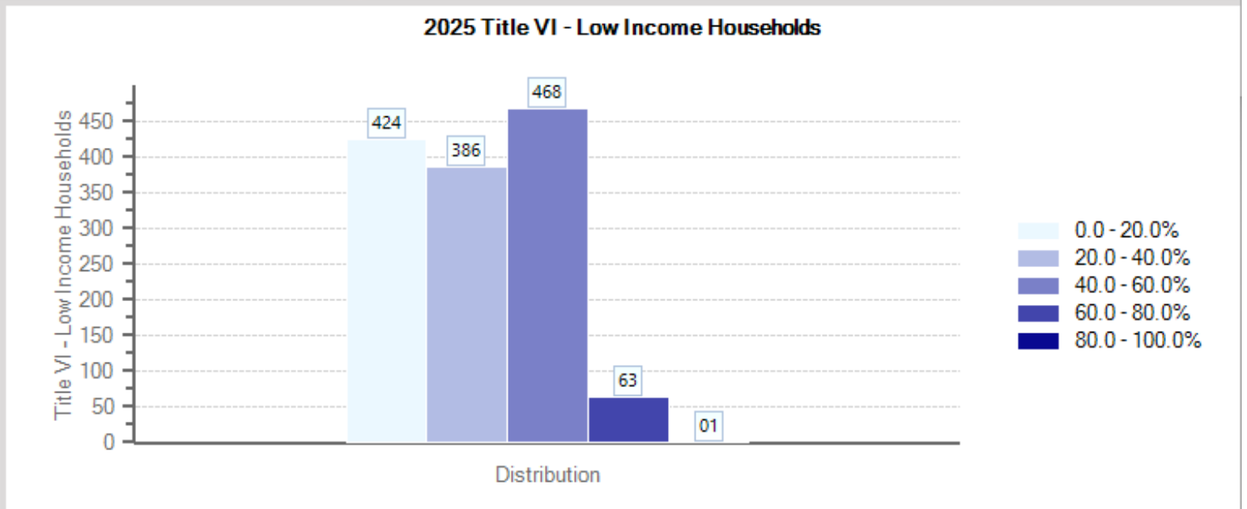


Figure 31 Zone 4 Area Map

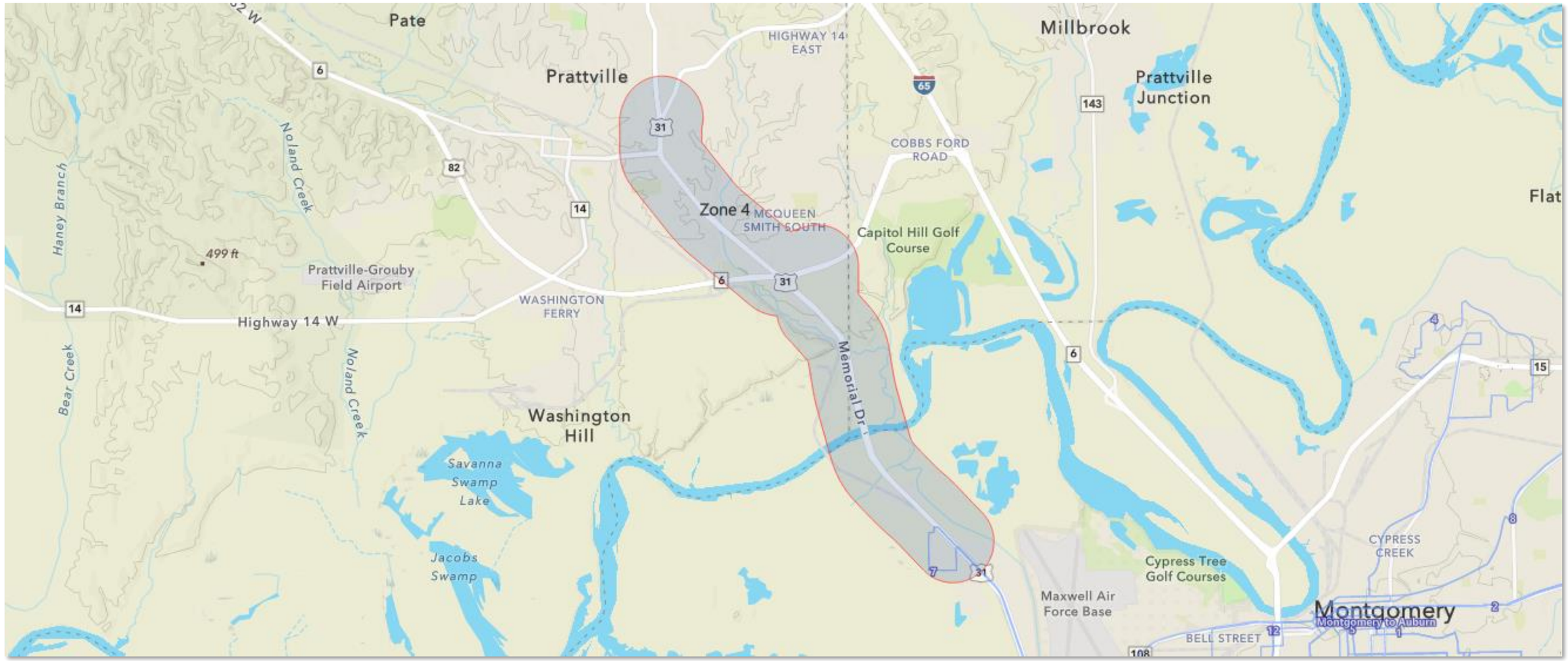
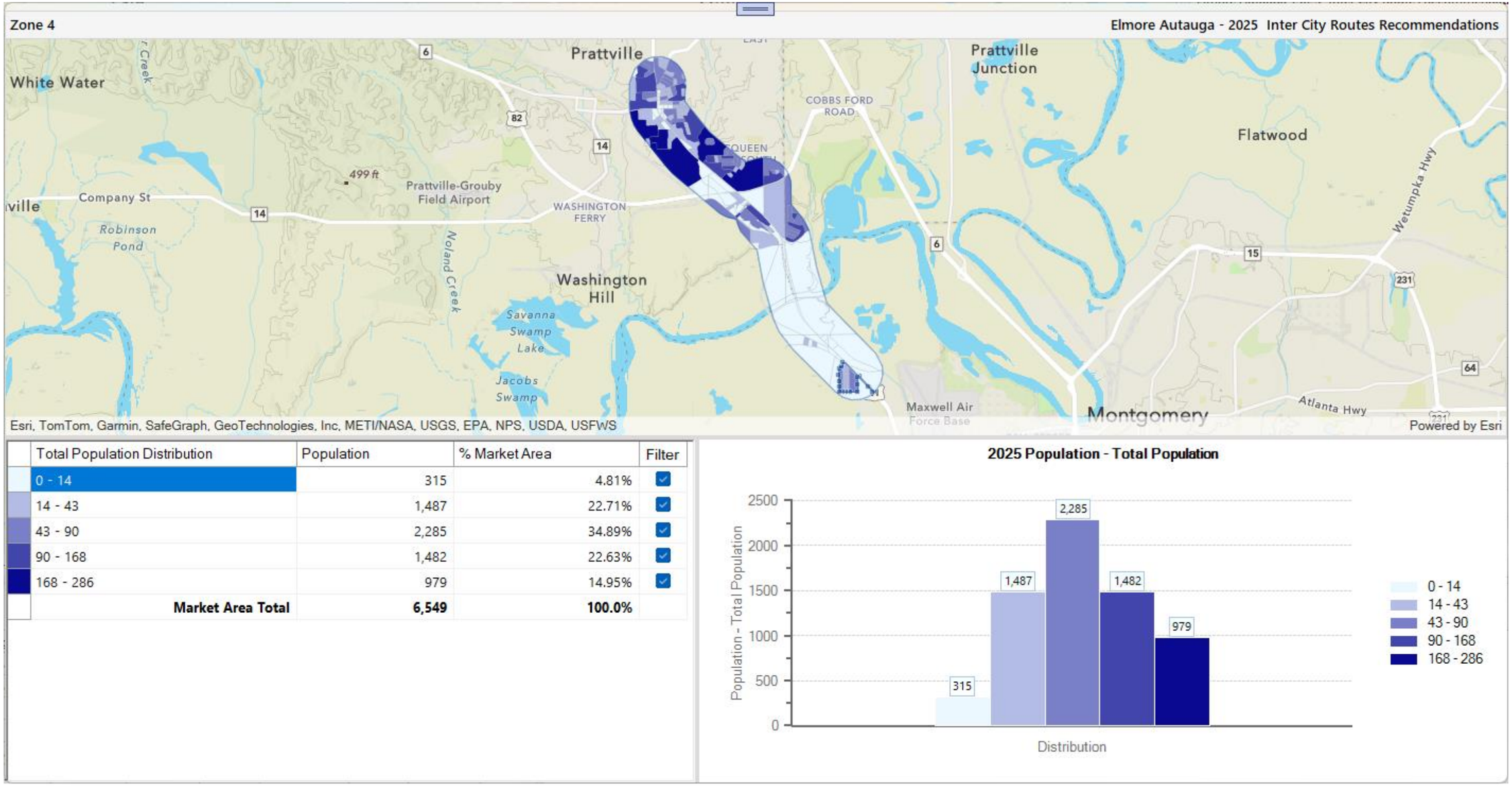
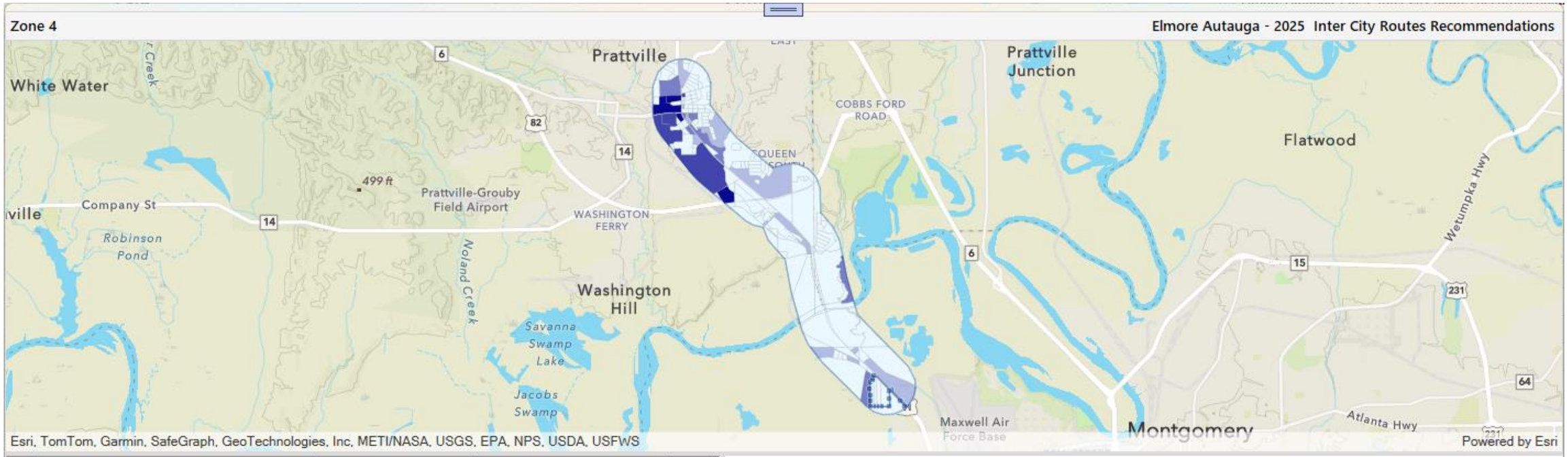


Figure 32 Zone 4 Population Market



Total Population Distribution	Population	% Market Area	Filter
0 - 14	315	4.81%	☑
14 - 43	1,487	22.71%	☑
43 - 90	2,285	34.89%	☑
90 - 168	1,482	22.63%	☑
168 - 286	979	14.95%	☑
Market Area Total	**6,549**	**100.0%**	

Figure 33 Zone 4 Employment Market



	Total Employment Distribution	Employees	% Market Area	Filter
	0 - 13	134	4.52%	☑
	13 - 40	314	10.59%	☑
	40 - 105	496	16.72%	☑
	105 - 233	525	17.70%	☑
	233 - 406	1,497	50.47%	☑
	Market Area Total	**2,967**	**100.00%**	

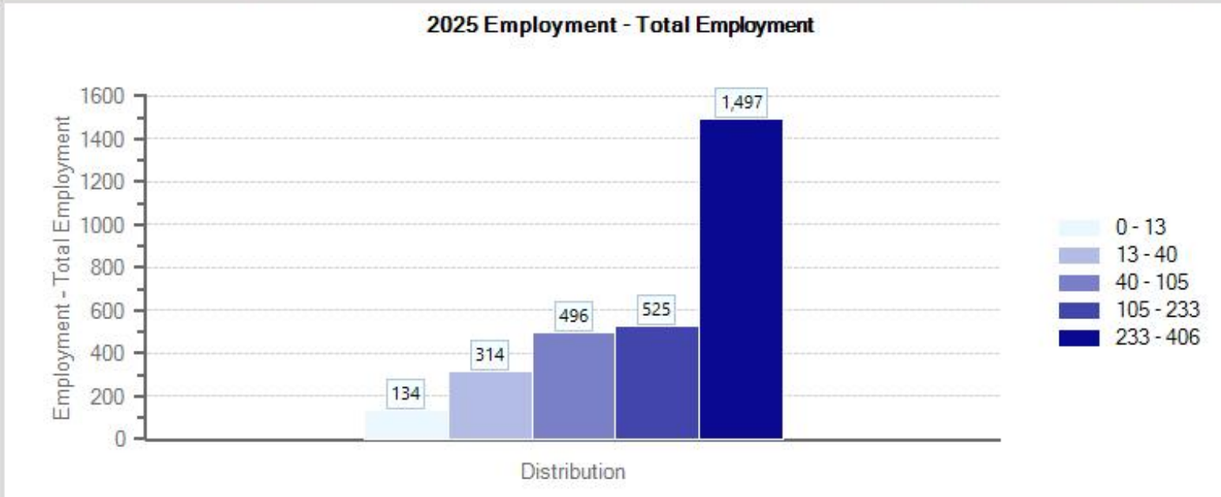
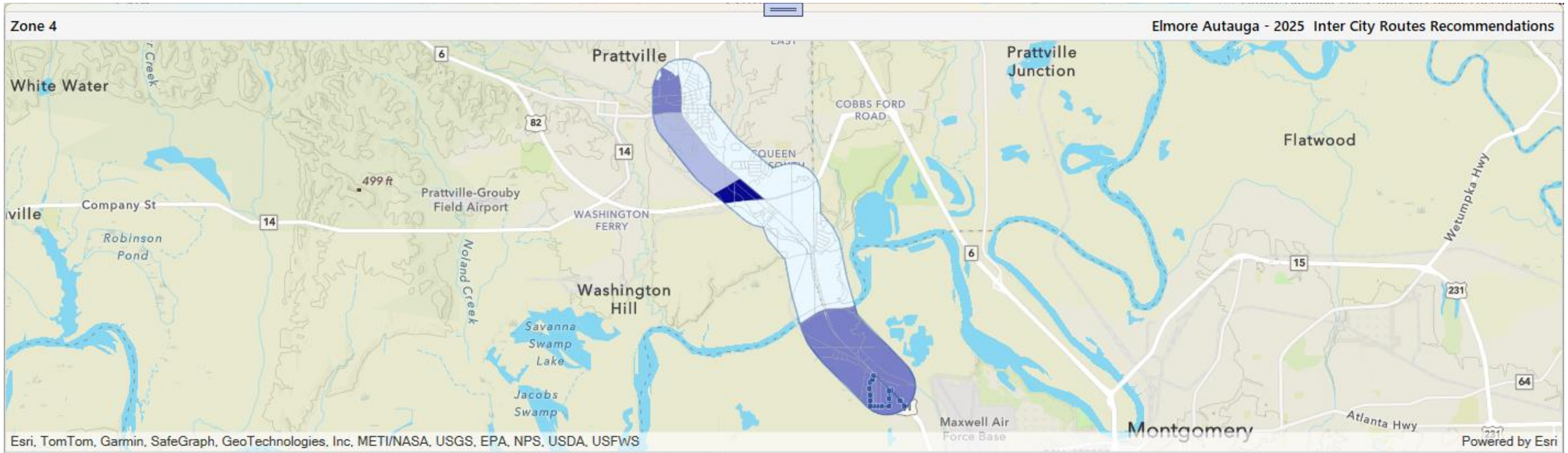


Figure 34 Zone 4 Low Income Households



Low Income Households Distribution	Households	% Market Area	Filter
5.6 - 24.5%	319	55.87%	☑
24.5 - 43.4%	75	13.13%	☑
43.4 - 62.2%	176	30.82%	☑
62.2 - 81.1%	0	0.00%	☑
81.1 - 100.0%	1	0.18%	☑
Market Area Total	**571**	**21.4%**	

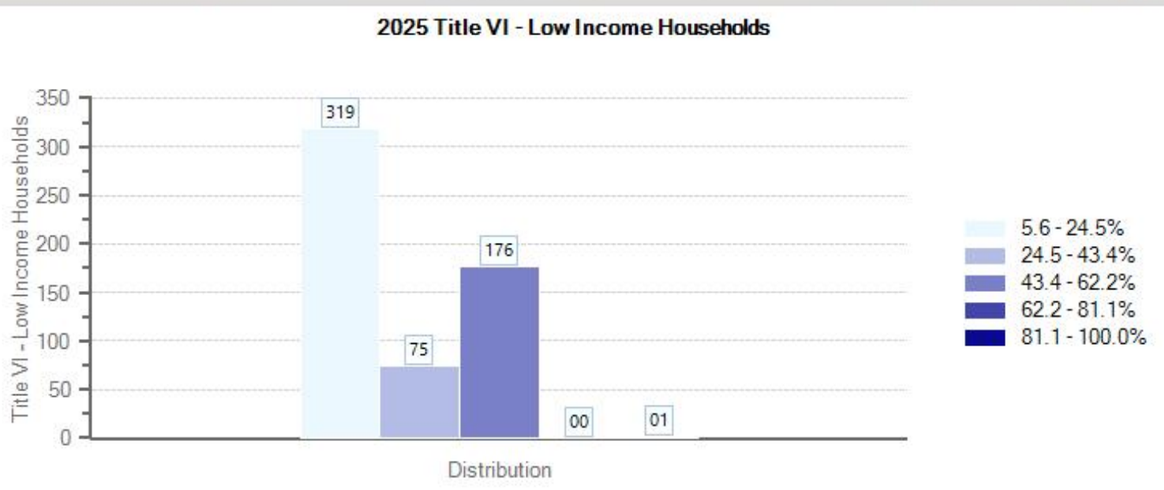


Figure 35 Zone 5 Area Map

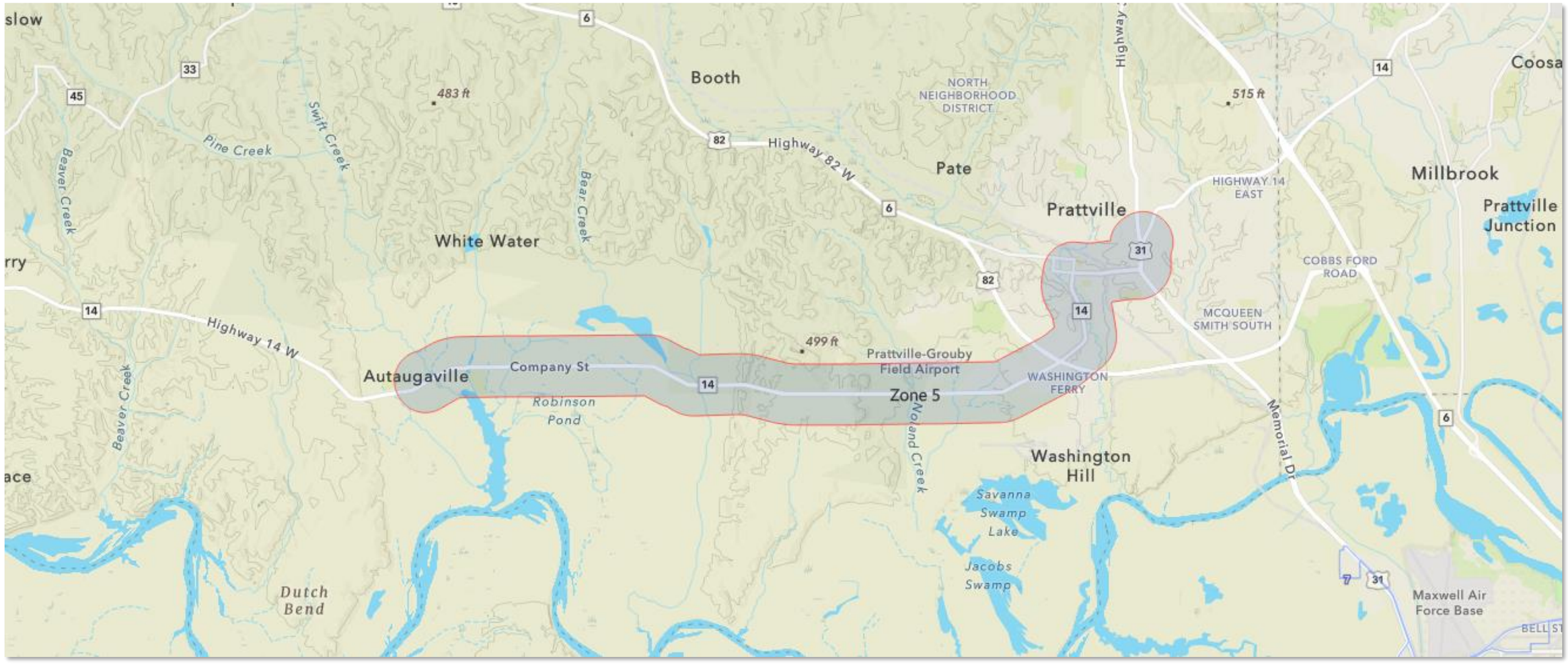
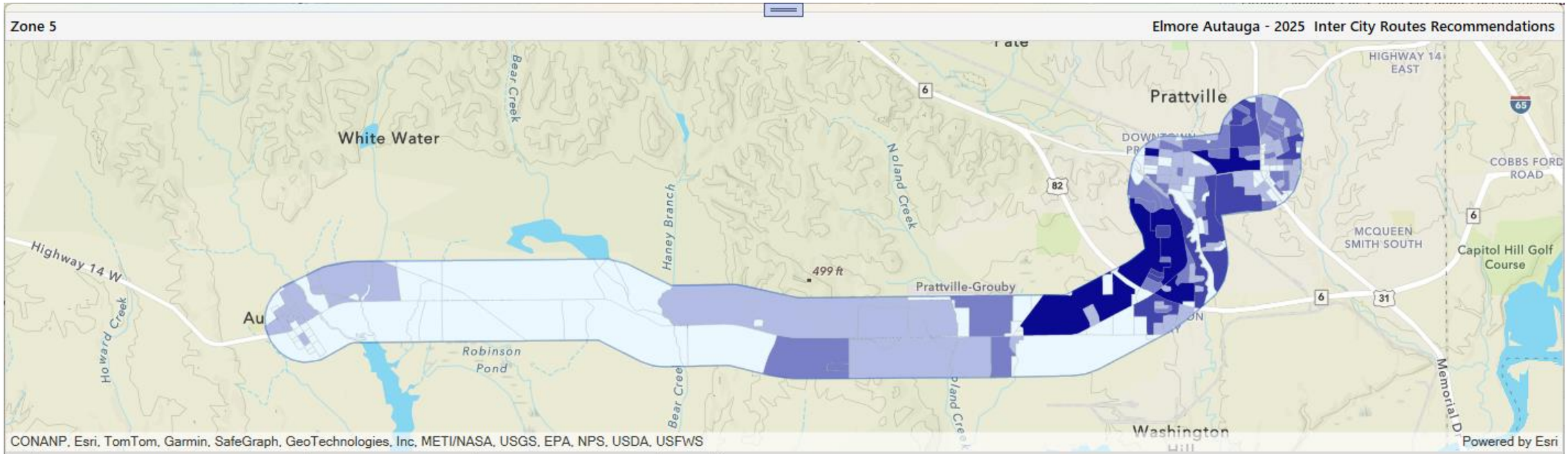


Figure 36 Zone 5 Population Market



Total Population Distribution	Population	% Market Area	Filter
0 - 15	487	6.34%	☑
15 - 44	2,537	33.02%	☑
44 - 82	2,036	26.50%	☑
82 - 168	1,205	15.68%	☑
168 - 379	1,419	18.47%	☑
Market Area Total	**7,684**	**100.0%**	

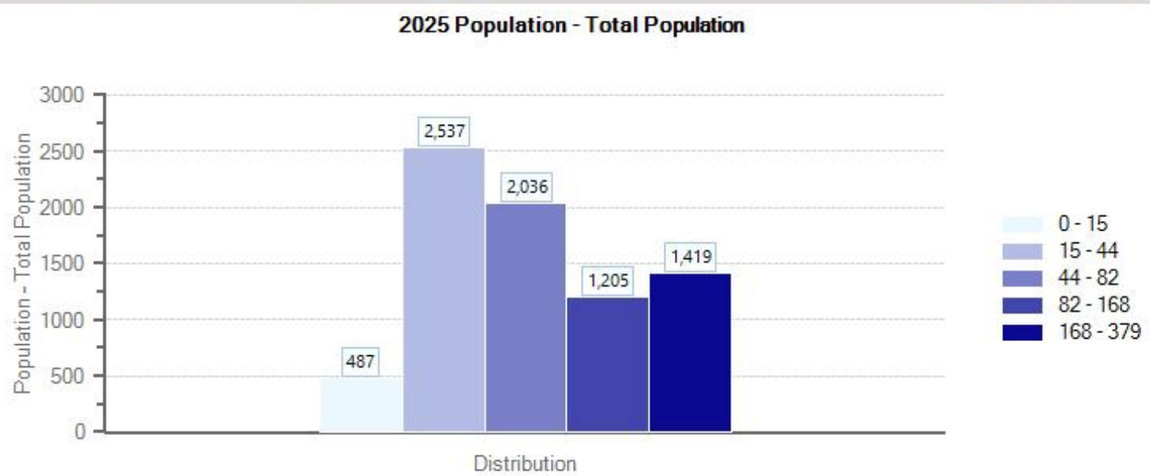
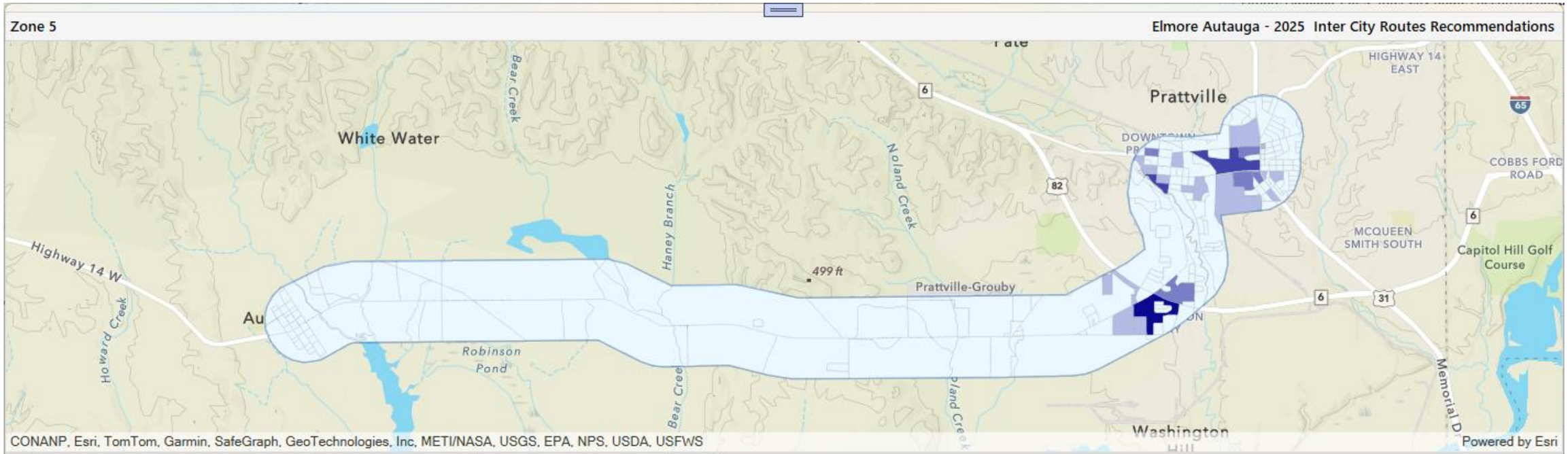


Figure 37 Zone 5 Employment Market



Total Employment Distribution	Employees	% Market Area	Filter
0 - 41	541	10.94%	☑
41 - 167	1,258	25.43%	☑
167 - 400	1,308	26.44%	☑
400 - 579	1,054	21.31%	☑
579 - 787	787	15.91%	☑
Market Area Total	**4,948**	**100.00%**	

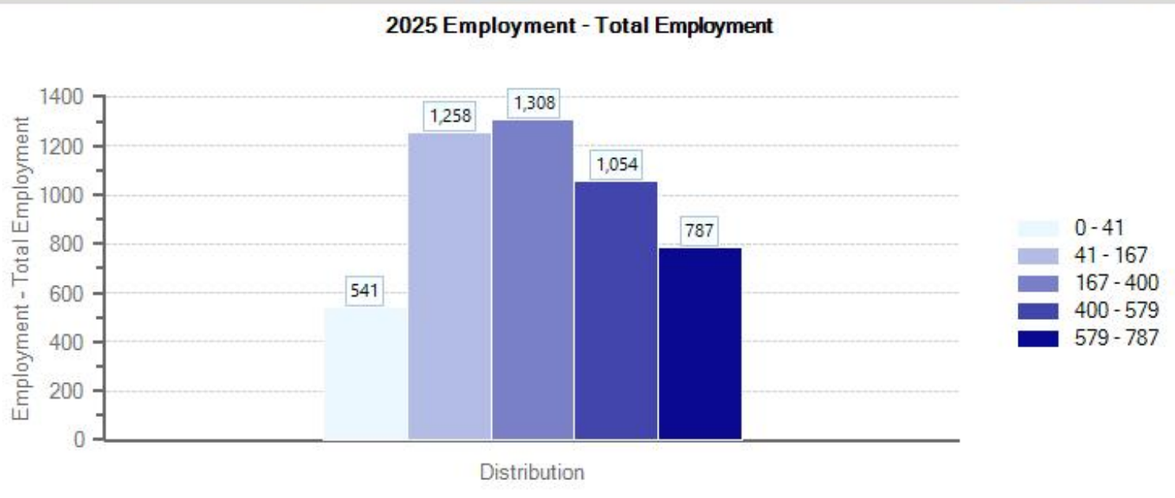
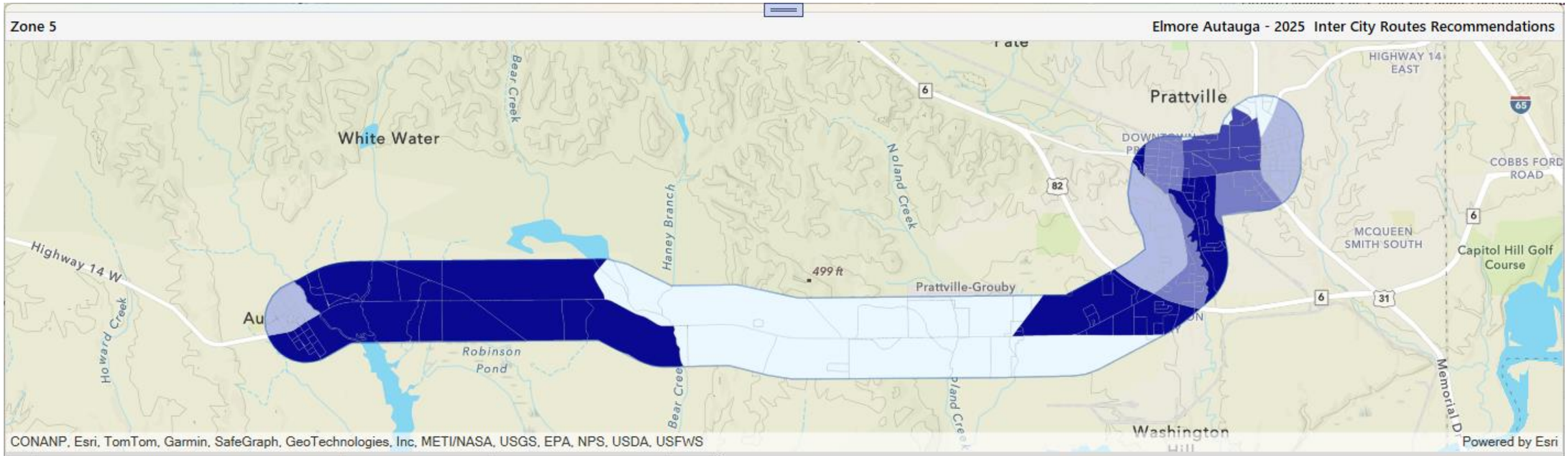


Figure 38 Zone 5 Low Income Households



Low Income Households Distribution	Households	% Market Area	Filter
4.3 - 15.2%	31	3.79%	☑
15.2 - 26.1%	205	25.03%	☑
26.1 - 37.0%	148	18.07%	☑
37.0 - 47.9%	167	20.39%	☑
47.9 - 58.8%	268	32.72%	☑
Market Area Total	**819**	**29.5%**	

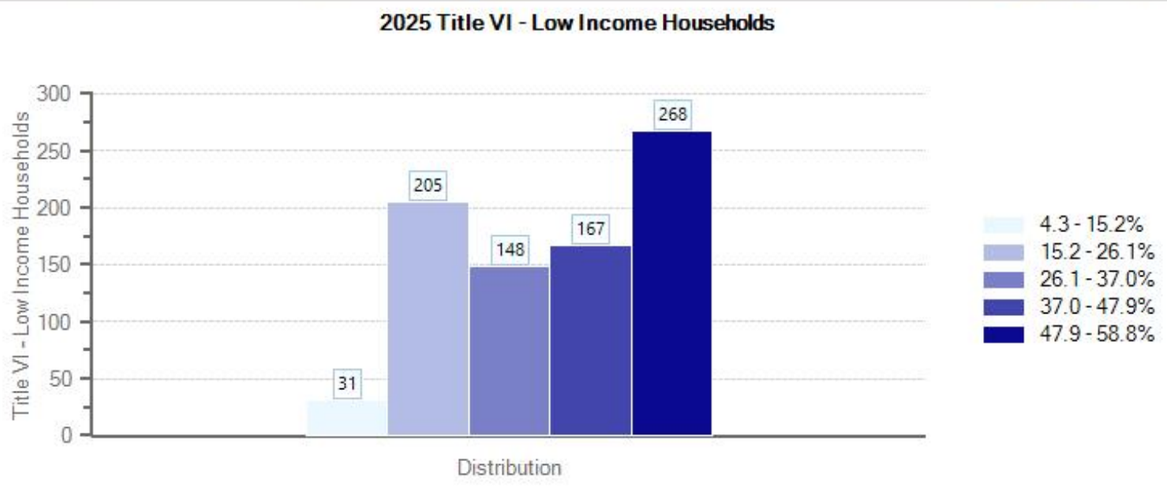
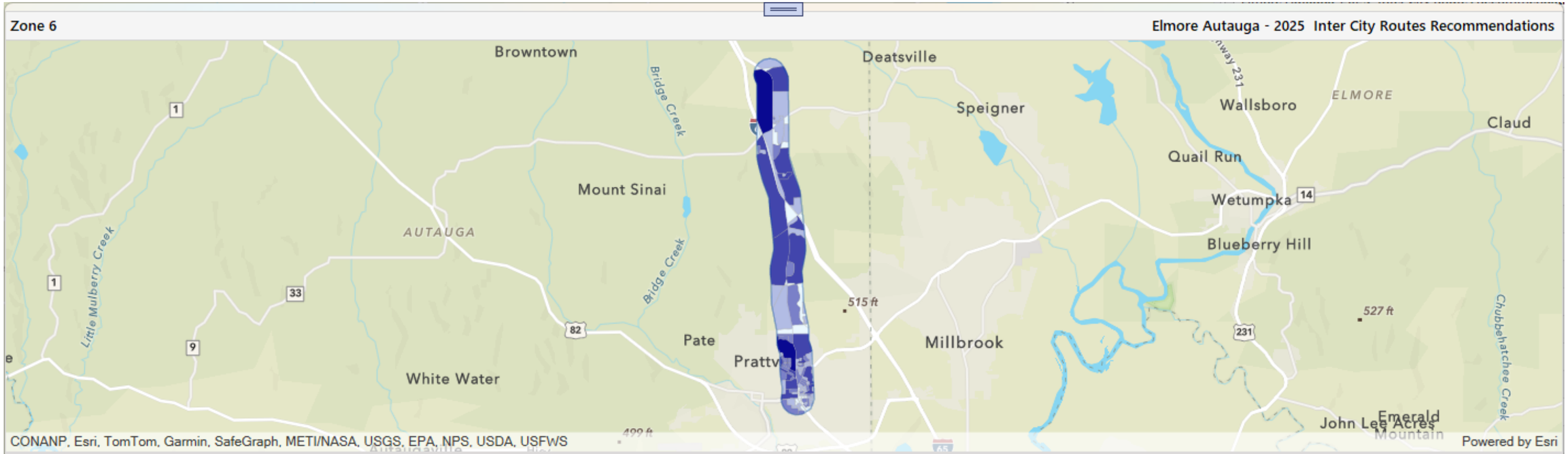


Figure 39 Zone 6 Area Map

Figure 40 Zone 6 Population Market



Total Population Distribution	Population	% Market Area	Filter
0 - 15	226	3.90%	☑
15 - 43	1,501	25.92%	☑
43 - 85	2,076	35.84%	☑
85 - 168	1,793	30.96%	☑
168 - 377	196	3.38%	☑
Market Area Total	**6,169**	**93.9%**	

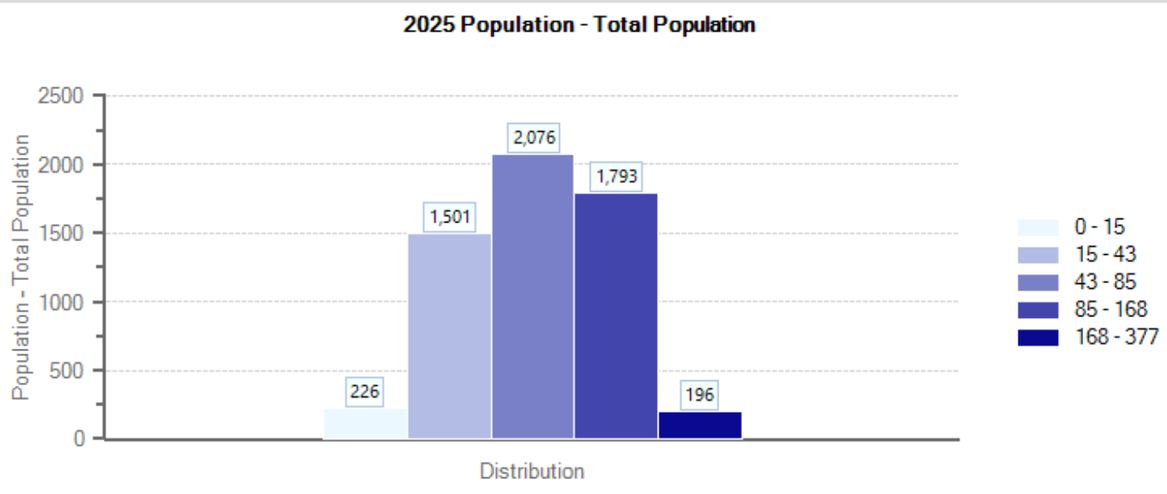
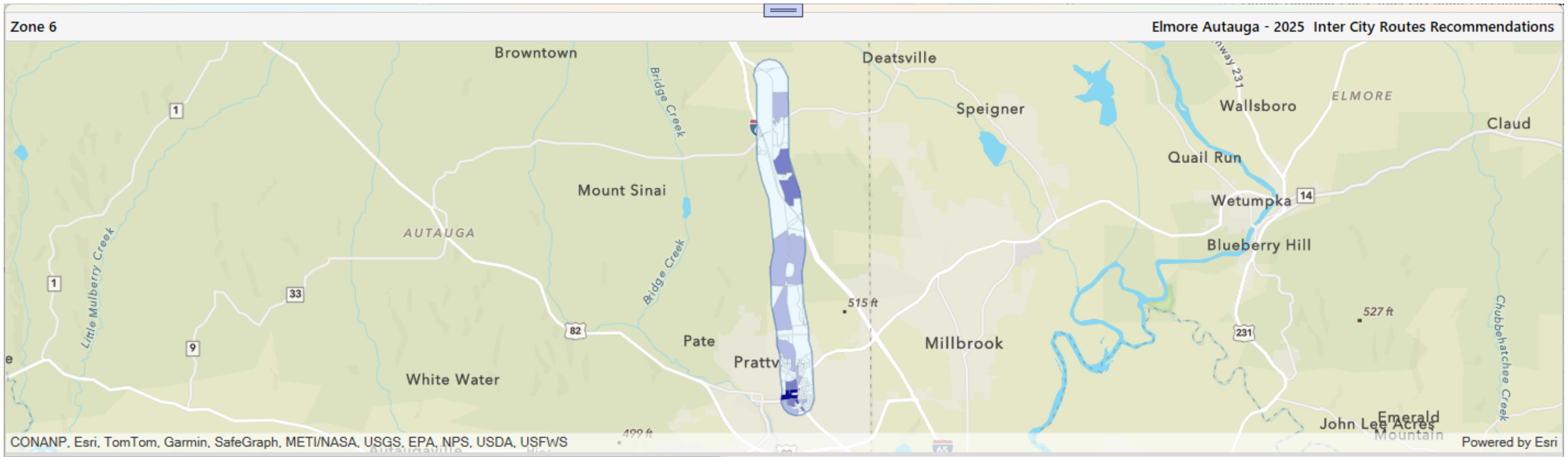


Figure 41 Zone 6 Employment Market



	Total Employment Distribution	Employees	% Market Area	Filter
	0 - 20	204	8.84%	☑
	20 - 64	434	18.80%	☑
	64 - 176	546	23.66%	☑
	176 - 293	293	12.69%	☑
	293 - 430	830	35.96%	☑
	Market Area Total	**2,308**	**100.00%**	

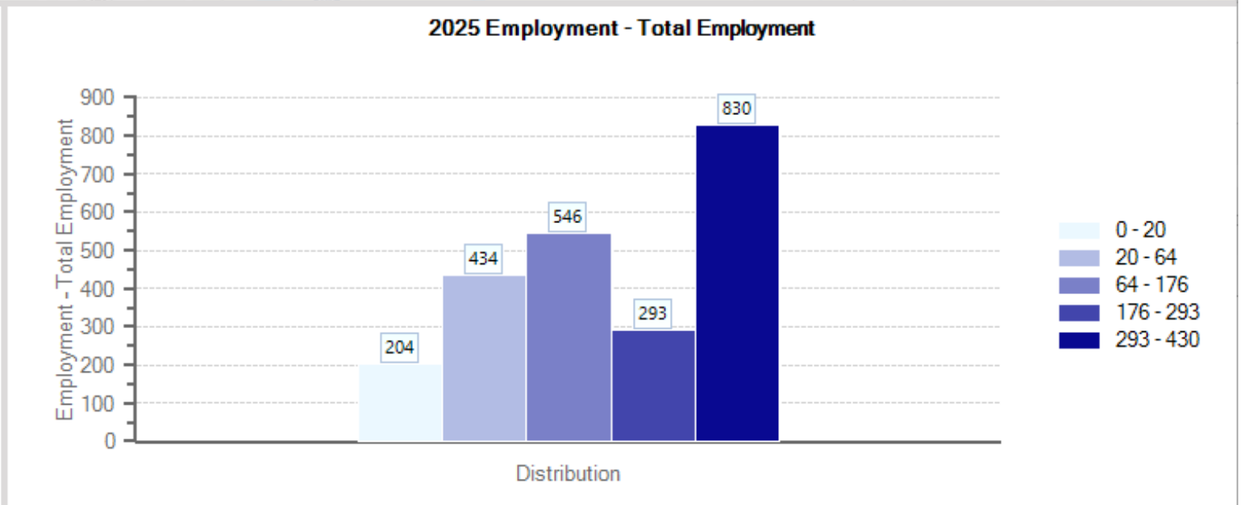
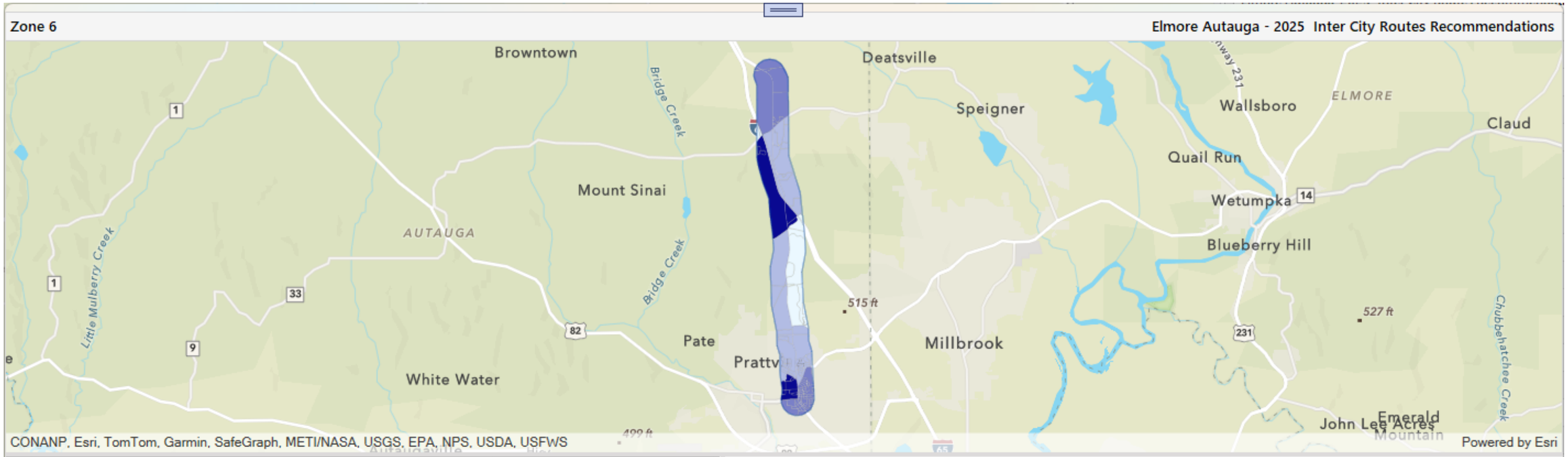
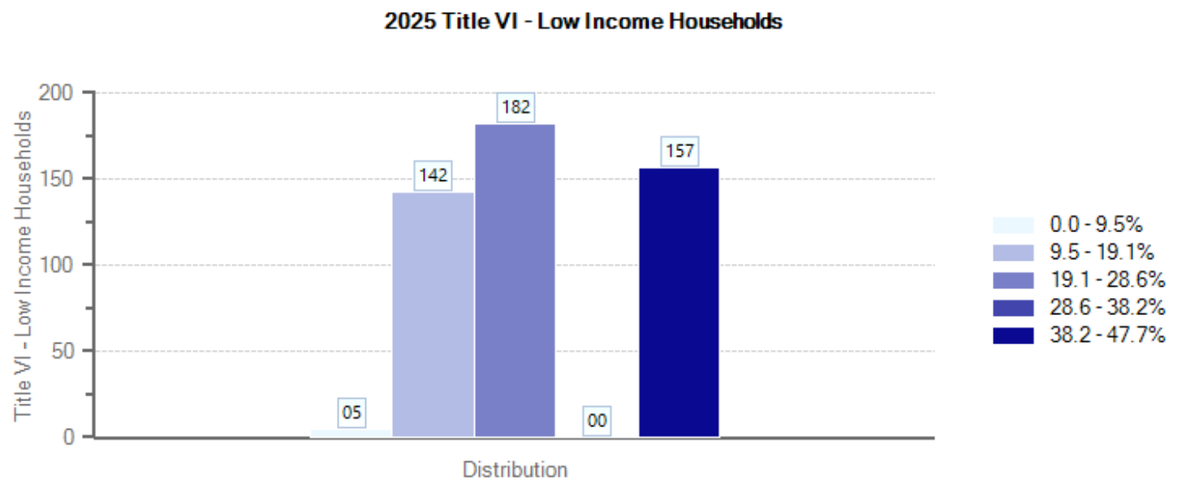


Figure 42 Zone 6 Low Income Households



Low Income Households Distribution	Households	% Market Area	Filter
0.0 - 9.5%	5	1.03%	☑
9.5 - 19.1%	142	29.22%	☑
19.1 - 28.6%	182	37.45%	☑
28.6 - 38.2%	0	0.00%	☑
38.2 - 47.7%	157	32.30%	☑
Market Area Total	**486**	**21.0%**	



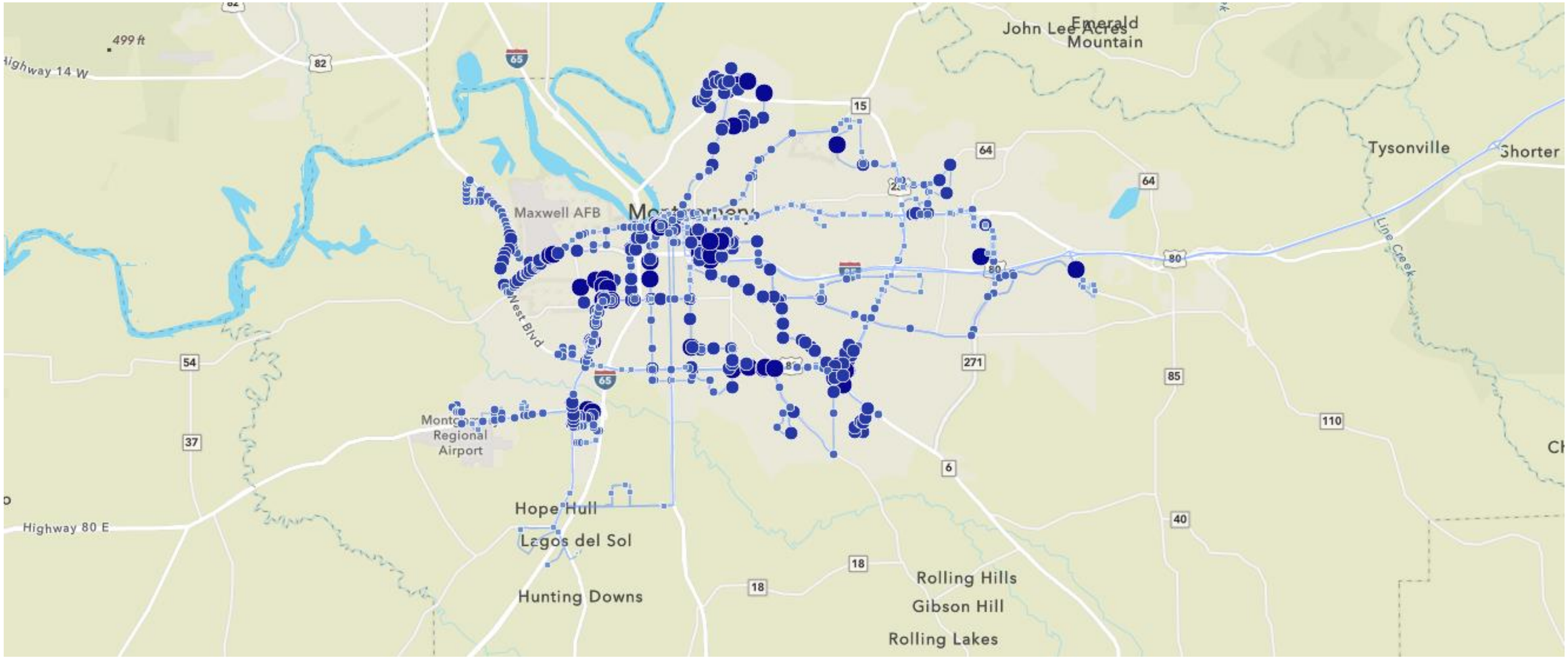


Figure 43 System Ridership Projections

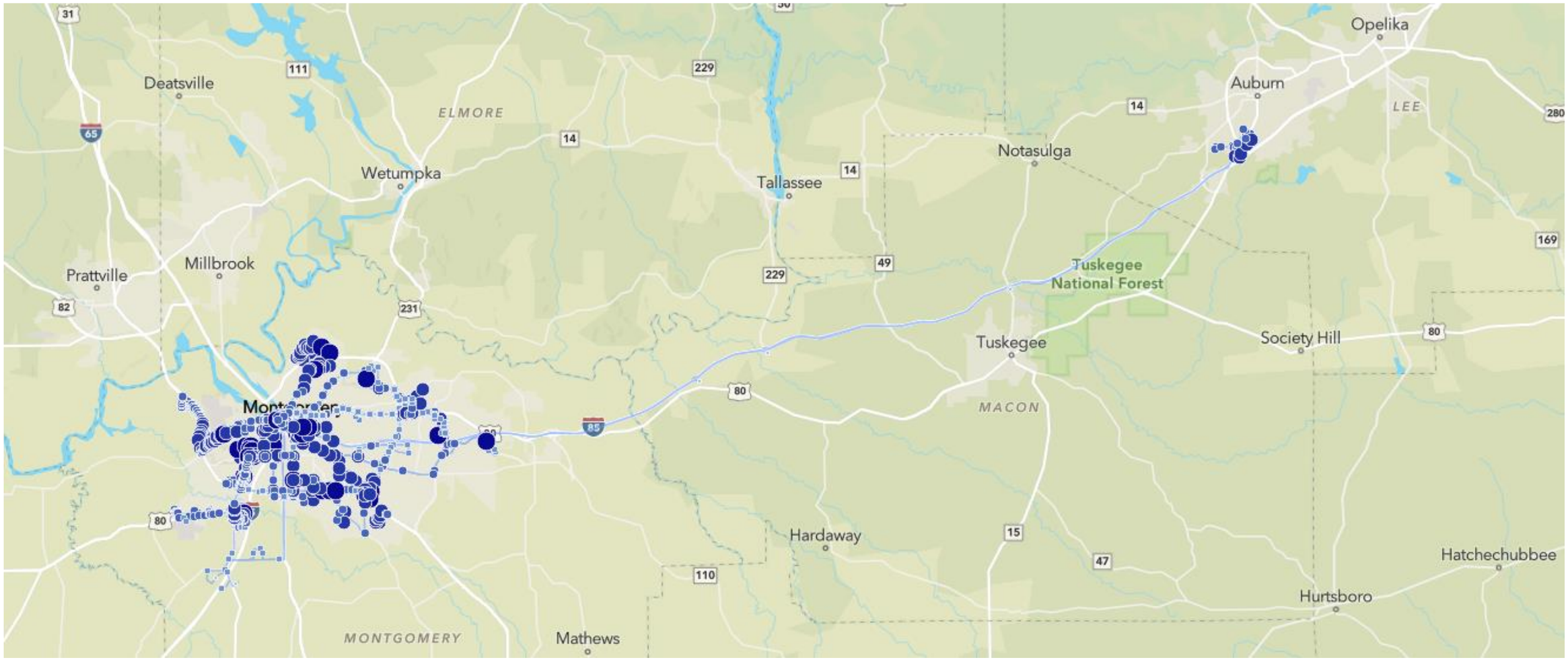


Figure 44 Regional Ridership Projections

Scenario Comparison Report

Boardings, Population, Employment, Service, Performance and Cost Variables

Transit System: Elmore Autauga
Scenario A: 2025
Scenario B: 2025 Inter City Routes Recommendations
Summary Span: Weekday Summary
Report Date: 6/6/2025 7:21:45 AM

Route Summary

Route Name	Additional Boardings (+\-)	Total Boardings			Total Population			Total Employment			Stop Visits			Estimated Vehicles			Headway			Service Span (Hours)			Speed (MPH)			Round Trip Travel Time (min)			Revenue Service Trips			Revenue Service Miles			Revenue Service Hours			Boardings Per Service Hour			Boardi
		A	B	% Change	A	B	% Change	A	B	% Change	A	B	% Change	A	B	% Change	A	B	% Change	A	B	% Change	A	B	% Change	A	B	% Change	A	B	% Change	A	B	% Change	A	B	% Change	A	B	% Change	A
1.	0	91	91	0.0%	8,125	8,125	0.0%	31,719	31,719	0.0%	1,035	1,035	0.0%	3	3	0.0%	60	60	0.0%	15.2	15.2	0.0%	16.8	16.8	0.0%	170	170	0.0%	15	15	0.0%	492.3	492.3	0.0%	42.3	42.3	0.0%	2.1	2.2	4.8%	0.2
2.	0	105	105	0.0%	9,453	9,453	0.0%	24,683	24,683	0.0%	1,301	1,301	0.0%	3	3	0.0%	39	39	0.0%	15.7	15.7	0.0%	14.6	14.6	0.0%	92.9	92.9	0.0%	24	24	0.0%	514.2	514.2	0.0%	36.2	36.2	0.0%	2.9	2.9	0.0%	0.2
3.	0	62	62	0.0%	8,680	8,680	0.0%	7,095	7,095	0.0%	608	608	0.0%	2	2	0.0%	60	60	0.0%	16	16	0.0%	16.6	16.6	0.0%	60	60	0.0%	16	16	0.0%	265.6	265.6	0.0%	16	16	0.0%	3.9	3.9	0.0%	0.2
4.	0	85	85	0.0%	7,881	7,881	0.0%	14,935	14,935	0.0%	795	795	0.0%	2	2	0.0%	60	60	0.0%	15	15	0.0%	15	15	0.0%	60	60	0.0%	15	15	0.0%	225.1	225.1	0.0%	15	15	0.0%	5.7	5.7	0.0%	0.4
5.	0	120	120	0.0%	14,095	14,095	0.0%	23,816	23,816	0.0%	1,122	1,122	0.0%	2	2	0.0%	56	56	0.0%	15.7	15.7	0.0%	13.6	13.6	0.0%	91	91	0.0%	17	17	0.0%	336.7	336.7	0.0%	25.1	25.1	0.0%	4.8	4.8	0.0%	0.4
6.	0	149	149	0.0%	4,571	4,571	0.0%	1,703	1,703	0.0%	1,710	1,710	0.0%	1	1	0.0%	60	60	0.0%	15	15	0.0%	19.1	19.1	0.0%	60	60	0.0%	15	15	0.0%	286.5	286.5	0.0%	15	15	0.0%	9.9	10	1.0%	0.5
7.	0	132	132	0.0%	2,017	2,017	0.0%	3,076	3,076	0.0%	1,600	1,600	0.0%	1	1	0.0%	60	60	0.0%	16	16	0.0%	15.1	15.1	0.0%	60.1	60.1	0.0%	16	16	0.0%	241.6	241.6	0.0%	16	16	0.0%	8.3	8.3	0.0%	0.5
8.	0	65	65	0.0%	9,955	9,955	0.0%	20,715	20,715	0.0%	590	590	0.0%	1	1	0.0%	90	90	0.0%	15	15	0.0%	15.8	15.8	0.0%	90	90	0.0%	10	10	0.0%	237	237	0.0%	15	15	0.0%	4.3	4.3	0.0%	0.3
9.	0	53	53	0.0%	9,848	9,848	0.0%	2,322	2,322	0.0%	524	524	0.0%	2	2	0.0%	58	58	0.0%	15.4	15.4	0.0%	13.6	13.6	0.0%	112.5	112.5	0.0%	16	16	0.0%	210.1	210.1	0.0%	29.4	29.4	0.0%	1.8	1.8	0.0%	0.2
10.	1	19	20	5.3%	2,365	2,365	0.0%	10,363	10,363	0.0%	225	225	0.0%	1	1	0.0%	60	60	0.0%	15	15	0.0%	11.2	11.2	0.0%	60	60	0.0%	15	15	0.0%	167.6	167.6	0.0%	15	15	0.0%	1.3	1.3	0.0%	0.1
11.	0	42	42	0.0%	7,469	7,469	0.0%	7,029	7,029	0.0%	511	511	0.0%	1	1	0.0%	58	58	0.0%	16.5	16.5	0.0%	13.6	13.6	0.0%	60	60	0.0%	17	17	0.0%	223.9	223.9	0.0%	16.5	16.5	0.0%	2.6	2.6	0.0%	0.2
12.	0	83	83	0.0%	4,017	4,017	0.0%	4,226	4,226	0.0%	1,139	1,139	0.0%	3	3	0.0%	38	38	0.0%	16	16	0.0%	17.2	17.2	0.0%	88.7	88.7	0.0%	25	25	0.0%	416.6	416.6	0.0%	36.3	36.3	0.0%	2.3	2.3	0.0%	0.2
16.	0	49	49	0.0%	9,910	9,910	0.0%	8,200	8,200	0.0%	472	472	0.0%	1	1	0.0%	90	90	0.0%	15.6	15.6	0.0%	14.4	14.4	0.0%	90.5	90.5	0.0%	11	11	0.0%	224.5	224.5	0.0%	15.7	15.7	0.0%	3.1	3.1	0.0%	0.2
17.	0	58	58	0.0%	8,688	8,688	0.0%	10,266	10,266	0.0%	530	530	0.0%	1	1	0.0%	90	90	0.0%	15.7	15.7	0.0%	18.9	18.9	0.0%	90	90	0.0%	11	11	0.0%	296.9	296.9	0.0%	15.8	15.8	0.0%	3.6	3.6	0.0%	0.2
New Routes																																									
CARPDC	9	NA	9	100.0%	NA	512	100.0%	NA	1,796	100.0%	NA	240	100.0%	NA	2	100.0%	NA	60	100.0%	NA	15.9	100.0%	NA	11.2	100.0%	NA	119.3	100.0%	NA	15	100.0%	NA	319.8	100.0%	NA	29.9	100.0%	NA	0.3	100.0%	NA
Montgomery to Auburn	25	NA	25	100.0%	NA	855	100.0%	NA	9,088	100.0%	NA	64	100.0%	NA	2	100.0%	NA	72	100.0%	NA	7.1	100.0%	NA	46.9	100.0%	NA	151.1	100.0%	NA	8	100.0%	NA	440.9	100.0%	NA	10.7	100.0%	NA	2.3	100.0%	NA
Samford-Shug Jordan	12	NA	12	100.0%	NA	3,328	100.0%	NA	1,536	100.0%	NA	225	100.0%	NA	1	100.0%	NA	30	100.0%	NA	12.2	100.0%	NA	15.1	100.0%	NA	16.3	100.0%	NA	25	100.0%	NA	88.8	100.0%	NA	6.8	100.0%	NA	1.7	100.0%	NA
South Auburn	9	NA	9	100.0%	NA	1,986	100.0%	NA	866	100.0%	NA	225	100.0%	NA	1	100.0%	NA	30	100.0%	NA	12.2	100.0%	NA	15.1	100.0%	NA	15.8	100.0%	NA	25	100.0%	NA	85.8	100.0%	NA	6.5	100.0%	NA	1.5	100.0%	NA
South College	18	NA	18	100.0%	NA	3,445	100.0%	NA	1,687	100.0%	NA	325	100.0%	NA	1	100.0%	NA	30	100.0%	NA	12.3	100.0%	NA	15	100.0%	NA	30	100.0%	NA	25	100.0%	NA	95.6	100.0%	NA	12.5	100.0%	NA	1.4	100.0%	NA
TDP Recommendation	6	NA	6	100.0%	NA	412	100.0%	NA	607	100.0%	NA	135	100.0%	NA	1	100.0%	NA	60	100.0%	NA	14.3	100.0%	NA	30	100.0%	NA	19	100.0%	NA	15	100.0%	NA	124.1	100.0%	NA	4.8	100.0%	NA	1.3	100.0%	NA
Totals	**80**	**1,113**	**1,193**	**7.2%**	**79,077**	**84,337**	**6.7%**	**74,097**	**78,061**	**5.3%**	**12,162**	**13,376**	**10.0%**	**24**	**32**	**33.3%**	**59**	**52.9**	**-10.3%**	**15.6**	**14.6**	**-6.4%**	**15.4**	**16.5**	**7.1%**	**84.6**	**70.6**	**-16.5%**	**223**	**336**	**50.7%**	**4,138.6**	**5,293.6**	**27.9%**	**309.3**	**380.5**	**23.0%**	**3.6**	**3.1**	**-13.9%**	**0.3**

Figure 45 Service Summary

Elmore Autauga - 2025 Inter City Routes Recommendations
Route Service Summary

Route: TDP Recommendation **Crosstown Bus**

Weekday Route Properties		Service Hours		Route Operations Settings		2025 Weekday Demographics (0.25 mi.)	
Round Trip Length (mi.)	8.3	Weekday	05:15 AM to 07:31 PM	Service Hour Cost	--	Service Mile Cost	412 | 0.6
Stops Served	8	Saturday	07:15 AM to 05:40 PM	Service Mile Cost	$5.2	Jobs | per acre	606 | 0.9
Avg. Stop Spacing (ft.)	4,852	Sunday	No Service	Minimum Layover (%)	0.0%	Low Income	51.6%
				Vehicle Capacity	60	Vehicle Capacity (Seats)	51.2%
						One-Vehicle or Less	36.8%

Route Service Detail by Time Period (No interlined Routes)

Time Period	Service Span (Hours)	Revenue Service Trips (One Way)	Headway (Minutes)	Round Trip Travel Time (Minutes)	Speed (MPH)	Vehicles	Average Layover	Revenue Service Hours	Revenue Service Miles	Route Cost
AM Peak	3.0	3	60	19.0	30.0	1	13.1%	1.0	24.8	$128.5
Off Peak	6.0	6	60	19.0	30.0	1	13.1%	1.9	49.6	$257.1
PM Peak	3.0	3	60	19.0	30.0	1	13.1%	1.0	24.8	$128.5
Night	2.3	3	60	19.0	30.0	1	13.1%	1.0	24.8	$128.5
Total Weekday	**14.3**	**15**	**60**	**19.0**	**30.0**	**1**	**13.1%**	**4.8**	**124.1**	**$642.6**
Saturday	10.4	11	60	29.8	19.1	1	13.0%	5.5	91.0	$471.3
Sunday	0.0	0	0	0.0	0.0	0	0.0%	0.0	0.0	$0.0

Figure 46 Service Characteristics

Figure 47 Montgomery Routes (CARPDC and TDP Recommendations)

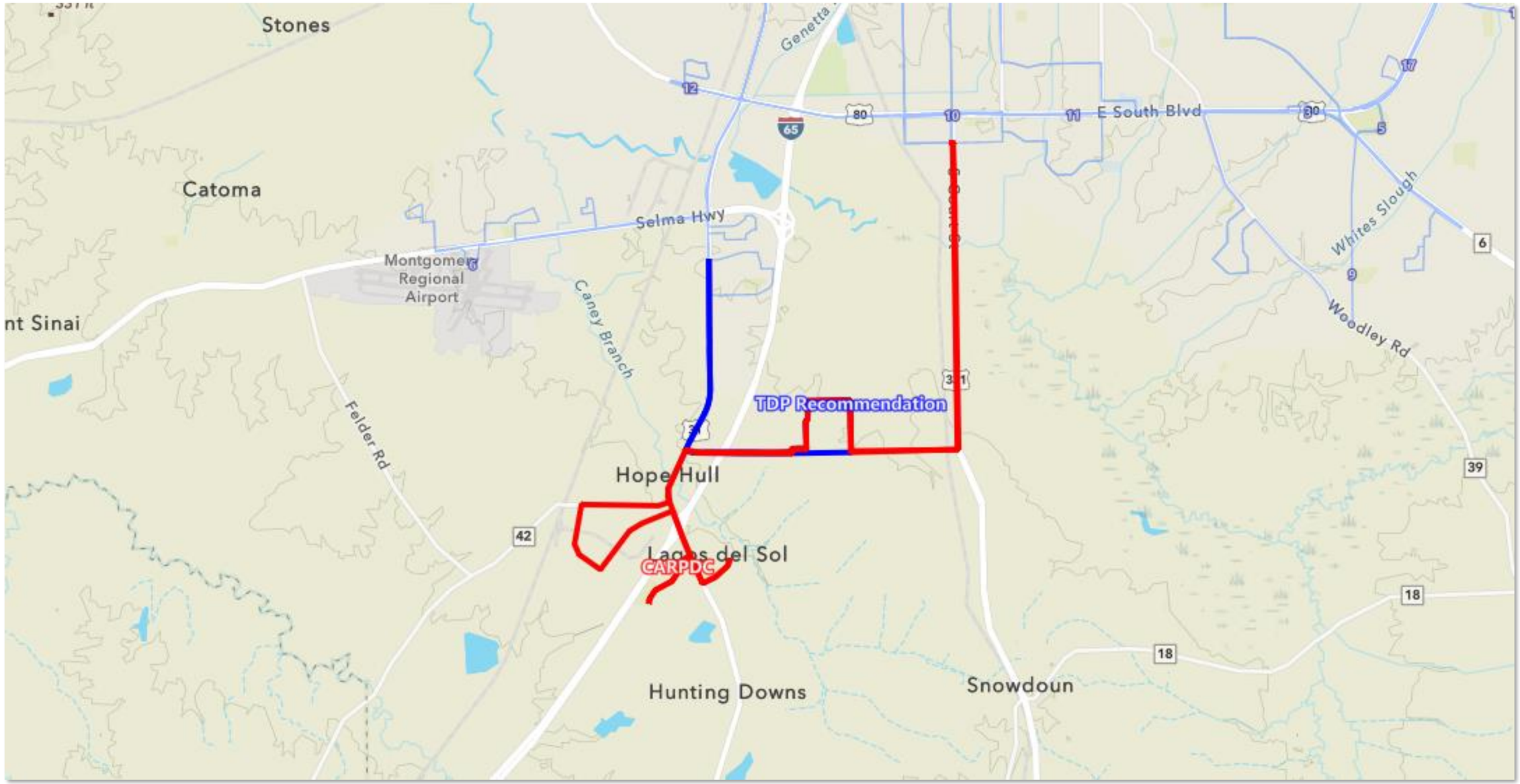
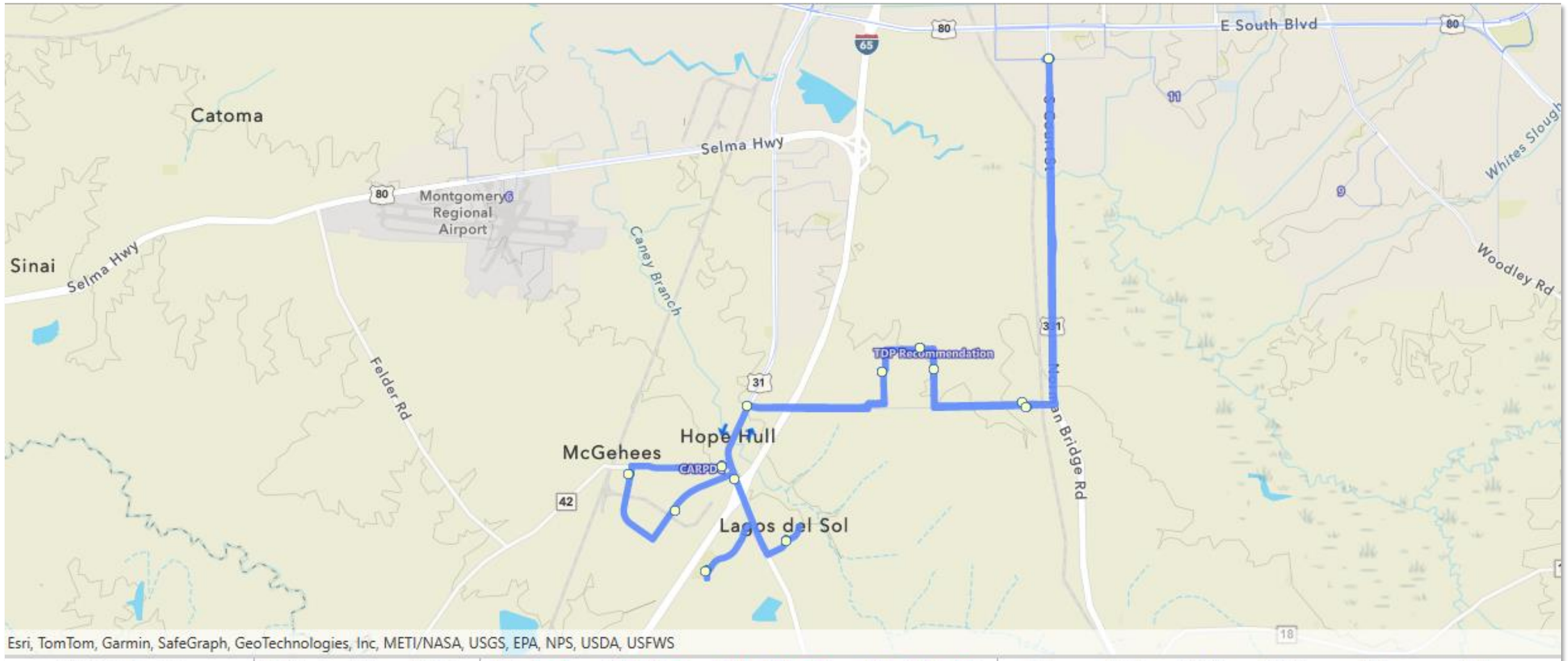


Figure 48 CARPDC Recommendation



CARPDC Circulator p_9046	21.32 mi Length (mi)	16 Stops	7,036 Spacing (ft.)	15 6 0 Revenue Trips	60 120 0 Headway (min.)	114. 114. 0.0 Travel Time (min.)	11.2 11.2 0.0 Speed (mph)	512 Population	1,796 Jobs	94.9% Minority	36.8% Low Income	0.4 Pop. Density	1.3 Emp. Density

Figure 49 Route Service Summary

Route Service Summary			
Weekday Route Properties		**Service Hours**	
Round Trip Length (mi.)	21.322	Weekday	05:30 AM to 09:23 PM
Stops Served	14	Saturday	07:30 AM to 07:23 PM
Avg. Stop Spacing (ft.)	7,036	Sunday	No Service

Route Operations Settings	
Service Hour Cost	--
Service Mile Cost	$5.2
Minimum Layover (%)	0.0%
Vehicle Capacity (Seats)	60

2025 Weekday Demographics (0.25 mi.)	
People | per acre	512 | 0.4
Jobs | per acre	1,796 | 1.3
Minority	94.9%
Low Income	36.8%
Seniors and Minors	28.1%
One-Vehicle or Less	46.6%

Route Service Detail by Time Period (No interlined Routes) ☐ Annualize

Time Period	Service Span (Hours)	Revenue Service Trips (One Way)	Headway (Minutes)	Round Trip Travel Time (Minutes)	Speed (MPH)	Vehicles	Average Layover	Revenue Service Hours	Revenue Service Miles	Route Cost
AM Peak	3.0	3	60	120.3	11.2	2	5.1%	6.0	64.0	$331.3
Off Peak	6.0	6	60	120.3	11.2	2	5.1%	12.0	127.9	$662.7
PM Peak	3.0	3	60	120.3	11.2	2	5.1%	6.0	64.0	$331.3
Night	3.9	3	60	116.2	11.2	2	1.7%	5.8	64.0	$331.3
Total Weekday	**15.9**	**15**	**60**	**119.3**	**11.2**	**2**	**4.2%**	**29.8**	**319.8**	**$1,656.7**
Saturday	11.9	6	120	119.3	11.2	1	4.2%	11.9	127.9	$662.7
Sunday	0.0	0	0	0.0	0.0	0	0.0%	0.0	0.0	$0.0

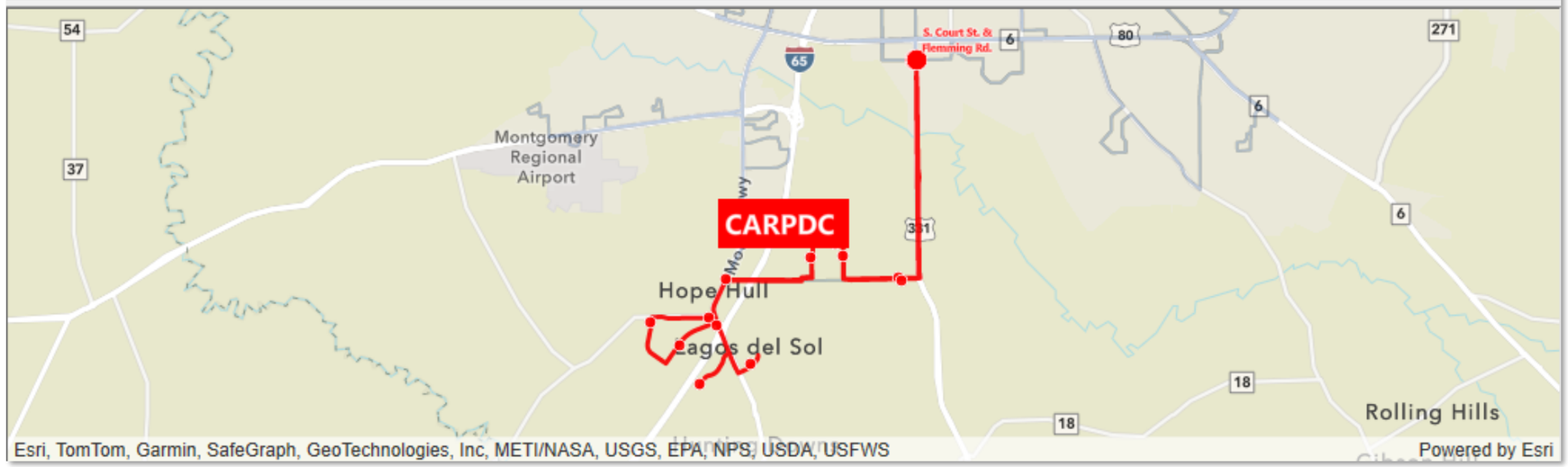
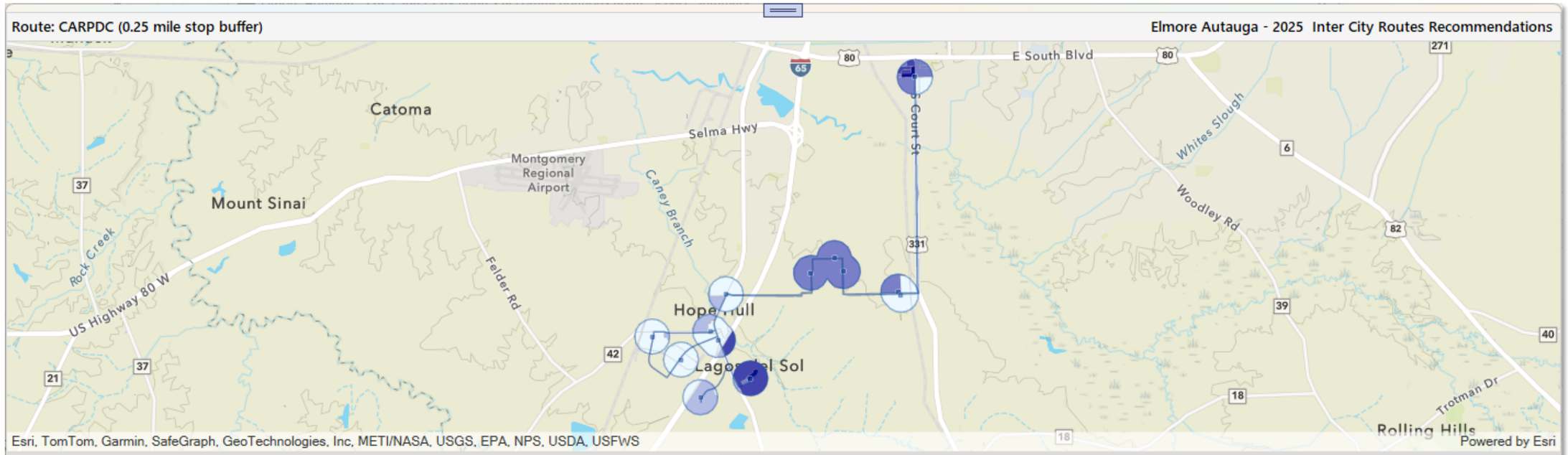


Figure 50 Population Stop Walk Access Market (1/4 mile)



	Total Population Distribution	Population	% Market Area	Filter
	0 - 6	9	1.76%	☑
	6 - 15	22	4.30%	☑
	15 - 35	153	29.88%	☑
	35 - 59	177	34.57%	☑
	59 - 75	136	26.56%	☑
	Market Area Total	**512**	**97.1%**	

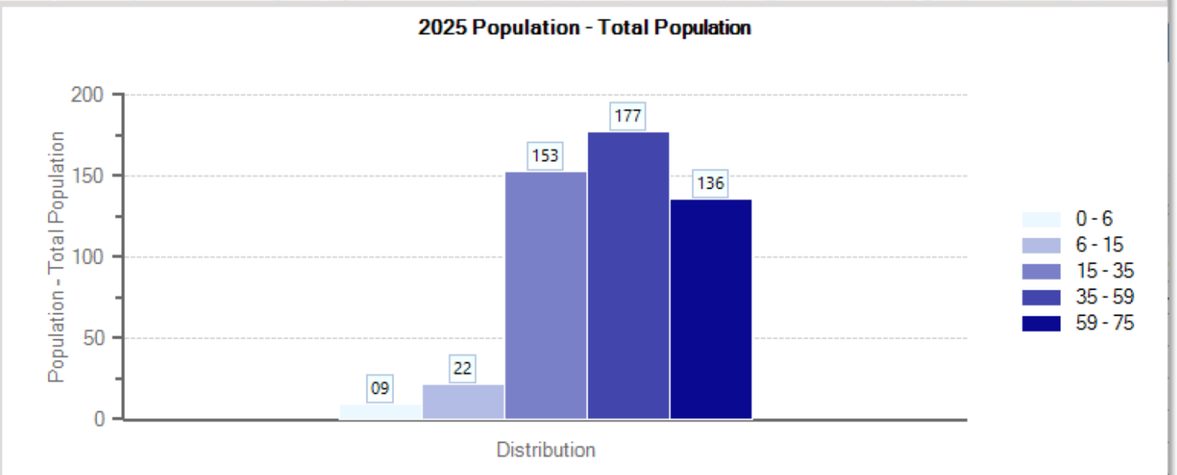
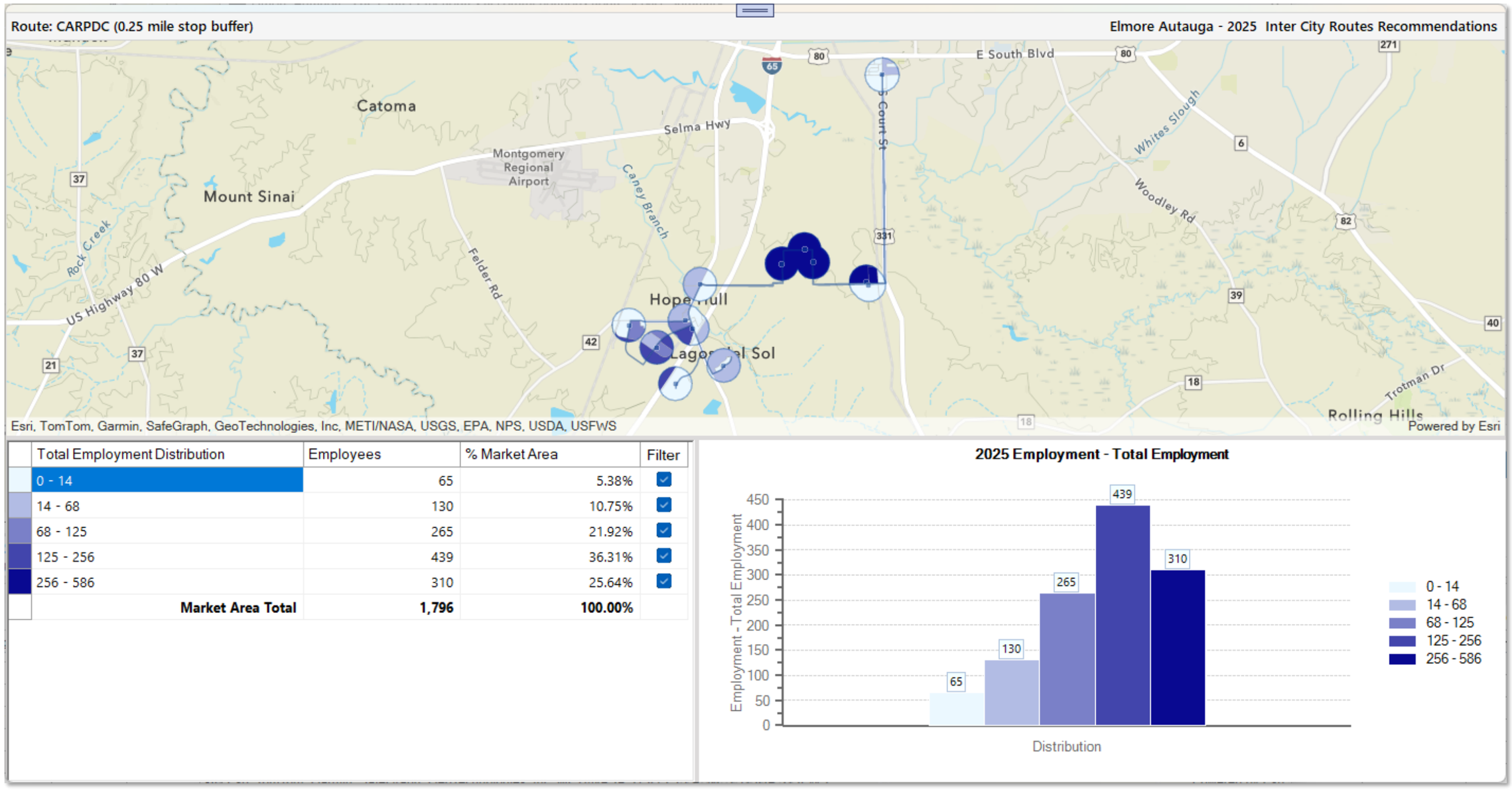
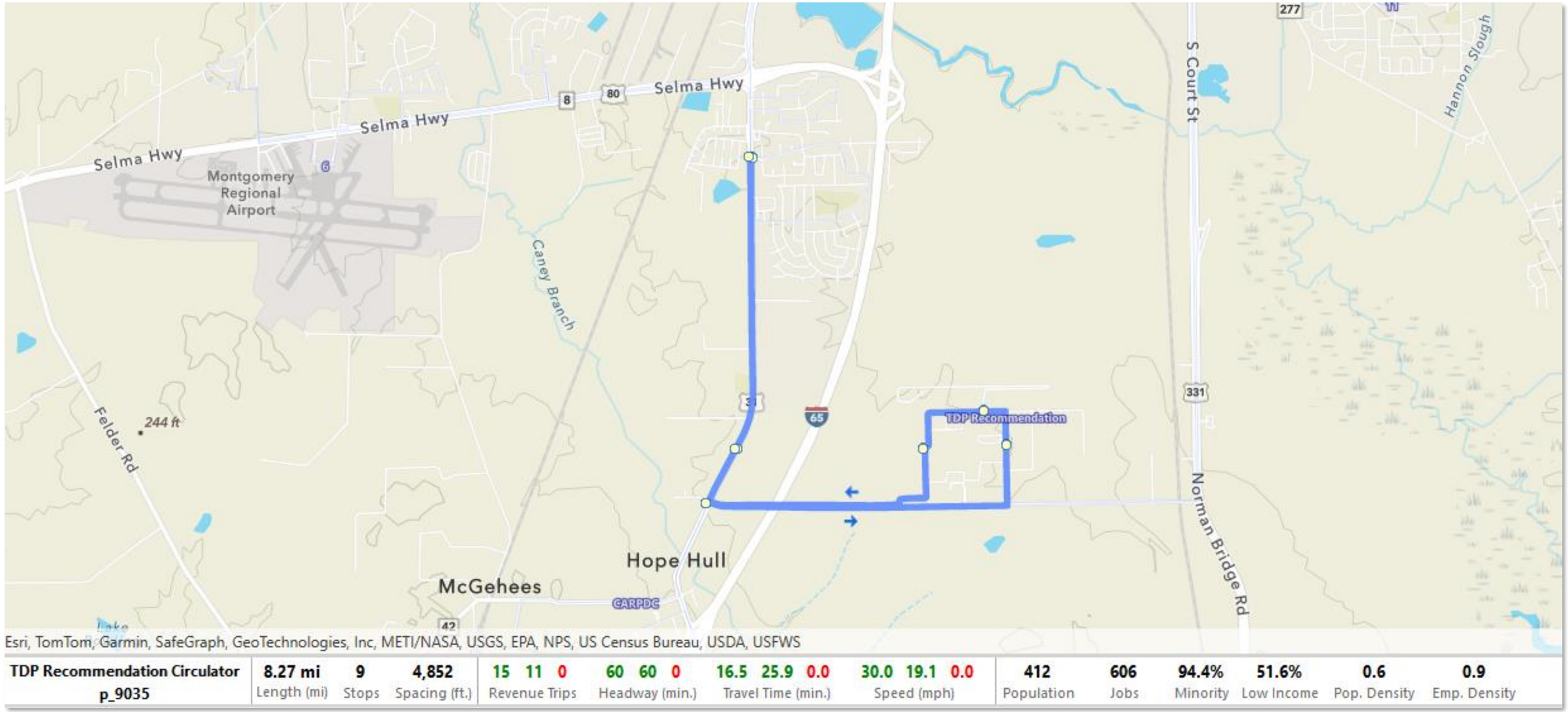


Figure 51 Employment Stop Walk Access Market (1/4 mile)



	Total Employment Distribution	Employees	% Market Area	Filter
	0 - 14	65	5.38%	☑
	14 - 68	130	10.75%	☑
	68 - 125	265	21.92%	☑
	125 - 256	439	36.31%	☑
	256 - 586	310	25.64%	☑
	Market Area Total	**1,796**	**100.00%**	

Figure 52 TDP Recommendation



TDP Recommendation Circulator p_9035	8.27 mi Length (mi)	9 Stops	4,852 Spacing (ft.)	15 11 0 Revenue Trips	60 60 0 Headway (min.)	16.5 25.9 0.0 Travel Time (min.)	30.0 19.1 0.0 Speed (mph)	412 Population	606 Jobs	94.4% Minority	51.6% Low Income	0.6 Pop. Density	0.9 Emp. Density

Figure 53 TDP Route Service Summary

Route Service Summary			
Weekday Route Properties		**Service Hours**	
Round Trip Length (mi.)	8.271	Weekday	05:15 AM to 07:31 PM
Stops Served	8	Saturday	07:15 AM to 05:40 PM
Avg. Stop Spacing (ft.)	4,852	Sunday	No Service

Route Operations Settings	
Service Hour Cost	--
Service Mile Cost	$5.2
Minimum Layover (%)	0.0%
Vehicle Capacity (Seats)	60

2025 Weekday Demographics (0.25 mi.)	
People | per acre	412 | 0.6
Jobs | per acre	606 | 0.9
Minority	94.4%
Low Income	51.6%
Seniors and Minors	51.2%
One-Vehicle or Less	36.8%

Route Service Detail by Time Period (No interlined Routes) ☐ Annualize

Time Period	Service Span (Hours)	Revenue Service Trips (One Way)	Headway (Minutes)	Round Trip Travel Time (Minutes)	Speed (MPH)	Vehicles	Average Layover	Revenue Service Hours	Revenue Service Miles	Route Cost
AM Peak	3.0	3	60	19.0	30.0	1	13.1%	1.0	24.8	$128.5
Off Peak	6.0	6	60	19.0	30.0	1	13.1%	1.9	49.6	$257.1
PM Peak	3.0	3	60	19.0	30.0	1	13.1%	1.0	24.8	$128.5
Night	2.3	3	60	19.0	30.0	1	13.1%	1.0	24.8	$128.5
Total Weekday	**14.3**	**15**	**60**	**19.0**	**30.0**	**1**	**13.1%**	**4.8**	**124.1**	**$642.6**
Saturday	10.4	11	60	29.8	19.1	1	13.0%	5.5	91.0	$471.3
Sunday	0.0	0	0	0.0	0.0	0	0.0%	0.0	0.0	$0.0

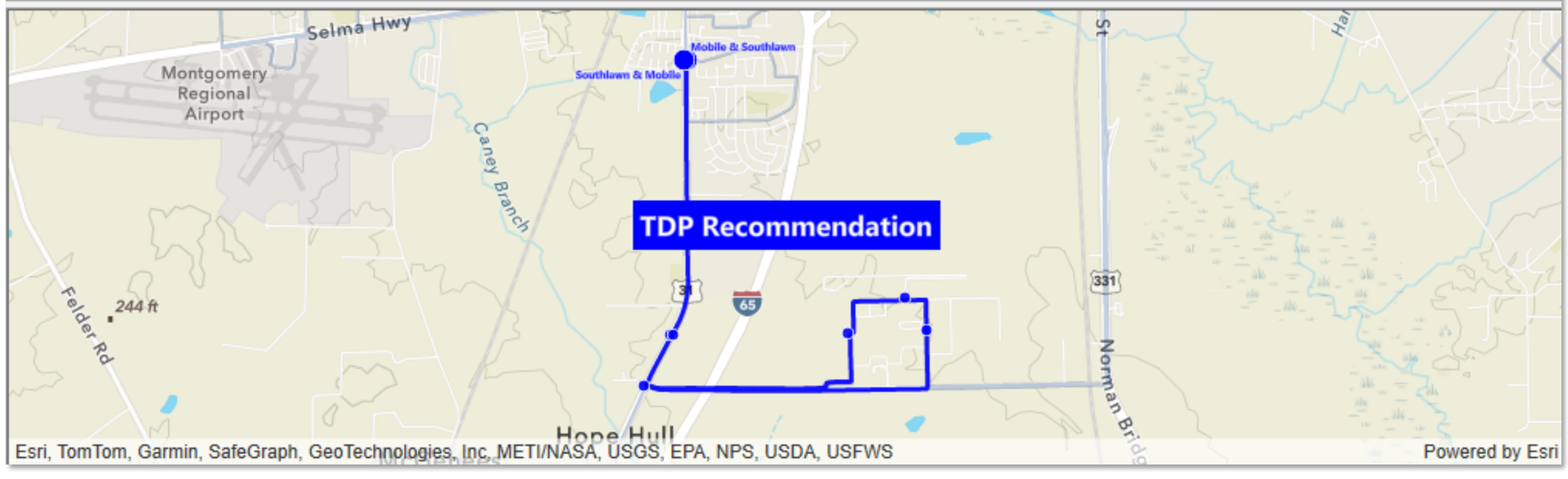
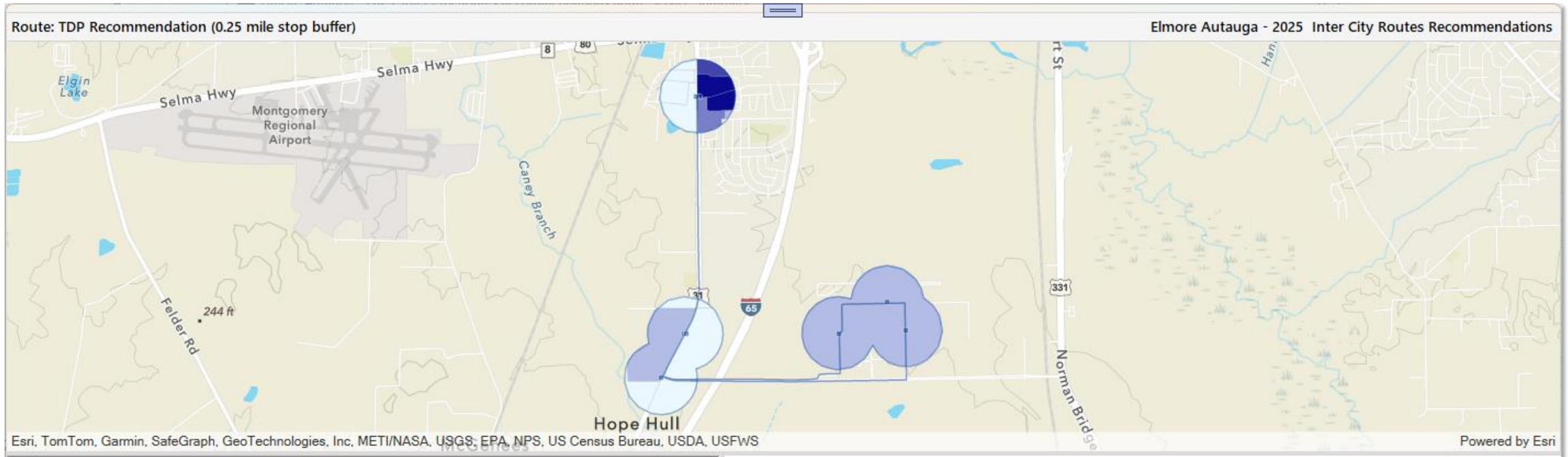


Figure 54 Population Stop Walk Access Market (1/4 mile)



Total Population Distribution	Population	% Market Area	Filter
0 - 7	17	7.66%	☑
7 - 20	39	17.57%	☑
20 - 33	33	14.86%	☑
33 - 67	0	0.00%	☑
67 - 190	133	59.91%	☑
Market Area Total	**412**	**53.9%**	

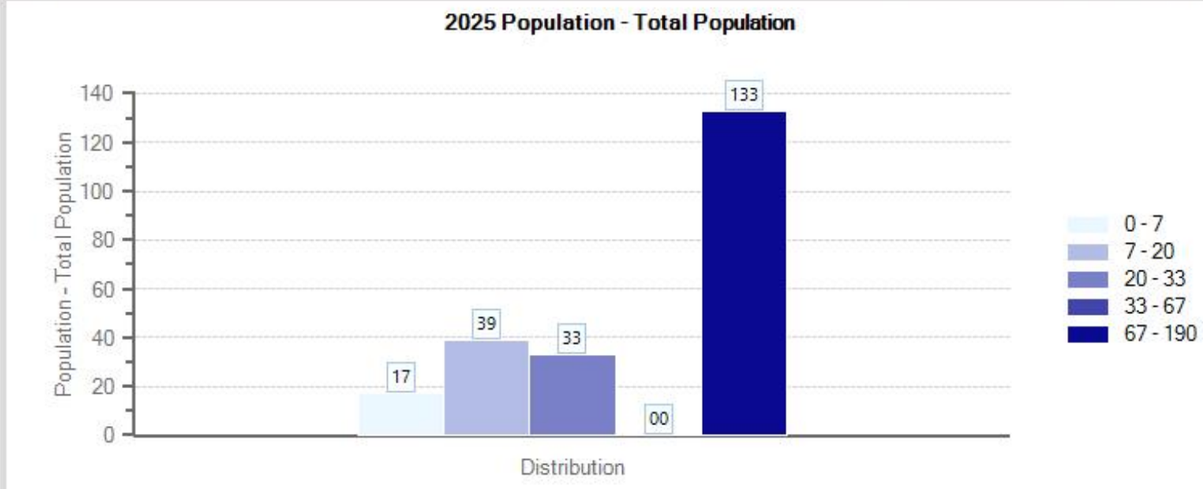
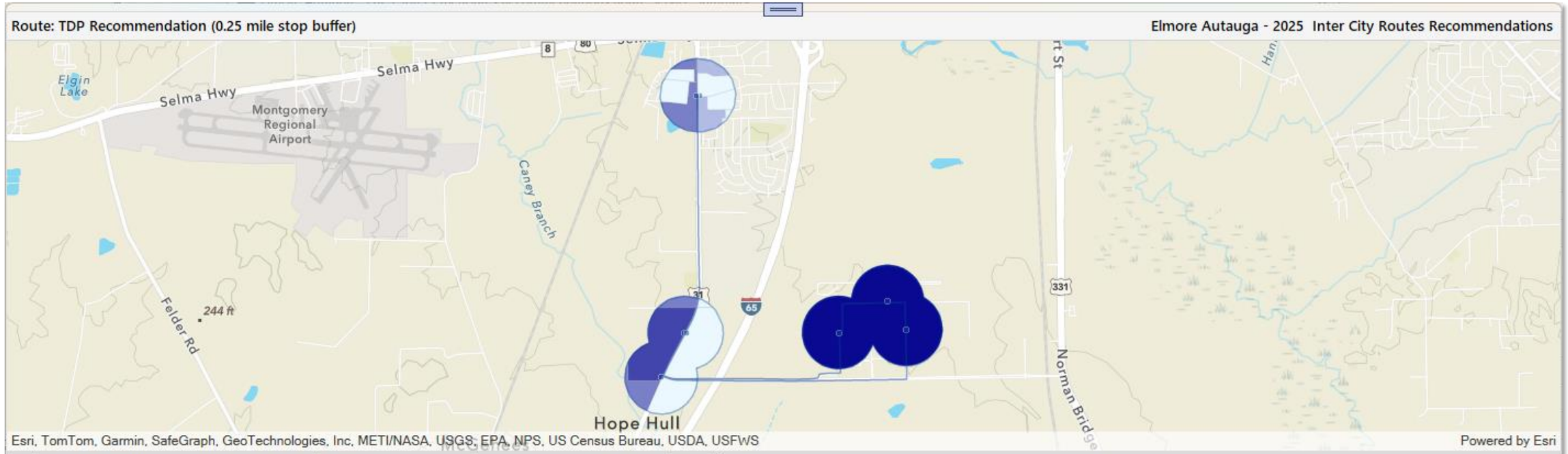


Figure 55 Employment Stop Walk Access Market (1/4 mile)



	Total Employment Distribution	Employees	% Market Area	Filter
	0 - 2	2	2.20%	☑
	2 - 5	8	8.79%	☑
	5 - 24	7	7.69%	☑
	24 - 48	24	26.37%	☑
	48 - 515	48	52.75%	☑
	Market Area Total	**607**	**100.00%**	

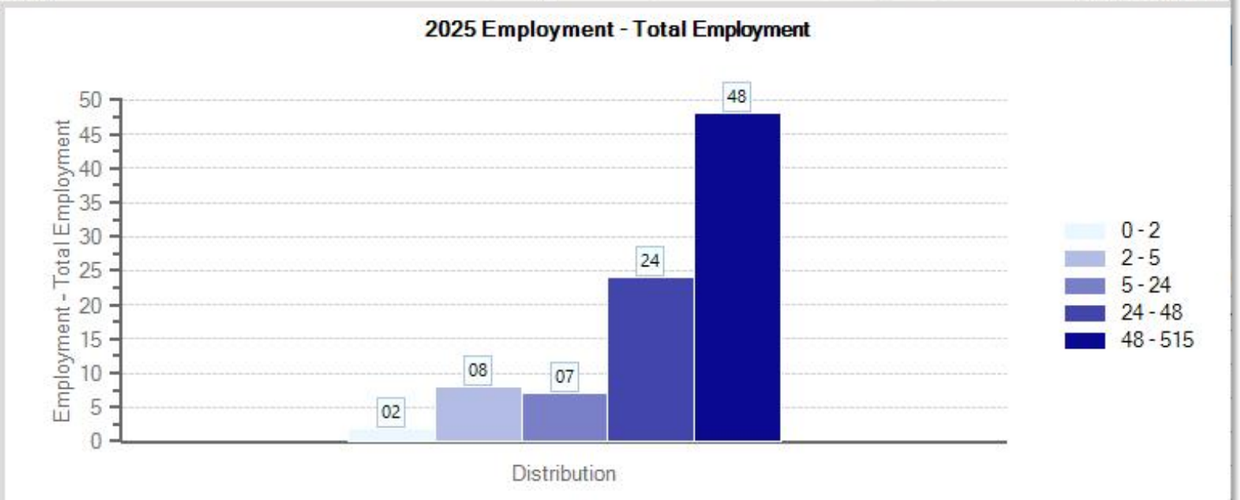


Figure 56 Montgomery to Auburn Commuter Bus

Service Summary

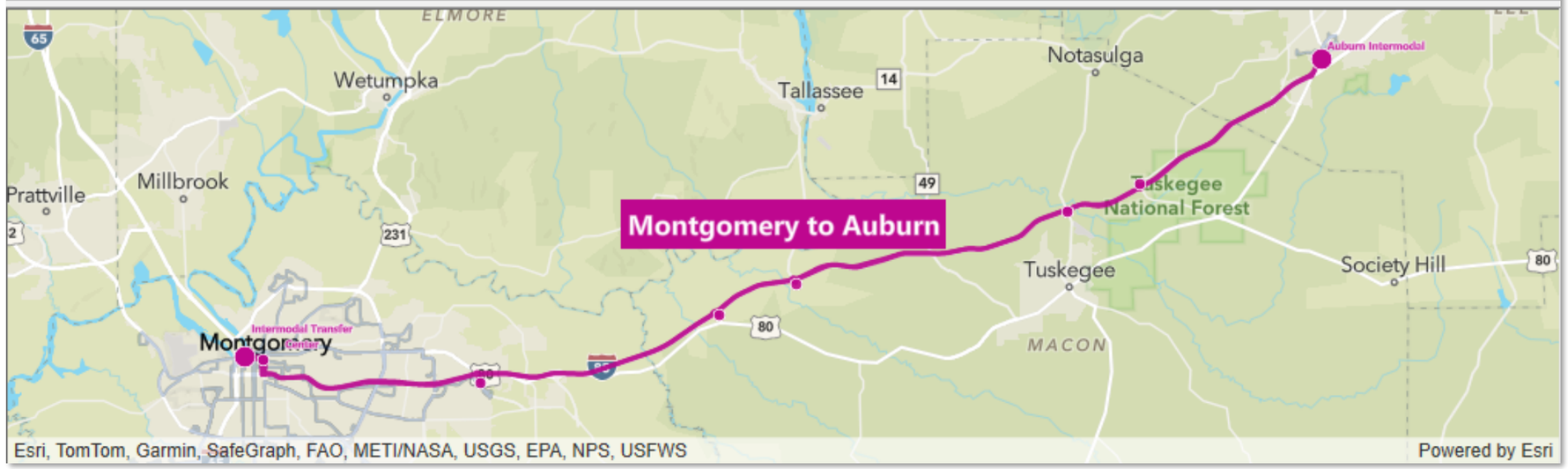
Route Service Summary			
Weekday Route Properties		**Service Hours**	
Round Trip Length (mi.)	110.215	Weekday	06:01 AM to 07:04 PM
Stops Served	10	Saturday	No Service
Avg. Stop Spacing (ft.)	36,371	Sunday	No Service

Route Operations Settings	
Service Hour Cost	--
Service Mile Cost	$5.2
Minimum Layover (%)	0.0%
Vehicle Capacity (Seats)	60

2025 Weekday Demographics (0.25 mi.)	
People | per acre	855 | 0.8
Jobs | per acre	9,088 | 9.0
Minority	44.9%
Low Income	40.7%
Seniors and Minors	16.7%
One-Vehicle or Less	63.4%

Route Service Detail by Time Period (No interlined Routes) ☐ Annualize

Time Period	Service Span (Hours)	Revenue Service Trips (One Way)	Headway (Minutes)	Round Trip Travel Time (Minutes)	Speed (MPH)	Vehicles	Average Layover	Revenue Service Hours	Revenue Service Miles	Route Cost
AM Peak	3.0	4	68	152.9	46.9	2	14.5%	5.5	220.4	$1,146.2
Off Peak	1.1	0	0	0.0	0.0	0	0.0%	0.0	0.0	$0.0
PM Peak	1.9	4	76	149.2	46.9	2	10.6%	5.3	220.4	$1,146.2
Night	1.1	0	0	0.0	0.0	0	0.0%	0.0	0.0	$0.0
Total Weekday	**7.1**	**8**	**72**	**151.1**	**46.9**	**2**	**12.6%**	**10.7**	**440.9**	**$2,292.5**
Saturday	0.0	0	0	0.0	0.0	0	0.0%	0.0	0.0	$0.0
Sunday	0.0	0	0	0.0	0.0	0	0.0%	0.0	0.0	$0.0



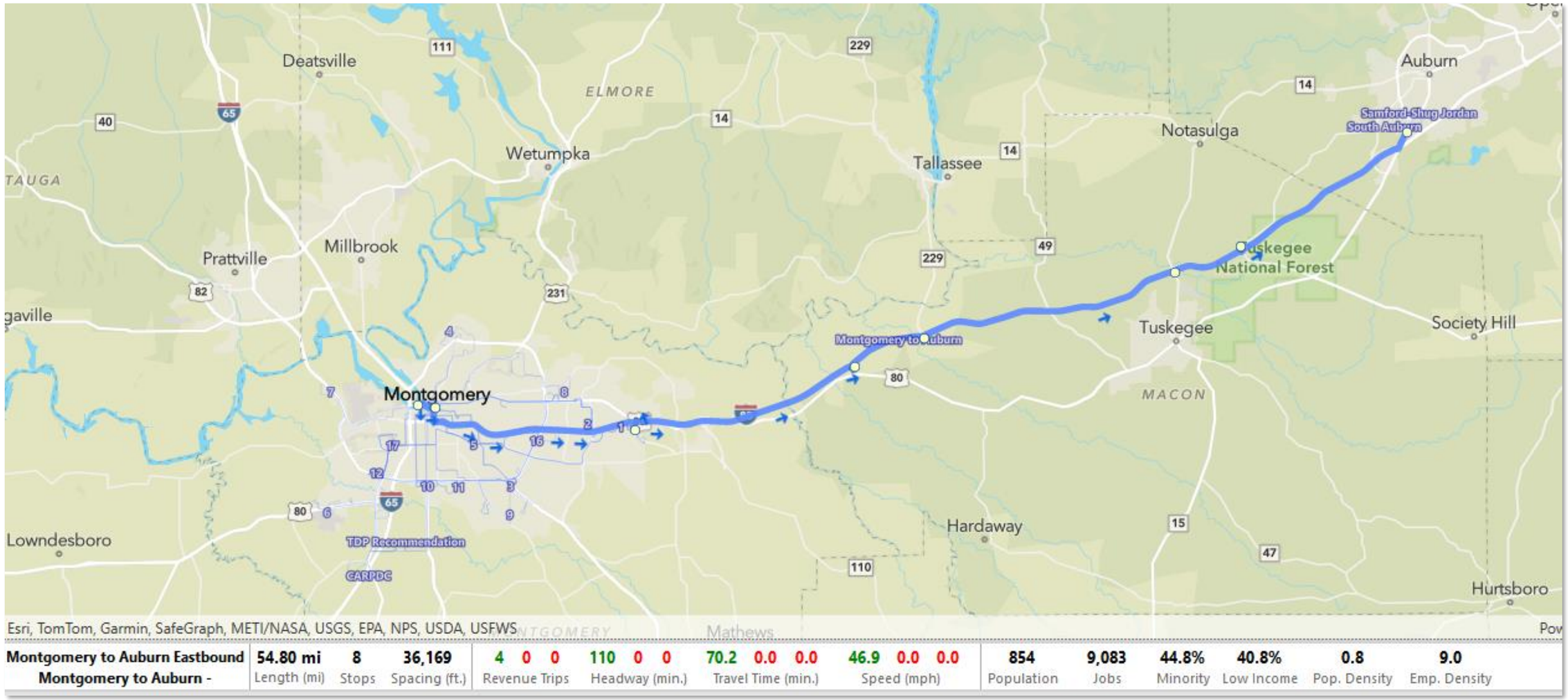
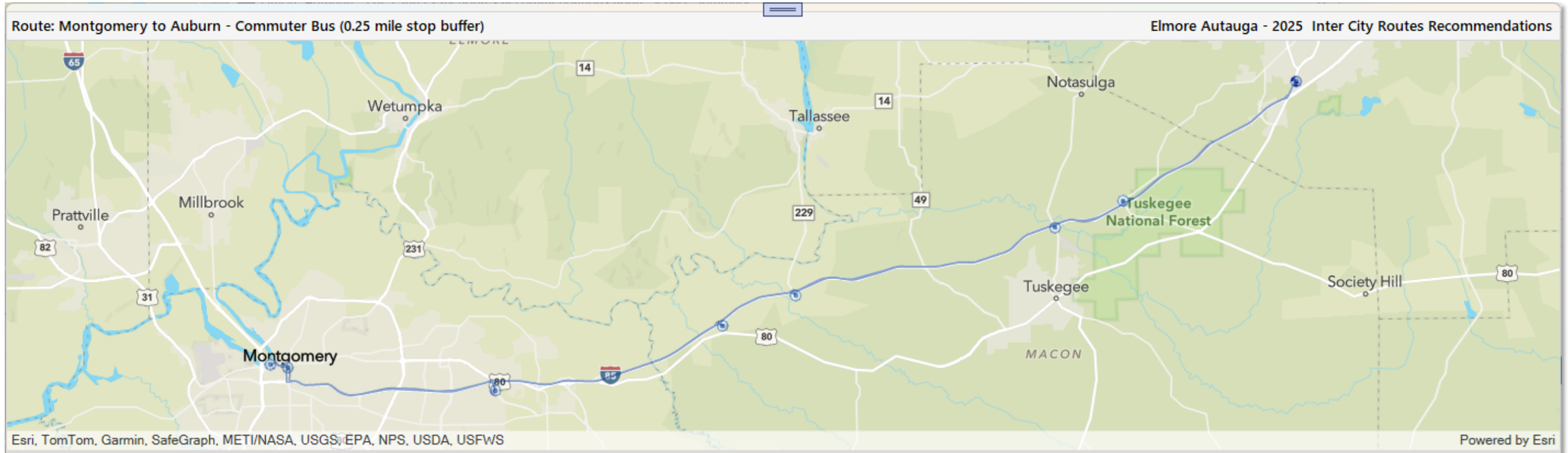


Figure 56 cont'd

Figure 57 Population Stop Walk Access Market (1/4 mile)



	Total Population Distribution	Population	% Market Area	Filter
	0 - 6	27	4.08%	☑
	6 - 43	134	20.24%	☑
	43 - 55	188	28.40%	☑
	55 - 92	125	18.88%	☑
	92 - 192	96	14.50%	☑
	Market Area Total	**855**	**66.7%**	

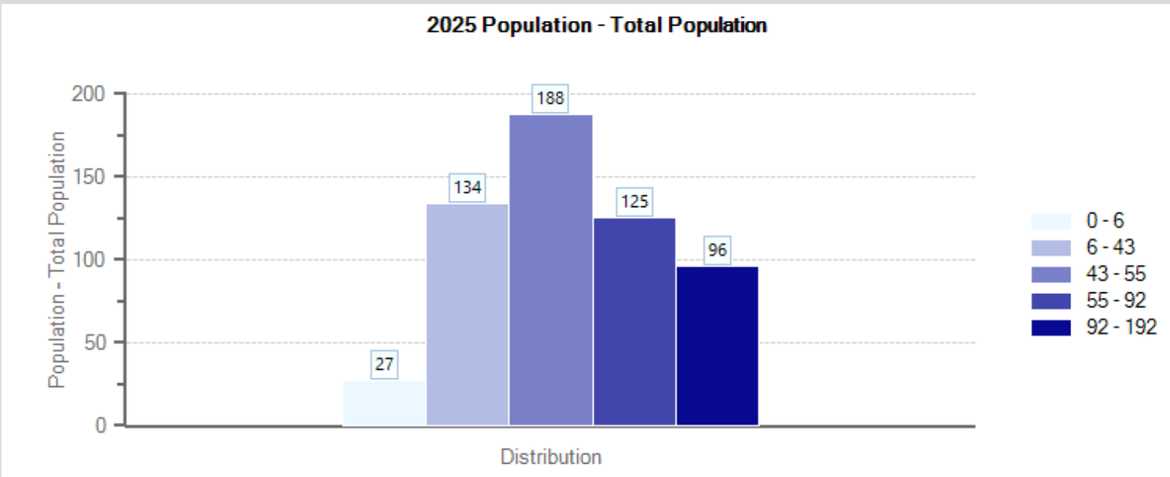
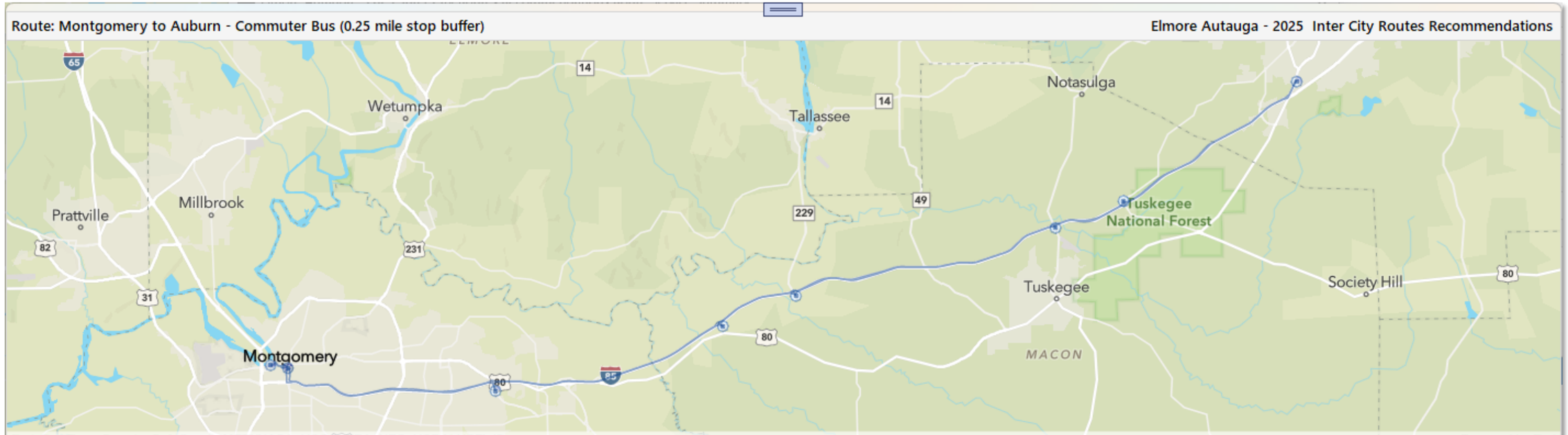


Figure 58 Employment Stop Walk Access Market (1/4 mile)



	Total Employment Distribution	Employees	% Market Area	Filter
	0 - 60	803	10.83%	☑
	60 - 217	1,390	18.75%	☑
	217 - 458	1,861	25.10%	☑
	458 - 819	2,479	33.43%	☑
	819 - 1673	882	11.89%	☑
	Market Area Total	**9,088**	**100.00%**	

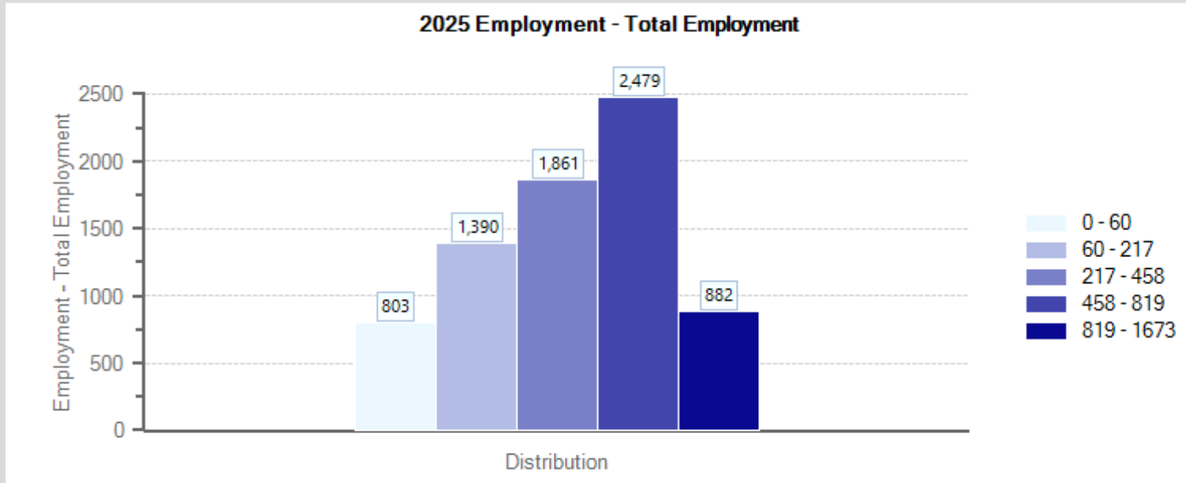
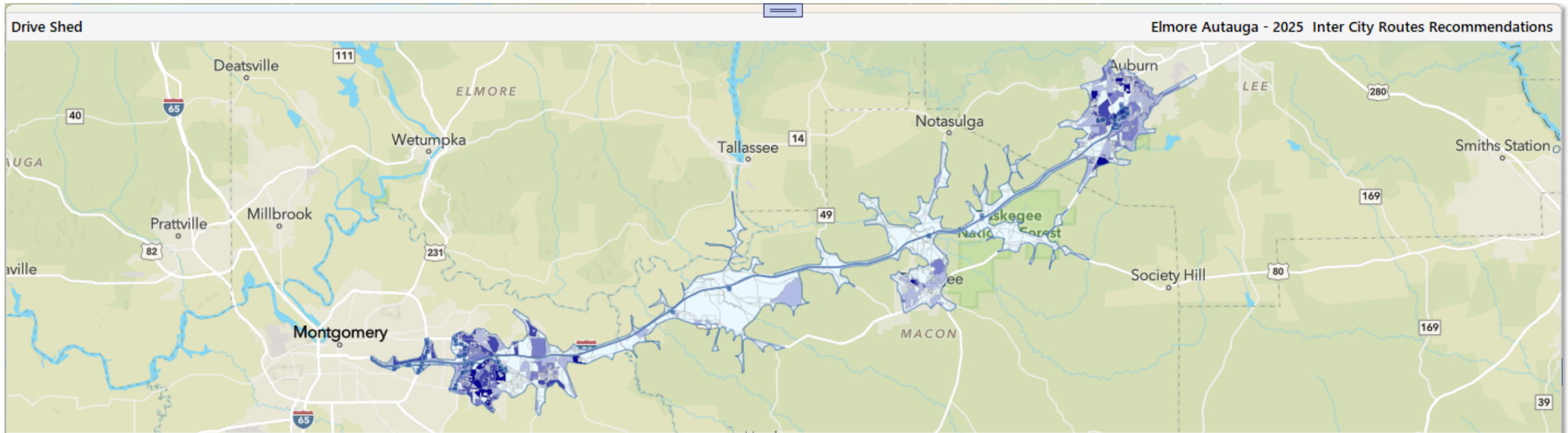


Figure 59 Population Drive Access Market (10 min.) from Park-n-Rides



Total Population Distribution	Population	% Market Area	Filter
0 - 38	9,226	12.24%	☑
38 - 126	21,373	28.36%	☑
126 - 290	17,693	23.48%	☑
290 - 562	13,410	17.79%	☑
562 - 1515	13,662	18.13%	☑
Market Area Total	**75,364**	**100.0%**	

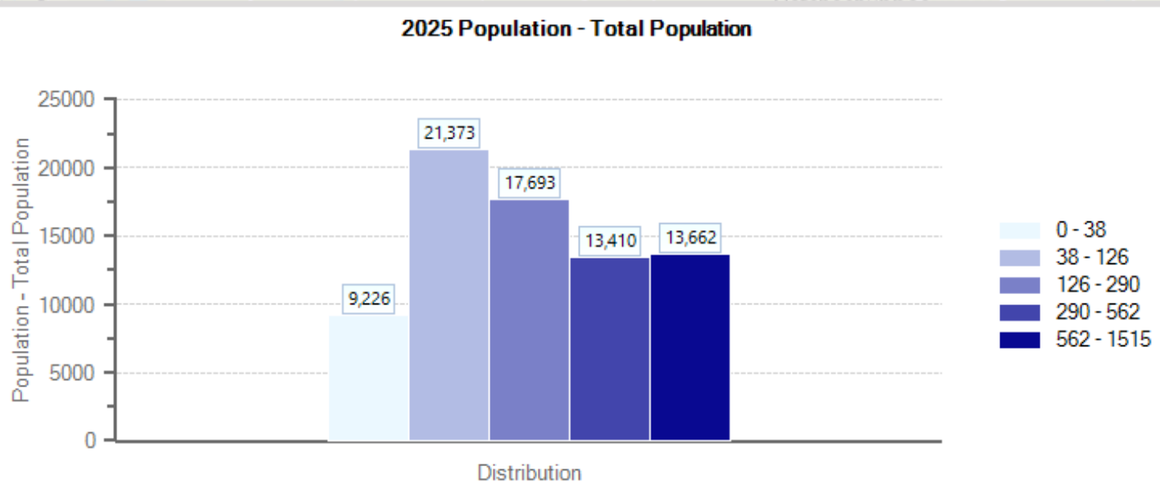
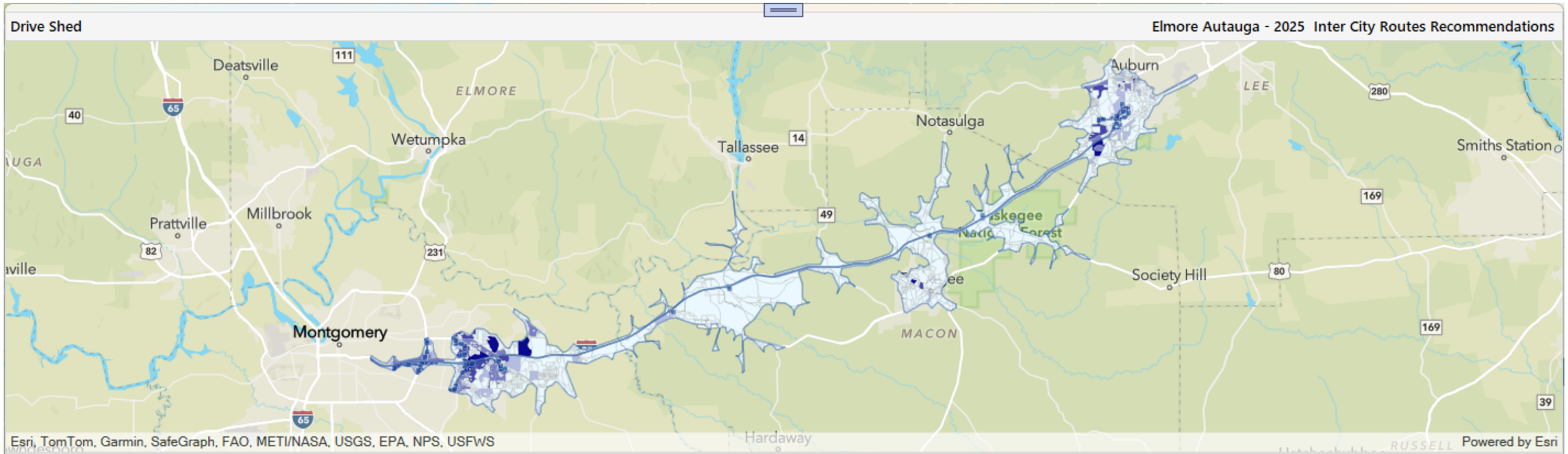
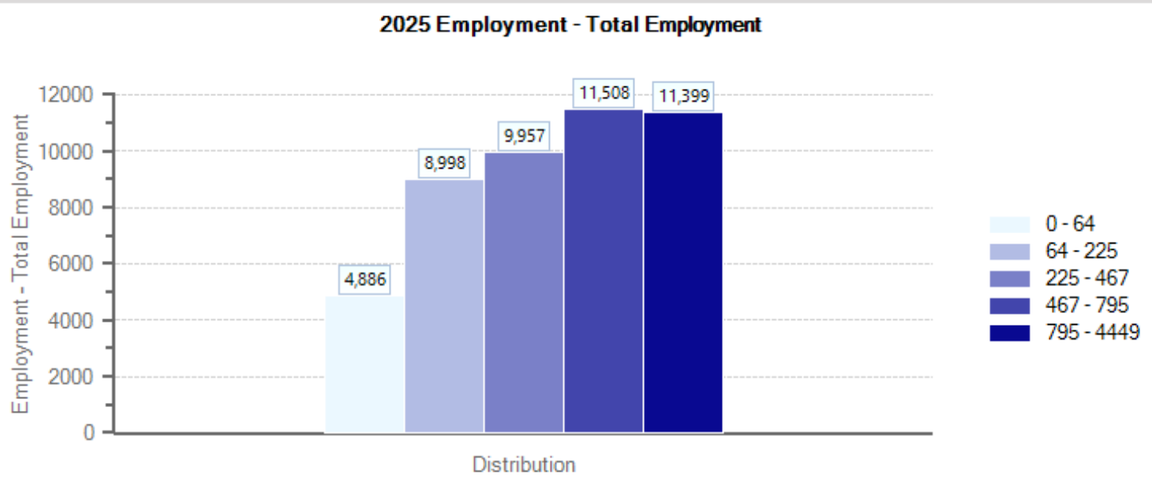


Figure 60 Employment Drive Access Market (10 min.) from Park-n-Rides



Total Employment Distribution	Employees	% Market Area	Filter
0 - 64	4,886	10.45%	☑
64 - 225	8,998	19.25%	☑
225 - 467	9,957	21.30%	☑
467 - 795	11,508	24.62%	☑
795 - 4449	11,399	24.38%	☑
Market Area Total	**46,749**	**100.00%**	



Elmore Autauga - 2025 Inter City Routes Recommendations
Route Service Summary

Route: Montgomery to Auburn - Commuter Bus **Express Bus**

Weekday Route Properties		Service Hours			Route Operations Settings			2025 Weekday Demographics (0.25 mi.)		
Round Trip Length (mi.)	110.2	Weekday	06:01 AM to 07:04 PM		Service Hour Cost		--	Service Mile Cost		855 | 0.8
Stops Served	10	Saturday	No Service		Service Mile Cost		$5.2	Jobs | per acre		9,088 | 9.0
Avg. Stop Spacing (ft.)	36,371	Sunday	No Service		Minimum Layover (%)		0.0%	Low Income		40.7%
					Vehicle Capacity		60	Vehicle Capacity (Seats)		16.7%
								One-Vehicle or Less		63.4%

Route Service Detail by Time Period (No interlined Routes)

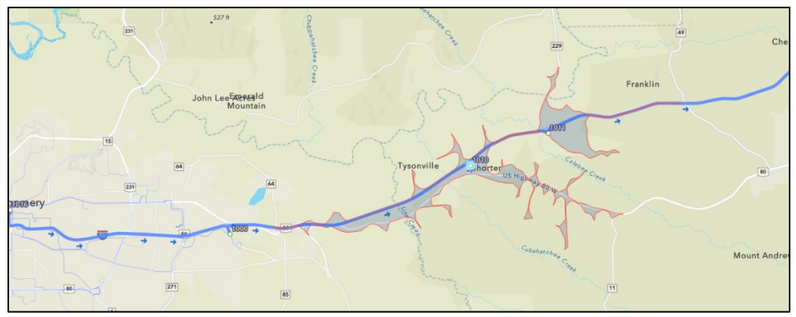
Time Period	Service Span (Hours)	Revenue Service Trips (One Way)	Headway (Minutes)	Round Trip Travel Time (Minutes)	Speed (MPH)	Vehicles	Average Layover	Revenue Service Hours	Revenue Service Miles	Route Cost
AM Peak	3.0	4	68	152.9	46.9	2	14.5%	5.5	220.4	$1,146.2
Off Peak	1.1	0	0	0.0	0.0	0	0.0%	0.0	0.0	$0.0
PM Peak	1.9	4	76	149.2	46.9	2	10.6%	5.3	220.4	$1,146.2
Night	1.1	0	0	0.0	0.0	0	0.0%	0.0	0.0	$0.0
Total Weekday	7.1	8	72	151.1	46.9	2	12.6%	10.7	440.9	$2,292.5
Saturday	0.0	0	0	0.0	0.0	0	0.0%	0.0	0.0	$0.0
Sunday	0.0	0	0	0.0	0.0	0	0.0%	0.0	0.0	$0.0

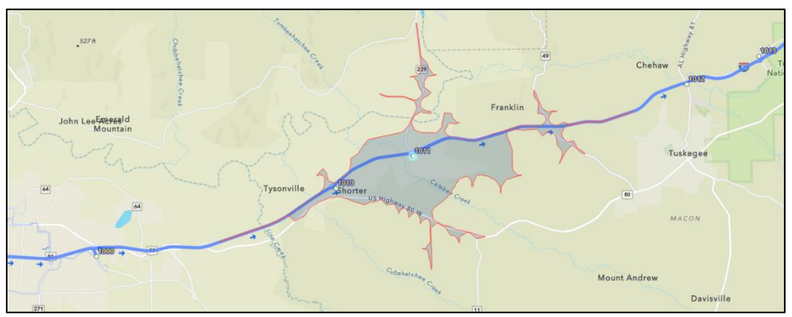
Figure 61 Service Characteristics Commuter Bus

Figure 62 Elmore Autauga - 2025 Inter City Routes Recommendations
Transit Stop Socio-Economic Report
10 min. transit stop drive shed

`	Population	Population Density (per acre)	Minority	Hispanic	Limited English Proficiency	Over 65	Under 18	Households	Low Income	Zero Vehicle	One Vehicle	Jobs	Job Density (per acre)	Service	Commercial	Industrial	Transit Drive Area (acres)
1000	31,486	1.6	46.9%	4.4%	4.8%	16.5%	22.4%	13,188	13.1%	2.2%	31.5%	25,264	1.3	72.2%	21.1%	6.7%	19,141.75
1001	35,737	2.5	33.5%	5.6%	5.0%	5.2%	12.9%	12,468	49.2%	4.4%	41.8%	17,799	1.3	71.9%	7.6%	20.5%	14,168.23
1010	1,197	0.2	83.4%	5.5%	3.9%	21.2%	21.4%	458	26.9%	5.9%	33.0%	544	0.1	63.3%	22.1%	14.5%	7,444.00
1011	757	0.1	76.1%	6.1%	1.7%	32.9%	13.1%	275	33.8%	8.4%	32.4%	649	0.0	48.4%	19.8%	31.8%	15,078.10
1012	7,009	0.4	81.4%	1.9%	0.6%	14.6%	12.2%	2,062	33.7%	9.4%	41.5%	2,990	0.2	90.2%	5.7%	4.0%	16,853.79
1013	763	0.1	78.6%	2.2%	1.0%	23.2%	17.2%	296	31.1%	7.8%	36.1%	214	0.0	68.8%	1.4%	29.7%	6,234.01

Population Data Source: Census 2023 and 5-Year American Community Survey updated to represent 2025 conditions
Employment Data Source: 2022 LEHD Block-Level Employment data updated to represent 2025 conditions
*Total: non-double counted summary of combined report areas





Microtransit

Microtransit is a flexible transit service that bridges the gap between individual private transportation and public mass transit. It is a demand-response service that uses existing fixed-route buses, paratransit vehicles, passenger vans, and cutaways enabled by various mobile technologies. Rides are scheduled through a smartphone app, traditional phone, or website.

The goal of microtransit is to expand the geographic and demographic reach within a network by serving populations that are low-density, low-income, and lacking other reliable transportation options. Microtransit service providers strive to complement existing transit services. Many microtransit services are dedicated to the first and last mile to provide riders transportation to and from public transit stations.

Microtransit has proven to decrease traffic congestion, spur economic development, and reduce the amount of air pollution. Some of the additional ways microtransit benefit transit agencies and riders are:

- **Cost-effectiveness:** Alternate service for low-performing routes and off-peak hours
- **Increased service coverage:** Agencies can reach underserved areas without dedicating a regular service
- **Flexible service:** Flexible hours to accommodate shift workers and those who work during off-peak hours; guaranteed ride homes
- **Equitable & Economical:** Inclusive services that maximize the use of resources by facilitating paratransit and conventional riders traveling together in the same vehicles
- **Efficient:** Riders are picked up and dropped off at common locations to reduce travel times

Transit agencies and cities are saving money by using microtransit while delivering higher-quality service. Microtransit has the potential to expand overall service coverage and increase the proportion of residents regularly using public transit. A comprehensive analysis of VIA services shows that the cost to offer a given average wait time (15 minutes, for example) with microtransit is often significantly lower than the cost to offer the same 15-minute fixed-route headway. Microtransit vehicles are typically cheaper to operate because:

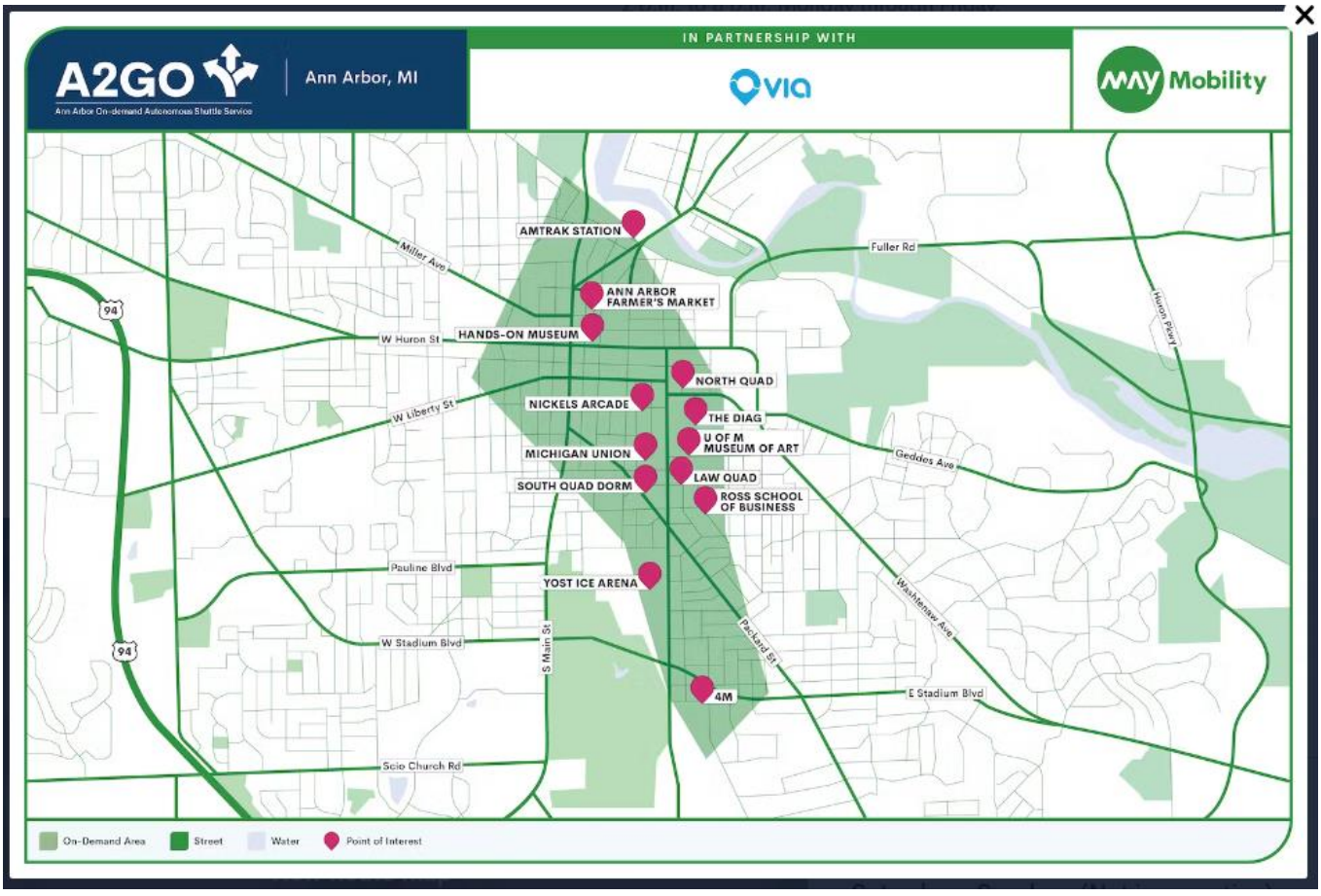
- They require less fuel.
- They incur lower maintenance costs.
- They can be driven by non-CDL operators.

Cities throughout the United States have documented proven success after implementing microtransit services within their communities. These cities include:

- Ann Arbor, Michigan
- Arlington, Texas
- Birmingham, Alabama

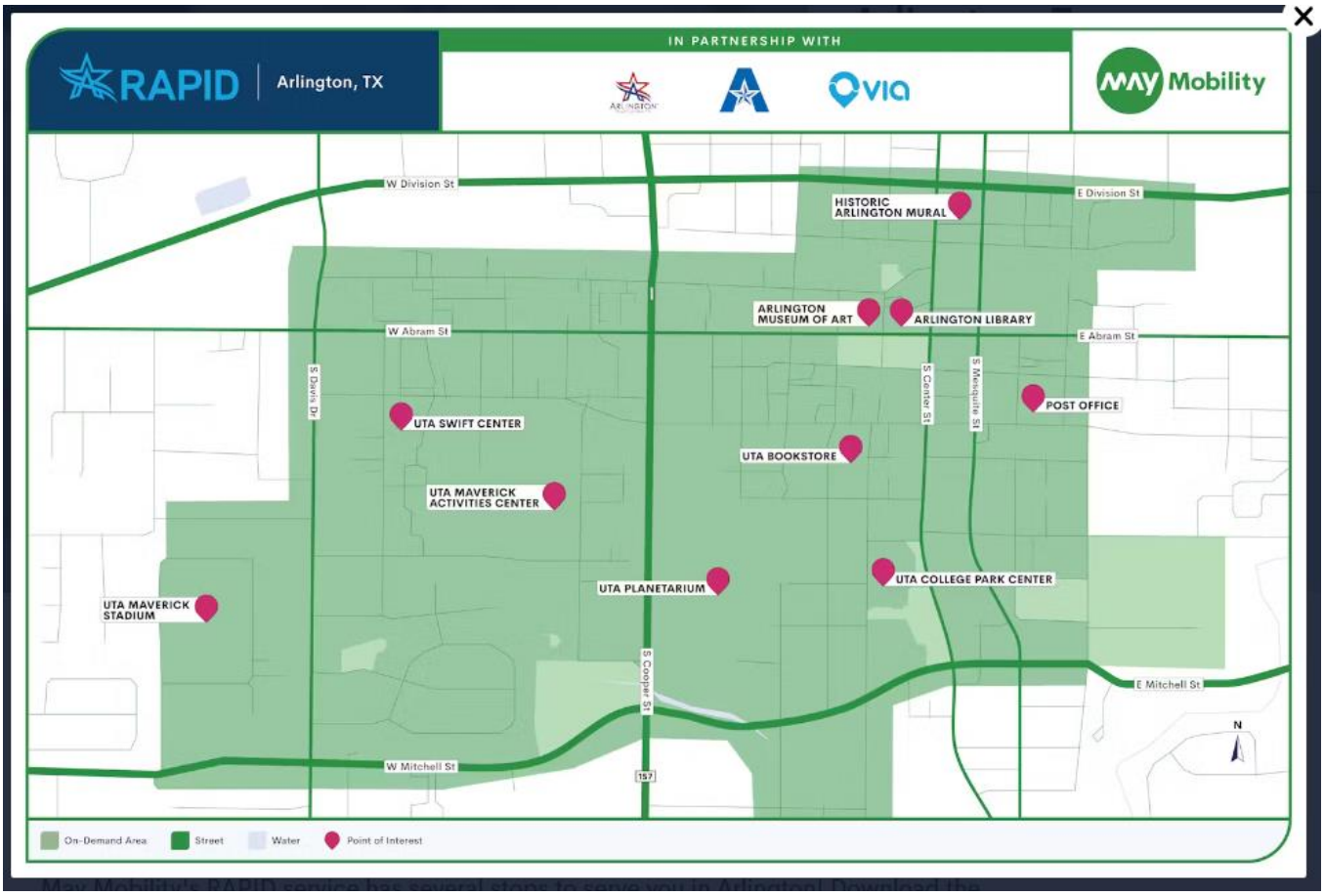
- Camden, New Jersey
- Cupertino, California
- Gainesville/Hall County, Georgia
- Green Bay, Wisconsin
- Jersey City, New Jersey
- Miami-Dade County, Florida
- Newton, Massachusetts
- Salem, Massachusetts
- Seattle, Washington
- Valdosta, Georgia
- West Sacramento, California
- Wilson, NC
- Montgomery, Alabama

FIGURE 63 and FIGURE 64 illustrate examples of the service area for the microtransit service offered in Ann Arbor, Michigan and Arlington, Texas, respectively. An example of the price difference between microtransit and fixed route service in Gainesville, Georgia is also shown in Figure 65**.**



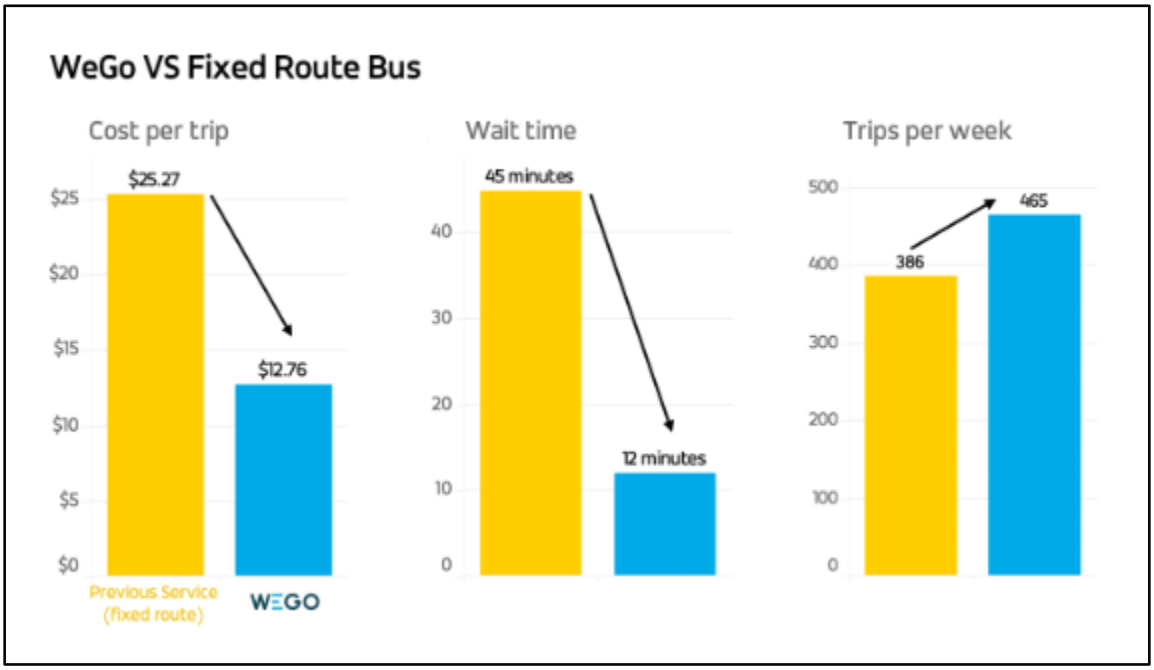
Source: 2023 May Mobility

Figure 63: Example of Ann Arbor, Michigan's A2GO Service Area



Source: 2023 May Mobility

Figure 64: Example of Arlington, Texas' RAPID Service Area



Source: 2023 Via Transportation, Inc.

Figure 65: WeGO vs Fixed Route Gainesville, Georgia

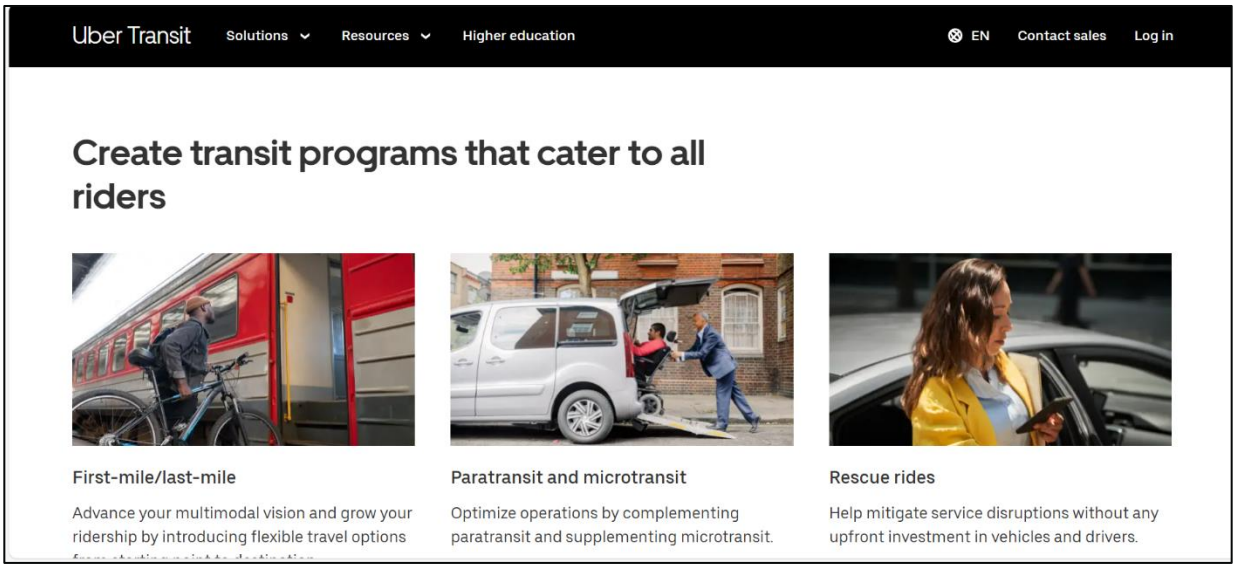
In 2016, the Federal Transit Administration (FTA) allowed microstransit projects to use formula funds upon recognizing microtransit as public transportation. However, this option is only available to transit agencies or cities that receive federal formula funds.

Many other transit agencies use a private provider to operate the microtransit service, which is sometimes called a "turnkey" solution or "transportation as a service (TaaS)." In this service, agencies could apply the FTA's "capital cost of contracting" policy and receive up to an 80% match for half of a turnkey contract's cost. The remaining half of the contract is treated as an operational cost in small urban and rural communities and could receive up to 50% in federal matching funds.

Microtransit has the additional benefit of providing service during hours that typical fixed-route transit does not, which means microtransit can be used to provide guaranteed ride homes for employees working late who do not have vehicles.

Additionally, Uber provides a number of transit services including guaranteed ride homes, first-last mile service, and microtransit.

Figure 66 Uber Transit Services



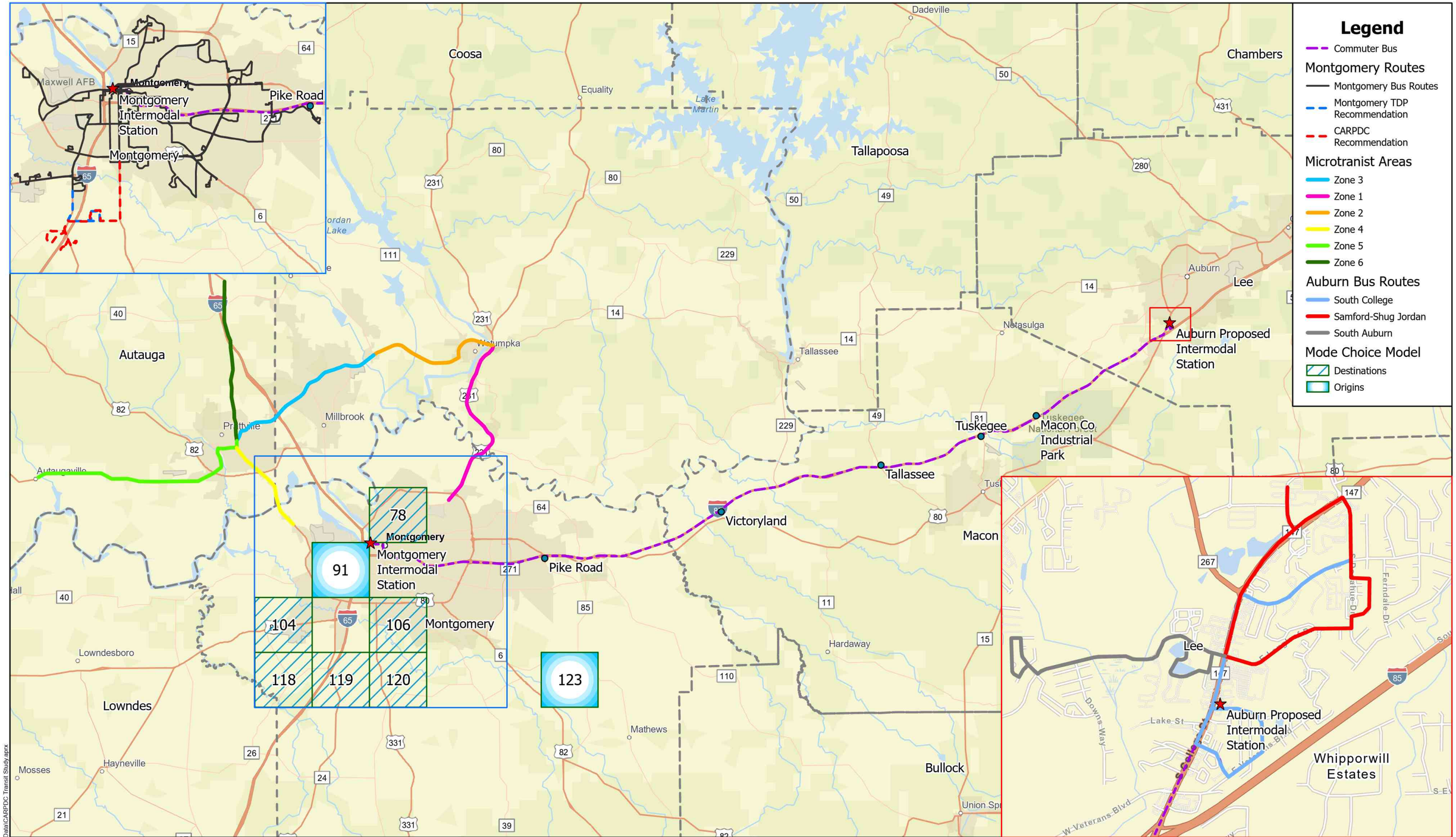
Findings and Recommendations

The TBEST analysis indicated that The M local bus route extensions would add 15 additional riders to the M Transit system while increasing the system route cost by slightly over ten percent meaning these extensions would have to be heavily subsidized until ridership increases which is likely given planned development in the Hyundai Plant area.

The TBEST results for the commuter bus route illustrated relatively low demand with a daily ridership of 25 people. Like the M Transit recommendations, this proposed route would also need to be heavily subsidized until ridership increases.

The M route extensions were assumed to operate on the same headway as the existing routes being extended. The commuter bus route assumed two AM trips in both directions between 7-9 A.M. and two PM trips in both directions between 4-6 P.M.

The recommendations are illustrated in Figure 67.



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SAIN ASSOCIATES

NOT TO SCALE

Inter City Transit Route Recommendations

Figure 77

CARPDC Transit Study
Montgomery, Alabama

Next Steps

CARPDC currently does not have the resources to fund and operate the recommendations at this time, so the following action items are listed below which would help CARPDC incrementally develop the transit network:

- Reach out to Montgomery T to initiate discussions regarding route extensions. The TBEST funding analysis indicated a 10% increase in overall Montgomery T system costs which is significant and may require the recommendations to be implemented in phases.
- Explore funding options and partnerships to implement on-demand rural transit service in Elmore County. Particularly, explore a partnership with Autauga County which would allow both counties to share resources and expenses.
- Determine the service provider and structure for the proposed express bus system as this would be a new service in the Montgomery region.
- Explore partnership with Auburn University as the TBEST analysis indicated that most of the trips on the proposed commuter bus would be Auburn related.
- Explore partnerships with large industrial companies in Macon County as this is another destination on the proposed commuter bus route.
- Reach out to VIA and other Microtransit providers to obtain cost estimates and scope of services for providing Microtransit.

Microtransit Pilot Launch

Microtransit offers flexibility and potentially lowers capital and operating costs. Transit agencies can either work with a vendor to deliver software and operations management (turnkey service), or the agency just needs microtransit software to use with their own vehicles and drivers. If the agency has already invested in vehicles and/or has a pool of drivers, procuring software alone may be a cost-effective way to proceed. Via's Policy and Grants team work with cities and transit agencies all over the country to help identify and score funding for microtransit services. With the help of Via's strategy team, the microtransit pilot can be launched in less than six weeks, as illustrated in FIGURE 68.

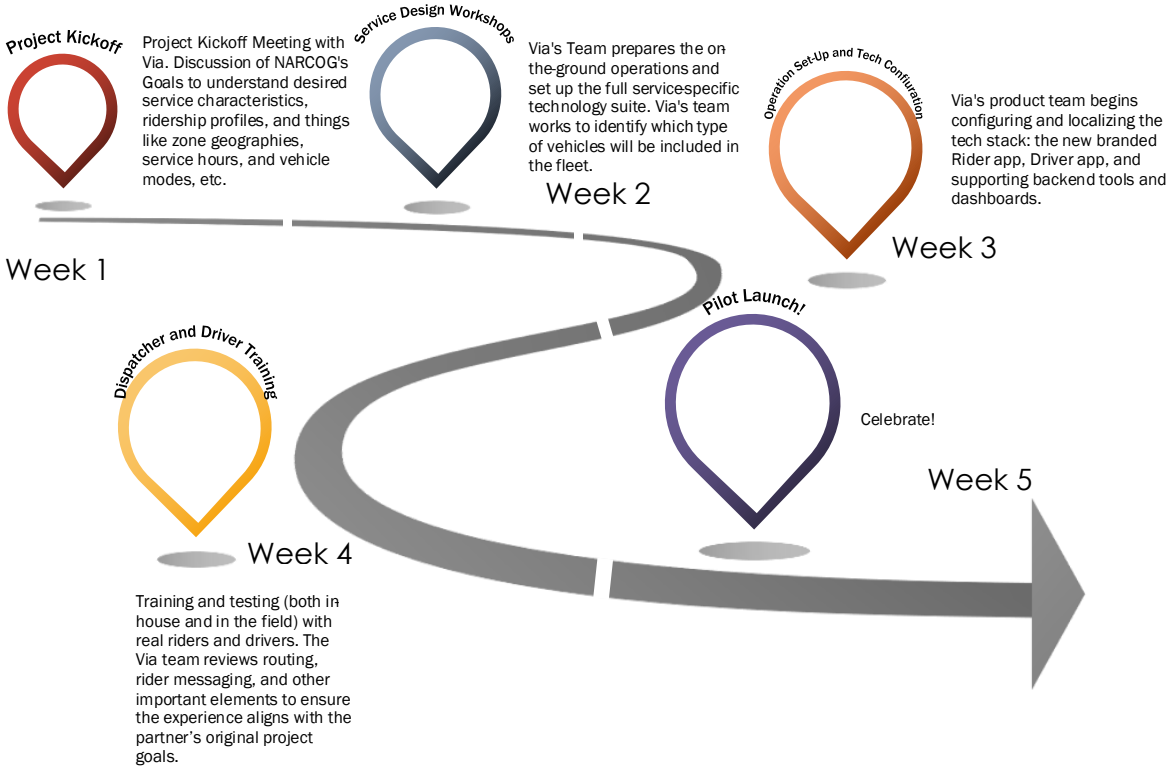


Figure 68: Microtransit Pilot Launch

Comparison to Similar Systems

The estimate for providing rural transit service in Elmore County was developed using National Transit Database (NTD) data for similar regions. Given the proximity and similarities, Chilton County Commission and Autauga Transit were selected for comparison purposes. (See Figures 69 and 70)

Figure 69-Autauga Transit NTD Summary

2023 Annual Agency Profile - Autauga County (NTD ID 40213)

Mailing Address: 135 N COURT ST STE B
PRATTVILLE, AL

Website: http://www.autaugaco.org/Default.asp?ID=148

Geographic Coverage

Primary Urbanized/Rural Area	Montgomery, AL
Service Area Population	58,805
Service Area Sq. Miles	139
Other Areas Served:	Alabama Non-UZA

Service Consumed

Annual Unlinked Trips (UPT)	41,905

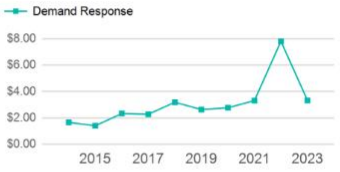
Assets

Revenue Vehicles	17
Service Vehicles	1
Facilities	

Service Supplied

Annual Vehicle Revenue Miles (VRM)	245,479
Annual Vehicle Revenue Hours (VRH)	17,438
Vehicles Operated in Maximum Service (VOMS)	12

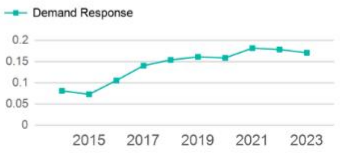
Operating Expenses per Vehicle Revenue Mile



Modal Characteristics

Mode	Annual Unlinked Passenger Trips	Directly Operated VOMS	Purchased Transportation VOMS	Annual Vehicle Revenue Miles	Annual Vehicle Revenue Hours
Demand Response	41,905	12	0	245,479	17,438
Total	41,905	12	0	245,479	17,438

Unlinked Passenger Trip per Vehicle Revenue Mile



Metrics

Mode	Service Efficiency		Service Effectiveness		
	OE per VRM	OE per VRH	UPT per VRM	UPT per VRH	OE per UPT

2023 Annual Agency Profile - Autauga County (NTD ID 40213)

2023 Funding Breakdown

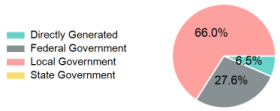
Summary of Operating Expenses (OE)

Mode	Operating Expenses	Fare Revenues
Demand Response	$816,916	$0
Total	$816,916	$0

Sources of Operating Funds Expended

Directly Generated	$52,848
Federal Government	$225,301
Local Government	$538,767
State Government	$0
Total Operating Funds Expended	**$816,916**

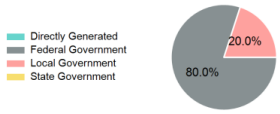
Operating Funding Sources



Sources of Capital Funds Expended

Directly Generated	$0
Federal Government	$221,974
Local Government	$55,493
State Government	$0
Total Capital Funds Expended	**$277,467**

Capital Funding Sources



2023 Asset Management

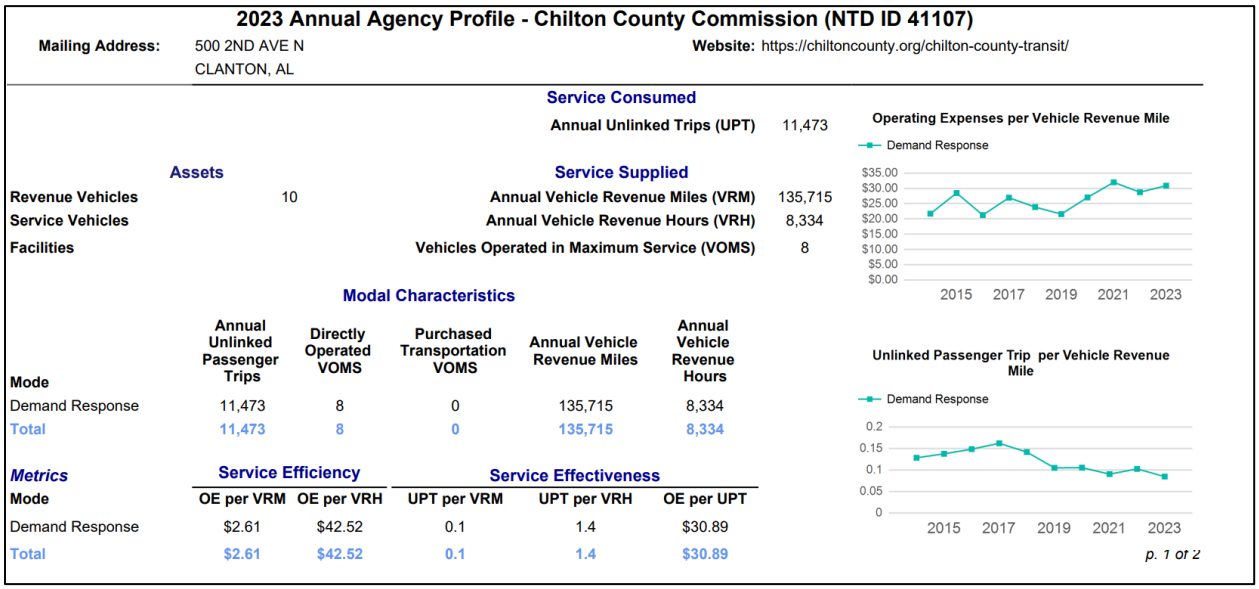
Transit Asset Management (TAM) Tier	Tier II
TAM Sponsor NTD ID	4R01

Metrics

Mode	Average Fleet Age in Years
Demand Response	3.6

p. 2 of 2

Figure 70-Chilton County Commission NTD Summary



2023 Annual Agency Profile - Chilton County Commission (NTD ID 41107)

Mailing Address: 500 2ND AVE N, CLANTON, AL **Website:** https://chiltoncounty.org/chilton-county-transit/

Service Consumed

Annual Unlinked Trips (UPT)	11,473

Assets

Revenue Vehicles	10
Service Vehicles	
Facilities	

Service Supplied

Annual Vehicle Revenue Miles (VRM)	135,715
Annual Vehicle Revenue Hours (VRH)	8,334
Vehicles Operated in Maximum Service (VOMS)	8

Modal Characteristics

Mode	Annual Unlinked Passenger Trips	Directly Operated VOMS	Purchased Transportation VOMS	Annual Vehicle Revenue Miles	Annual Vehicle Revenue Hours
Demand Response	11,473	8	0	135,715	8,334
Total	11,473	8	0	135,715	8,334

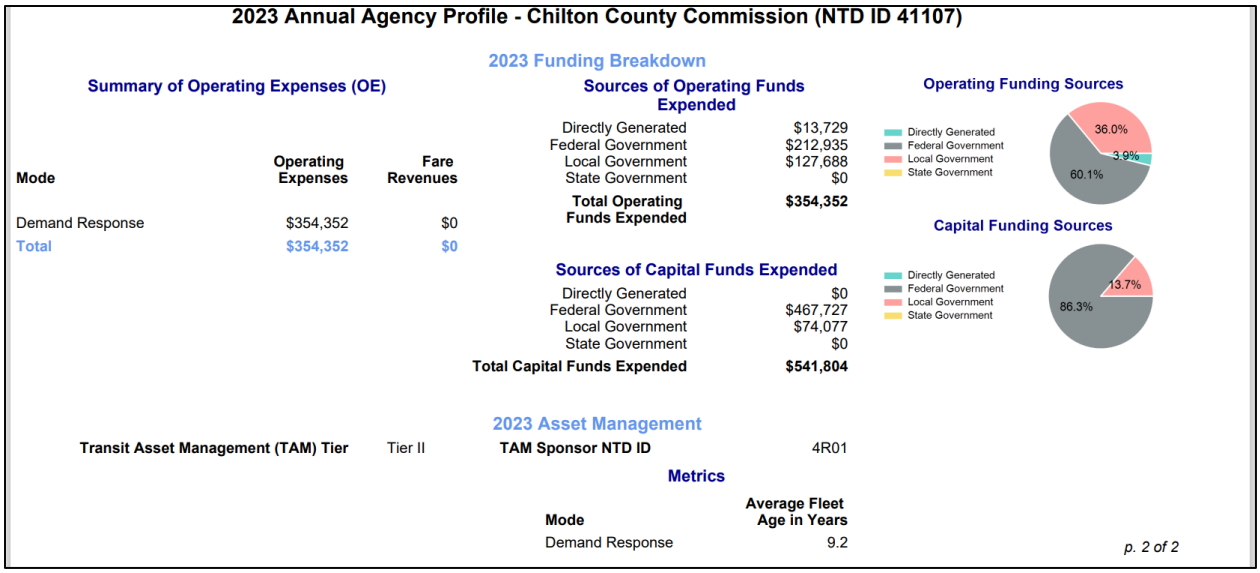
Metrics

Mode	Service Efficiency		Service Effectiveness		
	OE per VRM	OE per VRH	UPT per VRM	UPT per VRH	OE per UPT
Demand Response	$2.61	$42.52	0.1	1.4	$30.89
Total	$2.61	$42.52	0.1	1.4	$30.89

Operating Expenses per Vehicle Revenue Mile

Unlinked Passenger Trip per Vehicle Revenue Mile

p. 1 of 2



2023 Annual Agency Profile - Chilton County Commission (NTD ID 41107)

2023 Funding Breakdown

Summary of Operating Expenses (OE)

Mode	Operating Expenses	Fare Revenues
Demand Response	$354,352	$0
Total	$354,352	$0

Sources of Operating Funds Expended

Directly Generated	$13,729
Federal Government	$212,935
Local Government	$127,688
State Government	$0
Total Operating Funds Expended	**$354,352**

Operating Funding Sources

Sources of Capital Funds Expended

Directly Generated	$0
Federal Government	$467,727
Local Government	$74,077
State Government	$0
Total Capital Funds Expended	**$541,804**

Capital Funding Sources

2023 Asset Management

Transit Asset Management (TAM) Tier Tier II **TAM Sponsor NTD ID** 4R01

Metrics

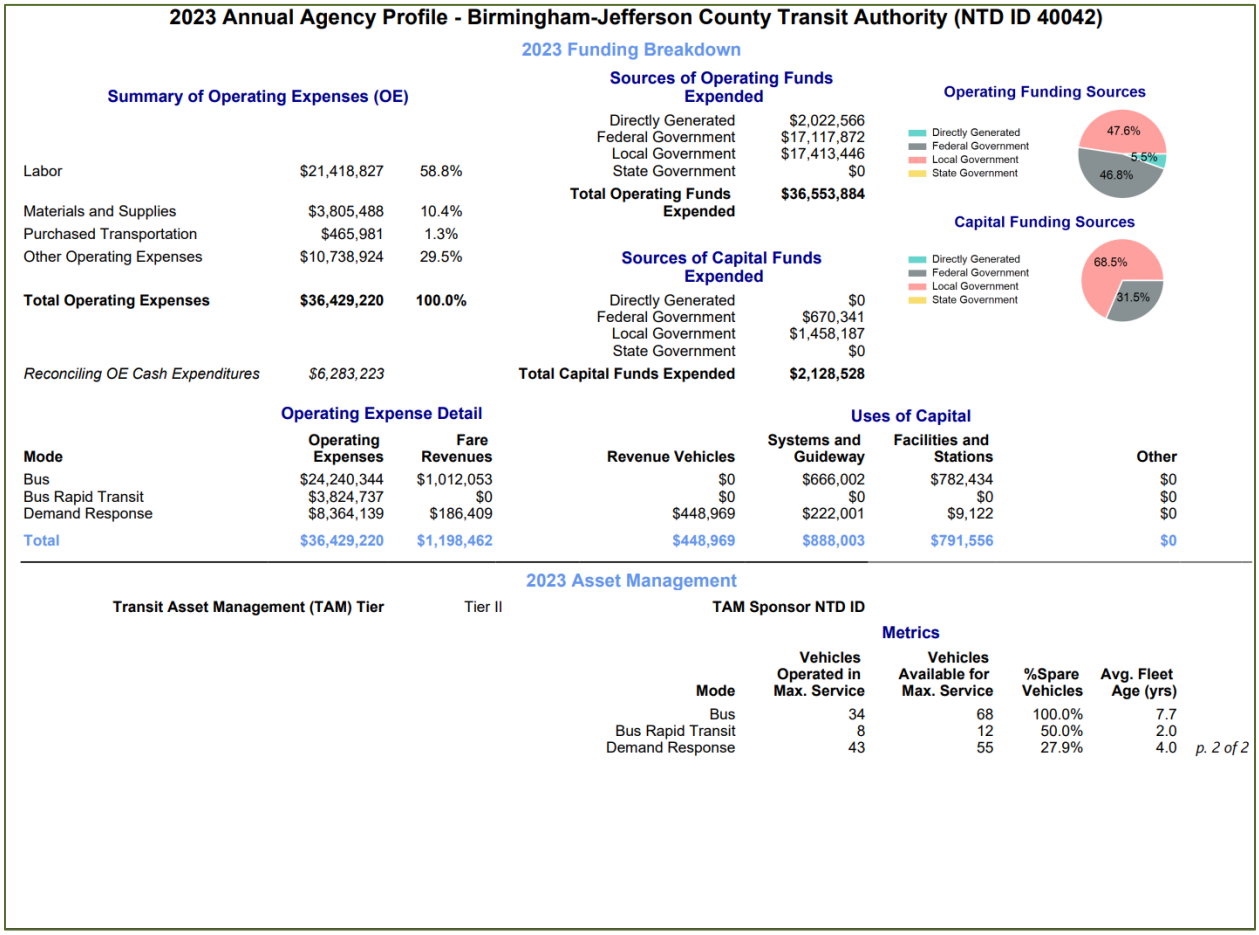
Mode	Average Fleet Age in Years
Demand Response	9.2

p. 2 of 2

Based on the operating costs for Chilton County Commission and Autauga Transit, the estimated annual operating cost for the Elmore County rural transit service would be $700,000 of which 50% would be matched by FTA. The initial capital costs would include the purchase of ADA equipped paratransit vehicles at roughly $60,000 per vehicle. Assuming 10 vehicles would be required for the rural transit service (based on the comparison to peer systems), this would equal an initial capital investment of approximately $600,000 of which 80% would be matched by FTA. The balance that Elmore County would be required to fund to initiate the service is estimated $120,000 or 20% of the total investment costs. The appendix includes a summary of various grant programs that Elmore County could apply to assist with the initial capital investment.

Similarly, research was conducted through the NTD database to determine typical costs for providing express bus service and Microtransit. The following figures illustrate the costs for other systems.

Figure 71 Express Bus/Microtransit NTD Summaries



2023 Annual Agency Profile - Birmingham-Jefferson County Transit Authority (NTD ID 40042)

2023 Funding Breakdown

Summary of Operating Expenses (OE)

Labor	$21,418,827	58.8%
Materials and Supplies	$3,805,488	10.4%
Purchased Transportation	$465,981	1.3%
Other Operating Expenses	$10,738,924	29.5%
Total Operating Expenses	**$36,429,220**	**100.0%**
Reconciling OE Cash Expenditures	*$6,283,223*	

Sources of Operating Funds Expended

Directly Generated	$2,022,566
Federal Government	$17,117,872
Local Government	$17,413,446
State Government	$0
Total Operating Funds Expended	**$36,553,884**

Operating Funding Sources

Sources of Capital Funds Expended

Directly Generated	$0
Federal Government	$670,341
Local Government	$1,458,187
State Government	$0
Total Capital Funds Expended	**$2,128,528**

Capital Funding Sources

Operating Expense Detail

Mode	Operating Expenses	Fare Revenues
Bus	$24,240,344	$1,012,053
Bus Rapid Transit	$3,824,737	$0
Demand Response	$8,364,139	$186,409
Total	$36,429,220	$1,198,462

Uses of Capital

	Revenue Vehicles	Systems and Guideway	Facilities and Stations	Other
Bus	$0	$666,002	$782,434	$0
Bus Rapid Transit	$0	$0	$0	$0
Demand Response	$448,969	$222,001	$9,122	$0
Total	$448,969	$888,003	$791,556	$0

2023 Asset Management

Transit Asset Management (TAM) Tier Tier II

TAM Sponsor NTD ID

Metrics

Mode	Vehicles Operated in Max. Service	Vehicles Available for Max. Service	%Spare Vehicles	Avg. Fleet Age (yrs)
Bus	34	68	100.0%	7.7
Bus Rapid Transit	8	12	50.0%	2.0
Demand Response	43	55	27.9%	4.0

p. 2 of 2

2023 Annual Agency Profile - Atlanta-Region Transit Link Authority (NTD ID 42000)

2023 Funding Breakdown

Summary of Operating Expenses (OE)

Labor	$3,315,469	12.0%
Materials and Supplies	$2,222,163	8.0%
Purchased Transportation	$14,719,324	53.3%
Other Operating Expenses	$7,365,312	26.7%
Total Operating Expenses	**$27,622,268**	**100.0%**
Reconciling OE Cash Expenditures	*$2,018,698*	

Sources of Operating Funds Expended

Directly Generated	$3,705,232
Federal Government	$14,747,798
Local Government	$0
State Government	$11,187,936
Total Operating Funds Expended	**$29,640,966**

Operating Funding Sources

Sources of Capital Funds Expended

Directly Generated	$0
Federal Government	$10,380,727
Local Government	$0
State Government	$1,479,258
Total Capital Funds Expended	**$11,859,985**

Capital Funding Sources

Operating Expense Detail

Mode	Operating Expenses	Fare Revenues
Commuter Bus	$25,288,729	$1,686,535
Vanpool	$2,333,539	$2,018,697
Total	$27,622,268	$3,705,232

Uses of Capital

Revenue Vehicles	Systems and Guideway	Facilities and Stations	Other
$5,232,452	$455,935	$6,171,598	$0
$0	$0	$0	$0
$5,232,452	$455,935	$6,171,598	$0

2023 Asset Management

Transit Asset Management (TAM) Tier Tier I (Non-Fixed Route VOMS)

TAM Sponsor NTD ID

Metrics

Mode	Vehicles Operated in Max. Service	Vehicles Available for Max. Service	%Spare Vehicles	Avg. Fleet Age (yrs)
Commuter Bus	80	167	108.8%	9.5
Vanpool	162	162	0.0%	1.9

p. 2 of 2

2023 Annual Agency Profile - High Valley Transit District (NTD ID 88239)

2023 Funding Breakdown

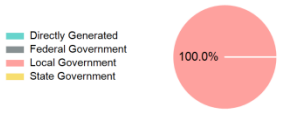
Summary of Operating Expenses (OE)

Mode	Operating Expenses	Fare Revenues
Bus	$16,276,617	$0
Demand Response	$5,599,855	$0
Total	$21,876,472	$0

Sources of Operating Funds Expended

Directly Generated	$0
Federal Government	$0
Local Government	$21,876,472
State Government	$0
Total Operating Funds Expended	**$21,876,472**

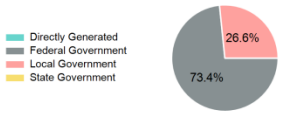
Operating Funding Sources



Sources of Capital Funds Expended

Directly Generated	$0
Federal Government	$6,102,743
Local Government	$2,213,698
State Government	$0
Total Capital Funds Expended	**$8,316,441**

Capital Funding Sources



2023 Asset Management

Transit Asset Management (TAM) Tier Tier II

TAM Sponsor NTD ID 8R06

Metrics

Mode	Average Fleet Age in Years
Bus	3.8
Demand Response	0.0

p. 2 of 2

2023 Annual Agency Profile - Autauga County (NTD ID 40213)

2023 Funding Breakdown

Summary of Operating Expenses (OE)

Mode	Operating Expenses	Fare Revenues
Demand Response	$816,916	$0
Total	$816,916	$0

Sources of Operating Funds Expended

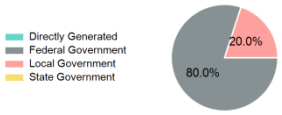
Directly Generated	$52,848
Federal Government	$225,301
Local Government	$538,767
State Government	$0
Total Operating Funds Expended	**$816,916**

Operating Funding Sources

Sources of Capital Funds Expended

Directly Generated	$0
Federal Government	$221,974
Local Government	$55,493
State Government	$0
Total Capital Funds Expended	**$277,467**

Capital Funding Sources



2023 Asset Management

Transit Asset Management (TAM) Tier	Tier II
TAM Sponsor NTD ID	4R01

Metrics

Mode	Average Fleet Age in Years
Demand Response	3.6

p. 2 of 2

Currently Autauga County expends approximately $800,000 to provide on-demand transit services. Accounting for the differences in size and transit coverage of the regions, this expenditure is consistent with other regions.

The most practical approach to implementing Microtransit would be to combine the current on-demand service with the Microtransit service. This approach is also recommended for the proposed Elmore County rural transit service. This approach would potentially enable both counties to utilize the same buses and drivers for both services. The capital investment for new buses or vans would be a function of the current on-demand service and ridership, and there is a possibility that no additional transit vehicles would need to be purchased by Autauga County.

The initial capital investment would primarily be upgrading software to combine the two services, developing fare structures, marketing and branding the new service. If additional buses or vans are required for Autauga County, it is recommended to incrementally introduce the Micotransit service. For example, the county could initially increase operating expenditures by 10-15% and capital expenditures by 25-30% which would enable to county to purchase one new vehicle (estimated at $60,000) and one new driver (estimated at $150,000 annually). A summary of how to combine existing on-demand paratransit and rural transit services with Microtransit along with a detailed funding analysis for the recommendations are included in the Appendix.

Appendix A

Planning-Level Funding Analysis

This Appendix summarizes the planning-level opinions of cost for the recommendations. The recommendations included:

1. Approximately 60 miles of Microtransit service stratified into six different zones, approximately 10 miles each.
2. Commuter bus between the Montgomery Intermodal Station and Auburn with stops in Pike Road, Victoryland, Tallassee, Tuskegee, and Macon County Industrial Park.
3. Two The M local bus route extensions.

For Microtransit, the assumption was Via or another private company would provide the service initially with one American with Disabilities Act (ADA) equipped van per Microtransit zone.

Microtransit Capital Investment

- 6 ADA equipped vans @ $60,000 each = $360,000
- Required software upgrades = $40,000
- Total Investment = $400,000

The recommended commuter bus route between Montgomery and Auburn was assumed to provide two AM peak hour trips in each direction and two PM peak hour trips in each direction.

Commuter Bus Capital Investment

- 4 ADA equipped vans @ $60,000 each = $240,000
- 6 new commuter bus stops @ $1,500,000 each = $9,000,000
- Total Investment = $9,240,000

The M local bus route extension costs were based on the unit cost per mile developed in previous studies and included in the TBEST modeling analysis.

The M Local Bus Extension Capital Investment

- 1 ADA equipped bus @ $100,000
- Total Investment = $100,000

The initial capital costs for implementing the Elmore County rural transit service would include the purchase of ADA equipped paratransit vehicles at roughly $60,000 per vehicle. Assuming 10 vehicles would be required for the rural transit service (based on the comparison to peer systems), this would equal an initial capital investment of approximately $600,000.

Elmore County Rural Transit

Total Investment = $600,000

Based on the operating costs for Clanton County Commission and Autauga Transit, the estimated annual operating cost for the Elmore County rural transit service would be **$700,000**. Given that Microtransit is included with Section 5310 transit service (rural/paratransit) in National Transit Database (NTD) reporting, the operating costs for the proposed Microtransit were estimated from the proposed Elmore County rural transit service.

Accounting for the differences in service hours and coverage, the estimated annual operating costs for the proposed Micotransit service would be approximately **$500,000** annually assuming a ¼ mile buffer is used on each side of the recommended routes.

The operating costs for the local and express bus recommendations were extracted from the TBEST modeling results. The TBEST results indicated an estimated annual operating cost of **$100,000** for The M route extensions and **$1,000,000** for the commuter bus route. The operating costs include fuel and maintenance as well as the salary and benefits for the bus driver.

Given that FTA matches 80% of transit capital investments and 50% of transit operating costs, the total planning-level cost summary illustrates the following investment and budget programming strategies that would be required from CARPDC members.

Total Capital Costs

- Microtransit = $400,000 x 20% = $80,000
- Commuter Bus = $9,240,000 x 20% = $1,848,000
- The M Extensions = $100,000 x 20% = $20,000
- Rural Transit = $600,000 x 20% = $120,000

Annual Operating Costs

- Microtransit = $400,000 x 50% = $200,000
- Commuter Bus = $9,240,000 x 50% = $4,620,000
- The M Extensions = $100,000 x 50% = $50,000
- Rural Transit = $600,000 x 50% = $300,000

The cost of implementing Microtransit can be reduced by utilizing existing rural transit vans for the Microtransit service. This would allow the transit agency to utilize existing buses and drivers if available. Implementing software to combine rural, paratransit, and Microtransit trips is another way to reduce operating costs for all of the transit systems. For example,

using one existing van and driver for Microtransit would reduce the capital cost investment by $12,000 and the annual operating costs by approximately $30,000.

The primary source of revenue for the proposed transit system would be from fare collections. Based on the projected ridership, the estimated annual revenue would be approximately:

- Microtransit= 3000 riders x $2.50 average fare = $7,000
- Rural Transit=1000 riders x $2.00 average fare = $2,000
- The M Extension=1500 riders x $1.00 average fare =$1,500
- Commuter Bus=3500 riders x $3.50 average fare=$12,250

Appendix B

Funding Grants

Competitive Funding, Discretionary Grant, and Local Match Opportunities

This section describes competitive funding, formula grant, and local match opportunities. An application for the competitive and formula grants can be submitted when a Notice of Funding Opportunity (NOFO) becomes available. These grants require a local match when seeking additional federal funds. Competitive federal grants require a grants.gov account and applicants should familiarize themselves with required submittal documents like the SF-424 Form.

Federal Funding

The **Bus and Bus Facilities Program-5339(B)** is a federal competitive grant program that makes federal resources available to states and direct recipients. These funds can be used to replace, rehabilitate, purchase buses and related equipment and to construct bus-related facilities, including technological changes or innovations to modify low or no emission vehicles or facilities. Funding is provided through formula allocations and competitive grants. The maximum federal share and local match is shown in **TABLE A1** and **TABLE A2**.

Table A1: Federal Cost Sharing or Matching

Federal Cost Sharing or Matching	
Maximum Federal Share	**Project Type**
90%	Equipment or facilities that comply with the Clean Air Act (CAA) or Americans with Disabilities (ADA).*
85%	Vehicles that are compliant with the CAA or ADA
80%	All other projects, including workforce development/National Transit Institute training

* Costs associated with related equipment and facilities must be itemized in application to receive maximum Federal share. It should be noted that the status of all federal grant program funding is currently uncertain and no guarantee is implied that federal grant funding is currently available.

Table A1: Local Match Funding

Local Match Funding	
Maximum Local Match	**Project Type**
20%	Capital Costs
15%	Cost of leasing or purchasing a low-or -no emission project
10%	Cost of leasing or acquiring low-or no-emission bus-related equipment and facilities is10%

Eligible Buses and Bus Facilities Program applicants include designated recipients that allocate funds to fixed-route bus operators, States (including territories and Washington D.C.) or local

governmental entities that operate fixed-route bus services, and tribes. Eligible subrecipients include all otherwise qualified applicants and private nonprofit organizations engaged in public transportation. An applicant may submit a low-or no-emission project to one or both the Buses and Bus Facilities Competitive Program and the Low-or No-Emission Program. If a project submitted for consideration under both programs is selected for funding, the Federal Transit Administration (FTA) will exercise its discretion to determine under which program the project will receive funding. Projects must be eligible under both programs.

The **Low or No Emission Grant Program – 5339(C)** is a federal competitive grant program that provides funding to state and local governmental authorities for purchasing or leasing zero-emission and low-emission transit buses and acquiring, constructing, and leasing required supporting facilities. Eligible direct or designated applicants include states, local governmental authorities, and Indian Tribes. Proposals for eligible projects in rural areas must be submitted as part of a consolidated state proposal. All eligible expenses under the Low-No Program are compliant with the ADA and the CAA. The federal share of the cost of leasing or purchasing a transit bus is not to exceed 85% if the total transit bus cost. The federal share of the cost of leasing or acquiring low-or no-emission bus-related equipment and facilities is 90% of the net project cost. These activities must be specified in the application in order to receive the increased federal share.

The **Enhanced Mobility of Seniors & Individuals with Disabilities – Section 5310** is a formula program that provides funding to states and eligible recipients to meet the transportation needs of older adults and people with disabilities when the transportation service provided is unavailable, insufficient, or inappropriate to meeting these needs. This program seeks to improve mobility for older adults and people with disabilities by removing barriers to transportation service and expanding transportation mobility options. This program supports transportation services planned, designed, and carried out to meet the transportation needs of older adults with disabilities in all areas – large urbanized (over 200,000), small urbanized (50,000-200,000), and rural (under 50,000). This funding can be used for "traditional" or "nontraditional" projects. "Traditional" projects are capital projects as defined in 49 U.S.C. 5302(3). "Nontraditional" projects are capital and/or operating projects that go beyond the scope of the ADA complementary paratransit services or public transportation alternatives designed to assist older adults and people with disabilities. Eligible direct recipients are states, and local government authorities, while eligible subrecipients include private nonprofit organizations, states, or local government authorities, and operators of public transportation. Public transportation operators are entities that provide regular continuing shared-ride surface transportation services that are open to the general public or to a segment of the general public defined by age disability, or low-income. These operators are eligible as subrecipients for nontraditional Section 5310 projects. Eligible subrecipients should apply to the direct recipient in their area for funding. In small urban or rural areas, the direct recipient is the state department of transportation. The federal share of eligible capital costs may not exceed 80%, and 50% for operating assistance. The 10% that is eligible to fund program administrative costs including administration, planning, and technical assistance may be funded at 100% federal share. Federal funds from other agencies may be used as a match for the Section 5310 program.

The **Rural Transportation Assistance Program (RTAP) – 5311(b)(3)** provides a source of funding to assist in the design and implementation of training and technical assistance projects and other support services tailored to meet the needs of transit operators in nonurbanized areas. Eligible

recipients include state, local governments, and providers of rural transit services. The State RTAP program is allocated to the states based on an administrative formula. The RTAP formula first allocates $65,000 to each of the states and Puerto Rico, and $10,000 to the Insular Areas of Guam, American Samoa, and Northern Marianas, and then distributes the balance according to nonurbanized population of the states. The national component is competitively selected every five years and is funded under a competitive cooperative agreement. There is no Federal requirement for a local match. Funds are available the year appropriated plus two years (total of three years).

Local Match Opportunities

Securing local match presents a challenge to communities recovering from the economic impacts of the COVID-19 pandemic. Since the State provides no financial support, transit agencies in Alabama must develop strong partnerships and creative business solutions to earn revenue that could be considered a local match. There are several options that can be explored.

Route Guarantees and Revenue Agreements

One of the most common ways transit systems increase locally generated revenue and balance cost recovery is through direct financial sponsorship. This is commonly known as route guarantee. This agreement between the transit agency and a public or private entity negotiates a fee for a new service or a service extension to accommodate public transportation needs. This agreement brings in income that could be used as a local match to access more federal funds for operations. Examples of a route guarantee service would be open-door service between a college or university and student housing, transportation for seniors to a senior daycare or senior center, or financial sponsorship from a local hospital for medical trip service with branding from the hospital.

Advertising and Naming Rights

Selling advertising space is another easy-to-implement option for generating additional revenue. Naming rights involve selling or leasing the rights to a private entity to name public owned and operated facilities. Naming rights agreements could be structured over a schedule to spread out payments to the transit agency compared to an upfront sum, effectively splitting up the sale or lease and then enabling the agency to collect multiple payments as a potential local match for numerous years. Many transit agencies sell advertising space on the exterior and interior of their vehicles, and they provide opportunities to sell space on schedules and the agency's website. Policies and procedures are required to guide private partner selection and to ensure:

- Desired community aesthetics are maintained;
- Protection against offensive or illegal messaging;
- Negative association could damage the agency's brand; and,
- Conflicts with local zoning or signage regulations are avoided.

Vending and Concessions Leasing

Vending and concessions lease agreements can generate additional local income. These agreements involve leasing space in or near transportation facilities to sell private goods or services. Vendors will compensate the transit agency for using leased space, and the agreement terms can provide for fixed rental income and a percentage of sales. Depending on market characteristics,

concessions or vending can be permanent fixtures or temporary carts or kiosks put in place for special, high traffic events. Daily ridership and stop-level boardings will determine sustainability. Ideal locations for sales may be at one of the super stop locations. There's potential to expand beyond transit ridership by incorporating vending or concessions into underserved communities by retail. Examples of vending options range from simple vending machines to small temporary or permanent kiosks that sell buy-and-go items, such magazines, personal items, beverages, and pre-packaged food.

Energy Cost Savings and Surplus Generations

Local government agencies can partner with private energy and lighting companies in numerous ways to reduce energy costs or generate revenues by selling surplus energy generated on public property. The government agencies can enter long-term agreements with these renewable energy developers to purchase the power produced. This allows the private developer to raise the money for upfront installation costs and continued technology operation. Agreements must clearly outline each party's roles and responsibilities, and legal restrictions must be thoroughly researched. Local governments can work with lighting companies to install energy-efficient and networked lighting upgrades (i.e., light-emitting diodes (LED) lights, sodium lights) in transit stations, parking garages, along walkways, and roadways. These newer fixtures lower maintenance and energy costs and can be controlled (dimmed, brightened, turned off) from a centralized location, bringing safety and other benefits.

In-Kind Match

An in-kind match is a non-cash contribution of value provided that supports project work, typically in the form of personnel, goods, and services, including direct and indirect costs. FTA allows allowances for other federal funds to be used as in-kind matches, like Temporary Assistance for Needy Families (TANF). Approval for using other federal funds to match 5307 operating assistance will require local FTA Regional Office approval. Examples of the in-kind match include volunteer hours, equipment, or furniture donations.

Appendix C

Microtransit/Paratransit Integration

Commingling 101:

How to integrate microtransit with paratransit.

As transit agency leaders and operators know well, the mission of a successful paratransit program is to provide equal access to mobility for every eligible rider as efficiently as possible. Even with sophisticated routing software, a well-maintained fleet, quick reservationists, and compassionate, well-trained drivers, challenges still arise every day such as traffic jams, driver call-outs, and same-day rider requests for updated trip information (i.e. "where's my ride?"). **Operational flexibility is key to delivering successful paratransit**, and transit agencies are keener than ever to explore new approaches to help their operations staff respond to real-time events and deliver a quality rider experience more in line with on-demand services that have grown in popularity for the general public.

Modern TransitTech, like routing algorithms that adjust to traffic conditions and are able to re-optimize passengers trips, can facilitate this flexibility, but the high complexity and tight regulatory environment of paratransit operations has made agencies understandably cautious when it comes to adoption. Nevertheless, paratransit providers across the US are successfully replacing their legacy software and implementing new solutions that include key features — such as same-day or on-demand trips, continuous re-optimization, app- or web-based booking, and multi-use or "commingled" fleets — while maintaining ADA compliance.

In this guide, we focus on one example of a new, technology-enabled trend in paratransit: the commingling of ADA paratransit with other demand-responsive transit programs to improve quality of service and reduce operational costs. Though some agencies have implemented versions of commingling for years — utilizing the same vehicles, or the same staff, for paratransit and dial-a-ride services — the rise of on-demand or "microtransit" technology has opened up new possibilities for greater efficiencies and improved quality of service.

Read on to learn:

- **The primary benefits — and limitations — of commingling.**
- **The different forms commingling can take, and the key factors and best practices to consider for each.**
- **Guidance on selecting the right technology partner to implement a commingled service.**

What is commingling?

"Commingling" is a deceptively simple concept with often outsized promises: run an ADA paratransit service in conjunction with a non-ADA demand-response service — anything from traditional dial-a-ride to app-based microtransit — and share resources to improve quality of service and reduce costs. But commingling neither reflects a single operational strategy, nor functions as a cureall for inefficient paratransit service. When looking to implement commingled service, agencies should seek to understand the exact benefits — and limitations — of commingling in their contemplated use case.

Commingling has two primary benefits for paratransit riders and the agencies:

Improved service experience

Commingled services can offer paratransit riders several concrete benefits:

- More booking flexibility with spontaneous same-day, on-demand trips available through the accessible microtransit service.
- Reduced perception and/or stigma of "separate" service with paratransit and microtransit service operating under the same brand.
- Opportunity for travel training for microtransit and other app-based services in a familiar, low-stress environment.

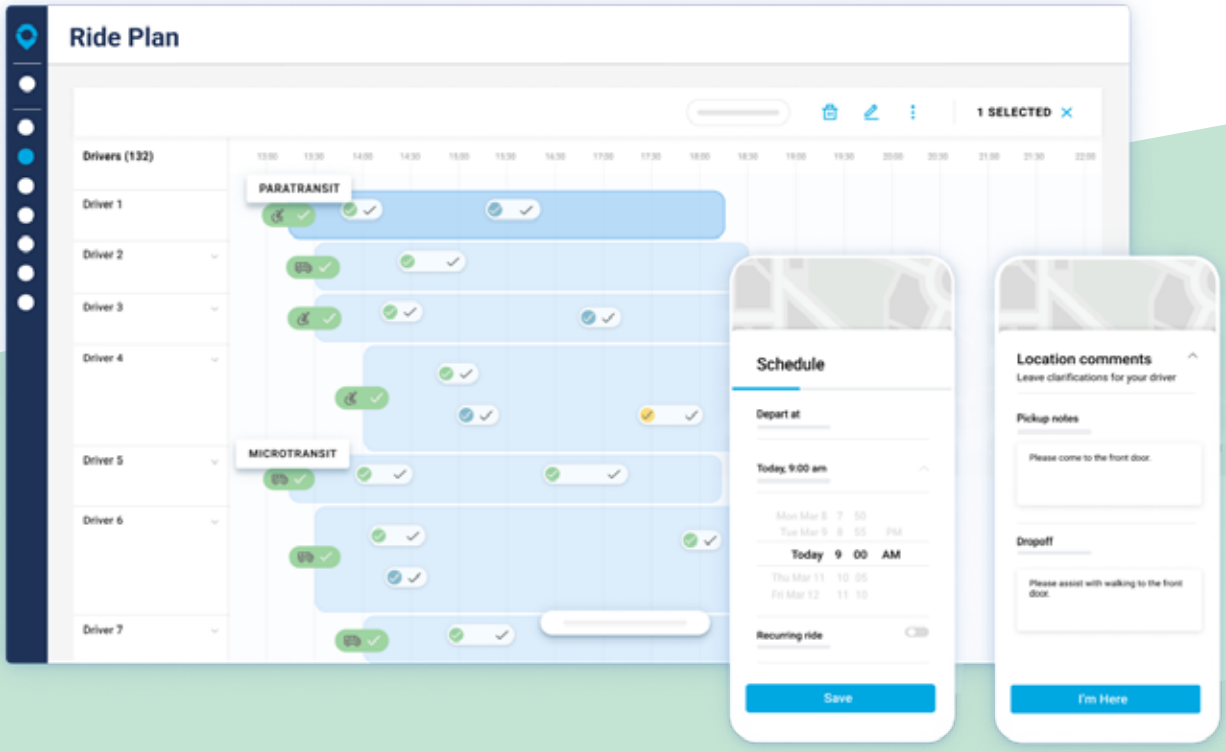
Lowered cost per trip

Commingled services can lower the average cost per trip of paratransit service in a few ways:

- Offering paratransit riders accessible microtransit trips when available at a lower cost to the agency.
- Increasing overall vehicle utilization by slotting on-demand microtransit trips into available space on paratransit vehicles.
- Combining support resources — customer support agents, reservationists, mechanics — for both services within combined management software.

Though a powerful strategy, commingling cannot improve a paratransit system all on its own. Commingling delivers the best results when these fundamental best practices for paratransit and microtransit are already in place:

- Paratransit booking, routing, and dispatching software maximizes vehicle utilization, even in the absence of commingled microtransit trips.
- Demand-response or microtransit software offers dynamic ride assignments and automated re-booking or re-routing.
- Drivers are trained to provide high-quality service to both microtransit and paratransit riders.
- App- or web-based booking systems are accessible, compliant with Section 508 or WCAG standards.



How does commingling work?

Commingling can take **three main forms,** each with distinct benefits for agencies. Below, find a summary of each model, an example of that model in action, and the key factors agencies should consider when implementing each type of commingling.

Option 1: Commingled fleets

Paratransit and demand-response services share the same fleet of vehicles. While an individual vehicle will only operate as paratransit or demand-response during a given driver shift, the proportion of vehicles assigned to paratransit and microtransit can change depending on demand.

Green Bay Metro
Green Bay, Wisconsin

Partnering with Via for both technology and operations, Green Bay Metro (GBM) now offers ADA paratransit and microtransit with the same fleet of accessible vehicles. Green Bay relaunched its paratransit service with Via in March of 2020, and soon faced a new challenge in the form of declining fixed route ridership as a result of the COVID-19 pandemic. By August 2020, the agency had leveraged its spare paratransit vehicles to launch a cost-effective microtransit service in place of its hardest hit bus routes.

The commingled fleet has performed well since launch, delivering 98% of trips on time — a 7% improvement over the previous operator. After being negatively impacted by COVID in 2020, utilization improved in 2021 and has returned to pre-pandemic levels. At the same time, GBM is delivering a new on-demand service — critical for providing flexible mobility during COVID-19 and beyond — without investing in new vehicles, software, or changing its existing management structure. Reservationists, support agents, drivers, and mechanics are shared freely between the services and coordinate with each other through the Via platform, reducing overhead for each service.

Key considerations:

- Vehicles are optimized for both paratransit and microtransit, with sufficient wheelchair capacity and multiple ambulatory seats to facilitate high utilization.
- Service branding is unified such that vehicles are easily identifiable to both paratransit and microtransit riders.
- By analyzing pre-booked paratransit trips, sophisticated routing and dispatch software can optimize the number of shifts designated for paratransit and microtransit on a daily basis.
- Software facilitates smooth coordination with drivers, so that each driver knows at the beginning of their shift which service they will be operating. Agencies can also consider implementing a tiered driver system where only more qualified drivers take ADA paratransit shifts.

Option 2: Commingled shifts

Paratransit and microtransit riders are not only served by the same vehicles, but during the same driver shifts. A dispatch algorithm optimizes these shifts for efficiency, slotting on-demand microtransit rides in between pre-booked paratransit rides, but does not assign microtransit riders and paratransit riders to share a vehicle at the same time.

High Valley Transit

Summit County, Utah

In May 2021, Summit County, a mountainous region near Park City, Utah, embarked on a bold new endeavor: launching its own transit agency, High Valley Transit, from scratch. With fixed route and paratransit services previously provided by neighboring Park City Transit, High Valley Transit partnered with Via to redesign its existing network and add a new microtransit service to fill gaps in the system. To increase utilization across the network, drivers of accessible vehicles pick up microtransit and paratransit riders within the same shift, allowing for greater aggregation by slotting route-compatible on-demand trips in between pre-scheduled paratransit trips.

The results have been striking: within three months of launch, ridership of the combined service quickly grew to three times even the pre-COVID paratransit ridership. Even better, utilization improved by more than 150%, representing a considerably more efficient service delivering more rides within an integrated demand-responsive transit network. This efficiency has come while maintaining quality of service: even as drivers transported more passengers per hour on commingled shifts, trip duration was comparable (at around ~11 minutes) to microtransit-only service.

Utah Transit Authority

Salt Lake County, Utah

In and around Salt Lake City, UTA oversees a complex network of transit options: light and commuter rail services, fixed-route bus services, on-demand microtransit zones, and complementary ADA paratransit. In addition, for riders with disabilities who live outside the ADA paratransit service area, UTA offers shuttle service to hubs where they can be picked up by the ADA service. In August of 2021, UTA began commingling this shuttle service with UTA On Demand, the Via-powered microtransit service, to deliver accessible transit with higher overall efficiency.

During commingled driver shifts, microtransit riders are booked on-demand in between pre-scheduled paratransit trips. The results have been highly encouraging: drivers working commingled shifts spent twice as much time transporting passengers than drivers working single-service shifts. And quality of service, as measured by time on board, remained comparable at ~13 minutes for both kinds of shifts.

Key considerations:

- The driver app is able to support unique trip types, communicate whether an upcoming pickup is a paratransit or microtransit rider, and indicate whether the rider has any special needs or requires boarding assistance.
- Routing and dispatch software is able to dynamically book on-demand trips into gaps between already-optimized, pre-booked paratransit trips, to ensure that ADA requirements are met. “Pre-scheduled” trips, assigned to vehicles near the requested pickup time, are often insufficient for meeting strict on-time-percentage (OTP) requirements.
- The agency ensures that all drivers in its pool are trained to provide high-quality paratransit service and microtransit service.

Option 3: Commingled trips

Paratransit and demand-response riders can be scheduled and grouped together on the same vehicle at the same time.

Railway City Transit On-Demand

St. Thomas, Ontario, Canada

Introduced as a part of a comprehensive network redesign, the City of St. Thomas launched Railway City Transit (RCT) On-Demand to complement its redrawn fixed routes. Integral to the appeal and feasibility of on-demand was the City's plan to commingle trips with its existing accessible parallel transit service. Leveraging Via's flexible booking and routing technology, riders can book available seats on vehicles already engaged in paratransit trips headed in the same direction — all while ensuring that pre-booked paratransit trips are completed on-time and with minimal time on board.

With commingled trips in place, utilization has improved by nearly 70% and ridership has almost doubled — reflecting increased efficiency and a return to transit after the acute phase of the COVID-19 pandemic. Importantly, parallel transit customers continue to make up two thirds of total riders, meaning that St. Thomas is fulfilling its mission to provide accessible transit while achieving efficiency gains by bringing on-demand riders into the same vehicles.

Key considerations:

- The agency determines and implements a method for ensuring paratransit riders have guaranteed trips. This can involve allowing paratransit riders to pre-book, but requiring that microtransit riders book on-demand, or ensuring that there is a dedicated provider available to handle overflow.
- The agency prioritizes communication with both paratransit and microtransit riders to set expectations: for example, letting paratransit riders know that their trip may briefly stop to pick up a microtransit rider, and letting microtransit riders know that paratransit riders may require additional assistance from drivers or longer boarding times.
- The agency considers how to use commingled trips as an opportunity for travel training for paratransit riders, who may prefer the flexibility of on-demand trips but be wary of unfamiliar drivers or non-dedicated service.

How to get started.

Though introducing commingling can be an effective method for improving customer experience and reducing cost-per-trip, the operational complexity can be daunting. Agencies often find themselves asking three main questions:

1. **How do I know if commingling is right for my paratransit service?**
2. **How do I select a commingling model?**
3. **How do I select a technology partner for my commingled service?**

The short answer is that like any transit system, a commingled paratransit/microtransit service is never “one-size-fits-all.” Below, find guidance on how to work through each question.

How do I know if commingling is right for my paratransit service?

A version of commingled service can work well for any agency, but particularly in the following situations:

1. **An accessible, popular, high-utilization microtransit service is already available in the area.**

   If your agency, city government, or other entity is already operating a microtransit service with good efficiency, leveraging its resources to improve paratransit efficiency can be the natural next step. If the service is not already accessible, retrofitting some of the vehicles will be worth the investment.

2. **A low overall number of paratransit trips are booked within a large zone, with limited fixed route public transit.**

   High utilization is difficult to achieve with low, diffuse ridership, contributing to high cost-per-trip. If the region lacks robust public transit, introducing a microtransit service can improve quality of service for both paratransit riders and the general public.

3. **An underutilized ADA paratransit system has additional vehicles and drivers available for a new service.**

   Accessible, agency-branded vehicles and fully-trained paratransit drivers are an asset that can be leveraged to provide additional trips to the general public while retaining the ability to serve paratransit riders on the same shifts, or even within the same trips.

How do I select a commingling model?

Selecting the right model is critical both for the potential economic impact of the service and its adoption by riders. At the same time, it can be difficult to know in advance which model will be right for your riders, drivers, and administrative staff. Even relatively basic questions such as estimating the anticipated microtransit demand in a proposed new zone can be tricky to answer, though more tools and support, like Remix On Demand Planning, are available than in the past.

Extensive consultations between your agency, your stakeholders, and your selected technology provider are recommended before reaching a decision on a commingling model. Many agencies choose to take a phased approach, starting with a shared fleet — administered through a shared technology suite — and carefully testing the impacts of shared shifts and shared trips before implementing these more highly-integrated models. Crucially, your chosen technology partner must be able to assist with, or even lead, this testing process, in order to help design a customized commingled service that is the most responsive to your agency's needs.

How do I select a technology partner for my commingled service?

A complicated operational model requires an **experienced technology partner** to ensure successful implementation. Even more importantly, given how uniquely tailored each commingled service must be to local conditions, your technology partner must be **flexible** and able to adapt and optimize the service as initial results and reactions come in.

During the procurement process — whether you start with an RFI, go straight to an RFP, or interview several firms for a potential sole-source — it is critical to get beneath the surface marketing materials and determine the following:

Experience

- **Can their technology actually implement every model of commingling we are considering?**
  - Does it allow both pre-booked and on-demand trips, for example?
  - Does it facilitate efficient messaging between reservationists, dispatchers, drivers, and riders?
  - Is it proven to improve aggregation and utilization, in microtransit and paratransit services separately and as commingled services?

- **Are they experienced at implementing every model of commingling that my agency is considering? Interrogate promotional materials by asking:**
  - What models of commingling are actually represented?
  - How many independent microtransit and paratransit services has the company launched, and how many commingled?
  - On what scale are these types of services implemented? How many rides per day, and what proportion paratransit and microtransit — and does this match my area's demand level?
- **Can they support the service both technically and operationally on a long-term basis?**
  - Do they offer high-quality service design and/or consulting services to scope the commingled launch?
  - Do they provide marketing and community outreach support to assist with rider messaging? Is their experience paratransit-specific?
  - What long-term support guarantees are made, and how is this support delivered? By a personal representative, or a helpline?

How do commingled services evolve?

There is no reason why an agency must commit to one form of commingling forever. Indeed, an advantage of selecting the right technology partner is the ability to analyze service results and make appropriate changes as needed, without going out to procurement once again.

Option 4: Evolving commingled service

Agencies launch a service with commingled fleets or shifts, and then pursue further commingling of shifts or trips in an effort to further increase efficiency.

Golden Empire Transit

Bakersfield, California

GET operates three types of demand-responsive services in overlapping zones: on-demand microtransit, paratransit, and non-emergency medical transport (NEMT). For years, the agency contracted with different software providers and operated separate call centers to run these services. In late 2020, they embarked on a phased launch of all three services with Via, under the same technological umbrella.

At first, the services leveraged the same accessible fleet, the same scheduling and routing software, and the same dispatchers and reservationists. This degree of commingling had a significant impact on dispatching efficiency, with an overall reduction in call times, freeing up staff for more tasks requiring human intervention. And the integrated call center made microtransit an appealing option for paratransit-eligible riders, who have taken 9% of all microtransit trips.

In late 2021, the agency began to explore a new commingling model: fully commingled shifts, with drivers available to take any type of rider within a given shift. Though trips themselves are not commingled — a microtransit rider won't be onboard at the same time as an NEMT rider, for example — the service has still seen a dramatic increase in utilization of 60%. Via and GET continue to work together to refine the commingling model to best suit their passengers' needs.

Key considerations:

- Does the software provider have operationally experienced personnel available to analyze and, if necessary, make changes to the service zone, parameters, or model?
- Will their technology allow us to change our commingling model as needed? For example, if we want to switch from commingled shifts to commingled trips, can they support that? And how easy will it be to make the switch?
- Do they have a track record of growing and evolving services, in microtransit, paratransit, or both? How many long-term partners do they have?

Want to learn more about Via's paratransit solution?
Don't be a stranger! Visit **ridewithvia.com/solutions**

And reach out to Yannis Simaiakis, General Manager of Paratransit at Via!

Chris Campbell
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Economic Impacts of Transit Example

Alabama Transit Economic Impact Quick Response Tool

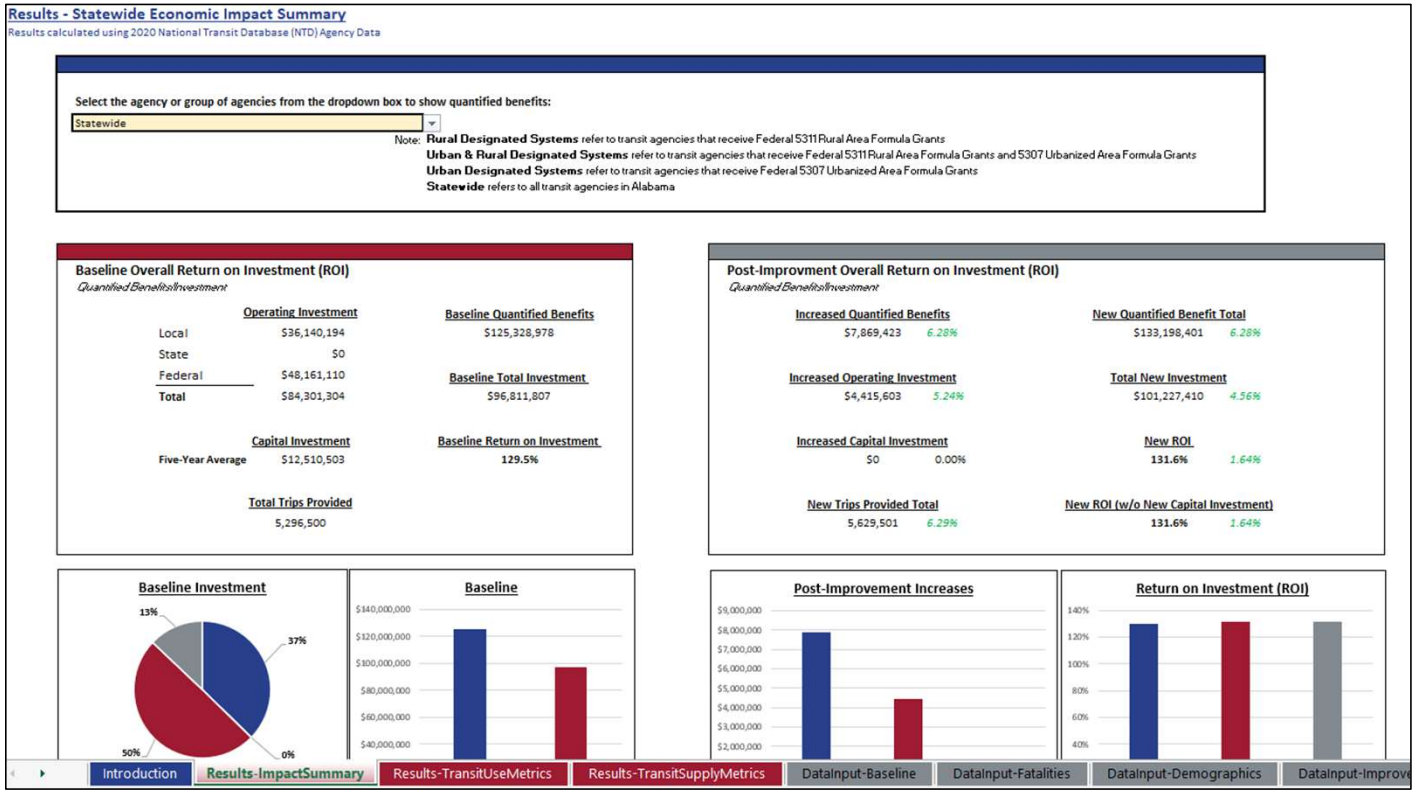
Tool Introduction Overview

1. Primary Tool Purpose
2. Quantified Benefit Metrics
3. Data Inputs
4. Next Steps

Alabama Transit Economic Impact Quick Response Tool

Primary Tool Purpose

- Provide an estimated return on investment (ROI) for quantifiable benefits of transit
- Quantify individual economic and societal benefit metrics
- Compare ROI and benefits between a baseline scenario and a scenario that considers improvements made to the transit agencies
- Adjustable results between individual agencies, groupings of agencies, and statewide



Statewide ROI Results Example

Alabama Transit Economic Impact Quick Response Tool

Quantified Benefit Metrics

- Broken into two main categories; Transit Use Benefits and Transit Supply Benefits
  - Transit Use Metrics
    - Directly impacts the riders
  - Transit Supply Metrics
    - Impacts the community and larger economy

Transit Use Metrics

- Income Lost w/o Transit
- Vehicle Operating Cost Savings
- Access to Healthcare Benefits
- Travel Time Savings From Walking/Biking

Transit Supply Metrics

- Family Member/Friend Time Savings
- Avoided Environmental Costs
- Wages Created From Transit Jobs
- Public Assistance Cost Savings
- Local Shopping Expenses Lost w/o Transit
- Reduced Crash Fatalities

Alabama Transit Economic Impact Quick Response Tool

Results - Statewide Transit Supply Metrics

Results calculated using 2020 National Transit Database (NTD) Agency Data

Baseline Transit Supply Quantified Metrics

Impacting the Community & Larger Economy

	Baseline Demand Response	Baseline Fixed Route	Baseline Total
Family Member/Friend Time Savings:	$2,758,671	$1,613,097	**$4,371,768**
Avoided Environmental Costs:	$197,327	$194,395	**$391,722**
Wages Created From Transit Jobs:			
Public Assistance Cost Savings:	$1,824,285	$3,925,009	**$5,749,295**
Local Shopping Expenses Lost w/o Transit:	$2,033,130	$4,374,346	**$6,407,476**
Reduced Crash Fatalities:	$1,118,083	$1,101,467	**$2,219,550**

Post-Improvement Transit Supply Quantified Metrics

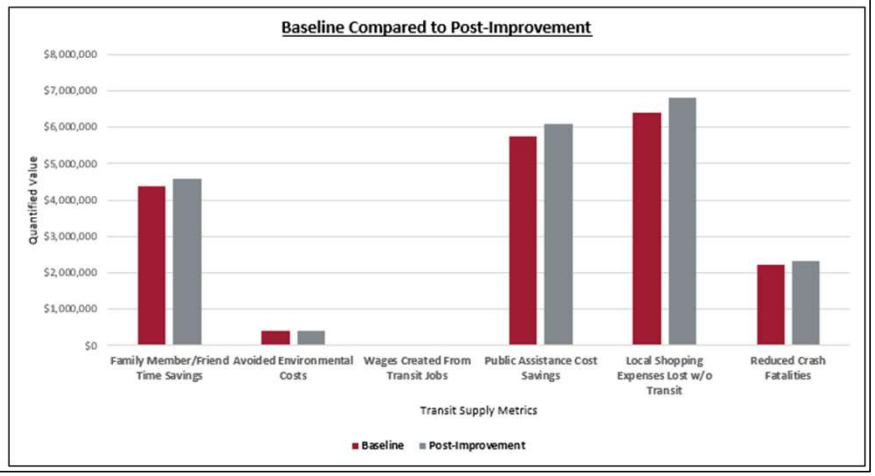
Impacting the Community & Larger Economy

	Post-Improvement Demand Response	Post-Improvement Fixed Route	Post-Improvement Total	
Family Member/Friend Time Savings:	$2,849,850	$1,729,873	**$4,579,723**	*4.76%*
Avoided Environmental Costs:	$203,849	$208,467	**$412,317**	*5.26%*
Wages Created From Transit Jobs:				
Public Assistance Cost Savings:	$1,884,581	$4,209,150	**$6,093,731**	*5.99%*
Local Shopping Expenses Lost w/o Transit:	$2,100,329	$4,691,015	**$6,791,343**	*5.99%*
Reduced Crash Fatalities:	$1,155,038	$1,181,205	**$2,336,243**	*5.26%*

Other Highlights

Not Included In Overall ROI Calculation

	Baseline	Post-Improvement	
Total Local Shopping Expenses By Transit Riders:	$26,841,417	$28,528,988	*6.29%*
Jobs Created From Investment in Transit:	4,202	4,393	*4.56%*



Statewide Transit Supply Metrics Example

Alabama Transit Economic Impact Quick Response Tool

Data Inputs

- Data used in the tool primarily comes from the National Transit Database (NTD) and other national standards and studies

- Tool is designed so that the default data used for calculations can be changed or overridden with different figures
  - Can be further tailored to Alabama systems through surveys completed by the transit agencies and other data collection methods

NTD ID	Common Agency Name	Acronym	DR Trips	FR Trips	Total Trips	Federal Operating Investment $
4R01-41084	Alabama Tombigbee Regional Commission (ATRC)	ATRC	36,801	0	36,801	$569,142
4R01-41188	ARISE Transportation	ARISE	9,528	0	9,528	$214,459
40213	Autauga County Rural Transportation (ACRT)	ACRT	36,103	0	36,103	$321,301
40928	Baldwin Regional Area Transit System (BRATS)	BRATS	61,799	0	61,799	$1,923,633
40042	Birmingham-Jefferson County Transit Authority (MAX)	MAX	65,636	1,999,575	2,065,211	$13,952,356
4R01-40907	Blount County Public Transit		19,927	0	19,927	$292,574
4R01-41118	Central Alabama Specialized Transit (CLASTRAN)	CLASTRAN	5,053	0	5,053	$148,367
4R01-41107	Chilton County Transit		13,217	0	13,217	$326,626
4R01-41125	Covington Area Transit System (CATS)	CATS	9,576	0	9,576	$154,107
4R01-40965	Cullman Area Rural Transportation System (CARTS)	CARTS	30,255	0	30,255	$1,232,907
4R01-40986	DeKalb County Transportation and Council on Aging		7,889	0	7,889	$262,738
40064	East Alabama Regional Planning and Development Commission (EARPDC)	EARPDC	76,237	96,107	172,344	$1,875,076
4R01-41000	Educational Center for Independence (ECI)	ECI	4,922	0	4,922	$155,585
4R01-40926	Escambia County Alabama Transit System (ECATS)	ECATS	12,794	0	12,794	$191,021
4R01-40960	Etowah County Rural Transportation (ECRT)	ECRT	4,882	0	4,882	$468,740
4R01-41089	Eufaula Barbour Transit Authority (EBTA)	EBTA	3,351	0	3,351	$159,810
40049	Gadsden Transit Services (GTS)	GTS	24,889	42,022	66,911	$599,645
4R01-41009	Guntersville Public Transportation		13,364	0	13,364	$160,305
4R01-40982	H.E.L.P. Inc.		11,137	0	11,137	$209,687
40071	Huntsville Transit		82,227	557,262	639,489	$3,684,243
4R01-41180	Jackson County Rural Public Transportation		11,369	0	11,369	$431,051
40073	Lee-Russell Public Transit (LRPT)	LRCOG	62,867	22,620	85,487	$1,704,751
4R01-44949	Macon County Public Transportation System		6,433	0	6,433	$193,947
40044	Montgomery Area Transit System (MATS)	MATS	18,726	457,082	475,808	$2,595,484
40068	NACOLG Public Transit	NACOLG	68,817	0	68,817	$1,361,877
40265	NARCOG Regional Transit Agency	NARCOG	58,022	0	58,022	$967,612

Data Input Table Example

Next Steps

- Microsoft Excel-based for maximum transferability between users

- Calculations and result reporting are fully automated, requiring minimal actions from the user

- Tool is still developing
  - Improvements and better reporting features are being added
  - Testing is occurring to ensure the most accurate results are provided