

LET'S JET CONNECTED

A Comprehensive Transit Plan for Jonesboro Economic Transit

STUDY GOALS

Jonesboro Economic Transit Analysis

Develop a **LOCAL KNOWLEDGE** of the
Jonesboro service area
so that we can **BUILD UPON** the existing
transit system's **STRENGTHS**
and **improve transit** for the community.



PROCESS

Jonesboro Economic Transit Analysis

- Market Analysis
- Existing Service Analysis
- Public Engagement



MARKET ANALYSIS

Jonesboro Economic Transit Analysis

1. Demographic Profile

Who does transit serve?

Transit Dependent Population

At-Risk Population

Served Populations

2. Destination Analysis

Where does transit go?

Points of Interest

Major Employers

Schools

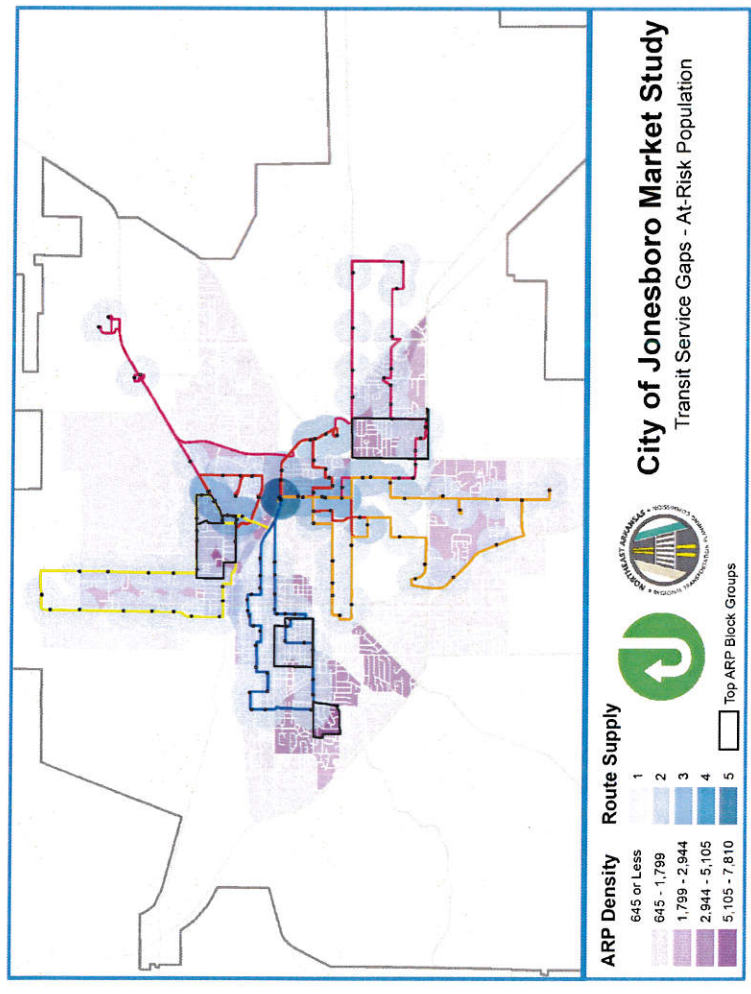
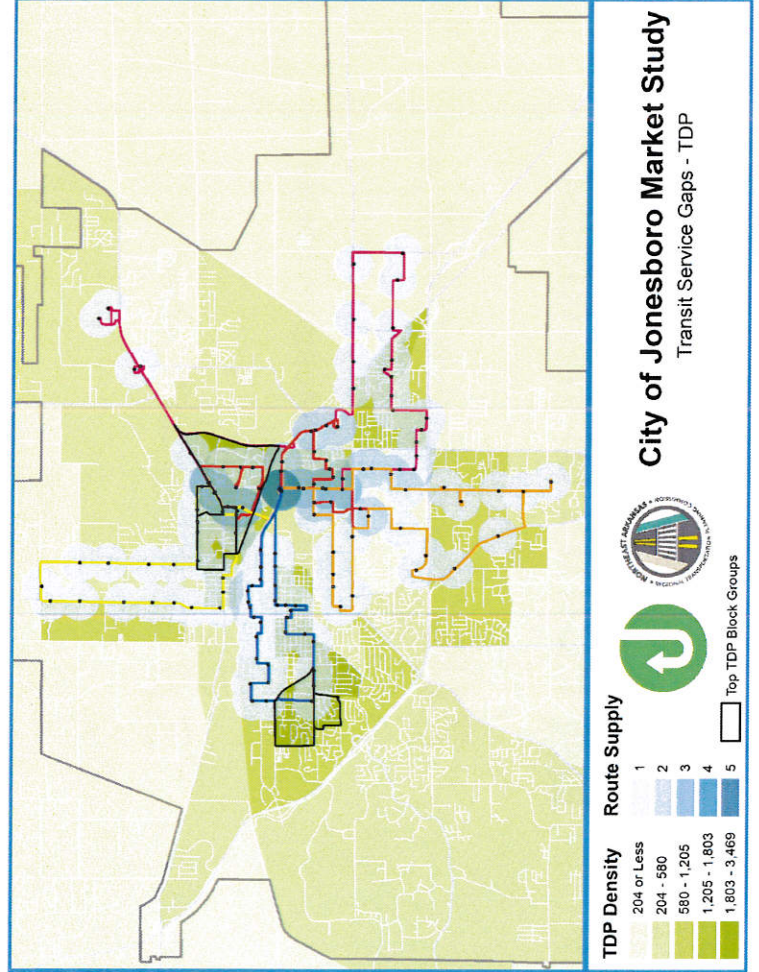
3. Gap Analysis

How can transit serve more people and places?



MARKET ANALYSIS

Jonesboro Economic Transit Analysis



MARKET ANALYSIS

Jonesboro Economic Transit Analysis

Points of Interest

71%

Points of Interest Served

13%

Served by Multiples Routes

3.5

Miles of Trails Served

Major Employers

51%

Major Employers Served

28%

Served by Multiples Routes

Schools

65%

Schools Served

15%

Served by Multiples Routes



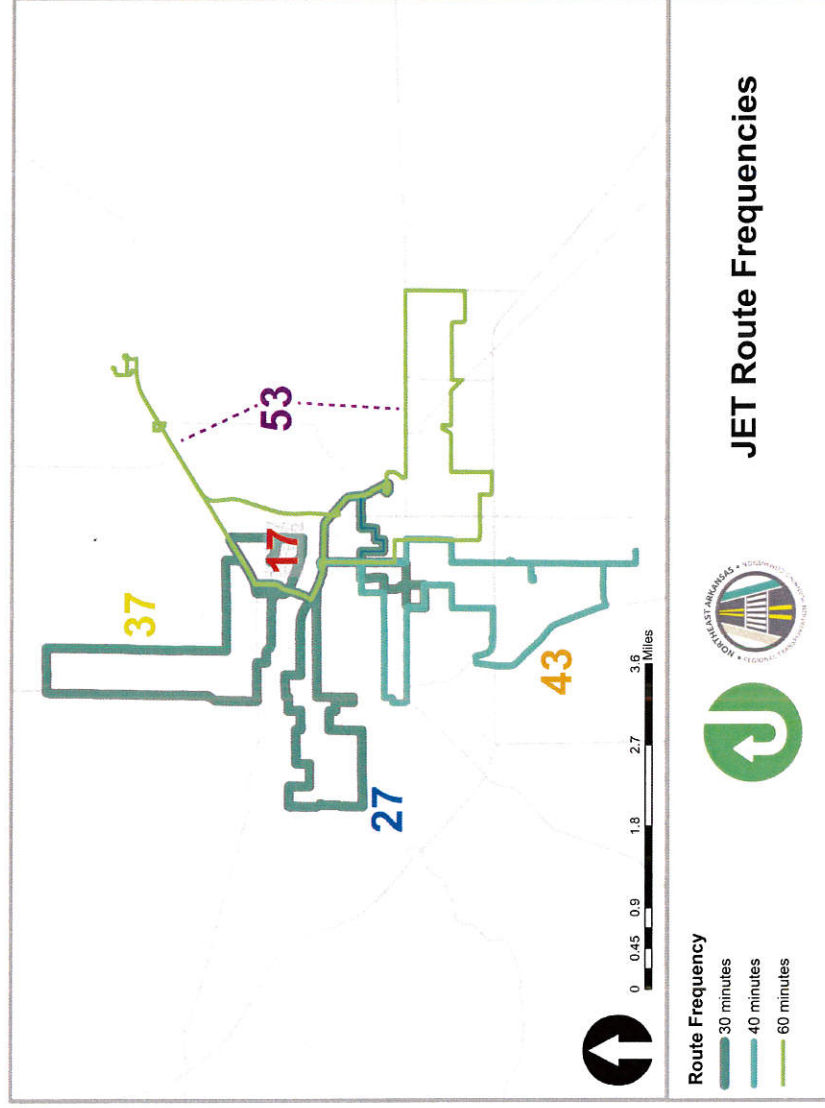
PROCESS

- Existing Service Analysis
 1. Identify strengths of current system
 2. Identify areas for improvement
 3. Identify opportunities to improve service
-



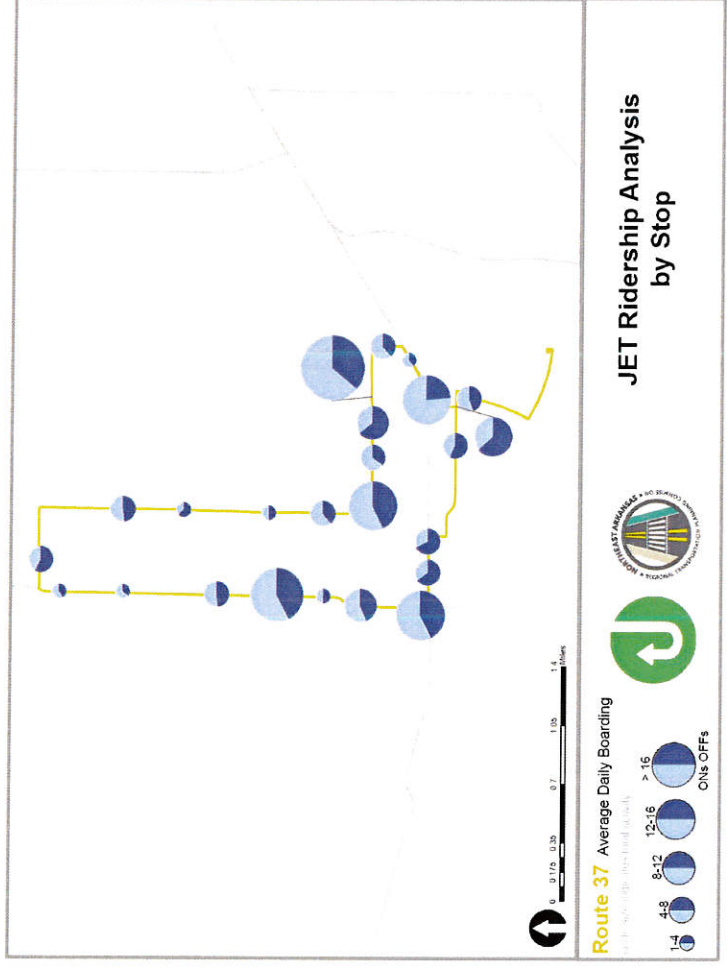
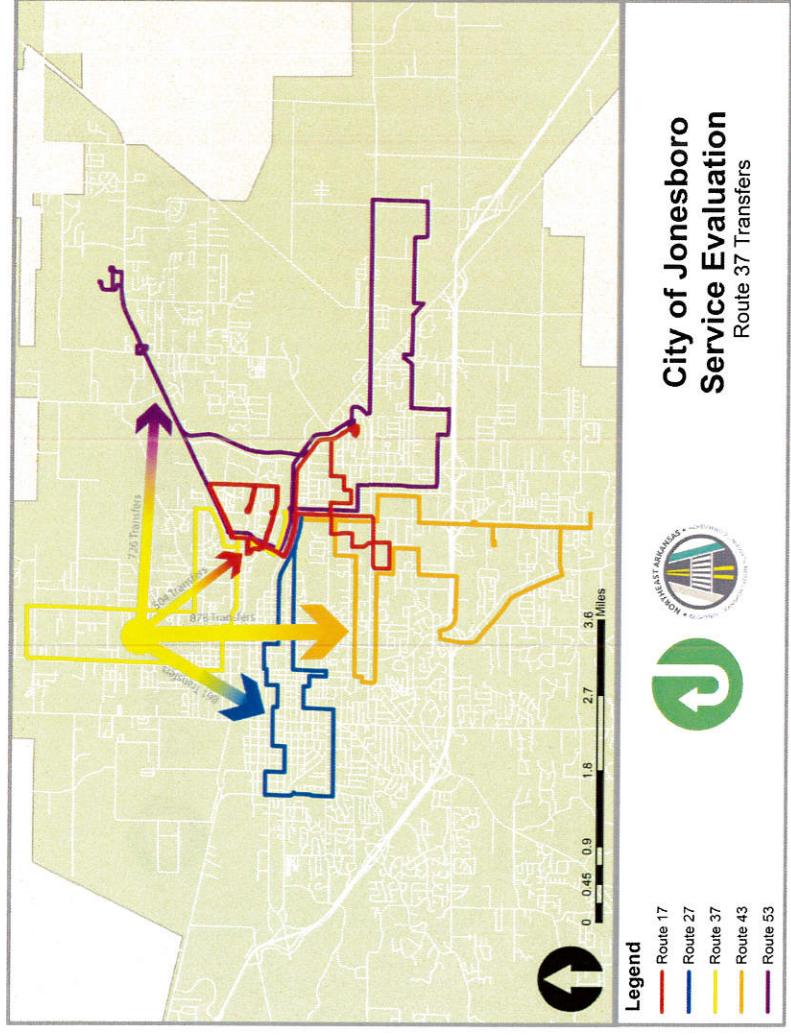
EXISTING SERVICE ANALYSIS

Jonesboro Economic Transit Analysis



EXISTING SERVICE ANALYSIS

Jonesboro Economic Transit Analysis



PROCESS

Jonesboro Economic Transit Analysis

○ *Public Engagement*

○ *Public Engagement*

○ **Public Engagement**

1. *Online Survey*

2. *Conduct Events*

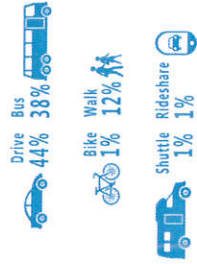
3. *Passenger Interviews*



PUBLIC ENGAGEMENT

Jonesboro Economic Transit Analysis

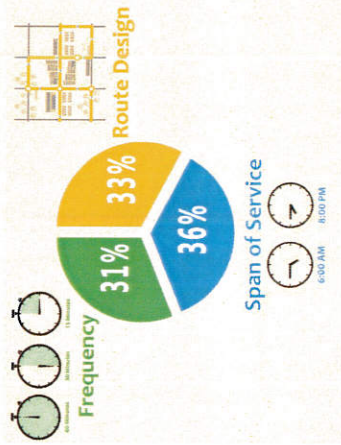
HOW DO PASSENGERS TRAVEL ON A DAILY BASIS?



TYPE OF TRIPS



WHAT IS MOST IMPORTANT TO JET PASSENGERS?



PASSENGER CONCERNS



PASSENGERS WOULD RATHER SERVICE RUN:



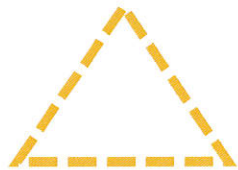
of passengers do not have a DRIVERS LICENSE 33%

25% of passengers are DISABLED

IF CONCERNS ARE MET HOW LIKELY ARE YOU TO RIDE JET?



PROCESS



Scenario Development

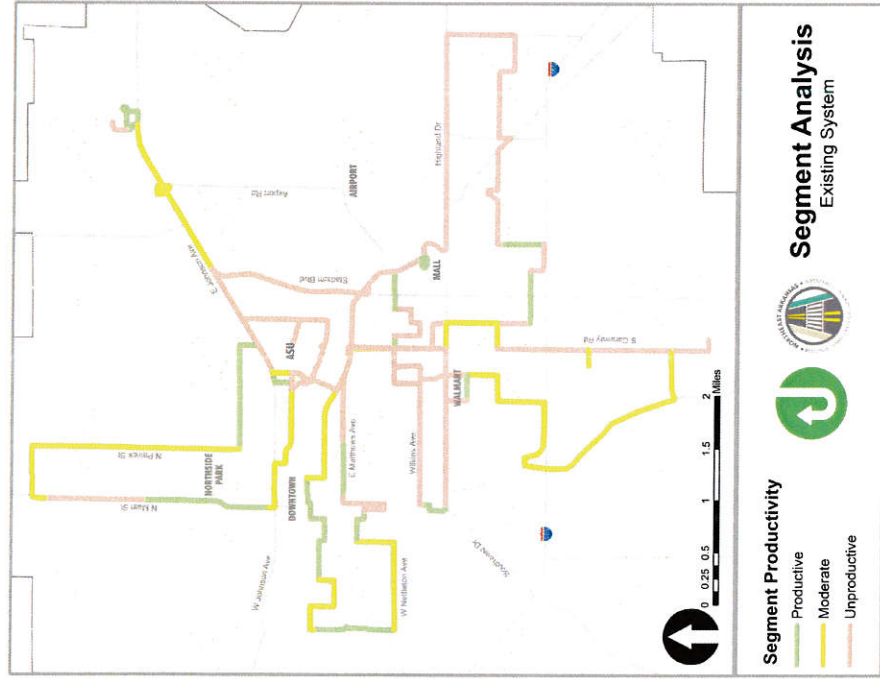
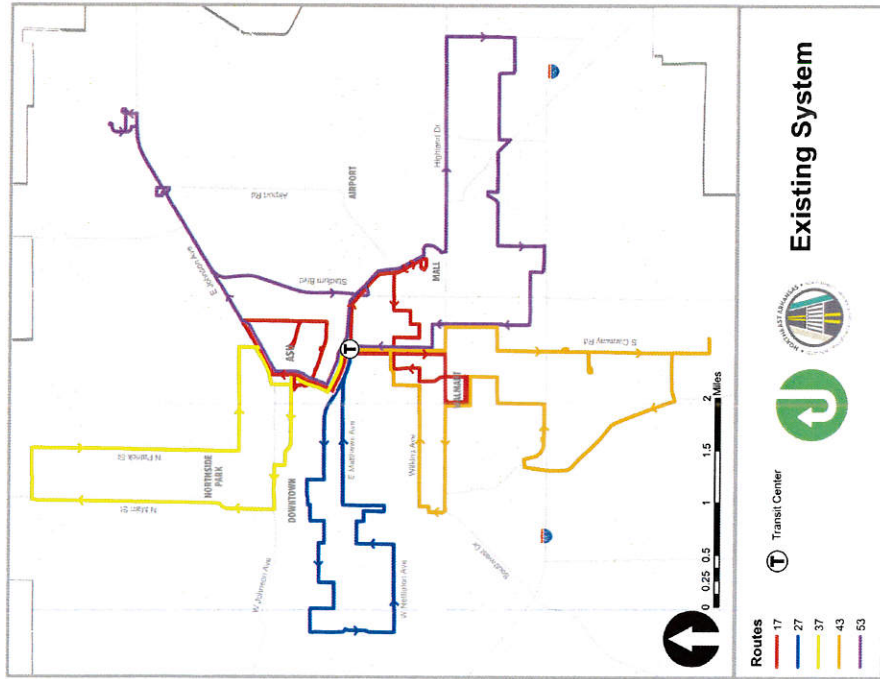
Route Segment Analysis

Develop adaptable scenarios ranging from constrained - exploratory



SCENARIO DEVELOPMENT

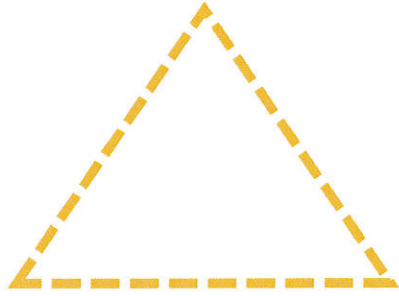
Jonesboro Economic Transit Analysis



PROCESS

Jonesboro Economic Transit Analysis

- Data Analysis
- Modeling Service Analysis
- Route Determination



○ Performance Metrics

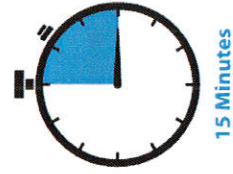
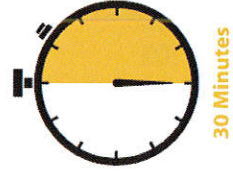
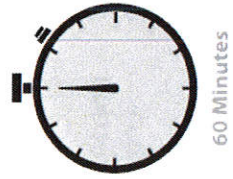


PERFORMANCE METRICS

Jonesboro Economic Transit Analysis

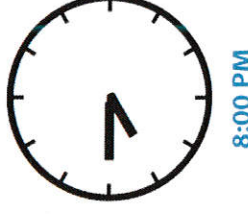
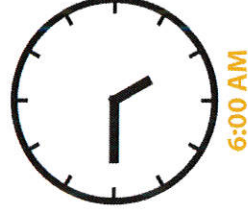


Frequency



How often the bus comes

Span of Service



*How early service starts and
how late service ends*

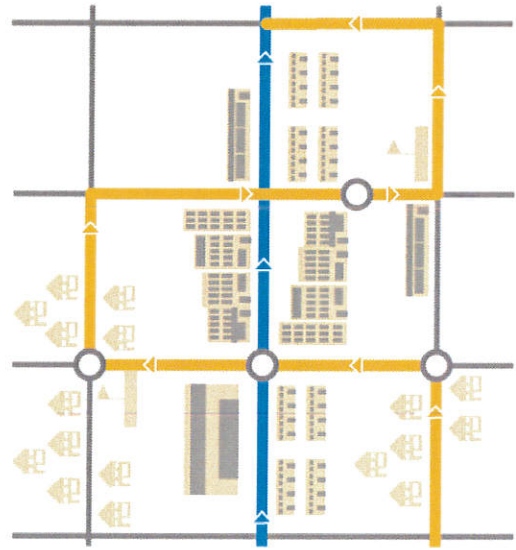


PERFORMANCE METRICS

Jonesboro Economic Transit Analysis



Route Design

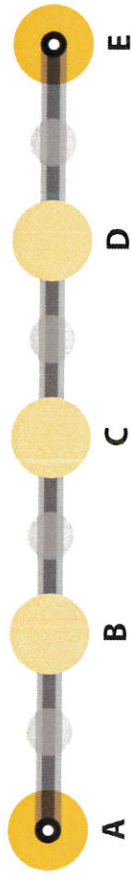


Where the bus goes and how it gets there



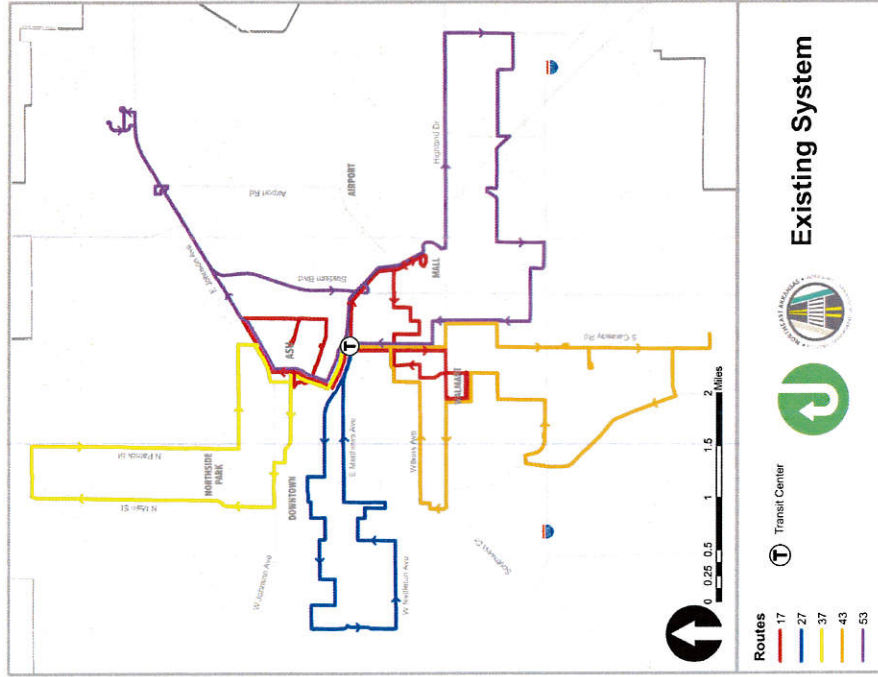
On-Time Performance

Time Points



How reliable is the bus?

EXISTING SYSTEM



8,842 Households within ¼ mile

10,226 Jobs within ¼ mile

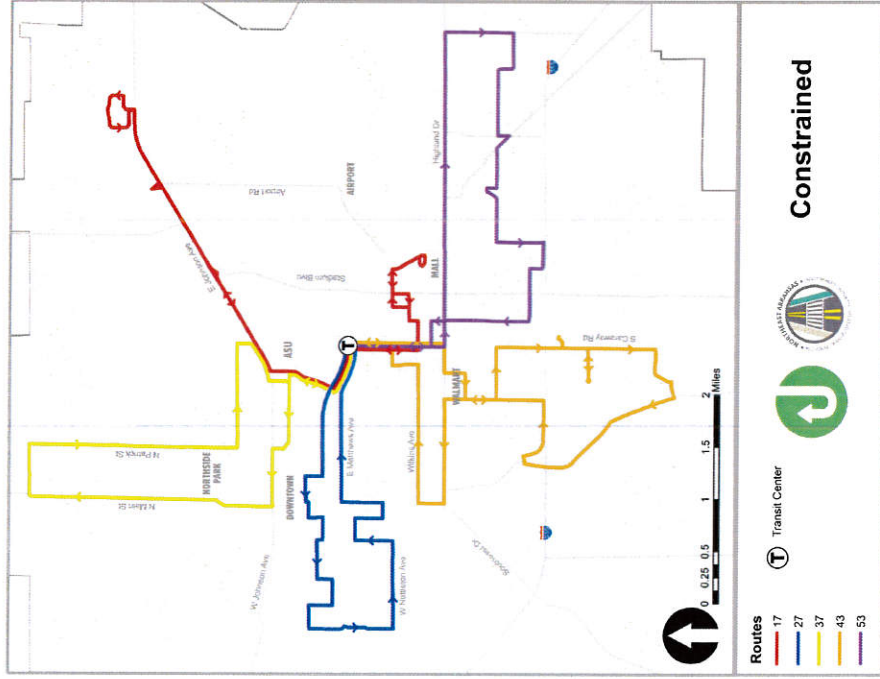
5.18 Miles of bi-direction service

E Frequency LOS

78 Transfer opportunities



CONSTRAINED SCENARIO



8,438 Households within ¼ mile

9,606 Jobs within ¼ mile

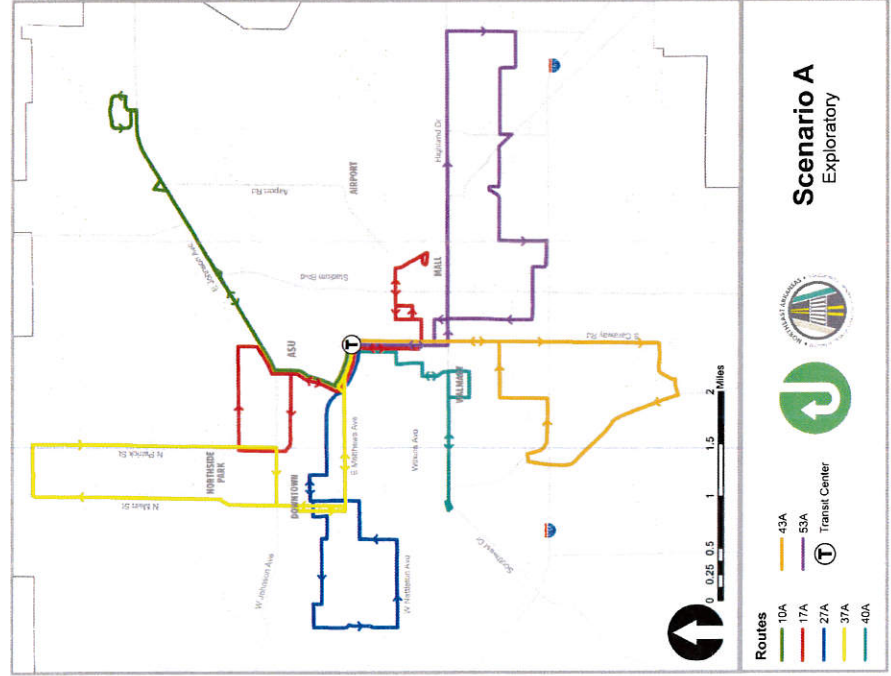
8.95 Miles of bi-direction service

D Frequency LOS

288 Transfer opportunities



SCENARIO A



7,963 Households within ¼ mile

8,918 Jobs within ¼ mile

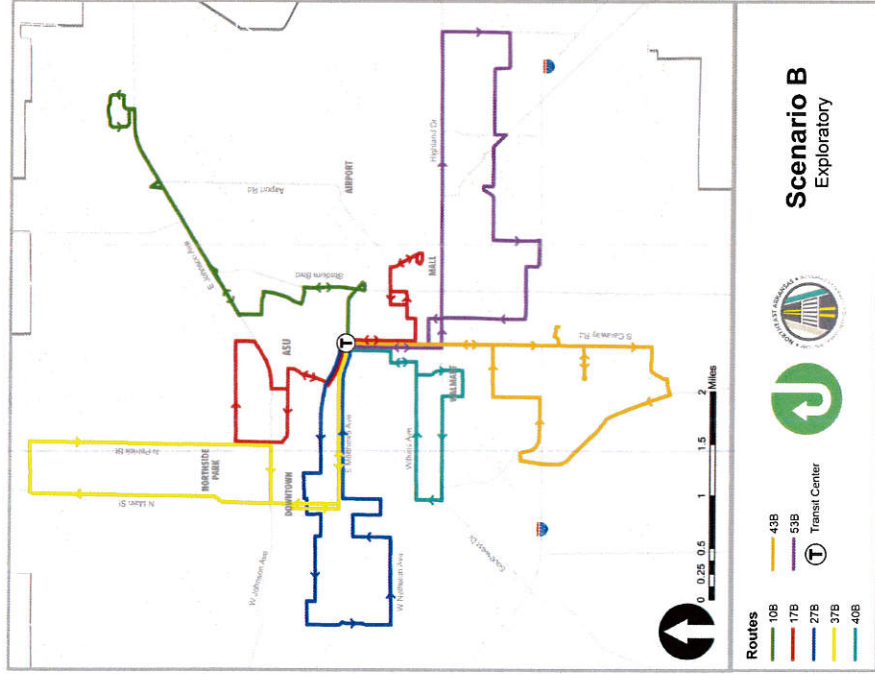
14.93 Miles of bi-direction service

C Frequency LOS

1,134 Transfer opportunities



SCENARIO B



8,401 Households within ¼ mile

9,799 Jobs within ¼ mile

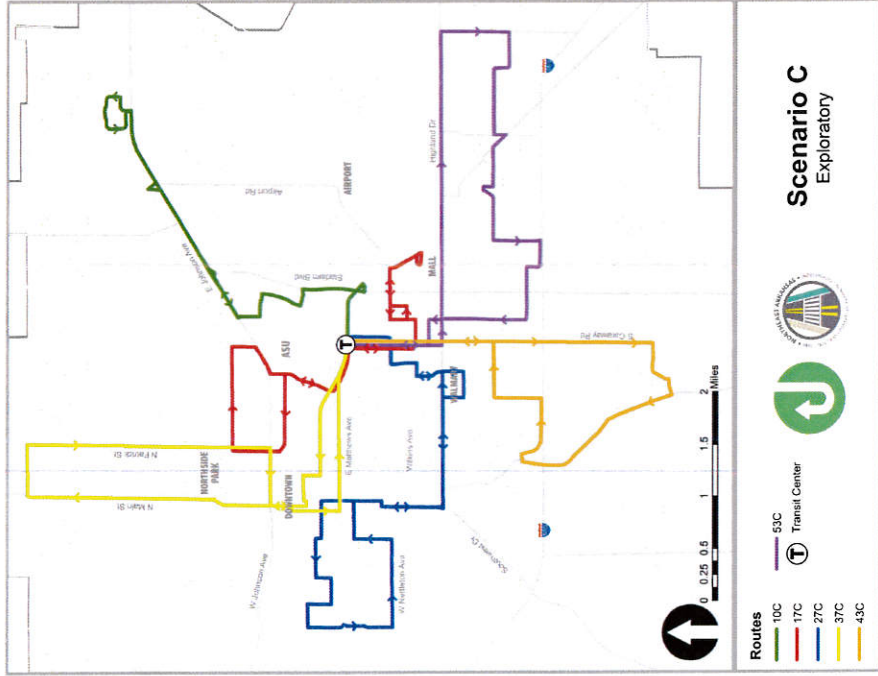
12.92 Miles of bi-direction service

D Frequency LOS

528 Transfer opportunities



SCENARIO C



7,467 Households within ¼ mile

9,799 Jobs within ¼ mile

13.65 Miles of bi-direction service

C Frequency LOS

810 Transfer opportunities



SCENARIO DEVELOPMENT

Jonesboro Economic Transit Analysis

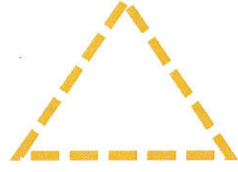
Scenario Comparison

| | Households Within ¼ Mi | Jobs Within ¼ Mi | Bi-directional Service (Mi) | Frequency LOS | Revenue Service | Number of Buses Per Hour | Transfer Opportunities | Annual Revenue Hours | Annual Vehicle Miles |
|--------------|------------------------|------------------|-----------------------------|---------------|-----------------|--------------------------|------------------------|----------------------|----------------------|
| Existing | 8,842 | 10,226 | 5.18 | D | N/A | 1.24 | 78 | 15,918 | 363,586 |
| Cost Neutral | 8,438 | 9,606 | 8.95 | D | 81% | 1.24 | 288 | 17,499 | 254,493 |
| Scenario A | 7,963 | 8,918 | 14.93 | C | 82% | 1.90 | 1134 | 33,931 | 519,574 |
| Scenario B | 8,401 | 9,919 | 12.92 | D | 85% | 1.43 | 528 | 33,570 | 449,128 |
| Scenario C | 7,467 | 9,799 | 13.65 | C | 81% | 1.71 | 810 | 33,753 | 521,538 |



PHASED IMPLEMENTATION

Phase I: Years 1-2



- Improve reliability
- Improve Saturday service
- Extend weekday p.m. service

Phase II: Years 3-5

Phase III: Years 6-10



PHASED IMPLEMENTATION



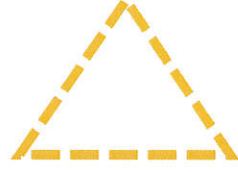
Phase I: Years 1-2



Phase II: Years 2-5



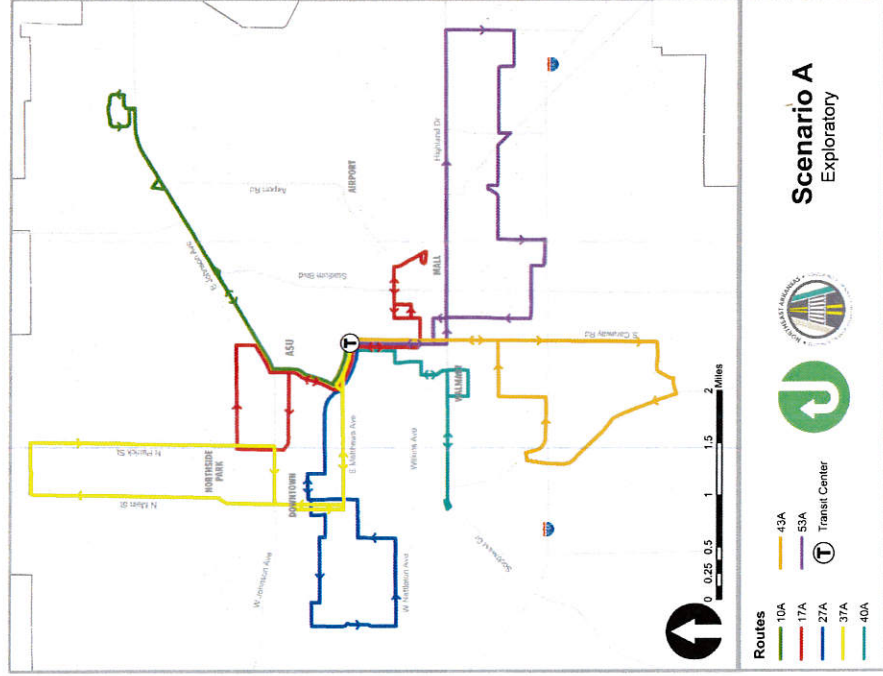
Phase III: Years 5-10



- Redesign service
- Increase service
- Maximize connectivity
- Minimize travel time
- Add 3 buses to the fleet



PHASE II



7,963 Households within ¼ mile

8,918 Jobs within ¼ mile

14.93 Miles of bi-direction service

C Frequency LOS

1,134 Transfer opportunities



PHASED IMPLEMENTATION



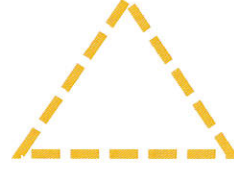
Phase I: Years 1-4



Phase II: Years 5-10



Phase III: Years 5-10

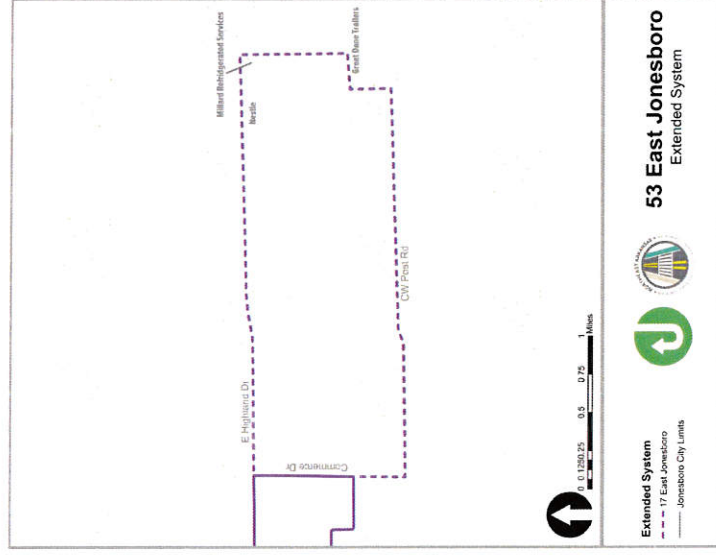
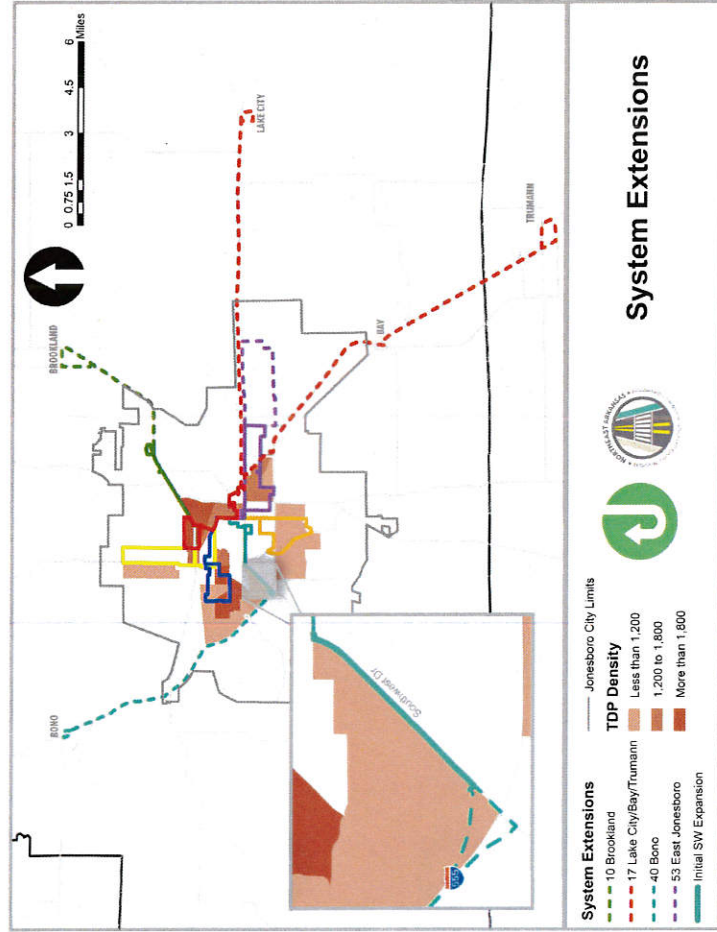


- Core service expansion
- Regional service expansion
- Add 2 buses to the fleet



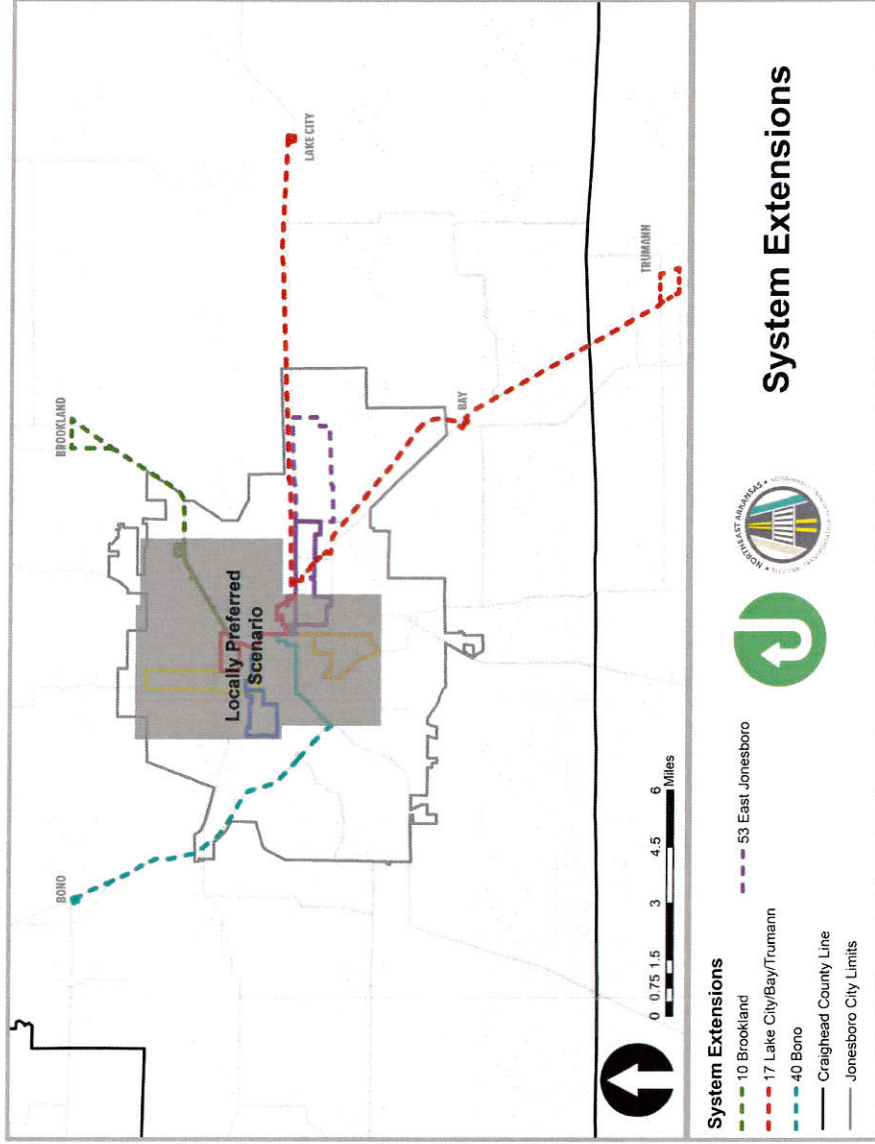
PHASE III

Core Service Expansion



REGIONAL EXPANSION

Jonesboro Economic Transit Analysis



PHASED IMPLEMENTATION

Phased Expansion Overview

| Phase | Operational Cost (50/50 Split w/ FTA) | | Capital Cost (20/80 Split w/ FTA) | | Total Local | Total FTA | Total Cost |
|-----------|--|-----------|--------------------------------------|-----------|-------------|-------------|-------------|
| | Local | FTA | Local | FTA | | | |
| Phase I | \$266,606 | \$266,606 | \$11,600 | \$46,400 | \$278,206 | \$313,006 | \$591,212 |
| Phase II | \$831,939 | \$831,939 | \$56,610 | \$226,440 | \$888,549 | \$1,058,379 | \$1,946,928 |
| Phase III | \$31,694 | \$31,694 | \$30,940 | \$123,760 | \$62,634 | \$155,454 | \$218,088 |



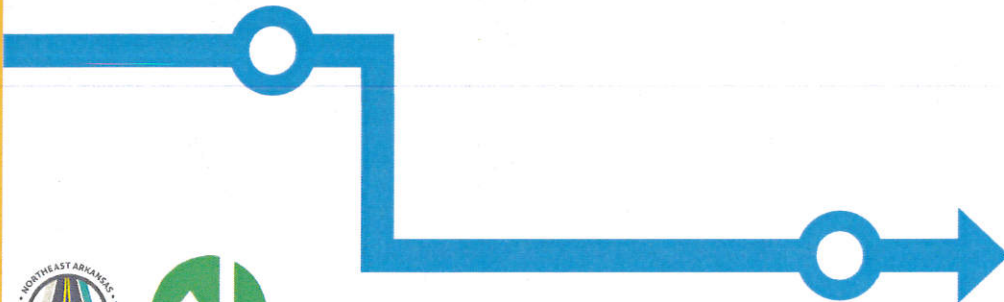
Questions?



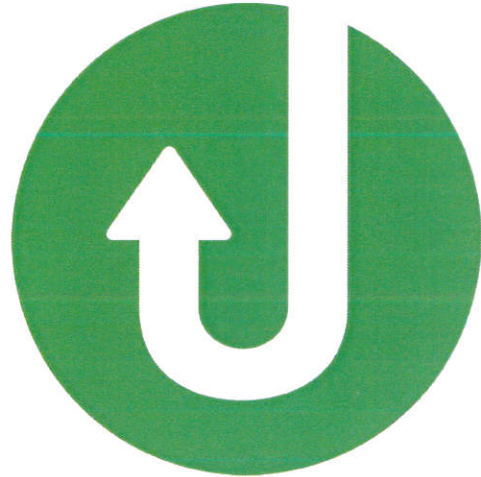


JET Transit Study

TEN YEAR TRANSIT DEVELOPMENT PLAN



This Ten Year Transit Development Plan was prepared for the City of Jonesboro, Jonesboro Economic Transit (JET), and the Northeast Arkansas Regional Transportation Planning Commission (NARTPC).



This Ten Year Transit Development Plan was prepared by Alliance Transportation Group (ATG).





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Executive Summary

The City of Jonesboro transit service, Jonesboro Economic Transit (JET), and the Northeast Arkansas Regional Transportation Planning Commission (NARTPC) understands the vital role public transit plays in the Jonesboro community and continually strives to improve services for existing and future passengers. Many citizens of Jonesboro depend on transit services to commute to work and travel to medical and retail facilities. In light of this, the NARTPC and JET engaged Alliance Transportation Group (ATG) to conduct a 10-Year Transit Development Plan to assess the existing transit services and identify methods to better serve both current and future passengers.

This study evaluated the Jonesboro Economic Transit (JET) service as it is today through the combination of a market study and technical analysis in order to identify the strengths and limitations of the system. The market study involved the development of a demographic profile as well as a robust public engagement effort that consisted of the following: an online and paper survey for both transit users and non-users, public outreach events, development of a JET Transit Study webpage, and marketing materials, which were developed and disseminated through traditional and social media outlets. This market study identified the transit needs of the passengers and the community and provided information regarding the development of customized recommendations found in this Study. The next portion of the study was the service analysis, which was a technical effort that produced tools that the City will be able to utilize for the maintenance and improvement of service moving forward. The final recommendations of this study were developed in coordination with the public and community stakeholders in order to provide a range of options with which to improve service. These recommendations build

upon the system's current strengths and identify opportunities for improvement.

JET has operated a fixed-route public bus system since May 2006. The City operates a fixed-route hub-and-spoke bus system comprised of five routes that depart from the JET Regional Transit Center. All five routes have similar operation characteristics in that they are set up as loop routes operating at either 30 or 60 minute frequency, providing good coverage throughout the Jonesboro area. Each route has a similar schedule and service span, with service beginning between 5:40 am and 6:00 am and the last bus departing between 6:00 pm and 6:20 pm. The network provides accessibility to downtown, surrounding residential and commercial destinations, and Arkansas State University (ASU). Service operates Monday through Friday with combined route service on Saturdays. JET also offers Para-Transit service as a special mode of transportation to disabled citizens who are not able to use the fixed-route service.

JET ridership from 2006 to 2009 grew from just under 20,000 to over 80,000 riders resulting in an increase in revenue of over \$30,000. A year after the 2009 recession ridership began to see growth again doubling the 60,000 riders to 120,000 riders resulting in an increase in revenue of over \$30,000. With this rise in ridership, also comes a rise in demand for service expansion and an increased strain on the JET resources. The components and recommendations of this study will provide JET with the tools needed to improve service in a way that not only increases connectivity, but also creates new opportunities for both existing and future passengers. The other strength of this study lies in its ability to function as an evaluation tool, which will empower the JET staff to continually maintain and improve future service.

Chapter 6 Implementation

The project team developed the following service recommendations and implementation plan based on a balance of technical analysis, public and staff input, and experience with successful transit initiatives. This implementation plan will serve as a guiding document that can be adapted as needed to help JET staff and the Jonesboro community, as well as surrounding communities, implement a vision for transit to improve connectivity and move people through their community.

Phased Implementation

As the name implies, this plan is structured in a way to allow JET to phase implementation of the transit service recommendations in a way that will be fiscally responsible, allow time for more public input, and ultimately ensure that it will be sustainable. The project team divided the implementation plan into three phases:

Phase I: Years 1-2

Phase II: Years 2-5

Phase III: Years 5-10

The team broke down the cost of each service addition so that JET has the ability to advance as much or as little as they are fiscally capable to do.

Phase I: Year 1-2

There are several near-term solutions and strategies that JET can execute to improve transit service for the Jonesboro community. Some of these strategies were discussed in the previous chapter under the Universal Recommendations section.

Near-Term Universal Recommendations:

- Continue and complete the ongoing initiative to ensure all bus stops are ADA accessible.

- Implementation of Timepoints: Timepoints are designated locations on a route used to control the spacing of vehicles and to inform passengers about the alignment and timing of the route. Best practices recommend timepoints be placed at major intersections, major trip generators, and key destinations where the highest boarding activity generally is experienced. Using ridership data, stop spacing standards, and strategic points, timepoints along the routes will be designated to help inform passengers about the direction of travel. The scheduled passing times for these timepoints are the time at which a bus will never leave early. Passengers should always arrive at least five (5) minutes ahead of the scheduled arrival time to ensure they catch their bus. Once a preferred scenario is identified, the planning team will identify potential timepoints along each route.

- Run the same service routes on Saturday: The JET Transit Survey revealed that passengers use transit for multiple purposes such as going to the grocery store, medical trips, leisure, etc. Also, not everyone works a 9:00 to 5:00, Monday to Friday job, and to make transit a viable transportation alternative, service needs to run on weekends and remain consistent to the levels of service offered on weekdays. Weekend service is estimated to cost \$155,258 annually.

- Run service later in the evening: The JET Transit Survey revealed that one of the most important issues for respondents was that service run later in the evening. Expanding service to 8:00 p.m. will cost an estimated \$141,680 annually.

- Pursue the purchase of an additional bus to enable the implementation of the new route 40 recommended in Scenario A. This route could be

implemented with only minor system changes to Route 43, which currently is experiencing on-time performance (OTP) issues. This step should be done last, and should be coordinated with the early stages of Phase II detailed below. Annual service cost is estimated to be \$236,273.

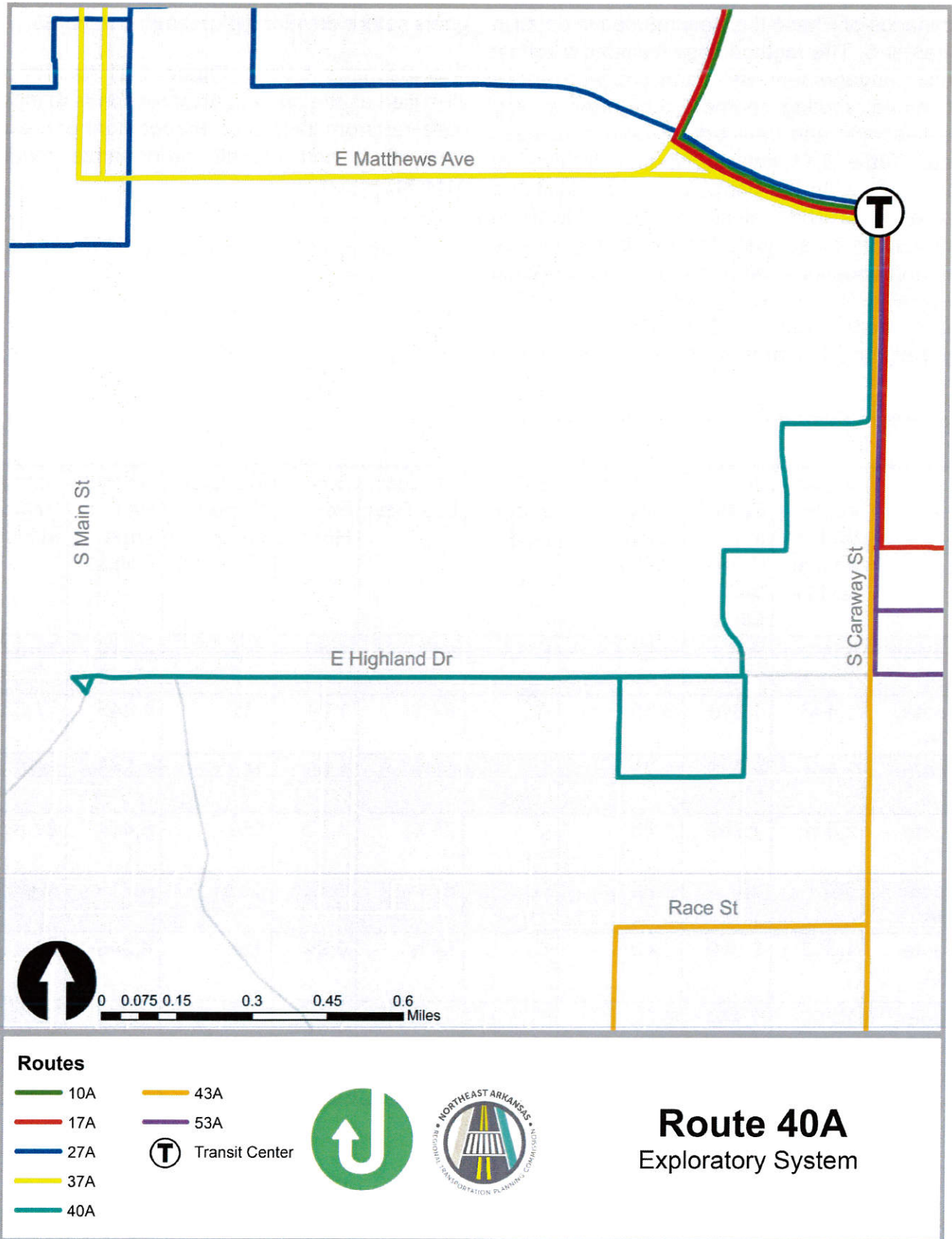
down in Table 6.10, which shows the addition of Route 40A to be the most expensive, making up nearly half of the enhancement expenditure cost total.

Overall, Phase I provides several short-term enhancement options that would improve existing JET service, including weekend service, increased span (service later in the evening), and implementing a new route to increase existing Route 43's OTP. Implementation of all short-term recommendations listed above generates an annual estimated cost of \$533,211. Estimated costs are further broken

Table 6.10 Cost Estimates

| Expenditure | Estimate Cost (Annual) | % Cost Increase (Annual) |
|-----------------|------------------------|--------------------------|
| Weekend Service | \$155,258 | 17% |
| Increased Span | \$141,680 | 16% |
| New Route (40A) | \$236,273 | 27% |
| Total | \$533,211 | 60% |

Figure 6.12 Fixed Route Frequencies



Routes

- 10A
- 17A
- 27A
- 37A
- 40A
- 43A
- 53A

 Transit Center



Route 40A
Exploratory System

Phase II: Years 2-5

The process used to develop the core service scenarios of Phase II is documented in detail in Chapter 5. The methodology included a robust public engagement effort and spatial analysis of current routing segment performance, key destinations, and transit-dependent population data. Table 6.11 shows the first iteration of the map with the inclusion of these three components. The project team also considered the various other goals for developing service recommendations, and as a result, drafted several different routing options. The project team then evaluated the different options, by weighing the pros and cons of each and

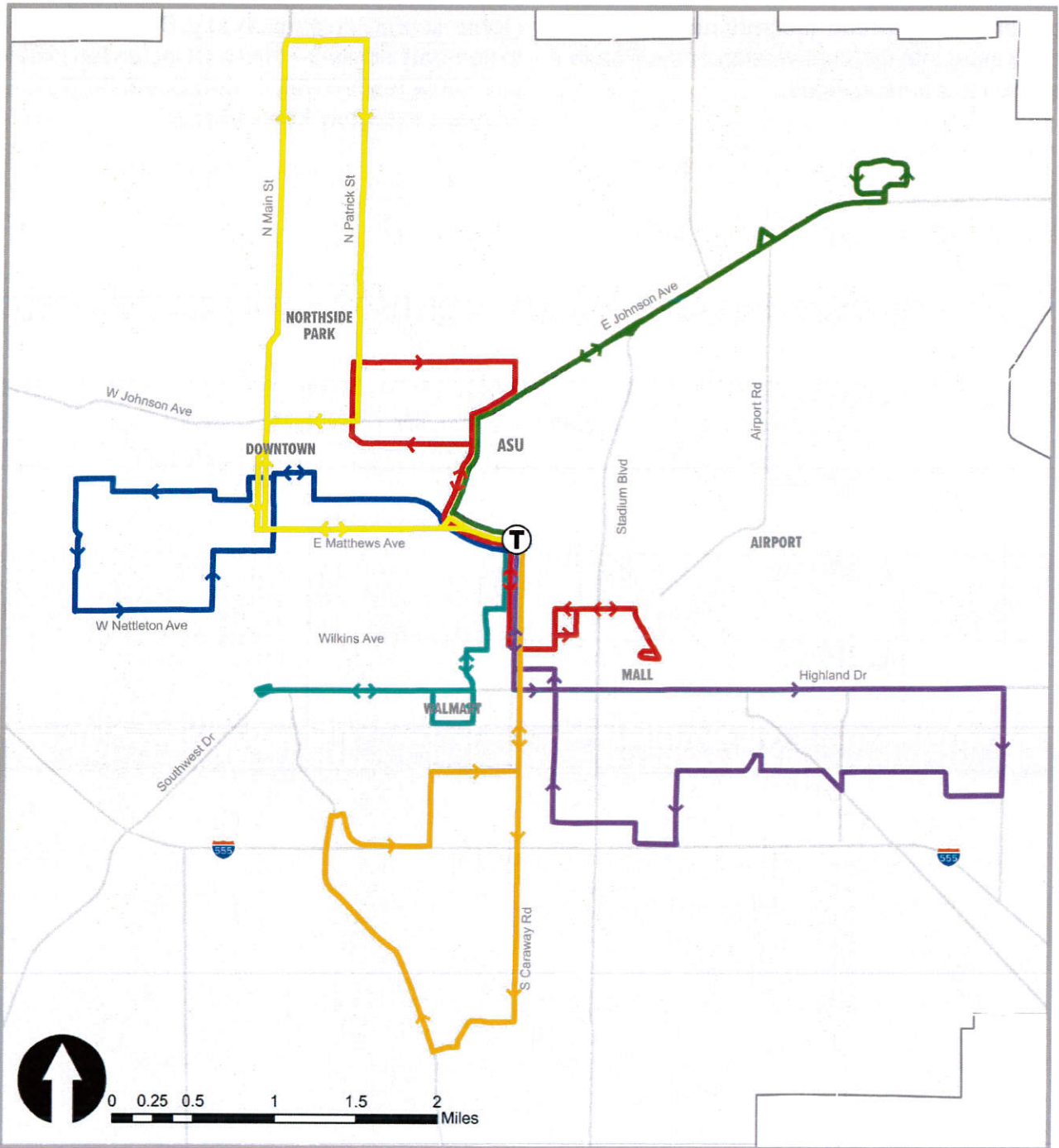
determining which options best satisfied the goals set for developing recommendations.

The Scenario below (Figure 6.2) has been identified as the one that best responds to input gathered from the public engagement process, staff input, and overall performance metric scoring.

Table 6.11 Scenario A Performance Metrics

| | Households Within a Quarter Mile | Jobs Within a Quarter Mile | Bi-directional Service (Mile) | Frequency LOS | Productive Time | Bus Per Hour | Transfer Opportunities | Annual Revenue Hours | Annual Vehicle Miles |
|-----------|----------------------------------|----------------------------|-------------------------------|---------------|-----------------|--------------|------------------------|----------------------|----------------------|
| Route 10A | 434 | 964 | 3.94 | C | 84% | 1.40 | 162 | 4,245 | 77,372 |
| Route 17A | 1,406 | 1,816 | 3.35 | C | 84% | 1.24 | 162 | 4,245 | 77,885 |
| Route 27A | 2,444 | 2,938 | 1.71 | C | 84% | 1.09 | 162 | 4,245 | 66,697 |
| Route 37A | 2,011 | 1,799 | 1.45 | C | 76% | 1.22 | 162 | 8,464 | 87,877 |
| Route 40A | 507 | 887 | 2.26 | C | 67% | 1.72 | 162 | 4,219 | 49,788 |
| Route 43A | 1,312 | 2,049 | 1.42 | C | 84% | 0.94 | 162 | 4,245 | 71,138 |
| Route 53A | 1,399 | 1,494 | 0.80 | C | 100% | 1.40 | 162 | 4,270 | 88,816 |
| System | 7,963 | 8,918 | 14.93 | C | 82% | 1.28 | 1134 | 33,931 | 519,574 |

Figure 6.13 Scenario A



Routes

- 10A
- 17A
- 27A
- 37A
- 40A
- 43A
- 53A
-  Transit Center



Scenario A
Exploratory

It is critical to note that prior to implementation of Phase II, JET will present all the DRAFT scenarios to the public for further consideration so that JET staff can incorporate and modify public input into the final version of the Phase II service recommendations.

Phase II will generate costs due to the increase in fleet size (3 vehicles) and increased frequencies, coverage, and weekend service (Table 6.12). Scenarios A and C are estimated to generate similar annual cost increases (101% and 100% respectively), while Scenario B's cost increase is slightly lower (99%).

Table 6.12 Phase II Associated Costs

| Scenario | Annual Service Cost | Vehicle Requirement | % Cost Increase (Annual) |
|----------|---------------------|---------------------|--------------------------|
| Existing | \$943,334* | 5 | -- |
| A | \$1,900,150 | 8 | 101% |
| B | \$1,879,939 | 8 | 99% |
| C | \$1,890,187 | 8 | 100% |

*This cost is based on the fully allocated rate of \$56 per service hour.

Phase III: Years 5-10

Phase III envisions a more connected and regional transit system not just for the City of Jonesboro, but for the surrounding communities in the Metropolitan Planning Area (MPA). Regarding regional needs, connectivity and mobility are important as Jonesboro is near five cities, three of which are within the Jonesboro MPO boundary (Bono, Brookland, and Bay), containing a combined population of 16,000 and employment total of 7,500 (according to the 2016 American Community Survey). Currently, a portion of the MPO area is served by Northeast Arkansas Transit (NEAT) and Focus, Inc through demand response services; however, there is no consistent fixed-route service in the region. Phase III proposes exploring four potential route extensions that would interline buses to seamlessly fit in fixed route services to the cities of Bono, Brookland, Bay, Trumann, and Lake City in the mornings and evenings. These extensions would help connect Jonesboro with population and employment centers outside of the city limits/MPO boundary, and increase coverage to

transit dependent populations.

Core service expansion

Building on the process used to develop the core service scenarios of Phase II, the project team expanded upon the Phase II scenarios to extend to the outlying communities for the development of a regional transit network. The project team also identified areas within Jonesboro with high concentrations of transit-dependent and at-risk populations that were not being served.

For example, Figure 6.15 shows an area in southwest Jonesboro that currently does not have service. For Phase III, the project team recommends to extend service from the core network along Southwest Dr. The impact of this extension is shown in Table 6.14, and could be accommodated with an alteration to Scenarios A and C of the exploratory scenarios from Phase II.

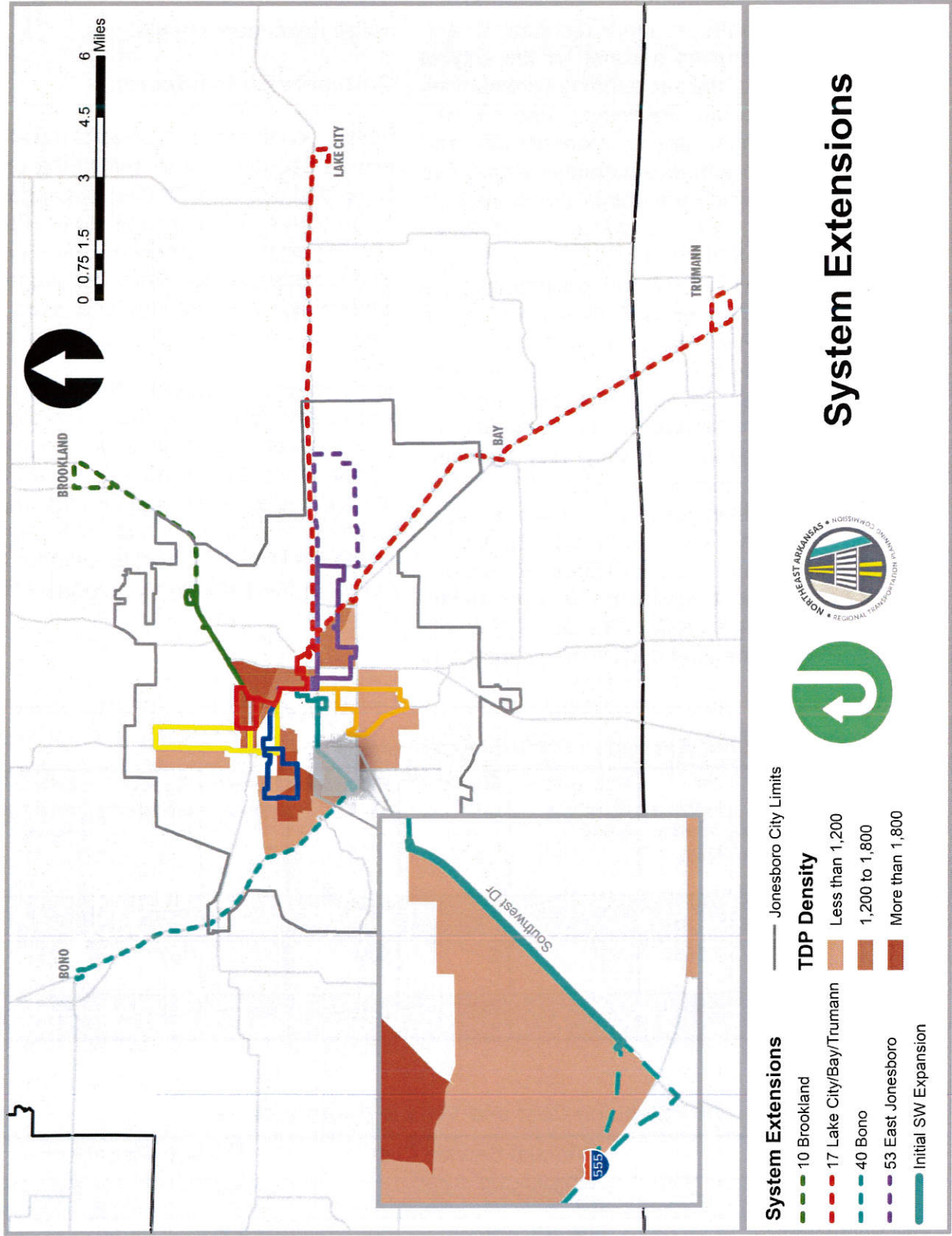
Table 6.13 Route 40A Extension Performance Metrics

| | Households Within a Quarter Mile | Jobs Within a Quarter Mile | Bi-directional Service (Mile) | Frequency LOS | Productive Time | Bus Per Hour | Transfer Opportunities | Annual Revenue Hours | Annual Vehicle Miles |
|---------------|----------------------------------|----------------------------|-------------------------------|---------------|-----------------|--------------|------------------------|----------------------|----------------------|
| 40A | 507 | 887 | 2.26 | C | 67% | 1.72 | 162 | 4,219 | 49,788 |
| 40A Extension | 896 | 1,555 | 3.31 | C | 90% | 1.72 | 162 | 4,255 | 66,612 |
| Change | 389 | 668 | 1.05 | N/A | 23% | N/A | N/A | 36 | 16,824 |

Table 6.14 Route 40A Extension Cost and Vehicle Requirements

| Scenario | Annual Service Cost | Vehicle Requirement |
|--------------|---------------------|---------------------|
| 40 | \$236,273 | 8 |
| 40 Extension | \$238,266 | 8 |
| Difference | \$1,993 | 0 |

Figure 6.14 Route 40 Southwest Dr Extension



System Extensions

Regional Expansion

As Jonesboro and the surrounding communities grow, so does the demand for regional transit and connectivity. The following section details service assumptions and costs associated with extending JET service both within and outside of the Jonesboro City limits (Figure 6.4). These scenarios would rely heavily on coordination with regional communities and employers to ensure that the service provision would match the demand of the areas.

Another key component of this regional expansion would be the need to coordinate with NEAT on regional service provision to ensure a balanced and efficient approach is considered. It is important to note that as JET provides fixed-route options to these surrounding communities, there could be a reduction in both demand and cost for NEAT.

Figure 6.15 Regional Expansion

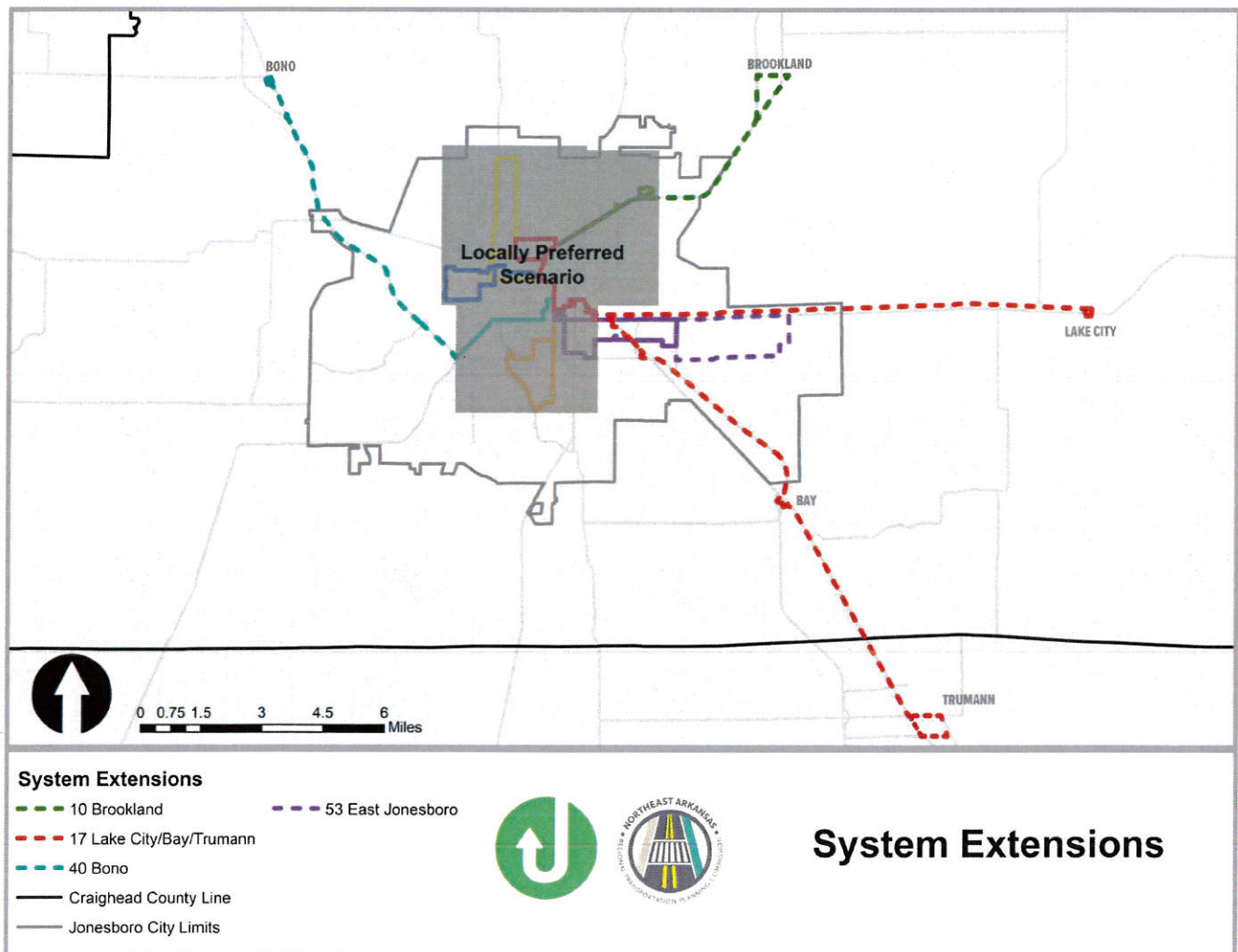
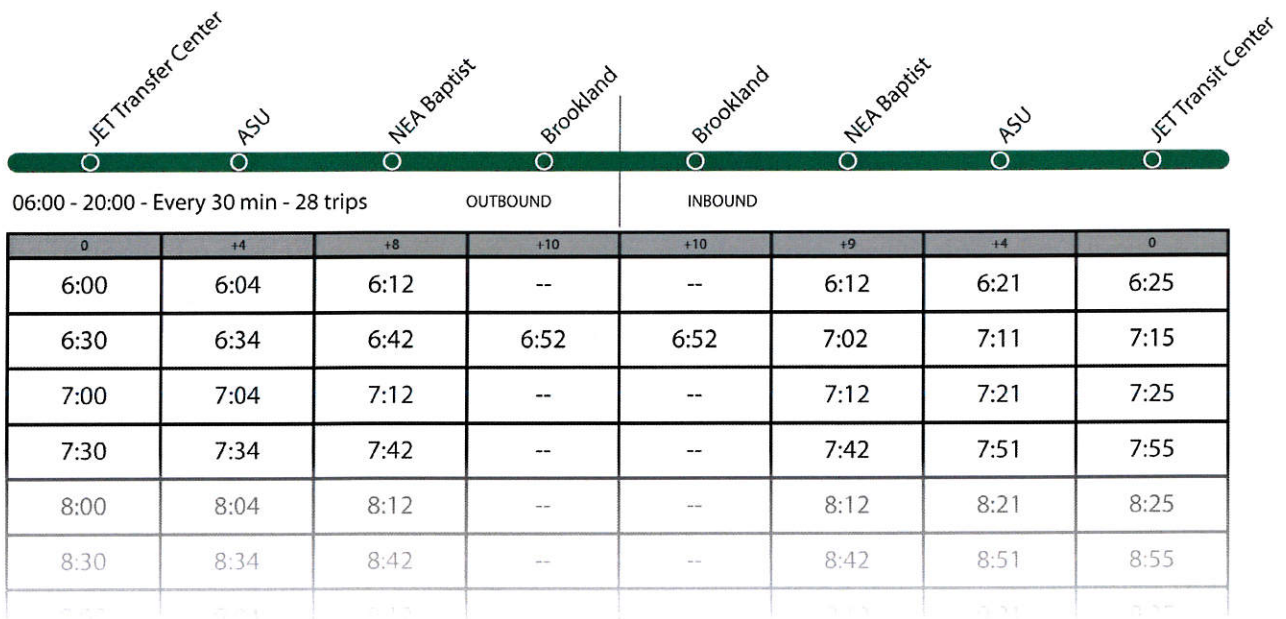


Figure 6.16 Sample Extension Timetable



With regard to public input concerning regional expansion, the NARTPC 2040 Metropolitan Transportation Plan (MTP) resulted in several major findings, which are listed below:

- 66% of respondents viewed “being within an easy commute to work” as the most important factor for household location choice;
- 58% of respondents prefer to live in neighborhoods that are not within walking distance from recreational areas, 71% prefer neighborhoods not within walking distance from community and public facilities, 76% of residents prefer to live in neighborhoods where shopping and restaurants are not within walking distance;
- 39% of respondents prefer to live in a neighborhood that is accessible by pedestrians, bicycles, transit, as well as automobiles;
- While only 5% of respondents have used public transit in the Jonesboro/Craighead County area, 41% responded as having used public transit outside of the area before;
- Respondents noted that they would be likely to use public transit more if there were more shelters (19%) and more frequent service (16%).

Results show that a vast majority of residents prefer to live in areas lacking connectivity (where transit service could increase mobility), and are willing to use public transit if certain specific improvements are implemented to the service.

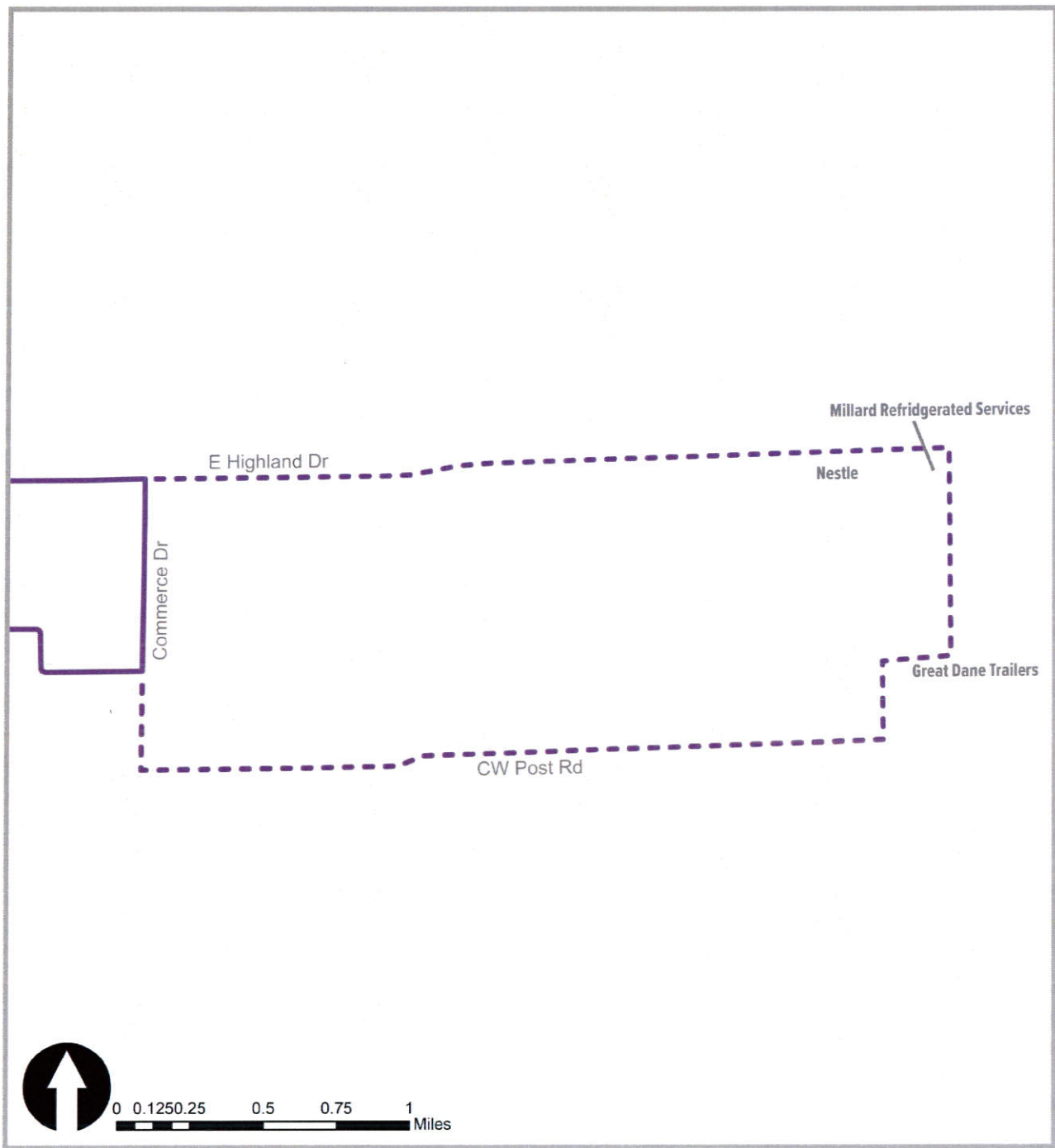
The following subsections detail each

route expansion regarding demographics, performance metrics, and cost estimates. Growth rates were acquired from the Jonesboro 2040 MTP. All other demographic data was obtained from the most recent American Community Survey (ACS). Operation cost estimates have been divided by local and FTA match percentages to provide localities an idea of the funding necessary for implementation.

East Jonesboro Extension

The project team developed a Route 53 Extension to East Jonesboro (compatible with all scenarios), allowing for transit service to reach several large employers (Figure 6.17). The service would run twice daily on weekdays (once in the morning and once in the evening), with an estimated annual service cost of \$18,891. This total operational cost would require 50% in local funds, approximately \$9,445.50. Destinations include industrial/light industrial employment centers such as Nestle, Millard Refrigerated Services, Great Dane Trailers, Unilever, Frito-Lay, and Butterball. In order to maximize efficiency, coordination with employers is recommended due to walking distances from possible station locations. The surrounding area is largely rural/agricultural, and based on current highway infrastructure, pedestrian infrastructure is not available.

Figure 6.17 53 East Jonesboro Extension



Extended System
- - - 17 East Jonesboro
— Jonesboro City Limits



53 East Jonesboro
Extended System

Lake City

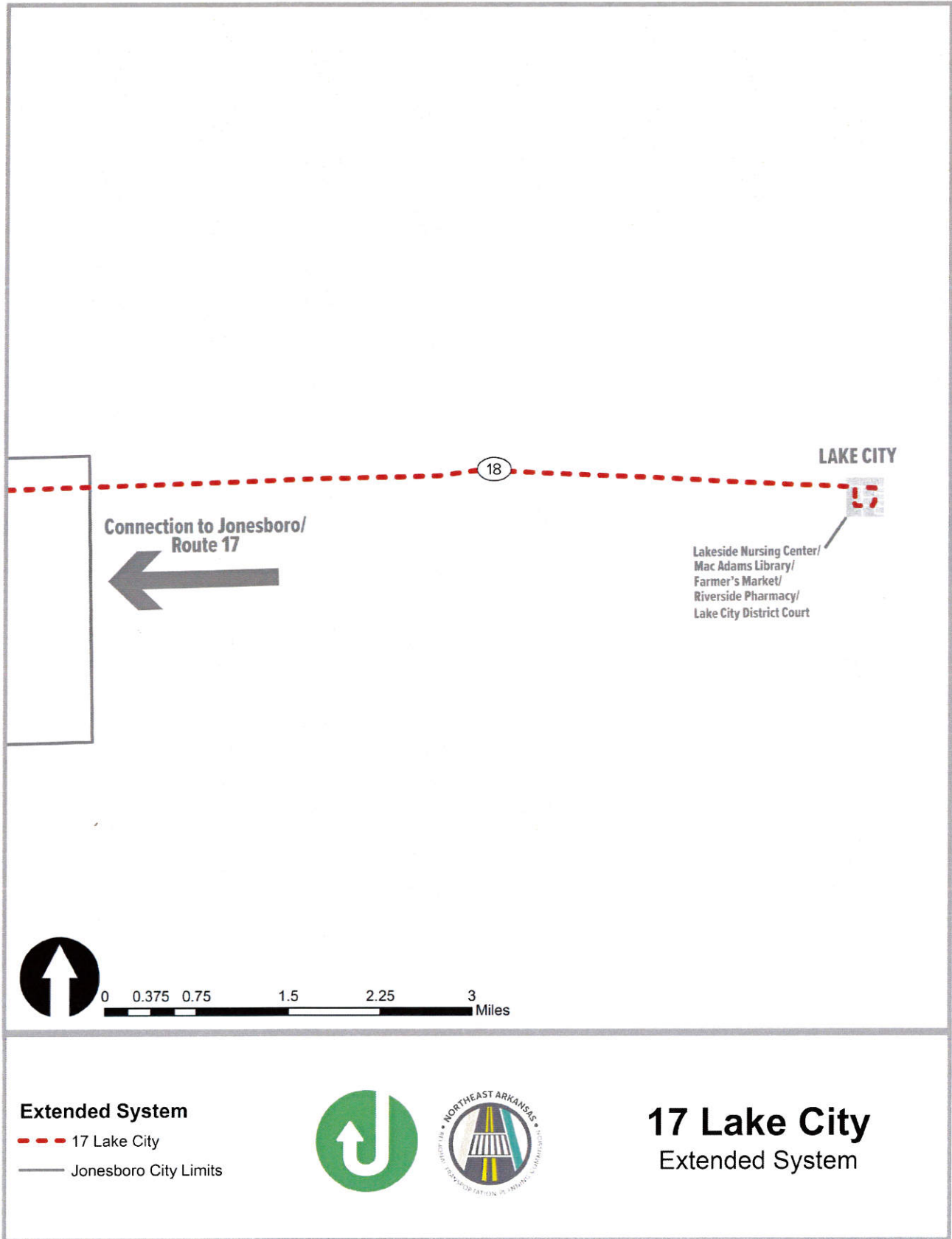
Service would run from the Jet Transfer Center via the Turtle Creek Mall as a natural extension from route 17 (Figure 6.18). Service would travel east along Hwy 18 to Lake City. Residents of Lake City, particularly those of Lakeside Nursing Center, would have regional access to Jonesboro through the proposed service expansion. The extension would also

connect to key destinations within Lake City such as Lakeside Nursing Center, Mac Adams Library, Farmers Market, Riverside Pharmacy, and the Lake City District Court.

Table 6.15 Lake City Socio-Economics

| Avg Annual Growth (2010-2014) | Population | Employment | Housing Units | Annual Revenue Hours | Annual Vehicle Miles | Local Match (50%) | FTA Match (50%) | Annual Service Cost |
|-------------------------------|------------|------------|---------------|----------------------|----------------------|-------------------|-----------------|---------------------|
| N/A | 2,570 | 1,125 | 966 | 380 | 13,869 | \$9,446 | \$9,446 | \$18,891 |

Figure 6.18 Lake City Extension



Extended System
- - - 17 Lake City
— Jonesboro City Limits



17 Lake City
Extended System

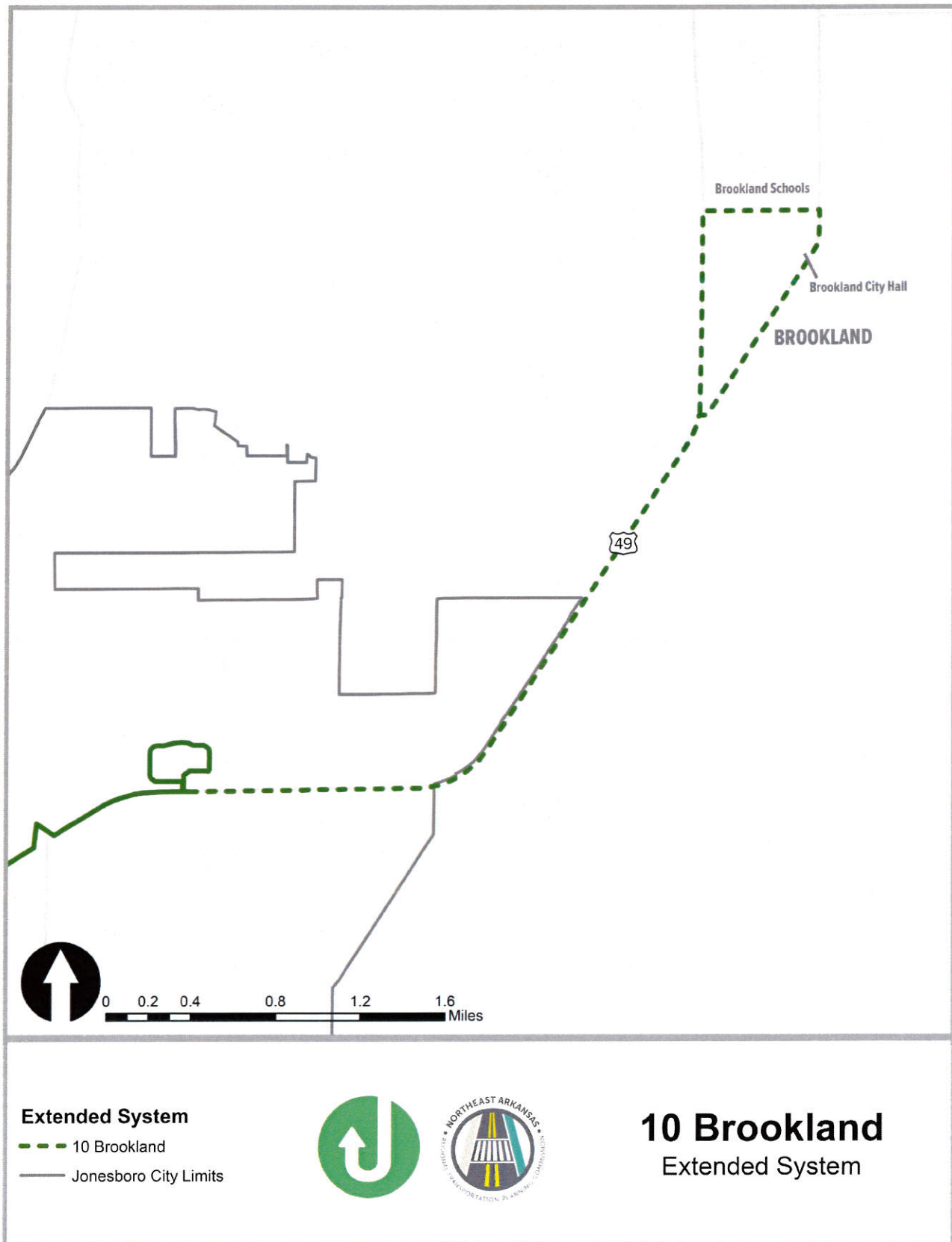
Brookland

Service will extend North towards Brookland from NEA Baptist Memorial Hospital along Hwy 49 as a natural extension of the proposed route 10 (Figure 6.19) This service expansion will help connect the growing community of Brookland to Jonesboro, and provide key access for the Brookland schools and the Brookland City Hall.

Table 6.16 Brookland Socio-Economics

| Avg Annual Growth (2010-2014) | Population | Employment | Housing Units | Annual Revenue Hours | Annual Vehicle Miles | Local Match (50%) | FTA Match (50%) | Annual Service Cost |
|-------------------------------|------------|------------|---------------|----------------------|----------------------|-------------------|-----------------|---------------------|
| 22.37% | 2,017 | 1,344 | 1,056 | 211 | 9,806 | \$4,723 | \$4,723 | \$9,445 |

Figure 6.19 Brookland Extension



Bay/Trumann

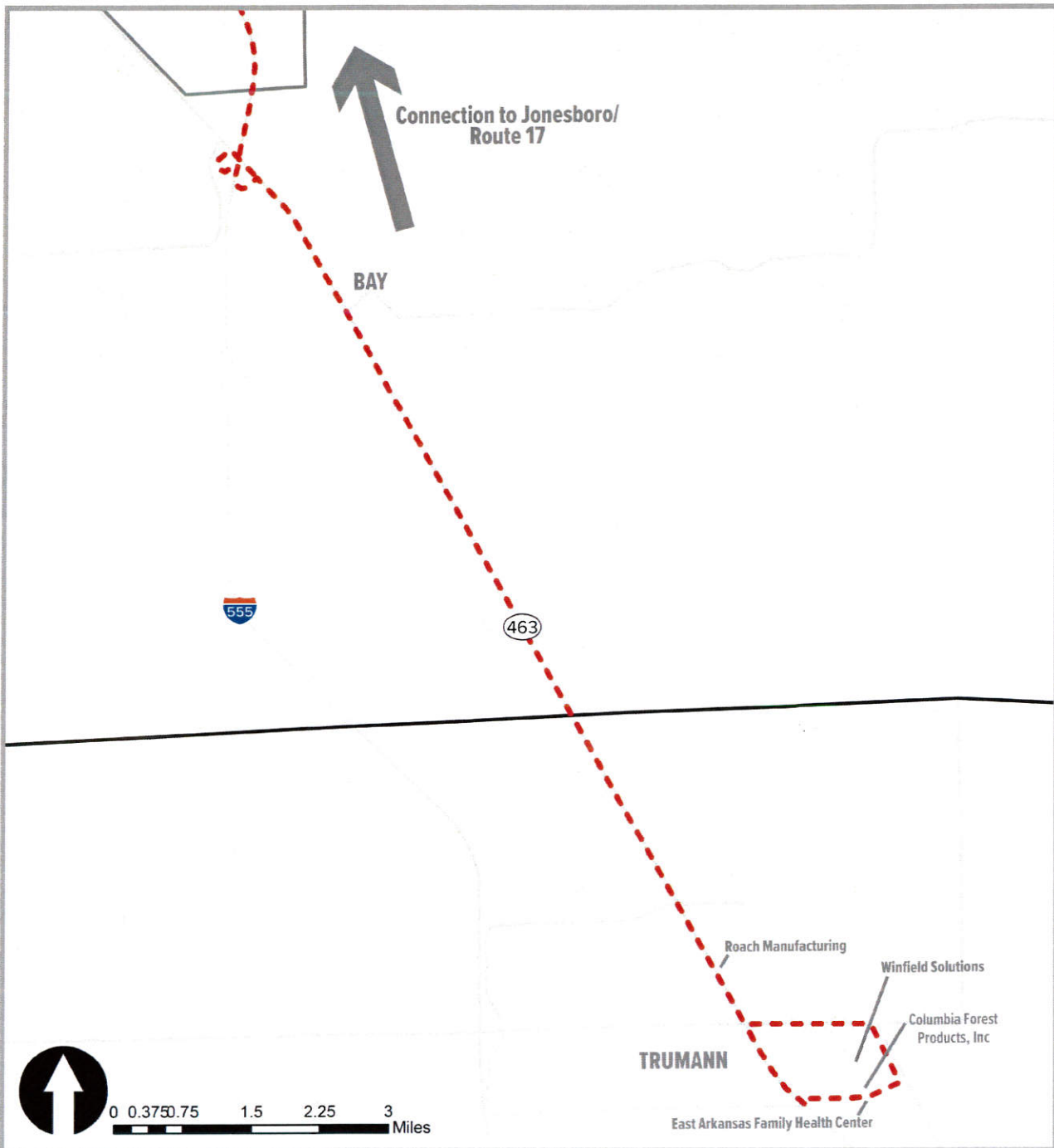
Service to the cities of Bay and Trumann will extend South from the Jet Transfer Center via the Turtle Creek Mall as a natural extension from route 17, similar to the Lake City extension (Figure 6.21). Expanding service south along I-555 and Hwy 463 to the regional cities of Bay and Truman will provide an essential regional connection from Jonesboro to major employers

such as Roach Manufacturing Corporation, Columbia Forest Products Inc., and Winfield Solutions. This extension of service will also provide regional access to the East Arkansas Family Health Center, Inc.

Figure 6.20 Bay/Trumann Socio-Economics

| Avg Annual Growth (2010-2014) | Population | Employment | Housing Units | Annual Revenue Hours | Annual Vehicle Miles | Local Match (50%) | FTA Match (50%) | Annual Service Cost |
|-------------------------------|------------|------------|---------------|----------------------|----------------------|-------------------|-----------------|---------------------|
| -0.07% | 9,044 | 3,732 | 4,118 | 464 | 23,564 | \$11,807 | \$11,807 | \$23,613 |

Figure 6.21 Bay/Trumann Extension



Extended System

- - - 17 Bay/Trumann
- Craighead County Line
- Jonesboro City Limits



17 Bay/Trumann
Extended System

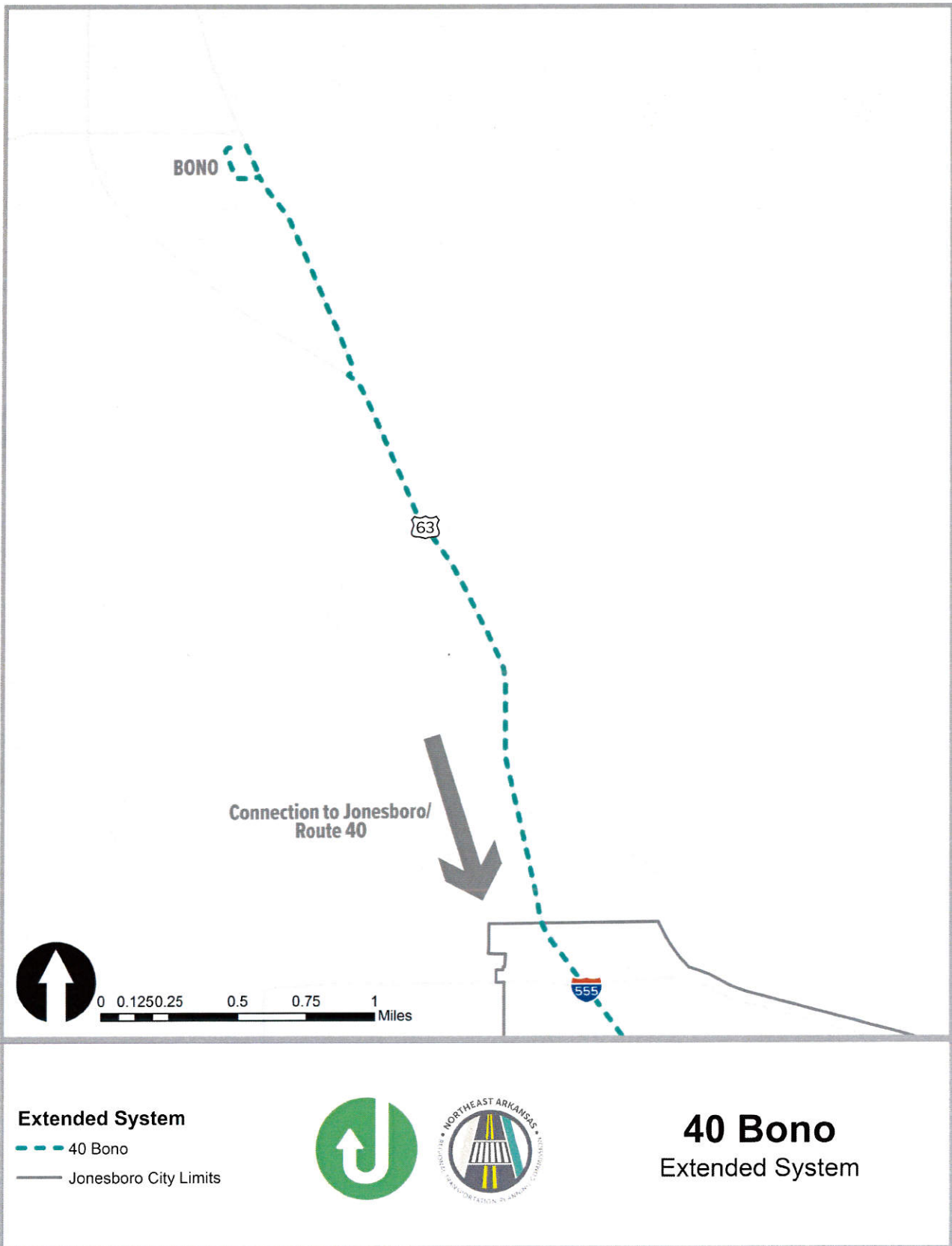
Bono

Building upon the expansion of the core service along Southwest Dr, select trips will extend even further to provide a direct connection from the JET Transfer center via the Walmart on Highland Dr to the City of Bono (Figure 6.22). Service will run north along I-555, providing access to the residents and key destinations of Bono.

Table 6.17 Bono Socio-Economics

| Avg Annual Growth (2010-2014) | Population | Employment | Housing Units | Annual Revenue Hours | Annual Vehicle Miles | Local Match (50%) | FTA Match (50%) | Annual Service Cost |
|-------------------------------|------------|------------|---------------|----------------------|----------------------|-------------------|-----------------|---------------------|
| 0.33% | 2,494 | 1,047 | 987 | 464 | 8,840 | \$4,723 | \$4,723 | \$9,445 |

Figure 6.22 Bono Extension



Phased Implementation Comparison

Table 6.18 shows service improvements for each phase which will ultimately generate a 105% increase in service from the existing service once the final phase has been implemented. All ridership metrics are anticipated to increase substantially upon completion of Phase II.

Based on community engagement, staff input, and system performance metrics, the project team has selected Scenario A as the most complete system regarding efficiency and coverage. Scenario A provides several cost options due to phased implementation (Table 6.11). All cost estimates have been broken into operational and capital costs, with each local and FTA match percentage to show how much funding would be necessary from each entity to make implementation feasible. Phase I provides near-term solutions such as extended PM service, enhanced weekend service, and adding an extra route (40A), and is estimated to cost \$1,482,754. Phase II (2-5 years) implements only the core system routes, and adds buses/transit stops, and is estimated to cost \$2,183,620 annually. Phase III (5 – 10 years) gives the agency several options, the first scheduled to be a minor increase in coverage to

Route 43, extending southwest to the I-555 and Southwest Drive junction, ultimately reaching an area of the region with high transit demand. This extension, which adds one stop and has a 30-minute frequency, increases annual service costs to an estimated \$2,185,193. Phase III also provides the option to extend existing routes to reach rural city centers both within and outside of the MPO region (Brookland, Lake City, Bay, Trumann, and Bono), with the added benefit to reach large employment centers outside of the Jonesboro city limits (East Jonesboro Extension). These routes provide trips to all destinations (once in the morning and once in the evening), increasing accessibility and connectivity to Jonesboro and its surrounding population and employment centers. With all extensions active, the annual service cost increases to an estimated \$2,401,568 annually.

Table 6.18 Phased Service Improvements

| | Daily Trips | | Annual Trips | Daily In-Service Hours | | Annual In-Service Hours | Annual Vehicle Miles |
|---|-------------|----------|--------------|------------------------|----------|-------------------------|----------------------|
| | Weekday | Saturday | | Weekday | Saturday | | |
| Current | 112 | 21 | 24,874 | 57 | 18 | 14,535 | 363,586 |
| Phase 1.1 (Extended Weekend Service) | - | 91 | 3,796 | - | 39 | 1,635 | 44,155 |
| Phase 1.2 (PM Service) | 13 | - | 3,289 | 7 | - | 1,712 | 58,033 |
| Phase 1.3 (Add Route 40A) | 28 | 28 | 8,540 | 7 | 7 | 2,847 | 49,788 |
| Phase 1 Total | 153 | 140 | 40,499 | 71 | 64 | 20,729 | 515,562 |
| Phase 2.1 (Implement Scenario A) | 196 | 196 | 59,780 | 91 | 91 | 27,755 | 519,574 |
| Phase 2 Total | 196 | 196 | 59,780 | 91 | 91 | 27,755 | 519,574 |
| Phase 3.1 (40 Extension) | - | - | - | 4 | 4 | 996 | 16,824 |
| Phase 3.2 (Regional Extensions) | 10 | - | 2,024 | 6 | - | 1,096 | 56,080 |
| Phase 3 Total | 206 | 196 | 61,804 | 101 | 95 | 29,847 | 592,478 |

Table 6.19 Phased Implementation- Associated Service Costs

| | Total Vehicle Requirements | Operational Cost | | Capital Cost | | Total Incremental Costs (Op + Cap) | Total Annual Costs |
|--------------------------------------|----------------------------|-------------------|-----------------|-------------------|-----------------|------------------------------------|--------------------|
| | | Local Match (50%) | FTA Match (50%) | Local Match (20%) | FTA Match (80%) | | |
| Current | 5 | -- | -- | -- | -- | - | \$891,403 |
| Phase 1.1 (Extended Weekend Service) | -- | \$77,629 | \$77,629 | -- | -- | \$155,258 | \$1,046,661 |
| Phase 1.2 (PM Service) | -- | \$70,840 | \$70,840 | -- | -- | \$141,680 | \$1,188,341 |
| Phase 1.3 (Add Route 40A) | -- | \$118,137 | \$118,137 | -- | -- | \$236,273 | \$1,424,614 |
| Phase 1.4 (Add 1 Bus for 40A) | 1 | -- | -- | \$11,600 | \$46,400 | \$58,000 | \$1,482,614 |
| Phase 1 Total | 6 | \$266,606 | \$266,606 | \$11,600 | \$46,400 | \$591,211 | \$1,482,614 |
| Phase 2.1 (Implement Scenario A) | -- | \$831,939 | \$831,939 | -- | -- | \$1,663,877 | \$1,900,150 |
| Phase 2.2 (Additional Buses) | 3 | -- | -- | \$46,410 | \$185,640 | \$232,050 | \$2,132,200 |
| Phase 2.3 (Additional Stops; 34) | -- | -- | -- | \$10,200 | \$40,800 | \$51,000 | \$2,183,200 |
| Phase 2 Total | 8 | \$831,939 | \$831,939 | \$56,610 | \$226,440 | \$1,946,927 | \$2,183,200 |
| Phase 3.1 (40 Extension) | -- | \$997 | \$997 | -- | -- | \$1,993 | \$2,185,193 |
| Phase 3.2 (Regional Extensions) | -- | \$30,698 | \$30,698 | -- | -- | \$61,395 | \$2,246,588 |
| Phase 3.3 (Added Buses) | 2 | -- | -- | \$30,940 | \$123,760 | \$154,700 | \$2,401,288 |
| Phase 3 Total | 10 | \$31,694 | \$31,694 | \$30,940 | \$123,760 | \$218,088 | \$2,401,288 |

